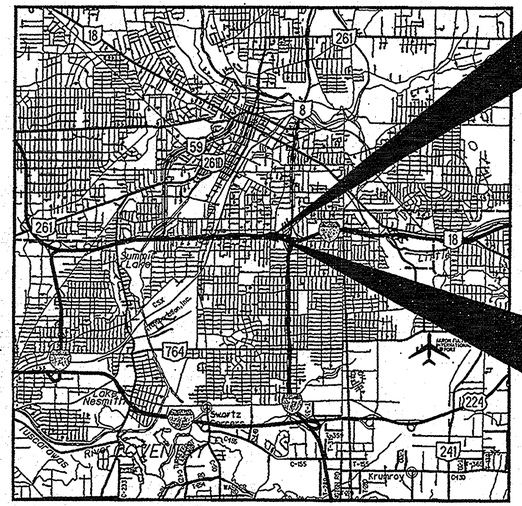


LOCATION MAP

LATITUDE: N 41°03'44" LONGITUDE: W 81°30'29"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

FOR DESIGN DESIGNATIONS, SEE SHEET 2

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATES	SHEET NUMBERS
SHOULDER WIDTH	10-1-12	6
BRIDGE WIDTH	10-1-12	6,577
SUPERELEVATION	10-1-12	5,339

PLAN PREPARED BY:

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
520 South Main Street, Suite 2531
Akron, Ohio 44311
330.572.2100 Fax 330.572.2101
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(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

ENGINEERS SEAL:

STATE OF OHIO
MARK R. GROSSMAN
E-61120
REGISTERED
PROFESSIONAL ENGINEER

SIGNED:
DATE: 9-18-14

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
SUM-76/77-11.27/12.12

CITY OF AKRON
SUMMIT COUNTY

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REMOVAL OF STRUCTURES SUM-76-1137 L & R AND SUM-77-1212R (I-76 & I-77 OVER SPICER AND JOHNSTON STREETS) AND REHABILITATION OF SUM-76-1127 (I-76 OVER BROWN STREET). PROJECT ALSO INVOLVES THE REALIGNMENT OF JOHNSTON STREET WITH DRAINAGE, UTILITY AND INTERSECTION IMPROVEMENTS.

PROJECT EARTH DISTURBED AREA:	14.0 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	3.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	17.0 ACRES

2013 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 REQUIRE THE CLOSING OF I-77, VARIOUS RAMPS, JOHNSTON, SOUTH AND BROWN STREETS TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEETS 58 - 74.

APPROVED
DATE 8/5/2014 WATER RECLAMATION MANAGER

APPROVED
DATE 8/5/14 BUREAU OF WATER SUPPLY MANAGER

APPROVED
DATE 8/6/14 CITY ENGINEER

APPROVED
DATE 8-7-14 DIRECTOR OF PUBLIC SERVICE

APPROVED
DATE 8-23-14 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE 10-15-14 DIRECTOR, DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS:

TITLE SHEET	1	CROSS SECTION - HEDDEN AVENUE	312 - 313
PLAN LEGEND AND DESIGN DESIGNATIONS	2	CROSS SECTIONS - BROWN STREET	314 - 320
SCHEMATIC PLAN	3	CROSS SECTIONS - SOUTH STREET	321 - 329
GEOMETRIC PLAN	4	CROSS SECTIONS - LAMPARTER STREET	330 - 332
CURVE DATA, INTERSECTION DATA AND REFERENCE POINTS	5	CONSTRUCTION PHASING DETAILS	333 - 334
TYPICAL SECTIONS	6-23	REMOVAL PLAN	335
GENERAL NOTES	24-43	SUPERELEVATION TABLES	336 - 340
MAINTENANCE OF TRAFFIC	44-184	PAVEMENT ELEVATION TABLES	341 - 344
GENERAL SUMMARY	185-189	INTERCHANGE GRADING PLAN	345
SUBSUMMARIES	190-193	RAMP GORE DETAILS	346 - 347
ESTIMATED QUANTITIES	194-206	INTERSECTION DETAILS	348 - 350
CALCULATIONS	207-211	CUL-DE-SAC DETAIL	351
PROJECT SITE PLAN	212	DRIVE DETAILS AND PROFILES	352 - 361
PLAN AND PROFILE - W.B. I-76/I-77	213 - 218	EXISTING DRAINAGE AND UTILITY SCHEMATIC	362
PLAN AND PROFILE - E.B. I-76/I-77	219 - 222	DRAINAGE DETAILS - PROPOSED COMBINED SEWER TRUNK	363 - 371
PLAN AND PROFILE - LANE O AND RAMP P	223 - 227	STORM SEWER PROFILES	372
PLAN AND PROFILE - JOHNSTON STREET	228 - 230	UNDERDRAIN DETAILS	373
PLAN AND PROFILE - SPICER STREET	231	BARRIER DETAILS	374
PLAN AND PROFILE - HEDDEN AVENUE	232	RETAINING WALLS	375 - 381
PLAN AND PROFILE - BROWN STREET	233 - 235	WATER WORK AND SANITARY SEWER PLAN AND PROFILE	382 - 394
PLAN AND PROFILE - SOUTH STREET	236	TEST HOLE CERTIFICATION FORMS	395 - 396
PLAN AND PROFILE - LAMPARTER STREET	237	TRAFFIC CONTROL	397 - 570
CROSS SECTION LAYOUT	238	LIGHTING	571 - 576
CROSS SECTIONS - PHASE 2	239 - 247	STRUCTURES (20' AND OVER)	
CROSS SECTIONS - PHASE 8	248 - 256	SUM-76-1127	577 - 632
CROSS SECTIONS - PHASE 10	257 - 265	SUM-76-1137L&R AND SUM-77-1212R	633
CROSS SECTIONS - PHASE 11	266 - 274	FENCE PLAN	634
CROSS SECTIONS - PHASE 12	275 - 283	RIGHT OF WAY	635 - 652
CROSS SECTIONS - JOHNSTON STREET	284 - 307	SOIL PROFILES	
CROSS SECTIONS - SPICER STREET	308 - 311		

STANDARD CONSTRUCTION DRAWINGS

BP-2.1	07/19/13	DM-2.1	01/18/13	MGS-6.1	07/19/13	HL-10.31	01/17/14	MT-95.70	07/19/13	MT-110.10	07/19/13	TC-42.20	10/18/13
BP-2.2	07/18/08	DM-4.3	07/19/13			HL-20.11	01/17/14	MT-95.71	07/19/13	MT-120.00	07/19/13	TC-51.11	01/17/14
BP-2.3	07/18/14	DM-4.4	07/20/12	MH-1.1	01/18/13	HL-20.21	01/17/14	MT-97.10	07/18/14			TC-51.12	01/17/14
BP-3.1	07/18/14			MH-1.2	01/18/13	HL-30.11	01/17/14	MT-97.12	07/18/14	TC-12.30	10/18/13	TC-52.10	10/18/13
BP-4.1	07/19/13	F-1.1	07/19/13	MH-3.1	01/18/13	HL-30.21	01/17/14	MT-98.20	07/18/14	TC-21.10	10/18/13	TC-52.20	07/18/14
BP-5.1	07/19/13	F-3.1	07/19/13			HL-30.22	01/17/14	MT-98.29	07/19/13	TC-21.20	10/18/13	TC-61.30	07/18/14
BP-7.1	07/18/14	F-3.3	07/19/13	RM-1.1	07/18/14	HL-40.10	01/17/14	MT-99.20	07/19/13	TC-21.50	10/18/13	TC-65.10	01/17/14
BP-9.1	07/19/13	F-3.4	07/19/13	RM-2.1	07/19/13	HL-50.11	01/17/14	MT-99.30	07/19/13	TC-22.10	10/18/13	TC-65.11	07/18/14
				RM-4.3	07/18/14	HL-60.21	01/17/14	MT-100.00	07/19/13	TC-41.10	07/19/13	TC-71.10	01/17/14
CB-1.1	01/18/13	I-2.2	01/17/14	RM-4.6	07/19/13	HL-60.31	01/17/14	MT-101.60	07/19/13	TC-41.20	10/18/13	TC-72.20	07/18/14
CB-1.2	01/18/13							MT-101.70	01/17/14	TC-41.25	10/18/13	TC-81.21	01/17/14
CB-2.1	01/18/13	MGS-1.1	07/19/13	AS-1-81	01/18/13	MT-95.30	07/18/14	MT-101.90	07/18/14	TC-41.30	10/18/13	TC-83.20	10/18/13
CB-2.2	01/17/14	MGS-2.1	07/19/13	GSD-1-96	07/19/02	MT-95.40	07/18/14	MT-102.10	07/18/14	TC-41.40	10/18/13	TC-85.10	10/18/13
		MGS-3.1	07/18/14	PCB-91	01/18/13	MT-95.50	07/19/13	MT-102.20	07/18/14	TC-41.41	10/18/13	TC-85.20	10/18/13
DM-1.1	01/18/13	MGS-3.2	01/18/13	SBR-1-99	07/19/02	MT-95.60	07/19/13	MT-102.30	07/19/13	TC-41.50	10/18/13		
DM-1.2	01/18/13	MGS-4.3	01/18/13	SICD-1-96	07/18/14	MT-95.61	07/19/13	MT-105.10	07/19/13	TC-42.10	10/18/13		

SUPPLEMENTAL SPECIFICATIONS

800-2013	10/17/14
821	04/20/12
832	01/17/14
840	07/18/14
861	07/19/13
863	10/19/12
878	10/18/13
902	12/31/12
921	04/20/12

SPECIAL PROVISIONS

FEDERAL PROJECT NO. E101 (163)
PID NO. 86979
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
SUM-76/77-11.27/12.12
1 / 652

SUM - IR 76/77-11.27/12.22
150086 PID - 86979
Dist 4 3/19/2015

Contract Proposal Available @ www.contracts.dot.state.oh.us/home

VARIABLE SHEET TITLE SHEET_V01.DGN
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NRELAND

BALLOON LEGEND

- AB-# ABANDON
- B-# CONCRETE BARRIER
- BR-# CONCRETE BARRIER REMOVED
- D-# CATCH BASINS, MANHOLES AND INLETS
- DJ-# CATCH BASINS, MANHOLES AND INLETS ADJUSTED/RECONSTRUCTED TO GRADE
- DR-# CATCH BASINS, MANHOLES AND INLETS REMOVED
- DV-# DRIVEWAYS
- E-# EROSION CONTROL
- EX-# EXISTING CATCH BASINS, MANHOLES AND INLETS
- F-# FENCE
- FP-# FILL & PLUG
- FR-# FENCE REMOVED
- G-# GUARDRAIL
- GR-# GUARDRAIL REMOVED
- L-# LIGHTING
- LR-# LIGHTING REMOVALS
- LS-# LANDSCAPING
- P-# DRAINAGE PIPES
- PR-# PIPES REMOVED
- R-# MISCELLANEOUS REMOVALS
- SA-# SANITARY MANHOLE
- SJ-# SANITARY STRUCTURE ADJUSTED/RECONSTRUCTED TO GRADE
- SL-# SANITARY LATERAL
- SM-# SEEDING AND MULCHING
- SP-# SANITARY PIPE
- U-# UNDERDRAINS
- W-# WATER WORK
- WJ-# WATER WORK ADJUSTED TO GRADE
- WR-# WATER WORK REMOVALS

DESIGN DESIGNATIONS

	I-76/I-77		
CURRENT YEAR ADT (2016)	112,180		
DESIGN YEAR ADT (2036)	113,240		
DESIGN HOURLY VOLUME (2036)	9170		
DIRECTIONAL DISTRIBUTION	59%		
TRUCKS (24 HOUR B & C)	11%		
DESIGN SPEED	60 MPH		
LEGAL SPEED	55 MPH		
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN INTERSTATE		
NHS PROJECT	YES		

	BROWN ST.	SOUTH ST. (E. OF BROWN)	SOUTH ST. (W. OF BROWN)
CURRENT YEAR ADT (2015)	9,700	340	6,530
DESIGN YEAR ADT (2035)	9,700	340	6,530
DESIGN HOURLY VOLUME (2035)	870	25	570
DIRECTIONAL DISTRIBUTION	53%	50%	54%
TRUCKS (24 HOUR B & C)	2%	-	-
DESIGN SPEED	30 MPH	30 MPH	30 MPH
LEGAL SPEED	25 MPH	25 MPH	25 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN MINOR ARTERIAL	URBAN COLLECTOR	URBAN COLLECTOR
NHS PROJECT	NO	NO	NO

	JOHNSTON ST.	SPICER ST.	LAMPARTER STREET
CURRENT YEAR ADT (2015)	6,010	2,150	-
DESIGN YEAR ADT (2035)	6,010	2,150	-
DESIGN HOURLY VOLUME (2035)	560	200	-
DIRECTIONAL DISTRIBUTION	55%	57%	-
TRUCKS (24 HOUR B & C)	2%	-	-
DESIGN SPEED	40 MPH	30 MPH	25 MPH
LEGAL SPEED	35 MPH	25 MPH	25 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN COLLECTOR	URBAN LOCAL	URBAN LOCAL
NHS PROJECT	NO	NO	NO

	HEDDEN AVE.	-	-
CURRENT YEAR ADT (2015)	-	-	-
DESIGN YEAR ADT (2035)	-	-	-
DESIGN HOURLY VOLUME (2035)	-	-	-
DIRECTIONAL DISTRIBUTION	-	-	-
TRUCKS (24 HOUR B & C)	-	-	-
DESIGN SPEED	30 MPH	-	-
LEGAL SPEED	25 MPH	-	-
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN LOCAL	-	-
NHS PROJECT	NO	-	-

FUNDING SPLIT LEGEND

01/OT = 01/IMS/OT
02/BR = 02/BRO/BR
03/AKRN = 03/NFA/OT/AKRN

EXISTING UTILITY SYMBOL LEGEND

- = Guy Pole
- = Flag Pole
- = Utility Pole
- = Power Pole
- = Yard Light
- = Parking Meters
- = Parking Meter
- = Air Condition Unit
- = Guy Wire w/Anchor
- = Light Pole
- = Light Pedestal
- = Electric Marker Post
- = Electric Meter
- = Electric Transformer
- = Electric Pedestal
- = Electric Tower
- = Electric Outlet
- = Electric Pull Box
- = Electric Manhole
- = Gas Valve
- = Gas Service
- = Gas Marker Post
- = Gas Meter/ Regulator
- = Tank (Gas, Propane)
- = Fire Hydrant
- = Water Valve
- = Water Manhole
- = Water Well
- = Water Meter
- = Water Spigot / Tap
- = Cistern
- = Sprinkler
- = Sprinkler Control Box
- = Monitoring Well
- = Cable TV Pole
- = Cable TV Marker Post
- = Cable TV Pedestal
- = Telephone Pole
- = Telephone Marker Post
- = Telephone Pedestal
- = Telephone Booth/or Drive-Up
- = Traffic Lighting Control Box
- = Traffic Lighting Pull Box
- = Sign
- = Curb Inlet
- = Catch Basin
- = Cleanout
- = Sanitary Manhole
- = Storm Manhole
- = Telephone Manhole

PROPOSED UTILITY SYMBOL LEGEND

- = Proposed Catch Basins
- = Proposed Manhole
- = Manhole Adjusted To Grade
- = Proposed Exfiltration Trench
- = Proposed Water Valve
- = Proposed Fire Hydrant
- = Sanitary Manhole Adjusted To Grade
- = Proposed Traffic Pullbox
- = Proposed Conventional Luminaire
- = Proposed Lighting Pullbox
- = Proposed Decorative Luminaire
- = Proposed Signal Pole Pedestal
- = Proposed Signal Pole
- = Test Hole location

UTILITY LINE LEGEND

- W = Water Line
- G = Gas Line
- SAN = Sanitary Line
- E = Underground Electric
- P = Propane Line
- T = Underground Telephone
- D = Diesel
- CATV = Cable TV.
- TR = Signal Wiring

CALCULATED ATR
CHECKED CWL

PLAN LEGEND AND DESIGN DESIGNATIONS

SUM-76/77-11.27/12.12

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SSCHASTER

BEGIN WORK
STA. 520+77.22
W.B. I-76

BEGIN PROJECT
STA. 520+85.37
W.B. I-76

BEGIN WORK
STA. 0+98.00
LAMPARTER ST.

℄ R/W & CONST.
LAMPARTER ST.

℄ R/W & CONST.
BROWN ST.

BEGIN WORK
STA. 15+00.00
BROWN ST.

BEGIN WORK
STA. 14+97.25
SPICER ST.

℄ R/W & CONST.
SPICER ST.

ex. O/H 23kv
transmission lines (First Energy)

NEW ℄ R/W & CONST.
JOHNSTON ST.

PROP.
24" WATER

PROP.
24" SAN.

℄ R/W & CONST.
HEDDEN AVE.

BEGIN WORK
STA. 19+04.32
HEDDEN ST.

℄ R/W & CONST.
JOHNSTON COURT

END WORK
STA. 14+54.42
JOHNSTON ST.

BEGIN WORK
STA. 2+97.25
RAMP P

℄ EXIST.
LANE Q

℄ CONST.
RAMP P

OLD ℄ R/W
JOHNSTON ST.

STRUCTURE No.
SUM-77-1212R

℄ CONST.
LANE O

PROP. RET.
WALL

STRUCTURE NO.
SUM-76-1127

ex. ret
wall

STRUCTURE No.
SUM-76-1137L

℄ CONST.
W.B. I-76

BEGIN WORK
STA. 22+19.17
LANE O

STRUCTURE No.
SUM-76-1137R

END PROJECT
STA. 9+00.00
W.B. I-76

℄ CONST. E.B. I-76

END WORK
STA. 12+12.25
W.B. I-76

ex. O/H 4kv
transmission line
(First Energy)

PROP.
24" WATER

℄ R/W & CONST.
SOUTH ST.

ex. 60" seg. block

BEGIN WORK
STA. 520+77.67
E.B. I-76

℄ EXIST.
LANE N

℄ CONST.
LANE M

END WORK
STA. 26+95.06
SOUTH ST.

END WORK
STA. 20+65.00
BROWN ST.

℄ CONST.
SOUTH ST.

BEGIN WORK
STA. 22+38.05
SOUTH ST.

END WORK
STA. 529+49.47
E.B. I-76

FOR GEOMETRIC PLAN, SEE SHEET 4
FOR CURVE DATA, SEE SHEET 5

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ATR
CHECKED CWL

SCHEMATIC PLAN

SUM-76/77-11.27/12.12

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SCHUSTER

GEOMETRIC PLAN

BEGIN WORK STA. 520+77.22 W.B. I-76

BEGIN PROJECT STA. 520+85.37 W.B. I-76

BEGIN WORK STA. 0+98.00 LAMPARTER ST.

℄ R/W & CONST. BROWN ST.

PNT. NO. 127

BEGIN WORK STA. 15+00.00 BROWN ST.

PNT. NO. 129

BEGIN WORK STA. 14+97.25 SPICER ST.

℄ R/W & CONST. SPICER ST.

NEW ℄ R/W & CONST. JOHNSTON ST.

PC Sta. 6+16.36

PNT. NO. 105

PNT. NO. 104

PT Sta. 4+43.50

PC Sta. 2+02.95

PC Sta. 0+45.32

PNT. NO. 103

PNT. NO. 102

℄ R/W & CONST. LAMPARTER ST.

PNT. NO. 101

PNT. NO. 139

PNT. NO. 136

PT Sta. 31+62.04

PNT. NO. 108

PNT. NO. 109

PC Sta. 26+95.87

PNT. NO. 110

POT Sta. 9+03.42

20 ST Sta. 25+56.62

OLD ℄ R/W JOHNSTON ST.

PNT. NO. 135

END WORK STA. 14+54.42 JOHNSTON ST.

PNT. NO. 133

PNT. NO. 114

℄ R/W & CONST. JOHNSTON COURT

PI Sta. 11+47.04
DEFLECTION= 2° 15'
NO CURVE

PNT. NO. 134

℄ R/W & CONST. HEDDEN AVE.

PNT. NO. 132

PNT. NO. 107

BEGIN WORK STA. 2+97.25 RAMP P

PT Sta. 10+24.19

PNT. NO. 106

PT Sta. 2+20.14

PCC Sta. 1+80.03

PNT. NO. 113

℄ EX. RAMP Q

BEGIN WORK STA. 19+06.59 HEDDEN ST.

PNT. NO. 131

℄ CONST. RAMP P

PT Sta. 7+18.98

PNT. NO. 112

PNT. NO. 111

℄ CONST. LANE O

CS Sta. 22+56.62

BEGIN WORK STA. 22+19.17 LANE O

℄ CONST. W.B. I-76

PNT. NO. 119

PT Sta. 9+13.57

PNT. NO. 120

PCC Sta. 1+87.11

END WORK STA. 12+12.25 W.B. I-76

END PROJECT STA. 9+00.00 W.B. I-76

℄ CONST. E.B. I-76

PNT. NO. 121

PT Sta. 5+82.26

TS Sta. 0+00.00

PNT. NO. 138

END WORK STA. 529+49.47 E.B. I-76

PNT. NO. 140

SC Sta. 3+00.00

℄ CONST. LANE M

TS Sta. 533+59.37

PNT. NO. 122

℄ EXIST. RAMP N

PNT. NO. 115

PNT. NO. 116

PNT. NO. 117

PNT. NO. 118

PC Sta. 6+53.18

PT Sta. 522+14.27

EQUATION:
Sta 524+28.92 BK =
Sta 3+00.00 AH

BEGIN WORK STA. 520+77.67 E.B. I-76

℄ R/W & CONST. SOUTH ST.

P.I. STA. 20+00.00
DEFLECTION= 0° 2' 58"
NO CURVE

PNT. NO. 123

PNT. NO. 124

PT Sta. 24+17.85

PNT. NO. 125

PCC Sta. 23+20.61

PNT. NO. 130

PNT. NO. 137

℄ CONST. SOUTH ST.

PC Sta. 22+48.05

PNT. NO. 126

BEGIN WORK STA. 22+38.05 SOUTH ST.

END WORK STA. 20+65.00 BROWN ST.

PNT. NO. 128

END WORK STA. 26+95.06 SOUTH ST.

= INTERSECTION DATA POINTS

FOR REFERENCE POINT TABLE, SEE SHEET 5
FOR INTERSECTION DATA TABLE, SEE SHEET 5
FOR CURVE DATA, SEE SHEET 5

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ATR
CHECKED CWL

SUM-76/77-11.27/12.12

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9/16/2014
5:25:54 PM
SSCHUSTER

1 ℄ CONST. LANE O
P.I. Sta. 20+78.63
Δ = 109° 18′ 31″ (LT)
Dc = 8° 30′ 00″
R = 674.07′
Ls = 300.00′
θs = 12° 45′ 00″
LT = 200.52′
ST = 100.47′
x = 298.52′
y = 22.17′
k = 149.75′
p = 5.55′
Δc = 83° 48′ 31″ (LT)
Lc = 985.99′
Ts = 1,108.00′
E = 500.71′
C = 900.41′
e_{max} = 0.0763
T.S. Sta. 9+70.63
S.C. Sta. 12+70.63
C.S. Sta. 22+56.62
S.T. Sta. 25+56.62

3 ℄ CONST. LANE O
P.I. Sta. 29+29.23
Δ = 6° 50′ 14″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 233.36′
L = 466.17′
E = 6.96′
C = 465.90′
e_{max} = 0.0275
P.C. Sta. 26+95.87
P.T. Sta. 31+62.04

4 ℄ CONST. RAMP P
P.I. Sta. 4+11.19
Δ = 69° 30′ 07″ (RT)
Dc = 9° 40′ 00″
R = 592.71′
T = 411.19′
L = 718.98′
E = 128.67′
C = 675.70′
e_{max} = 0.0394
P.C. Sta 0+00.00
P.T. Sta. 7+18.98

5 ℄ CONST. W.B. I-76
P.I. Sta. 521+07.54
Δ = 2° 08′ 05″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 106.75′
L = 213.47′
E = 0.99′
C = 213.46′
e_{max} = 0.0179 (NDC = 0.027)
P.C. Sta. 520+00.79
P.T. Sta. 522+14.27

6 ℄ CONST. W.B. I-76
P.I. Sta. 7+83.38
Δ = 1° 18′ 07″ (RT)
Dc = 0° 30′ 00″
R = 11,459.16′
T = 130.20′
L = 260.39′
E = 0.74′
C = 260.38′
e_{max} = NC
P.C. Sta. 6+53.18
P.T. Sta. 9+13.57

7 ℄ CONST. E.B. I-76
P.I. Sta. 524+09.00
Δ = 11° 55′ 51″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 408.21′
L = 813.47′
E = 21.27′
C = 812.00′
e_{max} = 0.025 (NDC = 0.0363)
P.C. Sta. 520+00.79
P.T. Sta. 528+14.26

8 ℄ CONST. LANE M
P.I. STA. 2+00.54
Ls= 300.00′
f s = 13° 00′ 00″
LT = 200.54′
ST = 100.49′
x = 298.46′
y = 22.61′
k = 149.74′
p = 5.66′
e_{max} = 0.025
T.S. Sta. 0+00.00
S.C. Sta. 3+00.00

15 ℄ CONST. JOHNSTON ST.
P.I. Sta. 1+24.42
Δ = 11° 49′ 21″ (LT)
Dc = 7° 30′ 00″
R = 763.94′
T = 79.10′
L = 157.63′
E = 4.08′
C = 157.36′
C.B. = N 80° 43′ 50″ E
e_{max} = NC
P.C. Sta. 0+45.32
P.R.C. Sta. 2+02.95

16 ℄ CONST. JOHNSTON ST.
P.I. Sta. 3+24.23
Δ = 18° 02′ 28″ (RT)
Dc = 7° 30′ 00″
R = 763.94′
T = 121.28′
L = 240.55′
E = 9.57′
C = 239.56′
C.B. = N 83° 50′ 23″ E
e_{max} = NC
P.R.C. Sta. 2+02.95
P.T. Sta. 4+43.50

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50′ 29″ (LT)
Dc = 10° 45′ 00″
R = 532.98′
T = 214.48′
L = 407.83′
E = 41.54′
C = 397.95′
C.B. = N 70° 56′ 23″ E
e_{max} = 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19

18 ℄ CONST. SOUTH ST.
P.I. Sta. 23+70.82
Δ = 35° 16′ 35″ (LT)
Dc = 36° 16′ 44″
R = 157.93′
T = 50.21′
L = 97.24′
E = 7.79′
C = 95.71′
C.B. = N 73° 28′ 12″ W
e_{max} = NC
P.C.C. Sta. 23+20.61
P.T. Sta. 24+17.85

19 ℄ CONST. SOUTH ST.
P.I. Sta. 22+87.50
Δ = 55° 47′ 36″ (LT)
Dc = 76° 53′ 35″
R = 74.51′
T = 39.45′
L = 72.56′
E = 9.80′
C = 69.73′
C.B. = N 27° 56′ 07″ W
e_{max} = NC
P.C. Sta. 22+48.05
P.C.C. Sta. 23+20.61

INTERSECTION DATA TABLE

A	STA. 0+00.00 NEW ℄ R/W & CONST. JOHNSTON ST. = STA. 16+67.64 ℄ R/W & CONST. BROWN ST.
B	STA. 17+43.09 ℄ R/W & CONST. BROWN ST. = STA. 31+92.81 ℄ CONST. LANE O
C	STA. 17+96.11 ℄ R/W & CONST. BROWN ST. = STA. 522+39.85 ℄ CONST. W.B. I-76
D	STA. 18+18.58 ℄ R/W & CONST. BROWN ST. = STA. 522+40.92 ℄ CONST. E.B. I-76
E	STA. 20+00.00 ℄ R/W & CONST. BROWN ST. = STA. 26+47.97 ℄ R/W & CONST. SOUTH ST.
F	STA. 3+60.50 NEW ℄ R/W & CONST. JOHNSTON ST. = STA. 16+21.42 ℄ R/W & CONST. SPICER ST.
G	STA. 17+49.66 ℄ R/W & CONST. SPICER ST. = STA. 28+37.17 ℄ CONST. LANE O
H	STA. 18+29.47 ℄ R/W & CONST. SPICER ST. = STA. 4+67.24 ℄ CONST. W.B. I-76
J	STA. 18+77.18 ℄ R/W & CONST. SPICER ST. = STA. 526+00.05 ℄ CONST. E.B. I-76
K	STA. 8+72.55 NEW ℄ R/W & CONST. JOHNSTON ST. = STA. 19+86.38 ℄ R/W & CONST. HEDDEN AVE.
L	STA. 17+81.90 OLD ℄ R/W JOHNSTON ST. = STA. 24+91.95 ℄ CONST. LANE O
M	STA. 19+73.66 OLD ℄ R/W JOHNSTON ST. = STA. 6+62.20 ℄ CONST. W.B. I-76
N	STA. 20+67.37 OLD ℄ R/W JOHNSTON ST. = STA. 527+23.87 ℄ CONST. E.B. I-76
P	STA. 532+67.84 ℄ CONST. E.B. I-76 = STA. 3+87.69 ℄ EXIST. RAMP N
Q	STA. 17+81.51 OLD ℄ R/W JOHNSTON ST. = STA. 8+38.42 ℄ CONST. RAMP P
R	STA. 19+99.41 ℄ R/W & CONST. SPICER ST. = STA. 23+69.82 OLD ℄ R/W JOHNSTON ST.
S	STA. 20+00.26 ℄ R/W & CONST. SPICER ST. = STA. 22+93.81 ℄ R/W SOUTH ST.
T	STA. 20+00.94 ℄ R/W & CONST. SPICER ST. = STA. 22+93.81 ℄ R/W SOUTH ST.
U	STA. 13+31.84 OLD ℄ R/W JOHNSTON ST. = STA. 20+00.00 ℄ R/W JOHNSTON CT.
V	STA. 11+08.89 NEW ℄ R/W & CONST. JOHNSTON ST. = STA. 20+01.91 ℄ R/W JOHNSTON CT.

PROJECT CONTROL

STATE PLANE GRID OH NORTH ZONE NAD 83 (CORS96)
PROJECT ADJUSTMENT FACTOR: 1.000107111 (GRID TO PROJECT)

ALL COORDINATES LISTED ARE PROJECT COORDINATES

REFERENCE POINT TABLE

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	510220.9900	2241681.3540		
102	510225.5788	2241826.5745		
103	510250.9255	2241981.8750		
104	510276.6322	2242220.0490		
105	510268.0061	2242392.6946		
106	510397.9626	2242768.8280		
107	510478.5274	2242861.5689		
108	510146.3523	2241812.6524		
109	510157.1674	2242278.4245		
110	510168.6955	2242417.1967		
111	510171.3106	2242716.5256		
112	510183.9647	2242601.0005		
113	510409.8724	2243019.1030		
114	510613.7626	2243122.3901		
115	510103.6153	2241642.7602		
116	510096.3374	2241756.7927		
117	510080.5304	2241970.8599		
118	510054.5219	2242323.0809		
119	510032.3979	2242582.5227		
120	509995.1918	2242967.1584		
121	509974.3383	2242346.9157		
122	509842.2865	2242875.7894		
123	509890.5703	2241783.8485		
124	509895.0212	2242013.9287		
125	509867.7907	2242105.6811		
126	509806.1887	2242138.3461		
127	510390.5560	2241780.0677		
128	509790.5726	2241783.1783		
129	510397.6823	2242136.7629		
130	509898.2741	2242138.0996		
131	510302.4048	2242641.9764		
132	510455.4151	2242832.7521		
133	510677.0073	2243109.0369		
134	510502.3941	2242639.9065		
135	510655.4075	2242831.0118		
136	510222.9241	2241781.3353		
137	509852.9686	2242227.7649	1054.0820	BOX CUT ON EAST CORNER OF FLAGPOLE
138	509879.0982	2242440.0588	1083.0870	BOX CUT ON SW CORNER OF SW OVERHEAD SIGN BASE
139	510245.6599	2241727.3460	1040.0370	BOX CUT ON IST STEP
140	509850.8117	2242680.8244	1085.8370	BOX CUT ON JERSEY WALL

N

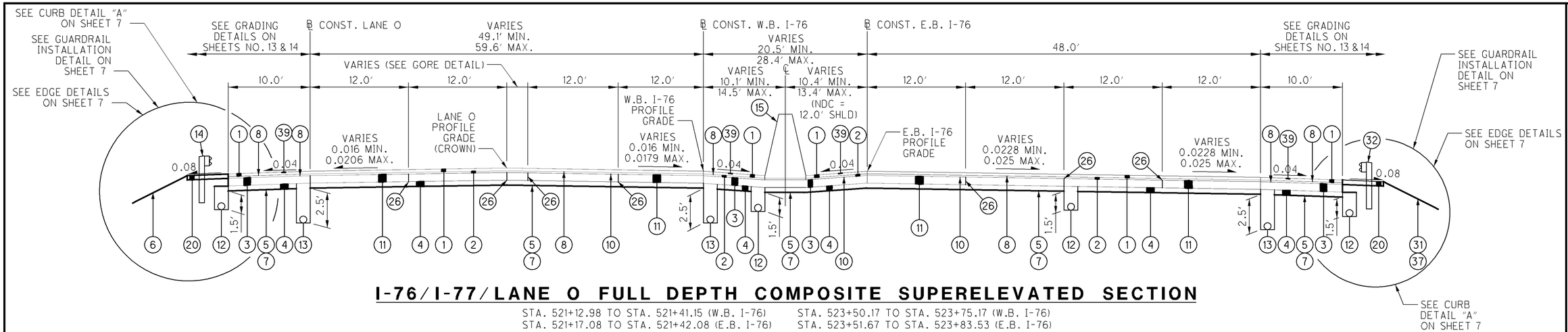
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ATR
CHECKED CWL

CURVE DATA, INTERSECTION DATA AND REFERENCE POINTS

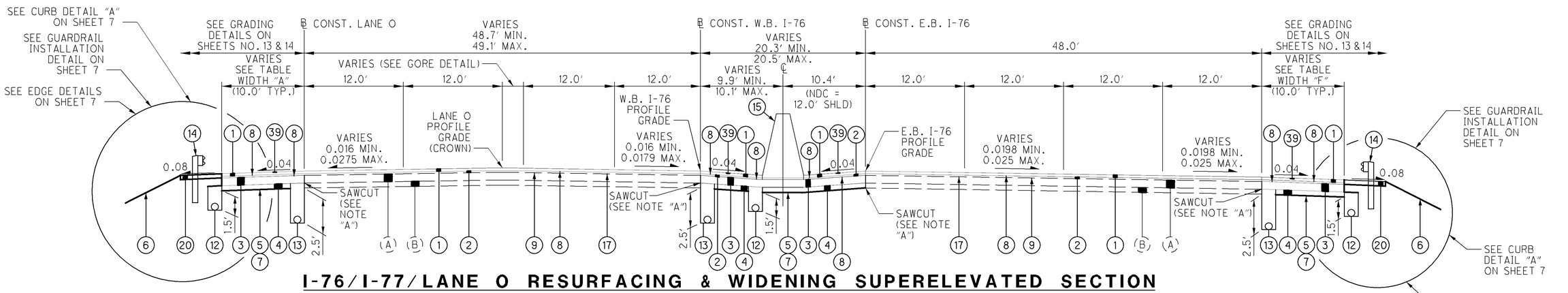
SUM-76/77-11.27/12.12

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I-76/I-77/LANE O FULL DEPTH COMPOSITE SUPERELEVATED SECTION

STA. 521+12.98 TO STA. 521+41.15 (W.B. I-76)
STA. 521+17.08 TO STA. 521+42.08 (E.B. I-76)
STA. 32+91.32 TO STA. 33+16.32 (LANE O)
STA. 523+50.17 TO STA. 523+75.17 (W.B. I-76)
STA. 523+51.67 TO STA. 523+83.53 (E.B. I-76)
STA. 30+53.02 TO STA. 30+82.78 (LANE O)



I-76/I-77/LANE O RESURFACING & WIDENING SUPERELEVATED SECTION

FOR NOTES "A" & "B", SEE SHEET 7
FOR SUPERELEVATION TABLES, SEE SHEET 336-338
FOR GORE DETAILS, SEE SHEET 347
FOR EXISTING LEGEND, SEE SHEET 19
FOR WIDTH TABLES, SEE SHEET 11

STA. 520+85.37 TO STA. 521+12.98 (W.B. I-76)
STA. 520+85.00 TO STA. 521+17.08 (E.B. I-76)
STA. 33+16.32 TO STA. 33+44.18 (LANE O)

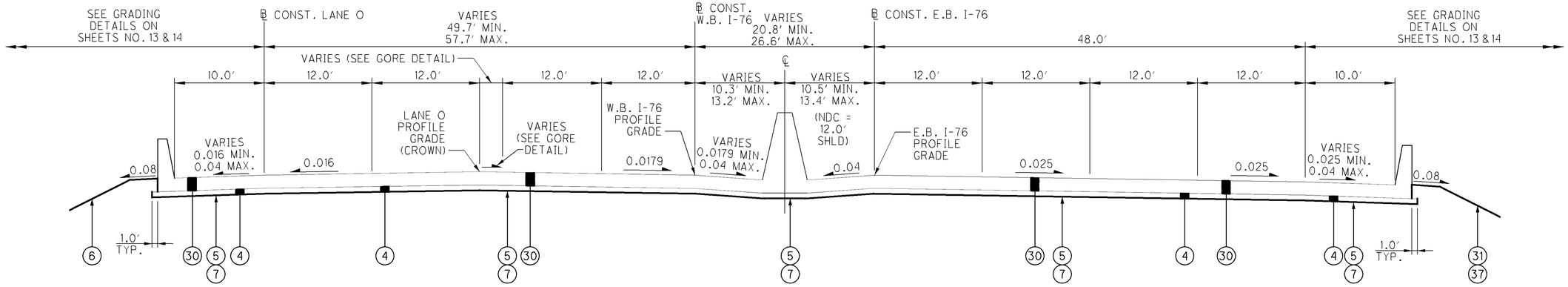
PROPOSED LEGEND

(1) ITEM 442 - 1 ½" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (448), AS PER PLAN
(2) ITEM 442 - 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (448)
(3) ITEM 302 - 10" ASPHALT CONCRETE BASE, PG64-22
(4) ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN "A"
(5) ITEM 204 - SUBGRADE COMPACTION
(6) ITEM 659 - SEEDING AND MULCHING
(7) ITEM 204 - PROOF ROLLING
(8) ITEM SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE (0.04 GAL/SY)
(9) ITEM SPECIAL - TACK COAT, TRACKLESS TACK (0.075 GAL/SY)
(10) ITEM SPECIAL - TACK COAT, TRACKLESS TACK, 702.13 (0.075 GAL/SY)
(11) ITEM 305 - 10" CONCRETE BASE, CLASS QC1
(12) ITEM 605 - 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31
(13) ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31
(14) ITEM 606 - GUARDRAIL, TYPE MGS
(15) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1
(16) ITEM 609 - ASPHALT CONCRETE CURB, TYPE 1
(17) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (SEE NOTE "B")
(18) ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN
ITEM 617 - SHOULDER PREPARATION
ITEM 617 - WATER
(19) ITEM 408 - PRIME COAT (0.4 GAL/SY)
(20) ITEM 441 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448) (UNDER GUARDRAIL), AS PER PLAN
ITEM 209 - LINEAR GRADING, AS PER PLAN
(21) ITEM 441 - 1 ¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG64-22
(22) ITEM 441 - 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446)
(23) ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22
(24) ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN "B"
(25) ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2 (GUTTER PLATE THICKNESS = 10.25")
(26) LONGITUDINAL JOINT AS PER BP-2.1
(27) ITEM 301 - 7¾" ASPHALT CONCRETE BASE, PG64-22
(28) ITEM 609 - CURB, TYPE 6
(29) ITEM 608 - 4" CONCRETE WALK
(30) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN
(31) ITEM 659 - SEEDING AND MULCHING, CLASS 3B
(32) ITEM 606 - GUARDRAIL, TYPE MGS, WITH LONG POSTS
(33) ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN
(34) ITEM 660 - SODDING UNSTAKED (SEE STD. DWG. DM-2.1)
(35) ITEM 609 - CURB, TYPE 6, AS PER PLAN
(36) ITEM 609 - 4" CONCRETE TRAFFIC ISLAND
(37) ITEM 670 - SLOPE EROSION PROTECTION
(38) ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN (GUTTER PLATE THICKNESS = 10.25")
(39) ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE)
(40) ITEM 441 - VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446)
(41) ITEM 609 - CURB, TYPE 7
(42) ITEM 605 - 6" ROCK CUT UNDERDRAINS WITH FABRIC WRAP, 707.31

PROPOSED TYPICAL SECTIONS

SUM-76/77-11.27/12.12

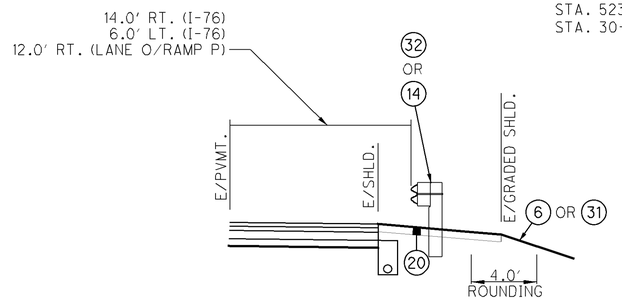
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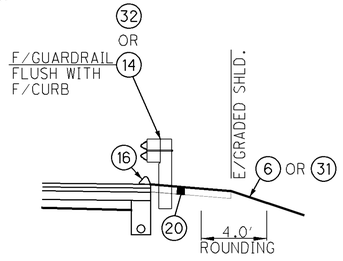


I-76/I-77/LANE O APPROACH SLAB SUPERELEVATED SECTION ◆

STA. 521+41.15 TO STA. 521+66.15 (W.B. I-76)
STA. 521+42.08 TO STA. 521+67.11 (E.B. I-76)
STA. 32+91.32 TO STA. 32+66.36 (LANE O)
STA. 523+25.17 TO STA. 523+50.17 (W.B. I-76)
STA. 523+26.54 TO STA. 523+51.67 (E.B. I-76)
STA. 30+82.78 TO STA. 31+07.71 (LANE O)

◆ STRUCTURE LIMITS
SUM-76-1127
STA. 521+66.15 TO STA. 523+25.17 (W.B. I-76)
STA. 521+67.11 TO STA. 523+26.54 (E.B. I-76)
STA. 31+07.71 TO STA. 32+66.36 (LANE O)



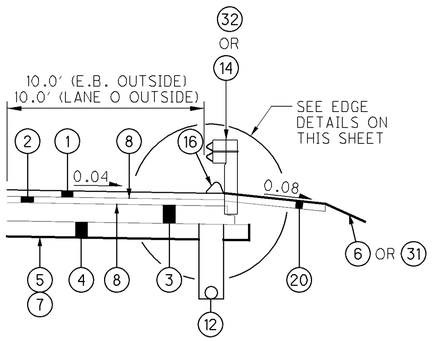


UNCURBED ROADWAY GUARDRAIL INSTALLATION DETAIL

SEE PLANS FOR LOCATIONS

CURBED ROADWAY GUARDRAIL INSTALLATION DETAIL

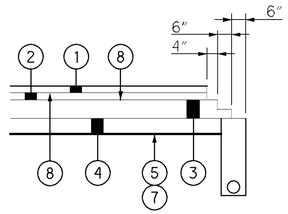
SEE PLANS FOR LOCATIONS



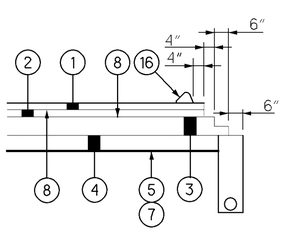
CURB DETAIL "A"

N.T.S.

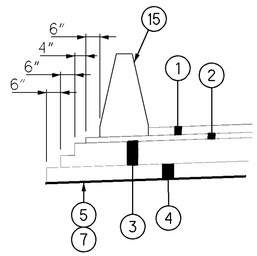
STA. 521+21.00 TO STA. 521+46.81 (E.B. I-76)
STA. 32+91.76 TO STA. 33+17.00 (LANE O)



DETAIL APPLIES
I-76/I-77/LANE O/RAMP P (UNCURBED)



DETAIL APPLIES
I-76/I-77/LANE O (CURBED)



DETAIL APPLIES
E.B. I-76

EDGE DETAILS

N.T.S.

FOR PROPOSED LEGEND, SEE SHEET 6
FOR SUPERELEVATION TABLES, SEE SHEETS 336-338
FOR GORE DETAILS, SEE SHEET 347

NOTE "A"

EXISTING CONSTRUCTION PLANS SHOW REINFORCED AND NON-REINFORCED CONCRETE PRESENT ALONG I-76, LANE O AND RAMP P. THE EXISTING PAVEMENT SHALL BE CUT AT THE EDGE OF THIS CONCRETE AS PER SPEC 203.04(E) UNLESS OTHERWISE NOTED. VERTICAL FACE OF EXISTING PAVEMENT TO BE COATED WITH ASPHALT BINDER, 702.01, AS PER CMS 401.14.

NOTE "B"

PAVEMENT PLANING DEPTH SHALL VARY IN ORDER TO CREATE A SMOOTH PROFILE AND CROSS SLOPE AS SHOWN IN THE PLANS. MINIMUM PLANING DEPTH SHALL BE 1.25″.

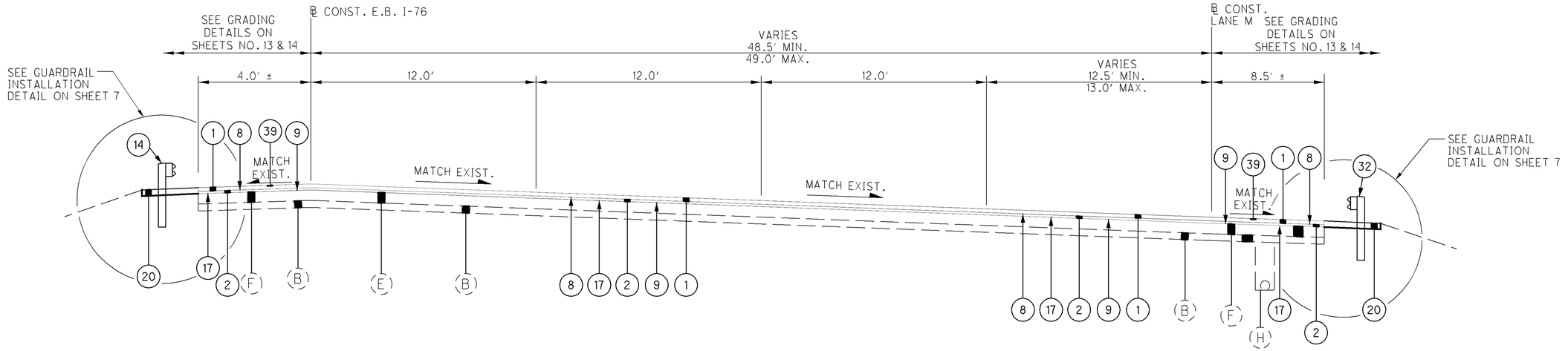
NOTE "C"

THE EXISTING PAVEMENT SHALL BE CUT TO LOCATE A SOUND PAVEMENT EDGE AS PER SPEC 203.04(E). VERTICAL FACE OF EXISTING PAVEMENT TO BE COATED WITH ASPHALT BINDER, 702.01, AS PER CMS 401.14. FOR ESTIMATING PURPOSES, PLAN CALCULATIONS ARE BASED ON LOCATIONS IN TYPICALS UNLESS OTHERWISE NOTED.

PROPOSED TYPICAL SECTIONS

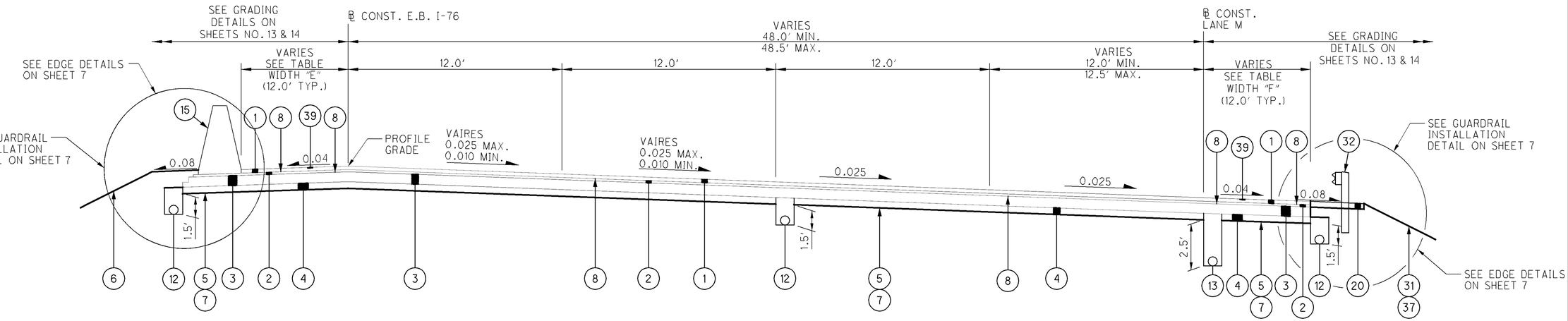
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EASTBOUND I-76 RESURFACING SUPERELEVATED SECTION

STA. 529+00.00 TO STA. 529+20.00



EASTBOUND I-76 FULL DEPTH ASPHALT SUPERELEVATED SECTION

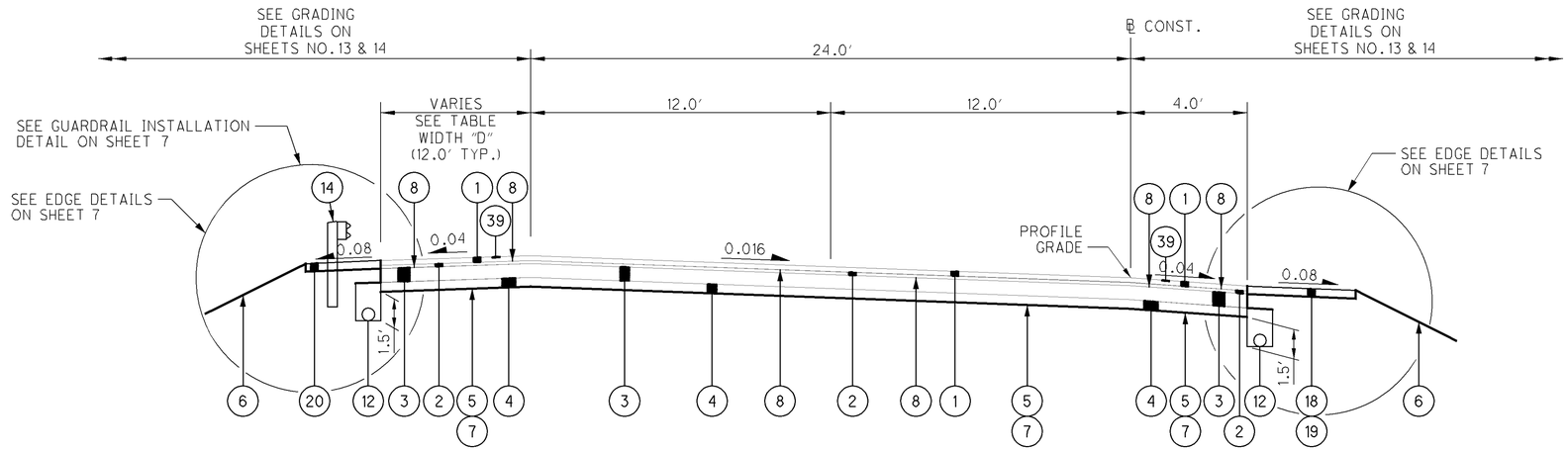
STA. 523+83.53 TO STA. 529+00.00

FOR WIDTH TABLES, SEE SHEET 11
FOR SUPERELEVATION TABLES, SEE SHEET 336
FOR NOTE "A", SEE SHEET 7
FOR EXISTING LEGEND, SEE SHEET 19
FOR PROPOSED LEGEND, SEE SHEET 6

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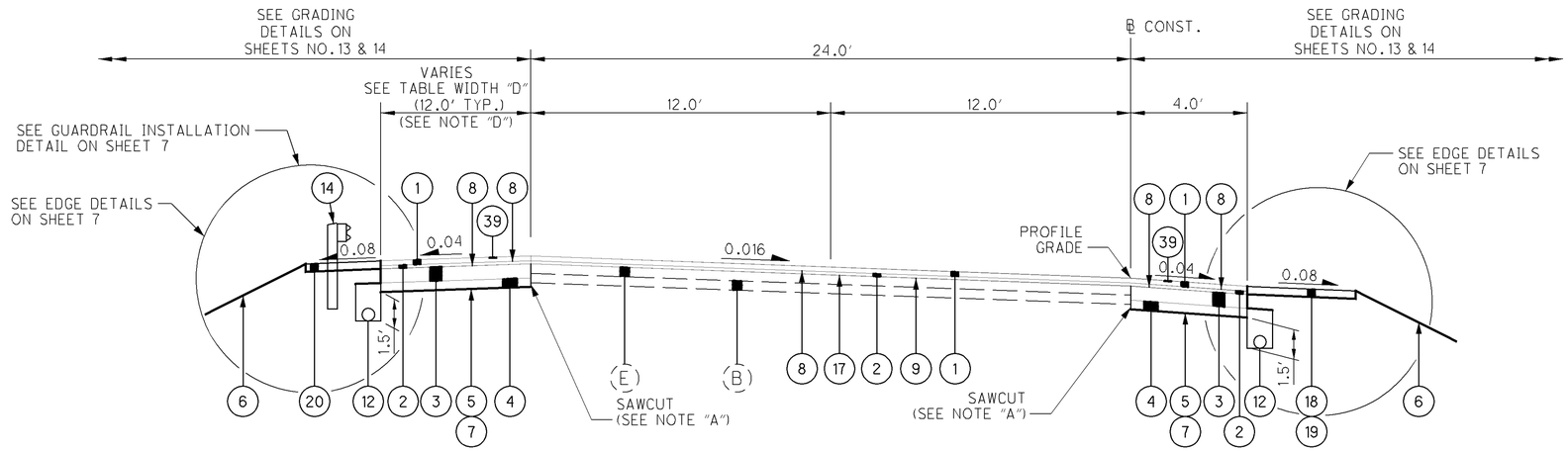
PROPOSED TYPICAL SECTIONS

SUM-76/77-11.27/12.12



WESTBOUND I-76 FULL DEPTH ASPHALT NORMAL SECTION

STA. 523+75.17 TO STA. 8+80.00
(STA. EQUATION: STA. 524+28.92 BK = STA. 3+00.00 AH)



WESTBOUND I-76 RESURFACING & WIDENING NORMAL SECTION

STA. 8+80.00 TO STA. 9+00.00 (SEE NOTE "D")

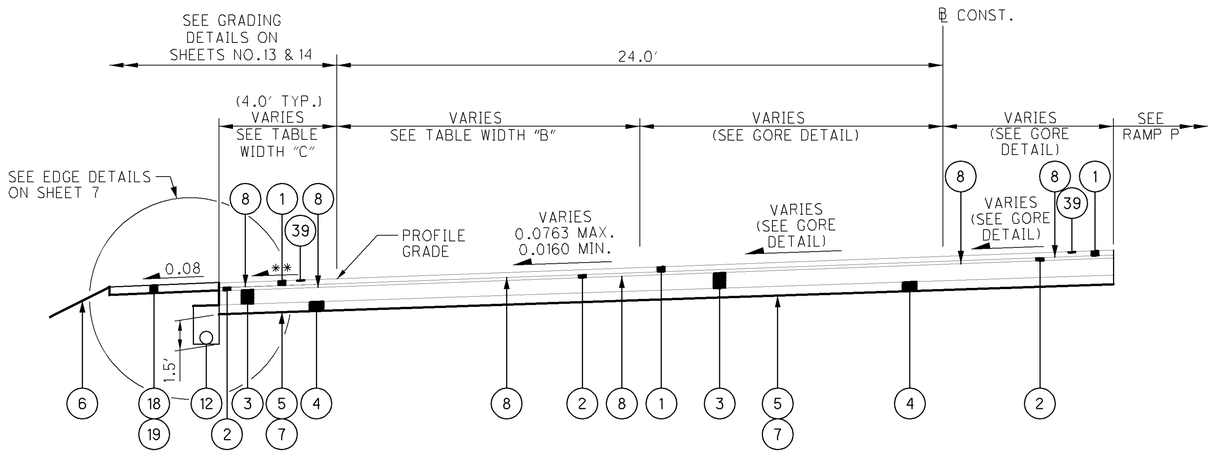
FOR WIDTH TABLES, SEE SHEET 11
FOR NOTE "A", SEE SHEET 7
FOR EXISTING LEGEND, SEE SHEET 19
FOR PROPOSED LEGEND, SEE SHEET 6

NOTE "D"
SHOULDER RECONSTRUCTION
ON LEFT SIDE ENDS
AT STA. 12+12.25

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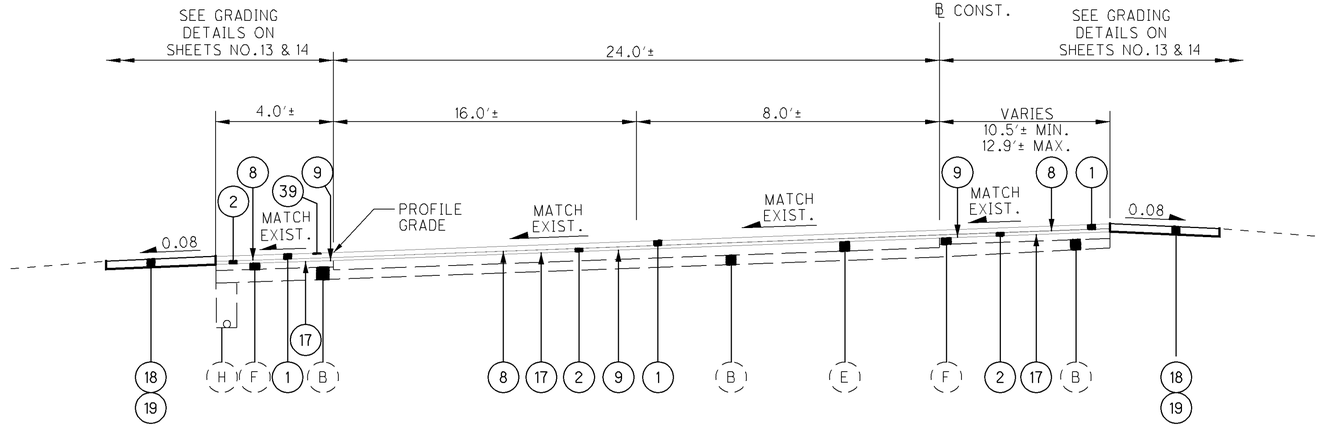
PROPOSED TYPICAL SECTIONS

SUM-76/77-11.27/12.12



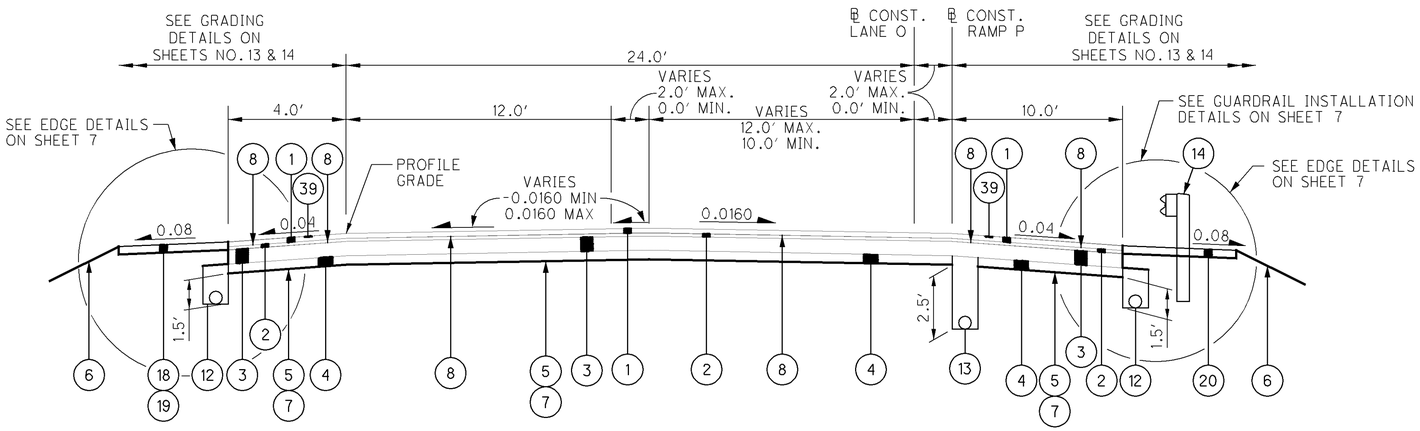
LANE O FULL DEPTH ASPHALT SUPERELEVATED SECTION

STA. 22+39.17 TO STA. 24+22.02



LANE O RESURFACING SUPERELEVATED SECTION

STA. 22+19.17 TO STA. 22+39.17



LANE O/RAMP P FULL DEPTH ASPHALT SUPERELEVATED SECTION

STA. 24+22.02 TO STA. 25+56.32 (LANE O)
STA. 7+69.29 TO STA. 9+03.42 (RAMP P)

** 0.04 OR RATE OF PAVEMENT SLOPE IF GREATER

FOR NOTE "A", SEE SHEET 7

FOR WIDTH TABLES, SEE SHEET 11

FOR SUPERELEVATION TABLES, SEE SHEETS 338-339

FOR EXISTING LEGEND, SEE SHEET 19

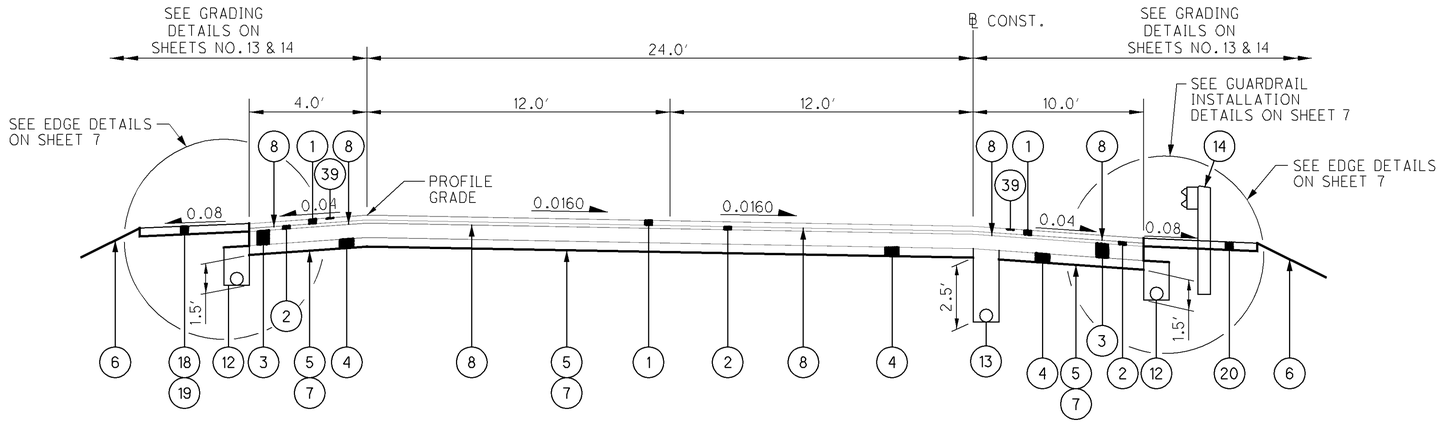
FOR PROPOSED LEGEND, SEE SHEET 6

FOR GORE DETAILS, SEE SHEETS 346-347

PROPOSED TYPICAL SECTIONS

SUM-76/77-11.27/12.12

\\KRM03\DATA\2010\2012937\SUM\86979\ROADWAY\SHEETS\86979GY011.DGN
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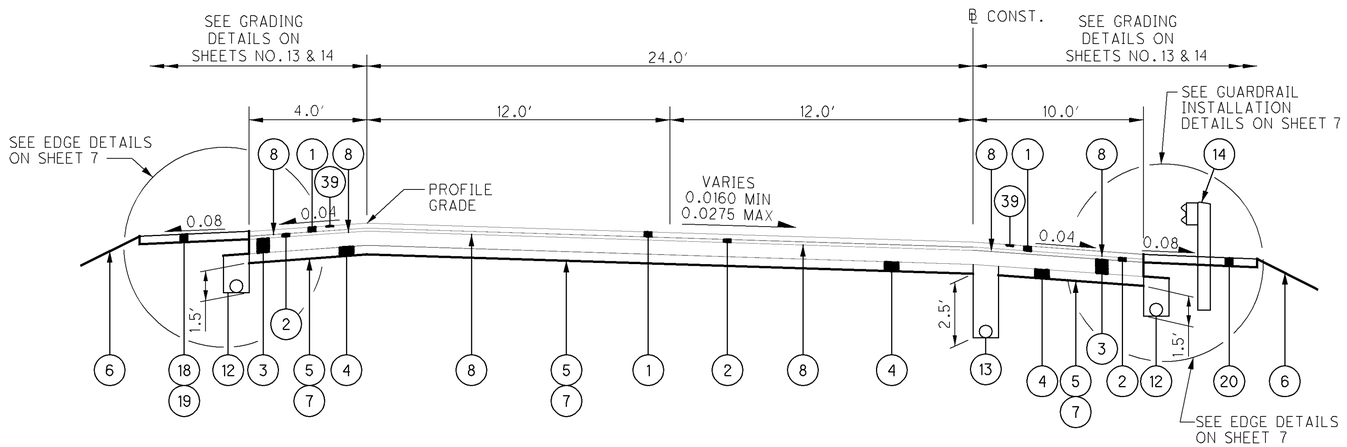


LANE O FULL DEPTH ASPHALT NORMAL SECTION

STA. 25+56.62 TO STA. 26+95.87

FOR SUPERELEVATION TABLES, SEE SHEET 338
FOR EXISTING LEGEND, SEE SHEET 19
FOR PROPOSED LEGEND, SEE SHEET 6
FOR GORE DETAILS, SEE SHEETS 346-347

** 0.04 OR RATE OF PAVEMENT SLOPE IF GREATER



LANE O FULL DEPTH ASPHALT SUPERELEVATED SECTION

STA. 26+95.87 TO STA. 30+53.02

I-76/I-77/LANE O WIDTH TABLE

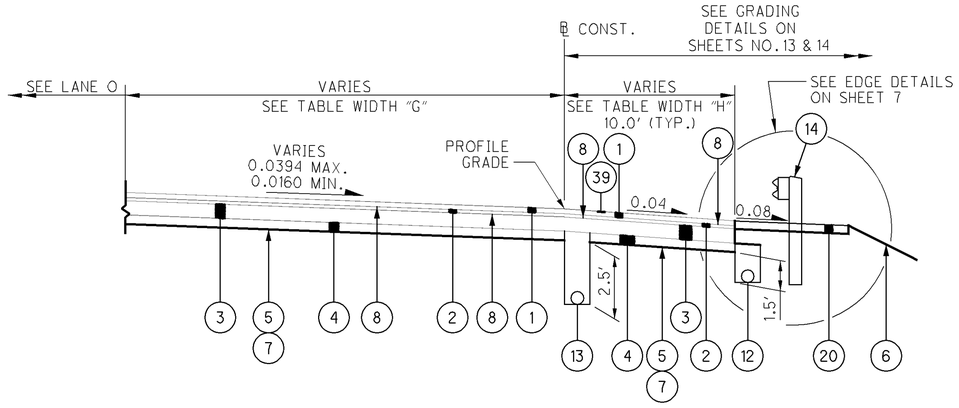
ROAD	WIDTH "A"				WIDTH "C"				WIDTH "B"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
LANE O	22+39.17	24+22.02	SEE GORE DETAILS		22+39.17	22+49.17	4.3	4.0	22+39.17	24+22.02	16.0	12.0
	24+22.02	33+19.04	10.0	10.0	22+49.17	29+16.52	4.0	4.0	24+22.02	30+96.84	12.0	12.0
	33+19.04	33+44.04	10.0	9.6	29+16.52	30+96.84	SEE GORE DETAILS					
W.B. I-76	WIDTH "D"											
	523+32.72	3+85.08	SEE GORE DETAILS									
	3+85.08	11+99.06	12.0	12.0								
	11+99.06	12+09.06	12.0	11.7								
	12+09.06	12+12.25	11.7	11.7								
E.B. I-76	WIDTH "E"				WIDTH "F"							
	523+83.53	527+26.84	12.0	12.0	520+85.00	521+05.00	10.6	10.0				
	527+26.84	529+00.00	10.9	4.0	521+05.00	523+85.00	10.0	10.0				
					523+85.00	524+10.00	10.0	12.0				
					524+10.00	528+14.26	12.0	12.0				
					528+14.26	529+00.00	12.0	8.5				

PROPOSED TYPICAL SECTIONS

SUM-76/77-11.27/12.12

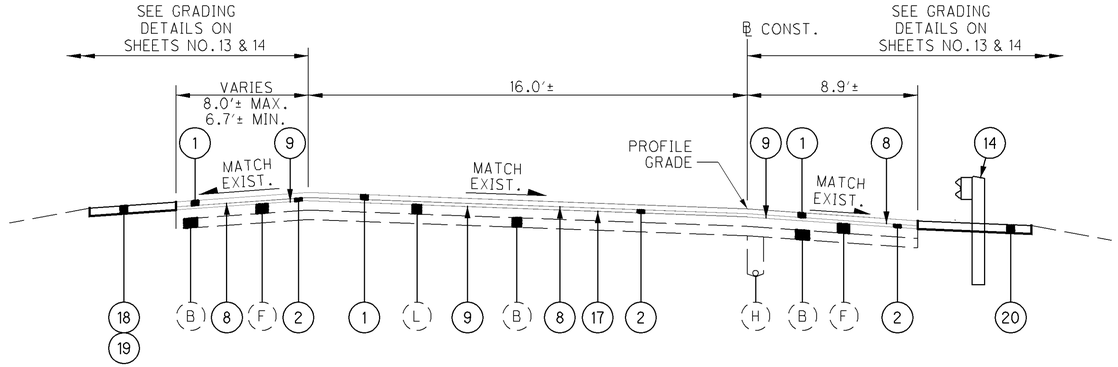
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SSCHUSTER

FOR SUPERELEVATION TABLES, SEE SHEET 339
FOR EXISTING LEGEND, SEE SHEET 19
FOR PROPOSED LEGEND, SEE SHEET 6
FOR NOTE "A", SEE SHEET 7
** 0.04 OR RATE OF PAVEMENT SLOPE IF GREATER



RAMP P FULL DEPTH ASPHALT SUPERELEVATED SECTION

STA. 5+87.75 TO STA. 7+69.29



RAMP P RESURFACING SUPERELEVATED SECTION

STA. 5+67.75 TO STA. 5+87.25

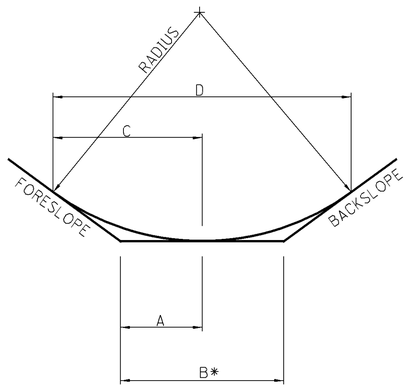
RAMP P WIDTH TABLE

ROAD	WIDTH "G"				WIDTH "H"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
RAMP P	5+87.75	7+69.29	16.0	12.0	5+87.75	6+37.75	8.9	10.0
					6+37.75	7+69.29	10.0	10.0

PROPOSED TYPICAL SECTIONS

SUM-76/77-11.27/12.12

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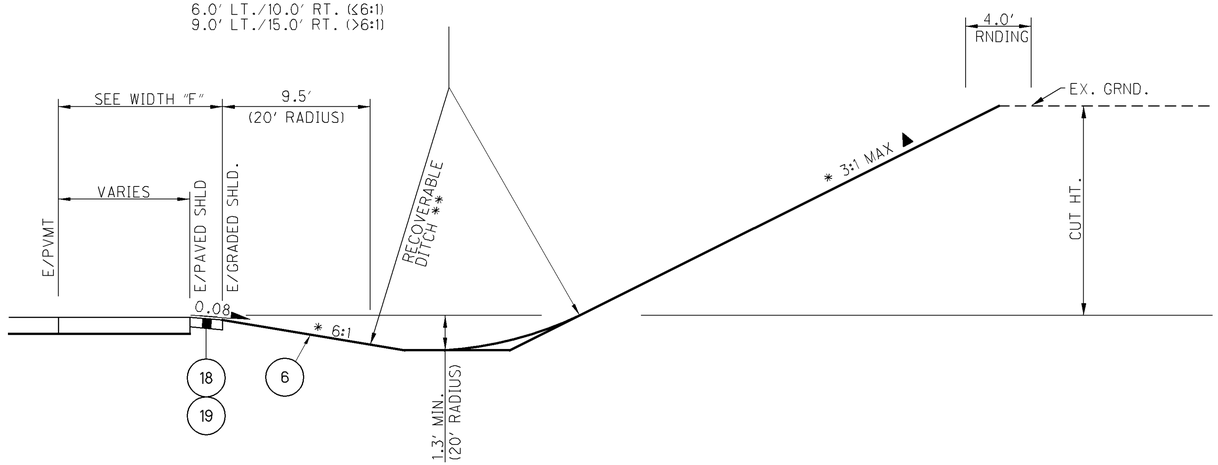


FORESLOPE	BACKSLOPE							
	20' RADIUS		6:1		4:1		3:1	
	A	C	B*	D	B*	D	B*	D
8:1	1'3"	2'6"	2'11"	5'9"	3'8"	7'4"	4'6"	8'10"
6:1	1'8"	3'3"	3'4"	6'7"	4'1"	8'2"	4'11"	9'7"
4:1	2'6"	4'10"	4'1"	8'2"	4'11"	9'8'		
3:1	3'3"	6'4"	4'11"	9'7"				

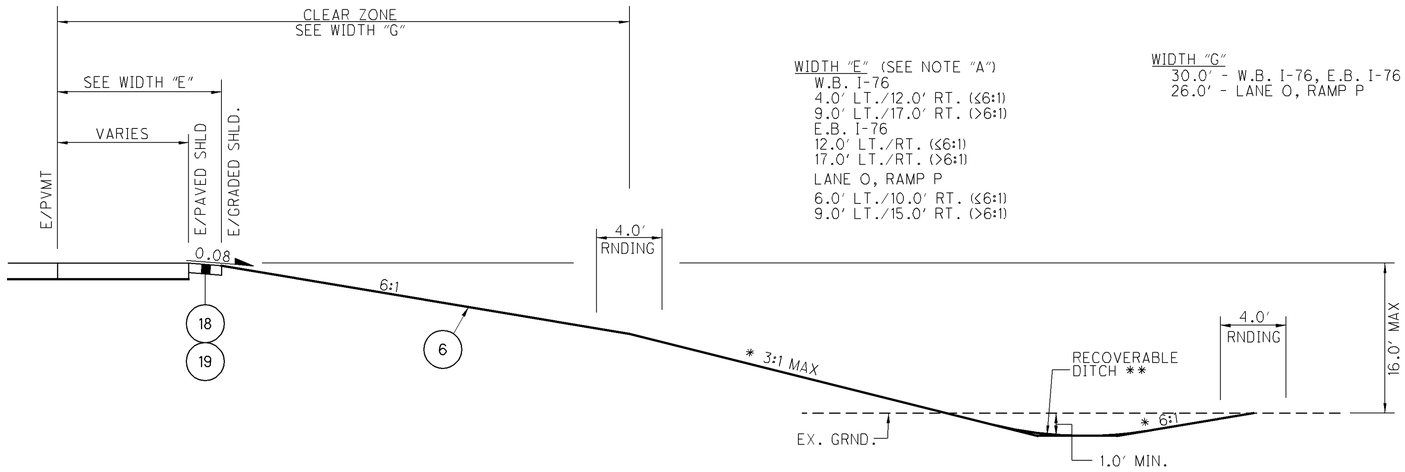
RECOVERABLE DITCH DETAIL

NOTE "A"
ALL DIMENSIONS ARE DEFINED LOOKING IN DIRECTION OF TRAVEL

WIDTH "F" (SEE NOTE "A")
W.B. I-76
4.0' LT./12.0' RT. (≤6:1)
9.0' LT./17.0' RT. (>6:1)
E.B. I-76
12.0' LT./RT. (≤6:1)
17.0' LT./RT. (>6:1)
LANE O, RAMP P
6.0' LT./10.0' RT. (≤6:1)
9.0' LT./15.0' RT. (>6:1)



CUT SECTION - (SAFETY/CLEAR ZONE GRADING)



WIDTH "E" (SEE NOTE "A")
W.B. I-76
4.0' LT./12.0' RT. (≤6:1)
9.0' LT./17.0' RT. (>6:1)
E.B. I-76
12.0' LT./RT. (≤6:1)
17.0' LT./RT. (>6:1)
LANE O, RAMP P
6.0' LT./10.0' RT. (≤6:1)
9.0' LT./15.0' RT. (>6:1)

WIDTH "G"
30.0' - W.B. I-76, E.B. I-76
26.0' - LANE O, RAMP P

▲

APPROXIMATE CUT BACKSLOPE (SEE CROSS SECTIONS FOR ACTUAL SLOPES)	
BACKSLOPE	CUT HEIGHT
2:1	> 15'
3:1	12' TO 15'
4:1	8' TO 11'
6:1	< 8'

FILL SECTION - (SAFETY/CLEAR ZONE GRADING)

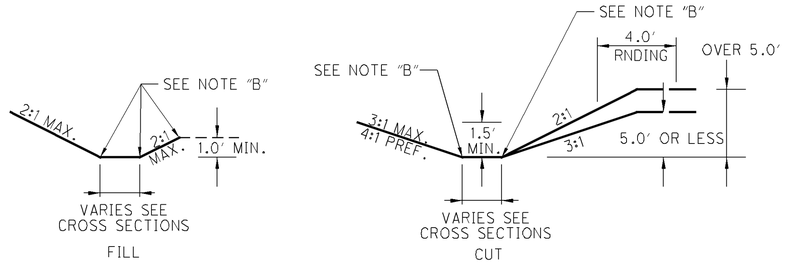
**SEE RECOVERABLE DITCH DETAIL ON THIS SHEET
*OR AS SHOWN ON CROSS SECTIONS

FOR PROPOSED LEGEND, SEE SHEET 6

PROPOSED TYPICAL SECTIONS - GRADING DETAILS

SUM-76/77-11.27/12.12

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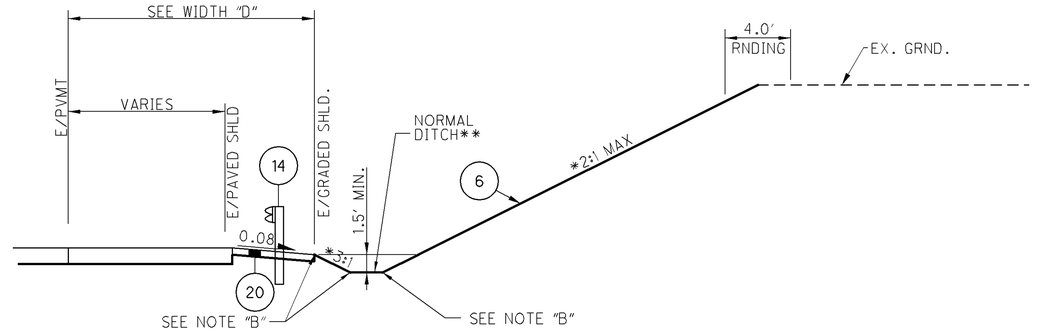


NORMAL DITCH DETAILS

N.T.S.

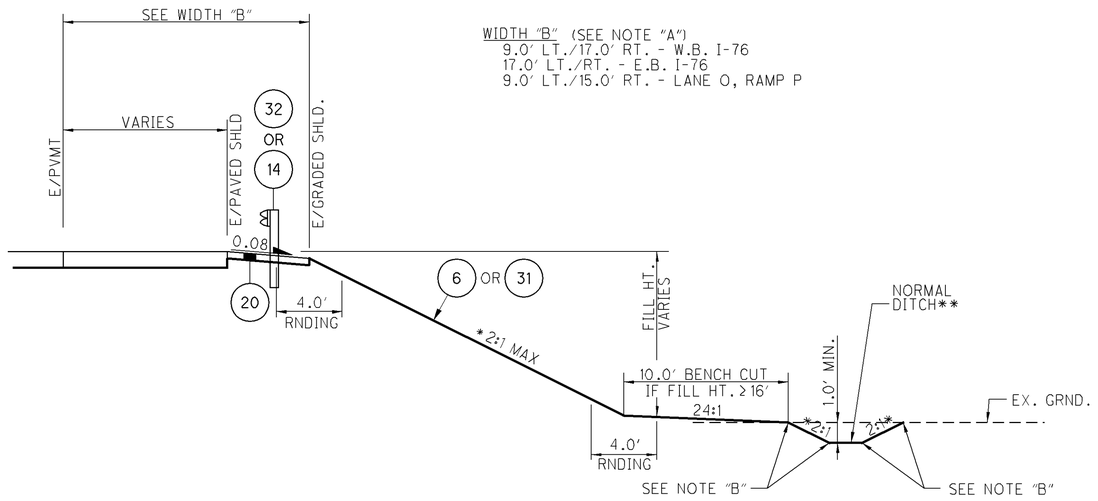
NOTE "A"
ALL DIMENSIONS ARE DEFINED LOOKING IN DIRECTION OF TRAVEL

NOTE "B"
4.0' ROUNDING



CUT SECTION - (BARRIER GRADING)

WIDTH "D" (SEE NOTE "A")
9.0' LT./17.0' RT. - W.B. I-76
17.0' LT./RT. - E.B. I-76
9.0' LT./15.0' RT. - LANE O, RAMP P



WIDTH "B" (SEE NOTE "A")
9.0' LT./17.0' RT. - W.B. I-76
17.0' LT./RT. - E.B. I-76
9.0' LT./15.0' RT. - LANE O, RAMP P

FILL SECTION - (BARRIER GRADING)

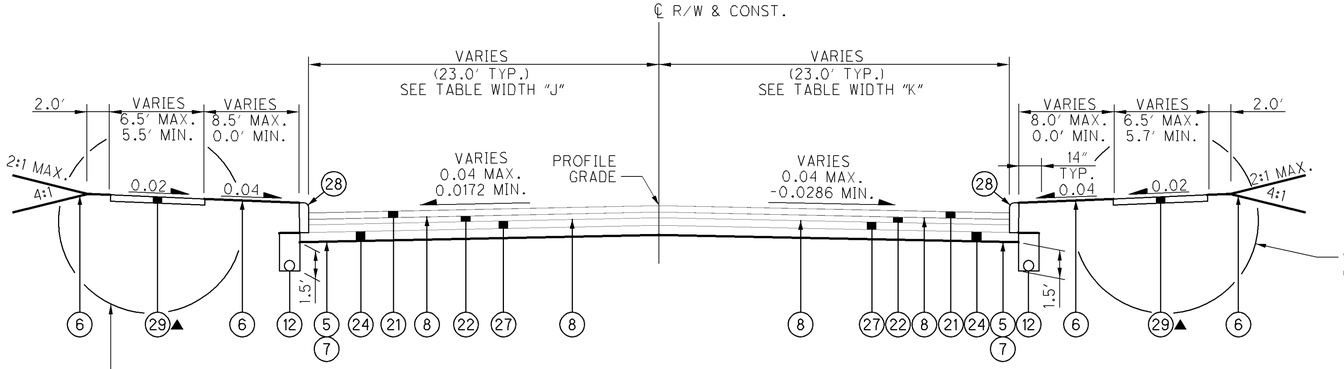
** SEE NORMAL DITCH DETAIL ON THIS SHEET.
* OR AS SHOWN ON CROSS SECTIONS

FOR PROPOSED LEGEND, SEE SHEET 6

PROPOSED TYPICAL SECTIONS - GRADING DETAILS

SUM-76/77-11.27/12.12

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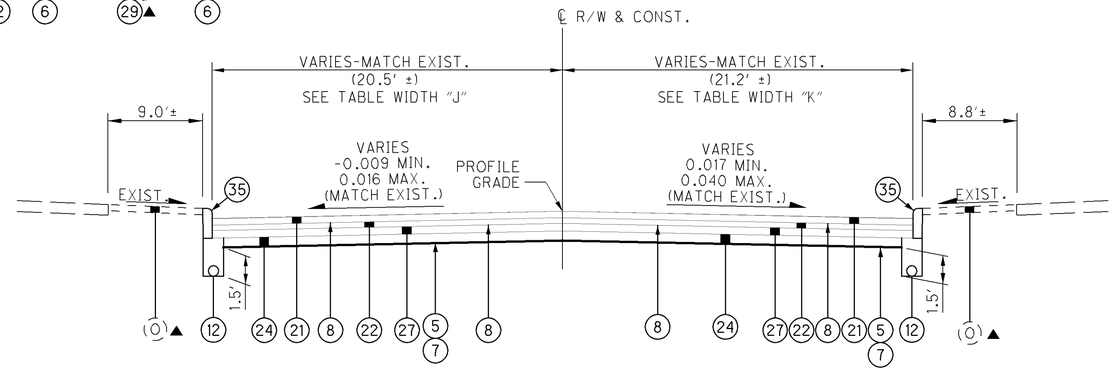


SEE CURB DETAIL "B" ON THIS SHEET

BROWN STREET FULL DEPTH SECTION

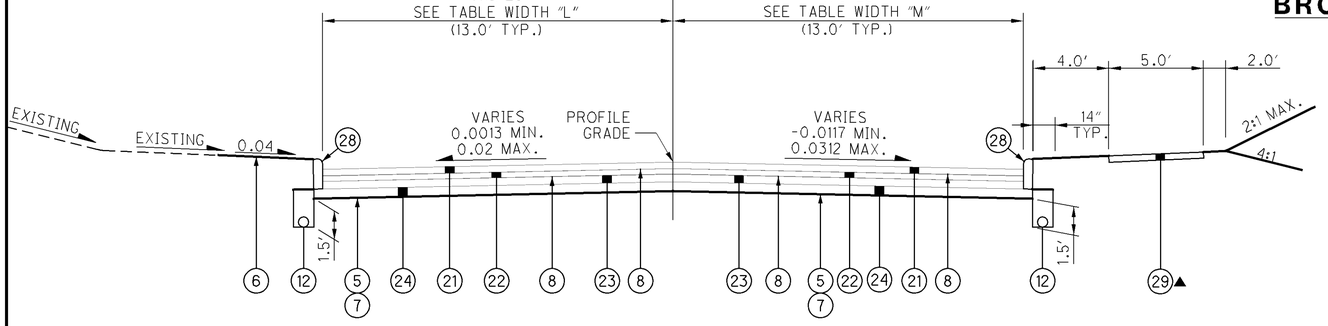
STA. 15+00.00 TO STA. 20+00.00

▲ EXISTING WALK TO REMAIN:
STA. 15+00.00 TO STA. 15+58.55 RT. (BROWN)
STA. 15+00.00 TO STA. 15+90.00 LT. (BROWN)
STA. 20+41.39 TO STA. 20+65.00 RT. (BROWN)
STA. 20+39.95 TO STA. 20+65.00 LT. (BROWN)



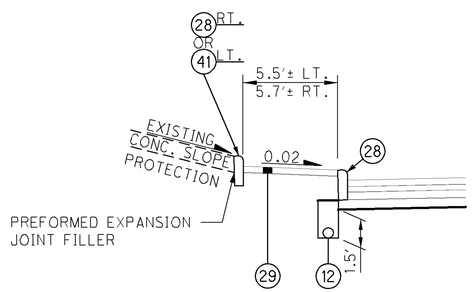
BROWN STREET FULL DEPTH SECTION

STA. 20+00.00 TO STA. 20+65.00



LAMPARTER STREET FULL DEPTH SECTION

STA. 0+15.00 TO STA. 0+98.00



CURB DETAIL "B"

STA. 17+29.51 TO STA. 18+77.99 RT. (BROWN)
STA. 17+29.78 TO STA. 18+83.96 LT. (BROWN)

FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 342-343

FOR PROPOSED LEGEND, SEE SHEET 6

FOR EXISTING LEGEND, SEE SHEET 19

*** FOR INTERSECTION DETAILS, SEE SHEET 348, 349

BROWN ST. WIDTH TABLE

ROAD	*** WIDTH "J"				*** WIDTH "K"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
BROWN ST.	15+00.00	16+67.64	15.0	15.0	15+00.00	17+30.45	15.0	15.0
	16+67.64	20+00.00	23.0	23.0	17+30.45	17+80.45	15.0	23.0
	20+00.00	20+65.00	20.5±	20.5±	17+80.45	20+00.00	23.0	23.0
					20+00.00	20+65.00	21.2±	21.2±

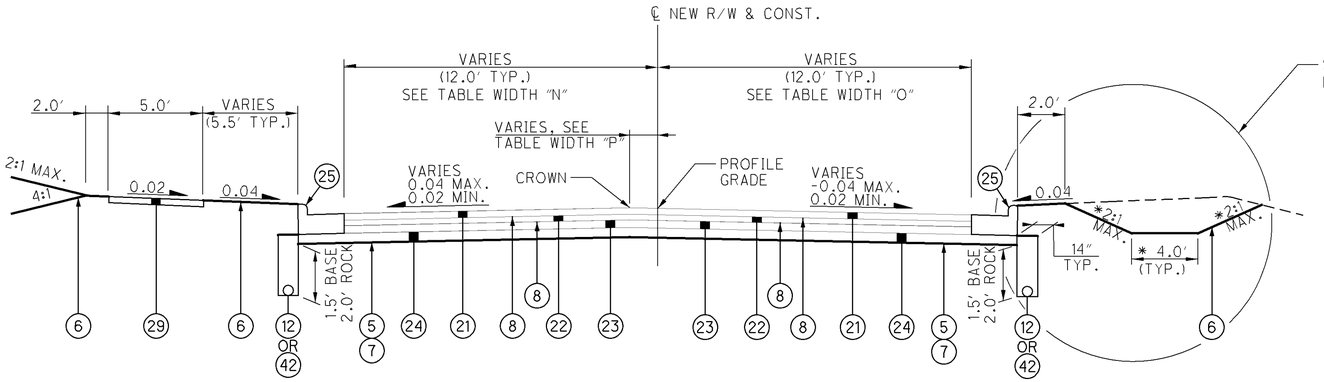
LAMPARTER ST. WIDTH TABLE

ROAD	*** WIDTH "L"				*** WIDTH "M"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
LAMPARTER ST.	0+15.00	0+93.00	13.0	13.0	0+15.00	0+93.00	13.0	13.0
	0+93.00	0+98.00	13.0	12.8	0+93.00	0+98.00	13.0	13.3

PROPOSED TYPICAL SECTIONS

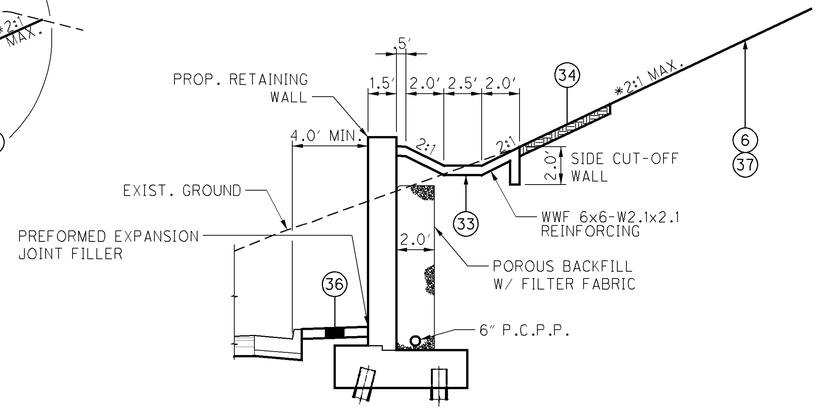
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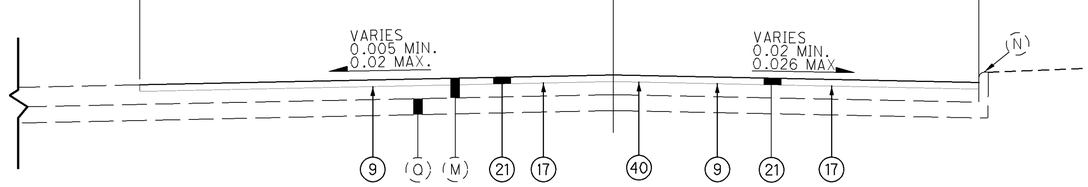
JOHNSTON STREET FULL DEPTH SECTION

STA. 0+15.02 TO STA. 11+06.75



RETAINING WALL DETAIL

STA. 0+50.00 TO STA. 2+65.00 (JOHNSTON ST.)



JOHNSTON STREET RESURFACING SECTION

STA. 11+06.75 TO STA. 11+46.75

* OR AS SHOWN ON CROSS SECTIONS

FOR RETAINING WALL PLANS & DETAILS, SEE SHEETS 375-381
FOR SUPERELEVATION TABLES, SEE SHEET 340
FOR PAVEMENT ELEVATION TABLES, SEE SHEET 341
FOR PROPOSED LEGEND, SEE SHEET 6
FOR EXISTING LEGEND, SEE SHEET 19

*** FOR INTERSECTION DETAILS, SEE SHEET 349, 350

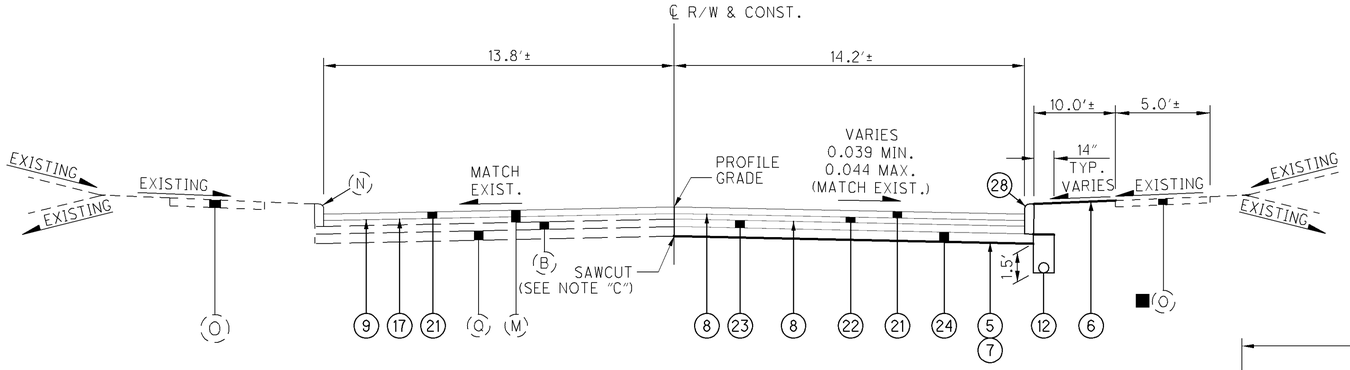
JOHNSTON ST. WIDTH TABLE

ROAD	*** WIDTH "N"				*** WIDTH "O"				WIDTH "P"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
JOHNSTON ST.	0+15.02	1+69.61	14.5	14.5	0+15.02	1+69.61	12.0	12.0	0+15.02	1+69.61	1.3	1.3
	1+69.61	2+36.28	14.5	12.0	1+69.61	2+36.28	12.0	14.5	1+69.61	2+36.28	1.3	-1.3
	2+36.28	5+61.32	12.0	12.0	2+36.28	4+10.17	14.5	14.5	2+36.28	4+10.17	-1.3	-1.3
	5+61.32	6+43.88	12.0	16.0	4+10.17	4+76.84	14.5	12.0	4+10.17	4+76.84	-1.3	0.0
	6+43.88	10+81.75	16.0	16.0	4+76.84	10+06.75	12.0	12.0	4+76.84	11+06.75	0.0	0.0
	10+81.75	11+06.75	16.0	15.1	10+06.75	11+06.75	12.0	16.5				

PROPOSED TYPICAL SECTIONS

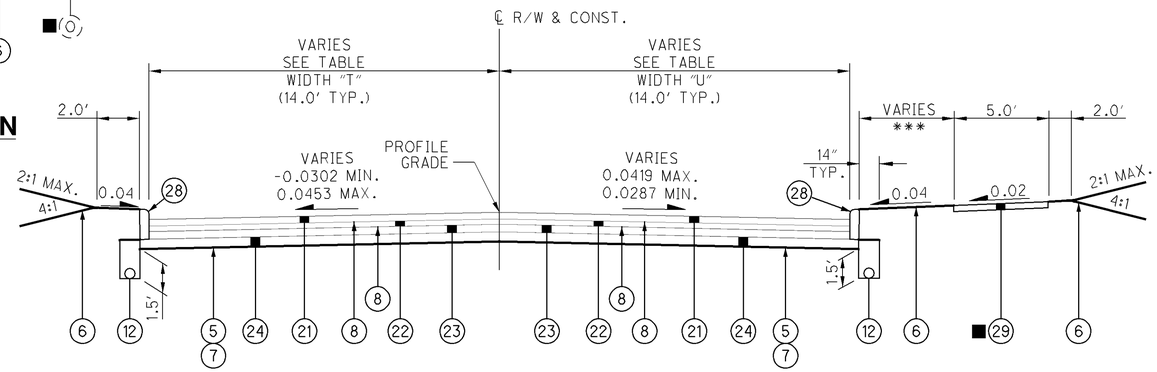
SUM-76/77-11.27/12.12

\\KRNB3\DATA\2010\2012979\SUM\86979\ROADWAY\SHEETS\86979GV007.DGN
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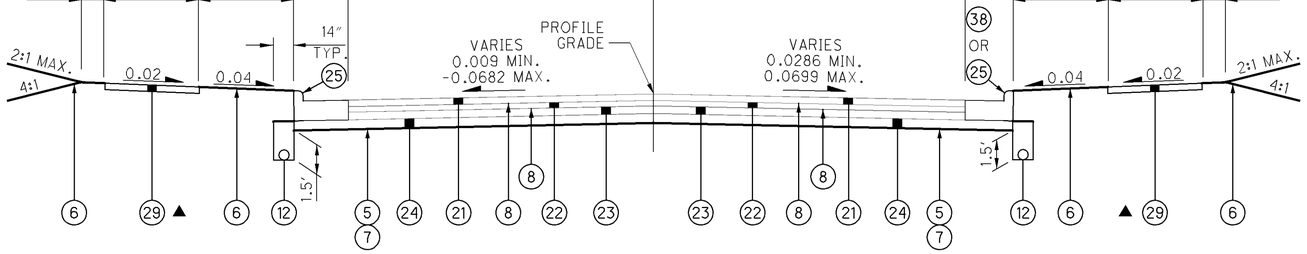
SPICER STREET PARTIAL FULL DEPTH/RESURFACING SECTION

STA. 14+97.25 TO STA. 15+47.39



SPICER STREET FULL DEPTH SECTION

STA. 15+47.39 TO STA. 16+07.39



HEDDEN AVENUE FULL DEPTH SECTION

STA. 19+06.59 TO STA. 19+68.80

(38) STA. 19+06.59 TO STA. 19+35.00
VARY GUTTER CROSS SLOPE FROM 0.02 TO 0.08 FROM STA. 19+25.00 TO STA. 19+35.00

■ BEGIN PROPOSED WALK:
STA. 15+31.46 RT. (SPICER)

▲ EXISTING WALK TO REMAIN:
STA. 19+06.59 TO STA. 19+27.00 LT. (HEDDEN)
STA. 19+06.59 TO STA. 19+41.83 RT. (HEDDEN)

* OR AS SHOWN ON CROSS SECTIONS
FOR PAVEMENT ELEVATION TABLES, SEE SHEET 342
FOR NOTE "C", SEE SHEET 7
FOR PROPOSED LEGEND, SEE SHEET 6
FOR EXISTING LEGEND, SEE SHEET 19

*** FOR INTERSECTION DETAILS, SEE SHEET 350

HEDDEN AVE. WIDTH TABLE

ROAD	*** WIDTH "R"				*** WIDTH "S"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
HEDDEN AVE.	19+06.59	19+11.59	11.0	11.0	19+06.59	19+11.59	10.9	11.0
	19+11.59	19+68.80	11.0	11.0	19+11.59	19+68.80	11.0	11.0

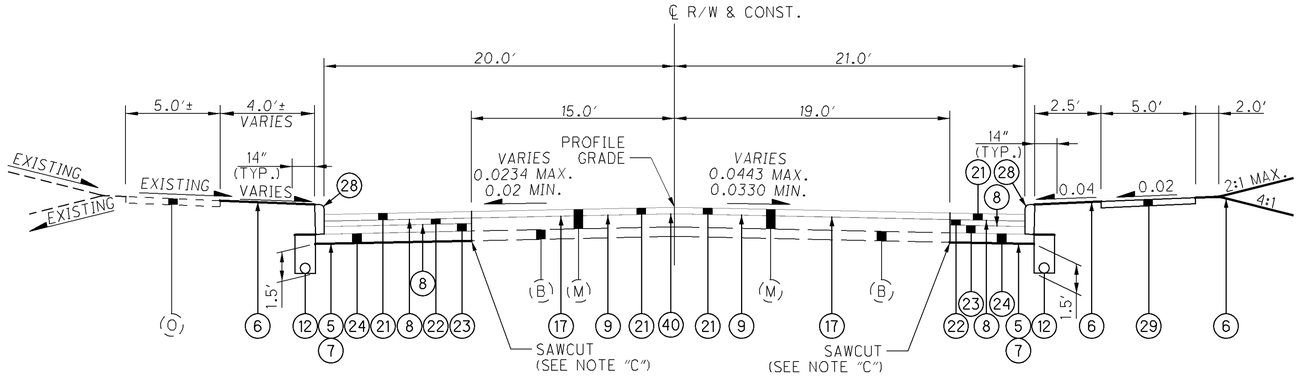
SPICER ST. WIDTH TABLE

ROAD	*** WIDTH "T"				*** WIDTH "U"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
SPICER ST.	14+97.25	15+47.39	13.8±	13.8±	14+97.25	15+47.39	14.2±	14.2±
	15+47.39	15+52.39	13.8	14.0	15+47.39	15+52.39	14.2	14.0
	15+52.39	16+07.39	14.0	14.0	15+52.39	16+07.39	14.0	14.0

PROPOSED TYPICAL SECTIONS

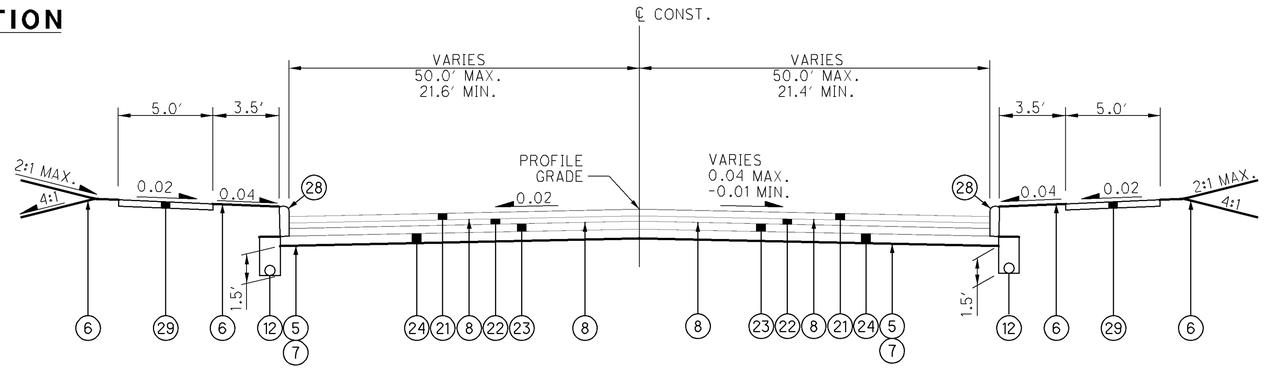
SUM-76/77-11.27/12.12

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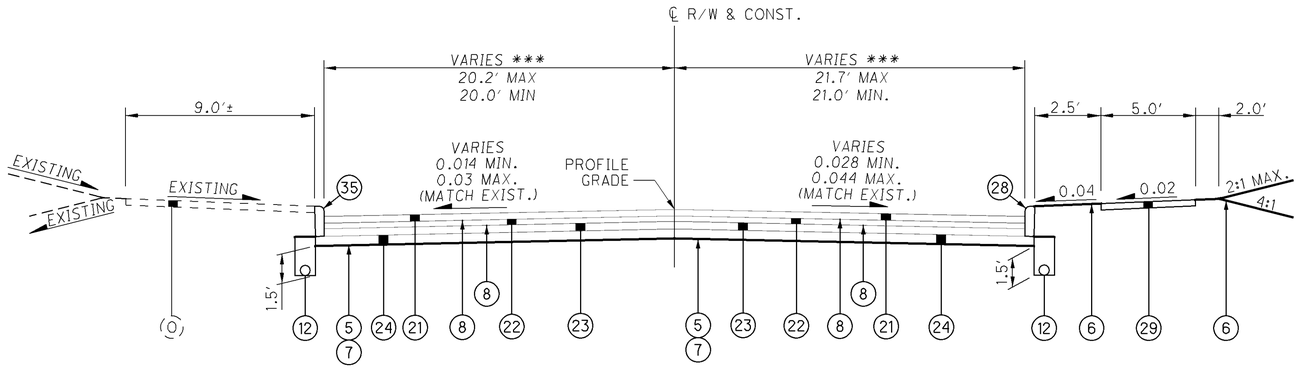
SOUTH STREET RESURFACING SECTION

STA. 24+17.85 TO STA. 26+00.00



SOUTH STREET CUL-DE-SAC FULL DEPTH SECTION

STA. 22+69.62 TO STA. 24+17.85



SOUTH STREET FULL DEPTH SECTION

STA. 26+00.00 TO STA. 26+24.97
STA. 26+70.97 TO STA. 26+94.91

* OR AS SHOWN ON CROSS SECTIONS

*** FOR INTERSECTION DETAILS, SEE SHEET 348

FOR NOTE "C", SEE SHEET 7

FOR PROPOSED LEGEND, SEE SHEET 6

FOR EXISTING LEGEND, SEE SHEET 19

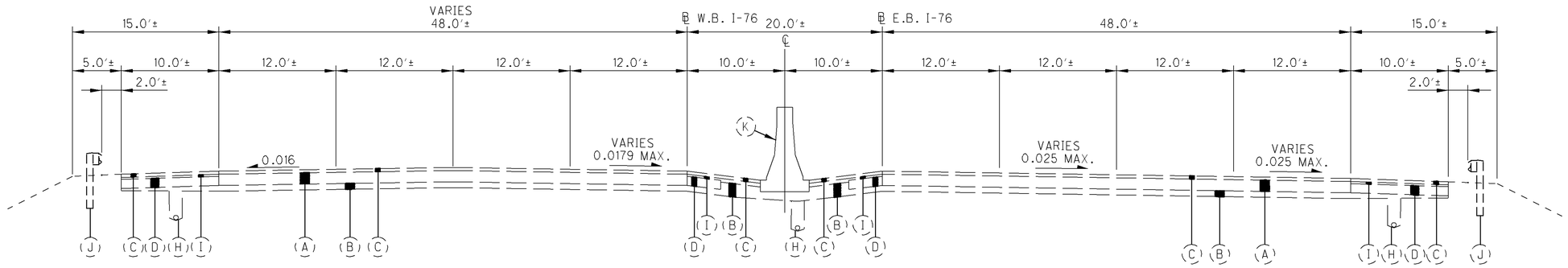
FOR CUL-DE-SAC DETAILS, SEE SHEET 351

FOR PAVEMENT ELEVATION TABLES, SEE SHEET 344

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PROPOSED TYPICAL SECTIONS

SUM-76/77-11.27/12.12



EXISTING SECTION - I-76

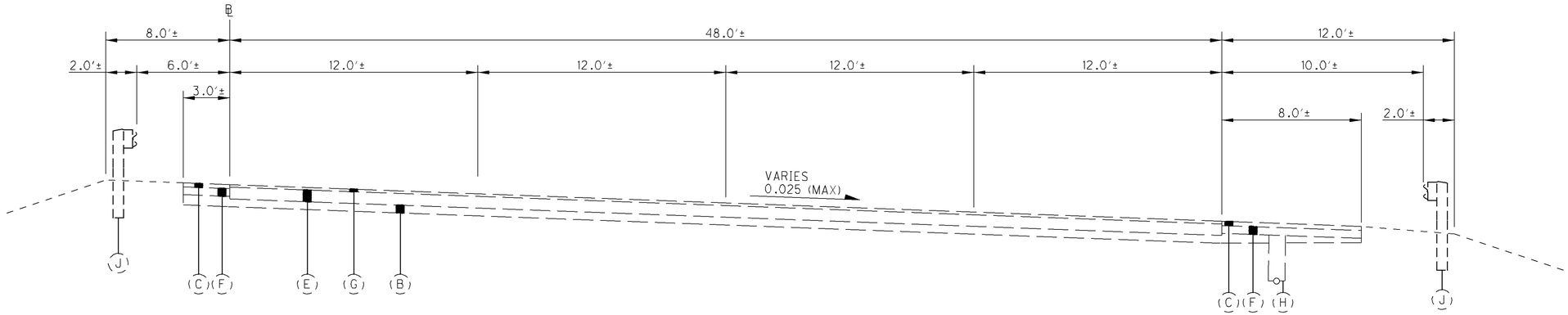
EXISTING LEGEND

(A) REINFORCED CONCRETE PAVEMENT (T=10")
(B) SUBBASE (T=6" TYP.)
(C) ASPHALT OVERLAY (T=4"±)
(D) AGGREGATE BASE (T=6"±)
(E) CONCRETE PAVEMENT (T=9")
(F) AGGREGATE BASE (T=6")
(G) ASPHALT OVERLAY (T=3"±)
(H) 6" UNDERDRAIN
(I) WATERPROOFED AGGREGATE BASE (T=3"±)
(J) GUARDRAIL
(K) CONCRETE BARRIER
(L) REINFORCED CONCRETE PAVEMENT (T=9")
(M) ASPHALT CONCRETE
(N) CONCRETE CURB
(O) CONCRETE WALK
(P) BRICK
(Q) CONC. SUBGRADE

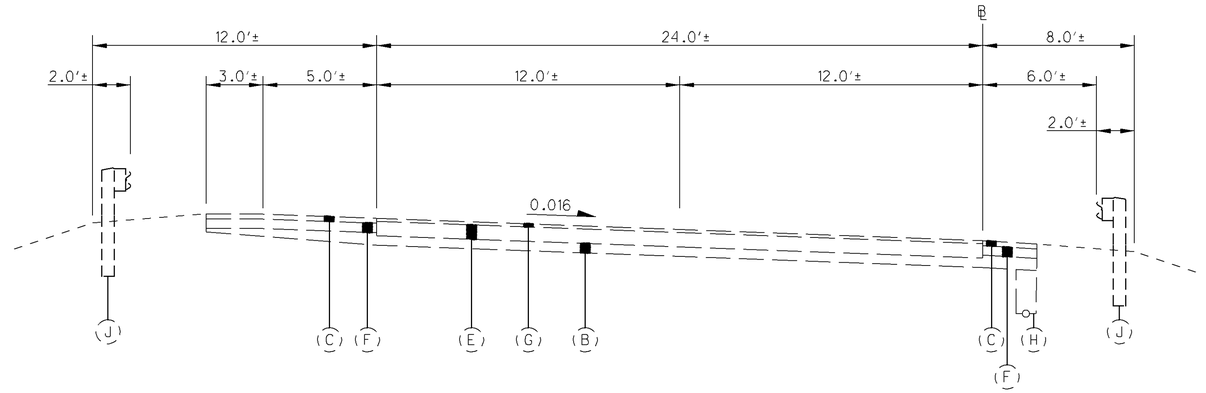
EXISTING TYPICAL SECTIONS

SUM-76/77-11.27/12.12

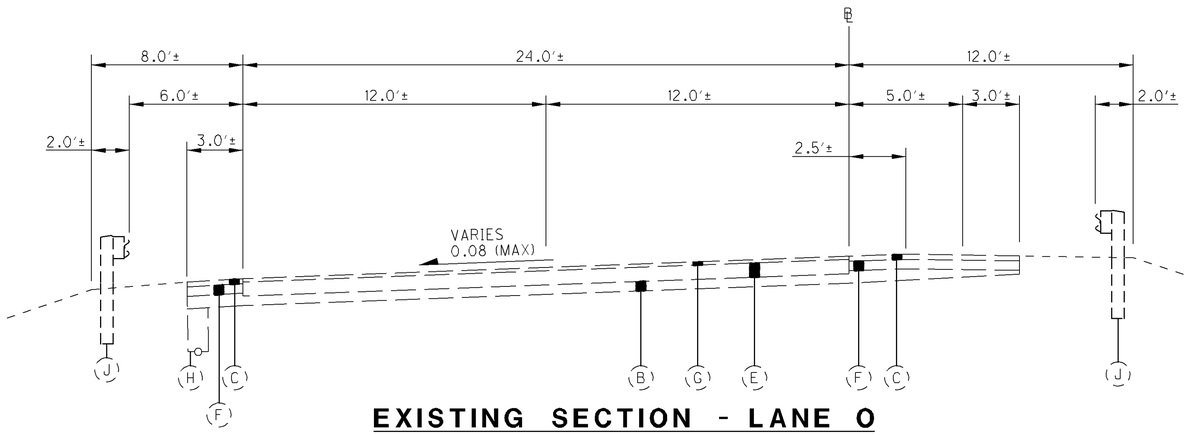
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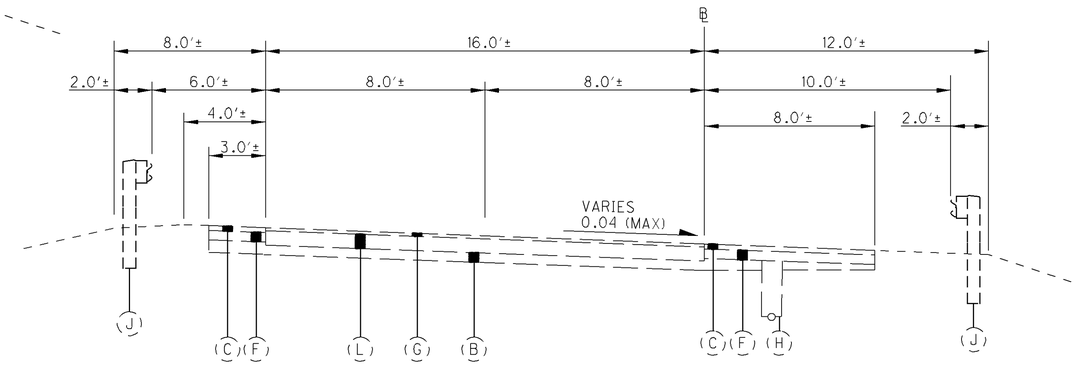
EXISTING SECTION - EASTBOUND I-76



EXISTING SECTION - WESTBOUND I-76



EXISTING SECTION - LANE O



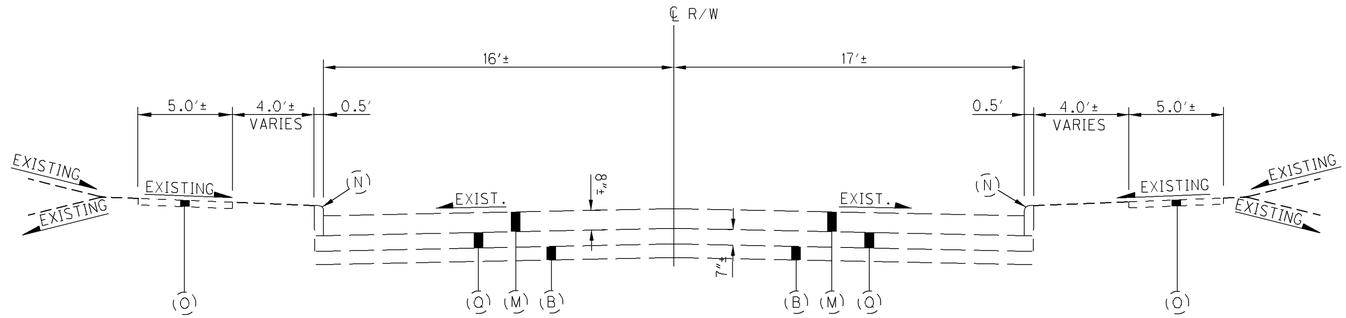
EXISTING SECTION - RAMP P

FOR EXISTING LEGEND, SEE SHEET 19

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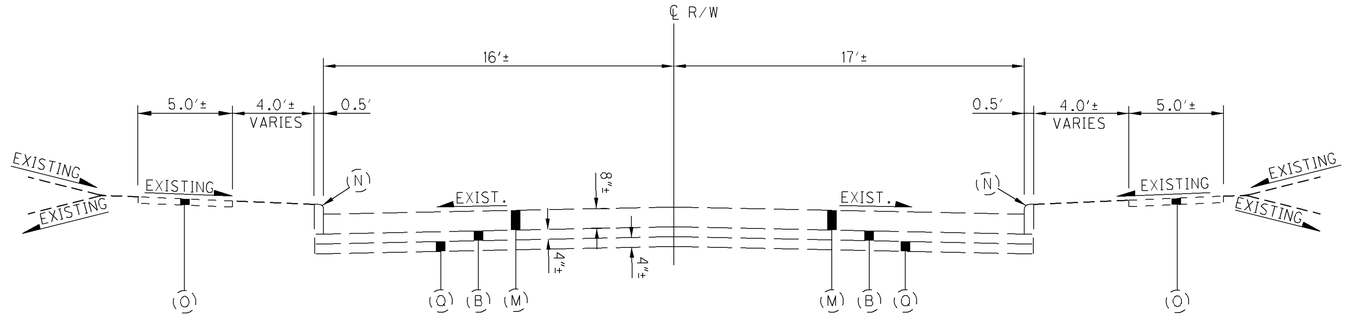
EXISTING TYPICAL SECTIONS

SUM-76/77-11.27/12.12



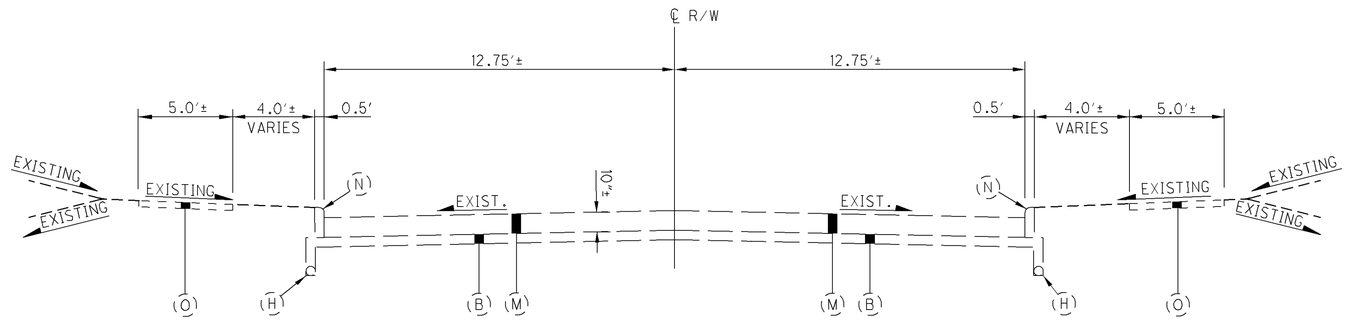
EXISTING JOHNSTON STREET SECTION

SOUTHERN PORTION



EXISTING JOHNSTON STREET SECTION

NORTHERN PORTION



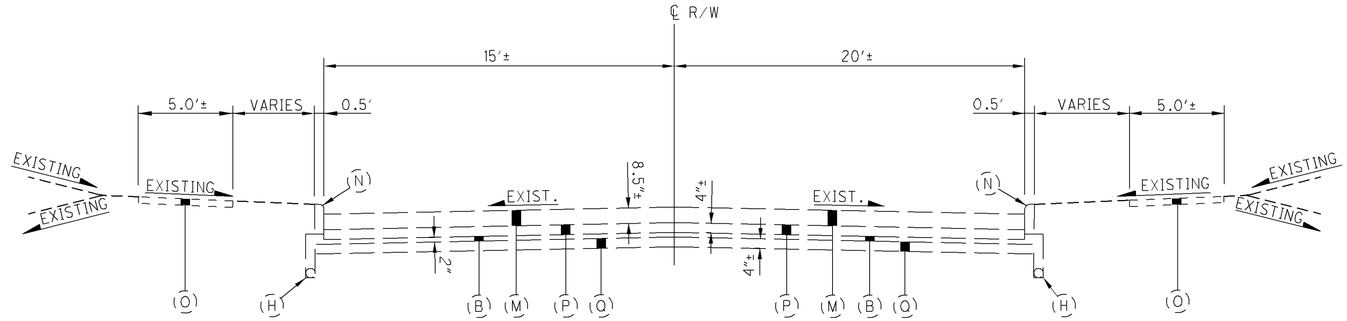
EXISTING HEDDEN AVENUE SECTION

FOR EXISTING LEGEND, SEE SHEET 19

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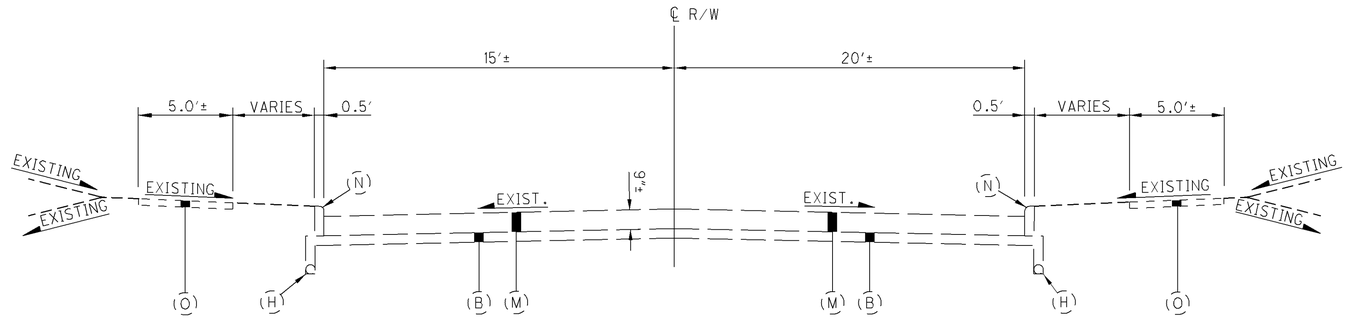
EXISTING TYPICAL SECTIONS

SUM-76/77-11.27/12.12



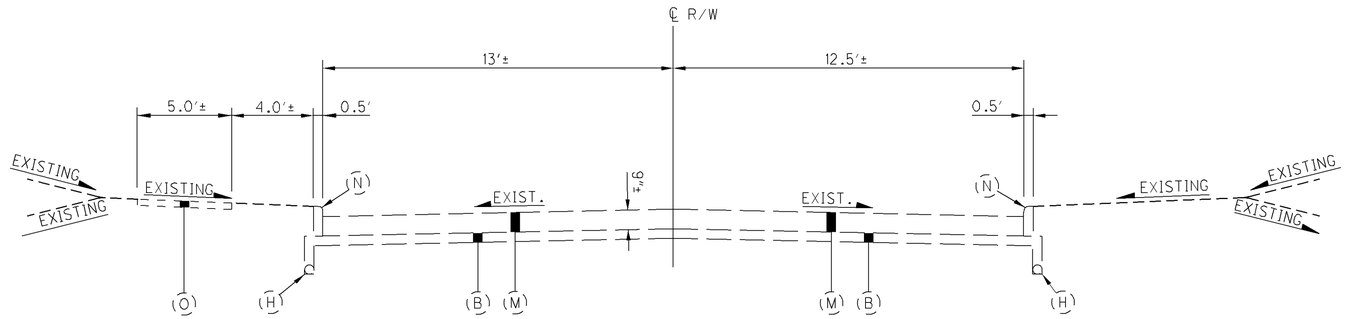
EXISTING BROWN STREET SECTION

SOUTHERN PORTION



EXISTING BROWN STREET SECTION

NORTHERN PORTION



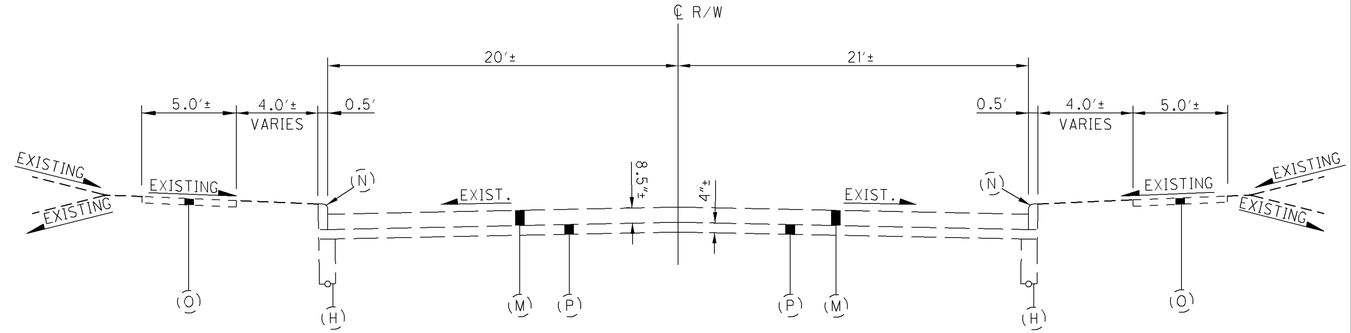
EXISTING LAMPARTER STREET SECTION

FOR EXISTING LEGEND, SEE SHEET 19

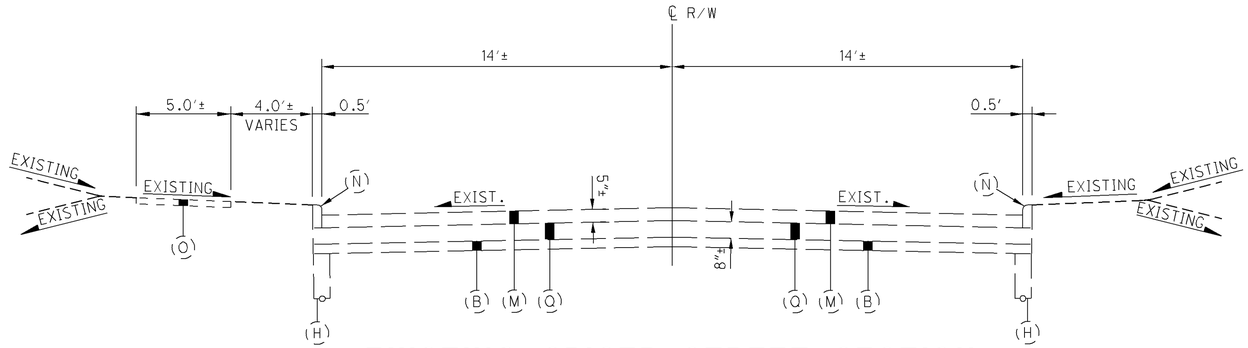
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EXISTING TYPICAL SECTIONS

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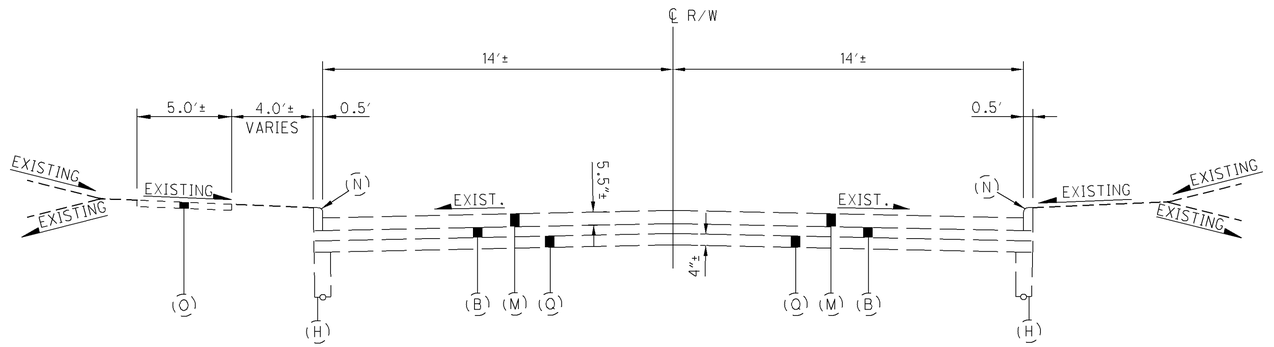


EXISTING SOUTH STREET SECTION



EXISTING SPICER STREET SECTION

SOUTHERLY PORTION



EXISTING SPICER STREET SECTION

NORTHERLY PORTION

EXISTING TYPICAL SECTIONS

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GENERAL

UTILITIES

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

CITY OF AKRON - TRAFFIC
ATTN: CHRIS SLABAUGH
1420 TRIPLETT BLVD, BUILDING #2
AKRON, OH 44306
(330) 375-2851 EXT. 7842

CITY OF AKRON SEWER
ATTN: DISPATCHER
1055 HOME AVENUE
AKRON, OH 44310
(330) 375-2666

FIRST ENERGY / OHIO EDISON
ATTN: DAVID MILLER
1910 W. MARKET ST., BUILDING #1
AKRON, OH 44313
(330) 436-4055

RANGE RESOURCE (ENERVEST)
ATTN: TOM LORENTZ
125 STATE ROUTE 43, SUITE 100
HARTVILLE, OH 44632
(330) 587-1208

TIME WARNER CABLE
ATTN: ANDREW FETTERMAN
530 SOUTH MAIN ST., SUITE 1751
AKRON, OH 44311
(330) 633-9203

J.R. SMAIL, INC.
ATTN: MARK SPARR
2285 EAGLE PASS
WOOSTER, OH 44691
(330) 264-7500

DOMINION EAST OHIO GAS
ATTN: MARY LONG
320 SPRINGSIDE DR., SUITE 320
AKRON, OH 44333
(330) 664-2409

AKRON ENERGY SYSTEM
ATTN: KELLY DODSON
226 OPPORTUNITY PARKWAY
AKRON, OH 44307

ZAYO COMMUNICATIONS
ATTN: BRYCE BASISTA
1787 FLEMING FALLS ROAD
MANSFIELD, OH 44903
(419) 512-6771

INVOLTA
ATTN: NATALIE STALLMAN
P.O. BOX 1986
CEDAR RAPIDS, IA 52406
(319) 538-8468

AT&T CORP
ATTN: CHRIS McCLOSKEY
5980-G WILCOX PLACE
DUBLIN, OH 43016
(614) 760-8320

CENTURY LINK/QWEST/GXT
ATTN: CHRIS STRAYER
4650 LAKEHURST COURT
DUBLIN, OH 43016
(330) 866-1299

ODOT DISTRICT 4 - TRAFFIC
ATTN: KEN GREENE
2088 SOUTH ARLINGTON ROAD
AKRON, OH 44306
(330) 786-3145

AT&T DESIGN ENGINEERING
ATTN: JOHN BOKISA
50 W. BOWERY ST/ 6TH FLOOR
AKRON, OH 44308
(330) 384-3048

EVERFLOW EASTERN
ATTN: MIKE STRAWN
29093 STATE ROUTE 62
SALEM, OH 44460
(330) 537-3863

CITY OF AKRON WATER
ATTN: TONY PUGLIA
565 JOHNSTON STREET
AKRON, OH 44311
(330) 375-2420

THE UNDERGROUND UTILITIES ON THIS PLAN HAVE BEEN LOCATED BY USING A SUBSURFACE UTILITY ENGINEERING COMPANY [SUE]. IF THERE ARE ANY DISCREPANCIES BETWEEN FIELD MARKINGS AND WHAT THE PLAN INDICATES, PLEASE CONTACT STEVE JONES, DISTRICT UTILITY COORDINATOR 330-786-4818, PRIOR TO ANY SUBSURFACE WORK BEING INITIATED.

DOMINION EAST OHIO (DEO) UTILITY COORDINATION

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF DOMINION'S PIPELINE(S), IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION & SHORING). ONE-FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN DOMINION EAST OHIO'S (DEO) EXISTING PIPELINE(S) AND ALL OTHER IMPROVEMENTS. EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY DEO FACILITY (PIPELINES, ETC.) OR APPURTENANCE (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION TEST STATION WIRES & DEVICES, VALVE BOXES, ETC.). DEO FACILITIES MUST BE PROTECTED WITH A TARP DURING BRIDGE CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE AND RELIABLE FOR ENSURING THAT ALL DEO EXISTING FACILITIES, ABOVE AND BELOW GROUND, REMAIN UNDAMAGED, ACCESSIBLE AND IN WORKING ORDER. THE CROSSING OF DEO'S PIPELINE WITH ANOTHER STEEL FACILITY MAY CREATE A POTENTIAL CORROSION ISSUE FOR THE PROPOSED FACILITY AND THE EXISTING DEO FACILITY. PLEASE CONTACT DOMINION'S CORROSION DEPARTMENT: DAVE CUTLIP (330-266-2121), RICK McDONALD (330-266-2122), OR AL HUMRICHOUSER (330-478-3757).

ROUNDING

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

EXISTING PLANS

EXISTING PLANS ENTITLED SUM-18-11.00, SUM-8-11.65, SUM-18R-12.10 AND SUM-76-8.42 MAY BE INSPECTED IN THE ODOT DISTRICT 4 OFFICE IN AKRON.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 5 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

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

PROJECT CONTROL

POSITIONING METHOD: GPS
MONUMENT TYPE: TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID09

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(CORS96)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE NORTH ZONE
COMBINED SCALE FACTOR: 0.99989290
ORIGIN OF COORDINATE
SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

WORK LIMITS

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

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	5		5
30"	1		1
48"			
60"			

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

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 50 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 SUBMIT FORM 7460-1 TO THE FAA. A COPY OF THE SUBMISSION AND TWO COPIES OF 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.

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

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.

ITEM 607 - FENCE, TYPE CLT, AS PER PLAN

ALL REQUIREMENTS OF SECTION 607 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY WITH THE FOLLOWING MODIFICATIONS: PROPOSED POLES ARE TO BE EMBEDDED THROUGH THE EXISTING CONCRETE SLOPE PROTECTION. BACKFILL THE CAVITY AROUND THE POLES WITH CONCRETE MEETING SECTIONS 499, 511 AND 601.07.

ITEM 202 - FENCE REMOVED, AS PER PLAN

ALL REQUIREMENTS OF SECTION 202.09 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY WITH THE FOLLOWING MODIFICATIONS: EXISTING POLES ARE EMBEDDED THROUGH THE EXISTING CONCRETE SLOPE PROTECTION. BACKFILL THE CAVITY CREATED BY THE REMOVAL OF THE POLES WITH CONCRETE MEETING SECTIONS 499, 551 AND 601.07.

BUILDING DEMOLITION

ALL BUILDINGS ARE AVAILABLE FOR DEMOLITION EXCEPT THE BUILDING ON PARCEL 21 WHICH WILL BE AVAILABLE TO THE CONTRACTOR ON OR AFTER MARCH 1, 2015.

ITEM 202 - REMOVAL, MISC.: REMOVAL AND DISPOSAL OF REGULATED UNIVERSAL HAZARDOUS WASTE

THIS ITEM IS A FIXED AMOUNT IN THE PROPOSAL TO PROVIDE COMPENSATION FOR THE REMOVAL AND DISPOSAL OF THE REGULATED UNIVERSAL AND HAZARDOUS WASTE NOT ANTICIPATED BY THE PLAN FOR THE THREE PARCELS IDENTIFIED FOR REMOVAL. THE FIXED AMOUNT SHOWN IN THE PROPOSAL IS INCLUDED (AS ANY OTHER BID ITEMS) IN THE TOTAL BID AMOUNT. THIS FIXED AMOUNT IS THE DEPARTMENT'S ESTIMATE OF THE TOTAL COST OF THE REMOVAL AND DISPOSAL OF THE REGULATED UNIVERSAL AND HAZARDOUS WASTE. PAYMENT FOR THIS ITEM WILL BE ADJUSTED AS PER SECTION 109.05 OF THE 2013 CONSTRUCTION AND MATERIALS SPECIFICATIONS (CM&S) AND WILL BE BASED ON THE FIELD CONDITIONS ENCOUNTERED DURING CONSTRUCTION. C&MS TABLES 104.02-2 AND 104.02-3 DO NOT APPLY TO REDUCTIONS OR INCREASES IN THIS CONTRACT ITEM.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 202	REMOVAL, MISC.: REMOVAL AND DISPOSAL OF REGULATED UNIVERSAL HAZARDOUS WASTE	50,000 EACH

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED HAZARDOUS WASTE NOTE	ATR	03-12-15

CALCULATED ATR
CHECKED CWL

GENERAL NOTES

SUM-76/77-11.27/12.12

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HROLLAND

CALCULATED ATR | CHECKED CWL

GENERAL NOTES

GENERAL (CONTINUED)

ITEM 623 - MONUMENT ASSEMBLY

ADJUSTABLE MONUMENT ASSEMBLIES WILL BE PLACED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION AT THE LOCATIONS SHOWN ON THE CENTERLINE SURVEY PLAT OF THE RIGHT OF WAY PLAN. SURVEY NOTES VERIFYING THE ACCURACY OF THE POINT SHALL BE SEALED BY THE SURVEYOR AND RETURNED TO THE DISTRICT 4 SURVEY OPERATIONS MANAGER. ANY REQUEST FOR NON PERFORMANCE SHALL BE DIRECTED IN WRITING TO THE DISTRICT 4 PLANNING AND ENGINEERING ADMINISTRATOR OR SURVEY OPERATIONS MANAGER AND MUST INCLUDE PROPER WRITTEN JUSTIFICATION.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 623 - MONUMENT ASSEMBLY 9 EACH

ITEM 623 - MONUMENT, MISC.: GEODETIC MONUMENT

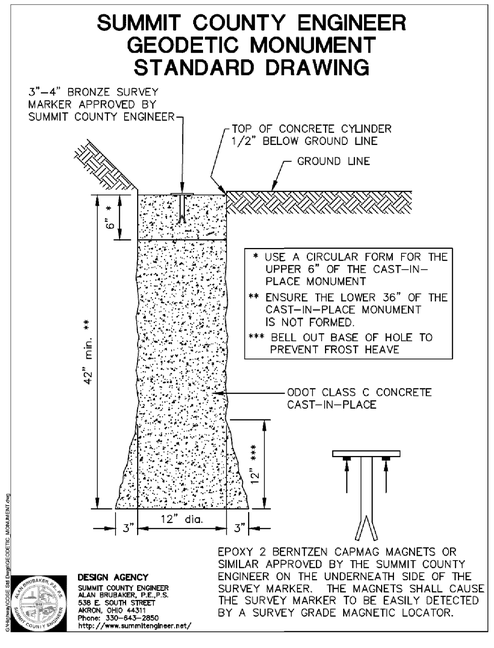
THIS ITEM SHALL CONSIST OF CONSTRUCTING A GEODETIC MONUMENT PER THE DETAIL SHOWN ON THIS SHEET, AT A LOCATION WITHIN THE PROJECT LIMITS TO BE DETERMINED BY THE SUMMIT COUNTY ENGINEER'S OFFICE AT THE TIME OF CONSTRUCTION. NOTE THAT A MONUMENT BOX SET FLUSH WITH THE ASPHALT CURRENTLY SITS OVER TOP OF THE EXISTING GEODETIC MONUMENT TO BE DESTROYED. THE CONTRACTOR SHALL INSTALL THAT MONUMENT BOX SET TO GRADE OVER THE PROPOSED GEODETIC MONUMENT. THE MONUMENT LOCATION SHALL BE COORDINATED WITH:

SUMMIT COUNTY ENGINEER
538 EAST SOUTH STREET
AKRON, OHIO 44311
ATTN: BOB WARREN
(330) 643-8727

ALL LABOR, EQUIPMENT AND MATERIALS TO COORDINATE AND CONSTRUCT THE MONUMENT SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 623 - MONUMENT, MISC.: GEODETIC MONUMENT (EACH).

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 623 - MONUMENT, MISC.: GEODETIC MONUMENT 1 EACH



ROADWAY

ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN

THIS ITEM SHALL CONSIST OF SUPPLYING AND PLACING GRANULAR BACKFILL AS PER THE ODOT SUPPLEMENTAL SPECIFICATIONS AND PER THE DETAILS ON SHEETS 333 AND 334 OF 652 . IN AREAS OF THE WIRE-FACED MSE WALL AS DETAILED ON SHEET 333 OF 652 , THE MATERIAL SUPPLIED WITHIN THIS ITEM SHALL BE RESTRICTED TO ITEM 840 SELECT GRANULAR BACKFILL AS PER S.S. 840. IN EMBANKMENT AREAS OUTSIDE OF THE WIRE-FACED MSE WALL, THE CONTRACTOR HAS THE OPTION OF USING ITEM 204 GRANULAR MATERIAL, TYPE B IN ADDITION TO ITEM 840 SELECT GRANULAR BACKFILL. THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION SECTIONS 840.03.E.3 AND 840.03.E.4 WILL NOT APPLY TO THE SELECT GRANULAR BACKFILL MATERIAL FOR THE EMBANKMENT AREA BEYOND THE LIMITS OF THE REINFORCED EMBANKMENT AS SHOWN ON PLAN SHEET 333 AND 334 OF 652 .

PAVEMENT

ITEM 304 - AGGREGATE BASE, AS PER PLAN "A"

GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

ITEM 304 - AGGREGATE BASE, AS PER PLAN "B"

ALL REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY WITH THE FOLLOWING MODIFICATION; ALL AGGREGATE SHALL BE LIMESTONE.

ITEM 609 - CURB, TYPE 6, AS PER PLAN

ALL REQUIREMENTS OF STANDARD DRAWING BP-5.1 AND SECTION 609 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY WITH THE FOLLOWING MODIFICATION: CURB HEIGHT SHALL VARY TO MEET EXISTING SIDEWALK.

ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN

ALL REQUIREMENTS OF STANDARD DRAWING BP-5.1 AND SECTION 609 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY WITH THE FOLLOWING MODIFICATION: GUTTER CROSS SLOPE SHALL BE 0.02 AND VARY TO 0.08 FROM STA. 19+25 TO STA. 19+35 ON HEDDEN AVENUE.

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

IN LOW SHOULDER AREAS EXCEEDING 1", AND ADJACENT TO THE SAFETY EDGE, OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1- 1/2"	100
3/4"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (448), AS PER PLAN

703.05 DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-13-15

SUM-76/77-11.27/12.12

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PAVEMENT (CONTINUED)

MEDIAN AND/OR CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

PAVEMENT RESTORATION FOR MONUMENT ASSEMBLY INSTALLATIONS

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 623 MONUMENT ASSEMBLIES.

ITEM 202 PAVEMENT REMOVED 1 SQ. YDS.

ITEM 441 ASPH. CONC. INTERMEDIATE COURSE, TYPE 2, (446) 1 CU. YDS.

ITEM 301 ASPHALT CONCRETE BASE, PG64-22 1 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 6 INCHES AND A WIDTH OF TWO FEET AROUND THE PERIMETER OF THE MONUMENT ASSEMBLIES.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEMS QUANTIFIED UNDER 01/0T

ITEM 202 PAVEMENT REMOVED 33 SQ. YDS.

ITEM 301 ASPHALT CONCRETE BASE, PG64-22 6 CU. YDS.

ITEMS QUANTIFIED UNDER 03/AKRN

ITEM 202 PAVEMENT REMOVED 390 SQ. YDS.

ITEM 202 CURB REMOVED 46 FT.

ITEM 202 WALK REMOVED 167 SQ. FT.

ITEM 441 ASPH. CONC. SURFACE COURSE, TYPE 1, (446) PG64-22 14 CU. YDS.

ITEM SPECIAL TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE 16 GAL.

ITEM 441 ASPH. CONC. INTERMEDIATE COURSE, TYPE 2, (446) 33 CU. YDS

ITEM 301 ASPHALT CONCRETE BASE, PG64-22 66 CU. YDS.

ITEM 608 CURB RAMP, TYPE A1 94 SQ. FT.

ITEM 608 4" CONCRETE WALK 73 SQ. FT.

ITEM 609 CURB, TYPE 6 46 FT.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 6 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

ITEM SPECIAL - TACK COAT, TRACKLESS TACK
ITEM SPECIAL - TACK COAT, TRACKLESS TACK, 702.13
ITEM SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE

DESCRIPTION:

THIS WORK CONSISTS OF PREPARING AND TREATING A PAVED SURFACE WITH A TRACKLESS TACK ASPHALT EMULSION.

FURNISH MATERIALS ACCORDING TO THE DEPARTMENT'S APPROVED LIST.

MEET ALL REQUIREMENTS OF ITEM 407 TACK COAT IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRED BY THE CONTRACT, EXCEPT AS NOTED BELOW.

MATERIAL:

MEET ALL PROPERTIES OF THE APPROVED MANUFACTURER'S TRACKLESS TACK SPECIFICATION REQUIREMENTS ON FILE WITH THE LABORATORY AT TIME OF PLACEMENT.

ACCEPTANCE AND SAMPLING OF MATERIALS:

SUPPLY CERTIFIED TEST DATA TO THE ENGINEER AND TO THE DISTRICT LABORATORY DEMONSTRATING THE TRACKLESS TACK SUPPLIED WAS TESTED FOR AND MEETS ALL MATERIAL PROPERTIES SHOWN ON THE DEPARTMENT'S APPROVED LIST.

DURING CONSTRUCTION, ODOT PERSONNEL WILL SAMPLE FROM THE DISTRIBUTOR AND SUPPLY TO THE DISTRICT TEST LAB A MINIMUM OF ONE QUART OF TRACKLESS TACK FOR EVERY 25,000 GALLONS USED ON THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE PROPER PLASTIC QUART SAMPLING CONTAINER. CLEARLY MARK ON THE SAMPLE WITH THE MANUFACTURER'S NAME, PROJECT NUMBER, AND THE WORDS "TRACKLESS TACK".

EQUIPMENT:

FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR CORRECT DISTRIBUTOR SETTINGS. THOROUGHLY CLEAN ALL EQUIPMENT IF PREVIOUSLY USED MATERIAL CHARGE IS DIFFERENT THAN THE PROPOSED MATERIAL.

APPLICATION OF ASPHALT MATERIAL:

UNIFORMLY APPLY THE TRACKLESS TACK WITH A DISTRIBUTOR ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. IF TRACKLESS TACK IS STORED FOR AN EXTENDED PERIOD OF TIME, PRIOR TO APPLICATION, AGITATE OR GENTLY CIRCULATE THE MATERIAL.

ENSURE ALL NOZZLES AND SPRAY PATTERNS ARE IDENTICAL TO ONE ANOTHER ALONG THE DISTRIBUTOR SPRAY BAR. PLACE THE ANGLE OF THE NOZZLE AT A 15 TO 30 DEGREE ANGLE TO THE SPRAY BAR AXIS TO MAXIMIZE OVERLAP OR AS RECOMMENDED BY THE NOZZLE MANUFACTURER. CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR REQUIRED SPRAY NOZZLE SIZE AND DISTRIBUTOR AND NOZZLE SETTINGS.

APPLY AT A RATE OF 0.04 TO 0.1 GALLONS PER SQUARE YARD. DO NOT DILUTE TRACKLESS TACK. RECOMMENDED APPLICATION TEMPERATURE IS 160°F TO 180°F. DO NOT EXCEED 180°F. THE ENGINEER WILL APPROVE THE QUANTITY, RATE OF APPLICATION, TEMPERATURE, DISTRIBUTOR SETTINGS, AND AREAS TO BE TREATED BEFORE APPLICATION OF THE TRACKLESS TACK COAT. THE ENGINEER WILL DETERMINE THE ACTUAL APPLICATION IN GALLONS PER SQUARE YARD BY A CHECK ON THE PROJECT.

PERFORMANCE OF TRACKLESS TACK:

DETERMINE THE TIME TO SET FOR THE MATERIAL TO BECOME TRACKLESS. THE ENGINEER WILL REPORT ANY ISSUES WITH EXCESSIVE TIME TO SET, OR AFTER SET ISSUES WITH STICKINESS, OR PICKUP OF THE TACK TO THE DISTRICT TESTING ENGINEER AND NEW PRODUCT ENGINEER, BRAD YOUNG 614-351-2882.

IF THE CERTIFIED TEST DATA FAILS TO MEET THE LAB TESTING CRITERIA, OR FIELD SAMPLES FAIL TO MEET THE LAB TEST CRITERIA, OR THE TRACKLESS TACK FAILS TO PERFORM SATISFACTORILY IN THE FIELD, AS NOTED ABOVE, THE CONTRACTOR WILL BE REQUIRED TO REPLACE AND SUPPLY ANOTHER APPROVED TRACKLESS TACK PRODUCT FOR THE REMAINDER OF THE PROJECT AT NO COST TO THE DEPARTMENT.

ANY FAILING TRACKLESS TACK PRODUCT WILL BE REMOVED FROM THE DEPARTMENT'S APPROVED LIST.

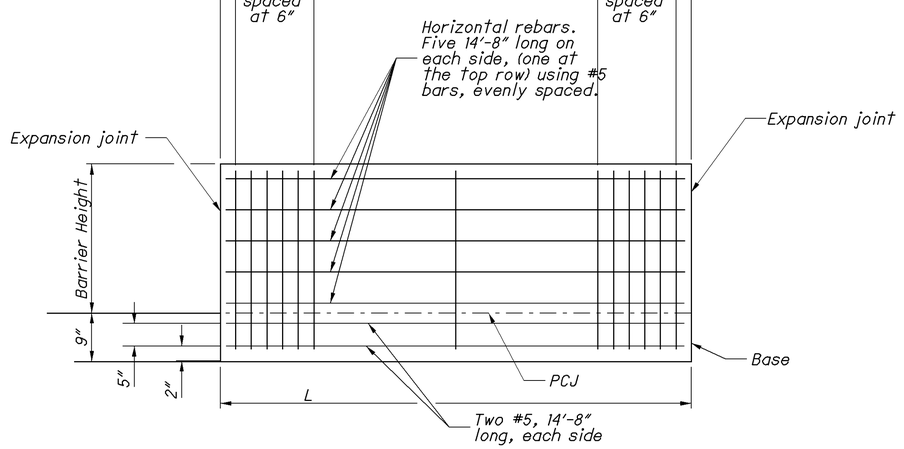
ROADWAY

ITEM 608 - 6" CONCRETE WALK, AS PER PLAN
ITEM 608 - 8" CONCRETE WALK, AS PER PLAN

ALL REQUIREMENTS OF SECTION 608 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY WITH THE FOLLOWING MODIFICATION: CONCRETE SHALL BE QC MS WITHIN THE DRIVE LIMITS AS SHOWN IN THE DETAIL ON SHEET 352

ITEM 622 - CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING REINFORCED END ANCHORAGES AS PER STANDARD DRAWING RM-4.3 AND THE BARRIER DETAIL BELOW. THE Y401 REINFORCEMENT BARS SHALL BE SPACED AS SHOWN IN THE DETAIL. ALL MATERIALS, LABOR AND OTHER INCIDENTALS NECESSARY TO CONSTRUCT THIS ANCHOR SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN (EACH).



ELEVATION

BARRIER	L
B-1 (WEST OF INLET)	8.60'
B-1 (EAST OF INLET)	7.79'
B-2 (WEST OF INLET)	7.93'

CALCULATED ATR
CHECKED CWL

GENERAL NOTES

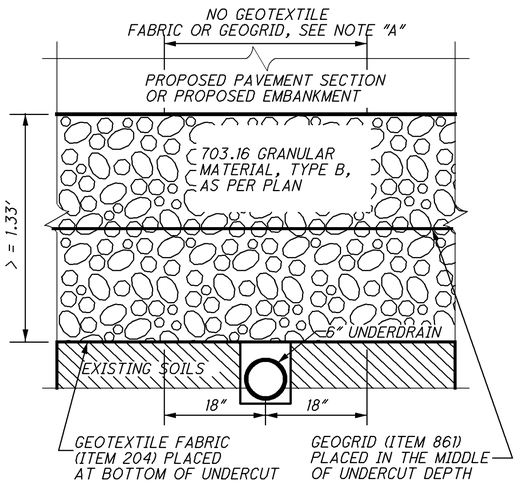
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ROADWAY (CONTINUED)

SUBGRADE STABILIZATION

THIS INVOLVES THE PLACEMENT OF GRANULAR MATERIAL, TYPE B, AS PER PLAN FOR THE LOCATIONS OF UNSUITABLE MATERIALS AS VERIFIED AND DELINEATED BY THE ENGINEER. GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 204 AND 703.16.C OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL BE APPLICABLE FOR GRANULAR MATERIAL, TYPE B, AS PER PLAN.

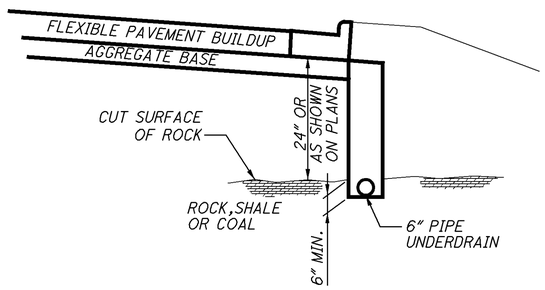


NOTE "A":

THE CONTRACTOR SHALL SUSPEND THE USE OF GEOTEXTILE FABRIC AND GEOGRID WITHIN 18" OF EITHER SIDE OF A CONFLICTING UNDERDRAIN.

DETAIL - UNDERCUT/ REPLACEMENT TREATMENT METHOD

NOT TO SCALE

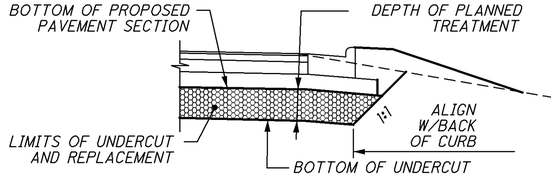


DETAIL - ROCK UNDERCUT/ROCK CUT UNDERDRAIN

NOT TO SCALE

NOTE:

SOIL BORINGS WITHIN THE PROJECT LIMITS REVEAL THE PRESENCE OF ROCK. WHEN ROCK IS ENCOUNTERED WITHIN 24 INCHES OF THE BOTTOM OF THE PROPOSED PAVEMENT, CONTRACTOR SHALL EXCAVATE THE ROCK ACCORDING TO 204.05 AND REPLACE WITH ITEM 204 GRANULAR MATERIAL, TYPE B, AS PER PLAN.



TYPICAL PAVEMENT SUBGRADE CROSS SECTION

NOT TO SCALE

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. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNDERCUTS. 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.

   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 UNDERCUTS. 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 EXCAVATION OF SUBGRADE.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEER'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS 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 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR 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, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLEXIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

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.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209, LINEAR GRADING, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN.

ITEM 209, LINEAR GRADING, AS PER PLAN SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:

1. SET GUARDRAIL POSTS
2. PLACE ITEM 441

METHOD B:

1. PLACE ITEM 441
2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POST ARE USED)
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN.

ITEM SPECIAL - MISC.: VERTICAL CLEARANCE

AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, A REGISTERED SURVEYOR WILL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM (AVAILABLE IN THE DISTRICT 4 STRUCTURES AND PAVEMENT OFFICE). THE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT 4 STRUCTURES AND PAVEMENT ENGINEER. THE RECORD SHALL BEAR THE SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURES: SUM-76-1127

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SPECIAL - MISC.: VERTICAL CLEARANCE 1 EACH

ITEM 202 - REMOVAL MISC.: BENCH REMOVED AND RESET

THIS ITEM SHALL CONSIST OF THE CAREFUL REMOVAL AND STORAGE OF THE EXISTING BENCH AND THE RESETTING OF THE BENCH IN THE SAME LOCATION WITHIN THE LIMITS OF THE PROPOSED SIDEWALK AND CURB ALONG BROWN STREET. THE CONTRACTOR IS RESPONSIBLE FOR THE CAREFUL SALVAGE AND RE-USE OF THE EXISTING BENCH. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING THE BENCH IF DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 - REMOVAL MISC.: BENCH REMOVED AND RESET (EACH).

EMBANKMENT CONSTRUCTION FOR REPLACEMENT OF STRUCTURES SUM-76-1137L & R AND SUM-77-1212R (I-76 & I-77 OVER SPICER AND JOHNSTON STREETS)

THE EXPOSED PORTIONS OF THE BRIDGE SUBSTRUCTURES SHALL BE ISOLATED FROM THE PROPOSED FILL BY COATING THE PORTIONS OF THE ABUTMENTS AND PIERS THAT ARE ABOVE EXISTING GRADE WITH LOW VISCOSITY BITUMINOUS ASPHALT AND THEN COVERING OR WRAPPING THOSE COMPONENTS WITH A DURABLE THICK PLASTIC (VISQUEEN). FILL PLACEMENT CAN THEN OCCUR ACCORDING TO ODOT ITEM 840 AS HIGH AS POSSIBLE AND DEEMED PRACTICAL BY THE CONTRACTOR UNDER THE EXISTING BRIDGE SUPERSTRUCTURES WITH SPECIAL PROVISIONS AS DEFINED BELOW. FOR ESTIMATING PURPOSES IT HAS BEEN ASSUMED THAT THIS STAGE OF FILL PLACEMENT WILL REACH WITHIN 6 FEET OF THE BOTTOM OF THE EXISTING BRIDGE BEAMS.

SETTLEMENT PLATFORMS AND VIBRATING WIRE PIEZOMETERS SHALL BE INSTALLED PRIOR TO BEGINNING THE PLACEMENT OF THE STANDARD ITEM 840 SELECT GRANULAR BACKFILL. SURVEY POINTS AT EACH SUBSTRUCTURE UNIT SHALL BE ESTABLISHED AND MONITORED ON A REGULAR BASIS. BRIDGE STRUCTURE RIDE-ABLILITY CRITERIA, IN THE FORM OF DIFFERENTIAL SETTLEMENT MONITORING BETWEEN SPANS, SHALL BE ESTABLISHED AND MONITORED DURING ALL PHASES OF EMBANKMENT CONSTRUCTION. THE MAXIMUM DIFFERENTIAL SETTLEMENT BETWEEN SPANS SHALL BE LIMITED TO 1.0 INCHES. IF DIFFERENTIAL SETTLEMENT EXCEEDS 1.0 INCHES, ALL FILL ACTIVITIES SHALL STOP UNTIL SETTLEMENT LEVELS BALANCE. AFTER SUCH AN EVENT, FILL PLACEMENT SHALL BE LIMITED THEORETICALLY TO A MAXIMUM OF TWO (2) COMPACTED 8-INCH LIFTS PER DAY ACROSS THE SITE. FILL PLACEMENT LIMITATION WILL BE BASED ON ACTUAL SETTLEMENT MONITORING. A FILL SETTLEMENT RATE OF 0.01 FT/DAY IS ACCEPTABLE. THE EXISTING BRIDGES ARE NOT EXPECTED TO SETTLE AS ALL OF THE SUB-STRUCTURE UNITS ARE SUPPORTED DIRECTLY ON ROCK OR DEEP FOUNDATIONS BEARING ON ROCK. VIBRATING WIRE PIEZOMETERS SHALL BE INSTALLED PER MANUFACTURER INSTRUCTIONS AND SPECIFICATIONS AND PER ODOT GB 4 GUIDELINES. THE PIEZOMETERS SHALL PROVIDE PORE WATER PRESSURE READINGS AT ABOUT 5-FOOT INTERVALS STARTING 5 FEET ABOVE THE SHALE TO MINUS 5 FEET FROM EXISTING GRADES. THE PORE WATER PRESSURE READINGS SHALL BE REPORTED TO THE PROJECT ENGINEER ON A DAILY BASIS. SOIL BORINGS DO NOT ANTICIPATE GROUND WATER AND THEREFORE PORE PRESSURES ARE NOT ANTICIPATED. HOWEVER THE PIEZOMETERS ARE PLACED AND MONITORED AS A PRECAUTION. WHEN PORE WATER PRESSURE IS DEVELOPED, RECORD AND REPORT THE VALUES TO THE ENGINEER FOR EVALUATION. IF THE PRESSURES EXCEED THE VALUES INDICATED IN THE PIEZOMETER NOTE ON SHEET 28 , FILL PLACE SHALL BE SUSPENDED UNTIL PRESSURES DISSIPATE.

FILL PLACEMENT SHALL BE PERFORMED AS SYMMETRICAL AS POSSIBLE ACROSS THE ENTIRE SITE TO PREVENT LATERAL STRESSES FROM DEVELOPING ON THE EXISTING BRIDGE PIERS AND THEIR FOUNDATION COMPONENTS. COMPACTION OF THE NEW FILL PLACEMENT AROUND THE EXISTING BRIDGE PIERS AND ABUTMENTS SHALL BE ACCOMPLISHED THROUGH THE USE OF PORTABLE COMPACTION EQUIPMENT (HAND OPERATED TAMPERS OR OTHER EQUIPMENT APPROVED BY THE ENGINEER). FURTHERMORE, IT IS RECOMMENDED TO THAT SELF-PROPELLED HEAVY COMPACTION EQUIPMENT BE KEPT AT LEAST 5 FEET AWAY FROM THE EXISTING SUBSTRUCTURE ELEMENTS.

ITEM 863 - REINFORCED EMBANKMENT, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING EMBANKMENT CONSISTING OF SELECT GRANULAR BACKFILL COVERED WITH 2.0 FEET OF NATURAL SOIL PER SUPPLEMENTAL SPECIFICATION 840. ALL OTHER REQUIREMENTS OF SUPPLEMENTAL 863 SHALL STILL BE APPLICABLE. SEE CROSS SECTIONS AND ROADWAY SHEETS 333 - 334 FOR FURTHER DETAILS AND LOCATIONS.

ITEM 840 - MECHANICALLY, STABILIZED EARTH WALL, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALL AT THE LOCATIONS SHOWN IN THE PLANS AND CROSS SECTIONS PER THE DETAILS SHOWN ON SHEETS 333-334.

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK EXCEPT FOR THE ITEM 840 - SELECT GRANULAR BACKFILL SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 840 - MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN (SQ FT)

CALCULATED ATR CHECKED CWL

GENERAL NOTES

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GEOTECHNICAL

ITEM SPECIAL - SETTLEMENT PLATFORMS

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN TWICE A WEEK DURING CONSTRUCTION AND ONCE PER WEEK DURING THE WAITING PERIOD. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, DISTRICT 4, AFTER EACH SETTLEMENT READING IS RECORDED.

CRITERIA: THE CRITERIA TO DETERMINE WHEN SETTLEMENT IS CONSIDERED ACCEPTABLE AND CONSTRUCTION CAN RESUME PRIOR TO BRIDGE DEMOLITION SHALL BE AS NOTED IN THE "EMBANKMENT CONSTRUCTION FOR REPLACEMENT OF STRUCTURES" NOTE ON SHEET 27. UPON FILL COMPLETION, SETTLEMENT IS CONSIDERED TO END WHEN SETTLEMENT IS 0.01 FEET/WEEK OR LESS. ESTIMATED TIME FOR 90% CONSOLIDATION IS 45 DAYS STARTING AT THE BEGINNING OF FILL OPERATIONS.

MATERIALS: SOUND LUMBER SUCH AS 3/4-INCH EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2-1/2-INCH STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36" X 36" X 1/8" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

METHOD OF MEASUREMENT: THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL - SETTLEMENT PLATFORMS" WHICH IS COMPENSATION FOR CONSTRUCTING MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS.

ITEM SPECIAL - PNEUMATIC PIEZOMETERS

INSTALL AS DIRECTED BY THIS PROJECT SPECIFICATION AND /OR AS SHOWN ON THE PLANS. THE INSTRUCTIONS BELOW ASSUME THAT THE PIEZOMETER WILL BE INSTALLED SIX (6) INCHES FROM THE BOTTOM OF THE BOREHOLE.

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, AND SUPPLIES TO INSTALL AND MONITOR THE PNEUMATIC PIEZOMETERS AT THE LOCATIONS SHOWN ON THE PLAN AND AS SPECIFIED HEREIN OR AS NOTED IN THE PLANS. PNEUMATIC PIEZOMETERS SHALL CONSIST OF A 1.5" TRANSDUCER WITH HIGH AIR ENTRY FILTER FOR INSTALLATION ABOVE THE SEASONALLY LOW STATIC WATER LEVEL OR WITH A LOW AIR ENTRY FILTER FOR INSTALLATION BELOW THE SEASONALLY LOW STATIC WATER LEVEL, CONTINUOUS CONNECTING TUBING WITH QUICK-CONNECTS, AND A PORE PRESSURE INDICATOR WITH GAS SUPPLY. SEPARATE TRANSDUCERS SHALL BE FURNISHED AT EACH LOCATION BUT ONLY ONE (1) PORE PRESSURE INDICATOR NEED BE FURNISHED TO MAKE THE READINGS. THE TRANSDUCERS SHALL BE PART 51427934 OR PART 51427932 AS FURNISHED BY SLOPE INDICATOR COMPANY, 3450 MONTE VILLA PARKWAY, P.O. BOX 3015, BOTHELL, WASHINGTON, 98041-3015, PHONE 800-331-0703, OR APPROVED EQUIVALENT.

   THE CONTRACTOR SHALL INCLUDE INSTALLATION AND MONITORING OVERSIGHT BY AN EXPERIENCED INDEPENDENT LABORATORY TO ENSURE THE PROPER PERFORMANCE AND EVALUATION OF THE PIEZOMETERS.

2. THE PIEZOMETERS SHALL BE INSTALLED AT THE LOCATIONS INDICATED ON THE TABLE ON THIS SHEET. THE PNEUMATIC PIEZOMETERS SHOULD BE PROPERLY NESTED WITHIN THE EXISTING SOILS TO MONITOR INCREASED PORE WATER PRESSURE DURING FILL OPERATIONS AT ABOUT 5 FOOT INTERVALS STARTING 5 FEET ABOVE THE SHALE TO 5 FEET BELOW EXISTING GROUND SURFACE.

   THESE GAGE DEPTHS MAY BE REFINED AS NECESSARY IN THE FIELD BASED ON THE SOIL LAYERING ENCOUNTERED IN THE HOLE DRILLED FOR THE PIEZOMETER.

3. PREPARE EACH PIEZOMETER FOR INSTALLATION. SATURATE THE FILTERS OF EACH PIEZOMETER USING THE IMMERSION OR VACUUM METHODS, AS NOTED BY THE MANUFACTURER. PROVIDE AN ADEQUATE LENGTH OF TWIN NYLON TUBING TO REACH FROM THE PRESSURE TRANSDUCER TO THE PRESSURE INDICATOR AT ITS FINAL READING LOCATION AFTER INSTALLATION IS COMPLETE. CONNECT THE TUBING TO THE TRANSDUCER WITH COMPRESSION FITTINGS. AT THE OPPOSITE END OF THE TUBING, INSTALL THE QUICK-CONNECTS.

4. DRILL THE BOREHOLE BELOW THE REQUIRED DEPTH OF THE PIEZOMETER FOR AT LEAST SIX (6) INCHES. CARE SHALL BE TAKEN TO PREVENT THE FORMATION OF A "DRILL SKIN" WITHIN THE BOREHOLE. FLUSH OR JET THE BOREHOLE WITH WATER TO REMOVE ANY DRILL SKIN.

5. PLACE SAND IN BOTTOM OF BOREHOLE FOR A DEPTH OF 6 INCHES USING A TREMIE LINE. PULL THE DRILL CASING SLIGHTLY TO KEEP IT ABOVE THE LEVEL OF THE SAND.

6. LOWER THE PIEZOMETER TO ITS INTENDED DEPTH. ADDITIONAL WEIGHT TO THE PIEZOMETER MAY BE REQUIRED TO LOWER IT INTO WATER FILLED BOREHOLE. MARK TUBING CAREFULLY FOR POSITIVE IDENTIFICATION AND TO ESTABLISH THE DEPTH OF INSTALLATION. PROTECT THE QUICK-CONNECTS ON THE ENDS OF THE TUBING KEEPING THEM DRY AND CLEAN.

7. TREMIE SAND AROUND THE PIEZOMETER, AGAIN PULLING THE CASING TO KEEP IT ABOVE THE LEVEL OF THE SAND. USE CARE WHEN PULLING THE CASING TO PREVENT TWISTING AND DAMAGE TO THE TUBING. CONTINUE UNTIL AT LEAST TWELVE (12) INCHES OF SAND HAS BEEN PLACED ABOVE THE PIEZOMETER.

8. PLACE A BENTONITE SEAL ABOVE THE INTAKE ZONE, USING BENTONITE CHIPS. A TYPICAL SEAL IS AT LEAST TWO (2) FOOT THICK. AGAIN, BE SURE TO PULL THE CASING UP ABOVE THE LEVEL OF THE BENTONITE. DROP CHIPS IN SLOWLY TO ENSURE PROPER PLACEMENT OF THE SEAL AND TO AVOID BRIDGING. IF FREE WATER IS PRESENT IN THE BOREHOLE, THE BENTONITE CHIPS SHALL BE TREATED TO INHIBIT EXPANSION. THE BENTONITE SEAL TYPICALLY REQUIRES 2 TO 3 HOURS TO SET UP, BUT REFER TO YOUR BENTONITE INSTRUCTIONS FOR EXACT TIMES. KEEP THE BOREHOLE FILLED WITH WATER TO FULLY HYDRATE THE BENTONITE AND PREVENT IT FROM DRAWING WATER FROM THE SURROUNDING SOIL.

9. COMPLETE BACKFILLING OF THE BOREHOLE WITH A BENTONITE-CEMENT GROUT. THE NEAT CEMENT GROUT SHALL BE MIXED WITH 5% BENTONITE, BY WEIGHT, AND TREMIED FROM THE BENTONITE CHIP SEAL TO THE GROUND SURFACE.

10. A HORIZONTAL TRENCH SHALL BE CONSTRUCTED FROM THE BOREHOLE LOCATION TO THE FINAL READING LOCATION FOR THE INSTALLATION OF TERMINAL PIPES (PART 51409900) AND A TERMINAL BOX (PART 51401510). THE TERMINAL PIPE SHALL CONSIST OF A 90 DEGREE SWEEP TO COLLECT AND CONTAIN THE NYLON TUBING FROM THE BOREHOLE UNTIL ITS TERMINATION AT THE TERMINAL BOX. FOLLOWING INSTALLATION, THE TRENCH MAY BE BACKFILLED WITH EARTHEN MATERIALS OR BENTONITE-CEMENT GROUT PROVIDED THAT THE TERMINAL BOX CONNECTIONS ARE SEALED TO PREVENT GROUT FROM ENTERING INSIDE THE TERMINAL BOX OR PIPE.

11. IF THE PIEZOMETER IS CHECKED AT THIS STAGE, READINGS WILL NOT BE VALID BECAUSE DRILLING AND BACKFILL HAVE DISTURBED THE GROUND. RECOVERY TIME DEPENDS ON THE PERMEABILITY OF THE SURROUNDING SOIL, THE SIZE OF THE SAND INTAKE ZONE, AND THE SIZE OF THE SEAL. TAKE READINGS PERIODICALLY TO DETERMINE WHEN RECOVERY HAS OCCURRED, AND THEN OBTAIN YOUR DATUM READING.

12. TERMINATE THE INSTALLATION AS SPECIFIED. IT IS IMPORTANT TO TERMINATE THE TUBING AT THE TERMINAL BOX ENSURING ADEQUATE LENGTH OF TUBE TO MAKE THE CONNECTIONS TO THE PNEUMATIC PRESSURE INDICATORS AT GROUND LEVEL. KEEP QUICK CONNECTS CLEAN AND DRY. PROTECT THE INSTALLATION FROM CONSTRUCTION TRAFFIC AND MARK ITS LOCATION WITH SUITABLE STAKES AND FLAGGING.

13. PNEUMATIC PIEZOMETERS SHALL BE MONITORED THROUGHOUT CONSTRUCTION BASED UPON THE CRITERIA NOTED BELOW:

    CRITERIA 1 - DURING EMBANKMENT CONSTRUCTION

    PORE PRESSURE SHALL BE MONITORED DAILY. CONSTRUCTION SHALL CEASE WHEN PORE PRESSURE READINGS EXCEED ACCEPTABLE LEVELS AS DESCRIBED AS 650 PSF ABOVE THE BASELINE READINGS.

    CRITERIA 2 - AFTER EMBANKMENT CONSTRUCTION

    UPON COMPLETION OF THE EMBANKMENT, THE EXCESS PORE WATER PRESSURE SHALL BE READ TWICE A WEEK.

14. PAYMENT FOR ITEM SPECIAL - PNEUMATIC PIEZOMETERS SHALL BE AT THE CONTRACT UNIT PRICE FOR EACH. THIS WORK INCLUDES FURNISHING ALL LABOR, MATERIALS, AND SUPPLIES FOR THE INSTALLATION, 3RD PARTY MONITORING/READING/ EVALUATION AND PROTECTION OF EACH PIEZOMETER THROUGH THE LIFE OF THE CONTRACT.

PIEZOMETER SCHEDULE

ALIGNMENT	STATION	OFFSET	ITEM SPECIAL PNEUMATIC PIEZOMETER EACH
WB-76	6+50	125' LT	1
WB-76	6+25	47' LT	1
WB-76	5+75	40' RT	1
		TOTAL	3

SETTLEMENT PLATFORM SCHEDULE

ALIGNMENT	STATION	OFFSET	ADJACENT BRIDGE	ESTIMATED SETTLEMENT	ESTIMATED TIME FOR 90% OF PRIMARY CONSOLIDATION	ITEM SPECIAL SETTLEMENT PLATFORM EACH
WB-76	4+46	94' LT	SUM-77-1212R	1.9 INCHES	45 DAYS	1
WB-76	6+58	123' LT	SUM-77-1212R	2.9 INCHES		1
WB-76	4+48	43' LT	SUM-76-1137L	3.1 INCHES		1
WB-76	6+50	47' LT	SUM-76-1137L	5.4 INCHES		1
WB-76	4+49	26' RT	SUM-76-1137R	1.4 INCHES		1
WB-76	4+52	135' RT	SUM-76-1137R	3.4 INCHES		1
WB-76	6+80	24' RT	SUM-76-1137R	3.4 INCHES		1
					TOTAL	7

CALCULATED ATR CHECKED CWL

SETTLEMENT MITIGATION PLAN GENERAL NOTES

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DRAINAGE

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

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

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

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 611 CONDUIT 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 611 CONDUIT ITEMS.

EXISTING UNDERDRAINS

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

601, TIED CONCRETE BLOCK MAT, TYPE 1	8 SQ. YD.
611, 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	40 FT.
611, PRECAST REINFORCED CONCRETE OUTLET	4 EACH
605, 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31	40 FT.

UNRECORDED STORM WATER DRAINAGE

FURNISH A CONTINUANCE FOR ALL UNRECORDED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, 6" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION 200 FT.

611, 6" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION 200 FT.

611, 6" CONDUIT, TYPE E, FOR DRAINAGE CONNECTION 200 FT.

611, 6" CONDUIT, TYPE F, FOR DRAINAGE CONNECTION 200 FT.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 1000 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

COMBINED SEWER JUNCTION CHAMBERS/SEGMENTAL AND BRICK SEWER

PRIOR TO ANY PREFABRICATION AND CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL SUBMIT STAMPED SHOP DRAWINGS FOR REVIEW AND APPROVAL TO THE CITY OF AKRON SEWER BUREAU FOR THE COMBINED SEWER JUNCTION CHAMBERS AT THE FOLLOWING ADDRESS:

CITY OF AKRON SEWER BUREAU
1055 HOME AVENUE
AKRON, OH 44310
ATTN: JOE HARBESON
(330) 375-2370

THE CONTRACTOR SHALL HAVE AT LEAST FIVE (5) YEARS EXPERIENCE PERFORMING REPAIRS TO OR BUILDING MANHOLES ON LARGE DIAMETER (36 INCH OR GREATER) EXISTING SEGMENTAL BLOCK AND BRICK SEWERS.

SIMILAR REPAIR/IMPROVEMENT PROJECTS ON THE COMBINED SEWERS CONSTRUCTED IN THE CITY OF AKRON AROUND THE SAME TIME, SHOW THE SEGMENTAL BLOCK SEWERS WILL LIKELY BE CLAY BLOCKS. HISTORICAL CONSTRUCTION METHODS INDICATE THAT THE RADIUS PIPE AT BENDS IN THE SEGMENTAL BLOCK SEWER MAY HAVE BEEN CONSTRUCTED WITH BRICK.

THE SEGMENTAL BLOCK SEWER POTENTIALLY IS CONSTRUCTED WITH A CONCRETE CRADLE, LIKELY MADE OF SOLID CONCRETE OR SCRAP BLOCKS AND MORTAR FROM CONSTRUCTION OF THE SEWER. THE CONDITION OF ANY POTENTIAL EXISTING CONCRETE CRADLE IS UNKNOWN AND DESIGN OF THE JUNCTION CHAMBERS ASSUMES THAT NO CRADLE EXISTS. THE CONTRACTOR SHALL TEMPORARILY SUPPORT THE EXISTING COMBINED SEWER AS NECESSARY TO CONSTRUCT THE JUNCTION CHAMBERS WITHOUT DAMAGING THE EXISTING COMBINED SEWER.

THE CONTRACTOR SHALL HAVE THE NECESSARY EQUIPMENT ON SITE AND BE ADEQUATELY PREPARED TO PUMP THE FULL FLOW IN THE EXISTING COMBINED SEWER IN CASE OF EMERGENCY.

ITEM 611 - JUNCTION CHAMBER, AS PER PLAN, TYPE 1
ITEM 611 - JUNCTION CHAMBER, AS PER PLAN, TYPE 2

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING JUNCTION CHAMBERS AT THE LOCATIONS SHOWN IN THE PLANS PER THE DETAILS SHOWN ON SHEETS 365-371 .

MANHOLE CASTING SHALL BE EAST JORDAN IRON WORKS 1020 OR NEENAH R-1647-A, OR APPROVED EQUAL. ALL OTHER PROVISIONS OF ODOT CMS ITEM 611 AND ODOT STANDARD CONSTRUCTION DRAWING MH-1.2 SHALL APPLY. BEDDING SHALL BE PER CMS ITEM 611.06. BACKFILL SHALL BE LOW STRENGTH MORTAR AS PER ODOT CMS ITEM 613. BRICK MASONRY SHALL MEET REQUIREMENTS OF ODOT CMS ITEMS 602 AND 704. MASONRY BLOCKS (HOLLOW OR OTHERWISE) ARE NOT PERMITTED. CAST-IN-PLACE CONCRETE AND QC MISC. CONCRETE SHALL MEET REQUIREMENTS OF ODOT CMS ITEM 499.

THE METHOD OF MEASUREMENT SHALL BE EACH.

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK, INCLUDING BUT NOT LIMITED TO THE MANHOLE CASTING AND FRAME, CONCRETE, BEDDING, BACKFILL AND LOW STRENGTH MORTAR, SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR:

ITEM 611 - JUNCTION CHAMBER, AS PER PLAN, TYPE 1 (EACH)
ITEM 611 - JUNCTION CHAMBER, AS PER PLAN, TYPE 2 (EACH)

ITEM 611 - 60" CONDUIT, TYPE B, 706.03, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING 60" CONDUIT, TYPE B AND 45° BENDS AT THE LOCATIONS SHOWN IN THE PLANS.

ALL OTHER PROVISIONS OF ODOT CMS ITEM 611 SHALL APPLY. BEDDING AND BACKFILL AROUND THE BENDS AND FOR A MINIMUM OF 15 LF OF THE 60" CONDUIT ADJACENT TO THE FITTINGS SHALL BE QC MISC. CONCRETE AS PER CMS ITEM 499. THE CONCRETE BACKFILL SHALL EXTEND ABOVE THE CROWN OF THE PIPE A MINIMUM OF 4'. ALL OTHER BEDDING AND BACKFILL SHALL BE #6, #67 OR #68 CRUSHED AGGREGATE AND SHALL MEET ASTM C 12. ALL 60" CONDUIT SHALL BE EPOXY COATED.

THE METHOD OF MEASUREMENT SHALL BE FOOT.

ALL LABOR, TOOL, EQUIPMENT, PRECAST PIPE BENDS AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK, INCLUDING BUT NOT LIMITED TO CONCRETE, EPOXY COATING, BEDDING AND BACKFILL, SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR:

ITEM 611 - 60" CONDUIT, TYPE B, 706.03, AS PER PLAN.

ROCK EXCAVATION FOR DRAINAGE

SOIL BORINGS INDICATE THE PRESENCE OF ROCK, SEE SOIL SHEETS FOR MORE INFORMATION. ROCK EXCAVATION FOR ALL DRAINAGE ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR THE PERTINENT 611 ITEM.

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GENERAL NOTES

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EROSION CONTROL

SEEDING AND MULCHING

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.

FOR SEEDING AND MULCHING QUANTITIES, SEE SHEET 192-193.

ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING CONCRETE PAVED GUTTER AS PER STANDARD DRAWING DM-2.1 AND THE RETAINING WALL DETAIL AS SHOWN ON SHEET NO. 16 AT THE LOCATION SHOWN IN THE PLANS. THE GUTTER SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN THE DETAIL WITH WELDED WIRE REINFORCING. A SIDE CUTOFF WALL SHALL BE CONSTRUCTED AS PER THE DETAIL FOR THE ENTIRE LENGTH OF THE GUTTER. END CUTOFF WALLS SHALL BE AS PER STANDARD DRAWING DM-2.1.

ALL LABOR EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE-DESCRIBED WORK, INCLUDING WELDED WIRE REINFORCEMENT, SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN.

WATER QUALITY

POST CONSTRUCTION STORM WATER TREATMENT

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

ENVIRONMENTAL

COMMUNITY NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE CLOSURES, DETOURS, AND THE SWITCH FROM EXISTING TO TEMPORARY PAVEMENT AND VICE-VERSA. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE ODOT DISTRICT 4 PUBLIC INFORMATION OFFICER (PIO). THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE-MENTIONED ITEMS, VIA MEDIA SOURCES.

PETROLEUM CONTAMINATED SOILS

BASED ON THE ENVIRONMENTAL SITE ASSESSMENT INVESTIGATIONS, THERE IS A POTENTIAL OF ENCOUNTERING PETROLEUM CONTAMINATED MATERIALS DURING EXCAVATIONS FOR CONSTRUCTION ACTIVITIES ON THE FOLLOWING ADDRESSES:

550 JOHNSTON STREET/525 EAST SOUTH STREET
432-436 EAST SOUTH STREET
427 EAST SOUTH STREET
NORTHWEST CORNER OF SPICER STREET AND EAST SOUTH STREET

IN THE EVENT PETROLEUM-CONTAMINATED MATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL MANAGE THIS MATERIAL ACCORDING TO THE FOLLOWING NOTES. THE ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK. ALL EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS.

ALL POTENTIAL PETROLEUM CONTAMINATED SOIL, WITHIN THE AFOREMENTIONED LIMITS, EXCAVATED BY THE CONTRACTOR AT THIS LOCATION MAY BE STOCKPILED IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL IN A LINED AND COVERED ROLLOFF BOX. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL ON AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE SUSPECTED SOILS FROM COMING IN CONTACT WITH THE ORIGINAL SOILS. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUNOFF. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED CONTAMINATED MATERIAL INTO TRUCKS.

IF EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS REQUIRE DEWATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DEWATER, CONTAINERIZE, TEST THE WATER AND DISPOSE OF BY METHODS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS AND/OR AUTHORIZATIONS NEEDED TO STORE, TRANSPORT AND DISPOSE OF THE WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL REGULATIONS. WORK INVOLVED WITH THIS ITEM SPECIAL INCLUDES COMPLYING WITH THE HANDLING, STORAGE, AND DISPOSAL OF REGULATED AND NON-REGULATED WATER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS AND TO TRANSPORT THE MATERIAL TO A LICENSED AND PERMITTED SOLID WASTE DISPOSAL FACILITY. THE CONTRACTOR SHALL CONTACT THE FACILITY TO DETERMINE IF ANY ADDITIONAL TESTING IS REQUIRED FOR DISPOSAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING AND ADDITIONAL SAMPLING AND ANALYSIS OF THIS MATERIAL. COPIES OF THE ANALYTICAL TEST RESULTS SHALL BE PROVIDED TO THE ENGINEER.

ALL TRANSPORT VEHICLES USED FOR THE MOVEMENT OF REGULATED MATERIALS SHALL MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS. THE CONTRACTOR SHALL MAINTAIN RECORDS (SUCH AS MANIFESTS, LANDFILL TICKETS, DAILY LOGS, ETC.) TO DOCUMENT THE SOURCE, MOVEMENT, AND DESTINATION OF EACH TRUCKLOAD OF CONTAMINATED MATERIAL. ONE COPY OF EACH OF THESE RECORDS SHALL BE SUBMITTED TO THE ENGINEER.

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE, TEST (FOR DISPOSAL), TRANSPORT, AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS, APPROVALS, OR FEES WITHIN THE LIMITS IDENTIFIED ABOVE. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON OR PER GALLON. THE BASIS FOR CONVERSION FROM TONS TO CUBIC YARDS IS 1.5 TON/CUBIC YARD. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

690E65016 - ITEM SPECIAL - WORK INVOLVING PETROLEUM CONTAMINATED SOIL, 700 TON

690E65022 - ITEM SPECIAL - WORK INVOLVING REGULATED WATER, 10000 GAL.

690E65024 - ITEM SPECIAL - WORK INVOLVING NON-REGULATED WATER, 10000 GAL.

NOTIFICATION OF EPA

IN ACCORDANCE WITH THE NATIONAL EMISSIONS STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) SECTION 61.145(B) THE CONTRACTOR SHALL NOTIFY THE EPA REGIONAL OFFICE OF THE DEMOLITION OPERATIONS 10 WORKING DAYS BEFORE THE START DATE. NOTIFICATION MUST BE VIA CERTIFIED MAIL OR HAND DELIVERED. ELECTRONIC (TELEFAXED OR E-MAIL) NOTIFICATIONS ARE NOT ACCEPTABLE.

IN ADDITION TO THE FILING OF THE NOTIFICATION, THE CONTRACTOR SHALL HAVE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF NESHAPS (40CFR PART 61, SUBPART M) ON SITE DURING THE DEMOLITION. EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON SHALL BE AVAILABLE ON SITE DURING NORMAL WORKING BUSINESS HOURS.

FOR THE PRESENCE OF ASBESTOS, NOTE: DISPOSAL OF DEMOLITION DEBRIS SECTION 5525.22 ORC "IN ACCORDANCE WITH THE LAW, THE CONTRACTOR MUST INFORM THE DEPARTMENT ON THE METHOD OF THE DISPOSAL OF DEMOLITION DEBRIS PRIOR TO THE START OF WORK".

ITEM SPECIAL - ASBESTOS ABATEMENT

ANY BUILDING WITH ASBESTOS MUST BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH 40 CFR 61.140 (NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS). ASBESTOS SITE SURVEYS HAVE DETERMINED THE PRESENCE OF ASBESTOS AT PARCEL 15 (678 SPICER STREET) AND PARCEL 22 (585 JOHNSTON STREET). THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED IN THE GENERAL SUMMARY TO PERFORM THIS WORK:

PARCEL 15 (678 SPICER STREET):

ITEM SPECIAL - ASBESTOS ABATEMENT,
HEATING DUCT CLOTH WRAP 20 SQ. FT.

ITEM SPECIAL - ASBESTOS ABATEMENT,
1/4" FIBER SHEET HEATING DUCTS 15 SQ. FT.

PARCEL 22 (585 JOHNSTON STREET):

ITEM SPECIAL - ASBESTOS ABATEMENT,
FLOORING MATERIAL 8 SQ. FT.

PARCEL 21 (565 JOHNSTON STREET)

ITEM SPECIAL - ASBESTOS ABATEMENT,
DRYWALL WITH JOINT COMPOUND 30,232 SF

ITEM SPECIAL - ASBESTOS ABATEMENT,
PIPE INSULATION AND ASSOCIATED FITTINGS 7,000 FT

ITEM SPECIAL - ASBESTOS ABATEMENT,
FLOOR TILE 1,800 SF

ITEM SPECIAL - ASBESTOS ABATEMENT,
ROOFING MEMBRANE 41,000 SF

ITEM SPECIAL - ASBESTOS ABATEMENT,
CEILING TILE 7,352 SF

ITEM SPECIAL - ASBESTOS ABATEMENT,
SPRAY ON FIRE PROOFING 41,000 SF

ITEM SPECIAL - ASBESTOS ABATEMENT,
SHINGLES/TAR PAPER 2,220 SF

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED TO ASBESTOS NOTE	ATR	03-12-15

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GENERAL NOTES

SUM-76/77-11.27/12.12

WATER WORK

AKRON PUBLIC UTILITIES BUREAU WATER MAIN NOTES

1. THE CONTRACTOR SHALL SUPPLY ALL OF THE WATER MAIN MATERIALS, INCLUDING THE DUCTILE IRON PIPE, FITTINGS AND FITTING RESTRAINTS, HYDRANTS AND VALVES, POLYETHYLENE ENCASEMENT, ALL OTHER APPURTENANCES AND ANY ITEMS SPECIALLY ITEMIZED AS REQUIRED FOR THE WATER MAIN INSTALLATION. ALL WATER MAIN MATERIALS SHALL COMPLY WITH THE CITY OF AKRON, AKRON ENGINEERING BUREAU, CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION) ITEM 715, WATER MAIN MATERIALS. INSTALLATION OF ALL WATER MAIN MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 250, WATER MAINS. SUBMITTALS OF MATERIAL SPECIFICATIONS ARE TO BE MADE TO THE UTILITIES ENGINEER PRIOR TO PURCHASING MATERIAL.

2. MUST MAINTAIN A TEN FOOT MINIMUM HORIZONTAL CLEARANCE FROM EDGE OF ALL WATER MAIN PIPE TO EDGE OF ALL SANITARY AND STORM SEWER PIPES AND/OR FORCE MAIN PIPES.

3. MUST MAINTAIN AN 18 INCH MINIMUM VERTICAL CLEARANCE FROM EDGE OF ALL WATER MAIN PIPE AND/OR SERVICE LINES TO EDGE OF ALL SANITARY AND STORM SEWER PIPES WHERE THEY CROSS.

4. THE CONTRACTOR MUST MAINTAIN A 12 INCH MINIMUM VERTICAL CLEARANCE FROM EDGE OF ALL WATER MAIN PIPE TO EDGE OF ALL DIRECT BURIAL CONDUITS, CONCRETE ENCASED ELECTRICAL CONDUITS, LIGHT POLE BASES, AND HAND HOLE PULL BOXES.

5. THE CONTRACTOR MUST MAINTAIN A 36 INCH MINIMUM HORIZONTAL CLEARANCE FROM EDGE OF ALL WATER MAIN PIPE TO EDGE OF ALL DIRECT BURIAL CONDUITS, CONCRETE ENCASED ELECTRICAL CONDUITS, LIGHT POLE BASES, AND HAND HOLE PULL BOXES.

6. WHERE WATER MAINS CROSS SEWER TRENCHES, THE TRENCH IS TO BE BACKFILLED WITH APPROVED GRANULAR MATERIAL.

7. APPROVED PIPE FITTINGS, BOLTS, ETC., FOR AKRON SYSTEM WATER MAIN INSTALLATION:

   PIPE: CLASS 53 DUCTILE IRON PER AWWA C151 SPECIFICATIONS, WITH CEMENT-LINING PER AWWA C104. LABELED POLYETHYLENE ENCASEMENT PER AWWA C105 IS REQUIRED.

   PIPE JOINTS: PUSH-ON JOINTS (TYTON, BELL-TITE, ETC.), PER AWWA C151 SPECIFICATIONS WITH PLAIN OR RESTRAINING RUBBER GASKETS PER AWWA C111 SPECIFICATIONS.

   FITTINGS: CLASS 350 DUCTILE IRON COMPACT FITTINGS PER AWWA C153 OR FULL THICKNESS CASTINGS PER AWWA C110 ARE ACCEPTABLE, WITH MECHANICAL JOINT ENDS AND DUCTILE IRON FOLLOWER GLANDS. ANCHOR PIPE IS REQUIRED ON ALL HYDRANT RUNS BETWEEN THE TEE AND HYDRANT RUN VALVE.

   RESTRAINED PIPE SYSTEMS: PUSH-ON JOINT WITH FIELD LOCK (4 THROUGH 12 INCH ONLY) OR FAST GRIP GASKETS (4 THROUGH 12 INCH ONLY), OR MECHANICAL JOINT WITH RESTRAINED FOLLOWER GLANDS, AND 6 OUNCE ZINC ANODE CAPS ON EVERY BOLT THREAD. SUPER LOCK, TR FLEX OR FLEX-RING REQUIRED ON ALL 16 INCH OR LARGER PIPE DIAMETERS.

   RESTRAINED FITTING DEVICES: ALL VALVES, BENDS, OFFSETS, HYDRANT INLETS, CAPS, PLUGS, AND BRANCHES OF TEES AND WYES MUST BE RESTRAINED USING MECHANICAL JOINT WITH RESTRAINED FOLLOWER GLANDS OR RESTRAINING GASKETS. HARDWOOD BLOCKING IS REQUIRED FOR ALL DIAMETERS 4 THROUGH 8 INCH, CONCRETE BLOCKING AND STRAPPING FOR ALL DIAMETERS 12 INCH AND LARGER.

   CONCRETE BLOCKING IS REQUIRED ON ALL FIRE LINES AND ON ALL DIAMETERS IN AREAS OVER 100 PSI. RESTRAINED JOINTS FOR DIAMETERS 12 INCH AND UNDER SHALL BE INSTALLED FOR A LENGTH OF 30 FEET ON EACH SIDE OF A VALVE, BEND OR OFFSET USING FIELD-LOCK OR FAST-GRIP RESTRAINED FOLLOWER GLANDS. RESTRAINED JOINTS FOR DIAMETERS 16 INCH AND LARGER, SHALL BE INSTALLED FOR A LENGTH OF 30 FEET ON EACH SIDE OF A VALVE, BEND OR OFFSET USING MECHANICAL JOINT WITH RESTRAINED FOLLOWER GLANDS.

   MECHANICAL JOINT T-HEAD BOLTS: ALL MECHANICAL JOINTS SHALL BE MADE WITH COR-TEN OR CONSTRUCTION-GRADE ALLOYED DUCTILE IRON BOLTS. T-HEAD BOLTS SHALL BE 1/2 INCH LONGER THAN STANDARD LENGTH AND MUST INCLUDE A 6 OZ. ZINC ANODE CAP ON EVERY BOLT THREAD.

   HYDRANTS: AKRON-STYLE MUELLER "CENTURIAN" MODEL A423, KENNEDY "GUARDIAN" MODEL K-81A, EJ "FLOWMASTER" CD250, AMERICAN FLOW CONTROL MODEL B62B WITH 6 INCH INLET, AMERICAN FLOW CONTROL MODEL B84B WITH 8 INCH INLET. THREADS SHALL BE AKRON STYLE AS SHOWN ON AKRON WATER WORKS STANDARD CONSTRUCTION DRAWINGS F-3258 AND F-3440. HYDRANTS MUST BE LEAD-FREE PER NSF 61-G.

   GATE VALVES: RESILIENT-SEAT WEDGE (RSW) VALVES WITH RESTRAINED MECHANICAL JOINTS. VALVES SHALL HAVE NON-RISING STEMS AND SHALL OPEN TO THE RIGHT (CLOCKWISE).

   BUTTERFLY VALVES, 16 INCH AND UP: RESTRAINED MECHANICAL JOINT OR SHOULDERED (NOT GROOVED) VICTAULIC ENDS WITH STYLE 44N COUPLINGS AND STAINLESS STEEL 316 BOLTS. RUBBER SEALS IN THE VALVE MUST BE REPLACEABLE. FLANGED END OR WAFER-STYLE VALVES ARE NOT ACCEPTABLE.

   VALVE BOXES: BIBBY, TYLER, BINGHAM AND TAYLOR OR EAST JORDAN BRANDS ARE ACCEPTABLE FOR COMPATIBILITY.

   CURB BOXES: RISER PIPE MUST BE OF YOLOY CORROSION RESISTANT MATERIAL. PLUG MUST BE CAST IRON AND THREAD INTO A BRASS RING.

8. COMPACTED PREMIUM BACKFILL IS REQUIRED FOR UNDERGROUND CONSTRUCTION UNDER OR WITHIN THREE FEET OF ANY PROPOSED OR EXISTING SIDEWALK OR PAVEMENT. THE BACKFILLING SHALL CONFORM TO SECTION 551.09 OF THE CITY OF AKRON CONSTRUCTION AND MATERIAL SPECIFICATIONS, LATEST EDITION.

9. ANY EXISTING WATER MAINS, HYDRANTS, VALVES, VALVE BOXES, METER VAULTS, SERVICE LINES, OR CURB BOXES THAT ARE DAMAGED OR MUST BE ADJUSTED AND/OR MOVED MUST BE REPAIRED, ADJUSTED, MOVED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTACT DOUG ZWAHLEN, WATER DISTRIBUTION SUPERVISOR, AT (330) 375-2420 TO SCHEDULE THIS WORK.

10. NO TAPS FOR WATER SERVICES SHALL BE MADE UNTIL AFTER THE MAINLINE HAS BEEN TESTED AND STERILIZED. ALL TAPS 2 INCH AND SMALLER SHALL BE MADE BY THE CONTRACTOR AND INSPECTED BY THE CITY OF AKRON. ALL BRASS FITTINGS USED SHALL BE LEAD-FREE PER NSF 61-G.

11. ALL WATER MAIN CONSTRUCTION SHALL BE INSPECTED BY THE CITY OF AKRON. NOTIFY THE CITY OF AKRON (TONY PUGLIA OR DOUG ZWAHLEN) AT (330) 375-2420 AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND FOR ALL PRECONSTRUCTION MEETINGS.

12. PRIOR TO ACCEPTANCE, THE WATER LINE SHALL BE PRESSURE TESTED, AS SPECIFIED IN AWWA C600, AND DISINFECTED AS SPECIFIED IN AWWA C651 LATEST REVISIONS, BY THE CONTRACTOR.

13. USE EXTREME CAUTION WHEN EXCAVATING IN THE AREA OF EXISTING WATER MAIN PIPES, VALVES, HYDRANTS AND THRUST BLOCKS.

14. THE CONTRACTOR SHALL SUPPLY A TEMPORARY SAFE WATER SERVICE TO ALL HOMES THAT WILL HAVE THEIR WATER SERVICE INTERRUPTED BY THIS CONSTRUCTION.

15. THE PROPOSED FACILITIES MUST MAINTAIN A MINIMUM OF 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

16. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

17. ANY CONNECTION TO EXISTING DUCTILE IRON WATER MAIN SHALL BE MADE WITH A DUCTILE IRON SOLID SLEEVE WITH RESTRAINING GLAND. ANY CONNECTION TO EXISTING CAST IRON WATER MAIN MAY BE MADE WITH A CAST COUPLING OR DUCTILE IRON SOLID SLEEVE WITH RESTRAINING GLAND.

18. ALL HYDRANTS AND VALVES SHOWN TO BE REMOVED BY THE CONTRACTOR ARE TO BE SALVAGED AND DELIVERED TO THE AKRON WATER DEPARTMENT STORE YARD AT 565 JOHNSTON STREET. COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM SPECIAL - "__" INCH WATER MAIN, DUCTILE IRON PIPE, ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS.

19. EXISTING WATER MAIN TO BE ABANDONED, AS DESIGNATED ON THE PLANS, SHALL BE ABANDONED PER ITEM 202.11 FOR DIAMETERS 12 INCHES AND LARGER OR ITEM 251.18 FOR DIAMETERS LESS THAN 12 INCHES.

20. AFTER THE INSTALLATION OF THE PROPOSED WATER MAIN IS COMPLETE AND AFTER THE LINE HAS PASSED THE BACTERIA TEST, THE CONTRACTOR IS TO ASSIST PUBLIC UTILITIES IN THE TRANSFER OF WATER SERVICES FROM THE OLD WATER MAIN TO THE NEW WATER MAIN. WHILE TRANSFERRING WATER SERVICES, THE CONTRACTOR IS RESPONSIBLE FOR THE EXCAVATION REQUIRED TO EXPOSE THE WATER SERVICE AT THE RIGHT-OF-WAY AND AT THE NEW MAIN WITH A TYPICAL 3' X 5' TRENCH. COST OF THIS WORK IS TO BE INCLUDED IN ITEM 638 - WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH.

21. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL EXCAVATION REQUIRED TO ASSIST PUBLIC UTILITIES IN THE INSTALLATION OF NEW AND RENEWED COPPER SERVICES ON EXISTING WATER MAINS. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM 638 - WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH.

ROCK EXCAVATION FOR WATER WORK

SOIL BORINGS INDICATE THE PRESENCE OF ROCK, SEE SOIL SHEETS FOR MORE INFORMATION. ROCK EXCAVATION FOR ALL WATER WORK ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR THE PERTINENT 638 ITEM.

ITEM 638 - WATER WORK

ALL WATER WORK ITEMS AND CONSTRUCTION SHALL CONFORM TO ODOT ITEM 638 AND THE CITY OF AKRON (COA) CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), ITEMS CONTAINED WITHIN SECTION 250, WATER MAINS (AND ALL APPLICABLE SUB-SECTIONS). WHERE THERE IS CONTRADICTION, THE COA SPEC. WILL TAKE PRECEDENCE. THE CONTRACTOR SHALL HAVE A COPY OF THE CURRENT EDITION OF THE CITY OF AKRON CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) ON SITE FOR REFERENCE AT ALL TIMES DURING CONSTRUCTION. IF THE CONTRACTOR DOES NOT HAVE A COPY OF THE CURRENT EDITION OF THE CITY OF AKRON CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), THE CONTRACTOR SHALL PURCHASE A COPY OF THE CITY OF AKRON CMS. THE PURCHASE OF THE CITY OF AKRON CMS SHALL BE CONSIDERED INCIDENTAL AND BE INCLUDED IN THE CONTRACT PRICE FOR ITEM SPECIAL - "__" INCH WATER MAIN, DUCTILE IRON PIPE, ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (FT.). SECTIONS OF THE COA SPEC. HAVE BEEN INCLUDED IN THE GENERAL NOTES WITH THE FOLLOWING MODIFICATIONS:

1. BASIS OF PAYMENT FOR ITEM 252 TRENCHES FOR COPPER WATER SERVICES WILL BE ODOT ITEM 638 - WATER WORK, MISC.: TRENCHES FOR WATER SERVICES IN EARTH (FT.).

2. BASIS OF PAYMENT FOR ITEM 254 DUCTILE IRON PIPE WILL BE ODOT ITEM SPECIAL - " " INCH WATER MAIN, DUCTILE IRON PIPE, ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (FT.). PAYMENT FOR THIS ITEM 638 ALSO INCLUDES ALL SPECIAL CASTINGS SUCH AS TEES, BENDS, CROSSES, SLEEVES, ADAPTERS, REDUCERS, PLUGS AND ALL ITEMS NOT SPECIFICALLY CALLED OUT IN THE PLANS CONSIDERED INCIDENTAL TO THIS ITEM.

3. BASIS OF PAYMENT FOR ITEM 258 VALVES WILL BE ODOT:
   ITEM SPECIAL - " " INCH GATE VALVE WITH VALVE BOX, COMPLETE (EACH)
   ITEM SPECIAL - " " INCH BUTTERFLY VALVE WITH VALVE BOX, COMPLETE (EACH)

4. ITEM 259 SPECIAL CASTINGS WHICH INCLUDES TEES, BENDS, CROSSES, SLEEVES, ADAPTERS, REDUCERS, PLUGS AND ALL ITEMS NOT SPECIFICALLY CALLED OUT IN THE PLANS WILL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE CONTRACT PRICE FOR ITEM SPECIAL - " " INCH WATER MAIN, DUCTILE IRON PIPE, ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (FT.).

CALCULATED MDG CHECKED CWL

GENERAL NOTES

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WATER WORK - cont'd

5. BASIS OF PAYMENT FOR ITEM 260 FIRE HYDRANTS WILL BE ODOT ITEM SPECIAL - FURNISHING AND SETTING " " INCH HYDRANT, COMPLETE (EACH).

6. BASIS OF PAYMENT FOR ITEM 263 TYING INTO " " INCH MAIN WILL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE CONTRACT PRICE FOR ITEM SPECIAL - " " INCH WATER MAIN. DUCTILE IRON PIPE. ANSI CLASS 53. PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (FT.).

7. BASIS OF PAYMENT FOR ITEM 266 TAPPING WATER MAINS AND INSTALLING SERVICES WILL BE ODOT ITEM 638 - WATER WORK, MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (FT.). THE FOLLOWING NOTE HAS BEEN ADDED TO THIS SECTION: ALL NEW TAPS WILL BE PERFORMED BY THE AKRON WATER DEPARTMENT. ALL NEW SERVICES WILL BE INSTALLED BY THE CONTRACTOR AND SHALL INCLUDE THE CURB STOP AND BOX COMPLETE.

8. BASIS OF PAYMENT FOR ITEM 267 FIRE HYDRANT RELOCATION WILL BE ODOT ITEM 638 - WATER WORK, MISC.: FIRE HYDRANT REMOVED AND RESET (EACH). THE FOLLOWING NOTE HAS BEEN ADDED TO THIS SECTION: ALL HYDRANTS DESIGNATED TO BE REMOVED AND RESET SHALL BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE WATER DISTRIBUTION FACILITY AT 565 JOHNSTON STREET BY THE CONTRACTOR. THE CITY SHALL PROVIDE THE CONTRACTOR WITH A NEW OR REFURBISHED HYDRANT AT NO EXPENSE TO THE CONTRACTOR. THE CONTRACTOR SHALL PICK-UP HYDRANTS AT THE WATER DISTRIBUTION FACILITY ON JOHNSTON STREET. THE CONTRACTOR SHALL SET THE HYDRANT AT THE LOCATION SHOWN ON THE PLANS AND FURNISH ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT. NO EXISTING HYDRANT SHALL BE RESET.

250 WATER MAINS

251 WATER MAINS - GENERAL

251.01 DESCRIPTION
251.02 RESPONSIBILITIES OF WORK
251.03 EXCAVATION
251.04 BORING FOR WATER SERVICES
251.05 SURFACE RESTORATION
251.06 MATERIALS
251.07 HANDLING OF MATERIALS
251.08 CLEANLINESS OF PIPE
251.09 CUTTING PIPES
251.10 ANCHORAGES
251.11 MANHOLES
251.12 VALVES
251.13 SPECIAL CASTINGS
251.14 AIR RELEASE ASSEMBLIES
251.15 POLYETHYLENE ENCASEMENT
251.16 FIRE HYDRANTS
251.17 TIE-INS
251.18 ABANDONING MAINS
251.19 STERILIZATION
251.20 TESTING
251.21 PILING AND CRADLING
251.22 STEEL CASING PIPE
251.23 ACCESS HATCHES
251.24 FIELD LOCATION OF EXISTING MAINS AND UTILITIES

251.01 DESCRIPTION.

WATER MAINS AND APPURTENANT STRUCTURES SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS, IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE VARIOUS ITEMS WHICH CONSTITUTE THE COMPLETED WATER MAIN, AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, AND DIMENSIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER.

251.02 RESPONSIBILITIES OF WORK.

THE CONTRACTOR SHALL FURNISH LABOR AND APPROVED MATERIALS REQUIRED TO INSTALL WATER MAINS AND APPURTENANCES, INSTALL NEW COPPER WATER SERVICES FROM THE NEW MAINS TO THE PROPERTY LINE, TO EXCAVATE AND ASSIST CITY FORCES TRANSFERRING EXISTING WATER SERVICES FROM THE MAINS TO BE ABANDONED TO THE NEW MAINS AND, IF NEEDED, REPLACE SUBSTANDARD SERVICE MATERIAL, AND TO ADJUST EXISTING MAINS WHERE SUCH MAINS INTERFERE WITH CONSTRUCTION OF THE NEW MAINS. IF SO NOTED ON THE PLANS, THE CONTRACTOR SHALL FURNISH LABOR TO SET IN EXISTING MAINS ALL VALVES AND SPECIAL CASTINGS REQUIRED FOR CONNECTION WITH THE NEW MAINS, WITH MATERIALS FURNISHED BY THE CITY. THE CONTRACTOR SHALL FURNISH LABOR FOR SUCH TIE -INS, AS SPECIFIED IN 251.17. WHEN A TIE-IN IS TO BE MADE WITH A TAPPING SLEEVE AND VALVE, THE TAP WILL BE MADE BY THE CITY. ALL EXCAVATION, BACKFILLING, AND SURFACE RESTORATION REQUIRED FOR THE ABOVE WORK SHALL BE PERFORMED BY THE CONTRACTOR AND SHALL BE CONSIDERED INCLUDED IN THE VARIOUS BID ITEMS WHICH NECESSITATE THE WORK.

THE CITY WILL PERFORM ALL NECESSARY OPENING AND CLOSING OF VALVES FOR ALL PURPOSES RELATED TO THE CONSTRUCTION OF WATER MAINS.

ALL SURVEY WORK REQUIRED FOR THE LAYOUT AND INSTALLATION OF THE WATER MAINS SHALL BE PERFORMED BY THE CONTRACTOR, UNLESS NOTED OTHERWISE ON THE PLANS.

251.03 EXCAVATION.

WHEN THE BID SCHEDULE CONTAINS ITEM 503 EXCAVATION, THE BID PRICE SHALL BE FULL COMPENSATION FOR EXCAVATING AND BACKFILLING THE TRENCHES IN WHICH THE NEW MAINS, VALVES, SPECIAL CASTINGS, HYDRANTS AND HYDRANT RUNS WILL BE INSTALLED. THE PRICE SHALL ALSO BE FULL COMPENSATION FOR EXCAVATING AND BACKFILLING TRENCHES REQUIRED FOR TYING INTO EXISTING MAINS AND ADJUSTING EXISTING MAINS. THE FOLLOWING EXCEPTIONS TO THIS PARAGRAPH SHALL APPLY: WHEN GRANULAR BACKFILL MATERIAL IS REQUIRED AS HEREINAFTER DETERMINED, AND SUCH MATERIAL IS NOT AVAILABLE FROM WITHIN THE PROJECT LIMITS, THE COST OF FURNISHING THIS MATERIAL SHALL BE PAID FOR AT THE PRICE BID FOR 203 BORROW. IF THE CONTRACT DOES NOT INCLUDE AN ITEM FOR 203 BORROW, THE GRANULAR BACK-FILL MATERIAL WILL BE PAID FOR IN ACCORDANCE WITH 104.03. WHEN LIMESTONE IS REQUIRED FOR BEDDING THE PIPE AS HEREINAFTER DETERMINED, THE COST OF FURNISHING THIS MATERIAL SHALL BE PAID FOR AT THE PRICE BID FOR 603 LIMESTONE. THE COST OF PLACING GRANULAR BACKFILL OR LIMESTONE SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE ITEM WHICH NECESSITATED THE WORK.

WHEN THE BID SCHEDULE DOES NOT INCLUDE ITEM 503 EXCAVATION, THE COST OF THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE ITEM WHICH NECESSITATED THE WORK.

THE COST OF EXCAVATING AND BACKFILLING FOR THE CONSTRUCTION OF STRUCTURES, SUCH AS MANHOLES, ANCHORAGES, AND PILING AND CRADLING, SHALL BE INCLUDED IN THE PRICE BID FOR 503 EXCAVATION FOR STRUCTURES, WHEN SUCH ITEM IS INCLUDED IN THE BID SCHEDULE. WHEN THIS ITEM IS NOT INCLUDED IN THE BID SCHEDULE, THE COST OF THE EXCAVATING AND BACKFILLING SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS COVERING SUCH CONSTRUCTION. EXCAVATION AND BACKFILLING OF TRENCHES FOR NEW COPPER WATER SERVICES, AND EXCAVATIONS AND BACKFILLING OF HOLES FOR WATER SERVICE TRANSFERS WILL BE AS DIRECTED BY THE ENGINEER AND SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS AND INCLUDED FOR PAYMENT UNDER ITEM 252 TRENCHES FOR COPPER WATER SERVICES OR ITEM 253 BORING FOR WATER SERVICES.

REMOVAL OF PAVEMENT, CURB, GUTTER, SIDEWALK AND OTHER STRUCTURES ENCOUNTERED WITHIN THE EXCAVATION LIMITS SHALL BE INCLUDED FOR PAYMENT UNDER THE APPROPRIATE ITEMS OF 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS, IF SUCH ITEMS ARE INCLUDED IN THE BID SCHEDULE. STRUCTURES NOT COVERED BY 202 ITEMS IN THE BID SCHEDULE SHALL BE REMOVED IN ACCORDANCE WITH THE PROVISIONS OF 202, AND PAYMENT FOR THE WORK SHALL BE CONSIDERED INCLUDED IN THE VARIOUS BID ITEMS WHICH NECESSITATE THE WORK.

WHEN THE BID SCHEDULE DOES NOT CONTAIN ITEM 201 CLEARING AND GRUBBING, THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF 201, AND PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE VARIOUS BID ITEMS WHICH NECESSITATE THE WORK.

ALL EXCAVATION AND BACKFILLING SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF 503 AND/OR 551 AS APPLICABLE, AND AS HEREINAFTER SPECIFIED.

TRENCHES FOR WATER MAINS SHALL BE EXCAVATED TO A WIDTH OF TWO FEET GREATER THAN THE INTERNAL DIAMETER OF THE PIPE TO BE LAID, AND TO THE DEPTH REQUIRED TO LAY THE PIPE AT THE GRADE SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER. PIPES SHALL BE LAID DIRECTLY ON THE TRENCH BOTTOM AFTER IT HAS BEEN GRADED AND TAMPED TO SUPPORT THE PIPE ALONG ITS ENTIRE LENGTH, WITH HOLES FOR PIPE BELLS RECESSED INTO THE TRENCH BOTTOM, UNLESS OTHERWISE SHOWN ON THE PLANS.

WHEN EXCAVATING TRENCHES FOR WATER MAINS IN ROCK, AS DEFINED IN 203.02, THE CONTRACTOR SHALL EXCAVATE THE TRENCH TO AN ADDITIONAL DEPTH OF SIX INCHES BELOW THE PROPOSED GRADE OF THE BOTTOM OF THE PIPE, AND SHALL BRING THE TRENCH DEPTH TO THE GRADE OF THE BOTTOM OF THE PIPE WITH LIMESTONE BEDDING MATERIAL MEETING THE REQUIREMENTS FOR CLASS B BEDDING SPECIFIED IN 551.05, WITH HOLES RECESSED IN THE BEDDING MATERIAL FOR THE PIPE BELL. SLAG WILL NOT BE PERMITTED FOR USE AS BEDDING MATERIAL. THE BEDDING MATERIAL SHALL BE COMPACTED AS SPECIFIED IN 203.09(E) AND 203.12.

UNSTABLE OR UNSUITABLE MATERIAL ENCOUNTERED AT THE WATER MAIN TRENCH BOTTOM, AS DETERMINED BY THE ENGINEER, SHALL BE REMOVED TO A DEPTH SPECIFIED BY THE ENGINEER, AND THE TRENCH REFILLED TO THE PROPOSED GRADE OF THE BOTTOM OF THE PIPE WITH LIMESTONE BEDDING MATERIAL AND COMPACTED AS SPECIFIED ABOVE. SHOULD IT BE NECESSARY TO EXCAVATE MORE THAN 3 FEET BELOW THE ORIGINAL TRENCH BOTTOM, THE CONTRACTOR SHALL RECEIVE ADDITIONAL COMPENSATION FOR THE EXCAVATION BELOW THE 3-FOOT DEPTH AS SPECIFIED IN 503.08.

EXCAVATION FOR APPURTENANT STRUCTURES, SUCH AS MANHOLES AND ANCHORAGES, SHALL BE EXCAVATED TO A WIDTH SUFFICIENT TO PROPERLY CONSTRUCT AND INSPECT THE STRUCTURES, AND TO ALLOW THOROUGH COMPACTION OF BACKFILL ADJACENT TO THE STRUCTURES. UNSUITABLE MATERIALS AT THE BOTTOM OF THE EXCAVATIONS SHALL BE REMOVED AS SPECIFIED ABOVE.

IN AREAS WHERE EXCAVATIONS ARE UNDER PAVEMENT, SIDEWALKS, OR DRIVEWAYS, THE EXCAVATIONS SHALL BE BACKFILLED WITH A GRANULAR MATERIAL MEETING THE REQUIREMENTS OF 203.02, EXCEPT THAT SLAG OR CINDERS WILL NOT BE PERMITTED. IN OTHER LOCATIONS, BACKFILL SHALL BE MADE FROM THE MATERIAL FROM THE EXCAVATIONS, OR WITH GRANULAR MATERIAL IF THE EXCAVATED MATERIAL IS UNSUITABLE, AS DETERMINED BY THE ENGINEER. THE BACKFILL MATERIAL SHALL BE PLACED UNDER AND AROUND THE PIPES AND STRUCTURES AND TO THE TOP OF THE EXCAVATIONS IN LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS WITH MECHANICAL TAMPERS. COMPACTION OF BACKFILL SHALL BE AS SPECIFIED IN 203.09 (F) AND 203.12.

SPECIAL CARE SHALL BE TAKEN IN PLACING AND TAMPING BACKFILL MATERIAL UNDER, AROUND, AND TO A DEPTH OF TWELVE INCHES OVER TOP OF THE PIPE. NO BOULDERS OR ROCK SHALL BE USED FOR BACKFILL BELOW THIS LEVEL. NO BOULDER OR ROCK HAVING SIX INCHES FOR ITS GREATEST DIMENSION SHALL BE USED FOR BACKFILLING THE TRENCH ABOVE THIS LEVEL. EARTH SHALL BE MIXED WITH ROCK BACKFILL TO ELIMINATE VOIDS WHICH COULD RESULT IN SETTLEMENT.

ALL SURPLUS OR UNSUITABLE EXCAVATED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH 203.05 AND THE COST OF SUCH DISPOSAL SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE ITEM WHICH NECESSITATED THE WORK.

WHEN EXCAVATION IS TO BE PAID FOR UNDER ITEM 503, THE CUBIC YARDS WILL BE MEASURED BY THE ENGINEER WITHIN THE LIMITS SPECIFIED IN THE PRECEDING PARAGRAPHS, AFTER THE REQUIREMENTS OF 201 (IF APPLICABLE) AND 202 HAVE BEEN MET. NO ALLOWANCE WILL BE MADE FOR HOLES REQUIRED TO ACCOMMODATE PIPE BELLS OR FOR TEES OR CROSSES SET IN THE LINE FOR FUTURE USES. WHENEVER PAYMENT LINES FOR ITEM 503 OVERLAP FOR PARALLEL OR INTERSECTING TRENCHES, THE EXCAVATION WITHIN THE OVERLAPPING PORTION WILL BE MEASURED ONCE TO COVER THE EXCAVATION FOR BOTH TRENCHES.

251.04 BORING FOR WATER SERVICES.

THE CONTRACTOR SHALL PERFORM BORING OPERATIONS FOR COPPER WATER SERVICES WHEN DIRECTED TO DO SO BY THE ENGINEER.

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251.05 SURFACE RESTORATION.

ALL STREET PAVEMENT OR SURFACES, CURB AND GUTTER, SIDEWALKS, AND DRIVEWAYS NECESSARILY REMOVED DURING EXCAVATION OPERATIONS SHALL BE REPLACED IN KIND BY THE CONTRACTOR. THE SURFACES SHALL BE REPLACED AS SPECIFIED IN 104.07, AND IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTIONS 300 BASES, 400 FLEXIBLE PAVEMENT, 450 RIGID PAVEMENTS, 456 SIDEWALKS, DRIVEWAYS AND STEPS, 455 CURBING, 453 APPROACH SLABS, AND STANDARD CONSTRUCTION DRAWINGS, UNLESS OTHERWISE SHOWN ON THE PLANS. RESTORATION OF THE SURFACES SHALL BE PAID FOR UNDER THE APPLICABLE ITEMS OF THE ABOVE SECTIONS, IF SUCH ITEMS ARE INCLUDED IN THE BID SCHEDULE. RESTORATION OF SURFACES NOT COVERED BY SEPARATE BID ITEMS SHALL BE RESTORED AS SPECIFIED ABOVE, AND PAYMENT FOR THE WORK SHALL BE CONSIDERED INCLUDED IN THE VARIOUS BID ITEMS WHICH NECESSITATE THE WORK.

THE CONTRACTOR SHALL REPAIR OR REPLACE ALL HOUSE DRAINS THAT WERE DAMAGED DURING THE EXCAVATION OPERATIONS IN THE MANNER SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, AND IN ACCORDANCE WITH THE PROVISIONS OF 556. WHEN THE BID SCHEDULE DOES NOT CONTAIN AN ITEM FOR 556 HOUSE DRAIN PIPE, PAYMENT FOR THE RESTORATION OF DRAINS SHALL BE CONSIDERED INCLUDED IN THE BID ITEMS WHICH NECESSITATE THE WORK.

THE CONTRACTOR SHALL RESTORE ALL GRASSY AREAS AND REPLACE AND REPLANT ALL SHRUBS AND TREES DAMAGED DURING THE CONSTRUCTION OF WATER MAINS AND APPURTENANT STRUCTURES, AND ALL INCIDENTAL WORK THERETO. THESE SURFACES SHALL BE RESTORED IN THE MANNER SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF 653 TOPSOIL FURNISHED AND PLACED, 659 SEEDING AND MULCHING, 660 SODDING, 662 PLANTING SHRUBS, AND 663 PLANTING TREES. WHEN THE BID SCHEDULE DOES NOT CONTAIN THE ABOVE ITEMS, THE COST OF THE WORK SHALL BE CONSIDERED INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS WHICH NECESSITATED THE WORK.

UNLESS SPECIFIED OTHERWISE, THE ENGINEER SHALL DETERMINE THE LIMITS OF ALL SURFACE RESTORATION.

251.06 MATERIALS.

UNLESS OTHERWISE NOTED IN THE CONTRACT OR IN THESE SPECIFICATIONS, THE CONTRACTOR SHALL FURNISH ALL MATERIALS REQUIRED FOR THE COMPLETE INSTALLATION OF THE WATER MAINS, APPURTENANT STRUCTURES, AND INCIDENTALS AS SHOWN ON THE PLANS. ALL MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. ALL MATERIALS REQUIRED FOR THE INSTALLATION OF WATER MAINS AND APPURTENANT STRUCTURES SHALL MEET THE REQUIREMENTS OF THE APPROPRIATE SECTIONS OF 715.

251.07 HANDLING OF MATERIALS

THE CONTRACTOR SHALL CAREFULLY HANDLE AND LAY ALL PIPE, SPECIAL CASTINGS, VALVES, AND HYDRANTS TO PREVENT DAMAGE, AND SPECIAL CARE SHALL BE TAKEN TO PREVENT THE PIPE COATING FROM BEING DAMAGED, PARTICULARLY ON THE INSIDE OF THE PIPE.

ALL PIECES SHALL BE CAREFULLY EXAMINED FOR DEFECTS, AND NO PIECE SHALL BE LAID WHICH IS KNOWN TO BE DEFECTIVE. IF ANY DEFECTIVE PIECE IS DISCOVERED AFTER BEING LAID, IT SHALL BE REMOVED AND REPLACED IN A SATISFACTORY MANNER BY THE CONTRACTOR AT HIS OWN EXPENSE.

THE CONTRACTOR SHALL PROTECT ALL MATERIAL FROM LOSS OR DAMAGE FROM ANY CAUSE AT ALL TIMES. HE SHALL BE RESPONSIBLE FOR ANY HYDRANT, VALVE, OR OTHER MATERIAL FOUND BROKEN ON THE WORK SITE, AND ALL PARTS LOST OR DAMAGED SHALL BE REPAIRED OR REPLACED AT HIS EXPENSE.

251.08 CLEANLINESS OF PIPE.

THE PIPE SHALL BE THOROUGHLY CLEANED BEFORE LOWERED INTO THE TRENCH, AND SHALL BE KEPT CLEAN UNTIL ACCEPTED IN THE COMPLETED WORK. THE EXPOSED ENDS OF ALL UNCOMPLETED LINES SHALL BE CLOSED WITH WOODEN OR OTHER ACCEPTABLE BULKHEADS SUCH AS CAPS OR PLUGS AT ALL TIMES WHEN PIPE LAYING IS NOT ACTUALLY IN PROGRESS.

251.09 CUTTING PIPES.

WHENEVER DUCTILE IRON OR STEEL PIPES REQUIRE CUTTING TO FIT IN THE LINE, THE WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. CUTS SHALL BE MADE AT RIGHT ANGLES TO THE PIPE AXIS. WHEN CUTTING PIPE ENDS THAT WILL BE INSERTED IN PUSH ON JOINTS, THE CIRCUMFERENCE OF THE PIPE SHALL BE BEVELED IN THE MANNER DIRECTED BY THE ENGINEER TO PREVENT CUTTING OF THE RUBBER GASKET.

251.10 ANCHORAGES.

THE PIPES SHALL BE ANCHORED AGAINST MOVEMENT AT ALL LOCATIONS WHERE UNBALANCED PRESSURES OCCUR, SUCH AS AT ELBOWS, TEES, AND BULKHEADS.

FOR ALL DUCTILE IRON OR STEEL PIPES 12 INCHES IN DIAMETER AND LARGER, AND FOR SMALLER DIAMETER DUCTILE IRON OR STEEL PIPES IN WHICH THE INTERNAL PRESSURE EQUALS OR EXCEEDS 100 PSI, ALL HORIZONTAL THRUST BLOCKS AND THRUST BLOCKS FOR BOTTOM VERTICAL BENDS SHALL BE CONSTRUCTED OF CONCRETE AND SHALL BE OF THE DESIGN SHOWN ON THE PLANS. HORIZONTAL THRUST BLOCKS AND THRUST BLOCKS FOR BOTTOM VERTICAL BENDS FOR DUCTILE IRON OR STEEL PIPES LESS THAN 12 INCHES IN DIAMETER AND WITH LESS THAN 100 PSI INTERNAL PRESSURE SHALL BE HARD WOOD BLOCKING. ANCHORS FOR TOP VERTICAL BENDS FOR DUCTILE IRON OR STEEL PIPES SHALL BE CONSTRUCTED OF CONCRETE AND REINFORCING STEEL AND SHALL BE OF THE DESIGN SHOWN ON THE PLANS. WHEN THE PLANS DO NOT SPECIFY DIMENSIONS AND/OR REINFORCING STEEL SIZES FOR THRUST BLOCK AND ANCHORAGES, THE DIMENSIONS AND/OR BAR SIZES SHALL BE AS DETERMINED BY THE ENGINEER.

ALL THRUST BLOCKS AND ANCHORAGES FOR PRESTRESSED CONCRETE CYLINDER PIPE SHALL CONFORM TO THE DESIGN AND SIZE SHOWN ON THE PLANS.

WOOD BLOCKING SHALL BE INCLUDED FOR PAYMENT UNDER THE ITEM GOVERNING THE INSTALLATION OF THE PIPE BEING ANCHORED. CONCRETE ANCHORAGES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF 509 REINFORCING STEEL AND 511 CONCRETE FOR STRUCTURES.

251.11 MANHOLES.

ACCESS MANHOLES, AIR RELEASE MANHOLES, AND BLOWOFF MANHOLES SHALL BE OF THE SIZE, TYPE, AND DESIGN AS SHOWN ON THE PLANS. MANHOLES SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH THE PROVISIONS OF ITEM 562.

251.12 VALVES

GATE VALVES, BUTTERFLY VALVES, CHECK VALVES, AND ACCOMPANYING VALVE BOXES, VICTAULIC COUPLINGS, AND VALVE STEM EXTENSIONS SHALL BE INSTALLED AS SPECIFIED IN 258. FOR PURPOSES OF PAYMENT, THE PRICES BID FOR ITEMS LISTED UNDER 258 SHALL INCLUDE THE COST OF FURNISHING MATERIALS ONLY. THE COST OF INSTALLING VALVES, VALVE BOXES, VICTAULIC COUPLINGS, AND VALVE STEM EXTENSIONS SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM GOVERNING THE INSTALLATION OF THE PIPE IN WHICH THE VALVE WILL BE INSTALLED.

251.13 SPECIAL CASTINGS.

THE COST OF FURNISHING CAST OR DUCTILE IRON SPECIAL CASTINGS FOR DUCTILE IRON WATER MAINS SHALL BE PAID FOR AT THE PRICES BID FOR ITEM 259. THE COST OF INSTALLING SPECIAL CASTINGS SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM GOVERNING THE INSTALLATION OF THE PIPE IN WHICH THE SPECIAL CASTING WILL BE INSTALLED.

251.14 AIR RELEASE ASSEMBLIES.

AIR RELEASE ASSEMBLIES SHALL BE OF THE SIZE AND TYPE SHOWN ON THE PLANS, AND SHALL BE INSTALLED AT THE LOCATIONS SHOWN. AIR RELEASE ASSEMBLIES SHALL BE INSTALLED AND PAID FOR IN ACCORDANCE WITH THE PROVISIONS OF ITEM 262.

251.15 POLYETHYLENE ENCASEMENT.

THE CONTRACTOR SHALL FURNISH AND INSTALL POLYETHYLENE ENCASEMENT FOR ALL DUCTILE IRON, PRESTRESSED CONCRETE CYLINDER AND STEEL PIPE, SPECIAL CASTINGS, VALVES, AND COUPLINGS UNLESS DETERMINED OTHERWISE BY THE ENGINEER. WHEN THE BID SCHEDULE DOES NOT CONTAIN AN ITEM FOR 261 POLYETHYLENE ENCASEMENT, THE COST OF THIS WORK SHALL BE INCLUDED FOR PAYMENT IN THE ITEM GOVERNING THE INSTALLATION OF THE MATERIAL TO BE ENCASED.

251.16 FIRE HYDRANTS.

HYDRANTS, HYDRANT VALVES, AND HYDRANT RUN PIPING SHALL BE FURNISHED AND INSTALLED AS SPECIFIED IN ITEM 260. THE INSTALLATION OF THE HYDRANT AND THE LAYING OF THE HYDRANT RUN PIPE AND VALVE SHALL BE PAID FOR UNDER THE APPROPRIATE ITEMS GOVERNING THE INSTALLATION OF THE PIPE AND VALVE.

251.17 TIE-INS.

WHEN THE CONTRACTOR IS RESPONSIBLE FOR TYING A NEW MAIN INTO AN EXISTING MAIN, THE TIE-IN SHALL BE MADE AT THE LOCATION AND IN THE MANNER SHOWN ON THE PLANS. CUTTING OF AN EXISTING MAIN FOR A TIE-IN SHALL BE PERFORMED AND PAID FOR IN ACCORDANCE WITH 263 TYING INTO EXISTING MAINS. FURNISHING AND INSTALLING PIPE, SPECIAL CASTINGS, AND SLEEVES REQUIRED FOR CONSTRUCTING THE BRANCH TO THE EXISTING MAIN SHALL BE PERFORMED AND PAID FOR IN ACCORDANCE WITH 254 AND 259. WHEN THE PLANS CALL FOR TIE-IN TO BE MADE USING A TAPPING SLEEVE AND VALVE, THE CITY WILL INSTALL THE SLEEVE AND VALVE AS SPECIFIED IN 251.02.

251.18 ABANDONING MAINS.

THE CONTRACTOR SHALL BULKHEAD EXPOSED ENDS OF EXISTING MAINS TO BE ABANDONED AT LOCATIONS AND IN THE MANNER SPECIFIED ON THE PLANS OR DETERMINED BY THE ENGINEER. THE COST OF THE WORK SHALL BE CONSIDERED INCLUDED IN THE VARIOUS LAYING PIPE ITEMS WHICH NECESSITATE THE WORK.

251.19 STERILIZATION.

DURING THE LAYING OF THE MAIN THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PLACE A STERILIZING POWDER MEETING THE REQUIREMENT OF 715.19 INTO THE MAIN AT INTERVALS SO THAT THE QUANTITY PER 100 FEET OF MAIN SHALL BE NOT LESS THAN THE FOLLOWING AMOUNT:

PIPE DIAMETER (IN.)	OUNCES/100 FT.
4	2
6	4
8	6
10	10
12	14
16	24
20	38
24	54
30	84
36	120
42	162
48	200
54	254

IF AN ALTERNATE TYPE OF STERILIZING MATERIAL IS FURNISHED, AS PROVIDED FOR IN 715.19, THE MATERIAL SHALL BE INTRODUCED IN THE MAIN IN SUCH A QUANTITY THAT WILL PRODUCE A CHLORINE CONCENTRATION OF 50 PPM. ALL STERILIZING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C 651. WHEN PIPE LAYING IS COMPLETED, THE CITY WILL FILL THE LINE FOR STERILIZING THE PIPE AND APPURTENANCES, AND WILL OBTAIN AND TEST A SAMPLE FOR BACTERIA. SHOULD ADDITIONAL STERILIZATION BE REQUIRED DUE TO POOR TEST RESULTS, THE CONTRACTOR SHALL FURNISH ADDITIONAL LABOR TO ASSIST IN THE ADDITIONAL STERILIZATION WORK BUT THE STERILIZING EQUIPMENT AND MATERIAL WILL BE FURNISHED BY THE CITY. THE COST OF MATERIALS AND LABOR REQUIRED FOR THE CONTRACTOR'S WORK IN STERILIZING THE MAINS SHALL BE INCLUDED IN THE CORRESPONDING ITEM GOVERNING THE MAIN BEING STERILIZED.

251.20 TESTING.

AFTER THE MAINS HAVE BEEN LAID, AND BACKFILLED, THE MAINS WILL BE FILLED WITH WATER BY THE CITY FOR A LEAKAGE TEST.

THE LEAKAGE TEST SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF SECTION 4, PRESSURE AND LEAKAGE TEST, IN ANSI/AWWA C600, STANDARD FOR INSTALLATION OF DUCTILE-IRON WATER MAINS. THE MAINS SHALL BE TESTED IN LENGTHS OF LESS THAN 2,000 FEET WHEN POSSIBLE. THE DURATION OF THE TEST AT FULL PRESSURE SHALL BE A MINIMUM OF TWO (2) HOURS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE LEAKAGE DURING THE TEST SHALL NOT EXCEED 11.65 GALLONS PER DAY PER INCH DIAMETER PER MILE OF PIPE. WHEN TESTING AGAINST A CLOSED METAL-SEATED VALVE, AN ADDITIONAL LEAKAGE ALLOWANCE OF 0.19 GALLONS PER DAY PER INCH DIAMETER PER VALVE WILL BE ALLOWED.

THE TEST SHALL BE MADE BY CONNECTION OF A PUMP TO A FIRE HYDRANT OR A CORPORATION STOP IN THE MAIN, PUMPING THE MAIN TO THE TEST PRESSURE, AND MEASURING THE QUANTITY OF WATER REQUIRED TO PUMP THE MAIN BACK UP TO THE TEST PRESSURE AT THE END OF THE TEST PERIOD.

THE MAINS SHALL BE TESTED UNDER A MINIMUM PRESSURE THAT IS 1.5 TIMES THE STATIC PRESSURE AT THE POINT OF TESTING OR 50 PSI HIGHER THAN THE MAXIMUM STATIC PRESSURE THAT THE MAINS WILL EXPERIENCE IN SERVICE, AS DETERMINED BY THE ENGINEER. THE MINIMUM PRESSURE AT THE HIGHEST POINT ALONG THE TEST SECTION SHALL BE 1.25 TIMES THE WORKING STATIC PRESSURE AT THAT POINT. THE DURATION OF THE TEST SHALL BE TWO HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

THE CONTRACTOR SHALL FURNISH THE NECESSARY PUMPS, PIPE, AND CONNECTIONS FOR MAKING THE TEST, INSTALL ALL TAPS IN THE PIPE, AND SHALL INSTALL AND REMOVE THE TEMPORARY BULKHEADS FURNISHED BY THE CITY. THE CITY WILL FURNISH GAUGES AND MEASURING DEVICES FOR THE TEST, BUT THE CONTRACTOR SHALL FURNISH ALL ASSISTANCE NECESSARY FOR CONDUCTING THE TEST.

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GENERAL NOTES

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WATER WORK - cont'd

IN THE EVENT THAT THE MAIN FAILS TO MEET THE TEST REQUIREMENTS, THE ENGINEER MAY ORDER THE CONTRACTOR TO EXPOSE THE JOINTS OR ANY SECTION IN QUESTION, REPAIR THE DEFECTIVE JOINT OR REPLACE THE DEFECTIVE PIPE, REPEAT THE TEST, BACKFILL, AND RESTORE THE SURFACE. SUCH ADDITIONAL WORK SHALL BE AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE TRENCH, PIPING OR APPURTENANCES WHICH MAY ARISE FROM, OR IN CONNECTION WITH, THE TESTS AND ALL DAMAGED PIPE OR APPURTENANCES SHALL BE REPLACED BY THE CONTRACTOR IMMEDIATELY.

THE COST OF ALL MATERIAL AND LABOR PERFORMED BY THE CONTRACTOR IN CONJUNCTION WITH THE PRESSURE TESTING SHALL BE INCLUDED FOR PAYMENT UNDER THE ITEM GOVERNING THE INSTALLATION OF THE MAIN BEING TESTED.

251.21 PILING AND CRADLING.

PILING REQUIRED FOR SUPPORTING THE WATER MAIN SHALL BE OF A SIZE AND TYPE SHOWN ON THE PLANS, AND SHALL BE DRIVEN AT THE LOCATIONS AND TO THE EVALUATIONS SHOWN, OR AS DIRECTED BY THE ENGINEER. PILING SHALL BE DRIVEN AND PAID FOR IN ACCORDANCE WITH THE PROVISIONS OF ITEM 507.

REINFORCED CONCRETE PILE CAPS AND CRADLING FOR THE WATER MAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS, AND PAID FOR UNDER ITEMS 509 AND 511. EXCAVATION FOR THE PILE CAPS AND CRADLING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 503 EXCAVATION FOR STRUCTURES.

251.22 STEEL CASING PIPE.

THE CONTRACTOR SHALL FURNISH AND INSTALL STEEL CASING PIPE FOR WATER MAINS AT THE LOCATIONS SHOWN ON THE PLANS, OR AS DETERMINED BY THE ENGINEER. STEEL CASING PIPE SHALL BE INSTALLED AND PAID FOR IN ACCORDANCE WITH THE PROVISIONS OF UNDER ITEM 264.

251.23 ACCESS HATCHES.

ACCESS HATCHES SHALL BE PROVIDED IN ALL WATER MAINS THAT ARE 30 INCHES AND LARGER IN DIAMETER. THE LOCATIONS AND NUMBER OF ACCESS HATCHES SHALL BE AS SHOWN ON THE PLANS. THE COST OF FURNISHING SPECIAL PIPE SECTIONS WITH ACCESS HATCHES SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM GOVERNING THE INSTALLATION OF THE PIPE FOR THE MAIN IN WHICH THE SPECIAL PIPE SECTION WILL BE INSTALLED.

251.24 FIELD LOCATION OF EXISTING MAINS UTILITIES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE ELEVATIONS AND ALIGNMENT OF EXISTING WATER MAINS, ESPECIALLY AT POINTS OF CONNECTION AND OF ALL OTHER UTILITIES IN THE VICINITY OF THE WORK. THE CONTRACTOR WILL RECEIVE NO EXTRA PAYMENT FOR ADDITIONAL WORK REQUIRED IF THE ALIGNMENT AND/OR ELEVATIONS OF EXISTING MAINS OR OTHER UTILITIES ARE NOT AS SHOWN ON THE PLANS.

ITEM 252 TRENCHES FOR COPPER WATER SERVICE

252.01 DESCRIPTION
252.02 REQUIREMENTS
252.03 CLASSIFICATION
252.04 METHOD OF MEASUREMENT
252.05 BASIS OF PAYMENT

252.01 DESCRIPTION.

THIS WORK SHALL CONSIST OF THE EXCAVATING AND BACKFILLING OF TRENCHES FOR COPPER WATER SERVICES.

252.02 REQUIREMENTS.

TRENCHES FOR COPPER WATER SERVICES SHALL BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 503 AND AS HEREINAFTER SPECIFIED.

THE TRENCHES SHALL HAVE A WIDTH OF THIRTY INCHES, AND SHALL BE EXCAVATED TO THE DEPTH REQUIRED FOR THE INSTALLATION OF THE SERVICE AS DETERMINED BY THE ENGINEER.

GRANULAR MATERIAL SHALL BE USED FOR BACKFILLING ALL COPPER WATER SERVICE TRENCHES. THE GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF 203.02, EXCEPT THAT SLAG OR CINDERS WILL NOT BE PERMITTED. THE BACKFILL SHALL BE PLACED UNDER AND AROUND THE COPPER AND TO THE TOP OF THE TRENCH IN LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS WITH MECHANICAL TAMPERS. COMPACTION SHALL BE AS SPECIFIED IN 203.09 (F) AND 203.12. SPECIAL CARE SHALL BE TAKEN IN PLACING AND TAMPING BACKFILL MATERIAL UNDER, AROUND, AND TO A DEPTH OF TWELVE INCHES OVER TOP OF THE PIPE.

IF GRANULAR BACKFILL MEETING THE REQUIREMENTS SPECIFIED ABOVE IS NOT AVAILABLE FROM THE EXCAVATION, THE CONTRACTOR SHALL FURNISH SUCH MATERIAL, AND THE COST OF FURNISHING THE MATERIAL SHALL BE PAID FOR AT THE PRICE BID FOR 252. THE COST OF PLACING AND COMPACTING GRANULAR BACKFILL MATERIAL SHALL BE INCLUDED IN THE PRICE BID FOR 252.

EXCESS EXCAVATION RESULTING FROM THE PLACEMENT OF BORROW MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR, AND THE COST OF SUCH DISPOSAL SHALL BE INCLUDED IN THE PRICE BID FOR 252.

REMOVAL OF PAVEMENT, CURB AND GUTTER, SIDEWALKS, AND OTHER STRUCTURES ENCOUNTERED WITHIN THE EXCAVATION LIMITS, AND THE RESTORATION OF SURFACES NECESSITATED BY THE EXCAVATION OF THE TRENCHES SHALL BE INCLUDED IN THE VARIOUS BID ITEMS COVERING SUCH WORK, AS SPECIFIED IN 251.03 AND 251.05. WORK NOT COVERED BY SPECIFIC BID ITEMS SHALL BE CONSIDERED INCLUDED IN THE PRICES BID FOR ITEM 252.

252.03 CLASSIFICATION.

FOR PURPOSES OF PAYMENT, EXCAVATION FOR WATER SERVICE TRENCHES SHALL BE CLASSIFIED AS (A) EARTH, OR (B) ROCK. EARTH EXCAVATION SHALL INCLUDE ALL EXCAVATION NOT CLASSIFIED AS ROCK. ROCK EXCAVATION SHALL INCLUDE EXCAVATION DEFINED AS ROCK IN 203.02.

252.04 METHOD OF MEASUREMENT.

AFTER THE REQUIREMENTS OF 201 (IF APPLICABLE) AND 202 HAVE BEEN MET, THE LINEAR FEET OF EXCAVATED TRENCH WILL BE MEASURED IN PLACE BY THE ENGINEER WITHIN THE LIMITS SPECIFIED ABOVE.

252.05 BASIS OF PAYMENT.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR:

ODOT ITEM 638 - WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH (FT.)

THE ABOVE PRICES SHALL INCLUDE THE COST OF FURNISHING ALL LABOR AND EQUIPMENT NECESSARY FOR THE EXCAVATING AND BACKFILLING OF TRENCHES FOR COPPER WATER SERVICES, EXCEPT FOR WORK DESIGNATED TO BE INCLUDED FOR PAYMENT UNDER OTHER CONTRACT ITEMS, AS SPECIFIED HEREIN.

ITEM 254 DUCTILE IRON PIPE

254.01 DESCRIPTION
254.02 MATERIALS
254.03 INSTALLATION
254.04 JOINTS
254.05 METHOD OF MEASUREMENT
254.06 BASIS OF PAYMENT

254.01 DESCRIPTION.

THIS WORK SHALL CONSIST OF THE FURNISHING, HAULING, HANDLING, AND LAYING OF DUCTILE IRON PIPE FOR WATER MAIN CONSTRUCTION. INCLUDED IN THIS ITEM ARE: CONNECTING THE NEW PIPES WITH THE BRANCHES SET IN THE EXISTING MAINS, CUTTING THE PIPES TO FIT IN THE LINE WHERE REQUIRED, INSTALLING RESTRAINED HYDRANT RUNS, MAKING ALL RESTRAINED JOINTS FOR SPECIAL CASTINGS AND VALVES, PLACING WOOD AND CONCRETE THRUST BLOCKS, BULKHEADING WATER MAINS TO BE ABANDONED, STERILIZATION OF THE NEW MAINS, PRESSURE TESTING THE NEW MAINS, AND ALL INCIDENTAL WORK NOT SPECIFICALLY COVERED BY ANOTHER CONTRACT ITEM.

254.02 MATERIALS.

MATERIALS TO BE FURNISHED FOR THIS WORK SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SECTIONS:

MATERIALS-GENERAL 715.01
DUCTILE IRON PIPE.....715.02
POLYETHYLENE ENCASEMENT.....715.15
RESTRAINED JOINTS 715.16
WOOD BLOCKING.....715.17
GASKET LUBRICANT.....715.18
STERILIZING POWDER 715.19
ANCHORING PIPE 715.27

254.03 INSTALLATION.

THE MAINS SHALL BE INSTALLED IN ACCORDANCE WITH 251 WATER MAINS-GENERAL, AND AS HEREINAFTER SPECIFIED. HYDRANT RUNS SHALL BE CONSTRUCTED USING DUCTILE IRON PIPE MEETING 715.02 OR ANCHORING PIPE MEETING 715.27.

254.04 JOINTS.

PUSH ON JOINTS WITH RUBBER GASKETS FOR DUCTILE IRON PIPE SHALL BE MADE WITH GASKET LUBRICANT, IN ACCORDANCE WITH THE PIPE MANUFACTURER'S INSTRUCTIONS. THE SPIGOT END OF THE PIPE TO BE INSERTED IN THE BELL SHALL BE BEVELED AS SPECIFIED IN 251.09.

ALL PIPE JOINTS AT SPECIAL CASTINGS, VALVES, SLEEVES, AND ANCHORING PIPE SHALL BE MADE WITH A RESTRAINING GLAND AS SPECIFIED IN 715.16. STRAIGHT PIPE JOINTS ADJACENT TO SPECIAL CASTINGS, VALVES, AND SLEEVES WILL BE MADE WITH A RESTRAINING GASKET AT THE DISCRETION OF THE ENGINEER.

THE SPIGOTS SHALL BE ADJUSTED IN THE BELLS TO NO MORE THAN ONE-HALF OF THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION. THE INSIDE OF THE BELL AND THE OUTSIDE OF THE SPIGOT MUST BE THOROUGHLY CLEANED AND ALL DIRT, MUD OR GREASE, AND ALL LUMPS, BLISTERS OR BUBBLES OF COATING REMOVED BEFORE MAKING THE JOINTS.

IN AREAS WHERE PRESSURE IS 100 PSI OR LESS, RESTRAINED JOINTS FOR PIPE DIAMETERS 12 INCHES AND SMALLER SHALL BE INSTALLED FOR A LENGTH OF 15 FEET ON EACH SIDE OF THE VALVE, BEND, OR OFFSET USING RESTRAINING GASKETS OR MECHANICAL JOINT RESTRAINING GLANDS. IN AREAS WHERE PRESSURE EXCEEDS 100 PSI, RESTRAINED JOINTS FOR DIAMETERS 12 INCHES AND SMALLER SHALL BE INSTALLED FOR A LENGTH OF 30 FEET ON EACH SIDE OF THE VALVE, BEND, OR OFFSET USING RESTRAINING GASKETS OR MECHANICAL JOINT RESTRAINING GLANDS. RESTRAINED JOINTS FOR DIAMETERS 16 INCHES AND LARGER SHALL BE INSTALLED FOR A LENGTH OF 30 FEET ON EACH SIDE OF A VALVE, BEND, OR OFFSET USING RESTRAINING GASKETS OR MECHANICAL JOINT RESTRAINING GLANDS.

BUTTERFLY VALVES SHALL BE CONNECTED TO DUCTILE IRON MAINS USING EITHER MECHANICAL JOINT RESTRAINING GLANDS OR MECHANICAL JOINT TO VICTAULIC ADAPTERS AND VICTAULIC COUPLINGS. MECHANICAL JOINT RESTRAINING GLANDS SHALL BE FURNISHED UNDER ITEM 254.04. MECHANICAL JOINT TO VICTAULIC ADAPTERS SHALL BE FURNISHED UNDER ITEM 259.

254.05 METHOD OF MEASUREMENT.

THE LENGTH OF PIPE TO BE PAID FOR SHALL BE THE LENGTH OF PIPE LINE IN PLACE AND ACCEPTED, MEASURED ALONG THE AXIS OF THE PIPE, WITH NO DEDUCTIONS MADE FOR VALVES OR SPECIAL CASTINGS. IN CASE OF BRANCH PIPES, THE LENGTH SHALL BE MEASURED FROM THE AXIS OF THE MAIN LINE TO THE END OF THE BRANCH. LENGTHS OF BRANCH RUNS FOR TEES AND CROSSES SET IN THE PIPE FOR FUTURE USE SHALL NOT BE CONSIDERED AS LENGTH OF PIPE FOR MEASUREMENTS AND PAYMENT.

254.06 BASIS OF PAYMENT.

PAYMENT FOR LAYING DUCTILE IRON WATER PIPE WILL BE MADE AT THE CONTRACT PRICE FOR:

ITEM SPECIAL - " " INCH WATER MAIN, DUCTILE IRON PIPE, ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (FT.)

THE ABOVE PRICE SHALL INCLUDE THE COST OF FURNISHING LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SPECIFIED IN 254.01 FOR THE INSTALLATION OF DUCTILE IRON WATER MAINS, IN THE MANNER SPECIFIED HEREIN AND IN ACCORDANCE WITH 251 - WATER MAINS, GENERAL. THE PRICE SHALL ALSO INCLUDE THE COST OF OTHER RELATED WORK NOT SPECIFICALLY ITEMIZED IN THE BID SCHEDULE, AS PROVIDED FOR IN 251 - WATER MAINS, GENERAL.

CALCULATED MDG
CHECKED CWL

GENERAL NOTES

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ITEM 258 VALVES

258.01 DESCRIPTION
258.02 MATERIALS
258.03 INSTALLATION
258.04 METHOD OF MEASUREMENT
258.05 BASIS OF PAYMENT

258.01 DESCRIPTION.

THIS WORK SHALL CONSIST OF THE FURNISHING OF GATE VALVES, BUTTERFLY VALVES, CHECK VALVE, VALVE BOXES, POLYETHYLENE ENCASEMENT, VICTAULIC COUPLINGS AND CAST OR DUCTILE IRON MECHANICAL JOINT BELL TO SHOULDERED VICTAULIC ADAPTERS FOR USE WITH BUTTERFLY VALVES.

258.02 MATERIALS.

MATERIALS TO BE FURNISHED UNDER THIS ITEM SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SECTIONS:
MATERIALS-GENERAL 715.01
MECHANICAL JOINT BELL TO VICTAULIC ADAPTERS.....715.03
GATE VALVES 715.06
BUTTERFLY VALVES 715.07
CHECK VALVES 715.08
VALVE BOXES 715.10
VICTAULIC COUPLINGS 715.09
POLYETHYLENE ENCASEMENT 715.15
TAPPING SLEEVE AND VALVE 715.21
VALVE STEM EXTENSIONS.....715.26

258.03 INSTALLATIONS.

VALVE STEMS AND VALVE BOXES SHALL BE SET PLUMB, AND THE VALVE BOXES SET TO GRADE. VALVES SHALL BE INSTALLED WITH POLYETHYLENE ENCASEMENT.

VALVES WITH FLANGED ENDS SHALL BE INSTALLED IN ACCORDANCE WITH THE VALVE MANUFACTURER'S INSTRUCTIONS.

WHEN THE FINISHED OPERATING NUT DEPTH IS MORE THAN SIX FEET BELOW GRADE, VALVE SHALL BE FURNISHED WITH A VALVE STEM EXTENSION TO RAISE THE OPERATING NUT TO A DEPTH OF FOUR FEET.

BUTTERFLY VALVES WITH SHOULDERED ENDS SHALL BE JOINED TO THE PIPE ENDS USING EITHER MECHANICAL JOINT RESTRAINING GLANDS OR VICTAULIC COUPLINGS. SPECIAL PIPE SECTIONS WITH SHOULDERED VICTAULIC ENDS WILL BE PROVIDED IN THE MAINS FOR THIS PURPOSE, AS SPECIFIED IN 715.03, 715.04, 715.05, AND 715.09. VICTAULIC COUPLINGS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

258.04 METHOD OF MEASUREMENT.

THE NUMBER OF VALVES TO BE PAID FOR SHALL BE THE NUMBER OF VALVES ACTUALLY FURNISHED AND ACCEPTED IN THE COMPLETED WATER MAIN.

258.05 BASIS OF PAYMENT.

PAYMENT FOR FURNISHING VALVES WILL BE MADE AT THE CONTRACT PRICE FOR:

ODOT ITEM SPECIAL - " " INCH GATE VALVE WITH VALVE BOX, COMPLETE (EACH)
ODOT ITEM SPECIAL - " " INCH BUTTERFLY VALVE WITH VALVE BOX, COMPLETE (EACH)

THE PRICES BID FOR FURNISHING GATE VALVES AND BUTTERFLY VALVES SHALL INCLUDE THE COST OF FURNISHING A VALVE BOX TO BE INSTALLED WITH EACH VALVE. THE PRICE BID FOR FURNISHING BUTTERFLY VALVES SHALL ALSO INCLUDE THE COST OF FURNISHING TWO VICTAULIC COUPLINGS FOR INSTALLING EACH VALVE, INCLUDING GASKETS AND BOLTS.

THE COST OF INSTALLING THE ABOVE MATERIALS SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM GOVERNING THE PIPE IN WHICH THE VALVE WILL BE INSTALLED.

ITEM 259 SPECIAL CASTINGS

259.01 DESCRIPTION
259.02 MATERIALS
259.03 METHOD OF MEASUREMENT
259.04 BASIS OF PAYMENT

259.01 DESCRIPTION.

THIS WORK SHALL CONSIST OF FURNISHING CAST OR DUCTILE IRON SPECIAL CASTINGS, AND CAST OR DUCTILE IRON FLANGE AND BELL PIPE, FOR INSTALLATION IN DUCTILE IRON WATER MAINS. CAST OR DUCTILE IRON SPECIAL CASTINGS INCLUDE ITEMS SUCH AS TEES, BENDS, CROSSES, SLEEVES, ADAPTERS, REDUCERS, AND PLUGS. SPECIAL CASTINGS FURNISHED SHALL BE OF THE SIZES AND TYPES SHOWN ON THE PLANS.

RESTRAINED JOINTS FOR MECHANICAL OR PUSH-ON BELLS SHALL BE MADE IN ACCORDANCE WITH 254.04.

259.02 MATERIALS.

MATERIALS TO BE FURNISHED UNDER THIS ITEM SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SECTIONS:
MATERIALS-GENERAL.....715.01
SPECIAL CASTINGS 715.03
RESTRAINED JOINTS.....715.16

259.03 METHOD OF MEASUREMENT.

THE NUMBER OF SPECIAL CASTINGS OF A GIVEN SIZE AND TYPE TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SUCH CASTINGS INSTALLED IN THE COMPLETED WATER MAIN.

259.04 BASIS OF PAYMENT

FURNISHING SPECIAL CASTINGS WILL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE CONTRACT PRICE FOR:

ODOT ITEM SPECIAL - " " INCH WATER MAIN, DUCTILE IRON PIPE, ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (FT.)

ITEM 260 FIRE HYDRANTS

260.01 DESCRIPTION
260.02 MATERIALS
260.03 INSTALLATION
260.04 METHOD OF MEASUREMENT
260.05 BASIS FOR PAYMENT

260.01 DESCRIPTION.

THIS WORK SHALL CONSIST OF THE FURNISHING AND SETTING OF FIRE HYDRANTS FOR WATER MAINS.

260.02 MATERIALS.

MATERIALS REQUIRED FOR THIS WORK SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SECTIONS:
MATERIALS-GENERAL 715.01
FIRE HYDRANTS 715.11
RESTRAINED JOINTS.....715.16
WOOD BLOCKING.....715.17
ANCHORING PIPE.....715.27

260.03 INSTALLATION.

EXCAVATION, BACKFILLING, AND SURFACE RESTORATION REQUIRED FOR THE SETTING OF FIRE HYDRANTS SHALL BE PERFORMED AND PAID FOR IN ACCORDANCE WITH 251.03 AND 251.05. HYDRANTS SHALL BE HANDLED IN ACCORDANCE WITH 251.07.

EXCAVATION FOR HYDRANTS SHALL BE MADE TO A DEPTH OF SIX INCHES BELOW THE BOTTOM OF THE HYDRANT AND THE HYDRANT SET FIRMLY ON A SUITABLE STONE OR CONCRETE BLOCK NOT LESS THAN ONE-FOOT SQUARE. THE LOWER TWO AND ONE-HALF FEET OF THE EXCAVATION SHALL BE REFILLED WITH NUMBER FIFTY-SEVEN WASHED GRAVEL MEETING THE MATERIAL REQUIREMENTS FOR COARSE AGGREGATE SPECIFIED IN 703.02.

HYDRANTS SHALL BE SET ON THE END OF THE HYDRANT RUN PIPE, CAREFULLY TO GRADE AS DESIGNATED BY THE BURY LINE ON THE HYDRANT BARREL, PLUMB, AND SQUARE TO THE STREET LINE. HYDRANTS SHALL BE BLOCKED AGAINST THRUST AS SPECIFIED IN 251.10. THE HYDRANT DRAIN HOLES SHALL BE KEPT FREE OF ALL BLOCKING SO AS TO PROVIDE DRAINAGE DURING SHUTDOWN.

ALL JOINTS BETWEEN THE HYDRANT INLET BELL AND THE BRANCH OF THE HYDRANT TEE SHALL BE RESTRAINED IN ACCORDANCE WITH 254.04.

FOLLOWING THE SUCCESSFUL COMPLETION OF THE WATER MAIN PRESSURE TEST, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROTATING THE STEAMER NOZZLE PERPENDICULAR TO THE STREET FROM WHICH THE HYDRANT IS CONNECTED.

260.04 METHOD OF MEASUREMENT.

THE NUMBER OF FIRE HYDRANTS TO BE PAID FOR SHALL BE THE NUMBER OF HYDRANTS FURNISHED, INSTALLED AND ACCEPTED ON THE COMPLETED WATER MAIN.

260.05 BASIS OF PAYMENT.

PAYMENT FOR FIRE HYDRANTS WILL BE MADE AT THE CONTRACT PRICE FOR:

ODOT ITEM SPECIAL - FURNISHING AND SETTING " " INCH HYDRANT, COMPLETE (EACH)

THE ABOVE PRICE SHALL INCLUDE THE COST OF FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR FURNISHING AND INSTALLING THE HYDRANT AS HEREIN SPECIFIED, INCLUDING FURNISHING AND PLACING A STONE OR CONCRETE FOUNDATION BLOCK, A WOOD THRUST BLOCK IF REQUIRED, AND THE GRAVEL DRAIN FOR THE HYDRANT. THE PRICE SHALL ALSO INCLUDE THE COST OF OTHER RELATED WORK NECESSITATED BY THE INSTALLATION OF THE HYDRANT WHEN SUCH WORK IS NOT SPECIFICALLY ITEMIZED IN THE BID SCHEDULE, AS PROVIDED FOR IN 251.

ITEM 261 POLYETHYLENE ENCASEMENT

261.01 DESCRIPTION
261.02 METHOD OF MEASUREMENT
261.03 BASIS OF PAYMENT

261.01 DESCRIPTION.

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING POLYETHYLENE ENCASEMENT FOR ALL DUCTILE IRON, PRESTRESSED CONCRETE, OR STEEL PIPE, SPECIAL CASTINGS, VALVES, AND COUPLINGS AT ALL LOCATIONS SHOWN ON THE PLANS OR AS OTHERWISE DIRECTED BY THE ENGINEER. POLYETHYLENE ENCASEMENT SHALL BE INSTALLED ACCORDING TO AND MEET THE MATERIAL REQUIREMENTS OF 715.15.

261.02 METHOD OF MEASUREMENT.

INSTALLATION OF POLYETHYLENE ENCASEMENT WILL BE PAID FOR BY THE LINEAR FOOT.
MEASUREMENT FOR PAYMENT WILL BE ON THE ACTUAL NUMBER OF LINEAR FEET OF WATER MAIN, FITTINGS, VALVES, AND COUPLINGS THAT ARE ENCASED, FOR EACH SIZE OF WATER MAIN.

261.03 BASIS OF PAYMENT.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR:

ITEM	UNIT	DESCRIPTION
ODOT ITEM 638	FEET	POLYETHYLENE ENCASEMENT, "___" INCH PIPE

THE ABOVE PRICE SHALL INCLUDE THE COST OF FURNISHING ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK HEREIN SPECIFIED.

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WATER WORK - cont'd

ITEM 263 TYING INTO EXISTING MAINS

263.01 DESCRIPTION
263.02 LOCATION OF EXISTING MAIN
263.03 EXISTING MAIN SHUT OFF
263.04 EXCAVATION
263.05 CUTTING PIPES
263.06 METHOD OF MEASUREMENT
263.07 BASIS OF PAYMENT

263.01 DESCRIPTION

THIS WORK SHALL CONSIST OF CUTTING INTO EXISTING DUCTILE OR CAST IRON WATER MAINS FOR THE PURPOSE OF CONNECTING NEW WATER MAINS TO THE EXISTING WATER SYSTEM. THE WORK DOES NOT INCLUDE THE INSTALLATION OF THE PIPE AND SPECIAL CASTINGS REQUIRED TO CONSTRUCT THE BRANCH FOR CONNECTION TO THE NEW MAIN, WHICH SHALL BE PERFORMED IN ACCORDANCE WITH, AND PAID FOR UNDER, ITEM 254.

263.02 LOCATION OF EXISTING MAIN.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE ELEVATION AND ALIGNMENT OF THE WATER MAIN TO BE TIED INTO, AS SPECIFIED IN 251.24. THE CONTRACTOR WILL RECEIVE NO ADDITIONAL PAYMENT FOR RE-EXCAVATION OF THE NEW MAIN PREVIOUSLY INSTALLED IF ALIGNMENTS AND ELEVATIONS ARE NOT AS SHOWN ON THE PLANS.

263.03 EXISTING MAIN.

THE EXISTING MAIN TO BE CUT WILL BE SHUT OFF BY THE CITY AT A TIME ESTABLISHED BY THE CITY. THE CONTRACTOR WILL NOT BE COMPENSATED FOR DOWN TIME SHOULD THE SHUT DOWN TAKE LONGER THAN ANTICIPATED. THE CITY DOES NOT GUARANTEE THAT A WATER TIGHT SHUT DOWN WILL BE OBTAINED, AND THE CONTRACTOR MAY HAVE TO WORK WITH SOME WATER IN THE PIPE. THE CONTRACTOR SHALL PUMP ALL WATER OUT OF THE EXISTING MAIN, IF SO DIRECTED BY THE ENGINEER.

263.04 EXCAVATION.

EXCAVATION, BACKFILLING, AND SURFACE RESTORATION REQUIRED FOR EXPOSING THE EXISTING MAIN FOR THE TIE-IN SHALL BE PERFORMED AND PAID FOR IN ACCORDANCE WITH 251.03 AND 251.05.

263.05 CUTTING PIPES.

THE EXISTING MAIN SHALL BE CUT TO PERMIT THE INSTALLATION OF THE PIPE AND SPECIAL CASTINGS FOR THE BRANCH AS SHOWN ON THE PLANS. THE PIPE SHALL BE CUT SO AS TO LEAVE A SMOOTH END AT RIGHT ANGLES TO THE AXIS OF THE PIPE. THE CUT ENDS OF THE EXISTING MAIN SHALL BE CLEANED AND BEVELED AS DIRECTED BY THE ENGINEER BEFORE INSTALLATION OF THE PIPE AND SPECIAL CASTINGS.

263.06 METHOD OF MEASUREMENT.

THE QUANTITY OF TIE-INS TO BE PAID FOR SHALL BE THE NUMBER OF TIE-INS COMPLETED AND ACCEPTED ON AN EXISTING MAIN.

263.07 BASIS OF PAYMENT.

PAYMENT FOR TIE-INS WILL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE FOR:

ODOT ITEM SPECIAL - " " INCH WATERMAIN, DUCTILE IRON PIPE, ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL FITTINGS (FT)

THE UNIT PRICE SHALL INCLUDE THE COST OF FURNISHING ALL LABOR AND EQUIPMENT NECESSARY TO CUT AND CLEAN THE EXISTING MAIN FOR THE CONNECTION OF SPECIAL CASTINGS OR PIPE, INCLUDING PUMPING OF WATER OUT OF THE EXISTING MAIN WHEN REQUIRED, AS HEREIN SPECIFIED.

CALCULATED MDG
CHECKED CWL

GENERAL NOTES

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WATER WORK - cont'd

ITEM 266 TAPPING WATER MAINS AND INSTALLING SERVICES

266.01 DESCRIPTION
266.02 GENERAL
266.03 MATERIALS
266.04 OTHER WORK
266.05 INSTALLATION PROCEDURES
266.06 INSPECTION AND TESTING
266.07 METHOD OF MEASUREMENT
266.08 BASIS OF PAYMENT

266.01 DESCRIPTION.

WATER MAINS SHALL BE TAPPED AND SERVICE LINES INSTALLED OF THE SIZE AND AT THE LOCATION SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH THESE SPECIFICATIONS, MATERIALS, AND METHODS OR AS ESTABLISHED BY THE ENGINEER.

266.02 GENERAL

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT HE IS FULLY QUALIFIED IN THIS FIELD AND HAS SATISFACTORILY COMPLETED WORK OF THIS TYPE. IF THE ENGINEER DETERMINES THAT THE CONTRACTOR HAS NOT DEMONSTRATED THAT HE IS FULLY QUALIFIED IN THIS TYPE OF WORK, HE SHALL SUBLET THIS WORK TO THOSE WITH ABILITY AND EXPERIENCE ACCEPTABLE TO THE ENGINEER IN THIS TYPE OF WORK.

266.03 MATERIALS.

THE CONTRACTOR SHALL FURNISH ALL WATER SERVICE MATERIALS, INCLUDING PIPING, FITTINGS AND VALVES. CONTRACTOR SHALL USE PROPER AND SUITABLE TOOLS AND APPLIANCES FOR THE SAFE AND CONVENIENT HANDLING AND PIPELAYING.

MATERIALS TO BE USED IN THIS WORK SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SECTIONS.
POLYETHYLENE ENCASEMENT 715.15
BRASS SERVICE FITTINGS 715.13
COPPER TUBING.....715.23
CURB BOXES 715.24
TAPPING SADDLES.....715.25

266.04 OTHER WORK.

OTHER WORK TO BE FURNISHED IN CONJUNCTION WITH THE INSTALLATION OF WATER MAIN SERVICE TAPS SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SECTIONS.

ITEM 252 -TRENCHES FOR COPPER WATER SERVICES
ITEM 253 -BORING FOR WATER SERVICES

THE ENGINEER SHALL DETERMINE WHICH OF THE ABOVE METHODS OF WORK WILL BE USED TO INSTALL THE SERVICE.

266.05 INSTALLATION PROCEDURES.

TAPS FOR CORPORATION STOPS WILL BE INSTALLED IN PLACE ON ACTIVE OR INACTIVE POLYETHYLENE-ENCASED WATER MAINS. CORPORATION TAPS WILL BE INSTALLED AT EITHER A TEN O' CLOCK OR TWO O' CLOCK POSITION ON THE CIRCUMFERENCE OF THE PIPE, SCREWED DIRECTLY INTO A TAPPED AND THREADED HOLE IN THE MAIN. TAPS 1 INCH IN DIAMETER SHALL BE INSTALLED IN WATER MAINS WITHOUT ANY ADDITIONAL APPURTENANCES. TAPS 1 INCHES AND LARGER IN DIAMETER IN WATER MAINS LESS THAN 12 INCHES IN DIAMETER SHALL BE INSTALLED WITH A SADDLE.

THE CONTRACTOR SHALL BE PREPARED AND SHALL HAVE ON THE SITE ALL EQUIPMENT, MATERIALS, AND PERSONNEL NEEDED TO INSTALL THE TAP IN AN EXPEDITIOUS MANNER. AFTER THE SIZE AND LOCATION OF THE TAP ARE IDENTIFIED, THE SITE OVER THE MAIN SHALL BE EXCAVATED AND NECESSARY PROCEDURES FOLLOWED TO ENSURE SAFETY TO THE WORKERS AND TO NOT CAUSE AN INCONVENIENCE TO THE PUBLIC.

AFTER THE ENTIRE CIRCUMFERENCE OF THE PIPE HAS BEEN CAREFULLY EXPOSED, ITS EXTERIOR AND WRAPPING SHALL BE CLEANED OF SOIL, STANDING WATER, AND DEBRIS TO A MINIMUM OF SIX INCHES BELOW THE WATER MAIN. ALL TAPS SHALL BE MADE ON ACTIVE MAINS UNDER PRESSURE OR TAPS MADE FOR PIPE STERILIZATION USING A TAPPING MACHINE WHICH CLAMPS ONTO THE PIPE BARREL.

CORPORATION TAPS SHALL HAVE TAPERED AWWA THREADS ON THE INLET SIDE AND FLARED COPPER ON THE OUTLET SIDE. BITS SHALL BE CLEAN AND SHARP AND PROPERLY LUBRICATED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. THE TAPPING MACHINE SHALL BORE AND THREAD THE HOLE INTO THE MAIN BEFORE THE CLOSED CORPORATION STOP IS INSERTED TO A DEPTH WHERE ONE TO THREE THREADS ARE EXPOSED AND THE MACHINE REMOVED.

THE CORPORATION STOP SHALL BE INSTALLED BY TAPPING DIRECTLY THROUGH THE POLYETHYLENE ENCASEMENT AFTER APPLYING TWO OR THREE WRAPS OF POLYETHYLENE TAPE TO COVER THE AREA WHERE THE TAP IS TO BE MADE. AFTER THE TAP HAS BEEN COMPLETED, THE WORK WILL BE INSPECTED BY THE ENGINEER AND CUTS IN THE POLYETHYLENE AND ANY OTHER DAMAGE TO THE FILM SHALL BE REPAIRED WITH POLYETHYLENE ADHESIVE TAPE AS DESCRIBED IN THE LATEST REVISION OF AWWA SPECIFICATION C105.

AFTER THE TAP HAS BEEN MADE AND THE CORPORATION STOP INSTALLED, A LENGTH OF COPPER TUBING SHALL BE ATTACHED BETWEEN THE OUTLET AND THE CURB STOP AT THE LOCATION DETERMINED BY THE ENGINEER. THE COPPER TUBING SHALL BE GIVEN SHALLOW BENDS, IF NECESSARY, TO MAINTAIN ITS PROPER DEPTH AND SUPPORTED WITH PERMANENT WOODEN BLOCKING WITHIN TWO FEET OF THE CORPORATION STOP TO PREVENT ANY UNDUE STRESS LOADING ON THE TAP THREADS. ANOTHER LENGTH OF COPPER TUBING SHALL BE CONNECTED BETWEEN THE OUTLET OF THE CURB STOP TO THE PROPERTY LINE OR OTHER LOCATION DESIGNATED BY THE ENGINEER WHERE THE SERVICE LINE SHALL TERMINATE. A CURB BOX AND ROD SHALL BE INSTALLED OVER THE CURB STOP. (COPPER SERVICE LINES SHALL BE WRAPPED WITH POLYETHYLENE ENCASEMENT OR A SUITABLE DIELECTRIC TAPE FOR A MINIMUM CLEAR DISTANCE OF THREE (3) FEET AWAY FROM THE WATER MAIN.)

THE CONTRACTOR SHALL INSTALL AT THE END OF THE SERVICE LINE A FLARED COPPER TO COPPER UNION TO WHICH THE HOUSELINE SHALL BE ATTACHED. IF NO HOUSELINE EXISTS, A SHORT PIECE OF COPPER TUBING NO LESS THAN SIX INCHES LONG SHALL BE CONNECTED TO THE UNION AND THE END CRIMPED.

THE MINIMUM DEPTH OF THE SERVICE LINE AT ANY POINT SHALL BE NO LESS THAN 4 FEET AND SHALL MAINTAIN THE MINIMUM HORIZONTAL AND VERTICAL CLEARANCE DISTANCES FROM SEWERS AND OTHER UTILITIES AND STRUCTURES AS REQUIRED BY THE ENGINEER.

266.06 INSPECTING AND TESTING.

AFTER THE WORK HAS BEEN COMPLETED, THE TAP, SERVICE LINE AND FITTINGS WILL BE TESTED TO LINE PRESSURE AND INSPECTED FOR LEAKAGE BY THE ENGINEER. IF ANY LEAKS ARE PRESENT, THE CONTRACTOR SHALL REPLACE ANY OR ALL OF THE COMPONENTS OF THE TAP, SERVICE LINE, AND FITTINGS TO THE SATISFACTION OF THE ENGINEER TO STOP ANY LEAKAGE NOTED. AFTER THE SERVICE HAS BEEN TESTED, INSPECTED, AND APPROVED, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING INFORMATION REGARDING THE WORK TO THE ENGINEER:

NAME OF CONTRACTOR DATE AND TIME OF INSTALLATION LOT NUMBER AND ADDRESS FITTINGS USED PRIMARY AND SECONDARY LOCATIONS OF CURB OR METER BOX REFERENCED FROM PROPERTY LINE AND OTHER ABOVEGROUND WATER APPURTENANCES.
LENGTH OF SERVICE FROM TAP TO CURB BOX
SERVICE LINE MATERIAL USED
DEPTH OF SERVICE
TAP SIZE
MAIN SIZE
BOX NUMBER

266.07 METHOD OF MEASUREMENT.

AFTER THE WORK HAS BEEN INSPECTED AND APPROVED BY THE ENGINEER, THE DIAMETER OF THE SERVICE LINE AND THE LINEAR FEET OF SERVICE LINE INSTALLED FROM THE CORPORATION STOP TO THE COPPER-TO-COPPER UNION FITTING WILL BE MEASURED IN PLACE BY THE ENGINEER.

266.08 BASIS OF PAYMENT.

PAYMENT FOR THE ABOVE WORK SHALL INCLUDE THE COST OF FURNISHING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY FOR THE PROPER TAPPING AND INSTALLATION OF WATER SERVICE LINES AS SPECIFIED HEREIN.

ODOT ITEM 638 - WATER WORK, MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (FT.)

COMPENSATION FOR EXCAVATING TRENCHES, BORING, INSTALLING METER PITS, AND RESTORATION OF PAVEMENT AND OTHER AREAS WILL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS AS DESCRIBED IN OTHER WORK.

THE FOLLOWING NOTE SHALL SUPERCEDE THE ABOVE: ALL NEW TAPS WILL BE PERFORMED BY THE AKRON WATER DEPARTMENT. ALL NEW SERVICES WILL BE INSTALLED BY THE CONTRACTOR AND SHALL INCLUDE THE CURB STOP AND BOX COMPLETE.

ITEM 267 FIRE HYDRANT RELOCATION

267.01 DESCRIPTION
267.02 MATERIALS
267.03 CONTRACTOR QUALIFICATION
267.04 INSTALLATION
267.05 METHOD OF MEASUREMENT
267.06 BASIS FOR PAYMENT

267.01 DESCRIPTION.

THIS WORK SHALL CONSIST OF FURNISHING MATERIALS, AND REMOVING AND RELOCATING EXISTING FIRE HYDRANTS AND FIRE HYDRANT RUNS WHICH CONFLICT WITH OTHER PLANNED WORK.

267.02 MATERIALS.

MATERIALS REQUIRED FOR THIS WORK SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SECTIONS:
MATERIALS - GENERAL 715.01
DUCTILE IRON PIPE 715.02
COUPLINGS 715.09
FIRE HYDRANTS 715.11
RESTRAINED JOINTS 715.16
WOOD BLOCKING 715.17
GASKET LUBRICANT 715.18
STERILIZING POWDER 715.19
ANCHORING PIPE 715.27

267.03 CONTRACTOR QUALIFICATION.

FIRE HYDRANTS AND HYDRANT RUN RELOCATIONS MAY BE SCHEDULED TO BE PERFORMED BY THE AKRON PUBLIC UTILITIES BUREAU FORCES OR, IF CONDITIONS PREDICATE, BY A QUALIFIED CONTRACTOR. A CONTRACTOR WILL BE DEEMED QUALIFIED AFTER SHOWING COMPETENCE AND PREVIOUS EXPERIENCE OF PERFORMING SIMILAR WATER MAIN WORK. THE CHOICE OF INSTALLER WILL BE AT THE DISCRETION OF THE AKRON PUBLIC UTILITIES BUREAU.

267.04 INSTALLATION.

INSTALLATION SHALL BE PERFORMED AND PAID FOR IN ACCORDANCE WITH ITEMS 251.03, 251.05, 254, AND 260.

267.05 METHOD OF MEASUREMENT.

THE LENGTH OF HYDRANT RUN TO BE PAID FOR SHALL BE THE LENGTH OF PIPE IN PLACE AND ACCEPTED, MEASURED ALONG THE AXIS OF THE PIPE; AND THE NUMBER OF HYDRANTS TO BE PAID FOR SHALL BE THE NUMBER OF HYDRANTS FURNISHED, INSTALLED, AND ACCEPTED.

267.06 BASIS OF PAYMENT.

PAYMENT FOR FIRE HYDRANTS AND HYDRANT RUNS WILL BE MADE AT THE CONTRACT PRICE FOR:

ODOT ITEM SPECIAL - "_" INCH WATER MAIN, DUCTILE IRON PIPE, ANSI CLASS 53, PUSH ON JOINTS AND MECHANICAL JOINT FITTINGS (FT.) AND ODOT ITEM 638 - WATER WORK, MISC.: FIRE HYDRANT REMOVED AND RESET (EACH)

THE ABOVE PRICES SHALL INCLUDE THE COST OF FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS, AND THE REMOVAL OF SCRAP MATERIALS FOR THE EXCAVATION, RESTORATION, AND INSTALLATION OF FIRE HYDRANTS AND HYDRANT RUNS AS SPECIFIED HEREIN.

IN ADDITION TO THE ABOVE, ALL HYDRANTS DESIGNATED TO BE REMOVED AND RESET SHALL BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE WATER DISTRIBUTION FACILITY AT 565 JOHNSTON STREET BY THE CONTRACTOR. THE CITY SHALL PROVIDE THE CONTRACTOR WITH A NEW OR REFURBISHED HYDRANT AT NO EXPENSE TO THE CONTRACTOR. THE CONTRACTOR SHALL PICK-UP HYDRANTS AT THE WATER DISTRIBUTION FACILITY ON JOHNSTON STREET. THE CONTRACTOR SHALL SET THE HYDRANT AT THE LOCATION SHOWN ON THE PLANS AND FURNISH ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR THE PROPER COMPLETIONOF THE WORK INCLUDED UNDER THIS CONTRACT. NO EXISTING HYDRANT SHALL BE RESET.

WATER SERVICE TAPS

THE CONTRACTOR SHALL NOTIFY THE CITY OF AKRON WATER DEPARTMENT TWO (2) WORKING DAYS PRIOR TO THE PLANNED INSTALLATION OF WATER SERVICE LATERALS. THE CITY OF AKRON SHALL PROVIDE A WATER DEPARTMENT CREW TO PERFORM THE WATER SERVICE TAPS ON THE SCHEDULED DAY. IF THE CITY OF AKRON CREW FAILS TO PERFORM THE REQUESTED WORK AS SCHEDULED, THE IMPENDING DELAY SHALL BE THE SOLE RESPONSIBILITY OF THE CITY OF AKRON.

WATER SERVICE LATERAL RELOCATIONS

THE CONTRACTOR SHALL NOTIFY THE CITY OF AKRON WATER DEPARTMENT TWO (2) WORKING DAYS PRIOR TO ANY WORK THAT MAY CONFLICT WITH WATER SERVICE LATERALS, INCLUDING BUT NOT LIMITED TO STORM SEWER CONSTRUCTION. THE CITY OF AKRON SHALL PROVIDE AN INSPECTOR AND RELOCATION CREW ON SITE DURING THE REQUESTED TIMES TO MONITOR AND PERFORM ANY WATER SERVICE LATERAL RELOCATIONS THAT MAY BECOME NECESSARY. IF THE INSPECTOR AND/OR RELOCATION CREW FAILS TO PERFORM THE WORK DURING THE REQUESTED TIMES, THE IMPENDING DELAY SHALL BE THE SOLE RESPONSIBILITY OF THE CITY OF AKRON.

WATER MAIN ABANDONED

ALL PROVISIONS OF THE CITY AKRON SPEC., ITEM 251, SHALL APPLY WHERE WATER LINES ARE DESIGNATED TO BE ABANDONED IN THE PLANS.

FIRE HYDRANT ACCESS / SERVICE

THE EXISTING AKRON WATER SYSTEM IS A FULLY LOOPED SYSTEM. LIMITED SHUT DOWN OF THE WATER MAINS TO PERFORM WATER WORK WILL ONLY AFFECT LOCAL CONSUMERS. THE CONTRACTOR SHALL MINIMIZE DISRUPTIONS OF ACCESS/SERVICE TO EXISTING FIRE HYDRANTS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR TO COORDINATE ALL WATER SERVICE DISRUPTIONS WITH THE CITY OF AKRON WATER DEPARTMENT A MINIMUM OF TWO (2) WORKING DAYS IN ADVANCE.

CAUTION

THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN EXCAVATING IN THE AREA OF EXISTING WATER MAIN PIPES, VALVES, HYDRANTS AND THRUST BLOCKS. ANY EXISTING WATER APPURTENANCES THAT ARE DAMAGED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND AT NO COST TO THE CITY OF AKRON PUBLIC UTILITIES BUREAU OR STATE.

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SANITARY SEWERS

ALL SEWER WORK ITEMS AND CONSTRUCTION SHALL CONFORM TO ODOT ITEM 611 AND THE CITY OF AKRON (COA) CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), ITEMS CONTAINED WITHIN SECTION 550, PIPE CULVERTS, SEWERS AND DRAINS (AND ALL APPLICABLE SUB-SECTIONS). WHERE THERE IS CONTRADICTION, THE COA SPEC. WILL TAKE PRECEDENCE. THE CONTRACTOR SHALL HAVE A COPY OF THE CURRENT EDITION OF THE CITY OF AKRON CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) ON SITE FOR REFERENCE AT ALL TIMES DURING CONSTRUCTION. IF THE CONTRACTOR DOES NOT HAVE A COPY OF THE CURRENT EDITION OF THE CITY OF AKRON CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), THE CONTRACTOR SHALL PURCHASE A COPY OF THE CITY OF AKRON CMS. THE PURCHASE OF THE CITY OF AKRON CMS SHALL BE CONSIDERED INCIDENTAL AND BE INCLUDED IN THE CONTRACT PRICE FOR ODOT ITEM 611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING (L.F.). SECTIONS OF THE COA SPEC. HAVE BEEN INCLUDED IN THE GENERAL NOTES WITH THE FOLLOWING MODIFICATIONS:

BASIS OF PAYMENT FOR ITEM 557 - SANITARY SEWERS WILL BE ODOT ITEM
1. 611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING (FT.).
   611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER, 706.08, CLASS "B" BEDDING (FT.).

2. BASIS OF PAYMENT FOR ITEM 560 - LATERALS AND STACKS WILL BE ODOT: ITEM 611 - CONDUIT, MISC.: 6 INCH SHORT HOUSE LATERAL, 707.20 (EACH).

3. ITEM 561 SPECIAL FITTINGS WHICH INCLUDES Y-BRANCHES,T-BRANCHES, STUBS, SLANTS, BENDS, FLAP GATES, FRAMES AND COVERS, SPECIAL ADAPTERS OR COUPLERS AND ALL ITEMS NOT SPECIFICALLY CALLED OUT IN THE PLANS WILL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE CONTRACT PRICES FOR ODOT ITEM 611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER,707.20, CLASS "NR" BEDDING (FT.) AND ODOT ITEM 611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER, CLASS "A" BEDDING (FT.).

ITEM 611 - MANHOLE, NO. 3, AS PER PLAN (SANITARY)
ITEM 611 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN (SANITARY)
ITEM 611 - MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN (SANITARY)

ALL SANITARY SEWER MANHOLE CONSTRUCTION, ADJUSTMENT AND RECONSTRUCTION SHALL CONFORM TO ODOT ITEM 611, ODOT STANDARD CONSTRUCTION DRAWINGS MH-1.2 AND MH-3.1 (DROP PIPE DETAILS), AND THE CITY OF AKRON (COA) CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), ITEMS CONTAINED WITHIN SECTION 562 MANHOLES (AND ALL APPLICABLE SUB-SECTIONS). WHERE THERE IS A CONTRADICTION, THE COA SPECIFICATIONS WILL TAKE PRECENDENCE.

SECTIONS OF THE COA SPECIFICATION HAVE BEEN INCLUDED IN THE GENERAL NOTES WITH THE FOLLOWING MODIFICATIONS:

1. BY THIS NOTE, ALL SANITARY OR COMBINED SEWER MANHOLES SHALL BE EPOXY COATED.
2. BASIS PAYMENT FOR NEW MANHOLES WILL BE ODOT ITEM 611 - MANHOLE, NO. 3, AS PER PLAN (SANITARY) (EACH)
3. BASIS PAYMENT FOR MANHOLES ADJUSTED TO GRADE WILL BE ODOT ITEM 611 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN (SANITARY) (EACH)
4. BASIS PAYMENT FOR MANHOLES RECONSTRUCTED TO GRADE WILL BE ODOT ITEM 611 - MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN (SANITARY) (EACH)

ITEM 611 - CONDUIT, MISC: 8 INCH SANITARY SEWER, 706.08, CLASS "B" BEDDING
ITEM 611 - CONDUIT, MISC: 8 INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING
ITEM 611 - CONDUIT, MISC: 12 INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING

ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) ITEM 611 AND THE CITY OF AKRON (COA) CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), ITEMS CONTAINED WITHIN SECTION 557 SANITARY SEWERS (AND ALL APPLICABLE SUB-SECTIONS) WITH THE FOLLOWING ADDITION; ALL BEDDING AND BACKFILL SHALL BE #6, #67 OR #68 CRUSHED AGGREGATE AND SHALL MEET ASTM C 12 FOR RIGID PIPE AND ASTM D 2321 FOR NON-RIGID PIPE. WHERE THERE IS A CONTRADICTION, THE COA SPECIFICATIONS WILL TAKE PRECENDENCE.

ROCK EXCAVATION FOR SANITARY SEWER

SOIL BORINGS INDICATE THE PRESENCE OF ROCK, SEE SOIL SHEETS FOR MORE INFORMATION. ROCK EXCAVATION FOR ALL SANITARY SEWER ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR THE PERTINENT 611 ITEM

LOCATION OF PROPOSED SANITARY LATERALS

THE LOCATION OF PROPOSED SANITARY LATERALS SHALL BE FIELD ADJUSTED TO MATCH THE ACTUAL LOCATION OF EXISTING WYE BRANCHES. EXISTING WYE BRANCHES SHOWN IN THE PLANS ARE FROM UNDERGROUND RECORDS AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTING THE LATERAL CROSSING. COST OF THIS WORK IS INCLUDED IN THE RESPECTIVE SEWER PIPE ITEM.

UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS

FURNISH A CONTINUANCE FOR ALL UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS SUCH AS SANITARY, WASTEWATER, CURTAIN/ GRADIENT DRAINS, AND FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. FURNISH AN UNOBSTRUCTED CONTINUANCE OF THE UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS TO THE SATISFACTION OF THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT. ALL SANITARY AND SANITARY WASTEWATER CONTINUANCE MAY ALSO REQUIRE A NPDES PERMIT FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY. REPORT ALL CONTINUANCE TO THE LOCAL HEALTH DEPARTMENT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.42, 707.43, 707.44, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35, 706.01, 706.02, OR 706.08 WITH JOINTS AS PER 706.11 OR 706.12.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, 6" CONDUIT, TYPE B, FOR SANITARY 200 FT.

611, 6" CONDUIT, TYPE C, FOR SANITARY 200 FT.

550 - PIPE CULVERT, SEWERS, AND DRAINS
ITEM 551 - GENERAL

551.01 DESCRIPTION
551.02 MATERIALS
551.03 EXCAVATION
551.04 PROTECTION OF EXCAVATION
551.05(A) BEDDING FOR RIGID PIPE
551.05(B) BEDDING FOR NON-RIGID PIPE
551.06 STORING AND LAYING PIPE
551.07 JOINING PIPE
551.08 SHOP STRUTTING
551.09 BACKFILLING
551.10 RESTORATION OF STREETS AND CLEANING UP
551.11 RECONSTRUCTED PIPE
551.12 LOW PRESSURE AIR TEST, DEFLECTION TEST, AND T.V. INSPECTION
551.13 METHOD OF MEASUREMENT

551.01 DESCRIPTION

THIS WORK SHALL CONSIST OF THE CONSTRUCTION OR RECONSTRUCTION OF PIPE CULVERTS, SEWERS AND DRAINS (REFERRED TO BELOW AS TYPE A, TYPE B, TYPE C, AND TYPE D PIPE), COMPLETE IN PLACE AS SPECIFIED, USING PIPE OF SIZES AND TYPES CALLED FOR BY THE PLANS, PROPOSAL, OR THESE SPECIFICATIONS, AND IN CONFORMITY WITH LINES AND GRADES SHOWN ON THE PLANS AND PROFILES, OR AS ESTABLISHED BY THE ENGINEER. THIS WORK SHALL INCLUDE ALL EXCAVATING AND THE REMOVAL OF ALL MATERIALS NECESSARY FOR PLACING THE PIPE, MANHOLES, INLETS AND OTHER APPURTENANCES; MAINTAINING FLOW IN EXISTING CULVERTS, SEWERS OR DRAINS; FURNISHING, MIXING, PLACING OR REMOVING MATERIALS, INCLUDING LINING MATERIALS; FURNISHING AND PLACING BEDDING AND BACKFILLING MATERIALS AS SPECIFIED; FURNISHING, SETTING AND REMOVING OF FORMS; POINTING OR PLASTERING OF SURFACES; JOINING TO EXISTING AND PROPOSED APPURTENANCES AS REQUIRED; PERFORMING LOW PRESSURE AIR TEST AND DEFLECTION TEST AS SPECIFIED; PROTECTING EXISTING UTILITIES, STRUCTURES OR OTHER IMPROVEMENTS IN THE VICINITY OF THE PROPOSED PIPE CULVERTS, SEWERS AND DRAINS; AND CLEANING UP AND RESTORING DISTURBED FACILITIES AND STREETS AND OTHER SURFACES.

551.02 MATERIALS

PIPE SHALL BE OF THE SIZE AND KIND SPECIFIED IN THE PROPOSAL AND MEET THE REQUIREMENTS OF PERTINENT SECTIONS OF 706 AND 707. WHEN THE KIND OF PIPE IS NOT SPECIFICALLY ITEMIZED, ANY OF THE KINDS LISTED HEREIN UNDER THE SPECIFIED PIPE TYPE MAY BE USED. HIGHER STRENGTH CONCRETE OR PLASTIC PIPE OF THE SAME TYPE MAY BE FURNISHED WHERE LOWER STRENGTH PIPE IS SPECIFIED. A THICKER METAL PIPE OF THE SAME CORRUGATION PROFILE AND TYPE MAY BE FURNISHED WHERE A LESSER THICKNESS IS PERMITTED OR SPECIFIED.

OTHER MATERIALS SHALL BE AS FOLLOWS:

CONCRETE	499 AND 511
REINFORCING STEEL	509.02
SPECIAL FITTINGS	561
BRICK MASONRY	602
SLAG AND LIMESTONE BEDDING	703.02
CRUSHED GRAVEL FOR BEDDING	703.04
MATERIAL FOR BACKFILL	604.02
CEMENT FOR MORTAR	701.07
SAND FOR MORTAR	703.03

UNLESS OTHERWISE SPECIFIED, ALL REINFORCED CONCRETE CIRCULAR PIPE SHALL COMPLY WITH THE REQUIREMENTS OF 706.02 AND 706.11 AND SHALL COMPLY WITH THE STANDARD SPECIFICATIONS OF ASTM C76 CLASS IV, WALL B OR WALL C, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED USING TYPE II CEMENT. ONLY VITRIFIED CLAY PIPE AND REINFORCED CONCRETE PIPE SHALL BE CONSIDERED AS RIGID PIPE MATERIALS. ALL OTHER PIPE MATERIALS LISTED HEREIN SHALL BE CONSIDERED NON-RIGID PIPE MATERIALS.

TYPE A PIPE - STORM SEWERS UNDER PAVEMENT

VITRIFIED CLAY PIPE	706.08 WITH 706.12
REINFORCED CONCRETE PIPE, CLASS IV	706.02 WITH 706.11
REINFORCED CONCRETE ELLIPTICAL PIPE	706.04 WITH 706.15
CORRUGATED POLYETHYLENE WATERTIGHT SMOOTH LINED PIPE	707.23
GLASS FIBER REINFORCED PIPE	707.25

TYPE B PIPE - STORM SEWERS NOT UNDER PAVEMENT

VITRIFIED CLAY PIPE	706.08 WITH 706.12
REINFORCED CONCRETE PIPE, CLASS IV	706.02 WITH 706.11
REINFORCED CONCRETE ELLIPTICAL PIPE	706.04 WITH 706.15
PVC COMPOSITE SEWER PIPE	707.18
PVC GRAVITY SEWER PIPE	707.20
CORRUGATED POLYETHYLENE WATERTIGHT SMOOTH LINED PIPE	707.23
PVC SMOOTH INTERIOR PIPE	707.24
GLASS FIBER REINFORCED PIPE	707.25

TYPE C PIPE - SANITARY / COMBINED SEWERS

VITRIFIED CLAY PIPE	706.08 WITH 706.12
REINFORCED CONCRETE PIPE, CLASS IV (30" DIAMETER AND OVER)	706.03 WITH 706.11
REINFORCED CONCRETE ELLIPTICAL PIPE	706.04 WITH 706.15
PVC COMPOSITE PIPE	707.18
PVC GRAVITY SEWER PIPE	707.20
GLASS FIBER REINFORCED PIPE	707.25

TYPE D PIPE - STEEP SLOPES / SPECIAL CONDITIONS

HIGH DENSITY POLYETHYLENE PIPE (HDPE), SOLID WALL	707.26

CALCULATED MDG CHECKED CWL

GENERAL NOTES

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SANITARY SEWERS - cont'd

551.03 EXCAVATION

EXCAVATION SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL MATERIAL, INCLUDING CONCRETE, MASONRY AND ROCK WHICH MAY BE REMOVED WITH COMMONLY USED EXCAVATION EQUIPMENT NECESSARY FOR THE CONSTRUCTION AND COMPLETION OF WORK UNDER THIS ITEM. EXCAVATION OPERATIONS SHALL BE CONDUCTED FROM THE SURFACE, EXCEPT WHERE TUNNELING IS REQUIRED ON THE PLANS OR PERMITTED BY THE ENGINEER. TUNNEL OPENINGS SHALL BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER. EXCEPT IN ROCK, WATER-BEARING EARTH, OR WHERE A GRANULAR OR CONCRETE BASE IS TO BE USED, MECHANICAL EXCAVATION OF TRENCHES SHALL BE STOPPED ABOVE THE FINAL INVERT ELEVATION SO THAT THE PIPE MAY BE LAID ON UNDISTURBED SOIL. IF OVERDIGGING OCCURS, ALL LOOSENED EARTH SHALL BE REMOVED AND THE TRENCH BOTTOM BROUGHT BACK TO GRADE, AT THE CONTRACTOR'S EXPENSE, WITH GRANULAR MATERIAL WHICH MAY BE FORTIFIED WITH CEMENT, IF SO DIRECTED BY THE ENGINEER. WIDTH OF TRENCHES, EXCEPT FOR PIPE UNDERDRAINS, IN WHICH PIPE IS TO BE INSTALLED SHALL BE SUCH AS TO PROVIDE ADEQUATE SPACE FOR WORKMEN TO PLACE AND JOINT THE PIPE PROPERLY, BUT IN EVERY CASE THE TRENCH SHALL BE KEPT TO A MINIMUM WIDTH. FOR ALL RIGID PIPE INSTALLATIONS, THE WIDTH OF THE TRENCH AT THE TOP OF THE PIPE SHALL NOT EXCEED THE OUTSIDE PIPE DIAMETER, INCLUDING BELLS, PLUS THE CLEAR WIDTH ON EACH SIDE OF THE PIPE AS LISTED IN THE FOLLOWING TABLE:

PIPE SIZE	MAXIMUM CLEAR WIDTH
6 INCH TO 24 INCH	12 INCHES
27 INCH TO 54 INCH	15 INCHES
60 INCH AND OVER	24 INCHES

FOR ALL NON-RIGID PIPE INSTALLATIONS, THE MINIMUM TRENCH WIDTH SHALL BE PER THE PIPE MANUFACTURER'S RECOMMENDATIONS, BUT AT NO TIME SHALL THE WIDTH BE LESS THAN THAT SPECIFIED IN ASTM D2321.

THE LENGTH OF TRENCH OR TUNNEL OPEN AT ANY ONE TIME SHALL CONFORM TO THE LIMITS APPROVED BY THE ENGINEER. IN GENERAL, NOT MORE THAN 100 FEET OF TRENCH SHALL BE OPENED IN ADVANCE OF THE COMPLETED WORK.

EXCAVATION SHALL BE OF SUFFICIENT DEPTH AND WIDTH TO PERMIT THE INSTALLATION OF THE WORK TO THE LINES, GRADES, AND DIMENSIONS CALLED FOR BY THE PLANS, AND FOR ALL SHEETING, PUMPING, AND DRAINING. IN GENERAL, THE SIDES OF THE TRENCH OR OTHER EXCAVATION SHALL BE VERTICAL AND THE WALLS PROPERLY SUPPORTED WITH SHEETING, BRACING OR OTHER APPROVED METHOD WHERE NECESSARY FOR THE PROTECTION OF WORKMEN, ADJACENT PROPERTY, STRUCTURES, UTILITIES OR EXISTING IMPROVEMENTS. THE WIDTH AT THE TOP OF THE EXCAVATION SHALL BE THE MINIMUM WIDTH THAT WILL PERMIT THE PROPER CONSTRUCTION OF THE SEWER OR OTHER STRUCTURES, OR THE PLACING OF SHEETING. SHOULD TWO SETS OF WOOD SHEETING BE USED, THE TOP WIDTH SHALL EXCEED THE BOTTOM WIDTH ONLY BY THE THICKNESS OF THE NECESSARY RANGERS AND PLANKING PLUS ONE INCH ON EACH SIDE FOR ADDITIONAL CLEARANCE OF LOWER SHEETING PAST UPPER RANGERS.

TRENCHES IN ROCK SHALL BE EXCAVATED TO A DEPTH NOT LESS THAN 6 INCHES BELOW THE BOTTOM OF THE PIPE BY ANY ACCEPTABLE METHOD, INCLUDING USE OF EXPLOSIVES, WITH THE APPROVAL OF THE ENGINEER. WHERE BLASTING IS PERMITTED, IT SHALL BE DONE BY PERSONS EXPERIENCED IN SUCH WORK AND IN ACCORDANCE WITH 107.09. ALL BLASTS SHALL BE WELL COVERED, AND PROVISIONS MADE TO PROTECT PIPES, CONDUITS, SEWERS, STRUCTURES, PERSONS, AND ANY PROPERTY ADJACENT TO THE SITE OF THE WORK. NO BLASTING SHALL BE PERMITTED WITHIN TWENTY-FIVE FEET OF THE COMPLETED PIPE CULVERT, SEWER OR DRAIN.

THE CONTRACTOR SHALL PROVIDE PROPER AND SATISFACTORY MEANS AND DEVICES FOR THE REMOVAL OF ALL GROUNDWATER ENTERING THE TRENCH EXCAVATION AND REMOVE SUCH GROUNDWATER AS FAST AS IT MAY COLLECT IN SUCH MATTER AS TO NOT INTERFERE WITH THE PROSECUTION OF THE WORK. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK. THE GROUNDWATER LEVEL MUST BE LOWERED ENOUGH TO ALLOW A WORKABLE TRENCH. DEWATERING SHALL BE CONTINUED UNTIL BACKFILLING IS COMPLETED IN ANY MANHOLE-TO-MANHOLE SPAN. COST OF DEWATERING SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM REQUIRING THE DEWATERING.

SHOULD THE CONTRACTOR EXCAVATE OUTSIDE THE LIMITS AS SPECIFIED, OR SHOULD HE CARRY THE EXCAVATION BELOW OR BEYOND THE LINES AND GRADES GIVEN BY THE ENGINEER, OR WHEREVER MATERIAL IS LOOSENED SUFFICIENTLY, IN THE OPINION OF THE ENGINEER, TO ENDANGER THE BEARING OR FOUNDATION OF THE SEWER OR OTHER STRUCTURE TO BE BUILT, THE CONTRACTOR SHALL AT HIS OWN EXPENSE REMOVE ALL SUCH LOOSENED MATERIAL AND REFILL ALL SUCH EXCAVATED SPACE WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER.

WHERE THE SOILS ENCOUNTERED ARE NOT SUITABLE FOR FOUNDATION, THE EXCAVATION SHALL BE CARRIED TO SUCH ADDITIONAL DEPTHS OR WIDTHS AS DIRECTED BY THE ENGINEER.

PAYMENT FOR EXCAVATION SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM REQUIRING THE EXCAVATION. PAYMENT FOR ADDITIONAL EXCAVATION, REQUIRED BY THE ENGINEER BECAUSE OF UNSUITABLE MATERIAL ENCOUNTERED AT THE ELEVATION OF THE PIPE OR APPURTENANCE, SHALL BE INCLUDED IN THE UNIT PRICE SUBMITTED FOR THE MATERIAL USED TO REFILL THE AREA OF UNSUITABLE MATERIAL. IF THERE IS NO ITEM IN THE CONTRACT, PAYMENT SHALL BE AS PROVIDED FOR IN 104.03.
WHERE THE PIPE CULVERTS, SEWERS, OR DRAINS ARE BUILT UPON THE SURFACE OF THE GROUND, THE SURFACE SHALL BE GRUBBED AND CLEARED OF ALL STUMPS, GRASS, MUCK, OR OTHER VEGETABLE MATTER. IF 201 CLEARING AND GRUBBING IS NOT INCLUDED IN THE CONTRACT, THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM REQUIRING THE WORK. PIPE CULVERTS, SEWERS, OR DRAINS SHALL NOT BE CONSTRUCTED ON FROZEN GROUND.

UNLESS OTHERWISE INDICATED IN THE CONTRACT OR PERMITTED BY THE ENGINEER, THE CONTRACTOR WILL NOT BE PERMITTED TO STORE EXCAVATED MATERIALS ALONG THE LINE OF THE WORK.

551.04 PROTECTION OF EXCAVATION

WHEN EXCAVATING, THE CONTRACTOR SHALL PROVIDE, PLACE, AND ADEQUATELY MAINTAIN SHEETING, BRACING, CRIBBING OR OTHER TRENCH SUPPORT FOR THE SAFETY OF WORKMEN OR THE ADEQUATE PROTECTION OF ADJACENT PROPERTY, STRUCTURES, UTILITIES OR EXISTING IMPROVEMENTS.

THE ENGINEER MAY ORDER THE CONTRACTOR TO PREPARE AND SUBMIT A TRENCH PROTECTION PLAN. THE REQUIRED PLAN MUST IDENTIFY HOW THE CONTRACTOR WILL COMPLY WITH SPECIFIC PLAN NOTES REQUIRING TRENCH PROTECTION AS WELL AS IDENTIFY METHODS TO BE USED THROUGHOUT THE WORK.

NO EXCAVATION WORK WILL BE PERMITTED WITHIN THE LIMITS OF THE WORK IDENTIFIED IN THE ENGINEER'S REQUEST FOR A PLAN UNTIL THAT PLAN IS APPROVED IN WRITING BY THE ENGINEER. ANY DEVIATION FROM THE APPROVED PLAN MUST ALSO BE APPROVED BY THE ENGINEER.

APPROVAL OF A PLAN, FAILURE TO REQUEST A PLAN, OR FAILURE TO REQUEST ADDITIONAL TRENCH PROTECTION BY THE ENGINEER SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM FULL RESPONSIBILITY FOR DAMAGES OR INJURIES RESULTING FROM WEAK OR INSUFFICIENT TRENCH PROTECTION OR A LACK OF TRENCH PROTECTION.

WHEN WOOD SHEETING IS USED AND DRIVEN BELOW THE INVERT OF A PIPE CULVERT, SEWER, OR DRAIN, IT MUST BE CUT OFF AND THE PORTION BELOW THE PIPE NOT DISTURBED. ANY SHEET PILING OR WOOD SHEETING LEFT IN PLACE SHALL BE SET OR CUT-OFF A MINIMUM OF TWO FEET BELOW THE FINISHED GRADE OR BOTTOM OF PAVEMENT UNLESS OTHERWISE NOTED ON THE PLANS.

THE COST OF SHEETING, BRACING, CRIBBING, OR OTHER TRENCH PROTECTION SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEMS REQUIRING THE PROTECTION UNLESS EXPRESSLY NOTED IN THE PROPOSAL AND/OR THE PLANS. WHERE SHEETING, BRACING OR CRIBBING IS A SEPARATE PAY ITEM, THE WORK SHALL BE PAID FOR AS 503 COFFERDAMS, CRIBS AND SHEETING OR AS 504 TEMPORARY SHEET PILING.

551.05 (A) BEDDING FOR RIGID PIPE

CLASS "A" BEDDING SHALL CONSIST OF A CONTINUOUS CONCRETE ENCASEMENT OR CONCRETE CRADLE CONFORMING TO THE DIMENSIONS GIVEN HEREIN UNLESS OTHERWISE CALLED FOR ON THE PLANS. TRENCHES IN WHICH CONTINUOUS MONOLITHIC AND INTEGRAL CONCRETE CRADLES OR ENCASEMENTS ARE TO BE PLACED MAY BE EXCAVATED COMPLETELY WITH MECHANICAL EQUIPMENT. PRIOR TO FORMATION OF THE CRADLE OR ENCASEMENT, TEMPORARY SUPPORTS CONSISTING OF TIMBER WEDGES OR PIECES OF BRICK SHALL BE USED TO SUPPORT THE PIPE IN PLACE. TEMPORARY SUPPORTS SHALL HAVE MINIMUM DIMENSIONS AND SHALL SUPPORT THE PIPE AT NOT MORE THAN TWO LOCATIONS, ONE ADJACENT TO THE SHOULDER OF THE SOCKET AND THE OTHER NEAR THE SPIGOT END. AFTER JOINTING OF THE PIPE HAS BEEN COMPLETED, CONCRETE FOR CRADLE OR ENCASEMENT SHALL BE UNIFORMLY PLACED BENEATH AND ON BOTH SIDES OF THE PIPE.

CONCRETE CRADLES SHALL HAVE VERTICAL SIDES AND THE BOTTOM SHALL BE A PLANE SURFACE PARALLEL TO THE INVERT OF THE PIPE. STANDARD CRADLES SHALL ENCASE THE PIPE TO THE LEVEL OF THE HORIZONTAL CENTERLINE OF THE PIPE, AND SHALL EXTEND A MINIMUM OF SIX (6) INCHES TO EACH SIDE OF THE PIPE, AND SIX (6) INCHES BELOW THE OUTSIDE OF THE PIPE.

CONCRETE FOR CRADLES SHALL BE CLASS "C". FULL ENCASEMENT SHALL COMPLETELY ENVELOP THE PIPE. THE MINIMUM THICKNESS OF CONCRETE FOR FULL ENCASEMENT SHALL BE (SIX) 6 INCHES, MEASURED FROM THE OUTSIDE WALL OF THE PIPE. CONCRETE FOR FULL ENCASEMENT SHALL BE CLASS "F".

EXTREME CARE SHALL BE EXERCISED IN THE PLACING OF CONCRETE ENCASEMENT TO PREVENT THE DISPLACEMENT OF THE PIPE FROM PROPOSED LINE OR GRADE.

CLASS "B" BEDDING SHALL CONSIST OF CRUSHED LIMESTONE, CRUSHED AIR COOLED BLAST FURNACE SLAG OR CRUSHED GRAVEL. THE AGGREGATE SIZE SHALL BE NO. 5, NO. 6, NO. 56, OR NO. 57 AS DEFINED BY AASHTO M43, UNLESS OTHERWISE APPROVED BY THE ENGINEER. BEDDING MATERIALS SHALL BE PLACED IN THE TRENCH BOTTOM TO A DEPTH OF NOT LESS THAN 6" BELOW THE PIPE BOTTOM. THE LAYER OF BEDDING MATERIAL SHALL BE SHAPED TO RECEIVE THE PIPE FOR A DEPTH APPROXIMATELY 10 PERCENT OF THE DIAMETER OR RISE OF THE PIPE AND SHALL HAVE RECESSES SHAPED TO RECEIVE THE BELL OF BELL AND SPIGOT PIPE.

AFTER THE PIPE IS PLACED AND LINE AND GRADE VERIFIED, THE BEDDING MATERIAL SHALL BE EXTENDED UP AROUND THE SIDES OF THE PIPE TO THE HORIZONTAL CENTER LINE. THE MATERIAL SHALL BE PLACED UNDER THE PIPE HAUNCH, TAKING CARE TO NOT DISTURB THE LINE AND GRADE OF THE PIPE AND TO INSURE SUFFICIENT MATERIAL HAS BEEN PLACED AND COMPACTED ALONG THE SIDES OF THE PIPE TO PROVIDE ADEQUATE SIDE SUPPORT. GRANULAR BEDDING MATERIAL SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM LABORATORY DRY WEIGHT AS DETERMINED BY AASHTO T99.

FLOODING OR PUDDLING SHALL NOT BE USED TO COMPACT EMBEDMENT MATERIALS FOR ANY PIPE, WHETHER RIGID OR FLEXIBLE. PREPARATION OF THE TRENCH BOTTOMS AND PLACEMENT OF THE PIPE SHALL BE CAREFULLY MADE SO THAT WHEN IN FINAL POSITION, THE PIPE IS TRUE TO LINE AND GRADE AND SUPPORTED THROUGHOUT ITS LENGTH. BLOCKING WILL NOT BE PERMITTED TO BRING PIPE TO GRADE.

TRENCHES SHALL BE DRY WHEN TRENCH BOTTOM IS PREPARED.

THE COST OF FURNISHING AND PLACING MATERIALS TO ACHIEVE THE REQUIRED CLASS OF BEDDING SHALL BE INCLUDED IN THE ITEM REQUIRING THE BEDDING.

551.05 (B) BEDDING FOR NON-RIGID PIPE

CLASS "NR" BEDDING FOR INSTALLATION OF NON-RIGID PIPE SHALL BE IN AN ENVELOPE CONSISTING OF BEDDING, HAUNCHING, AND INITIAL BACKFILL EXTENDING FROM A DEPTH OF 6 INCHES BELOW THE BOTTOM OF THE PIPE TO 12 INCHES ABOVE THE TOP OF THE PIPE. MATERIAL FOR THE ENVELOPE SHALL MEET THE REQUIREMENTS FOR CLASS "B" BEDDING MATERIALS, EXCEPT ONLY NO. 56 AND NO. 57 SIZE MATERIAL SHALL BE USED. SLAG SHALL ONLY BE PERMITTED FOR USE WITH 707.23 PIPE MATERIAL.

THE BEDDING SHALL BE PLACED AND SHAPED TO FIT THE PIPE. AFTER INSTALLATION OF THE PIPE, BEDDING MATERIAL SHALL BE PLACED AND COMPACTED UNDER THE HAUNCHES AND ALONG THE SIDES OF THE PIPE UP TO THE HORIZONTAL CENTERLINE TO PROVIDE ADEQUATE SIDE SUPPORT, TAKING CARE TO NOT DISTURB THE LINE AND GRADE OF THE PIPE.

THE INITIAL BACKFILL SHALL THEN BE PLACED UNIFORMLY ACROSS THE TRENCH TO A MINIMUM DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE.

FLOODING OR PUDDLING SHALL NOT BE USED TO COMPACT EMBEDMENT MATERIALS FOR ANY PIPE. PREPARATION OF THE TRENCH BOTTOMS AND PLACEMENT OF ALL PIPE SHALL BE CAREFULLY MADE SO THAT WHEN IN THE FINAL POSITION, THE PIPE IS TRUE TO LINE AND GRADE AND SUPPORTED THROUGHOUT ITS LENGTH. BLOCKING WILL NOT BE PERMITTED TO BRING THE PIPE TO GRADE. TRENCHES SHALL BE DRY WHEN THE TRENCH BOTTOM IS PREPARED.

COST OF FURNISHING AND PLACING OF BEDDING MATERIALS TO ACHIEVE THE REQUIRED CLASS OF BEDDING SHALL BE INCLUDED IN THE ITEM REQUIRING THE BEDDING.

551.06 STORING AND LAYING PIPE

PIPE SHALL BE STORED AT THE JOB SITE IN SUCH A MANNER AS TO PROTECT THE PIPE FROM DAMAGE. NON-RIGID PIPE MUST BE STORED TO PREVENT BOWING. PIPES HAVING DEVIATIONS FROM STRAIGHT GREATER THAN 1/16-INCH PER FOOT OF LENGTH SHALL NOT BE USED. PIPE, FITTINGS AND SPECIALS WITH VISIBLE BREAKAGE OR OTHER DEFECTS SHALL NOT BE USED, OR REPAIRED AND USED, UNLESS SPECIFICALLY APPROVED BY THE ENGINEER IN WRITING. PIPE SHALL BE KEPT CLEAN AT ALL TIMES.

CALCULATED MDG CHECKED CWL

GENERAL NOTES

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SANITARY SEWERS - cont'd

PIPE SHALL BE LAID ACCURATELY TO THE LINE AND GRADE DESIGNATED ON THE PLANS. PIPE SHALL BE CAREFULLY CENTERED SO THAT WHEN LAID IT WILL FORM A SEWER WITH CLOSE FITTING JOINTS AND A UNIFORM INVERT.

ALL PIPE SHALL BEGIN AND END WITH PIPE ENDS AS NORMALLY FABRICATED BY THE MANUFACTURERS. IF FIELD CUTTING OF 707 PIPE IS REQUIRED, CUTTING SHALL BE PERFORMED BY THE USE OF TOOLS OR EQUIPMENT THAT WILL PROVIDE A NEAT PERPENDICULAR CUT WITHOUT STRUCTURAL DAMAGE TO THE PIPE WALL OR DAMAGE TO COATINGS OR FILLERS.

METAL PIPE SHALL BE PLACED WITH ANY LONGITUDINAL LAPS OR SEAMS AT THE SIDE AND SHALL BE PLACED WITH CIRCUMFERENTIAL SEAMS LAPPING ON THE INSIDE IN THE DIRECTION OF FLOW.

706.02 REINFORCED CONCRETE PIPE WITH ELLIPTICAL REINFORCEMENT AND 706.04 REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE WITH SINGLE CAGE REINFORCEMENT SHALL BE HANDLED AND PLACED WITH THE REINFORCEMENT MARKINGS ALONG A VERTICAL PLANE. 706.02 REINFORCED CONCRETE PIPE WITH AUXILIARY SUPPORTS SHALL BE HANDLED AND PLACED WITH THE CENTERLINE OF THE AUXILIARY SUPPORT SYSTEM IN A VERTICAL PLANE.

CARE SHALL BE TAKEN WITH ALL PRECUT HOLES, FITTINGS, SPECIALS, ETC. TO INSURE THAT THEY ARE PLACED AT THE LOCATION AND ELEVATION INDICATED ON THE PLANS.

IT IS INTENDED THAT CURVES IN 30 INCH OR LARGER DIAMETER 706.02 REINFORCED CONCRETE PIPE SEWERS BE TRULY CIRCULAR. THIS WORK SHALL BE MONOLITHIC CONSTRUCTION OF BRICK AND/OR CONCRETE UNLESS OTHERWISE SPECIFIED ON THE PLANS. HOWEVER, THE USE OF 706.02 RADIUS PIPE OR 706.02 CUT CURVES MAY BE PERMITTED WHERE THE ALIGNMENT SHOWN ON THE PLANS CAN BE MAINTAINED, AND A SHOP DRAWING OF THE CUT CURVES OR RADIUS PIPE ILLUSTRATING THE LAYOUT AND GEOMETRY IS APPROVED BY THE ENGINEER.

BEDDING PROVIDED FOR RIGID PIPE SHALL BE AS CALLED FOR ON THE PLANS BUT IN NO CASE WILL A BEDDING PROVIDING A LOAD FACTOR LESS THAN A CLASS "B" BEDDING BE PERMITTED. BEDDING FOR NON-RIGID PIPE SHALL BE AS CALLED FOR ON THE PLANS, OR SHALL CONFORM TO SECTION 551.05(B). IF DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE ADDITIONAL BEDDING MATERIAL OR PIPE FOUNDATION NOT REQUIRED BY THE PLANS OR SPECIFICATIONS, IN ORDER TO ADEQUATELY SUPPORT THE PIPE. PAYMENT FOR FURNISHING AND PLACING THE ADDITIONAL BEDDING AND/OR FOUNDATION SHALL BE IN ACCORDANCE WITH ITEM 603 OR SECTION 109.04, AS APPROPRIATE.

WHERE BRACING PLATES OR A TRENCH BOX IS USED FOR THE INSTALLATION OF FLEXIBLE PIPE, ALL VOIDS CAUSED BY THE WITHDRAWAL OF THE BRACING PLATES OR THE TRENCH BOX SHALL BE COMPLETELY FILLED.

ALL LIFTING HOLES IN 706.02 AND 706.04 PIPE SHALL BE GROUTED WITH CEMENT MORTAR OR OTHER APPROVED MATERIAL AFTER THE PIPE HAS BEEN PLACED.

551.07 JOINING PIPE

BEFORE JOINING PIPE WITH A COUPLING OR BELL END, ALL SURFACES OF THE PORTIONS OF THE PIPE TO BE JOINED AND ALL SURFACES OF FACTORY MADE JOINTING MATERIALS SHALL BE CLEAN AND DRY. LUBRICANTS, PRIMERS, ADHESIVES, SOLVENTS, BOLTS, ETC. SHALL HAVE BEEN MANUFACTURED SPECIFICALLY FOR THEIR INTENDED USE AND SHALL BE USED AS RECOMMENDED BY THE PIPE AND/OR PIPE JOINT MANUFACTURER. THE JOINTING MATERIALS SHALL BE FITTED AND ADJUSTED OR APPLIED IN SUCH A MANNER AS TO OBTAIN A CLOSE FITTING JOINT AND TO OBTAIN THE DEGREE OF WATER TIGHTNESS REQUIRED.

FOR ELLIPTICAL REINFORCED CONCRETE PIPE PREFORMED BUTYL RUBBER MATERIAL 706.15 SHALL BE USED. THE BUTYL MATERIAL SHALL BE OF SUFFICIENT QUANTITY TO SEAL THE JOINT BUT NOT NECESSARILY FILL THE JOINT WHEN THE PIPE IS PLACED IN ITS FINAL POSITION. BOTH SIDES OF THE JOINT SHALL BE PRIMED WITH AN ASPHALT B ASED PRIMER AS RECOMMENDED BY THE MANUFACTURER.

FOR CORRUGATED METAL PIPE REQUIRING BANDED JOINTS, THE PIPE LENGTHS SHALL BE JOINED WITH COUPLING BANDS WHICH HAVE AT LEAST ONE CIRCUMFERENTIAL CORRUGATION THAT INDEXES INTO THE INBOARD CORRUGATION OF EACH PIPE. BANDS WITH PROJECTIONS SHALL NOT BE PERMITTED. IF COATED PIPE IS USED, COATED COUPLING BANDS MUST ALSO BE USED.

FOR CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, JOINTS SHALL CONFORM TO THE MOST CURRENT EDITION OF AASHTO M294 FOR WATERTIGHT REQUIREMENTS INCLUDING CONTINUOUSLY EXTRUDED BELL AND SPIGOT WITHOUT WELDS. IF DEEMED NECESSARY BY THE ENGINEER, WATER-TIGHTNESS OF JOINTS SHALL BE FIELD-TESTED PER ASTM F1417 OR C969. ANY TESTING SHALL BE PERFORMED BY THE CONTRACTOR, WITH THE COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PIPE.

WHERE THE JOINING OF PIPES OF DIFFERENT MATERIALS IS REQUIRED OR APPROVED, THIS WORK SHALL BE DONE UTILIZING SPECIAL ADAPTERS AND COUPLERS MANUFACTURED SPECIFICALLY FOR THIS PURPOSE. THE ADAPTERS AND COUPLERS SHALL BE INSTALLED AND SECURELY ATTACHED TO BOTH PIPE BARRELS ACCORDING TO MANUFACTURERS RECOMMENDATIONS.

AS SOON AS POSSIBLE AFTER A JOINT IS MADE, SUFFICIENT BACKFILL MATERIALS SHALL BE PLACED ALONG EACH SIDE OF THE PIPE TO SUPPORT THE PIPE IN ITS FINAL POSITION.

WHERE A PIPE STUB OR RUN OF PIPE IS TO BE TEMPORARILY TERMINATED FOR FUTURE EXTENSION, THE END OF THE PIPE SHALL BE SEALED USING AN APPROVED REMOVABLE PLUG. MASONRY BULKHEADS, IF REQUIRED, SHALL BE CONSTRUCTED IN SUCH MANNER AS TO ALLOW FOR THEIR REMOVAL IN THE FUTURE WITHOUT DAMAGING THE BELL OF THE PIPE. COST OF THIS WORK TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PIPE.

WHERE A PIPE ENTERS OR EXITS A PROPOSED OR RECONSTRUCTED MANHOLE, THE METHOD OF CONNECTION TO THE MANHOLE SHALL BE PER THE PIPE MANUFACTURER'S RECOMMENDATIONS, AND SHALL FORM A WATERTIGHT CONNECTION.

WHEN PIPE HAVING EXTERIOR CORRUGATIONS IS BEING CONNECTED TO A PROPOSED OR RECONSTRUCTED MANHOLE, THE CONNECTION SHALL BE MADE USING A BOOT-TYPE SEAL WITH STAINLESS STEEL CLAMPING BAND. THE BOOT-TYPE SEAL MAY BE EITHER CAST INTO THE MANHOLE WALL, OR MAY BE THE FIELD-PLACED EXPANDING RING TYPE. THE USE OF MANHOLE SLEEVES IS NOT PERMITTED.

551.08 SHOP STRUTTING

WHERE REQUIRED BY THE PLANS, FLEXIBLE PIPE SHALL BE ELONGATED BY INCREASING ITS VERTICAL DIAMETER 5 PERCENT. THE VERTICAL ELONGATION SHALL BE MAINTAINED BY HORIZONTAL WIRE STRUTS THAT SHALL BE LEFT IN PLACE UNTIL THE EMBANKMENT IS COMPLETED. THE STRUTS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.

THE COMPLETED INSTALLATION SHALL AT NO POINT HAVE OUT-OF-ROUND PIPE DEFLECTIONS GREATER THAN 5 PERCENT WHETHER OR NOT SHOP STRUTTING IS REQUIRED. THE ENGINEER MAY REQUIRE A DEFLECTOR METER OR A "GO, NO-GO" GAUGING TEST RUN PRIOR TO ACCEPTANCE.

551.09 BACKFILLING

ALL TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED AS SOON AS PRACTICABLE AFTER THE PIPE HAS BEEN INSTALLED UNLESS OTHER PROTECTION OF THE PIPE IS DIRECTED OR SHOWN ON THE PLANS. THE BACKFILL MATERIAL, WHICH IS PLACED AT THE SIDES OF THE PIPE AND 2 FEET OVER THE PIPE OR OTHER STRUCTURE, SHALL BE BANK RUN GRAVEL MEETING THE REQUIREMENTS OF 604.02. BACKFILL MATERIAL BEYOND 2 FEET ABOVE THE TOP OF PIPE SHALL BE SUITABLE MATERIAL REMOVED FROM THE TRENCH OR OTHER PARTS OF THE PROJECT OR BANK RUN GRAVEL MEETING THE REQUIREMENTS OF 604.02 AS APPROVED OR DIRECTED BY THE ENGINEER. THE MATERIAL SHALL BE MOISTENED OR DRIED, IF NECESSARY, TO ITS OPTIMUM MOISTURE CONTENT FOR COMPACTION.

THE BACKFILL AROUND THE PIPE UP TO THE TOP OF THE PIPE SHALL BE PLACED IN LOOSE LAYERS NOT EXCEEDING 6 INCHES PER LAYER AND THOROUGHLY COMPACTED BY HAND OR POWER TAMPERS APPROVED BY THE ENGINEER. GREAT CARE SHALL BE USED TO OBTAIN THOROUGH COMPACTION UNDER THE HAUNCHES AND ALONG THE SIDES OF THE PIPE. OVER THE TOP OF THE PIPE, BACKFILL LAYERS OF APPROXIMATELY 8 INCH DEPTH SHALL BE ADDED WITH EACH LAYER COMPACTED SEPARATELY AND THOROUGHLY UNTIL THE TRENCH IS COMPLETELY AND UNIFORMLY FILLED TO A DEPTH OF TWO FEET ABOVE THE TOP OF THE PIPE. BACKFILLING OPERATIONS SHALL BE DONE IN SUCH A MANNER AS TO AVOID MOVEMENT OR DAMAGE TO THE PIPE.

IF SPECIFIED ON THE PLANS, THE CONTRACTOR SHALL CONSTRUCT BULKHEADS USING THE APPROVED SOIL AT 100 FOOT INTERVALS. THE BULKHEADS SHALL BE CONSTRUCTED IN LAYERS AND THOROUGHLY COMPACTED. THEY SHALL EXTEND THE FULL WIDTH OF THE TRENCH, APPROXIMATELY 3 FEET IN LENGTH AND BROUGHT UP TO A MINIMUM OF 2 FEET ABOVE THE TOP OF THE PIPE.

ABOVE THIS POINT BACKFILL MATERIAL SHALL BE BROUGHT UP EVENLY BY DEPOSITING THE MATERIAL IN LAYERS APPROXIMATELY NINE INCHES IN LOOSE DEPTH AND WITHOUT INJURING THE PIPE BY SHOCK, JAR OR EXCESSIVE FREE FALL. EACH LAYER SHALL BE THOROUGHLY COMPACTED BY POWER TAMPERS OPERATED WITH CARE SO AS NOT TO INJURE THE UNDERLYING PIPE OR APPURTENANCES OR BY WATER IF PROPER DRAINAGE IS PROVIDED FOR THE FREE WATER. HOWEVER, FLOODING OR PUDDLING SHALL NOT BE USED WITHOUT WRITTEN APPROVAL OF THE ENGINEER. IF THE CONTRACTOR INTENDS TO COMPACT BACKFILL WITH WATER HE SHALL SUBMIT DETAILS OF THE PROPOSED METHOD FOR APPROVAL BEFORE BEGINNING BACKFILLING OPERATIONS. HAND TAMPERS MAY BE USED IN CORNERS OR NARROW PLACES INACCESSIBLE TO POWER T AMPERS. PAYMENT FOR THE FILL OR BACKFILL, INCLUDING BULKHEADS, TO TWO FEET ABOVE THE TOP OF THE PIPE OR APPURTENANCES, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PIPE OR APPURTENANCE BEING CONSTRUCTED. PAYMENT FOR BACKFILL OBTAINED FROM THE EXCAVATION OR OTHER PARTS OF THE PROJECT SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM REQUIRING THE BACKFILL.

IF COMPACTION IS DONE USING HYDRAULICALLY-OPERATED BACKHOE-MOUNTED COMPACTORS, SUCH AS HO-PAC MODEL 8700C OR EQUAL, THE BACKFILL MATERIAL MAY BE DEPOSITED IN LAYERS NOT MORE THAN 2 FEET IN LOOSE DEPTH. LAYERS IN EXCESS OF 2 FEET MAY BE DEPOSITED ONLY IF TESTS, CONDUCTED AT THE CONTRACTOR'S EXPENSE, SHOW, TO THE SATISFACTION OF THE ENGINEER, THAT THE SPECIFIED DEGREE OF COMPACTION IS BEING ACHIEVED. THERE SHALL BE AT LEAST 3 FEET OF COMPACTED BACKFILL OVER THE PIPE BEFORE THIS METHOD OF COMPACTION MAY BE EMPLOYED.

WHEN REQUIRED BY THE ENGINEER TO USE BANK RUN GRAVEL (604.02) FOR BACKFILL, PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 604 -BANK RUN GRAVEL. THE LIMITS FOR PAYMENT OF BANK RUN GRAVEL FILL SHALL BE THE WIDTHS AS SPECIFIED IN 551.03, THE DEPTH SHALL BE FROM TOP OF SUBGRADE OR FINISHED ELEVATION, WHICHEVER IS LOWER, TO A POINT TWO FEET ABOVE TOP OF PIPE AND THE LENGTH SHALL BE MEASURED HORIZONTALLY FROM START OF FILL TO END OF FILL.

FOR AREAS OUTSIDE THE STREET R/W THE BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 90% OF THE MAXIMUM DRY DENSITY AT +2% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY TESTS APPROVED OR CONDUCTED BY THE ENGINEER. BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AT +2% OF OPTIMUM MOISTURE CONTENT FOR AREAS WITHIN THE STREET R/W.

BACKFILLING SHALL BE KEPT COMPLETED UP TO A POINT WITHIN 100 FEET OF THE END OF THE NEWLY LAID PIPE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. DURING BACKFILLING OPERATIONS, NO SHEETING OR BRACING SHALL BE REMOVED WITHOUT PERMISSION OF THE ENGINEER.

551.10 RESTORATION OF STREETS AND CLEANING UP

ALL SURFACES AFFECTED BY THE CONSTRUCTION WORK SHALL BE PERMANENTLY RESTORED ACCORDING TO 104.07. THE COST OF ALL RESTORATION MADE NECESSARY BY THE CONSTRUCTION OF PIPE CULVERTS, SEWERS AND DRAINS, UNLESS OTHERWISE PROVIDED FOR ON THE PLANS, IN THE PROPOSAL, OR IN THE SPECIFICATIONS, SHALL BE INCLUDED AND PAID FOR IN THE PRICE BID FOR THE PIPE ITEMS OR APPURTENANCES AS APPROPRIATE.

PAVEMENT RESTORATION OF PIPE TRENCHES SHALL BE PER TRENCH DETAIL ON ODOT SCD DM-1.4.

BEFORE FINAL ACCEPTANCE THE CONTRACTOR SHALL CLEAN UP THE WORK AREA IN ACCORDANCE WITH 104.06.

551.11 RECONSTRUCTED PIPE

WHERE SO REQUIRED BY THE PLANS, EXISTING PIPE CULVERTS, SEWERS AND DRAINS SHALL BE RECONSTRUCTED WITH MATERIALS OF THE TYPES AND AT THE LOCATIONS SPECIFIED FOR NEW PIPE CULVERTS, SEWERS OR DRAINS. ALL OF THE PROVISIONS OF THESE SPECIFICATIONS SHALL GOVERN THE RECONSTRUCTING OF EXISTING PIPE CULVERTS, SEWERS AND DRAINS WITH THE SAME MATERIALS AND BY THE SAME METHODS AS NEW CONSTRUCTION OF THE SAME. COST OF CONNECTING SEWER PIPE TO EXISTING MANHOLE AND RESTORING MANHOLE WALL SHALL BE INCLUDED IN THE COST OF THE PIPE.

CALCULATED MDG CHECKED CWL

GENERAL NOTES

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SANITARY SEWERS - cont'd

551.12(A) LOW PRESSURE AIR TEST

ALL SEWERS, MANHOLES OR OTHER STRUCTURES AND APPURTENANCES WHICH ARE TO BE USED FOR SANITARY SEWAGE SHALL AT ALL TIMES BE WATER TIGHT AND NOT PERMIT THE INFILTRATION OF WATER INTO, OR THE EXFILTRATION OF SEWAGE THEREFROM. ALL SUCH SEWERS SHALL BE SUBJECT TO AN AIR LEAKAGE TEST TO BE PERFORMED BY THE CONTRACTOR, UNDER THE DIRECT SUPERVISION OF THE ENGINEER. NO REQUEST BY THE CONTRACTOR FOR WAIVER OF THE TEST WILL BE CONSIDERED. THE COST OF ALL AIR-LEAKAGE TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PIPE.

THE AIR TEST SHALL BE PERFORMED WITHIN A REASONABLE TIME AFTER COMPLETION OF THE SEWER, OR SECTIONS OF A LARGER INSTALLATION, BEFORE THE SUBFINAL ACCEPTANCE. THE CONTRACTOR SHALL VERIFY THAT THE SEWERS, MANHOLES, ETC. ARE SUBSTANTIALLY COMPLETE AND REASONABLY CLEAN PRIOR TO PERFORMING THE TEST.

THE TESTING PROCEDURE AND CRITERIA SHALL BE IN ACCORDANCE WITH ASTM C 828 OR C 924, AS APPLICABLE, AND TABLE 551.12(A) WHICH SHOWS THE REQUIRED TEST TIME IN MINUTES PER 100 FEET OF PIPE FOR EACH NOMINAL PIPE SIZE FOR A 1.0 PSI PRESSURE DROP FROM 3.5 TO 2.5 PSI. TESTING PROCEDURES AND CRITERIA FOR PVC PIPE (707.20) SHALL BE IN ACCORDANCE WITH ASTM D3212. ALL SANITARY SEWER MANHOLES SHALL BE TESTED IN ACCORDANCE WITH ASTM C1244.

TABLE 551.12(a) MINIMUM TEST TIME FOR VARIOUS PIPE SIZES

NOMINAL PIPE SIZE, in.	T (time) min/100 ft.	NOMINAL PIPE SIZE, in.	T (time) min/100 ft.
3	0.2	21	3.0
4	0.3	24	3.6
6	0.7	27	4.2
8	1.2	30	4.8
10	1.5	33	5.4
12	1.8	36	6.0
15	2.1	39	6.6
18	2.4	42	7.3

IF THE SEWER FAILS TO MEET THE MINIMUM TEST TIMES SHOWN IN TABLE 551.12(A) THE ENGINEER MAY ORDER THE CONTRACTOR TO EXPOSE AND REPAIR AS REQUIRED JOINTS OR ANY SECTION IN THE TEST, BACKFILL, AND RESTORE THE SURFACE. SUCH ADDITIONAL WORK SHALL BE AT THE CONTRACTOR'S EXPENSE. FOLLOWING THE REPAIRS, THE SEWER SHALL BE RETESTED UNTIL THE MINIMUM TEST TIME IS EQUALED OR EXCEEDED.

IN THE EVENT THAT THE PIPE FAILS TO MEET THE TEST REQUIREMENTS, NO PAYMENT TO EXCEED 75% OF THE PRICE BID FOR THE PIPE ITEMS SHALL BE MADE UNTIL THE SEWER(S) SATISFACTORILY PASSES THE LOW PRESSURE AIR TEST. PASSING AN AIR TEST OR MAKING REPAIRS AND PASSING AN AIR TEST DOES NOT RELEASE THE CONTRACTOR FROM THE RESPONSIBILITY OF REPAIR OR REPLACEMENT OF SEWERS AND APPURTENANCES DURING THE GUARANTEE PERIOD.

551.12(B) DEFLECTION TEST

ALL SEWERS CONSTRUCTED USING NON-RIGID PIPE MATERIALS SHALL BE SUBJECT TO A PIPE DEFLECTION TEST, REGARDLESS OF THE PIPE STIFFNESS, TO BE PERFORMED BY THE CONTRACTOR, UNDER THE DIRECT SUPERVISION OF THE ENGINEER. NO REQUEST BY THE CONTRACTOR FOR WAIVER OF THE TEST WILL BE CONSIDERED. THE COST OF PERFORMING THE DEFLECTION TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PIPE.

THE DEFLECTION TEST WILL BE PERFORMED ONE YEAR FROM THE DATE OF PIPE INSTALLATION BEFORE RELEASE OF THE RETAINER OR BOND.

THE TEST SHALL CONSIST OF PULLING A MANDREL (GO/NO GO) DEVICE THROUGH THE SEWER BY HAND. NO MECHANICAL PULLING DEVICES SHALL BE USED. THE MANDREL SHALL BE EITHER THE FULL CIRCLE OR 9-ARM TYPE AND CONFORM TO THE DIMENSIONS NOTED IN TABLE 551.12(B). NO SEWER WILL BE ACCEPTED IF THE PIPE DEFLECTION AT ANY POINT IS IN EXCESS OF 5% OF ITS AVERAGE INSIDE DIAMETER AS NOTED IN TABLE 551.12(B).

TABLE 551.12(b) AVERAGE INSIDE DIAMETERS & 5% DEFLECTION MANDREL DIMENSIONS

	ASTM D-3034		ASTM D-2680		ASTM F-679	
NOMINAL PIPE SIZE INCHES	AVERAGE I.D. INCHES	5% DEFLECTION MANDREL INCHES	AVERAGE I.D. INCHES	5% DEFLECTION MANDREL INCHES	AVERAGE I.D. INCHES	5% DEFLECTION MANDREL INCHES
6	5.893	5.598				
8	7.891	7.496	7.75	7.35		
10	9.864	9.371	9.75	9.25		
12	11.737	11.150	11.75	11.16		
15	14.374	13.655	14.75	14.01		
					T-1*	
18					18.165	17.257
21					21.415	20.344
24					24.092	22.887
27					27.152	25.794
					T-2*	
18					18.202	17.292
21					21.459	20.386
24					24.142	22.935
27					27.208	25.848

*T-1 = CELL CLASSIFICATION 12454C
*T-2 = CELL CLASSIFICATION 12364C

ALL PORTIONS OF SEWER FOUND TO EXCEED THIS LIMIT SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR PROMPTLY IN A MANNER SATISFACTORY TO THE ENGINEER. AFTER A PERIOD OF AT LEAST 30 DAYS AFTER BACKFILLING THE REPAIRED AREA(S), THE SEWER SHALL AGAIN BE TESTED FOR DEFLECTION. THIS PROCEDURE SHALL BE REPEATED AS NECESSARY UNTIL THE MAXIMUM PIPE DEFLECTION IS 5% OR LESS. THE CONTRACTOR SHALL BEAR THE TOTAL COST OF ALL REPAIRS OR REPLACEMENT, INCLUDING SURFACE RESTORATION IN ACCORDANCE WITH 104.07.

551.12(C) T.V. INSPECTION

ALL SEWERS, MANHOLES, INLETS AND OTHER APPURTENANCES SHALL BE SUBJECT TO T.V. AND VISUAL INSPECTIONS, TO BE PERFORMED BY THE CONTRACTOR, PRIOR TO SUBFINAL ACCEPTANCE OF THE SEWER ITEMS. NO REQUEST BY THE CONTRACTOR FOR WAIVER OF THE INSPECTIONS WILL BE CONSIDERED. COSTS ASSOCIATED WITH THE T.V. INSPECTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PIPE.

THE T.V. INSPECTIONS SHALL BE PERFORMED AFTER COMPLETION OF THE SEWER ITEMS, BEFORE THE SUBFINAL ACCEPTANCE AND RELEASE OF THE RETAINER OR BOND. THE CONTRACTOR SHALL VERIFY THAT THE SEWERS, MANHOLES, INLETS, ETC. ARE SUBSTANTIALLY COMPLETE AND REASONABLY CLEAN PRIOR TO PERFORMING THE INSPECTION.

ALL PIPE, MANHOLES, INLETS AND APPURTENANCES FOUND TO BE DEFECTIVE SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR PROMPTLY IN A MANNER SATISFACTORY TO THE ENGINEER. THE CONTRACTOR SHALL BEAR THE TOTAL COST OF ALL REPAIRS OR REPLACEMENT, INCLUDING SURFACE RESTORATION IN ACCORDANCE WITH 104.07.

PASSING THE T.V. INSPECTION OR MAKING REPAIRS AND PASSING THE T.V. INSPECTION DOES NOT RELEASE THE CONTRACTOR FROM THE RESPONSIBILITY OF REPAIR OR REPLACEMENT OF SEWERS AND APPURTENANCES DURING THE GUARANTEE PERIOD.

551.13 METHOD OF MEASUREMENT

THE QUANTITIES TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF LINEAR FEET OF PIPE CULVERTS, SEWERS AND DRAINS, CONSTRUCTED AND ACCEPTED. MEASUREMENTS SHALL BE HORIZONTAL CENTERLINE MEASUREMENTS OF THE LENGTH OF ACTUAL PIPE IN PLACE. THE LENGTH OF FITTINGS SHALL NOT BE DEDUCTED FROM THE GROSS LENGTH OF THE SEWER EVEN IF PAID SEPARATELY UNDER ITEM 561. THE INTERIOR DIMENSION(S) OF MANHOLES OR JUNCTION CHAMBERS WILL BE DEDUCTED FROM THE GROSS LENGTH OF THE SEWER.

HOWEVER, IF THE SEWER PIPE IS 42 INCHES OR MORE IN INSIDE DIAMETER THE DEDUCTION FOR MANHOLES SHALL NOT BE MADE. IF MONOLITHIC BRICK AND/OR CONCRETE CURVES, CUT CURVES , OR RADIUS PIPE ARE PART OF THE CONSTRUCTION, THE QUANTITY TO BE PAID SHALL BE MEASURED HORIZONTALLY ALONG THE CENTERLINE AND PAYMENT MADE UNDER THE EQUIVALENT DIAMETER PIPE ITEM. IN THE INSTANCE WHERE A CONSTRUCTED IN PLACE OR FACTORY BUILT TRANSITION SECTION IS USED TO CHANGE PIPE SIZE IT SHALL BE MEASURED AS ABOVE AND INCLUDED IN THE QUANTITY TO BE PAID FOR THE LARGER ADJACENT PIPE SIZE. THE QUANTITIES OF ITEMS 503 COFFERDAMS, CRIBS AND SHEETING AND 504 TEMPORARY SHEET PILING OR SHEET PILING LEFT IN PLACE TO BE MEASURED FOR PAYMENT SHALL BE THE ACTUAL QUANTITY MEASURED IN PLACE AND ACCEPTED. PAYMENT FOR THESE ITEMS SHALL BE MADE ONLY WITHIN THE LIMITS SPECIFICALLY SHOWN ON THE PLAN OR NOTED IN THE PROPOSAL.

CALCULATED MDG CHECKED CWL

GENERAL NOTES

SUM-76/77-11.27/12.12

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ITEM 557 SANITARY SEWERS

557.01 DESCRIPTION
557.02 MATERIALS
557.03 METHOD OF MEASUREMENT
557.04 BASIS OF PAYMENT

557.01 DESCRIPTION

THIS WORK SHALL CONSIST OF THE CONSTRUCTION OR RECONSTRUCTION OF PIPE FOR SANITARY SEWERS AND COMBINATION SEWERS IN ACCORDANCE WITH 551.

557.02 MATERIALS

MATERIALS SHALL BE AS SPECIFIED IN THE PROPOSAL AND/OR THE PLANS. WHERE THE KIND OF PIPE IS NOT SPECIFICALLY ITEMIZED ANY OF THE KINDS LISTED HEREUNDER MAY BE USED. HIGHER STRENGTH NON-RIGID PIPE OF THE SAME TYPE MAY BE FURNISHED WHERE LOWER STRENGTH PIPE IS SPECIFIED. A THICKER WALL PIPE OF THE SAME TYPE MAY BE FURNISHED WHERE LESSER THICKNESS IS PERMITTED OR SPECIFIED. SEWERS SERVING ANY INDUSTRIAL OR COMMERCIAL PROPERTIES SHALL BE CONSTRUCTED OF A PIPE MATERIAL OTHER THAN PVC. ANY CONCRETE PIPE USED FOR SANITARY SEWERS SHALL BE MANUFACTURED USING TYPE II CEMENT. ALL REINFORCED CONCRETE PIPE USED FOR SANITARY OR COMBINED SEWERS SHALL BE EPOXY COATED PER 706.03, IF CALLED FOR ON THE PLANS.

FOR 8" TO 15" DIAMETER

VITRIFIED CLAY PIPE, EXTRA STRENGTH .....706.08 WITH 706.12
PVC COMPOSITE SEWER PIPE 707.18
PVC GRAVITY SEWER PIPE.....707.20

FOR 18" TO 27" DIAMETER

VITRIFIED CLAY PIPE, EXTRA STRENGTH .....706.08 WITH 706.12
GLASS FIBER REINFORCED PIPE 707.25

FOR 30" DIAMETER AND OVER

REINFORCED CONCRETE CIRCULAR PIPE .....706.03 WITH 706.11
REINFORCED CONCRETE ELIPTICAL PIPE* .....706.04 WITH 706.15
GLASS FIBER REINFORCED PIPE 707.25

* EPOXY COATED AS PER 706.03, IF CALLED FOR ON THE PLANS.

557.03 METHOD OF MEASUREMENT

THE QUANTITY TO BE PAID UNDER THIS ITEM SHALL BE MEASURED AS PROVIDED IN 551.13.

557.04 BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, INCLUDING ALL T-BRANCHES AND Y-BRANCHES FOR EXISTING OR PROPOSED LATERAL CONNECTIONS, WILL BE MADE AT THE CONTRACT PRICE FOR:

ODOT ITEM 611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING (FT.)
ODOT ITEM 611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER, 706.08, CLASS "A" BEDDING (FT.)

ITEM 560 - LATERALS AND STACKS

560.01 DESCRIPTION
560.02 MATERIALS
560.03 CONSTRUCTION
560.04 STACKS
560.05 METHOD OF MEASUREMENT
560.06 BASIS OF PAYMENT

560.01 DESCRIPTION

THIS WORK SHALL CONSIST OF THE CONSTRUCTION OF COMPLETE LATERAL SEWER CONNECTIONS, USING PIPE OF THE SIZES AND TYPES SPECIFIED, FROM THE STREET SEWER TO THE PROPERTY LINE IN ACCORDANCE WITH THE PLANS OR AS DIRECTED BY THE ENGINEER. THIS WORK INCLUDES TEE OR WYE CONNECTIONS TO EXISTING AND NEW SANITARY OR STORM SEWERS AND ALL STACK OR CHIMNEY CONSTRUCTION WHEN REQUIRED.

560.02 MATERIALS

MATERIALS SHALL BE AS SPECIFIED IN THE PROPOSAL AND/OR THE PLANS. WHERE THE KIND OF PIPE IS NOT SPECIFICALLY ITEMIZED ANY OF THE KINDS LISTED HEREUNDER MAY BE USED. HIGHER STRENGTH PIPE OF THE SAME TYPE MAY BE FURNISHED WHERE LOWER STRENGTH PIPE IS SPECIFIED. A THICKER WALL PIPE OF THE SAME TYPE MAY BE FURNISHED WHERE LESSER THICKNESS IS PERMITTED OR SPECIFIED.

SANITARY LATERALS
VITRIFIED CLAY PIPE, EXTRA STRENGTH.....706.08 WITH 706.12
CONCRETE AND MASONRY ITEMS SHALL BE AS SPECIFIED IN...602.02
PVC GRAVITY SEWER PIPE 707.20
SPECIAL FITTINGS..... 707.18, 707.20

STORM LATERALS
VITRIFIED CLAY PIPE, EXTRA STRENGTH.....706.08 WITH 706.12
CONCRETE AND MASONRY ITEMS SHALL BE AS SPECIFIED IN...602.02
REINFORCED CONCRETE PIPE, CLASS V .....706.02 WITH 706.11
PVC GRAVITY SEWER PIPE 707.20
SPECIAL FITTINGS..... 707.18, 707.20

560.03 CONSTRUCTION

THE PIPE SHALL BE LAID AND JOINTS MADE IN ACCORDANCE WITH 551. JUNCTIONS WITH EXISTING LATERALS OR SEWERS SHALL BE MADE AS CONDITIONS REQUIRE, AND AT THE DIRECTION OF THE ENGINEER, AS SPECIFIED IN 559.03.

THE MINIMUM GRADE FOR LATERALS SHALL BE ONE PERCENT UNLESS OTHERWISE SPECIFIED OR DIRECTED BY THE ENGINEER. ALL SANITARY LATERALS SHALL BE LAID TO A DEPTH OF EIGHT FEET BELOW ORDINANCE STREET GRADE AT THE PROPERTY LINE. ALL STORM LATERALS SHALL BE LAID TO MATCH THE HORIZONTAL CENTERLINE OF THE MAINLINE STORM SEWER, AND BE LAID TO MATCH THE SLOPES AND INVERTS SHOWN ON THE PLANS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

WHERE THE END OF A LATERAL HAS BEEN LAID, BEFORE OR AFTER THE CONTRACT WAS AWARDED, AND IS AT OR OUTSIDE OF THE PROPERTY LINE, THE STREET LATERAL SHALL BE LAID TO THE END OF THE EXISTING LATERAL AND THE SAME CONNECTED TO THE NEW WORK BY THE CONTRACTOR WITHOUT ADDITIONAL COST.

WHERE THE ENDS OF LATERAL CONNECTIONS ARE LEFT UNCONNECTED, THEY SHALL BE TIGHTLY SEALED WITH STOPPERS OF THE SAME MATERIAL AS THE LATERAL, USING THE SAME JOINT MATERIALS SPECIFIED FOR THE LATERAL. THE UNCONNECTED ENDS OF ALL LATERALS SHALL BE MARKED WITH A 1 X 2 INCH WOODEN STRIP EXTENDING FROM THE TOP OF THE PIPE TO THE SURFACE OF THE GROUND, AND A SECTION OF DRAIN PIPE 2 INCH IN DIAMETER INSERTED OVER THE TOP OF THE WOODEN STRIP.

560.04 STACKS

VERTICAL STACKS FOR LATERALS SHALL BE CONSTRUCTED OF 6 INCH PIPE. RIGID PIPE USED FOR STACKS SHALL BE ENCASED IN CONCRETE WITH A MINIMUM THICKNESS OF 6 INCHES OUTSIDE THE BARREL OF THE PIPE. NON-RIGID PIPE USED FOR STACKS SHALL BE COMPLETELY ENCASED IN NO. 57 STONE, WITH A MINIMUM ENCASEMENT THICKNESS OF 6 INCHES, WITHIN A SONOTUBE. THE CONNECTION TO THE SEWER AND DETAILS OF THE ENCASEMENT SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

560.05 METHOD OF MEASUREMENT

THE QUANTITY TO BE PAID FOR UNDER THESE ITEMS SHALL BE THE ACTUAL LINEAR FEET OF ENCASED STACK AND THE NUMBER OF HOUSE LATERALS COMPLETED AND ACCEPTED INCLUDING STUBS, SLANTS, BENDS OR SPECIAL FITTINGS. HOUSE LATERALS SHALL BE CLASSIFIED BY LENGTH AS FOLLOWS:

LENGTH	DESCRIPTION
LESS THAN 19 FEET	INCH SHORT HOUSE LATERAL
19 TO 31 FEET INCLUSIVE	INCH HOUSE LATERAL
MORE THAN 31 FEET	INCH LONG HOUSE LATERAL

*FOR THE PURPOSE OF CLASSIFICATION THE LENGTH SHALL BE DETERMINED BY THE DISTANCE MEASURED IN A STRAIGHT LINE HORIZONTALLY FROM THE END OF THE LATERAL AT THE PROPERTY LINE TO THE CENTER LINE OF THE SEWER AT THE POINT OF CONNECTION.

560.06 BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT PRICE FOR:

ODOT ITEM 611 - CONDUIT, MISC.: 6 INCH SHORT HOUSE LATERAL, 707.20 (EACH)

CALCULATED MDG
CHECKED CWL

GENERAL NOTES

SUM-76/77-11.27/12.12

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ITEM 561 - SPECIAL FITTINGS

561.01 DESCRIPTION
561.02 MATERIALS
561.03 CONSTRUCTION
561.04 METHOD OF MEASUREMENT
561.05 BASIS OF PAYMENT

561.01 DESCRIPTION

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING SPECIAL FITTINGS ON CULVERTS, SEWERS, DRAINS, FORCE MAINS, MANHOLES, INLETS, JUNCTION CHAMBERS OR SUCH OTHER PLACES AS MAY BE DIRECTED. SPECIAL FITTINGS SHALL INCLUDE Y-BRANCHES, T-BRANCHES, STUBS, SLANTS, BENDS, FLAP GATES, FRAMES AND COVERS, SPECIAL ADAPTERS AND COUPLERS. THESE FITTINGS SHALL NOT BE PAID FOR SEPARATELY, UNLESS SPECIFICALLY ITEMIZED IN THE PROPOSAL, BUT SHALL BE INCLUDED IN THE PRICE BID FOR THE RESPECTIVE ITEM REQUIRING THE FITTINGS.

561.02 MATERIALS

ITEMS UNDER THIS SECTION WHICH ARE RELATED TO PIPE, OR COULD BE CONSIDERED AS PIPE, SHALL BE OF THE SAME KIND AND QUALITY AS SPECIFIED OR APPROVED FOR THE PIPE. THE JOINTS SHALL ALSO BE OF THE SAME KIND AND QUALITY UNLESS OTHERWISE SPECIFIED OR APPROVED.

MATERIALS FOR CAST IRON SPECIAL FITTINGS SHALL BE:
CAST IRON 711.12

EACH CASTING SHALL HAVE THE CAST MARK OF THE FOUNDRY AND SHALL BE PAINTED WITH TWO COATS OF PAINTED WITH TWO COATS OF A WATERBASED BITUMINOUS OR BLACK EPOXY PAINT APPROVED BY THE ENGINEER.

561.03 CONSTRUCTION

SPECIAL FITTINGS SHALL BE HANDLED AND LAID AS SPECIFIED FOR PIPE OF THE SAME KIND.

PIPE WITH Y-BRANCHES OR T-BRANCHES SHALL BE LAID AND INCLINED SUFFICIENTLY TO BRING THE TOPS OF THE BRANCHES LEVEL WITH THE TOP OF THE SEWER PIPE. THE ENDS OF THE BRANCHES SHALL BE TIGHTLY SEALED WITH STOPPERS OF SIMILAR MATERIAL USING THE SAME JOINTS AS SPECIFIED FOR THE SEWER UNLESS THE LATERAL BRANCHES ARE TO BE LAID IMMEDIATELY. THE LOCATION OF EACH BRANCH SHALL BE MARKED WITH A 1 X 2 INCH VERTICAL WOOD STRIP, REACHING FROM THE END OF THE BRANCH TO THE BOTTOM OF THE PAVEMENT, OR TO WITHIN ONE FOOT OF THE SURFACE OF THE GROUND.

STUBS OR SLANTS SHALL BE NEATLY INSTALLED IN THE SIDES OF SEWERS OR MANHOLES OR OTHER PLACES AS DIRECTED, WITH THE BELL END OUTWARD. STUBS OR SLANTS SHALL BE SET WHILE THE MASONRY IS BEING CONSTRUCTED. THEY SHALL BE SECURELY PLACED, AND THE JUNCTURE WITH THE SEWER BARREL OR MANHOLE NEATLY GROUTED WITH CEMENT MORTAR WITHOUT PROJECTIONS OR VOIDS, AND THE INNER END OF THE STUB OR SLANT FLUSH WITH THE INSIDE SURFACE OR THE SEWER, MANHOLE, OR OTHER STRUCTURE. UNLESS OTHERWISE REQUIRED, THEY SHALL BE INSTALLED JUST ABOVE THE SPRING LINE OF THE SEWER. THE BELL END OF THE STUBS OR SLANTS SHALL BE SEALED WITH STOPPERS OF SIMILAR MATERIAL AND THE LOCATIONS MARKED AS SPECIFIED ABOVE.

FLAP GATES SHALL BE INSTALLED IN NEW OR EXISTING STRUCTURES IN ACCORDANCE WITH STANDARD DRAWING MH-7 OR AS DIRECTED BY THE ENGINEER.

NEW CASTINGS, INCLUDING FRAMES AND COVERS FOR MANHOLES AND INLETS, SHALL BE SET UPON EXISTING, OR NEWLY REBUILT, OR NEWLY ADJUSTED MASONRY TO GRADES DESIGNATED BY THE PLANS OR DIRECTED BY THE ENGINEER. COST OF REBUILDING OR ADJUSTING THE EXISTING MASONRY SHALL BE INCLUDED UNDER THE RESPECTIVE ITEMS AS SPECIFIED IN 562 OR 563. MORTAR REQUIRED FOR SETTING, BEDDING, OR FILLING THE WEBS OF SPECIAL FITTINGS SHALL BE INCLUDED IN THE PRICE BID FOR THE FITTING.

561.04 METHOD OF MEASUREMENT

THE QUANTITIES TO BE PAID FOR UNDER THESE ITEMS SHALL BE THE NUMBER OF Y-BRANCHES, T-BRANCHES, STUBS, SLANTS, BENDS, FLAP GATES, FRAMES AND COVERS, SPECIAL ADAPTERS, OR COUPLERS OF EACH SIZE AND TYPE FURNISHED AND INSTALLED AS SPECIFIED. THE NUMBER SHALL BE DETERMINED BY THE ENGINEER'S COUNT OF THEM COMPLETE IN PLACE. SIX INCH BENDS USED FOR RECONNECTIONS SHALL BE PAID FOR UNDER ODOT ITEM 611.

561.05 BASIS OF PAYMENT

FURNISHING SPECIAL FITTINGS WILL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE CONTRACT PRICE FOR:

ODOT ITEM 611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING (FT.)
ODOT ITEM 611 - CONDUIT, MISC.: "_" INCH SANITARY SEWER, 706.08, CLASS "A" BEDDING (FT.).

CALCULATED MDG
CHECKED CWL

GENERAL NOTES

SUM-76/77-11.27/12.12

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NOTIFICATION AND CONTACTS

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ENTITIES IN WRITING AND VIA TELEPHONE AT LEAST TEN (10) DAYS PRIOR TO THE BEGINNING OF EACH PHASE OF THE CONSTRUCTION ACTIVITIES. INCLUDED IN THE NOTIFICATION SHALL BE THE PROJECTED DATES AND TIME FRAMES OF ANY ROAD CLOSURES.

1. OHIO DEPARTMENT OF TRANSPORTATION
   DISTRICT 4
   2088 SOUTH ARLINGTON ROAD
   AKRON, OHIO 44306
   (330)-786-2211

2. CITY OF AKRON ENGINEERING BUREAU
   166 SOUTH HIGH STREET
   AKRON, OHIO 44308
   (330)-375-2355

3. CITY OF AKRON FIRE DEPARTMENT
   146 SOUTH HIGH STREET
   AKRON, OHIO 44308
   (330)-375-2552

4. AKRON PUBLIC SCHOOLS
   70 NORTH BROADWAY STREET
   AKRON, OHIO 44308
   (330)-761-1661

5. SUMMIT COUNTY SHERIFF'S DEPARTMENT
   53 UNIVERSITY AVENUE
   AKRON, OHIO 44308
   (330)-643-2181

6. CITY OF AKRON POLICE DEPARTMENT
   217 SOUTH HIGH STREET
   AKRON, OHIO 44308
   (330)-375-2552

7. OHIO STATE HIGHWAY PATROL
   BARBERTON PATROL POST
   105 5TH STREET S.E.
   BARBERTON, OHIO 44203
   (330)-753-2000

8. SUMMIT COUNTY ENGINEER'S OFFICE
   538 EAST SOUTH STREET
   AKRON, OHIO 44311
   (330)-643-2850

SHOULD THE PROJECTED DATES AND TIME FRAMES OF THE START AND END OF THE ROAD CLOSURES CHANGE THROUGHOUT THE DURATION OF THE PROJECT, THE AGENCIES LISTED ABOVE MUST BE NOTIFIED IMMEDIATELY OF SUCH CHANGES.

SEQUENCE OF CONSTRUCTION

PHASE 1

PHASE 1 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE CONTRACTOR RELOCATING THE EXISTING UTILITIES (STORM SEWER, 60" COMBINED SEWER, SANITARY SEWER AND WATER LINES) ALONG JOHNSTON STREET AND SPICER STREET UNDER THE INTERSTATE ROUTE 76/77 STRUCTURES.

PHASE 2

PRIOR TO THE CLOSURE OF JOHNSTON STREET, THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY CUL-DE-SAC AT STA. 10+50 ON JOHNSTON STREET. ONCE THE TEMPORARY CUL-DE-SAC IS CONSTRUCTED THE CONTRACTOR SHALL ERECT DETOUR SIGNS FOR THE CLOSURE OF JOHNSTON STREET AS SHOWN ON THE DETOUR PLANS.

PHASE 2 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE CONSTRUCTION OF THE PROPOSED EMBANKMENT UNDER THE EXISTING I-76/77 BRIDGES WHICH ARE TO BE REMOVED. CONSTRUCTION ACCESS FOR PLACING FILL SHALL BE PROVIDED VIA EXISTING JOHNSTON STREET. EMBANKMENT SHALL BE PLACED AS DIRECTED IN THE PLANS.

PHASE 3

PHASE 3 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE CONSTRUCTION OF THE RETAINING WALL ALONG THE PROPOSED JOHNSTON STREET EXTENSION NEAR THE PROPOSED INTERSECTION WITH BROWN STREET AS SHOWN IN THE PLANS.

PHASE 4

PHASE 4 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE RECONSTRUCTION OF EXISTING JOHNSTON STREET AND THE CONSTRUCTION OF THE EXTENSION OF JOHNSTON STREET TO BROWN STREET ALONG WITH THE ASSOCIATED SPICER STREET INTERSECTION WORK.

THE CONTRACTOR SHALL PERFORM ALL WORK ON JOHNSTON STREET AND SPICER STREET UNDER FULL CLOSURES. JOHNSTON STREET SHALL BE CONSTRUCTED FULL WIDTH FROM THE BROWN STREET INTERSECTION TO APPROXIMATELY STA. 8+50. FROM 8+50 TO THE EASTERN TERMINUS OF THE CONSTRUCTION PROJECT, ONE LANE SHALL BE MAINTAINED ON JOHNSTON STREET FOR LOCAL ACCESS. THE JOHNSTON STREET / HEDDEN AVENUE INTERSECTION (STA. 8+50 TO STA. 9+50) SHALL BE CONSTRUCTED HALF WIDTH IN ORDER TO MAINTAIN ACCESS TO RESIDENTS AT ALL TIMES. A COMBINATION OF TEMPORARY AND PERMANENT PAVEMENT WILL BE UTILIZED TO PROVIDE ACCESS TO HEDDEN AVENUE VIA JOHNSTON STREET AND THE TEMPORARY CUL-DE-SAC. AT THE LOCATION OF THE TEMPORARY CUL-DE-SAC, THE CONTRACTOR SHALL CONSTRUCT THE NORTHERN HALF OF JOHNSTON STREET FROM STA. 9+50 TO THE END WHILE MAINTAINING A SINGLE LANE FROM JOHNSTON COURT (END) TO THE CUL-DE SAC. RTA ACCESS TO THE AREA SHALL BE MAINTAINED VIA JOHNSTON STREET ALLOWING THE TEMPORARY CUL-DE-SAC TO BE UTILIZED TO TURN BUSES AROUND.

ONCE CONSTRUCTION HAS BEEN COMPLETED ON JOHNSTON STREET WEST OF STA. 8+50 AS WELL AS THE CONSTRUCTION OF THE NORTH SIDE OF JOHNSTON STREET FROM STA. 8+50 TO THE EASTERN PROJECT LIMIT, INCLUDING THE HEDDEN AVENUE INTERSECTION (STA. 8+50 TO STATION 9+50) IT SHALL OPEN TO ONE WAY WESTBOUND TRAFFIC. THE CONTRACTOR SHALL THEN CONSTRUCT THE SOUTHERN HALF OF JOHNSTON STREET FROM STA. 9+50 TO THE END. JOHNSTON STREET SHALL BE OPEN TO ONE-WAY WESTBOUND TRAFFIC AT THIS LOCATION IN ORDER TO MAINTAIN RTA AND RESIDENTIAL ACCESS.

THE INTERSECTION OF HEDDEN AVENUE AND JOHNSTON STREET SHALL BE COMPLETED PART-WIDTH AS SHOWN IN THE DETAILED PLANS.

THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED JOHNSTON STREET ROADWAY UP TO BUT NOT INCLUDING THE SURFACE COURSE. THIS WORK INCLUDES BUT IS NOT LIMITED TO ROADWAY, DRAINAGE, STORM SEWER AND WATERLINE WORK.

SEQUENCE OF CONSTRUCTION (CONT.)

PHASE 5

PHASE 5 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE RECONSTRUCTION OF BROWN AND SOUTH STREETS.

THE CONTRACTOR SHALL ERECT DETOUR SIGNS FOR THE CLOSURE OF BROWN STREET AND SOUTH STREET AS SHOWN ON THE DETOUR PLANS. THE CONTRACTOR SHALL PERFORM ALL WORK ON BROWN STREET, SOUTH STREET AND LAMPARTER STREET UNDER FULL CLOSURES. ACCESS SHALL BE MAINTAINED AT ALL TIMES TO RESIDENTS. ACCESS TO THE SUMMIT COUNTY ENGINEERS OFFICE SHALL BE MAINTAINED VIA THE DRIVE OFF E. CROSIER STREET.

THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED BROWN STREET ROADWAY UP TO BUT NOT INCLUDING THE SURFACE COURSE. THIS WORK INCLUDES BUT IS NOT LIMITED TO ROADWAY, DRAINAGE, STORM SEWER AND WATERLINE WORK.

AFTER THE COMPLETION OF PHASE 5 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 6.

PHASE 6

PHASE 6 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE FINALIZATION OF ALL SURFACE STREET CONSTRUCTION WORK.

THE CONTRACTOR SHALL PLACE THE SURFACE COURSE OF PAVEMENT, PERMANENT SIGNAL INSTALLATIONS, PERMANENT PAVEMENT MARKINGS AND SIGNAGE ON ALL SURFACE STREETS (JOHNSTON, BROWN, LAMPARTER AND SOUTH) UNDER FLAGGER CONTROL.

PHASE 6A

PHASE 6A CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE CONSTRUCTION OF THE TEMPORARY WESTBOUND I-76 MAINLINE PAVEMENT AND EMBANKMENT UNDER FULL CLOSURE OF LANE 0 AND RAMP P.

THE CONTRACTOR SHALL SHIFT THE TRAFFIC TO THE INSIDE IN THE WESTBOUND DIRECTION SO THAT TWO LANES OF I-76/77 TRAFFIC ARE MAINTAINED AT ALL TIMES AS DETAILED IN THE MAINTENANCE OF TRAFFIC PLANS.

AFTER THE COMPLETION OF PHASE 6A CONSTRUCTION ACTIVITES, THE CONTRACTOR SHALL PROCEED TO PHASE 6B.

PHASE 6B

THE CONTRACTOR SHALL INSTALL ALL BARRIER, STRIPING AND SIGNAGE ASSOCIATED WITH THE I-77 DETOUR AS DETAILED IN THE MAINTENANCE OF TRAFFIC PLANS.

AFTER THE COMPLETION OF PHASE 6B CONSTRUCTION ACTIVITES, THE CONTRACTOR SHALL PROCEED TO PHASE 7.

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MAINTENANCE OF TRAFFIC NOTES

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SEQUENCE OF CONSTRUCTION (CONT.)

PHASE 7

PHASE 7 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE DEMOLITION TO THE OUTSIDE PORTIONS OF THE SUM-76-1127 STRUCTURE, THE COMPLETE REMOVAL OF SUM-77-1212R STRUCTURE AND REMOVAL OF THE SOUTHERN HALF OF THE SUM-76-1137R STRUCTURE.

PRIOR TO THE START OF PHASE 7, THE CONTRACTOR SHALL RECONSTRUCT THE EXISTING SHOULDERS ON I-76/77 WITHIN THE LIMITS SHOWN ON THE DETAILED PLANS.

THE CONTRACTOR SHALL MERGE TRAFFIC INTO TWO LANES IN EACH DIRECTION. THE CONTRACTOR SHALL SHIFT THE TRAFFIC TO THE INSIDE IN THE EASTBOUND AND WESTBOUND DIRECTION SO THAT TWO LANES OF I-76/77 TRAFFIC ARE MAINTAINED AT ALL TIMES AS DETAILED IN THE MAINTENANCE OF TRAFFIC PLANS.

THE CONTRACTOR SHALL COMPLETE DEMOLITION TO THE OUTSIDE PORTIONS OF SUM-76-1127 AT THIS TIME. THE COMPLETE REMOVAL OF SUM-77-1212R STRUCTURE AND REMOVAL OF THE SOUTHERN HALF OF THE SUM-76-1137R STRUCTURE SHALL ALSO OCCUR AT THIS TIME.

AFTER THE COMPLETION OF PHASE 7 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 8.

PHASE 8

PHASE 8 CONSTRUCTION ACTIVITIES SHALL CONSIST OF REDECKING THE OUTSIDE PORTIONS OF THE SUM-76-1127 STRUCTURE, ALL IMPROVEMENTS TO THE AREA OF THE REMOVAL OF SUM-77-1212R STRUCTURE, REMOVAL OF THE SOUTHERN HALF OF THE SUM-76-1137R STRUCTURE, THE TEMPORARY WESTBOUND I-76 MAINLINE PAVEMENT AND EMBANKMENT CONSTRUCTION WITHIN THE WORK AREA.

PHASE 8 OF CONSTRUCTION SHALL REDECK THE OUTSIDE PORTIONS OF THE SUM-76-1127 STRUCTURE OVER BROWN STREET. ALL IMPROVEMENTS TO THE OUTSIDE PORTIONS OF SUM-76-1127 AND ALL ASSOCIATED WORK SHALL BE COMPLETED AT THIS TIME. ALL ASSOCIATED ROADWAY IMPROVEMENTS IN THIS AREA OF THE REMOVAL OF SUM-77-1212R STRUCTURE AND REMOVAL OF THE SOUTHERN HALF OF THE SUM-76-1137R STRUCTURE SHALL ALSO OCCUR AT THIS TIME. THE CONTRACTOR SHALL OMIT THE CONSTRUCTION OF THE LAST 25' OF PROPOSED GUARDRAIL AT STA. 529+00 FOR EASTBOUND TRAFFIC. PORTABLE CONCRETE BARRIER WILL BE PLACED AT THIS LOCATION DURING PHASE 9. THE TEMPORARY WESTBOUND I-76 MAINLINE PAVEMENT SHALL BE CONSTRUCTED FOR USE DURING PHASE 9.

THE CONTRACTOR SHALL COMPLETE THE EMBANKMENT CONSTRUCTION WITHIN THE WORK AREA AS SHOWN ON THE DETAILED EMBANKMENT PLACEMENT CROSS SECTIONS WITHIN THIS PLAN SET.

AFTER THE COMPLETION OF PHASE 8 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 9.

PHASE 9

PHASE 9 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE DEMOLITION TO THE INSIDE PORTIONS OF SUM-76-1127, THE REMOVAL OF SUM-76-1137L STRUCTURE AND REMOVAL OF THE REMAINING NORTHERN HALF OF THE SUM-76-1137R STRUCTURE.

THE CONTRACTOR SHALL MERGE TRAFFIC INTO TWO LANES IN EACH DIRECTION. THE CONTRACTOR SHALL SHIFT THE TRAFFIC TO THE OUTSIDE IN THE EASTBOUND AND WESTBOUND DIRECTION SO THAT TWO LANES OF I-76/77 TRAFFIC ARE MAINTAINED AT ALL TIMES AS DETAILED IN THE MAINTENANCE OF TRAFFIC PLANS.

THE CONTRACTOR SHALL COMPLETE DEMOLITION TO THE INSIDE PORTIONS OF SUM-76-1127 AT THIS TIME. THE REMOVAL OF SUM-76-1137L STRUCTURE AND REMOVAL OF THE REMAINING NORTHERN HALF OF THE SUM-76-1137R STRUCTURE SHALL ALSO OCCUR AT THIS TIME.

AFTER THE COMPLETION OF PHASE 9 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 10.

SEQUENCE OF CONSTRUCTION (CONT.)

PHASE 10

PHASE 10 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE REDECKING THE INSIDE PORTIONS OF THE SUM-76-1127 STRUCTURE, ALL IMPROVEMENTS TO THE AREA OF REMOVAL OF SUM-76-1137L STRUCTURE AND THE NORTHERN HALF OF THE SUM-76-1137R STRUCTURE.

PHASE 10 OF CONSTRUCTION SHALL REDECK THE INSIDE PORTIONS OF THE SUM-76-1127 STRUCTURE OVER BROWN STREET. ALL IMPROVEMENTS TO THE INSIDE PORTIONS OF SUM-76-1127 AND ALL ASSOCIATED WORK SHALL BE COMPLETED AT THIS TIME. ALL ASSOCIATED ROADWAY IMPROVEMENTS IN THIS AREA OF THE REMOVAL OF SUM-76-1137L STRUCTURE AND REMOVAL OF THE REMAINING NORTHERN HALF OF THE SUM-76-1137R STRUCTURE SHALL ALSO OCCUR AT THIS TIME.

THE CONTRACTOR SHALL COMPLETE THE EMBANKMENT CONSTRUCTION WITHIN THE WORK AREA AS SHOWN ON THE DETAILED EMBANKMENT PLACEMENT CROSS SECTIONS WITHIN THIS SET.

AFTER THE COMPLETION OF PHASE 10 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 11.

PHASE 11

PHASE 11 CONSTRUCTION ACTIVITIES SHALL CONSIST OF REMOVING THE TEMPORARY WESTBOUND I-76 MAINLINE PAVEMENT AND EMBANKMENT.

THE CONTRACTOR SHALL REMOVE THE TEMPORARY WESTBOUND I-76 MAINLINE PAVEMENT AND EMBANKMENT. AFTER THE COMPLETION OF PHASE 11 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 12.

PHASE 12

PHASE 12 CONSTRUCTION ACTIVITIES SHALL CONSIST OF CONSTRUCTING THE REMAINING PORTION OF LANE O AND RAMP P.

THE CONTRACTOR SHALL CONSTRUCT THE REMAINING PORTION OF LANE O AND RAMP P. AFTER THE COMPLETION OF PHASE 12 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 13.

PHASE 13

PHASE 13 CONSTRUCTION ACTIVITIES SHALL CONSIST OF THE FINALIZATION OF ALL FREEWAY CONSTRUCTION WORK.

AFTER THE COMPLETION OF PHASE 12 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PLACE THE SURFACE COURSE OF PAVEMENT AND PERMANENT PAVEMENT MARKINGS THROUGHOUT THE PROJECT LIMITS. ALL PROPOSED SIGNAGE SHALL ALSO BE ERECTED AT THIS TIME. ANY PROPOSED GUARDRAIL OMITTED DURING CONSTRUCTION DUE TO PORTABLE BARRIER PLACEMENT SHALL BE INSTALLED. ALL WORK DURING THIS PHASE SHALL BE COMPLETED UNDER FLAGGER CONTROL.

SEQUENCE OF CONSTRUCTION (CONT.)

PERMITTED CONSTRUCTION SEQUENCING / RESTRICTIONS

THE FOLLOWING DISCUSSION OF PERMITTED CONSTRUCTION SEQUENCING AND RESTRICTIONS IS PROVIDED FOR THE CONTRACTOR'S BENEFIT WHEN PLANNING HIS/HER CONSTRUCTION WORK TASK SEQUENCING. ITEMS UNDER PERMITTED SEQUENICNG ARE NON BINDING AND COULD BE MODIFIED BY THE CONTRACTOR IN AN ALTERNATE MAINTENANCE OF TRAFFIC SEQUENCE. ITEMS LISTED IN THE RESTRICTIONS PORTION OF THIS NOTE ARE PLACED ON THE CONTRACTOR. IN THE EVENT THAT AN ALTERNATE MAINTENANCE OF TRAFFIC METHOD IS SELECTED, ANY APPROVED ALTERNATE MUST INCLUDE THESE RESTRICTIONS.

PERMITTED CONSTRUCTION TASKS

1. CONSTRUCTION PHASES 1, 3, 4 AND 5 ARE PERMITTED TO OCCUR CONCURRENTLY.
2. CONSTRUCTION PHASES 2, 3, 4 AND 5 ARE PERMITTED TO OCCUR CONCURRENTLY.

RESTRICTIONS

1. CONSTRUCTION PHASE 1 MUST BE COMPLETED PRIOR TO CONSTRUCTION PHASE 2 COMMENCING
2. CONSTRUCTION PHASES 2 AND 3 MUST BE COMPLETED PRIOR TO COMMENCING CONSTRUCTION PHASE 6A, 6B AND 7 COMMENCING.
3. THE BROWN STREET CLOSURE SHALL OCCUR CONCURRENTLY WITH THE SOUTH STREET CONSTRUCTION. BROWN STREET SHALL NOT REOPEN TO THRU TRAFFIC UNTIL THE SOUTH STREET CONSTRUCTION IS COMPLETED.
4. CONSTRUCTION PHASES 6A THRU 13 SHALL BE CONSTRUCTED IN SEQUENCE.
5. THE TEMPORARY CUL-DE-SAC ON JOHNSTON STREET SHALL BE IN PLACE PRIOR TO THE START OF THE EMBANKMENT CONSTRUCTION.
6. PHASE 13 SHALL NOT BEGIN BEFORE MAY 1, 2017 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

CONSTRUCTION ACCESS POINTS

THE CONTRACTOR SHALL USE THE DESIGNED CONSTRUCTION ACCESS POINTS SHOWN ON SHEET 107 FOR PHASE 9 AND 10 CONSTRUCTION. FOR ACCESS INTO THE CONSTRUCTION ZONE DURING THESE PHASES, TWO LANES SHALL BE MAINTAINED MONDAY - FRIDAY, 6 AM-8 AM AND 3 PM-6 PM. ONE LANE CAN BE CLOSED ANY TIME ON SATURDAY AND SUNDAY.

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED TO CONST. RESTRICTIONS NOTE	AKF	03-12-15

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MAINTENANCE OF TRAFFIC NOTES

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ITEM 614 - MAINTAINING TRAFFIC (AT ALL TIMES)

A MINIMUM OF TWO LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 502 STRUCTURE FOR MAINTAINING TRAFFIC, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410 AND 614.

ITEM 614 - MAINTAINING TRAFFIC (LANE CLOSURE/REDUCTION REQUIRED)

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.

LANE CLOSURES

THE CONTRACTOR SHALL BE PERMITTED TO REDUCE IR-76 TO ONE (1) LANE BETWEEN THE HOURS OF 10:00 PM TO 5:00 AM.

SHOULD THE CONTRACTOR FAIL TO REOPEN THE FREEWAY TO TWO LANES BY THE REQUIRED TIME OF 5:00 AM, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $ 10,000 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

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 575 MGAL

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A PORTABLE CHANGEABLE MESSAGE SIGN, THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCE OF 650 FEET AND 475 FEET RESPECTIVELY.

EACH SIGN SHALL BE TRAILOR MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROFREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY UNLESS IT IS PROTECTED FROM BOTH DIRECTIONS OF TRAFFIC. THE PCMS SHALL BE LOCATED, IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS, WHEN NOT IN USE, THE PCMS WILL BE OFF. ADDITIONALLY WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

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

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN - CONTINUED

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

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

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL [IN ACTIVE CELLULAR AREAS] ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614. THE CONTRACTOR SHALL PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THEIR USE. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 614.02.

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

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 48 SNMT

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).

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

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 ENGINEER. 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 MAINTENANCE OF TRAFFIC GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 700 HOUR

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 A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

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MAINTENANCE OF TRAFFIC NOTES

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MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. A MINIMUM OF TWO ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, AND THE CITY OF AKRON ENGINEER (330) 375-2355, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.

4. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS SHALL BE COMPLETED THE SAME DAY THE EXCAVATION IS MADE. IF THE CONTRACTOR CANNOT COMPLETE THE WORK, THE EXCAVATION SHALL BE BACKFILLED OR PROTECTED AS PER STANDARD CONSTRUCTION DRAWING MT-101.90.

5. TRUCK MOUNTED ATTENUATORS [TMA'S] SHALL BE USED AS SHOWN IN THE STANDARD CONSTRUCTION DRAWINGS.

6. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS TWO (2) MILES RURAL OR ONE [1] MILE URBAN.

7. ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

8. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, CENTER, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

9. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

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.

ALTERNATE MAINTENANCE OF TRAFFIC PLANS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THERE FROM. NO ALTERNATE PLANS SHALL BE PLACED IN EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE ODOT DISTRICT CONSTRUCTION ENGINEER.

ITEM 614 - BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. FOR BARRIER REFLECTOR AND OBJECT MARKER QUANTITIES, SEE MAINTENANCE OF TRAFFIC SUBSUMMARIES.

ADVANCED NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

ITEM 614-WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

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, FROM THE ROADWAY STANDARD'S WEB PAGE FOR ROADWAY STANDARDS APPROVED PRODUCTS.

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.

EARTHWORK FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY.

EMBANKMENT FOR MAINTAINING TRAFFIC 9397 CY

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

DETOUR SIGNAGE - OHIO TURNPIKE

THE CONTRACTOR SHALL PROVIDE AND DELIVER DETOUR SIGNS AND SUPPORTS FOR SIGN 'G' TO BE INSTALLED ON THE OHIO TURNPIKE. INSTALLATION SHALL BE COMPLETED BY THE OHIO TURNPIKE. THE CONTRACTOR SHALL CONTACT ANTHONY YACOBUCCI, OHIO TURNPIKE CHIEF ENGINEER AT (440) 234-2081 TO ARRANGE A MUTUALLY AGREEABLE TIME AND LOCATION FOR DELIVERY OF THE MATERIALS.

SIGNS SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS ALONG THE TURNPIKE:

SIGN 'G' #1 (EASTBOUND) - 75' WEST OF THE BARR ROAD OVERPASS (LOCATED BEHIND EXISTING GUARDRAIL)

SIGN 'G' #2 (WESTBOUND) - 115' EAST OF THE WEST PROSPECT STREET OVERPASS (LOCATED BEHIND EXISTING GUARDRAIL)

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, DETOUR SIGNING.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND CITY OF AKRON (330-375-2355) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614 - DETOUR SIGNING, AS PER PLAN.

IN ADDITION TO THE WORK DESCRIBED ABOVE THE CONTRACTOR SHALL INSTALL AND REMOVE THE TEMPORARY OVERLAYS ASSOCIATED WITH THE DETOUR ROUTES AS SHOWN IN THE DETAILED PLANS. ALL MATERIAL AND LABOR REQUIRED FOR THE WORK DESCRIBED ABOVE SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614 - DETOUR SIGNING, AS PER PLAN.

ITEM 614-WORK ZONE PAVEMENT MARKINGS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 614.11, ALL CLASS 1 EDGE LINES, LANE LINES, CENTER LINES AND DOTTED LINES SHALL BE 6 INCHES WIDE AND CHANNELIZING MARKINGS SHALL BE 12 INCHES WIDE. THE APPLICATION RATES FOR THE 6 INCH LINES SHALL BE 1.5 TIMES THE RATES SPECIFIED FOR 4 INCH LINES IN TABLE 614.11-1.

ITEM 614 - MAINTAINING TRAFFIC (ESTIMATED QUANTITIES)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 630 - GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18,	189.4	FT
ITEM 630 - GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22,	267.8	FT
ITEM 630 - GROUND MOUNTED WOODEN BOX BEAM SUPPORT, TYPE M BEAM	188.4	FT
ITEM 630 - BREAKAWAY STRUCTURAL BEAM CONNECTION,	6	EACH
ITEM 630 - SIGN ATTACHMENT ASSEMBLY	7	EACH
ITEM 630 - SIGN, GROUND MOUNTED EXTRUSHEET	1024.0	SF
ITEM 630 - SIGN, OVERHEAD EXTRUSHEET	292.0	SF
ITEM 630 - GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	18	EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	12	EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	18	EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED WOODEN BOX BEAM SUPPORT AND DISPOSAL	9	EACH
ITEM 630 - REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	3	EACH

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MAINTENANCE OF TRAFFIC NOTES

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WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A VERIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).

2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0500.

3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-800-229-1388.

4. OHIO LABORERS' TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTSS CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE ON ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A WTS CERTIFICATION CONTAINING THE DATE OF ISSUE AND SHALL BE FROM ANY APPROVED ORGANIZATIONS. AT THE TIME OF THE PRECONSTRUCTION CONFERENCE, THE WTS CERTIFICATION DATE OF ISSUE SHALL BE WITHIN THE 5 YEARS PRIOR TO THE ORIGINAL COMPLETION DATE OF THE PROJECT.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.

2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.

3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.

4. COORDINATE A TRAFFIC INCIDENT MANAGEMENT MEETING EACH YEAR BEFORE CONSTRUCTION WORK BEGINS WITH ODOT AND THE SAFETY FORCES THAT WILL RESPOND TO INCIDENTS ON THE PROJECT. ITEMS TO BE DISCUSSED WILL BE THE:

   A. TRAFFIC INCIDENT MANAGEMENT PLAN (TIMP);

   B. EMERGENCY RESPONSE AND NOTIFICATION;

   C. PROJECT WORK/PHASING CONCERNS (E.G., RAMP CLOSURES); AND

   D. RESPONDERS CONCERNS.

5. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.

6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.

7. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.

8. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.

WORKSITE TRAFFIC SUPERVISOR (CONT.)

9. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.

10. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK).IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:

    A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).

    B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.

    C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.

    D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.

    E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.

    F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.

11. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 10 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE CURRENT REVISION OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL.

12. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

14. IDENTIFY AND CONTACT ALL POSSIBLE RESPONSE PERSONNEL; PREPLAN AND KEEP AN UPDATED ROSTER WITH PHONE NUMBERS:

    A. FEDERAL, STATE, AND LOCAL TRANSPORTATION AGENCIES (TRAFFIC MANAGEMENT CENTER);

    B. REGIONAL, COUNTY OR LOCAL 911 DISPATCH; AND

    C. TOWING AND RECOVERY PROVIDERS.

15. COMPLY WITH THE PROVISIONS OF OMUTCD CHAPER 6I, CONTROL OF TRAFFIC THROUGH TRAFFIC INCIDENT MANAGEMENT AREAS.

16. PROPOSE A RESPONSE/ACTION PLAN TO:

    A. ESTABLISH ALTERNATE ROUTE PLANS PER THE PROVIDED ODOT PLAYBOOK;

    B. REMOVE TRAFFIC DEMAND FROM IMPACTED ROADWAY(S);

    C. DIVERT TRAFFIC TO ROUTES THAT CAN ACCOMMODATE DEMANDS;

    D. DETOUR TRAFFIC AWAY FROM SENSITIVE AREAS (SUCH AS SCHOOLS, HOSPITALS, ETC.)

    E. DISCUSS METHODS OF DETERMINING A STAGING AREA FOR RESPONDERS WITHIN OR NEAR THE CONSTRUCTION ZONE; AND

WORKSITE TRAFFIC SUPERVISOR (CONT.)

    F. DICUSS METHODS OF DEVELOPING INGRESS AND EGRESS SITES WITHIN THE CONSTRUCTION ZONE.

    THE RESPONSE/ACTION PLAN SHALL BE SUBMITTED TO ODOT FOR ACCEPTANCE BEFORE THE CONTRACTOR'S FIRST DAY OF WORK.

17. PERFORM, AT A MINIMUM, THE FOLLOWING FUNCTIONS IN INCIDENT DETECTION AND VERIFICATION:

    A. CALL 911/ NOTIFY TRAFFIC MANAGEMENT CENTER AND PROVIDE THE FOLLOWING:

        I. LOCATION-INCLUDING MILEPOST NUMBER AND DIRECTION OF TRAVEL.
        II. NUMBER AND TYPE OF VEHICLES INVOLVED.
        III. ESTIMATED EXTENT OF DAMAGE OR INJURY.
        IV. ESTIMATED NUMBER OF PATIENTS INVOLVED.
        V. ANY POTENTIAL HAZARDOUS CONDITIONS.
        VI. THE PLACARD NUMBER ON ANY HAZARDOUS MATERIALS PLACARD FROM A SAFE DISTANCE.

    B. INITIATE TRAFFIC MANAGEMENT/PROVIDE TRAFFIC CONTROL.

    C. ASSIST MOTORIST WITH DISABLED VEHICLES.

    D. RECOMMEND ROADWAY REPAIR NEEDS.

    E. PROVIDE REPAIR RESOURCES.

18. ATTEND POST-INCIDENT DEBRIEFINGS IF REQUIRED.

THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT OF THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614 WORKSITE TRAFFIC SUPERVISOR 24 MONTHS

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

THE CONTRACTOR SHALL ONLY BE PERMITTED TO WORK AT NIGHT (9:00 PM TO 6:00 AM) ON THE INTERSTATE AND RAMPS ONLY.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

CALCULATED ADG CHECKED AKF

MAINTENANCE OF TRAFFIC NOTES

SUM-76/77-11.27/12.12

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MAINTENANCE OF TRAFFIC NOTES

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES, MISC.: PATCHING CONCRETE BRIDGE DECKS USING RAPID STRENGTH CONCRETE

A. DESCRIPTION. THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO REPAIR CONCRETE BRIDGE DECKS, INCLUDING PAINT, THE REMOVAL OF ALL LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, BITUMINOUS OVERLAYS, SURFACE PREPARATION, CONCRETE MIX DESIGN DEVELOPMENT, AND THE MIXING, PLACING, FINISHING, AND CURING OF THE CONCRETE PATCHES, AS WELL AS ALL MAINTENANCE OF TRAFFIC. ALL REQUIREMENTS OF C&MS 499, EXCEPT AS MODIFIED HEREIN, SHALL APPLY.

B. MATERIALS. FURNISH MATERIALS CONFORMING TO C&MS 499.02

C. CONCRETE. RAPID REPAIR CONCRETE MIX (RRCM). PROVIDE RRCM AS FOLLOWS:
1. PROVIDE A RRCM MIX DESIGN THAT WILL ACHIEVE A FLEXURAL STRENGTH OF 400 PSI IN NOT LESS THAN 4 HOURS AND NOT MORE THAN 6 HOURS.
2. DEMONSTRATE THE DEVELOPED RRCM MIX'S SHRINKAGE IS EQUAL TO OR LESS THAN THE CONCRETE SHRINKAGE OF A STANDARD CLASS C MIX, USE AN ESTABLISHED RAPID REPAIR CONCRETE MIX SYSTEM INCLUDING:
   A. 4X4 CONCRETE SYSTEM BY BASF
   B. RAPID-1 BY SIKA
   C. OR APPROVED EQUAL ACCEPTED BY THE DIRECTOR.
3. IF CALCIUM CHLORIDE OR ACCELERATING ADMIXTURE IS USED, DETERMINE DOSAGE RATE AND DOSAGE SEQUENCE AS PART OF MIX DESIGN.
4. SHRINKAGE TESTING FOR THE PROPOSED MIX DESIGN MAY BE WAIVED IF THE ADMIXTURE PRODUCER CAN PROVIDE SHRINKAGE DATA ON MIXES SIMILAR TO THE DESIGNED MIX.
5. DURING TESTING OF THE RRCM MIX DESIGN, DEVELOP THE RRCM MIX'S MATURITY CURVE ACCORDING TO SUPPLEMENT 1098 USING THE MATERIALS THAT WILL BE USED FOR THE PROJECT AND PERFORM THE TESTING DURING THE PLACEMENT ACCORDING TO SUPPLEMENT 1098.
6. DOCUMENT THE MIX DESIGN RESULTS THAT SHOW THE DESIGN ACHIEVES THE MINIMUM 400 PSI STRENGTH REQUIREMENT BY TESTING 6" X 6" BEAMS ACCORDING TO ASTM C293 AT THE MIX'S HIGHEST ESTABLISHED WATER/CEMENTITIOUS CONTENT.
7. PROVIDE THE DESIGN MIX PROPORTIONS, QUALITY CONTROL REQUIREMENTS, TEST RESULTS OF THE MIX, AND MATURITY CURVE RESULTS TO THE ENGINEER. THE ENGINEER WILL DETERMINE IF THE MIX DESIGN MEETS THE SPECIFICATION REQUIREMENTS.

D. REMOVAL OF BITUMINOUS MATERIAL. IF NECESSARY, THE ENGINEER SHALL OUTLINE THE AREAS TO BE REMOVED. THE PERIMETER OF ALL AREAS SHALL BE SAWED TO PRODUCE A VERTICAL FACE.

E. REMOVAL OF UNSOUND CONCRETE. THE ENGINEER SHALL SOUND THE ENTIRE DECK AND OUTLINE THE AREAS TO BE REMOVED. SOUNDING MAY HAVE TO BE DELAYED UNTIL THE DECK IS SUFFICIENTLY DRY TO PERMIT DETECTION OF ALL AREAS OF DELAMINATION. THE PERIMETER OF ALL REMOVAL AREAS SHALL BE SAWED TO A DEPTH OF 1 INCH TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL. ALL UNSOUND CONCRETE INCLUDING ALL PATCHES OTHER THAN SOUND PORTLAND CEMENT CONCRETE, AND ALL LOOSE AND DISINTEGRATED CONCRETE SHALL BE REMOVED. THE UNSOUND CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35 POUND CLASS AND SHALL BE OPERATED AT AN ANGLE OF LESS THAN 45 DEGREES MEASURED FROM THE SURFACE OF THE DECK CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING OR DAMAGING REINFORCING STEEL. WHERE THE BOND BETWEEN THE CONCRETE AND A PRIMARY REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM 3/4 INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICABLE. REINFORCEMENT WHICH HAS BECOME LOOSE SHALL BE ADEQUATELY SUPPORTED AND TIED BACK INTO PLACE. AFTER COMPLETION OF THE SECONDARY REMOVAL OPERATIONS, THE ENGINEER WILL RE-SOUND THE DECK TO ENSURE THAT ONLY SOUND CONCRETE REMAINS.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES, MISC.: PATCHING CONCRETE BRIDGE DECKS USING RAPID STRENGTH CONCRETE (CONTINUED)

F. PLACING, CONSOLIDATING, AND FINISHING. IMMEDIATELY PRIOR TO PLACING THE PATCHES, CLEAN A WET ALL EXPOSED CONCRETE SURFACES. THE PATCHING MATERIAL WILL BE PLACED, CONSOLIDATED (APPROPRIATE SIZE VIBRATION), AND FINISHED TO THE ADJACENT GRADE. AFTER THE PATCHES HAVE BEEN CONSOLIDATED AND FINISHED, THEY WILL BE HAND TEXTURED (BROOM AND/OR TINE) AS DIRECTED BY THE ENGINEER.

G. OPENING TO TRAFFIC. OPEN THE RRCM PAVEMENT TO TRAFFIC ONLY AFTER THE CONCRETE'S MATURITY TEST RESULTS FOR THE IN-PLACE RRCM INDICATE 400 PSI FLEXURAL STRENGTH HAS BEEN OBTAINED.

H. METHOD OF MEASUREMENT. THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE YARDS OF THE EXPOSED SURFACE OF ALL PATCHES, IRRESPECTIVE OF THE DEPTH OF THE PATCH, COMPLETE, IN PLACE AND ACCEPTED FOR ITEM SPECIAL PATCHING CONCRETE STRUCTURE, MISC.: BRIDGE DECK PATCHING USING RAPID STRENGTH CONCRETE WHICH WILL INCLUDE ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO REPAIR CONCRETE BRIDGE DECKS, INCLUDING PAINT, THE REMOVAL OF ALL LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, BITUMINOUS OVERLAYS, SURFACE PREPARATION, CONCRETE MIX DESIGN DEVELOPMENT, AND THE MIXING, PLACING, FINISHING, AND CURING OF THE CONCRETE PATCHES, AS WELL AS ALL MAINTENANCE OF TRAFFIC.

I. BASIS OF PAYMENT. PAYMENT SHALL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES, MISC.: PATCHING CONCRETE BRIDGE DECKS USING RAPID STRENGTH CONCRETE 1000 SY

REMOVAL OF PAVEMENT MARKING INTERSTATE SHIELDS

THE CONTRACTOR SHALL REMOVE THE EXISTING PAVEMENT MARKING INTERSTATE SHIELDS AS SHOWN IN SHEET JI6. AS PER A METHOD APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE GREAT CARE AS TO NOT DAMAGE THE EXISTING PAVEMENT. IF THE PAVEMENT IS DAMAGED, AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL REPLACE THE PAVEMENT IN LIKE KIND AT THE CONTRACTOR'S COST.

ALL COSTS RESULTING FROM THE WORK DESCRIBED ABOVE SHALL BE CONSIDERED INCIDENTAL TO AND TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 622 - PORTABLE BARRIER, 32", AS PER PLAN

THE CONTRACTOR SHALL INSTALL ALL PORTABLE BARRIER AS DETAILED IN THE TRAFFIC CONTROL PLANS. UPON COMPLETION OF THE SUM-76/77-11.27/12.12 PROJECT, THE CONTRACTOR SHALL LEAVE THE PORTABLE BARRIER IN PLACE. THE PORTABLE BARRIER SHALL BECOME THE RESPONSIBILITY AND OWNERSHIP OF ODOT UPON COMPLETION OF THE SUM-76/77-11.27/12.12 PROJECT.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN

THE CONTRACTOR SHALL INSTALL ALL WORK ZONE IMPACT ATTENUATORS (UNIDIRECTIONAL) AS DETAILED IN THE TRAFFIC CONTROL PLANS. UPON COMPLETION OF THE SUM-76/77-11.27/12.12 PROJECT, THE CONTRACTOR SHALL LEAVE THE WORK ZONE IMPACT ATTENUATORS IN PLACE. THE WORK ZONE IMPACT ATTENUATORS SHALL BECOME THE RESPONSIBILITY AND OWNERSHIP OF ODOT UPON COMPLETION OF THE SUM-76/77-11.27/12.12 PROJECT.

INCENTIVE / DISINCENTIVE CONTRACT

THE CONTRACTOR SHALL COMPLETE ALL CRITICAL WORK AND SAFETY ITEMS ACCORDING TO THE INCENTIVE/DISINCENTIVE CONTRACT TABLE. THE INCENTIVE/DISINCENTIVE CONTRACT TABLE IS LOCATED BELOW. IN THE EVENT THE CONTRACTOR IMPEDES THE FLOW OF TRAFFIC SUBSEQUENT TO THE OPENING TO UNRESTRICTED TRAFFIC, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE ACCORDING TO THE INCENTIVE/DISINCENTIVE CONTRACT TABLE.

CRITICAL WORK IS SHOWN IN THE INCENTIVE/DISINCENTIVE CONTRACT TABLE.

CRITICAL WORK IS DEFINED AS HAVING THE DESIGNATED SECTION OF WORK OPEN TO UNRESTRICTED TRAFFIC AS SHOWN IN THE TABLE, OR THE ENTIRE PROJECT IF NOT OTHERWISE LISTED.

UNRESTRICTED TRAFFIC IS DEFINED AS ALL TRAFFIC LANES BEING AVAILABLE FOR USE AT THEIR FINAL DESIGN WIDTH WITH ALL MARKINGS, RPM'S, AND SAFETY FEATURES INSTALLED, ALONG WITH NO RESTRICTIONS WITHIN 2 FEET OF THE EDGE LINE ON THE SHOULDERS.

INCENTIVE/DISINCENTIVE AMOUNT:

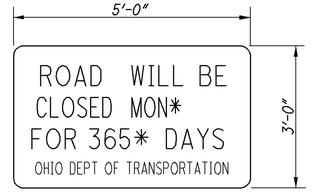
THE CONTRACTOR WILL BE PAID AN INCENTIVE OR WILL BE ASSESSED A DISINCENTIVE ACCORDING TO THE INCENTIVE/DISINCENTIVE CONTRACT TABLE.

EXTENSIONS OF TIME WILL BE FOR CALENDAR DAYS AND CALCULATED IN ACCORDANCE WITH C&MS 108.06 EXCEPT AS FOLLOWS: NO EXTENSIONS OF TIME WILL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES (UNLESS SUCH DELAYS ARE INDUSTRY WIDE), LABOR STRIKES (UNLESS SUCH STRIKES ARE AREA WIDE) AND INCLEMENT WEATHER EXCEPT IN CASES OF AREA FLOODING, BLIZZARD CONDITIONS, DAMAGING WIND OR LOCAL TORNADO DAMAGE.

DESCRIPTION OR LOCATION OF CRITICAL WORK	COMPLETION DATE	TIME PERIOD	DISINCENTIVE $ PER TIME PERIOD	INCENTIVE $ PER TIME PERIOD	MAXIMUM INCENTIVE $
PHASES 6A, 7, 8, 9, 10, 11 AND 12	110 DAYS	DAY	$10,000	$10,000	$200,000

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.



W20-H14-60

*CONTRACTOR SHALL USE ACTUAL CLOSURE DATE AND DURATION.

THE COST OF THE NOTICE OF CLOSURE SIGN IS CONSIDERED TO BE INCIDENTAL TO AND INCLUDED IN ITEM 614 - MAINTAINING TRAFFIC.

SUM-76/77-11.27/12.12

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ITEM 622 - PORTABLE BARRIER PLACEMENT

DURING THE PLACEMENT OF THE PORTABLE BARRIER, TRAFFIC WILL BE PROHIBITED FROM OCCUPYING THE TRAVEL LANE ADJACENT TO THE BARRIER. THE BARRIER WILL BE PLACED AT NIGHT PER THE WORK HOUR RESTRICTION NOTE AND IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE MAP. THE CLOSURE OF THE ADJACENT LANE WILL BE PER THE STANDARD DRAWING MT-95.30.

THE CONTRACTOR WILL SUBMIT A PLAN TO THE ENGINEER FOR APPROVAL SEVEN (7) DAYS IN ADVANCE OF THE PLANNED LANE CLOSURE. WORK WILL NOT BEGIN UNTIL APPROVAL OF THE PLANS HAS BEEN GRANTED.

ALL COSTS INVOLVED IN PLACING THE PORTABLE CONCRETE BARRIER WILL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 PORTABLE CONCRETE BARRIER.

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO CMS 614 OR CMS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.

RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM NOVEMBER 15TH THROUGH APRIL 1ST.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO CMS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER CMS 621.08.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH NECESSARY TO REACH THE LEVEL OF THE INTERMEDIATE COURSE OF THE PAVEMENT, AS DETERMINED BY THE ENGINEER.

THE FOLLOWING BID ITEMS SHOULD BE INCLUDED IN THE PLANS:

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE	3,473 SY
ITEM 407 - TACK COAT	261 GAL
ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (448), AS PER PLAN	145 CY

FOR WORK ZONE RAISED PAVEMENT MARKER QUANTITIES, SEE MAINTENANCE OF TRAFFIC SUBSUMMARIES.

ITEM 614-WORK ZONE RAISED PAVEMENT MARKERS ON CONCRETE SURFACES

RAISED PAVEMENT MARKERS IN WORK ZONES, INSTALLED ON TO CONCRETE SURFACES, SHALL BE ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS. WZRPMS ARE INTENDED FOR USE ONLY DURING THE NONSNOW-PLOWING SEASON. WZRPMS SHALL NOT BE PROVIDED DURING THE SNOW-PLOWING SEASON.

THE SNOW-PLOWING SEASON SHALL RUN FROM NOVEMBER 15TH THROUGH APRIL 1ST.

WHERE A TEMPORARY ALIGNMENT WILL REMAIN IN USE THROUGH THE WINTER, THE WZRPMS SHALL BE REMOVED PRIOR TO THE BEGINNING OF THE SNOW-PLOWING SEASON AND REPLACED APPROXIMATELY APRIL 1, OR AS OTHERWISE DETERMINED BY THE ENGINEER.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS.

FOR WORK ZONE RAISED PAVEMENT MARKER QUANTITIES, SEE MAINTENANCE OF TRAFFIC SUBSUMMARIES.

ITEM 615-PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 615, THIS ITEM REPLACES THE 7 INCHES OF ITEM 302 ASPHALT CONCRETE BASE AND THE 6 INCHES OF ITEM 304 AGGREGATE BASE WITH 9 INCHES OF ITEM 302 ASPHALT CONCRETE BASE.

ON THIS PROJECT THE CLASS A PAVEMENT FOR MAINTAINING TRAFFIC SHALL BE 24 FEET WIDE AND THE ROADWAY WIDTH SHALL NOT BE LESS THAN 30 FEET OUT TO OUT OF SHOULDERS. THE ALIGNMENT AND PAVEMENT TYPICAL SECTION SHALL BE AS DETAILED ON SHEETS 179 - 183. THE EXISTING PAVEMENT/SHOULDER SHALL BE SAWCUT AS PER 203.04(E).

QUANTITIES FOR THIS ITEM ARE INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARIES.

UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL REMOVE THE PAVEMENT FOR MAINTAINING TRAFFIC INCLUDING ANY TEMPORARY DRAINAGE FACILITIES. THE AFFECTED EXISTING EARTH MEDIAN AND PAVED SHOULDERS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AS DIRECTED BY THE ENGINEER AND AS PER 615.08.

PAVEMENT FOR MAINTAINING TRAFFIC SHALL NOT BE OPENED TO TRAFFIC UNTIL ALL WORK ZONE TRAFFIC CONTROL DEVICES, SIGNS, PAVEMENT MARKINGS AND PORTABLE CONCRETE BARRIERS HAVE BEEN ERECTED AND APPROVED BY THE ENGINEER.

ALTHOUGH ESTIMATES FOR TEMPORARY EXCAVATION, EMBANKMENT AND TEMPORARY DRAINAGE FACILITIES MAY BE SHOWN ON THE PLAN DETAILS, THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITH PAYMENT FOR LUMP SUM PAY ITEM 615 - ROADS FOR MAINTAINING TRAFFIC.

ITS MESSAGE BOARDS

THE EXISTING ITS MESSAGE BOARDS IN THE VICINITY OF THE PROJECT WILL BE UTILIZED TO PROVIDE SUPPLEMENTAL INFORMATION TO THE TRAVELING PUBLIC. THE CONTRACTOR WILL NOTIFY THE PROJECT ENGINEER ONE [1] WEEK IN ADVANCE OF ANY PHASE CHANGE ON I-76, I-77 AND/OR SR 8. THE PROJECT ENGINEER WILL COORDINATE WITH EITHER LISA BOSE AT 330-786-4817 OR BRENT KOVACS AT 330-786-2208 TO GET THE ITS MESSAGE BOARDS ADJUSTED.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL AND ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.10. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND CONCRETE PERMANENT BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE ALONG TAPERS AND TRANSITION AREAS AND ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70

TRIPLE STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

QUANTITIES FOR THIS ITEM HAVE BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARIES.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL AND ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

QUANTITIES FOR THIS ITEM ARE INCLUDED IN THE MAINTAINANCE OF TRAFFIC SUBSUMMARIES.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEMS.

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MAINTENANCE OF TRAFFIC NOTES

SUM-76/77-11.27/12.12

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MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS/HER OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE. IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF AKRON FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION - (CONT.)

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 4 HOURS AND SHALL NOT INCLUDE THE HOURS OF 6:00 AM TO 9:00 AM AND 3:00 PM TO 6:00 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF AKRON POLICE, HIRED BY THE CONTRACTOR:

1. BROWN ST. / SOUTH ST.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;

2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;

3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;

4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;

5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC AND ACCESS TO PROPERTIES

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC AND ACCESS TO PROPERTIES.

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B	100 CY
ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE C	100 CY
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	100 CY

ITEM 614 - BUSINESS ENTRANCE (M4-H15) SIGN, AS PER PLAN

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE 36 INCH X 48 INCH IN SIZE WITH TYPE G OR TYPE H ORANGE RETROFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS" ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO #3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90°TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

ITEM 614 - BUSINESS ENTRANCE (M4-H15) SIGN, AS PER PLAN - (CONT.)

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE MAINTENANCE OF TRAFFIC GENERAL SUMMARY FOR THIS ITEM.

ITEM 614, BUSINESS ENTRANCE SIGN, AS PER PLAN 5 EACH

BROWN STREET - PEDESTRIAN ACCESS

THE CONTRACTOR SHALL PROVIDE PEDESTRIAN ACCESS ALONG EXISTING BROWN STREET. AT LEAST ONE (1) SIDEWALK ON BROWN MUST BE MAINTAINED AT ALL TIMES AND SHALL BE ADEQUATELY PROTECTED FROM THE OVERHEAD BRIDGE WORK. THE WALK MAY BE EITHER THE EXISTING CONCRETE WALK, THE PROPOSED PERMANENT CONCRETE WALK, A TEMPORARY 5' WIDE, 4" THICK ASPHALT WALK, OR A COMBINATION THEREOF. ADDITIONALLY, LIGHTING SHALL BE MAINTAINED VIA STREET LIGHTS ON THE RELOCATED UTILITY AND ELECTRIC POLES.

PAYMENT FOR THE TEMPORARY WALK IS CLASSIFIED AS INCIDENTAL AND SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

RELOCATED JOHNSTON STREET - PEDESTRIAN ACCESS

THE CONTRACTOR SHALL PROVIDE PEDESTRIAN ACCESS ALONG NEW JOHNSTON STREET TO CONNECT BROWN STREET, SPICER STREET, HEDDEN AVENUE AND JOHNSTON COURT. THE ACCESS SHALL BE PROVIDED VIA EITHER THE PERMANENT SIDEWALK AS SHOWN IN THE PLANS OR BY A 5' WIDE, 4" THICK TEMPORARY ASPHALT WALK. THIS CONNECTION SHALL BE CONSTRUCTED AND OPEN TO PEDESTRIAN TRAFFIC BEFORE THE EXISTING WALKS UNDER THE I-76 BRIDGES ARE CLOSED.

PAYMENT FOR THE TEMPORARY WALK IS CLASSIFIED AS INCIDENTAL AND SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

COORDINATION BETWEEN CONTRACTORS

WORK ON THE SUM-76/77-11.27/12.12 PROJECT AND SUM-76-0.00 PID 93501, SUM-76-10.00 PID 77269 AND/OR SUM-76/77/277-VAR PROJECTS COULD BE PROCEEDING CONCURRENTLY. IF THE WORK ON SUM-76/77-11.27/12.12 PROJECT IS TO BE PERFORMED AT THE SAME TIME AS SUM-76-0.00 PID 93501, SUM-76-10.00 PID 77269 AND/OR SUM-76/77/277-VAR PROJECTS THE CONTRACTORS SHALL COORDINATE WORK EFFORTS TO ENSURE THE PROPER MAINTENANCE OF TRAFFIC SIGNAGE IS BEING UTILIZED IN BOTH CONTRACTS TO ASSURE THE SAFE AND EFFICIENT PASSAGE OF TRAFFIC. SUM-76/77-11.27/12.12'S SCHEDULE TAKES PRIORITY OVER SUM-76-0.00 PID 93501, SUM-76-10.00 PID 77269 AND SUM-76/77/277-VAR.

THE DETOUR SIGNS ON EASTBOUND I-76 APPROACHING BARBER ROAD FOR THE SUM-76/77-11.27/12.12 PROJECT SHALL BE MAINTAINED AS MUCH AS POSSIBLE. THE CONTRACTOR SHALL COORDINATE WORK WITH THE SUM-76-0.00 PID 93501 PROJECT CONTRACTOR TO MAINTAIN THESE SIGNS. ALL DEVIATIONS FROM THE PLAN OR NONPERFORMING OF WORK SHALL ONLY BE IMPLEMENTED AFTER RECEIVING WRITTEN APPROVAL FROM THE ENGINEER.

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MAINTENANCE OF TRAFFIC NOTES

SUM-76/77-11.27/12.12

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SHEET NUMBER															PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
46	47	48	49	50	51		53	54	55	56	57	92	178	413	01/IMS/OT	02/BRO/BR	03/NFA/OT/AKRN						
				3473											3,473			254	01000	3,473	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
				261											261			407	10000	261	GAL	TACK COAT	
					100										100			410	12000	100	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
					100										100			410	13000	100	CY	TRAFFIC COMPACTED SURFACE, TYPE C	
				145											145			442	20051	145	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (448), AS PER PLAN	50
			1,000												1,000			SPECIAL	51911710	1,000	SY	PATCHING CONCRETE STRUCTURES, MISC.: PATCHING CONCRETE BRIDGE DECKS USING RAPID STRENGTH CONCRETE	49
700															700			614	11110	700	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		24													24			614	11500	24	MNTH	WORKSITE TRAFFIC SUPERVISOR	
							48	44	66		100				258			614	11621	258	FT	LINEAR DELINEATION, AS PER PLAN	50
							1			2	3				6			614	12336	6	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
														9	9			614	12337	9	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN	49
	LS																	614	12421	LS		DETOUR SIGNING, AS PER PLAN	47
									32						32			614	12800	32	EACH	WORK ZONE RAISED PAVEMENT MARKER	
									189	209					398			614	12801	398	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	50
					100										100			614	13000	100	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
							31	29	56	32	86			1,103	1,337			614	13100	1,337	EACH	BARRIER REFLECTOR	
							31	29	56	32	86			1103	1,337			614	13350	1,337	EACH	OBJECT MARKER, ONE WAY	
48															48			614	18601	48	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	46
							0.46	0.34	0.66	0.14					1.60			614	20001	1.60	MILE	WORK ZONE LANE LINE, CLASS I, AS PER PLAN	47
							0.55	0.85	2.08	0.61	0.78				4.87			614	22001	4.87	MILE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN	47
							1,295		2,876	1,730	1,189				7,090			614	23001	7,090	FT	WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	47
								1,100	1,050		600				2,750			614	24001	2,750	FT	WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	47
					5										5			614	40051	5	EACH	BUSINESS ENTRANCE SIGN, AS PER PLAN	51
				LS														615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
							2,251					1,866	793		4,910			615	20001	4,910	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	50
575															575			616	10000	575	MGAL	WATER	
							1,250	1,180	2,034	1,576	4,110				10,150			622	41000	10,150	FT	PORTABLE BARRIER, 32"	
														10800	10,800			622	41001	10,800	FT	PORTABLE BARRIER, 32", AS PER PLAN	49
							230	220	450						900			622	41020	900	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
	189.4														189.4			630	07000	189.4	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18	
	267.8														267.8			630	07500	267.8	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22	
	188.4														188.4			630	08302	188.4	FT	GROUND MOUNTED WOODEN BOX BEAM SUPPORT, TYPE M BEAM	
	6														6			630	09000	6	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
	7														7			630	75000	7	EACH	SIGN ATTACHMENT ASSEMBLY	
	1024.0														1024.0			630	80200	1024.0	SF	SIGN, GROUND MOUNTED EXTRUSHEET	
	292.0														292.0			630	80224	292.0	SF	SIGN, OVERHEAD EXTRUSHEET	
	18														18			630	84500	18	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
	12														12			630	85400	12	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
	18														18			630	86102	18	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
	9														9			630	86292	9	EACH	REMOVAL OF GROUND MOUNTED WOODEN BOX BEAM SUPPORT AND DISPOSAL	
	3														3			630	87400	3	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	

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MAINTENANCE OF TRAFFIC GENERAL SUMMARY

SUM-76/77-11.27/12.12

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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 LINEAR DELINEATION, AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN FT	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN FT	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT
94	CL-1	I-76	507+00	516+00	LT										900.00				
94	W-2A	I-76	515+40	516+00	LT								60.00						
95	W-3	I-76	516+00	520+00	LT								400.00						
95	W-4	I-76 WB	520+00	524+29	LT								429.00						
95	W-5	I-76 WB	3+00	7+83	LT								483.00						
95	CL-2	I-76	516+00	519+95	LT										395.00				
95	LL-1	I-76	519+95	520+00	LT							5.00							
95	LL-2	I-76 WB	520+00	524+29	LT							429.00							
95	LL-3	I-76 WB	3+00	7+85	LT							485.00							
95	PCB-3	I-76 WB	520+50	521+30	LT					3	3							80.00	
95	PCB-4	I-76 WB	521+30	523+60	LT					5	5								230.00
95	PCB-5	I-76 WB	523+60	524+29	LT					1	1							69.00	
95	PCB-6	I-76 WB	3+00	7+87	LT					10	10							487.00	
95		LANE 0	24+88	28+86	LT												1284.00		
96		I-76	7+95	11+76	LT												967.00		
96	PCB-7	I-76	7+87	14+01	LT		1			12	12							614.00	
96	W-6	I-76	7+83	20+22	LT								1239.00						
96	LL-4	I-76	7+85	20+25	LT							1240.00							
96		I-76	12+50	12+98	LT	48.00													
97	LL-5	I-76	20+25	22+55	LT							230.00							
97	W-7	I-76	20+22	23+10	LT								288.00						
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						48	1			31	31	2,389	2,899		1,295		2,251	1,250	230
MILE												0.46	0.55						

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MAINTENANCE OF TRAFFIC SUBSUMMARY
PHASE 6A - SHEET 1 OF 1

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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 LINEAR DELINEATION, AS PER PLAN	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE RAISED PAVEMENT MARKER	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	614 BARRIER REFLECTOR	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (WHITE)	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (YELLOW)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	622 PORTABLE BARRIER, 32"	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED						
						FT	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	SY	FT	FT						
98	W-8A	I-76	487+00	490+00	RT								300.00												
98	DL-1A	I-76	487+00	490+00	RT											300.00									
99	W-8	I-76	490+00	503+00	RT								1300.00												
99	DL-1	I-76	490+00	492+50	RT											250.00									
100	W-9	I-76	503+00	516+00	RT								1300.00												
100	DL-2	I-76	504+00	509+50	RT											550.00									
100	LL-6	I-76	514+45	516+00	RT							155.00													
101	LL-7	I-76	516+00	520+00	RT							400.00													
101	LL-8	I-76 EB	520+00	529+00	RT							900.00													
101	W-10	I-76	516+00	520+00	RT								400.00												
101	W-11	I-76 EB	520+00	529+00	RT								900.00												
101	PCB-8	I-76	517+00	520+00	RT					7	7								300.00						
101	PCB-9	I-76 EB	520+00	521+40	RT					3	3								140.00						
101	PCB-10	I-76 EB	521+40	523+60	RT					4	4									220.00					
101	PCB-11	I-76 EB	523+60	529+00	RT					11	11								540.00						
101		I-76 EB	520+06	520+50	RT	44.00																			
102	PCB-12	I-76 EB	529+00	531+00	RT					4	4								200.00						
102	W-12	I-76 EB	529+00	531+55	RT								255.00												
102	LL-9	I-76 EB	529+00	532+10	RT							310.00													
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						44				29	29	1,765	4,455			1,100		1,180	220						
MILE												0.34	0.85												

CALCULATED CJD
CHECKED AKF

MAINTENANCE OF TRAFFIC SUBSUMMARY
PHASES 7 AND 8 - SHEET 1 OF 1

SUM-76/77-11.27/12.12

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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 LINEAR DELINEATION, AS PER PLAN (FT)	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (EACH)	614 BARRIER REFLECTOR (EACH)	614 OBJECT MARKER, ONE WAY (EACH)	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (WHITE) (FT)	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (YELLOW) (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN (FT)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN (SY)	622 PORTABLE BARRIER, 32" (FT)	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED (FT)
104	Y-1	I-76	487+40	490+00	RT									260.00					
104	DL-3	I-76	487+40	490+00	RT											260.00			
105	Y-2	I-76	490+00	503+00	RT									1300.00					
105	DL-4	I-76	490+00	492+90	RT											290.00			
105	LL-10	I-76	493+90	503+00	RT							910.00							
105	LL-11	I-76	493+90	503+00	RT							910.00							
105	W-13	I-76	493+90	503+00	RT								910.00						
106	W-14	I-76	503+00	516+00	RT								1300.00						
106	W-15	I-76	515+40	516+00	LT								60.00						
106	LL-12	I-76	503+00	515+00	RT							1200.00							
106	LL-12A	I-76	503+00	503+90	RT							90.00							
106	LL-13	I-76	507+00	510+35	LT							335.00							
106	DL-5	I-76	503+90	508+90	RT											500.00			
106	Y-3	I-76	503+00	516+00	RT									1300.00					
106	Y-4	I-76	510+45	516+00	LT									555.00					
106	CL-3	I-76	515+00	516+00	RT										100.00				
106	CL-3A	I-76	515+00	516+00	LT										100.00				
106	PCB-13	I-76	515+20	516+00	RT					3	3							80.00	
107	PCB-14	I-76	516+00	520+00	RT					8	8							400.00	
107	PCB-15	I-76 EB	520+00	521+40	RT					3	3							140.00	
107	PCB-16	I-76 EB	521+40	523+60	RT					4	4								220.00
107	PCB-17	LANE O	33+00	33+50	RT					2	2							50.00	
107	PCB-18	LANE O	30+70	33+00	RT					5	5								230.00
107	PCB-19	I-76 EB	523+60	526+50	RT					6	6							290.00	
107	PCB-19A	I-76 EB	526+50	529+00	RT					6	6							250.00	
107	PCB-20	LANE O	28+30	30+70	RT					5	5							240.00	
107	PCB-20A	LANE O	25+08	27+00	RT					5	5							192.00	
107	PCB-21	LANE O	24+98	28+85	LT/RT					9	9							387.00	
107	PCB-22	I-76 EB	528+95	529+00	RT					1	1							5.00	
107	Y-5	I-76	516+00	520+00	RT									400.00					
107	Y-6	I-76	516+00	520+00	LT									400.00					
107	Y-7	LANE O	25+07	34+30	RT									923.00					
107	Y-8	I-76 EB	520+00	529+00	RT									900.00					
107	CL-4	I-76	516+00	520+00	LT										400.00				
107	CL-5	I-76	516+00	520+00	RT										400.00				
107	CL-6	I-76 WB	520+00	520+50	LT										50.00				
107	CL-7	LANE O	25+04	34+30	RT										926.00				
107	CL-8	I-76 EB	520+00	529+00	RT										900.00				
107	W-16	I-76	516+00	520+00	LT								400.00						
107	W-17	I-76	516+00	520+00	RT								400.00						
107	W-18	I-76 WB	25+00	34+30	LT								930.00						
107	W-19	I-76 EB	520+00	529+00	RT								900.00						
107		I-76	519+15	520+00	LT				16										
107		I-76 WB	32+95	34+30	LT				20										
107		I-76 WB	30+79	32+95	LT			32											
107		I-76 WB	24+88	30+79	LT				89										
107		I-76 EB	524+95	529+00	RT				64										
107		I-76 EB	519+84	520+50		66.00													
		NOT USED: LL-14, LL-15, LL-16																	
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						66		32	189	56	56	3,445	4,900	6,038	2,876	1,050		2,034	450
MILE												0.66	2.08						

CALCULATED CJD
CHECKED AKF

MAINTENANCE OF TRAFFIC SUBSUMMARY
PHASES 9 AND 10 - SHEET 1 OF 2

SUM-76/77-11.27/12.12

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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 LINEAR DELINEATION, AS PER PLAN (FT)	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (EACH)	614 BARRIER REFLECTOR (EACH)	614 OBJECT MARKER, ONE WAY (EACH)	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (WHITE) (FT)	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (YELLOW) (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN (FT)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN (SY)	622 PORTABLE BARRIER, 32" (FT)	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED (FT)
108	PCB-23	I-76 WB	7+95	12+80	LT		1			10	10							485.00	
108	PCB-24	I-76 EB	529+00	531+90	RT/LT					6	6							290.00	
108	PCB-25	I-76 EB	529+00	531+90	RT					6	6							290.00	
108	PCB-26	I-76 WB	7+99	13+10	LT		1			10	10							511.00	
108	LL-17	I-76 WB	15+23	16+00	CEN							77.00							
108	LL-18	I-76 WB	16+00	20+25	LT							425.00							
108	W-20	I-76 EB	529+00	534+90	LT								590.00						
108	W-21	I-76 WB	7+98	20+22	LT								1224.00						
108	Y-9	I-76 WB	7+95	13+00	LT/CEN									505.00					
108	Y-10	I-76 EB	529+00	534+90	RT/LT									590.00					
108	CL-9	I-76 WB	7+97	16+00	LT										803.00				
108	CL-10	I-76 EB	529+00	534+90	LT										590.00				
108	CL-11	I-76 EB	533+76	534+90	LT										114.00				
108	CL-12	I-76 WB	13+00	15+23	CEN										223.00				
108		I-76 WB	7+98	16+00	LT				120										
108		I-76 EB	529+00	534+90	RT				89										
109	W-22	I-76 WB	20+22	23+10	LT								288.00						
109	LL-19	I-76 WB	20+25	22+50	LT							225.00							
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY							2		209	32	32	727	2,102	1,095	1,730			1,576	
MILE												0.14	0.61						

CALCULATED CJD
CHECKED AKF

MAINTENANCE OF TRAFFIC SUBSUMMARY
PHASES 9 AND 10 - SHEET 2 OF 2

SUM-76/77-11.27/12.12

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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 LINEAR DELINEATION, AS PER PLAN (FT)	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (EACH)	614 BARRIER REFLECTOR (EACH)	614 OBJECT MARKER, ONE WAY (EACH)	614 WORK ZONE LANE LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (WHITE) (FT)	614 WORK ZONE EDGE LINE, CLASS I, AS PER PLAN (YELLOW) (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE DOTTED LINE, CLASS I, AS PER PLAN (FT)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN (SY)	622 PORTABLE BARRIER, 32" (FT)	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED (FT)
171	PCB-27	NB I.R. 77	4284+88	4287+50	RT		1			6	6							262.00	
171	W-23	NB I.R. 77	4284+88	4287+50	RT								262.00						
171	DL-6	NB I.R. 77	4284+88	4287+50	RT											262.00			
172	PCB-28	NB I.R. 77	4287+50	4300+00	RT					25	25							1250.00	
172	W-24	NB I.R. 77	4287+50	4300+00	RT								1250.00						
172	DL-7	NB I.R. 77	4287+50	4290+88	RT											338.00			
172		NB I.R. 77	4289+88	4290+88	RT	100.00													
173	Y-11	RAMP FROM NB I.R. 77	5+32	10+82	LT/RT									550.00					
173	PCB-29	RAMP FROM NB I.R. 77	5+32	10+82	LT/RT		1			12	12							550.00	
173	W-25	RAMP FROM NB I.R. 77	1+02	11+32	LT/RT								1030.00						
173	PCB-30	RAMP FROM NB I.R. 77	1+02	11+32	LT/RT					21	21							1030.00	
173	PCB-31	NB I.R. 77	4300+00	4302+98	RT					6	6							298.00	
173	W-26	NB I.R. 77	4300+00	4302+98	RT								298.00						
174	W-27	SB S.R. 8	4323+77	4330+70	LT								693.00						
174	PCB-32	SB S.R. 8	4323+50	4330+70	LT		1			16	16							720.00	
174	CL-13	SB S.R. 8	4327+77	4330+70	LT										293.00				
174	CL-14	SB S.R. 8	4329+04	4337+50	LT										846.00				
175	CL-14A	SB S.R. 8	4337+50	4338+00	LT										50.00				
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						100	3			86	86		3,533	550	1,189	600		4,110	
MILE													0.78						

CALCULATED CJD
CHECKED AKF

MAINTENANCE OF TRAFFIC SUBSUMMARY PHASES 7, 8, 9 AND 10

SUM-76/77-11.27/12.12

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MATCH LINE 'A'
SEE SHEET 60

ENLARGED VIEW, SEE SHEET 62

SEE SR 8 (NORTH LEG) PROJECT APPROACH
SEE SHEET 151 THRU 177 .

SEE I-77 NORTH AND
WEST LEG PROJECT
SEE SHEETS 110 - 121.

SEE KENMORE LEG PROJECT
SEE SHEET 122 THRU 129.

SEE NORTHBOUND I-77 AND
SOUTH LEG PROJECT
SEE SHEET 151 THRU 177 .

SEE US 224/I-277 PROJECT LEG
SEE SHEET 130 THRU 150 .

MATCH LINE 'C'
SEE SHEET 61

EXISTING
SIGNS TO
REAMIN

EXISTING
SIGNS TO
REAMIN

COPLEY RD.

VERNON ODOM BLVD. (RT 261)

EAST AVE.

KENMORE BLVD.

WILBETH RD.

LOVERS LN

E. ARCHWOOD AVE

E. MARKET ST

BARBER RD.

S. MAIN ST

KELLY AVE

WATERLOO RD.

MANCHESTER RD. (RT 93)

KILLIAN RD.

LEGEND	
	SIGN
	TYPE III BARRICADE
	CLOSED RAMP AREA
	DETOUR ROUTE

CALCULATED AOG
CHECKED MAH

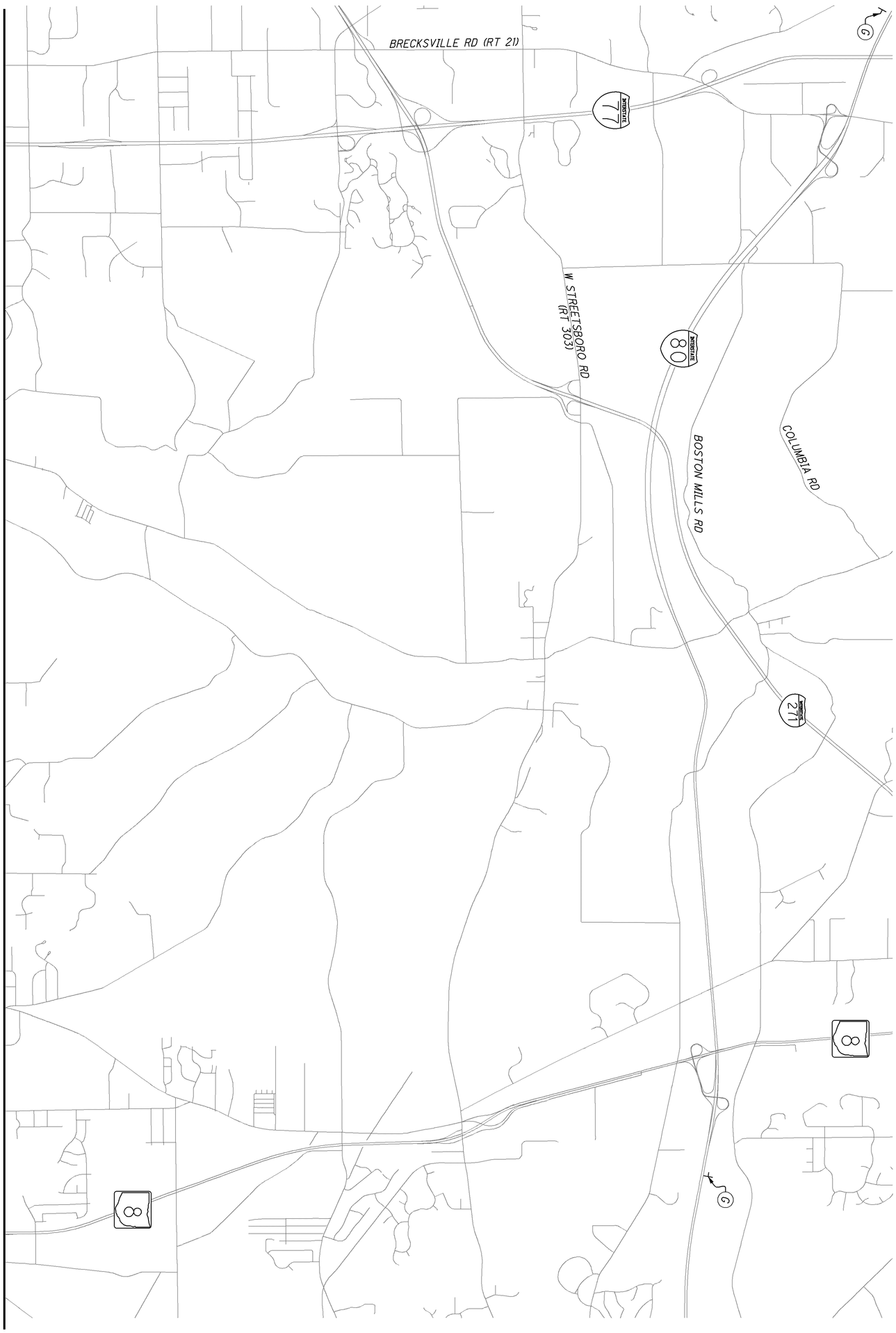
I-77 THROUGH TRAFFIC AND SR 8 TO WB 76 DETOUR PLAN (LANE O, LANE M, AND RAMP P) - SHEET 1 OF 5

SUM-76/77-11.27/12.12

58
652

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LEGEND

- DETOUR ROUTE
- CLOSED RAMP AREA
- TYPE III BARRICADE
- SIGN

N

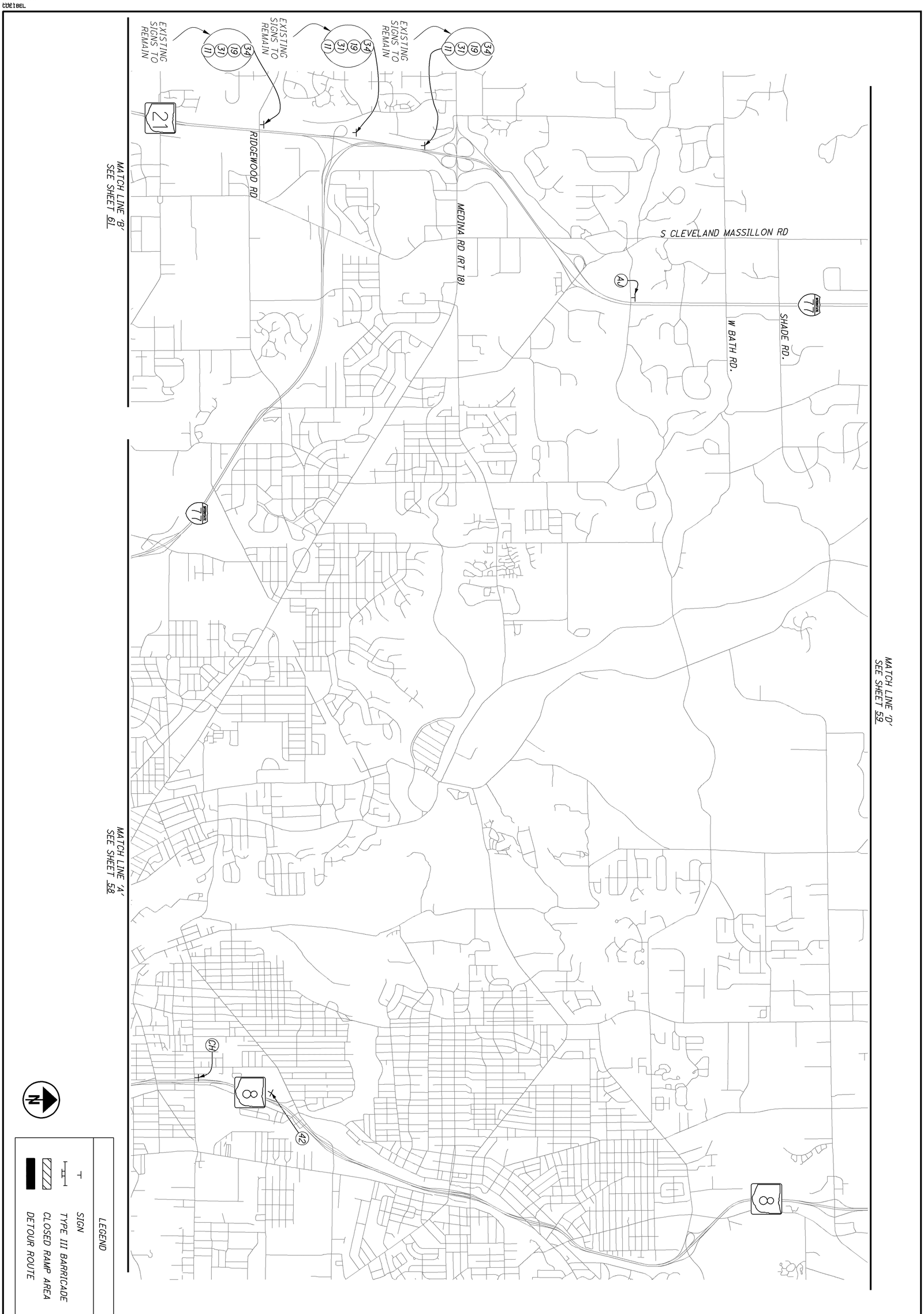
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SUM-76/77-11.27/12.12

I-77 THROUGH TRAFFIC AND SR 8 TO WB 76 DETOUR PLAN (LANE O, LANE M, AND RAMP P) - SHEET 2 OF 5

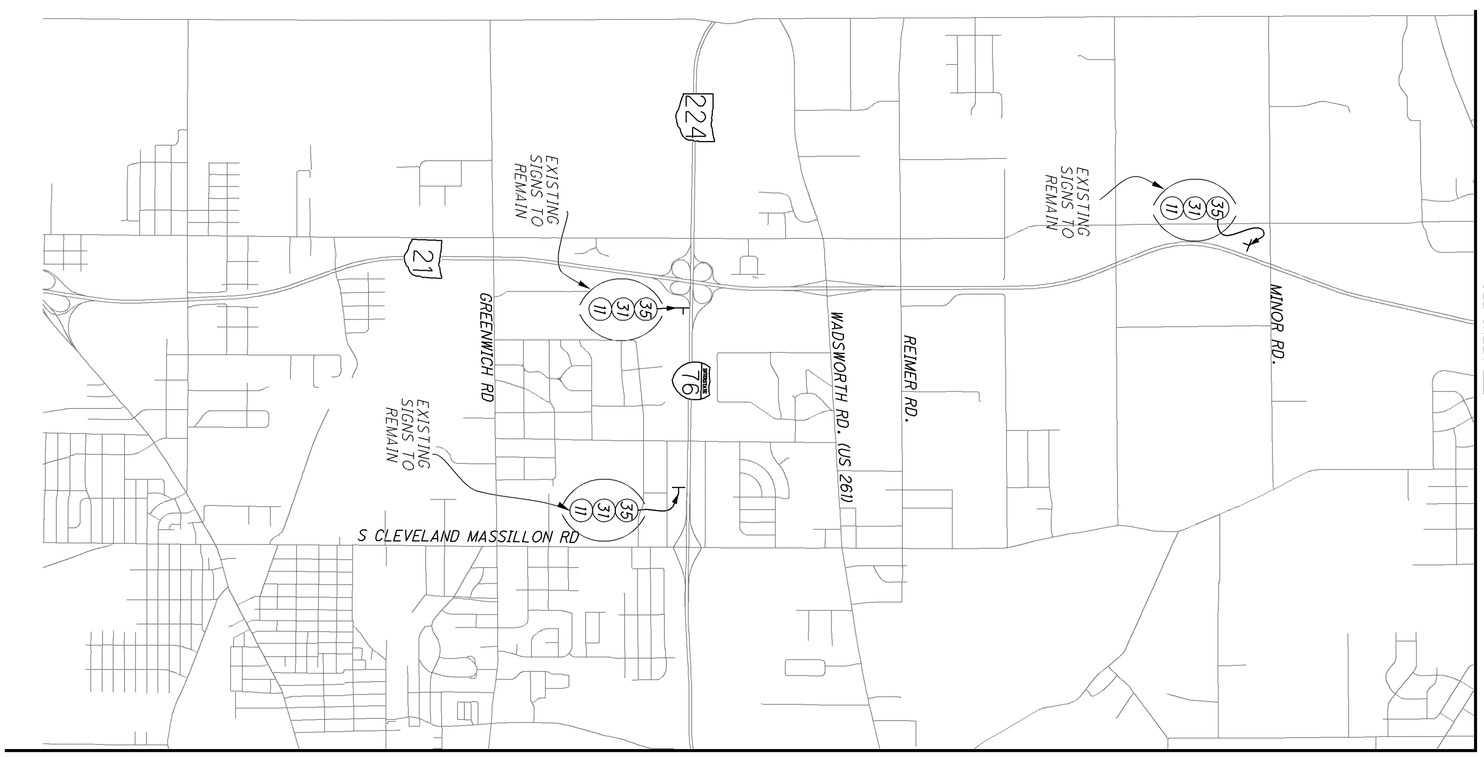
CALCULATED ADG
CHECKED MAH

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60 652	SUM-76/77-11.27/12.12	I-77 THROUGH TRAFFIC AND SR 8 TO WB 76 DETOUR PLAN (LANE O, LANE M, AND RAMP P) - SHEET 3 OF 5	CALCULATED ADG / CHECKED MAH

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LEGEND

- SIGN
- TYPE III BARRICADE
- CLOSED RAMP AREA
- DETOUR ROUTE

N

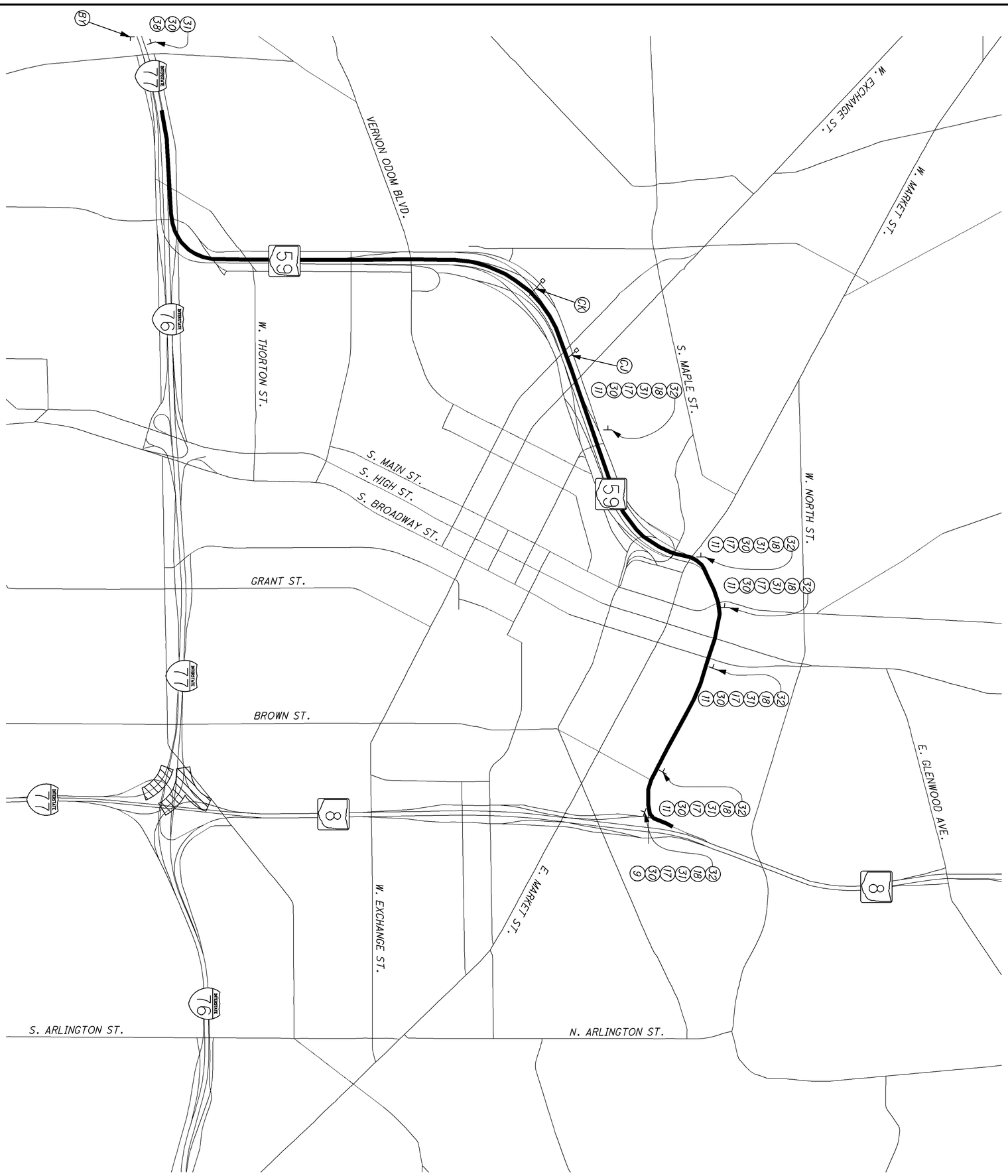
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SUM-76/77-11.27/12.12

I-77 THROUGH TRAFFIC AND SR 8 TO WB 76 DETOUR PLAN (LANE O, LANE M, AND RAMP P) - SHEET 4 OF 5

CALCULATED ADG
CHECKED MAH

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FOR SIGN DETAILS, SEE SHEETS: 11-14

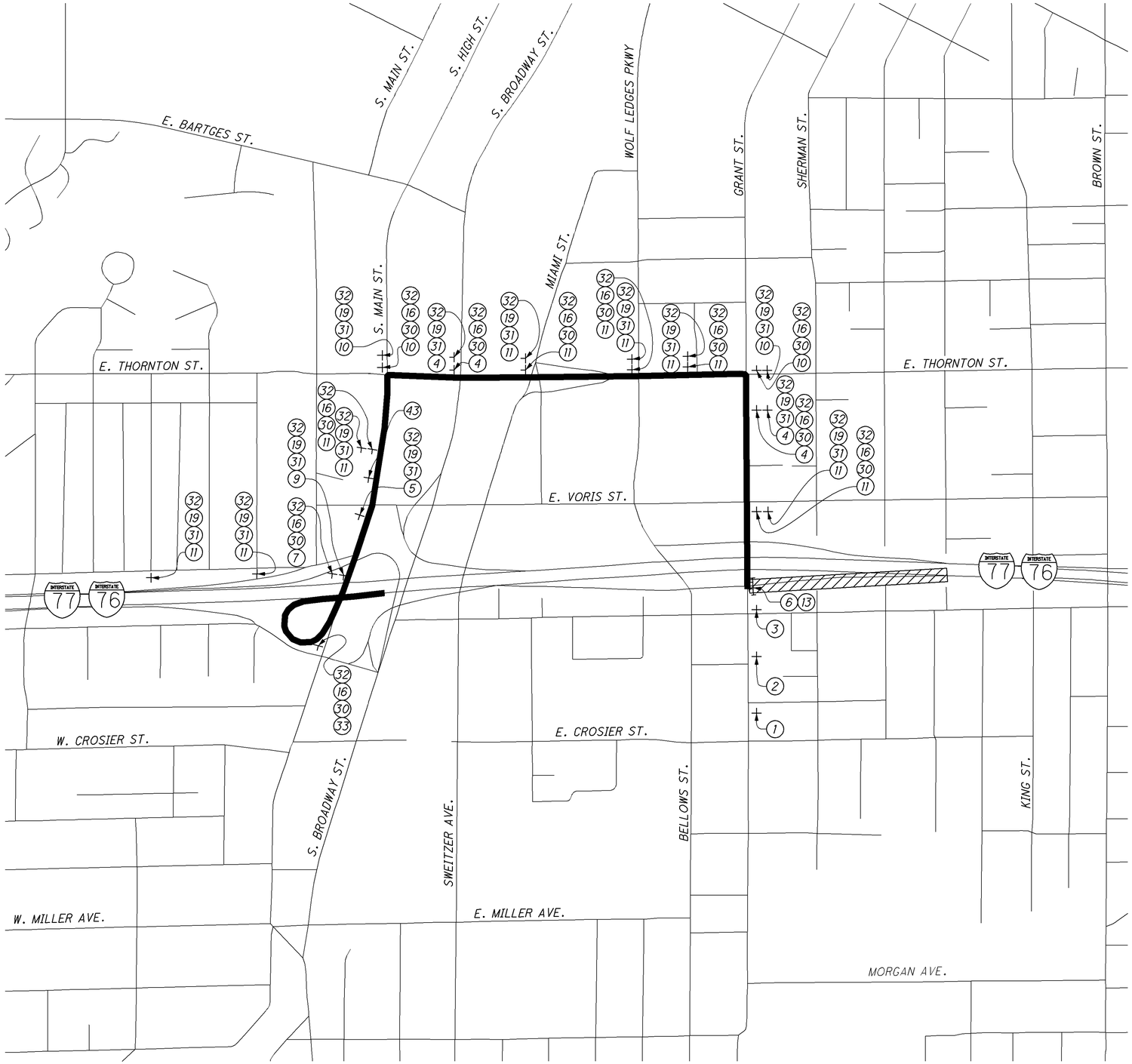
LEGEND

- DETOUR ROUTE
- CLOSED RAMP AREA
- TYPE III BARRICADE
- SIGN

62 652	SUM-76/77-11.27/12.12	I-77 THROUGH TRAFFIC AND S.R. 8 TO WB 76 DETOUR PLAN (LANE O, LANE M, AND RAMP P) - SHEET 5 OF 5	CALCULATED ADG / CHECKED MAH

MAINTENANCE OF TRAFFIC DETOUR PLAN
GRANT ST. ENTRANCE RAMP TO I-76 EASTBOUND

CALCULATED AKF
CHECKED MAH



FOR SIGN DETAILS,
SEE SHEET: 71

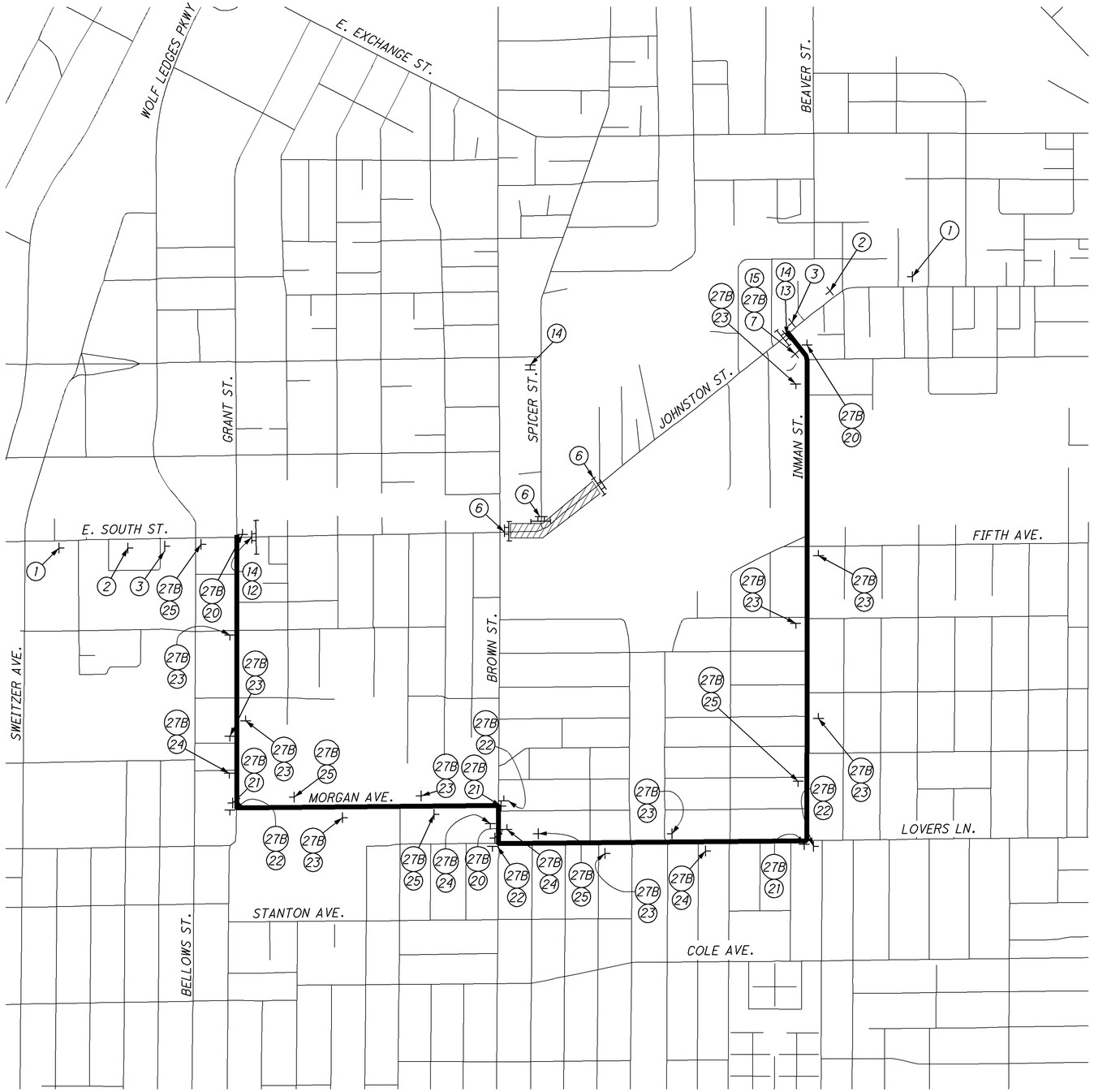
LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

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NOTE: I-76, I-77 AND S.R. 8 ARE NOT SHOWN ON THE DETOUR PLAN.



FOR SIGN DETAILS, SEE SHEET: 11

FOR SPICER ST. DETOUR, SEE SHEET 10

LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

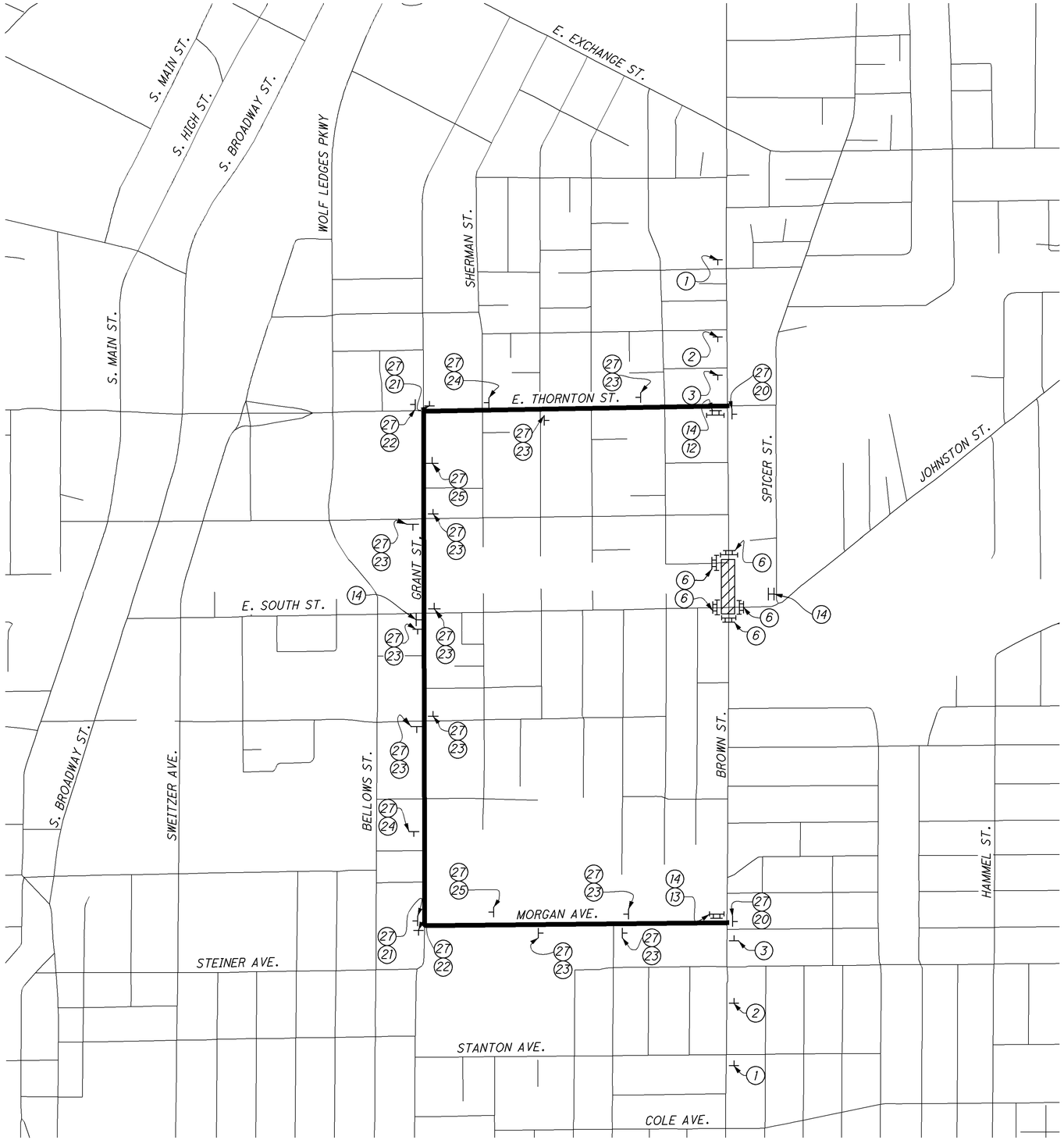
MAINTENANCE OF TRAFFIC DETOUR PLAN JOHNSTON ST.

SUM-76/77-11.27/12.12

CALCULATED AKF
CHECKED MAH

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NOTE: I-76, I-77 AND S.R. 8 ARE NOT SHOWN ON THE DETOUR PLAN.



FOR SIGN DETAILS, SEE SHEET: 71

FOR SPICER ST. DETOUR, SEE SHEET 70.
FOR SOUTH ST. DETOUR, SEE SHEET 69.

LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

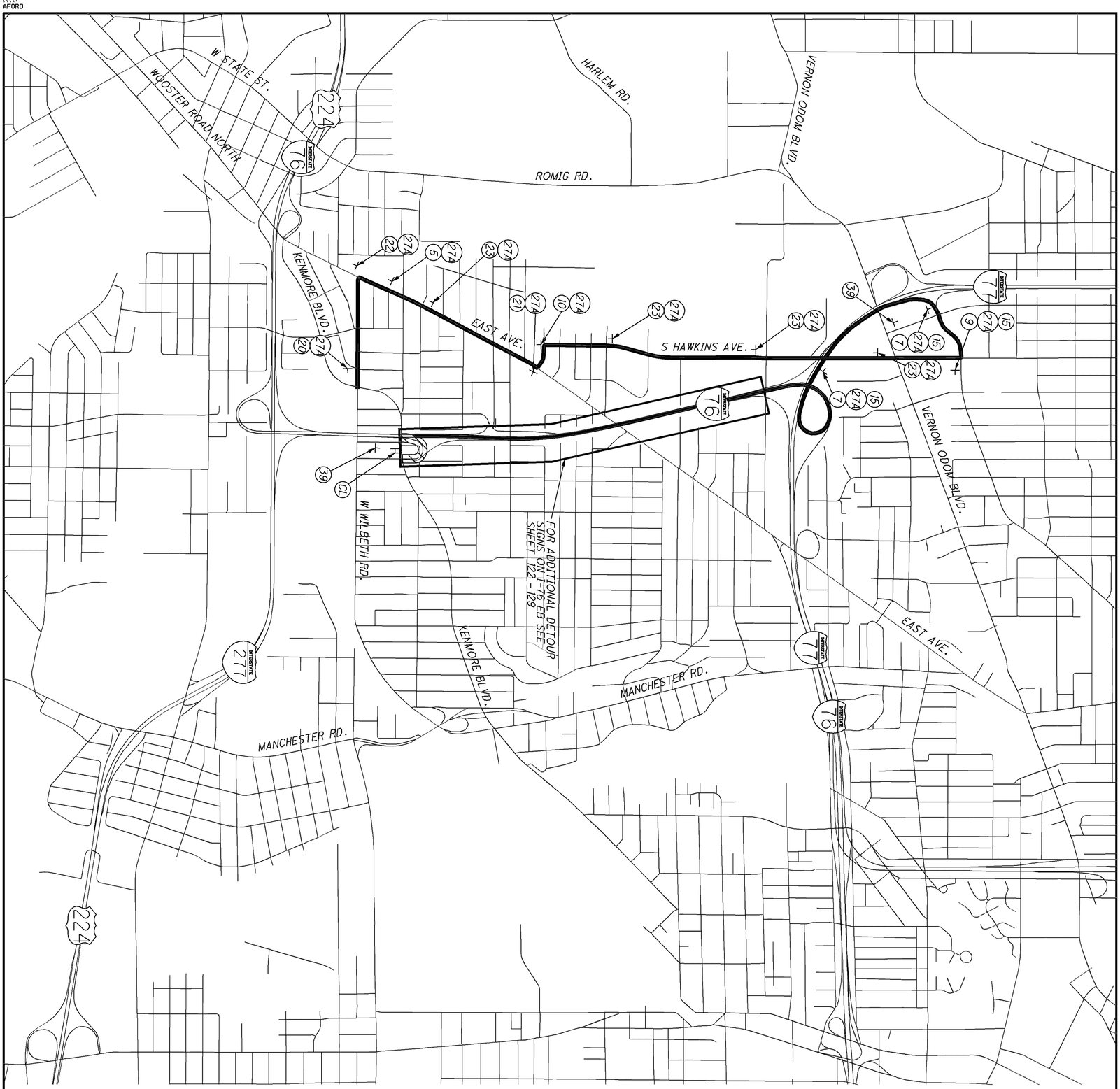
MAINTENANCE OF TRAFFIC DETOUR PLAN
BROWN ST.

CALCULATED AKF
CHECKED MAH

SUM-76/77-11.27/12.12

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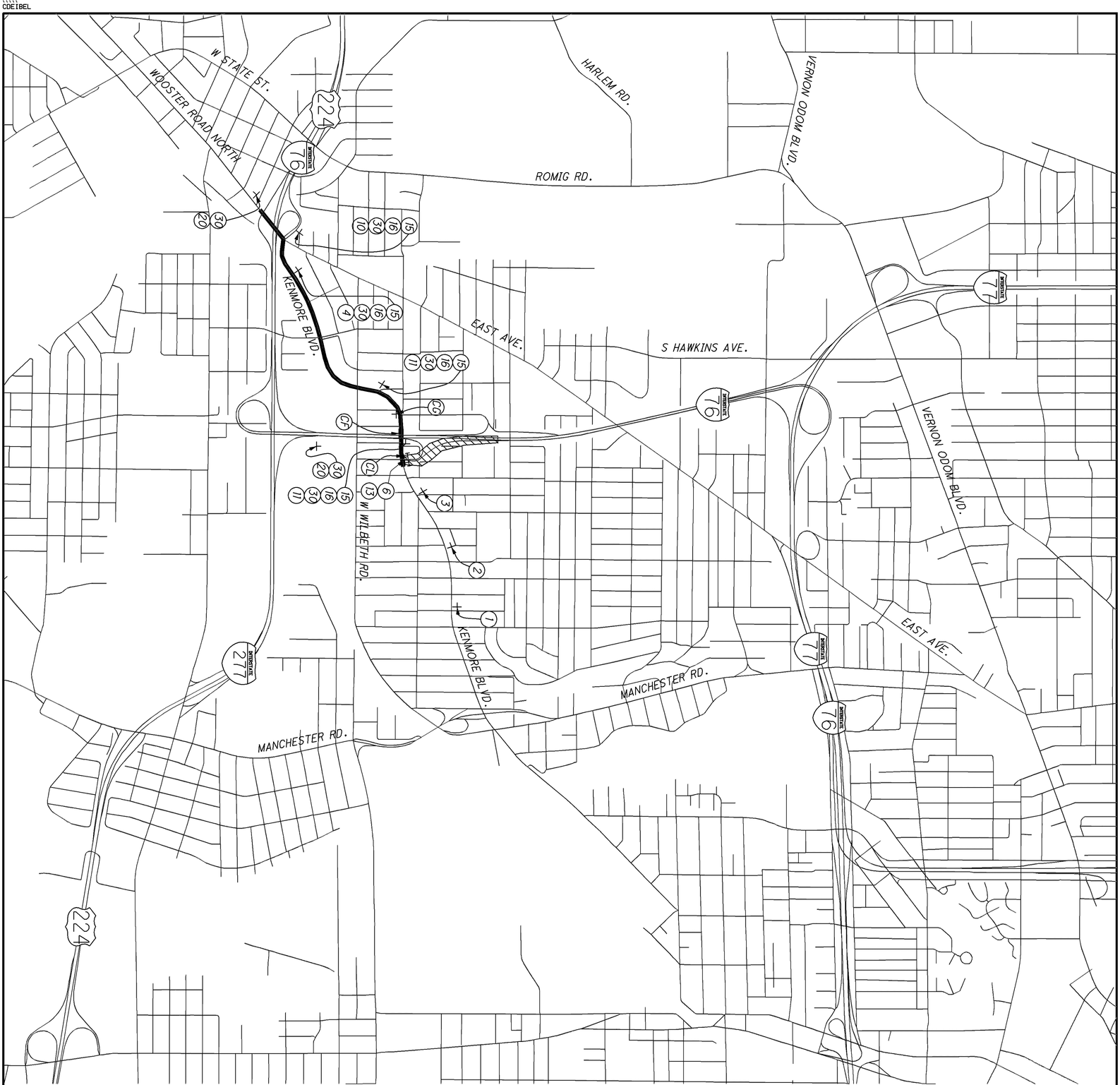
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66 / 652	SUM-76/77-11.27/12.12	**MAINTENANCE OF TRAFFIC DETOUR PLAN** **I-76 EB EXIT RAMP TO KENMORE BLVD.**

CALCULATED AKF
CHECKED MAH

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FOR SIGN DETAILS, SEE SHEETS: 11-14

LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

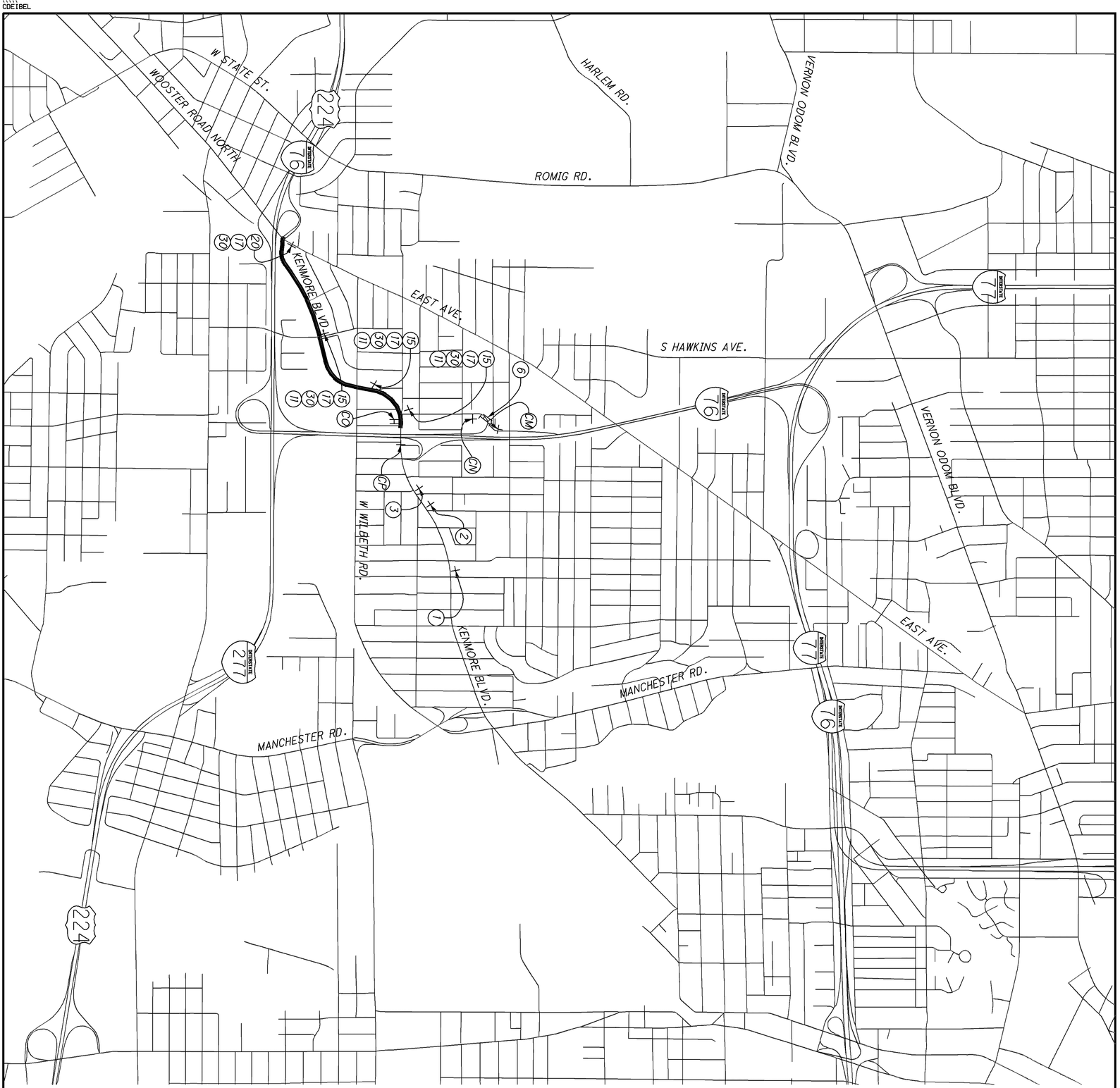
67
652

SUM-76/77-11.27/12.12

MAINTENANCE OF TRAFFIC DETOUR PLAN
KENMORE BLVD. ENTRANCE RAMP TO I-76 EB

CALCULATED AKF
CHECKED MAH

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FOR SIGN DETAILS,
SEE SHEETS: 11-14

LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

68
652

SUM-76/77-11.27/12.12

MAINTENANCE OF TRAFFIC DETOUR PLAN
KENMORE BLVD. ENTRANCE RAMP TO I-76 WB

CALCULATED DJP
CHECKED AKF

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FOR SIGN DETAILS, SEE SHEET: 11

NOTE: I-76, I-77 AND S.R. 8 ARE NOT SHOWN ON THE DETOUR PLAN.

LEGEND

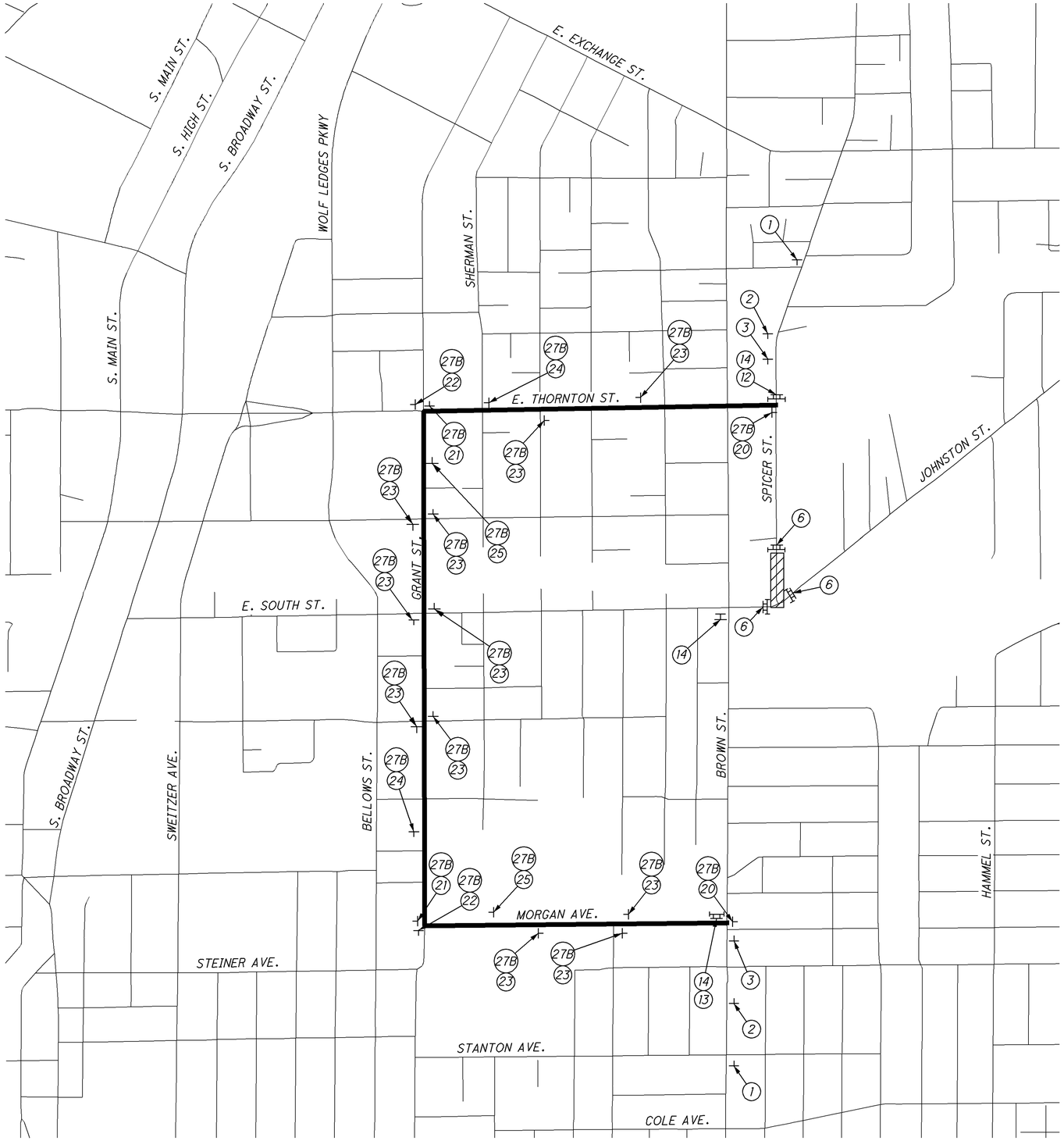
- DETOUR ROUTE
- WORK AREA
- TYPE III BARRICADE
- SIGN

69
652

SUM-76/77-11.27/12.12

MAINTENANCE OF TRAFFIC DETOUR PLAN
SUMMIT COUNTY ENGINEER'S OFFICE DRIVE

CALCULATED AKF
CHECKED MAH



NOTE: I-76, I-77 AND S.R. 8 ARE NOT SHOWN ON THE DETOUR PLAN.

FOR SIGN DETAILS, SEE SHEET: 71

FOR JOHNSTON ST. DETOUR, SEE SHEET 64.

LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

MAINTENANCE OF TRAFFIC DETOUR PLAN SPICER ST.

CALCULATED AKF
CHECKED MAH

SUM-76/77-11.27/12.12

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CDEIBEL



TYPE 'A' WARNING LIGHT
W20-1-36
(1)



W20-2-36
(2)



TYPE 'A' WARNING LIGHT
W20-3-36
(3)



M5-1L-24
(4)



M5-1R-24
(5)



R11-2-60
MOUNTED ON TYPE III
BARRICADE WITH TWO
TYPE B FLASHING WARNING
LIGHTS
(AS PER MT-101.60)
(6)



M5-2R-24
(7)



M5-2L-24
(8)



M6-1R-24
(9)



M6-1L-24
(10)



M6-3-24
(11)



M4-10R-48
(12)



M4-10L-48
(13)



R11-4-60
MOUNTED ON TYPE III BARRICADE
(14)



M4-8-30
(15)



M3-2-30
(16)



M3-4-30
(17)



M3-1-30
(18)



M3-3-30
(19)



M4-8A-24
(20)



M4-9R-30
(21)



M4-9L-30
(22)



M4-H9T-30
(23)



M4-H9bL-30
(24)



M4-H9bR-30
(25)



D3-1-36
(26)



D3-1-36
(27)



D3-1-36
(27A)



D3-1-36
(27B)



D3-1-36
(27C)



M1-1-36-2
(30)



M1-1-36-2
(31)



M4-5-30
(32)



M6-2R-30
(33)

M4-1a-30
(34)



M4-5-30
(35)



M1-4-36-3
(36)



M6-2L-30
(37)



M4-6-30
(38)



(39)

MESSAGE

MESSAGE

SPECIAL
(40)

SPECIAL
(41)

(42)

(43)

MESSAGE

MESSAGE

MESSAGE

MESSAGE

SPECIAL (SIGN A)
SEE SHEET 75
FOR DIMENSIONS
(A)

SPECIAL (SIGN C)
SEE SHEET 75
FOR DIMENSIONS
(C)

SPECIAL (SIGN D)
SEE SHEET 76
FOR DIMENSIONS
(D)

SPECIAL (SIGN E)
SEE SHEET 76
FOR DIMENSIONS
(E)

SPECIAL (SIGN G)
SEE SHEET 77
FOR DIMENSIONS
(G)

SPECIAL (SIGN I)
SEE SHEET 77
FOR DIMENSIONS
(I)

NOT USED: (28), (29), (B), (F), (H)

LEGEND

EXISTING SIGN TO REMAIN

PROPOSED SIGN

CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC
DETOUR SIGN DETAILS - SHEET 1 OF 4

SUM-76/77-11.27/12.12

71
652

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AFORD

EXISTING DMS TO READ:

DMS

DYNAMIC MESSAGE SIGN

I-77 CLOSED
AT SR 8
USE W 76 TO E 277

MESSAGE

(AF)

M4-8-36
M3-3-36
M1-1-36-2

(AG)

EXISTING DMS TO READ:

DMS

DYNAMIC MESSAGE SIGN

I-77 CLOSED
AT SR 8
USE S 21 TO W 277

MESSAGE

(AJ)

EXISTING DMS TO READ:

DMS

DYNAMIC MESSAGE SIGN

CONSTRUCTION
E 76 AT SR 8
USE E 277 TO N 77

MESSAGE

(AK)

EXISTING DMS TO READ:

DMS

DYNAMIC MESSAGE SIGN

CONSTRUCTION
E 76 AT SR 8
USE E 277 TO N 77

MESSAGE

(AQ)

M4-8-36
M3-3-36
M1-1-36-2

(AR)

NOT USED: (AA), (AB), (AC), (AD), (AE), (AH), (AI), (AL), (AM), (AN), (AO), (AP), (AS), (AT), (AU), (AV), (AW), (AX), (AY), (AZ)

LEGEND

EXISTING SIGN TO REMAIN

PROPOSED SIGN

CALCULATED KRM
CHECKED AKF

MAINTENANCE OF TRAFFIC
DETOUR SIGN DETAILS - SHEET 2 OF 4

SUM-76/77-11.27/12.12

72
652

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ODETBEL

EXISTING DMS TO READ:

DMS

DYNAMIC MESSAGE SIGN

CONSTRUCTION W 76 AT SR 8 USE S 77 TO W 277

MESSAGE

(BQ)

ALT WEST I-76

LEFT EXIT 23A

I-77 SOUTH

Canton

LEFT 1 MILE

M4-1a-36
M3-4-36
M1-1-36-2

CONSTRUCTION IN AKRON
WEST SOUTH
I-76 FOLLOW I-77
USE ALT. ROUTE

SIGN D-180

EXIT 24A

Inman St
Johnston St

½ MILE

EXIT 24B

Arlington St ↗

EXIT ONLY

EXISTING OVERHEAD MOUNTED SIGNS TO BE RELOCATED NEW LOCATION TO FIT PROPOSED SIGN D

(BR)

ALT WEST I-76

LEFT EXIT 23A

I-77 SOUTH

Canton

LEFT ½ MILE

M4-1a-36
M3-4-36
M1-1-36-2

EXIT 23B

8 NORTH

Cuyahoga Falls

EXIT ↓ ONLY

EXIT 24A

Inman St
Johnston St ↗

EXIT ONLY

(BS)

ALT WEST I-76

LEFT EXIT 23A

I-77 SOUTH

Canton

LEFT ¼ MILE

M4-1a-36
M3-4-36
M1-1-36-2

I-76 WEST
I-77 NORTH

LEFT 2 LANES

EXIT 23B

8 NORTH

Cuyahoga Falls

EXIT ↓ ONLY

(BT)

ALT WEST I-76

LEFT EXIT 23A

I-77 SOUTH

Canton

M4-1a-36
M3-4-36
M1-1-36-2

(BU)

I-76 EAST ~~I-77 SOUTH~~ CLOSED

Youngstown
Canton

WITH CLOSED OVERLAY

(BY)

EXIT 21C

59 EAST

Downtown

ONLY

EXIT 21B

Lakeshore Blvd
Bowery St ↗

I-77 NORTH

CLOSED IN AKRON
FOLLOW DETOUR
WEST 224 TO I-76 EAST

SIGN A-132

I-77

Akron
Canton

1 MILE

Kelly Ave
Waterloo Rd ↗

(CA)

I-76 EAST CLOSED TO I-77

WITH CLOSED OVERLAY

(CF)

TO DETOUR EAST I-76

TO EAST I-76

TO I-77

TO W WILBETH RD

Kenmore Blvd

← EAST | WEST →

M4-8-30
M3-2-30
M1-1-36-2
M1-1-36-2
M6-1R-30

EXISTING SIGNS COVERED

(CG)

TO DETOUR WEST I-76

TO DETOUR NORTH I-77

EXIT 1B

59 TO 18

Perkins St

EXIT 1 MILE

M4-5-30 M4-5-30
M4-8-30 M4-8-30
M3-4-36 M3-1-36
M1-1-36-2 M1-1-36-2

EXIT 3

261

Tallmadge Ave ↗

EXIT ONLY

(CH)

TO WEST I-76

TO NORTH I-77

EXIT 1B

59 TO 18

Perkins St

NEXT RIGHT

M4-5-30 M4-5-30
M3-4-36 M3-1-36
M1-1-36-2 M1-1-36-2

(CI)

NOT USED: (BA) (BP) (BX) (BW) (BV) (BZ) (CB) (CC) (CD) (CE) (CF) (GG)

LEGEND

EXISTING SIGN TO REMAIN

PROPOSED SIGN

CALCULATED KRM
CHECKED AKF

MAINTENANCE OF TRAFFIC
DETOUR SIGN DETAILS - SHEET 3 OF 4

SUM-76/77-11.27/12.12

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652

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ODETBEL

LEGEND

EXISTING SIGN TO REMAIN

PROPOSED SIGN

CALCULATED KRM
CHECKED AKF

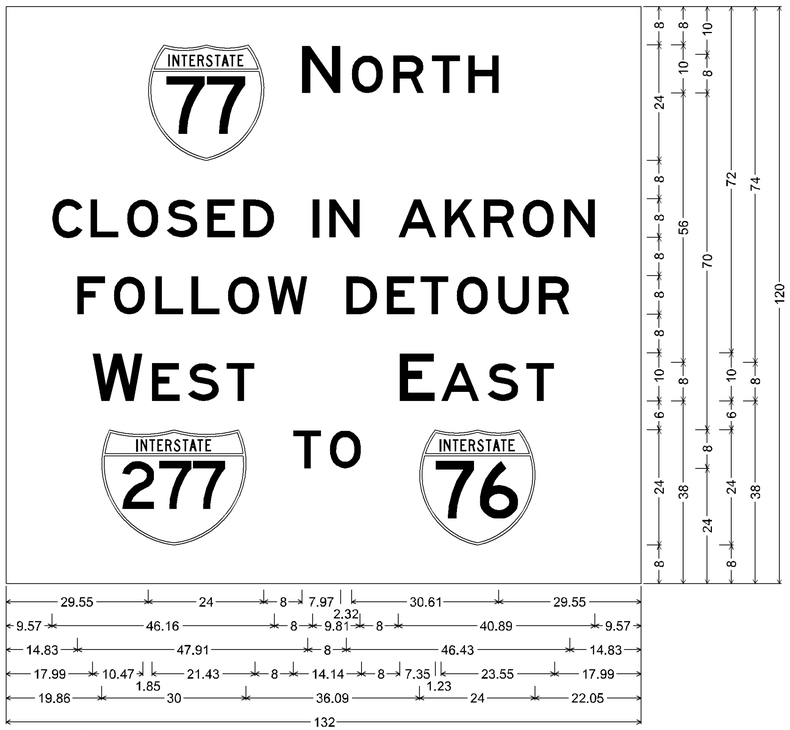
MAINTENANCE OF TRAFFIC
DETOUR SIGN DETAILS - SHEET 4 OF 4

SUM-76/77-11.27/12.12

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652

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USER:
CODE:BEL

SIGN A



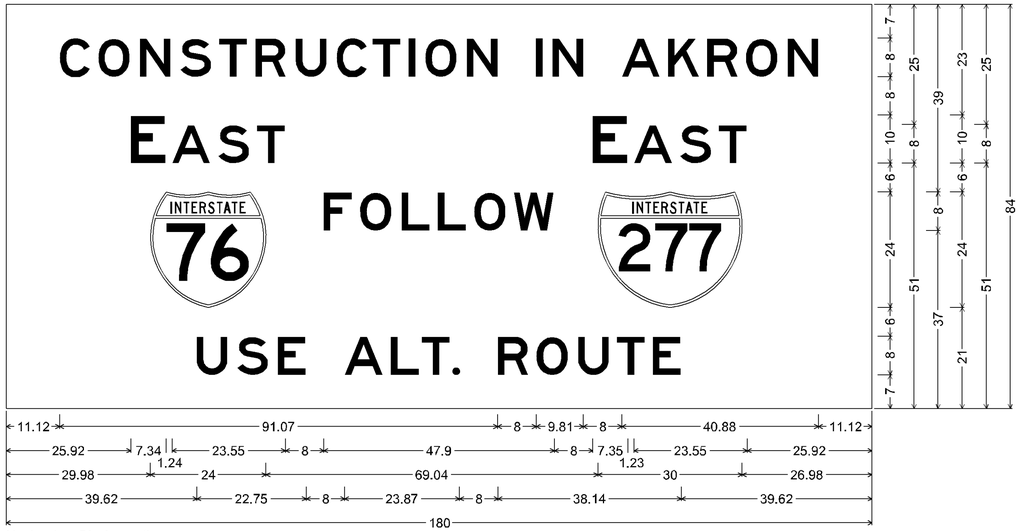
No border, Black on Orange;
Interstate 77 M1-1; [NORTH] E; [CLOSED] E; [IN] E; [AKRON] E; [FOLLOW] E; [DETOUR] E;
[WEST] E; Interstate 277 M1-1; [TO] E; [EAST] E; Interstate 76 M1-1;
Table of letter and object lefts.

77 29.55	N 61.55	O 71.84	R 80.53	T 88.55	H 96.07

C 9.57	L 17.60	O 25.12	S 33.40	E 41.83	D 49.36	I 63.73	N 67.17	A 81.54	K 91.19	R 99.34	O 107.36	N 116.05	
F 14.83	O 22.35	L 31.04	L 38.56	O 46.09	W 54.36	D 70.74	E 79.17	T 86.15	O 93.67	U 102.36	R 110.80		
W 17.99	E 30.31	S 37.84	T 45.86	T 59.74	O 67.26	E 81.88	A 90.46	S 100.11	T 108.14				
277 19.86	76 85.95												

NOTE: ALL DIMENSIONS SHOWN IN INCHES.

SIGN C



No border, Black on Orange;
[CONSTRUCTION] E; [IN] E; [AKRON] E; [EAST] E; Interstate 76 M1-1; [FOLLOW] E; [EAST] E; Interstate 277 M1-1; [USE] E;
[ALT. ROUTE] E;
Table of letter and object lefts.

C 11.12	O 19.14	N 27.83	S 36.27	T 44.29	R 51.82	U 60.25	C 68.69	T 76.16	I 83.69	O 87.12	N 95.81	I 110.19	N 113.62	A 128.00	K 137.65	R 145.79	O 153.82	N 162.51	
E 25.92	A 34.50	S 44.15	T 52.17	F 66.05	O 73.57	L 82.26	L 89.78	O 97.31	W 105.58	E 121.95	A 130.53	S 140.18	T 148.21						
76 29.98	277 123.02																		

U 39.62	S 48.06	E 56.50	A 70.37	L 80.02	T 86.45	. 92.87	R 102.24	O 110.27	U 118.95	T 126.98	E 134.50	

NOTE: ALL DIMENSIONS SHOWN IN INCHES.

CALCULATED AKF
CHECKED MAH

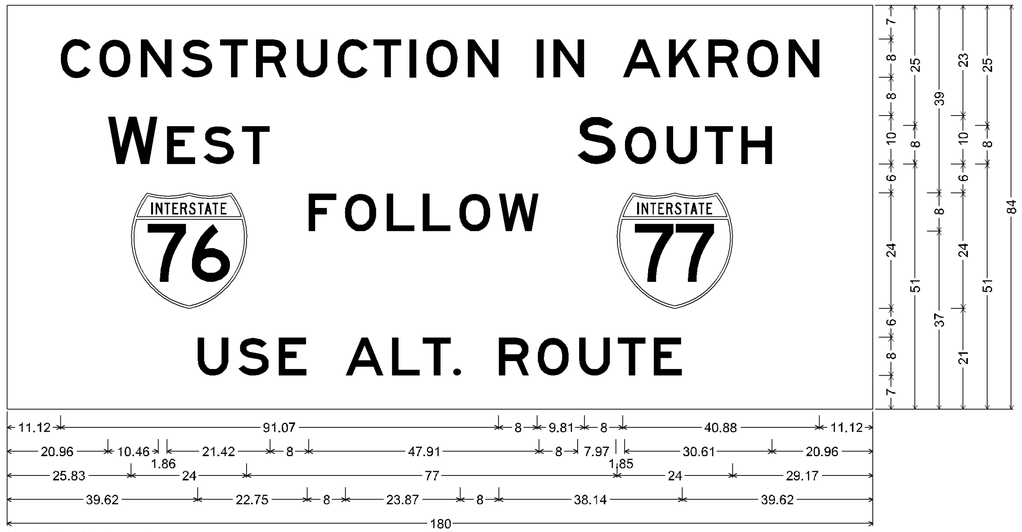
MAINTENANCE OF TRAFFIC
DETOUR SIGN DETAILS - SHEET 1 OF 3

SUM-76/77-11.27/12.12

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ODETBEL

SIGN D

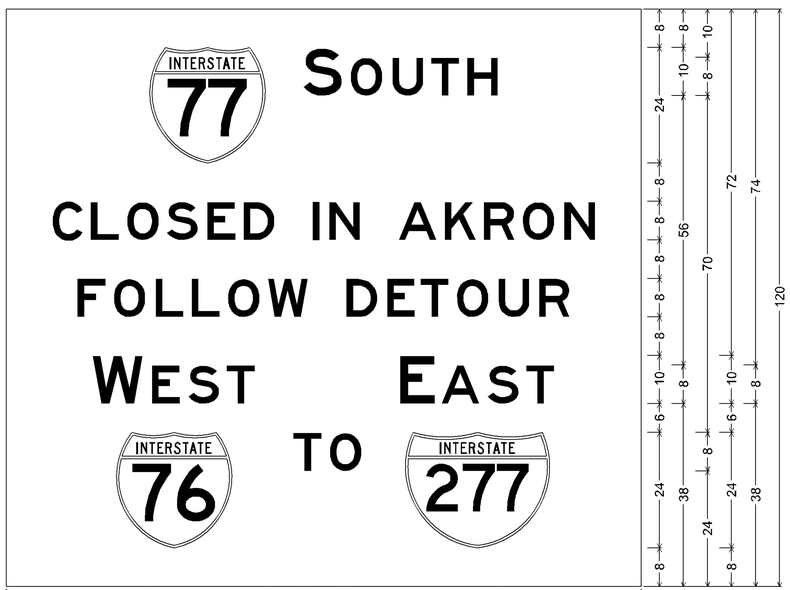


No border, Black on Orange;
[CONSTRUCTION] E; [IN] E; [AKRON] E; [WEST] E; Interstate 76 M1-1; [FOLLOW] E; [SOUTH] E; Interstate 77 M1-1; [USE] E; [ALT.] E; [ROUTE] E;
Table of letter and object lefts.

C 11.12	O 19.14	N 27.83	S 36.27	T 44.29	R 51.82	U 60.25	C 68.69	T 76.16	I 83.69	O 87.12	N 95.81	I 110.19	N 113.62	A 128.00	K 137.65	R 145.79	O 153.82	N 162.51	
W 20.96	E 33.28	S 40.80	T 48.83	F 62.70	O 70.23	L 78.91	L 86.44	O 93.96	W 102.24	S 118.61	O 128.43	U 137.12	T 145.15	H 152.67					
76 25.83	77 126.83																		
U 39.62	S 48.06	E 56.50	A 70.37	L 80.02	T 86.45	. 92.87	R 102.24	O 110.27	U 118.95	T 126.98	E 134.50								

NOTE: ALL DIMENSIONS SHOWN IN INCHES.

SIGN E



No border, Black on Orange;
Interstate 77 M1-1; [SOUTH] E; [CLOSED] E; [IN] E; [AKRON] E; [FOLLOW] E; [DETOUR] E; [WEST] E; Interstate 76 M1-1; [TO] E; [EAST] E; Interstate 277 M1-1;
Table of letter and object lefts.

77 29.78	S 61.78	O 71.61	U 80.29	T 88.32	H 95.84														
C 9.57	L 17.60	O 25.12	S 33.40	E 41.83	D 49.36	I 63.73	N 67.17	A 81.54	K 91.19	R 99.34	O 107.36	N 116.05							
F 14.83	O 22.35	L 31.04	L 38.56	O 46.09	W 54.36	D 70.74	E 79.17	T 86.15	O 93.67	U 102.36	R 110.80								
W 17.99	E 30.31	S 37.84	T 45.86	T 59.74	O 67.26	E 81.88	A 90.46	S 100.11	T 108.14										
76 22.86	277 82.95																		

NOTE: ALL DIMENSIONS SHOWN IN INCHES.

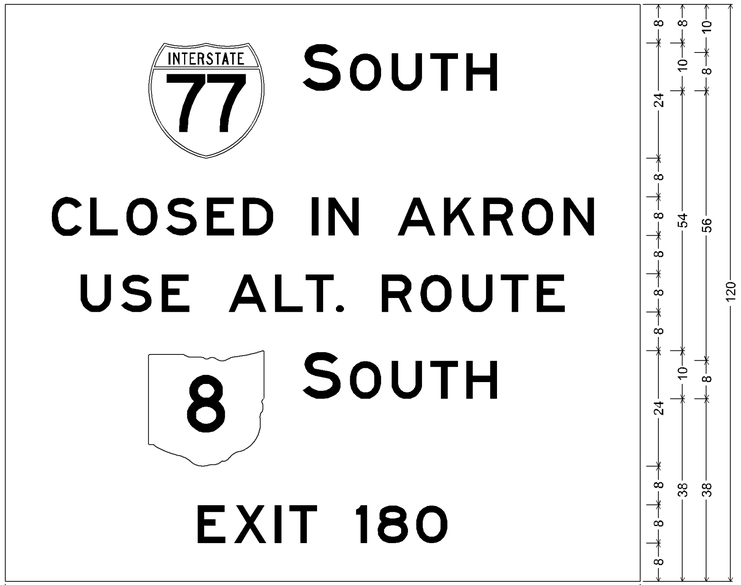
CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC
DETOUR SIGN DETAILS - SHEET 2 OF 3

SUM-76/77-11.27/12.12

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CDETIBEL

SIGN G

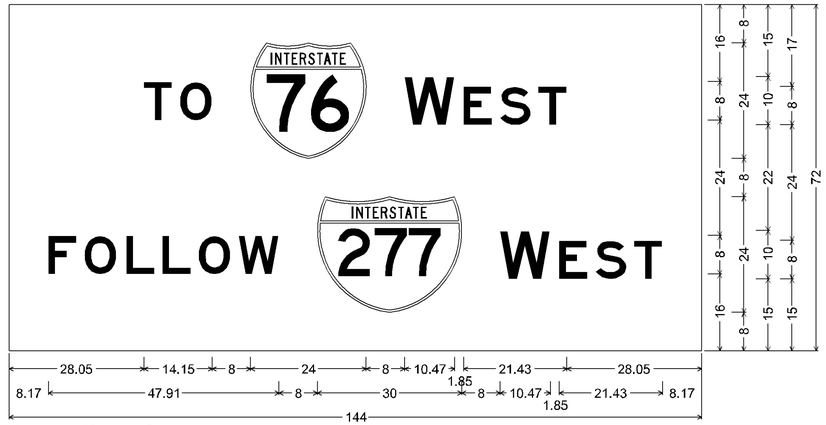


No border, Black on Orange;
Interstate 77 M1-1; [SOUTH] E; [CLOSED] E; [IN] E; [AKRON] E; [USE] E; [ALT.] E;
[ROUTE] E; State Highway 8 M1-H5-24-2; [SOUTH] E; [EXIT] E; [180] E;
Table of letter and object lefts.

77 29.78	S 61.78	O 71.61	U 80.29	T 88.32	H 95.84	
C 9.57	L 17.60	O 25.12	S 33.40	E 41.83	D 49.36	I 63.73
N 67.17	A 81.54	K 91.19	R 99.34	O 107.36	N 116.05	
U 15.62	S 24.06	E 32.50	A 46.37	L 56.02	T 62.45	. 68.87
R 78.24	O 86.27	U 94.95	T 102.98	E 110.50		
8 29.78	S 61.78	O 71.61	U 80.29	T 88.32	H 95.84	
E 39.98	X 47.51	I 56.03	T 59.06	1 72.93	8 77.37	O 85.39

NOTE: ALL DIMENSIONS SHOWN IN INCHES.

SIGN I



No border, Black on Orange;
[TO] E; Interstate 76 M1-1; [WEST] E; [FOLLOW] E; Interstate 277 M1-1; [WEST] E;
Table of letter and object lefts.

T 28.05	O 35.58	77 50.20	W 82.20	E 94.52	S 102.05	T 110.07
F 8.17	O 15.70	L 24.38	L 31.91	O 39.43	W 47.71	277 64.08
W 102.08	E 114.40	S 121.93	T 129.95			

NOTE: ALL DIMENSIONS SHOWN IN INCHES.

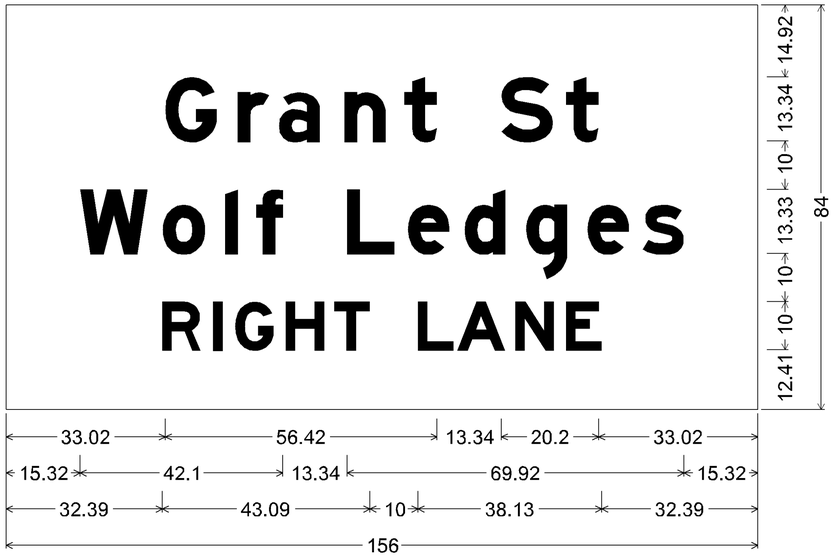
CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC
DETOUR SIGN DETAILS - SHEET 3 OF 3

SUM-76/77-11.27/12.12

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ODETBEL



No border, Black on Orange;

[Grant St] E Mod; [Wolf Ledges] E Mod; [RIGHT LANE] E Mod;

Table of distances between letter and object lefts.

	G	**r**	**a**	**n**	**t**	**S**	**t**					
33.02	15.00	8.54	13.70	12.40	20.12	13.42	6.78	33.02				
	W	**o**	**l**	**f**	**L**	**e**	**d**	**g**	**e**	**s**		
15.32	17.16	13.00	6.43	18.85	12.60	11.76	12.76	12.75	11.47	8.58	15.32	
	R	**I**	**G**	**H**	**T**	**L**	**A**	**N**	**E**			
32.39	10.53	4.57	10.53	10.03	17.43	8.11	12.06	10.54	7.42	32.39		

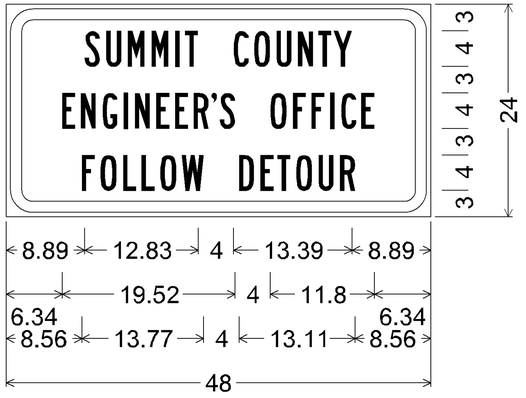
NOTE: ALL DIMENSIONS SHOWN IN INCHES.

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9/16/2014
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CDEIBEL

CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN SIGN DETAIL

SUM-76/77-11.27/12.12



SPECIAL;

3.00" Radius, 1.25" Border, 0.50" Indent, Black on Orange;

[SUMMIT COUNTY] B;

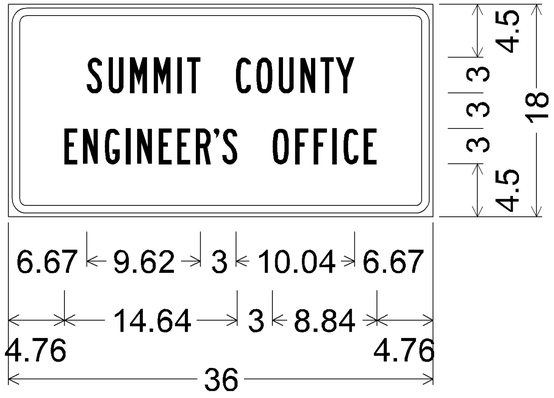
[ENGINEER'S OFFICE] B;

[FOLLOW DETOUR] B;

Table of letter and object lefts.

S 8.89	U 11.32	M 13.75	M 16.44	I 19.12	T 20.22
C 25.72	O 28.01	U 30.57	N 33.00	T 35.29	Y 36.99
E 6.34	N 8.44	G 10.88	I 13.31	N 14.56	E 16.99
E 19.09	R 21.19	' 23.28	S 24.18		
O 29.86	F 32.42	F 34.52	I 36.62	C 37.87	E 40.16
F 8.56	O 10.66	L 13.22	L 15.32	O 17.42	W 19.83
D 26.33	E 28.76	T 30.66	O 32.76	U 35.32	R 37.75

NOTE: ALL DIMENSIONS SHOWN IN INCHES.



SPECIAL;

1.50" Radius, 0.63" Border, 0.32" Indent, Black on Orange;

[SUMMIT COUNTY] B;

[ENGINEER'S OFFICE] B;

Table of letter and object lefts.

S 6.67	U 8.49	M 10.32	M 12.33	I 14.34	T 15.17
C 19.29	O 21.01	U 22.92	N 24.75	T 26.46	Y 27.74
E 4.76	N 6.33	G 8.16	I 9.98	N 10.92	E 12.74
E 14.32	R 15.89	' 17.46	S 18.13		
O 22.40	F 24.32	F 25.89	I 27.47	C 28.40	E 30.12

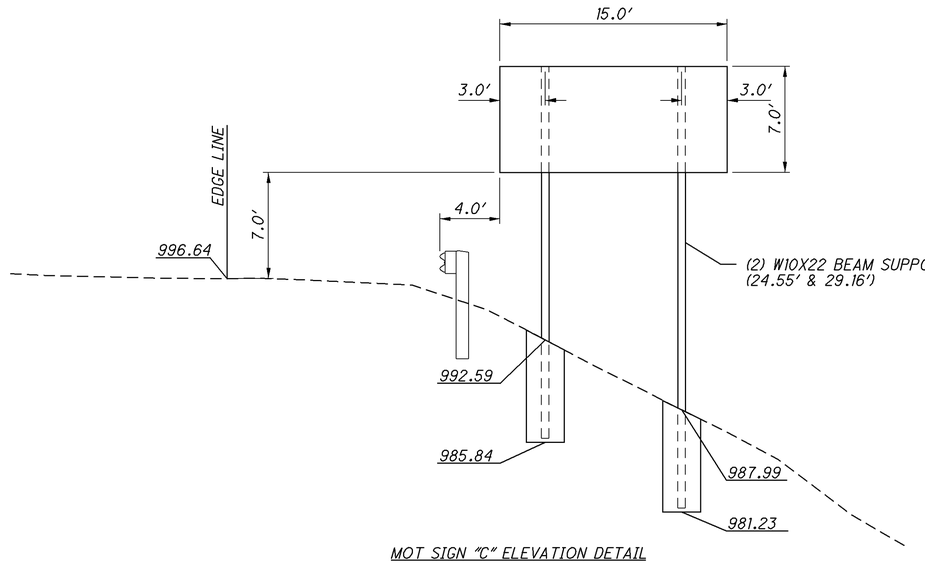
NOTE: ALL DIMENSIONS SHOWN IN INCHES.

CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN SIGN DETAIL

SUM-76/77-11.27/12.12

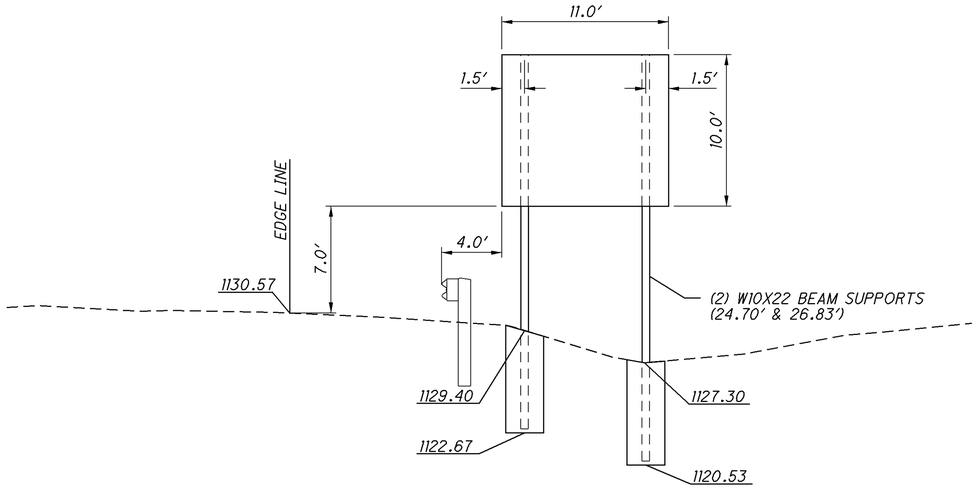
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9/16/2014
1:52:41 PM
CDEIBEL



MOT SIGN "C" ELEVATION DETAIL

LOCATED ON I-76 EASTBOUND / US 224 EASTBOUND APPROXIMATELY
1000' EAST OF THE BARBER ROAD INTERCHANGE (APPROXIMATE SLM 16.40).

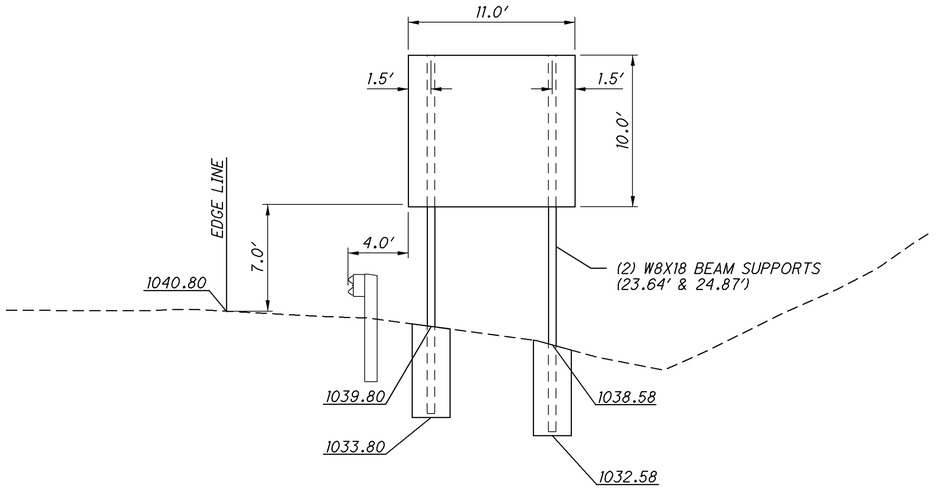
NOTE: BEAM LENGTHS SHOWN FOR INFORMATIONAL
PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH
REQUIRED AT EXACT LOCATION.



MOT SIGN "G" ELEVATION DETAIL

LOCATED ON I-80 EASTBOUND APPROXIMATELY
75' WEST OF THE BARR ROAD OVERPASS (APPROXIMATE SLM 171.68).

NOTE: BEAM LENGTHS SHOWN FOR INFORMATIONAL
PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH
REQUIRED AT EXACT LOCATION.



MOT SIGN "G" ELEVATION DETAIL

LOCATED ON I-80 WESTBOUND APPROXIMATELY
115' EAST OF THE PROSPECT STREET OVERPASS (APPROXIMATE SLM 182.10).

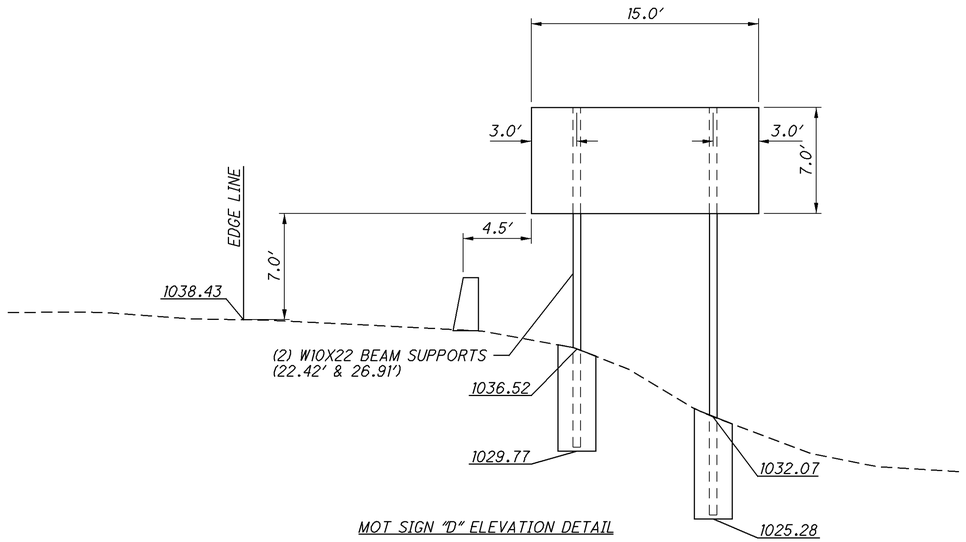
NOTE: BEAM LENGTHS SHOWN FOR INFORMATIONAL
PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH
REQUIRED AT EXACT LOCATION.

CALCULATED AKF
CHECKED RMG

MAINTENANCE OF TRAFFIC - SIGN ELEVATION DETAILS

SUM-76/77-11.27/12.12

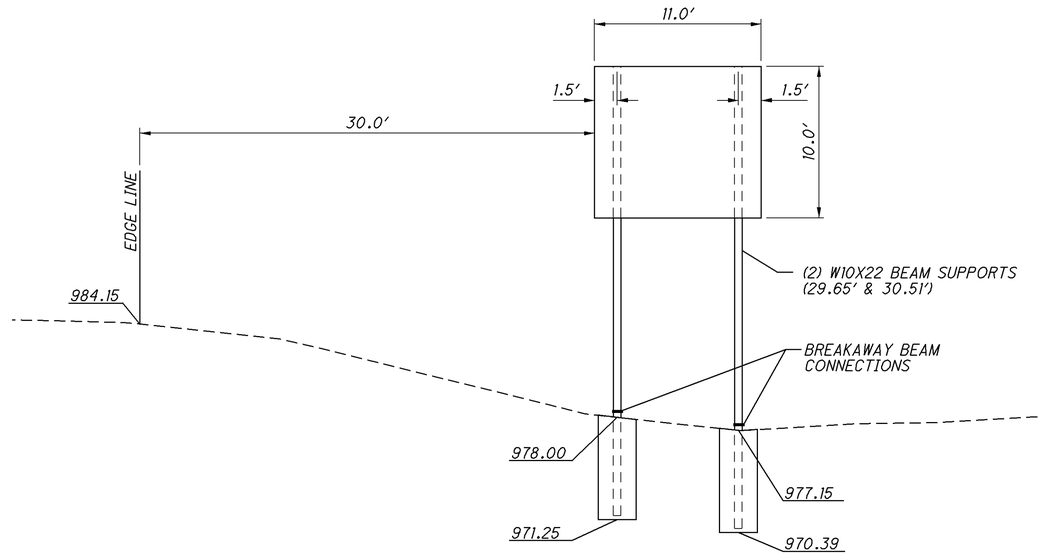
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ODEIBEL



MOT SIGN "D" ELEVATION DETAIL

LOCATED ON I-76 WESTBOUND APPROXIMATELY
625' WEST OF THE MARKET STREET INTERCHANGE (APPROXIMATE SLM 25.60).

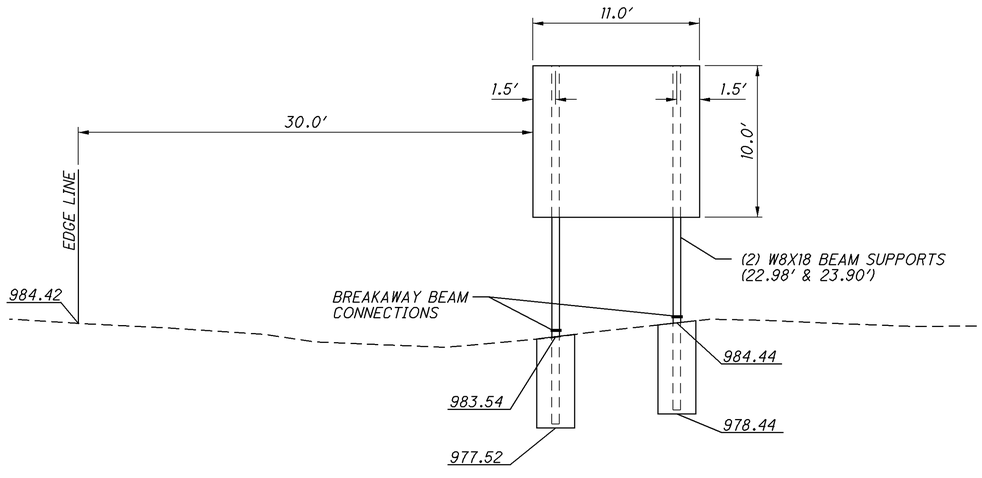
NOTE: BEAM LENGTHS SHOWN FOR INFORMATIONAL
PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH
REQUIRED AT EXACT LOCATION.



MOT SIGN "E" ELEVATION DETAIL

LOCATED ON I-77 SOUTHBOUND APPROXIMATELY
500' NORTH OF EXISTING SIGN SUPPORT "AH" (APPROXIMATE 129.50).

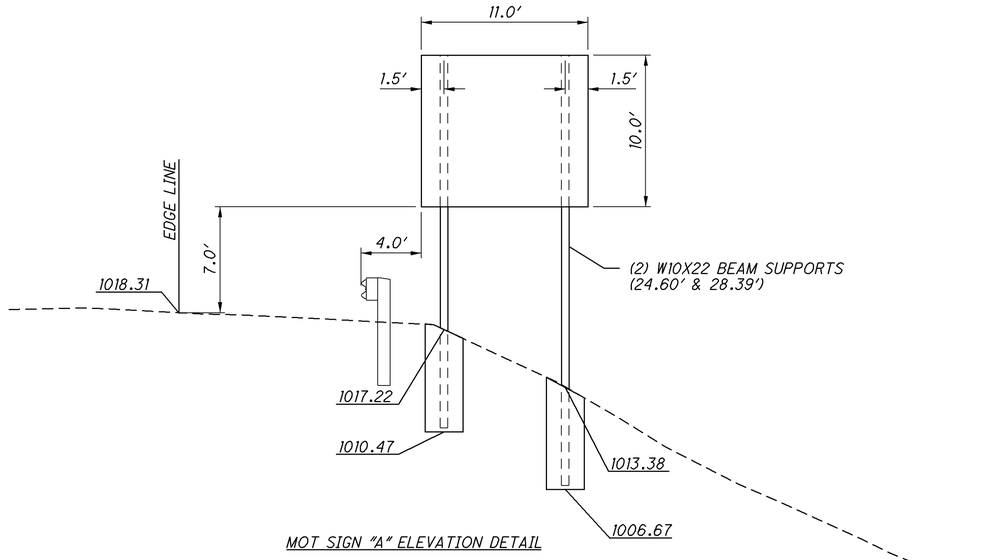
NOTE: BEAM LENGTHS SHOWN FOR INFORMATIONAL
PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH
REQUIRED AT EXACT LOCATION.



MOT SIGN "E" ELEVATION DETAIL

LOCATED ON I-77 SOUTHBOUND APPROXIMATELY
500' NORTH OF THE STONER STREET OVERPASS (APPROXIMATE SLM 130.20).

NOTE: BEAM LENGTHS SHOWN FOR INFORMATIONAL
PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH
REQUIRED AT EXACT LOCATION.



MOT SIGN "A" ELEVATION DETAIL

LOCATED ON I-77 NORTHBOUND APPROXIMATELY
150' NORTH OF THE FORWARD ABUTMENT OVER
E. WARNER ROAD (APPROXIMATE SLM 121.60).

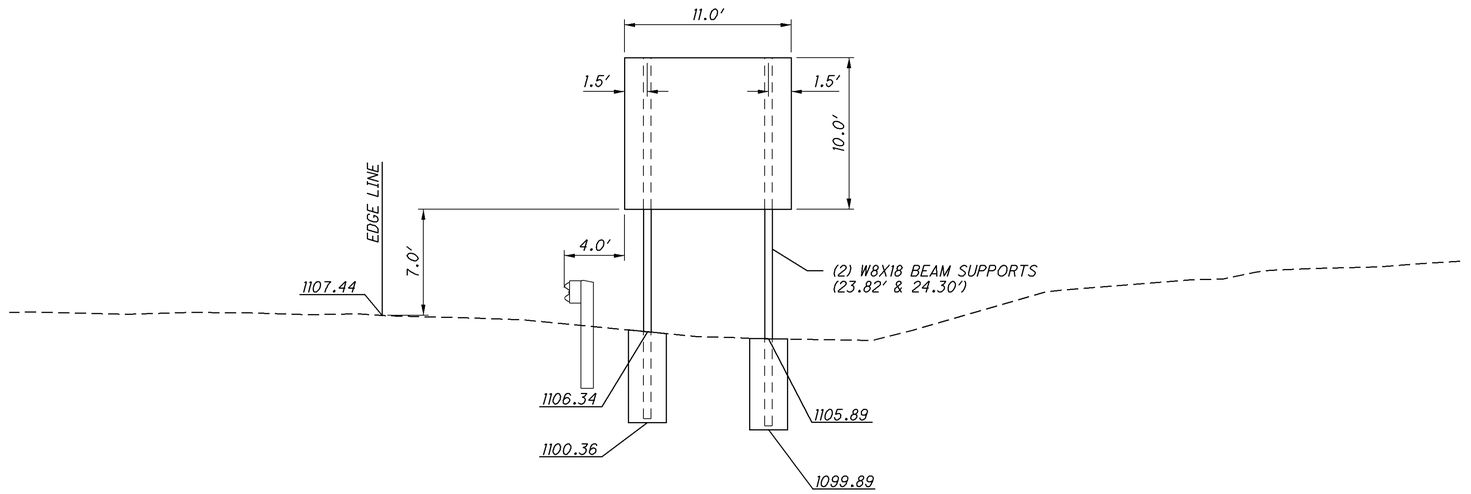
NOTE: BEAM LENGTHS SHOWN FOR INFORMATIONAL
PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH
REQUIRED AT EXACT LOCATION.

CALCULATED AKF
CHECKED RMG

MAINTENANCE OF TRAFFIC - SIGN ELEVATION DETAILS

SUM-76/77-11.27/12.12

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DBEIBEL



MOT SIGN "A" ELEVATION DETAIL

LOCATED ON US 224 WESTBOUND APPROXIMATELY
1750' EAST OF THE I-77 INTERCHANGE (APPROXIMATE SLM 10.25).

NOTE: BEAM LENGTHS SHOWN FOR INFORMATIONAL
PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH
REQUIRED AT EXACT LOCATION.

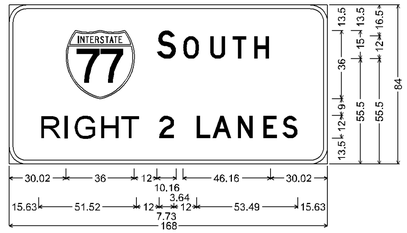
CALCULATED AKF
CHECKED RMG

MAINTENANCE OF TRAFFIC - SIGN ELEVATION DETAILS

SUM-76/77-11.27/12.12

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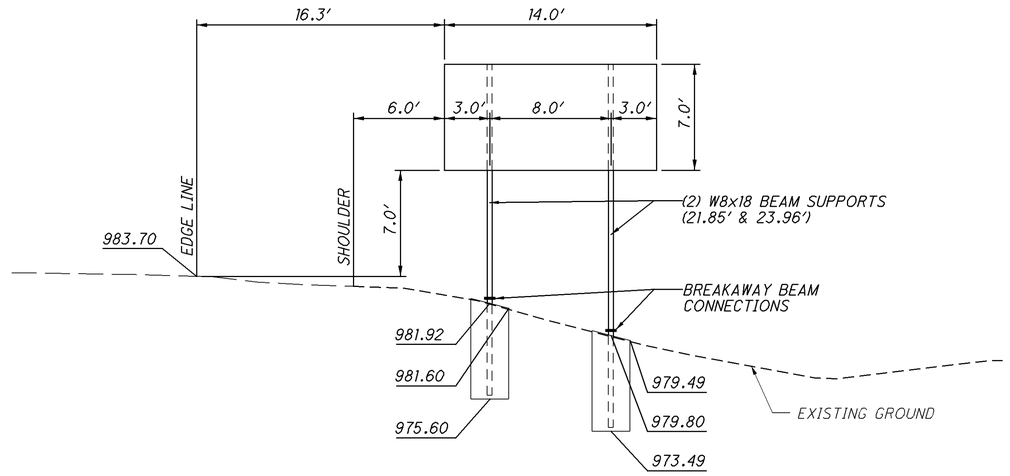
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
PANEL SIZE:	14′ X 7′
BACKROUND:	ORANGE
FILL COLOR:	BLACK
PROPOSED BEAM INFORMATION	
TOTAL SIGN AREA:	98 SQ. FT.
DESIGN TYPE:	W8X18
SIZE:	8-1/8″ X 5-1/4″
FOUNDATION INFORMATION	
DIAMETER:	30″
DEPTH:	6.0′



PANEL A
N.T.S.

NOTES: 1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.



BEAM SUPPORT TYPE W10x12
STA. 1061+00, RT. I-77 SOUTHBOUND

SEE SHEET 115 FOR PLAN VIEW.

CALCULATED ARL
CHECKED RMG

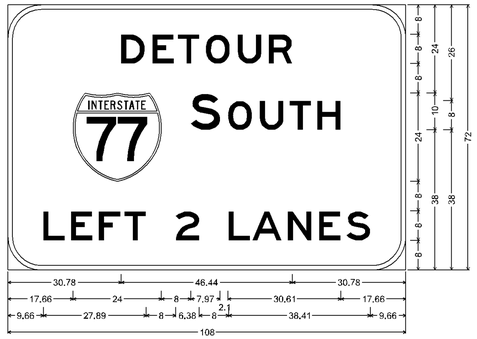
STA. 1061+00, RT. I-77 SOUTHBOUND
M.O.T. STEEL BEAM

SUM-76/77-11.27/12.12

83
652

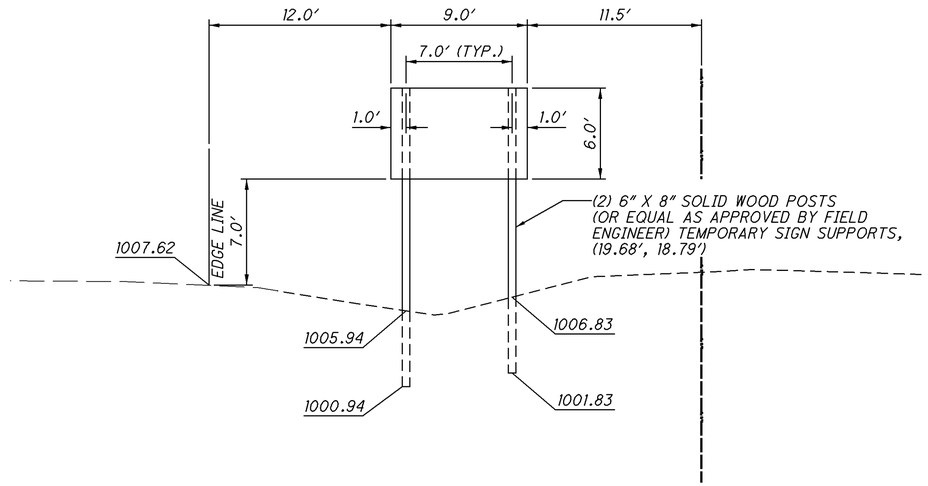
\\KRNGS\DATA\2018\2818237\SUM\86979\MOT\SHEETS\86979MM850.DGN
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SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
PANEL SIZE:	9′ X 6′
BACKROUND:	ORANGE
FILL COLOR:	BLACK
PROPOSED POST INFORMATION	
TOTAL SIGN AREA:	54 SQ. FT.
DESIGN TYPE:	6″ X 8″ WOOD POSTS
NUMBER OF POSTS:	3



PANEL A
N.T.S.

NOTES:
1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
3. BEAM LENGTHS SHOWN FOR INFORMATIONAL PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH REQUIRED AT EXACT LOCATION.



SUPPORT TYPE 6″ X 8″ SOLID WOOD POSTS
STA. 2067+00, LT. I-76 WESTBOUND

SEE SHEET 127 FOR PLAN VIEW.

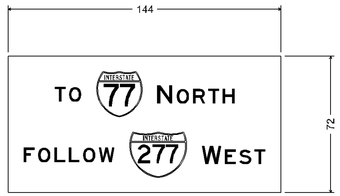
CALCULATED ARL
CHECKED RMG

STA. 2067+00, LT. I-76 WESTBOUND
SOLID WOOD POST MOUNTED SIGN SUPPORT DETAILS

SUM-76/77-11.27/12.12

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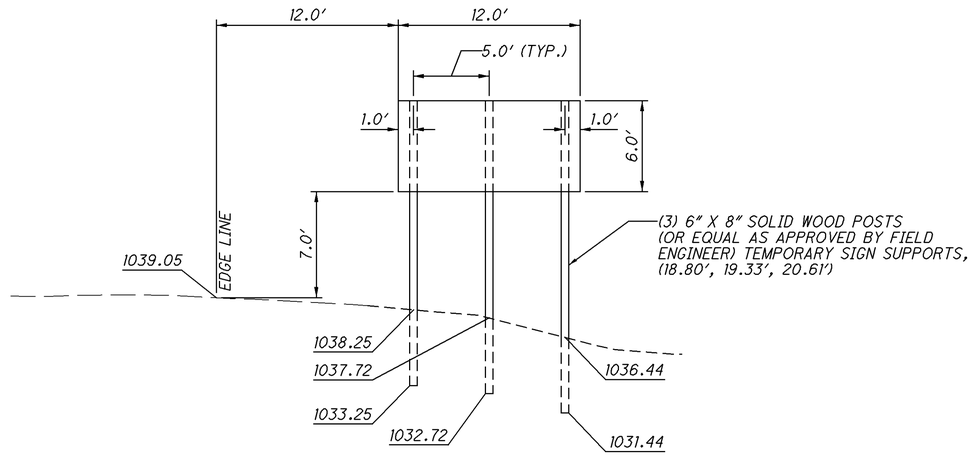
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
PANEL SIZE:	12′ X 6′
BACKROUND:	ORANGE
FILL COLOR:	BLACK
PROPOSED POST INFORMATION	
TOTAL SIGN AREA:	72 SQ. FT.
DESIGN TYPE:	6″ X 8″ WOOD POSTS
NUMBER OF POSTS:	3



SIGN J

PANEL A
N.T.S.

NOTES:
1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
3. BEAM LENGTHS SHOWN FOR INFORMATIONAL PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH REQUIRED AT EXACT LOCATION.



SUPPORT TYPE 6″ X 8″ SOLID WOOD POSTS
STA. 4140+50, RT. I-77 NORTHBOUND

SEE SHEET 160 FOR PLAN VIEW.

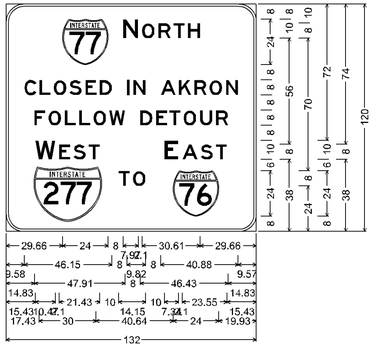
CALCULATED ARL
CHECKED RMG

STA. 4140+50, RT. I-77 NORTHBOUND
SOLID WOOD POST MOUNTED SIGN SUPPORT DETAILS

SUM-76/77-11.27/12.12

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CDEIBEL

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
PANEL SIZE:	11′ X 10′
BACKROUND:	ORANGE
FILL COLOR:	BLACK
PROPOSED POST INFORMATION	
TOTAL SIGN AREA:	110 SQ. FT.
DESIGN TYPE:	6″ X 8″ WOOD POSTS
NUMBER OF POSTS:	4

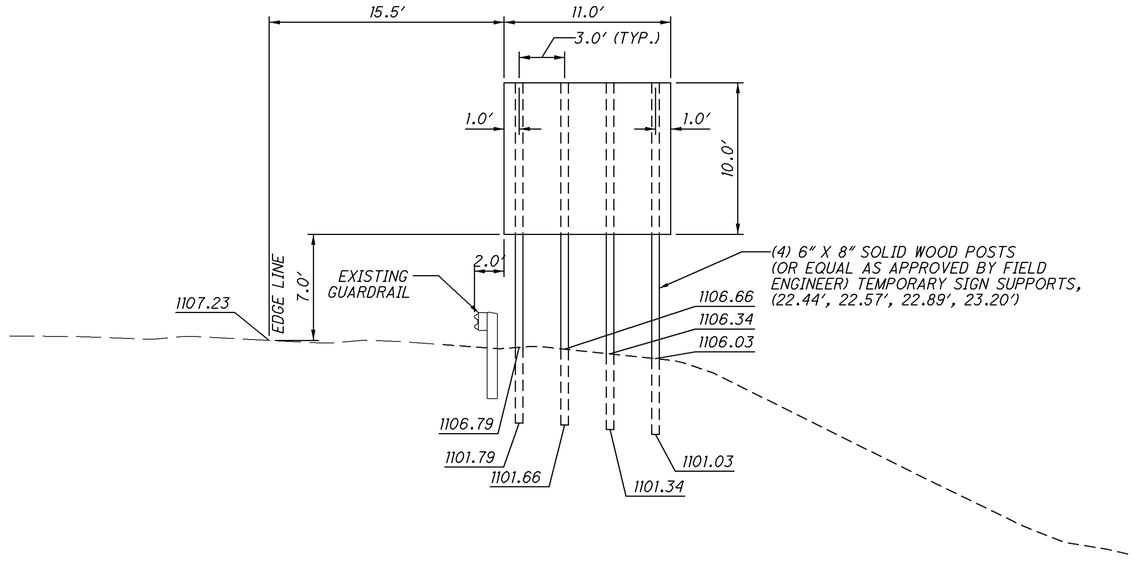


PANEL A
N.T.S.

NOTES: 1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.

3. BEAM LENGTHS SHOWN FOR INFORMATIONAL PURPOSE ONLY. CONTRACTOR SHALL VERIFY LENGTH REQUIRED AT EXACT LOCATION.



SUPPORT TYPE 6″ X 8″ SOLID WOOD POSTS
STA. 3294+50, LT. I-77 SOUTHBOUND

SEE SHEET 149 FOR PLAN VIEW.

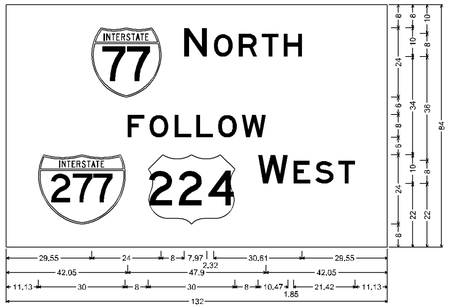
CALCULATED ARL
CHECKED RMG

STA. 3294+50, LT. I-77 SOUTHBOUND
SOLID WOOD POST MOUNTED SIGN SUPPORT DETAILS

SUM-76/77-11.27/12.12

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CBEIBEL

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	E
BACKGROUND:	ORANGE
FILL COLOR:	BLACK
PANEL SIZE:	11′ X 7′
NUMBER OF BRACKETS:	3
PANEL B	
PANEL SIZE:	22′ X 9′
EXIT PANEL SIZE:	10′ X 2.5′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	300 SQ. FT.
TOTAL SPAN LENGTH:	90 FT.

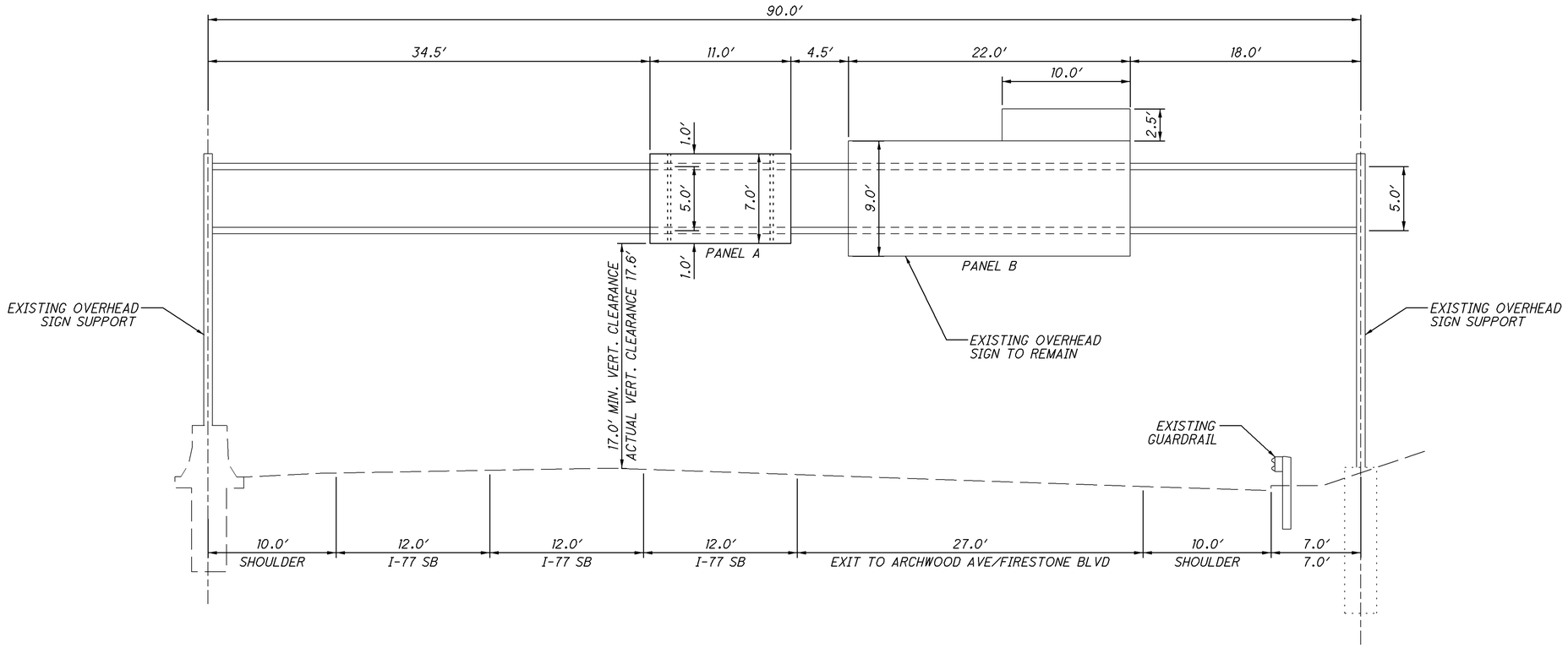


PANEL A
N.T.S.



PANEL B
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 4276+09, I-77 SOUTHBOUND

SEE SHEET 171 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED SLB
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
STA. 4276+09, I-77 SOUTHBOUND

SUM-76/77-11.27/12.12

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℄ R/W KLING ST.
℄ R/W & CONST. JOHNSTON CT.
℄ R/W & CONST. HEDDEN AVE.
℄ R/W WILSON ST.
℄ R/W VORIS ST.
℄ R/W & CONST. BROWN ST.
℄ R/W & CONST. SPICER ST.
℄ R/W S.R. 8
℄ CONST. JOHNSTON ST.
STRUCTURE NO. SUM-76-1127
STRUCTURE NO. SUM-76-1212R
STRUCTURE NO. SUM-76-1137L
℄ R/W & CONST. LAMPARTER ST.
℄ R/W & CONST. I-76
℄ CONST. RAMP Q
℄ CONST. RAMP P
℄ EXIST LANE S
℄ EXIST RAMP R
℄ CONST. WB I-76
℄ CONST. EB I-76
℄ EXIST LANE N
℄ R/W & CONST. SOUTH ST.
℄ R/W SOUTH ST.
STRUCTURE NO. SUM-76-1137R
℄ EXIST LANE O
℄ EXIST LANE M
Ex R/W
Ex LA-R/W
TMP
R/W
LA-R/W
520
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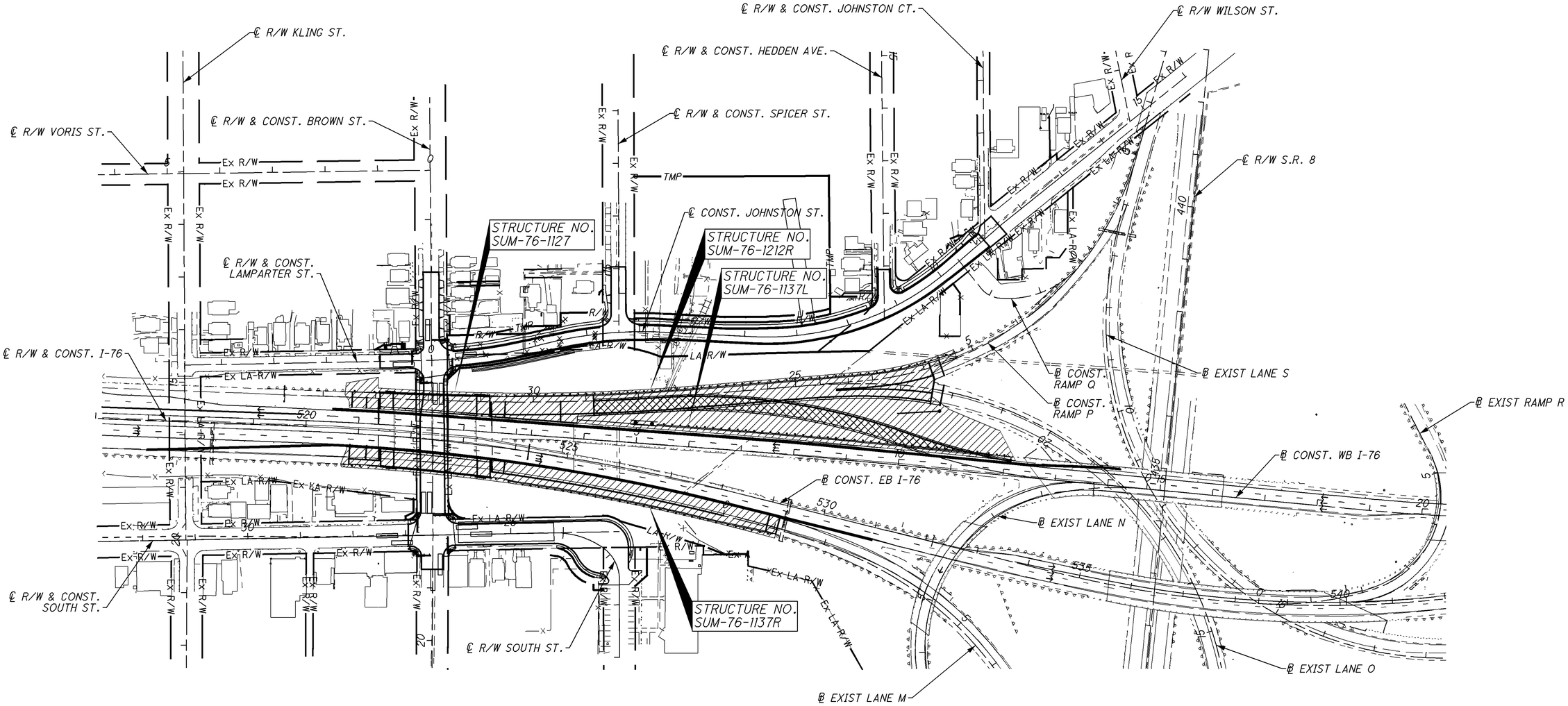
LEGEND
EXISTING PAVEMENT
TRAFFIC FLOW ARROW
PHASE 4 WORK AREA
PHASE 5 WORK AREA
TEMPORARY PAVEMENT

HORIZONTAL SCALE IN FEET
0 50 100 200
CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
PHASES 4 & 5 - SURFACE STREETS

SUM-76/77-11.27/12.12

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DEIBEL



LEGEND
EXISTING PAVEMENT
TRAFFIC FLOW ARROW
WORK AREA
TEMPORARY PAVEMENT

NOTES:

1. PHASE 7 - DEMO EXISTING BRIDGES
2. PHASE 8 - CONSTRUCT NEW BRIDGES / ROADWAY / EMBANKMENT
3. FOR DETAILED DESCRIPTION OF WORK, SEE SEQUENCE OF CONSTRUCTION

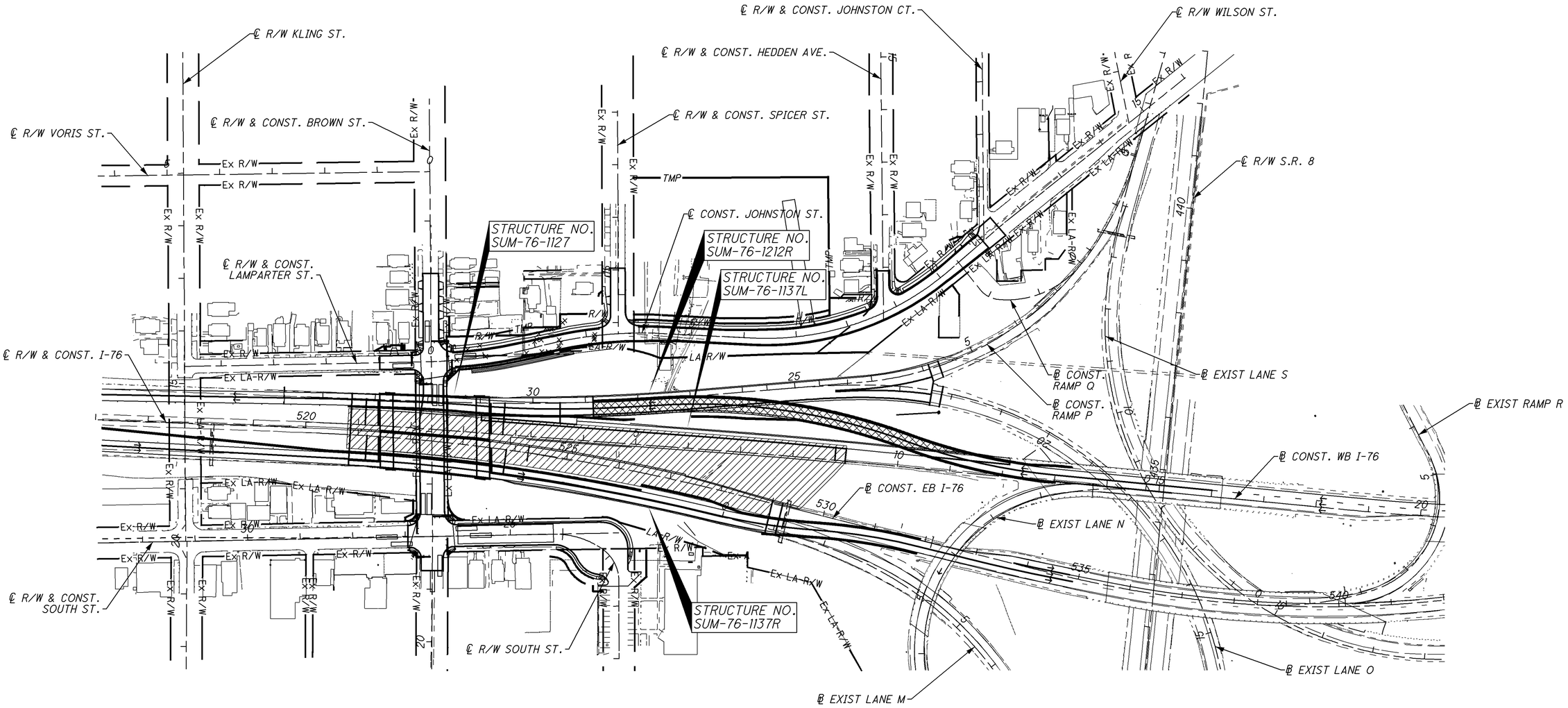
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
PHASE 7 & 8 - I.R. 76 / 77

SUM-76/77-11.27/12.12

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CRIEBEL



LEGEND

- EXISTING PAVEMENT
- TRAFFIC FLOW ARROW
- WORK AREA
- TEMPORARY PAVEMENT

NOTES:

1. PHASE 9 - DEMO EXISTING BRIDGES
2. PHASE 10 - CONSTRUCT NEW BRIDGES / ROADWAY / EMBANKMENT
3. FOR DETAILED DESCRIPTION OF WORK, SEE SEQUENCE OF CONSTRUCTION

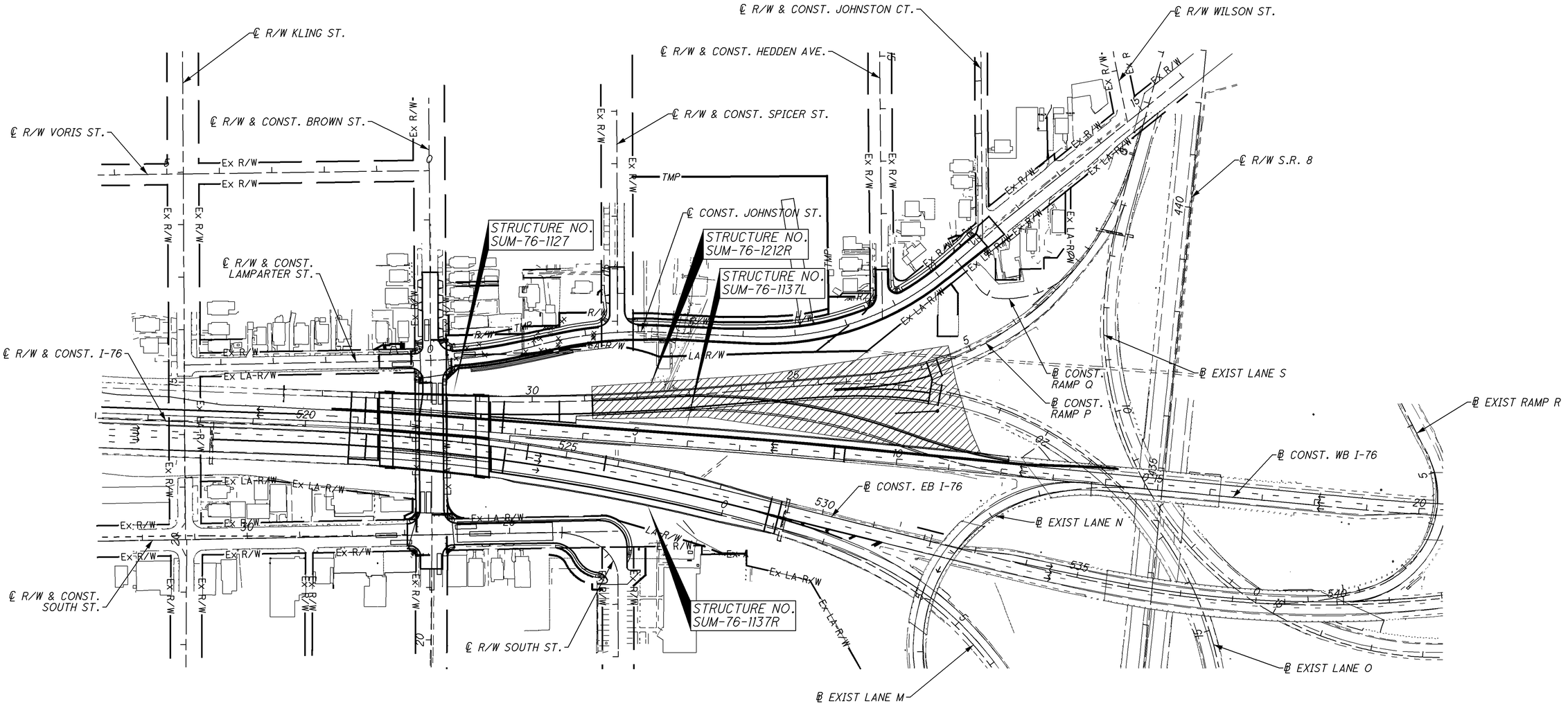
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
PHASE 9 & 10 - I.R. 76 / 77

SUM-76/77-11.27/12.12

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LEGEND

- EXISTING PAVEMENT
- TRAFFIC FLOW ARROW
- WORK AREA
- TEMPORARY PAVEMENT

NOTES:

1. PHASE 11 - REMOVE TEMPORARY CROSSOVER
2. PHASE 12 - CONSTRUCT REMAINING PORTIONS OF LANE O AND RAMP P
3. FOR DETAILED DESCRIPTION OF WORK, SEE SEQUENCE OF CONSTRUCTION

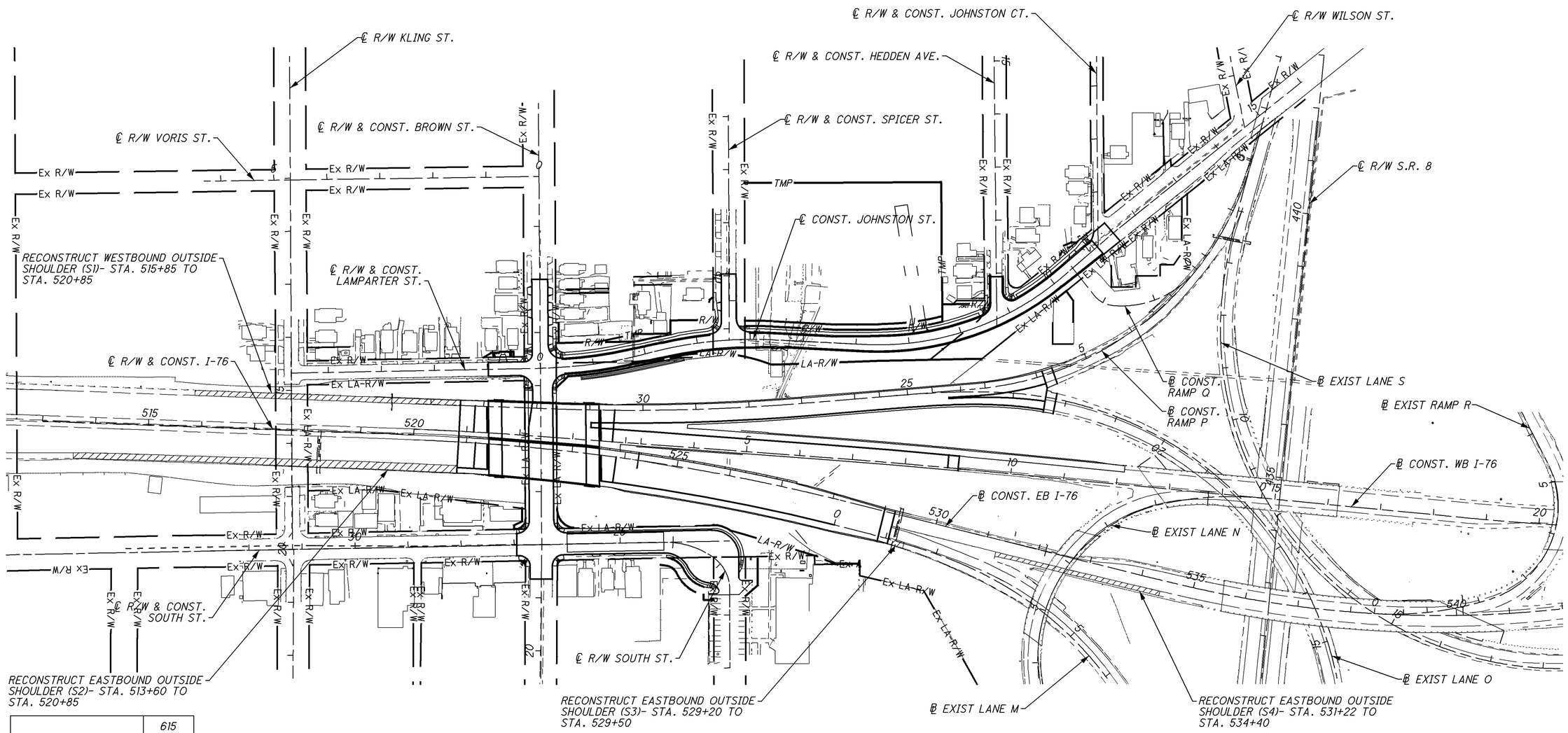
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
PHASE 11 & 12 - I.R. 76 / 77

SUM-76/77-11.27/12.12

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REFERENCE	615
	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
	SY
S1	551.0
S2	987.0
S3	37.0
S4	291.0
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY	1866

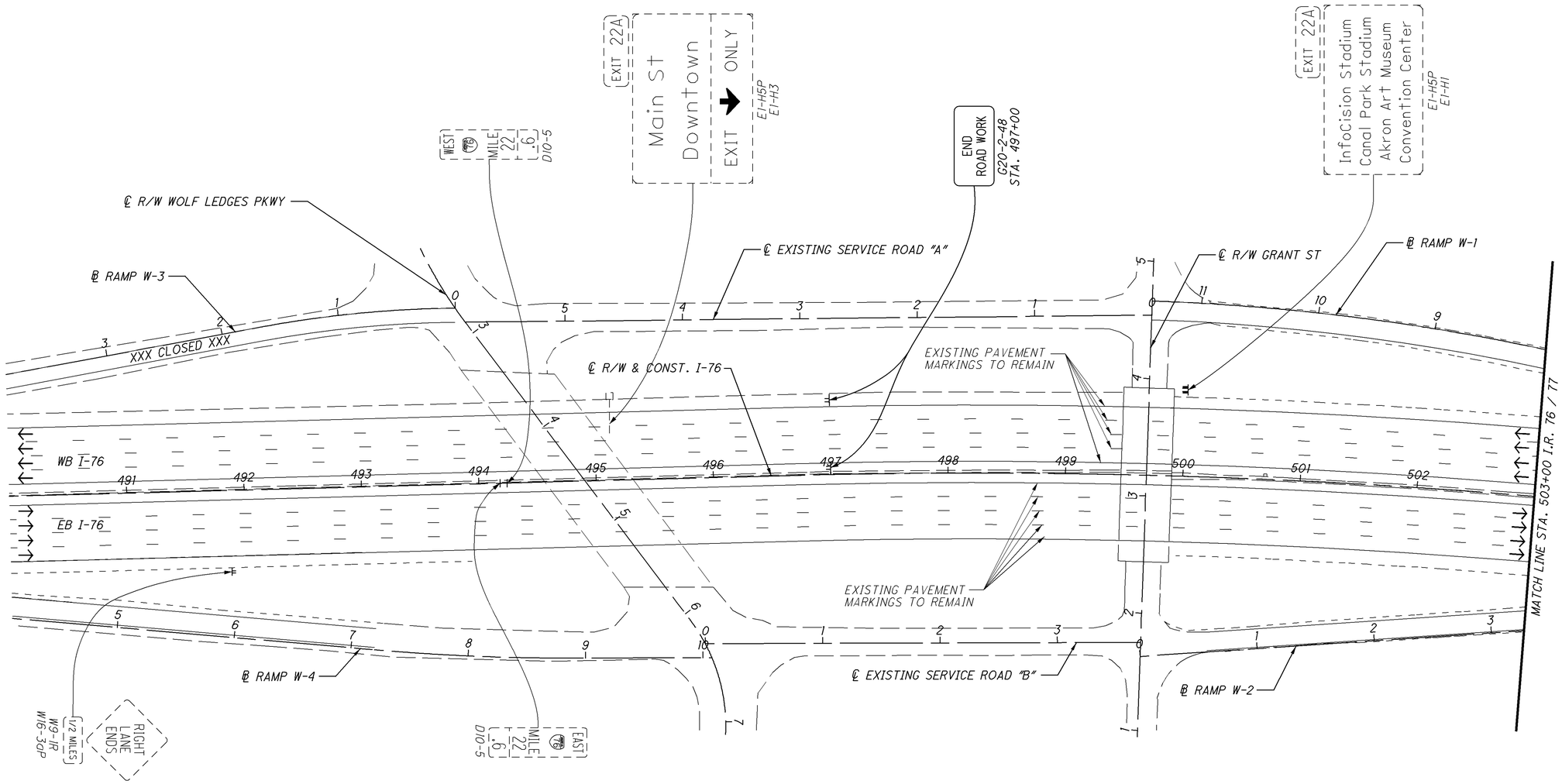
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC
RECONSTRUCTED SHOULDER SCHEMATIC

SUM-76/77-11.27/12.12

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CDEIBEL



LEGEND			
☼	WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#)	WORK ZONE CHANNELIZING LINE
⊥/⊻	SIGN AND TEMPORARY SUPPORT	(LA-#)	WORK ZONE LANE ARROW
•	CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#)	WORK ZONE PORTABLE BARRIER
▨	TEMPORARY PAVEMENT	(DL-#)	WORK ZONE DOTTED LINE, WHITE
▨	WORK AREA	(LL-#)	WORK ZONE LANE LINE, WHITE
▭	FLASHING ARROW PANEL	(TLW-#)	WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
▭	WORK ZONE IMPACT ATTENUATOR	(RS-#)	WORK ZONE RUMBLE STRIPS
→	TRAFFIC FLOW ARROW	(CHV-#)	WORK ZONE CHEVRON MARKING
(W-#)	WORK ZONE EDGE LINE, WHITE	◇	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#)	WORK ZONE EDGE LINE, YELLOW	◇	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ADG
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASE 6A - BEGIN TO STA. 503+00

SUM-76/77-11.27/12.12

93
652

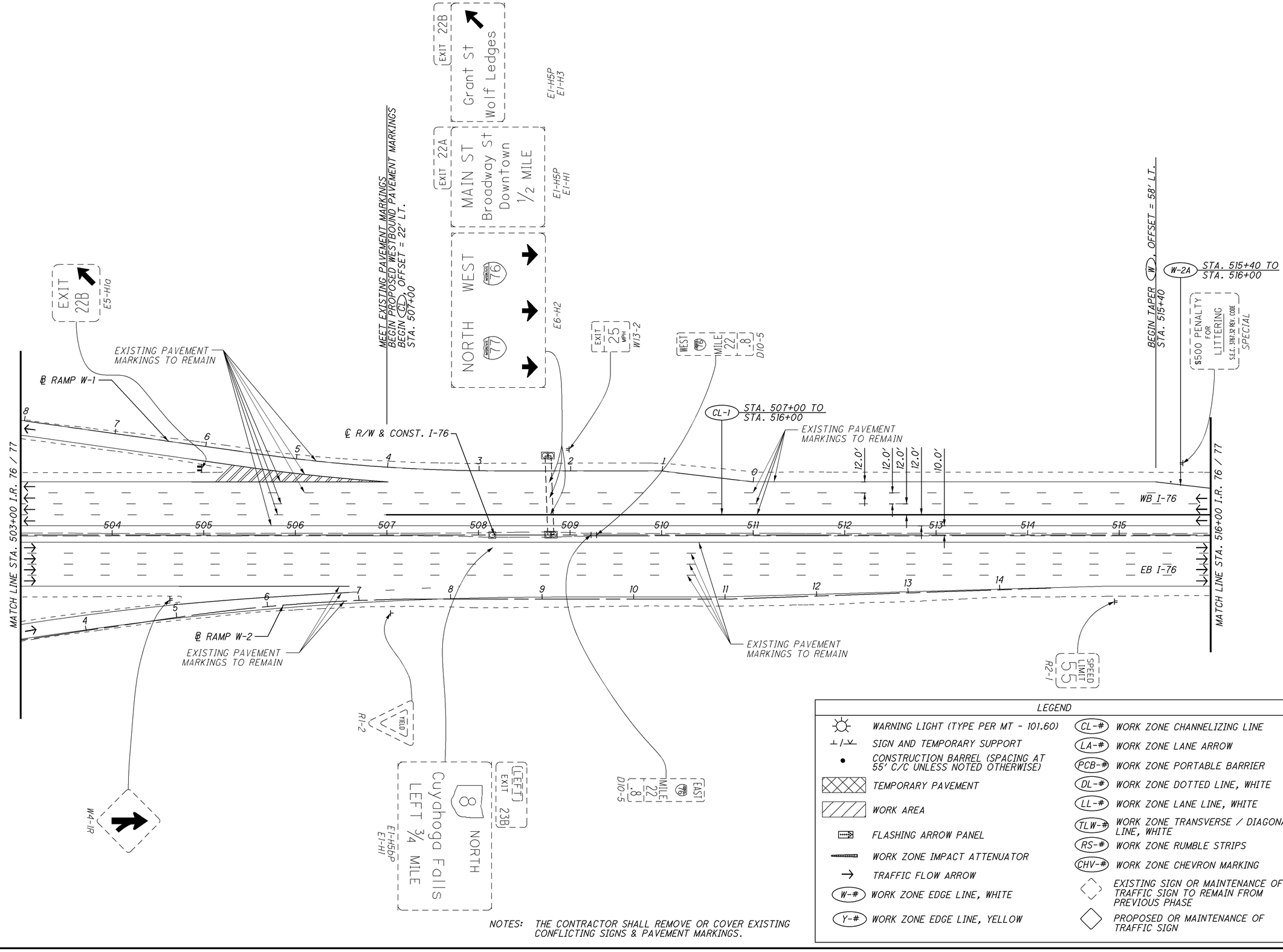
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MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASE 6A - STA. 503+00 TO STA. 516+00

SUM-76/77-11.27/12.12

CALCULATED ADG
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100

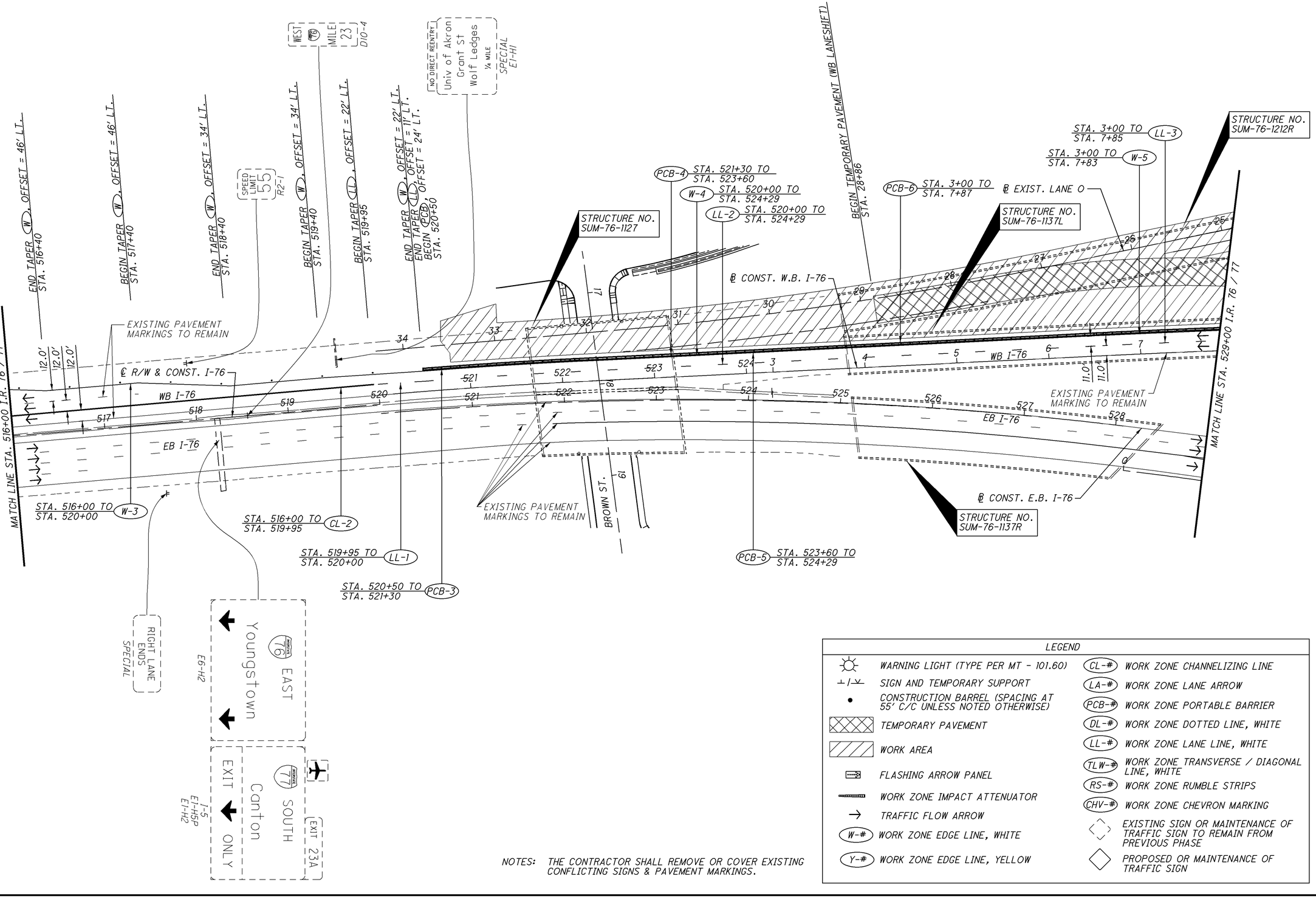


LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#) WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	(LA-#) WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#) WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	(DL-#) WORK ZONE DOTTED LINE, WHITE
WORK AREA	(LL-#) WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	(TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	(RS-#) WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	(CHV-#) WORK ZONE CHEVRON MARKING
(W-#) WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#) WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

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NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ADG
CHECKED AKF

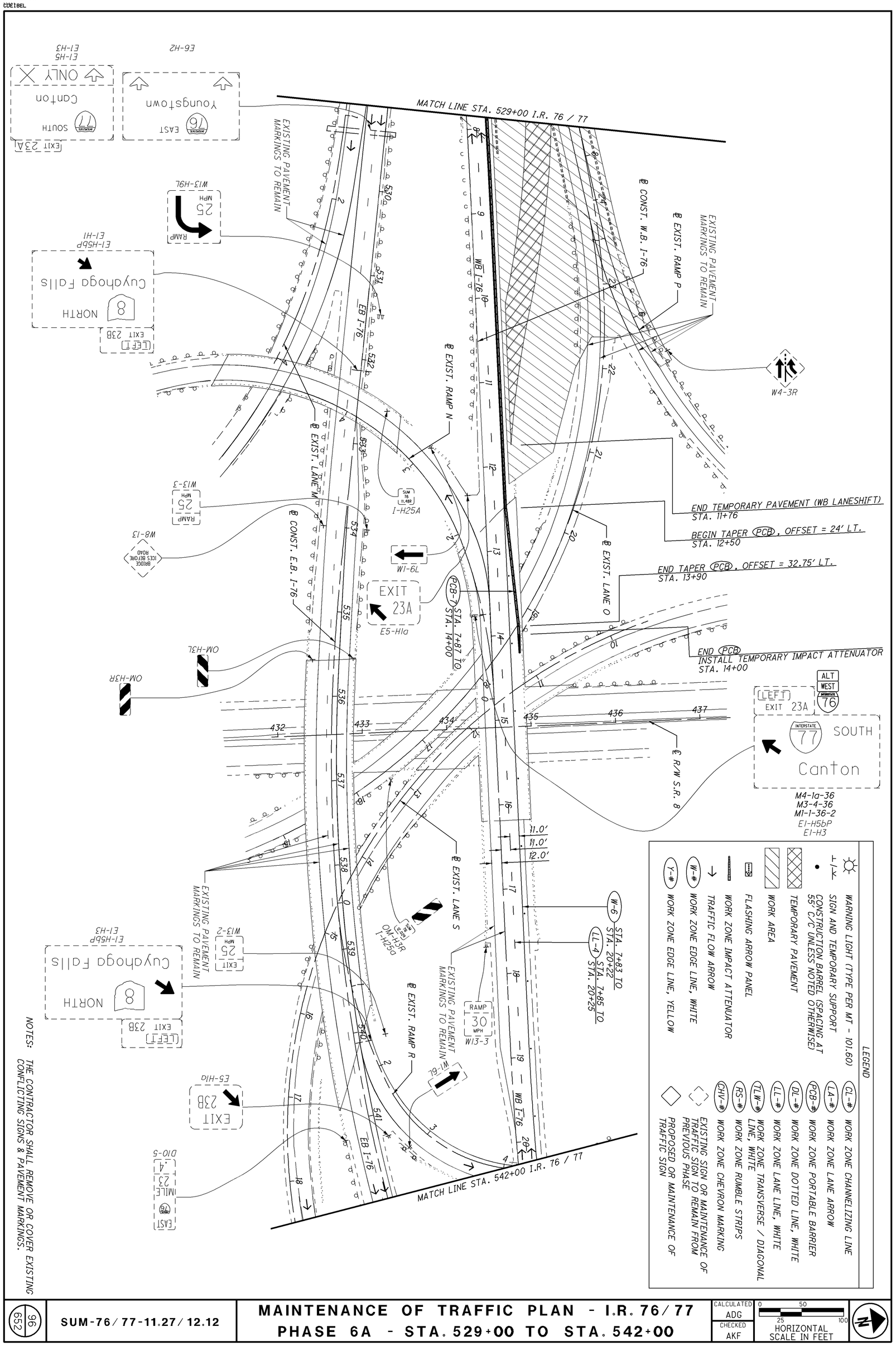
MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASE 6A - STA. 516+00 TO STA. 529+00

SUM-76/77-11.27/12.12

95
652

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tdeibel



LEGEND

☼	WARNING LIGHT (TYPE PER MT - 101.60)
⊥ ⊥	SIGN AND TEMPORARY SUPPORT
•	CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
	WORK AREA
	TEMPORARY PAVEMENT
	FLASHING ARROW PANEL
	WORK ZONE IMPACT ATTENUATOR
→	TRAFFIC FLOW ARROW
(W-#)	WORK ZONE EDGE LINE, WHITE
(Y-#)	WORK ZONE EDGE LINE, YELLOW
(CL-#)	WORK ZONE CHANNELIZING LINE
(LA-#)	WORK ZONE LANE ARROW
(PCB-#)	WORK ZONE PORTABLE BARRIER
(DL-#)	WORK ZONE DOTTED LINE, WHITE
(LL-#)	WORK ZONE LANE LINE, WHITE
(TLW-#)	WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
(RS-#)	WORK ZONE RUMBLE STRIPS
(CHV-#)	WORK ZONE CHEVRON MARKING
	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTES:
THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

96 652	SUM-76/77-11.27/12.12	MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77 PHASE 6A - STA. 529+00 TO STA. 542+00	CALCULATED ADG CHECKED AKF	0 50 25 100 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC PLAN - I.R. 76 / 77
PHASE 6A - STA. 542+00 TO END

SUM-76 / 77-11.27 / 12.12

CALCULATED ADG
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100

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DEIBEL

NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

WB I-76

EB I-76

MATCH LINE STA. 477+00 I.R. 76 / 77

1 MILE
W20-1-48
W16-3aP-30
STA. 435+60

ROAD WORK AHEAD

W20-5-48
STA. 462+00

RIGHT LANE CLOSED AHEAD

MATCH LINE STA. 477+00 I.R. 76 / 77

WB I-76

478 479 480 481 482 483 484 485 486 487 488 489

EB I-76

MATCH LINE STA. 490+00 I.R. 76 / 77

EXISTING PAVEMENT MARKINGS TO REMAIN

XXX CLOSED XXX

EXISTING PAVEMENT MARKINGS TO REMAIN

℄ R/W & CONST. I-76

W4-2R-48
STA. 477+00

E6-H2

PROPOSED TEMPORARY OVERLAY

E1-H5P
E1-HI

EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN

CLOSED

E1-H5P
W13-HOP-144
E1-H3

YOUNGSTOWN

(76) EAST

(EXIT 23A)

(77) SOUTH

CANTON

¾ MILE

(EXIT 22B)

WOLF LEDGES
GRANT ST

NO REENTRY EASTBOUND

MEET EXISTING PAVEMENT MARKINGS
BEGIN PROPOSED EASTBOUND PAVEMENT MARKINGS
BEGIN TAPER (W), OFFSET = 56' RT.
BEGIN (DL), OFFSET = 46' RT.
STA. 487+00

INSTALL FLASHING ARROW PANEL
STA. 488+50

W-8A STA. 487+00 TO STA. 490+00

DL-1A STA. 487+00 TO STA. 490+00

NOTES: 1. THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS AND PAVEMENT MARKINGS.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ADG
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77 PHASES 7 & 8 - BEGIN TO STA. 490+00

SUM-76/77-11.27/12.12

98
652

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LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

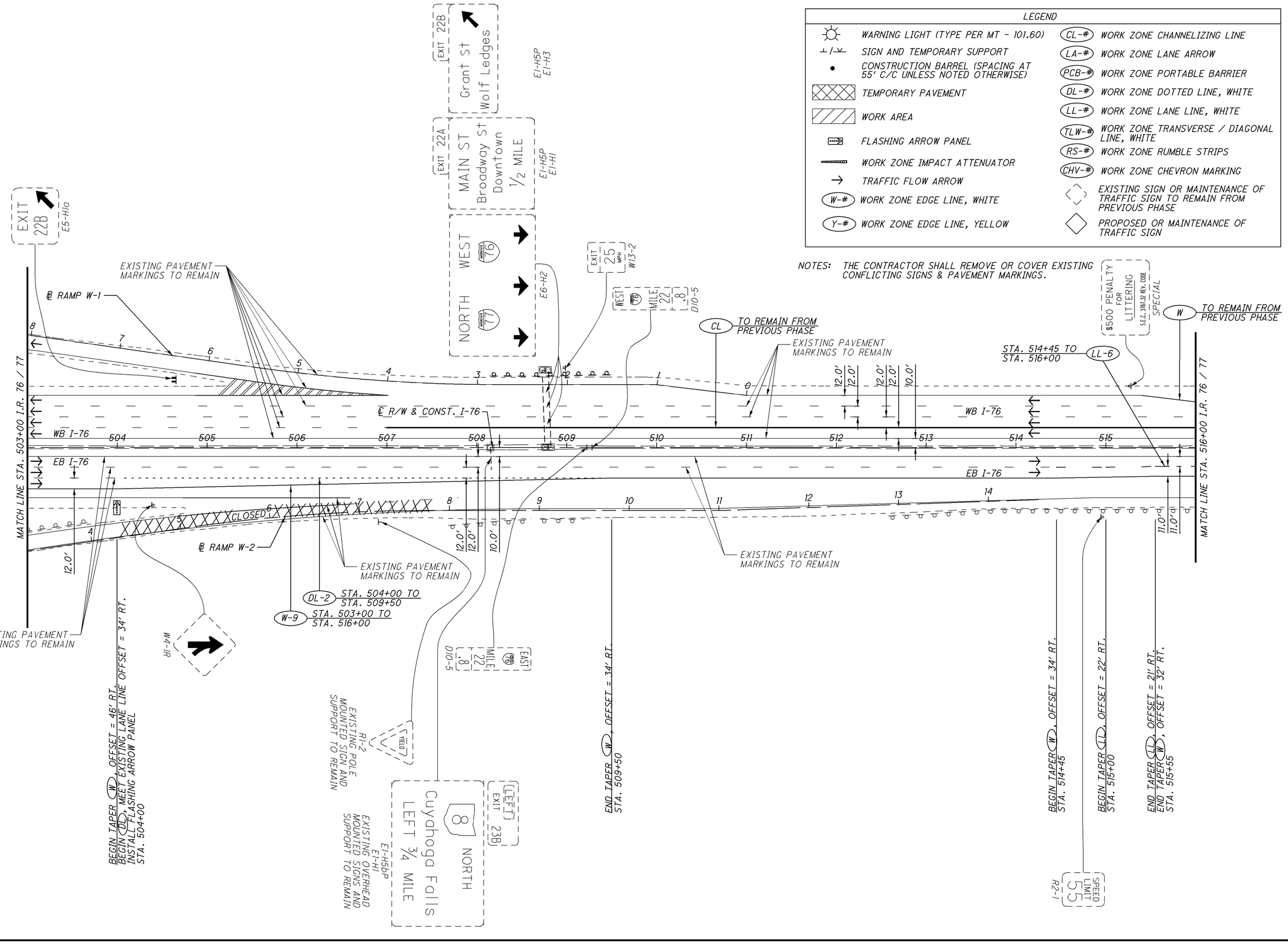
HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED ADG
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 7 & 8 - STA. 490+00 TO STA. 503+00

SUM-76/77-11.27/12.12

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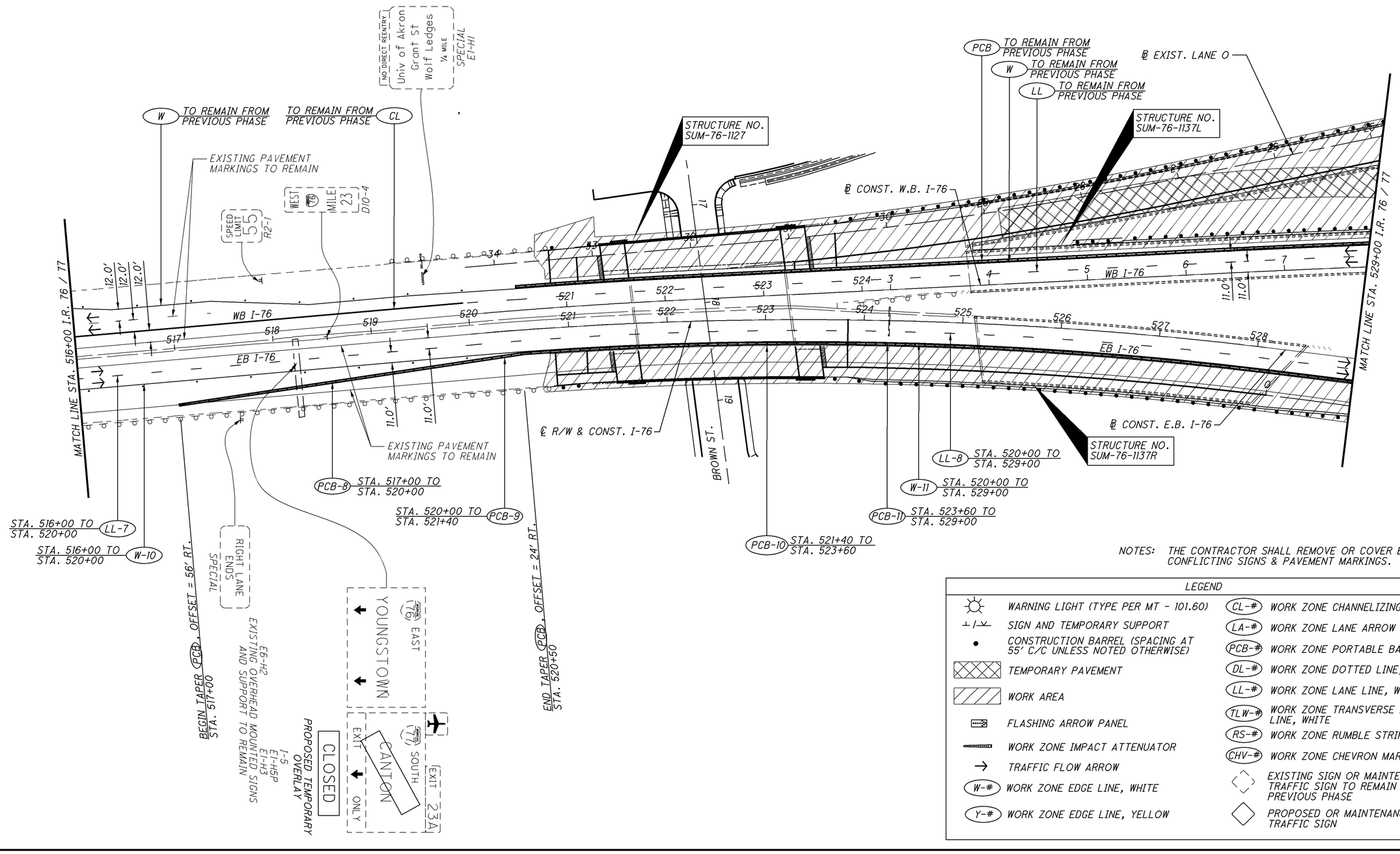
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ADG
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 7 & 8 - STA. 503+00 TO STA. 516+00

SUM-76/77-11.27/12.12

100
652



NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#) WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	(LA-#) WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#) WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	(DL-#) WORK ZONE DOTTED LINE, WHITE
WORK AREA	(LL-#) WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	(TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	(RS-#) WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	(CHV-#) WORK ZONE CHEVRON MARKING
(W-#) WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#) WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ADG
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 7 & 8 - STA. 516+00 TO STA. 529+00

SUM-76/77-11.27/12.12

101
652

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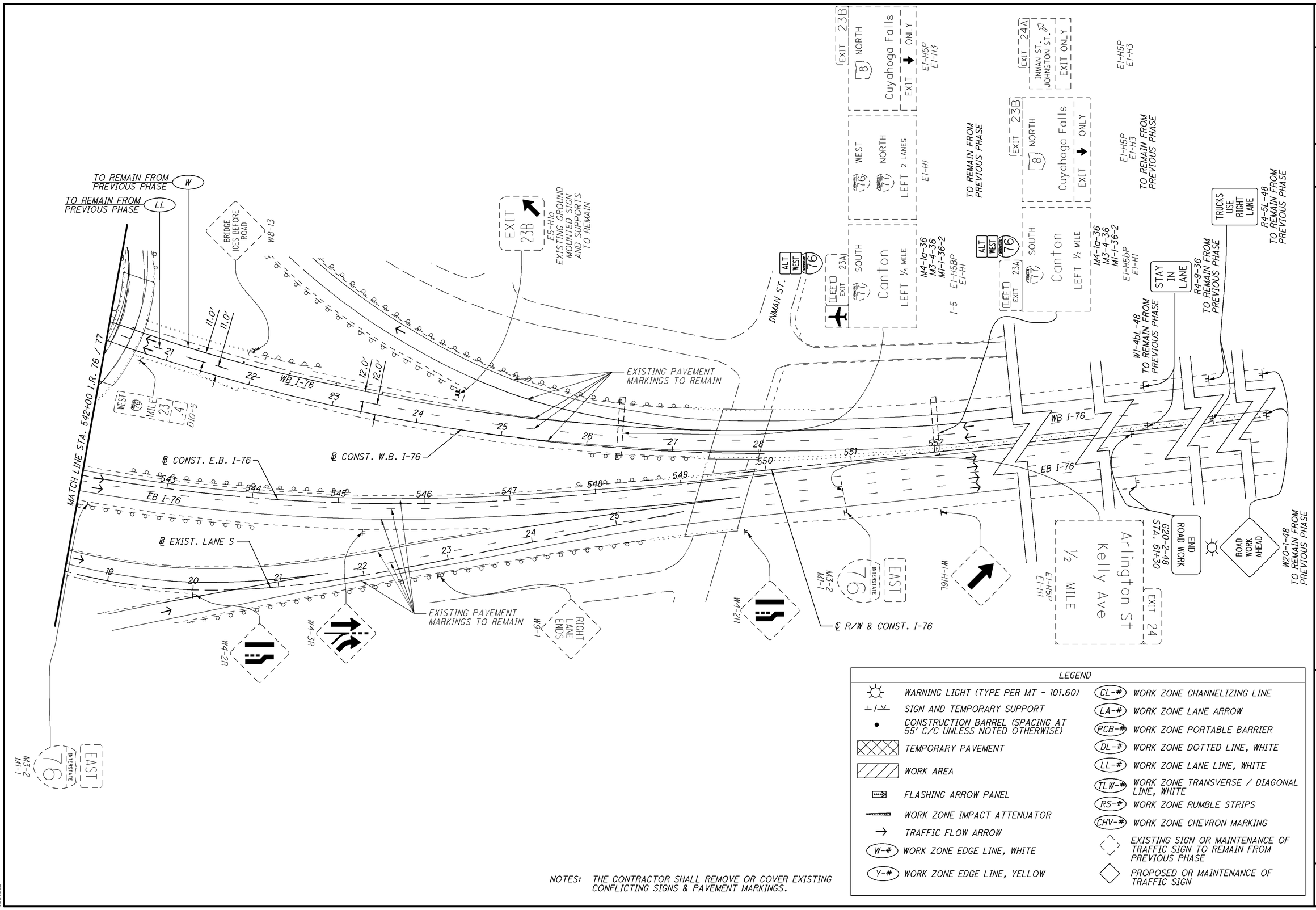
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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ADG
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77 PHASES 7 & 8 - STA. 529+00 TO STA. 542+00

SUM-76/77-11.27/12.12



LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 7 & 8 - STA. 542+00 TO END

SUM-76/77-11.27/12.12

CALCULATED ADG
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100

103
652

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MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 9 & 10 - BEGIN TO STA. 490+00

SUM-76/77-11.27/12.12

NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

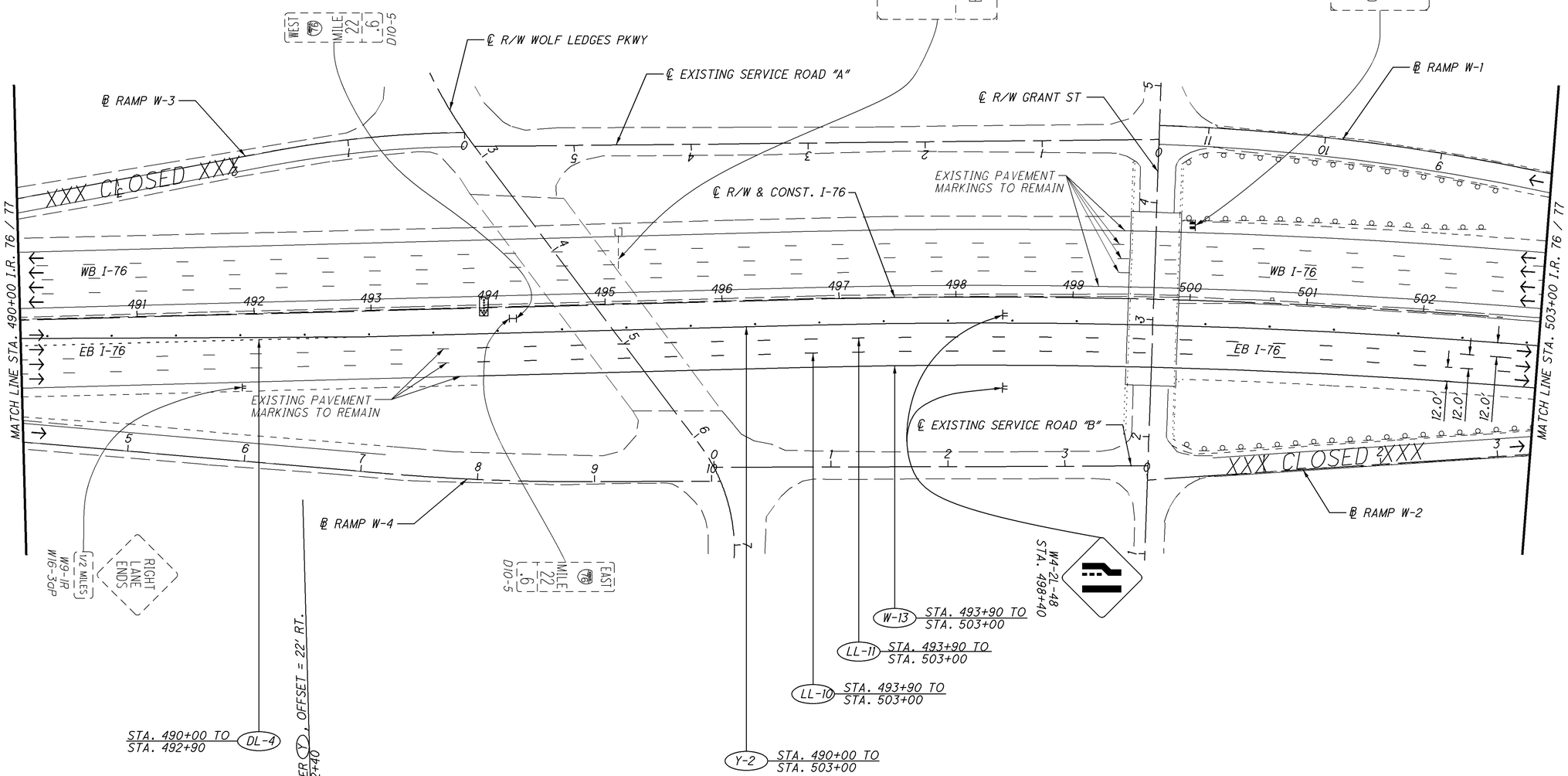
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ADG
CHECKED AKF

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LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKINGS
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN



NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED ADG
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 9 & 10 - STA. 490+00 TO STA. 503+00

SUM-76/77-11.27/12.12

105
652

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKINGS
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

MEET EXISTING PAVEMENT MARKINGS
BEGIN PROPOSED WESTBOUND PAVEMENT MARKINGS
STA. 507+00

EXIT 22B Grant St Wolf Ledges — E1-H5P E1-H3

EXIT 22A MAIN ST Broadway St Downtown 1/2 MILE — E1-H5P E1-H1

NORTH (76) (77) WEST — E6-H2

EXIT 25 MPH W13-2 — WEST (76) 1 MILE 22 .8 — D10-5

BEGIN TAPER (Y), OFFSET = 10' LT.
MEET EXISTING EDGE LINE
STA. 510+45

END TAPER (Y), OFFSET = 22' LT.
STA. 511+45

BEGIN TAPER (Y), OFFSET = 22' LT.
STA. 512+45

END TAPER (Y), OFFSET = 34' LT.
STA. 513+45

BEGIN SHIFT (Y), OFFSET = 34' LT.
STA. 514+45

BEGIN SHIFT (CL), OFFSET = 46' LT.
STA. 515+00

CL-3A STA. 515+00 TO STA. 516+00

BEGIN SHIFT (W), OFFSET = 58' LT.
STA. 515+55

$500 PENALTY FOR LITTERING S.R.C. 3767.32 REV. CODE — SPECIAL

W-15 STA. 515+40 TO STA. 516+00

EXISTING PAVEMENT MARKINGS TO REMAIN

℄ RAMP W-1

EXIT 22B E5-H1a

STA. 507+00 TO STA. 510+35 LL-13

STA. 510+45 TO STA. 516+00 Y-4

MATCH LINE STA. 503+00 I.R. 76 / 77

WB I-76

℄ R/W & CONST. I-76

504 505 506 507 508 509 510 511 512 513 514 515

MATCH LINE STA. 516+00 I.R. 76 / 77

EXISTING PAVEMENT MARKINGS TO REMAIN

EB I-76

12.0' XXX CLOSED XXX

℄ RAMP W-2

6 7 8 9 10 11 12 13 14

12.0' 12.01

11.0' 11.0'

Y-3 STA. 503+00 TO STA. 516+00

DL-5 STA. 503+90 TO STA. 508+90

LL-12 STA. 503+00 TO STA. 515+00

W-14 STA. 503+00 TO STA. 516+00

PCB-13 STA. 515+20 TO STA. 516+00

CL-3 STA. 515+00 TO STA. 516+00

STA. 503+00 TO STA. 503+90 LL-12A

BEGIN TAPER (Y), OFFSET = 22' RT.
INSTALL FLASHING ARROW PANEL
STA. 503+90

W4-1R

YIELD R1-2

STAY IN LANE R4-9-48 STA. 510+00

END TAPER (Y), OFFSET = 34' RT.
STA. 508+90

8 NORTH Cuyahoga Falls LEFT 3/4 MILE — E1-H5P E1-H1

LEFT EXIT 23B

BEGIN TAPER (Y), OFFSET = 34' RT.
STA. 513+90

BEGIN TAPER (LL), OFFSET=46' RT.
STA. 514+45

SPEED LIMIT 55 R2-1

END TAPER (Y), OFFSET = 36' RT.
END TAPER (CL), OFFSET = 47' RT.
BEGIN SHIFT (CL), OFFSET = 36' RT.
BEGIN SHIFT (W), OFFSET = 47' RT.
BEGIN SHIFT STA. 515+00, OFFSET = 58' RT.

BEGIN TAPER (PCB), OFFSET = 10' RT.
STA. 515+20

NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED ADG
CHECKED AKF

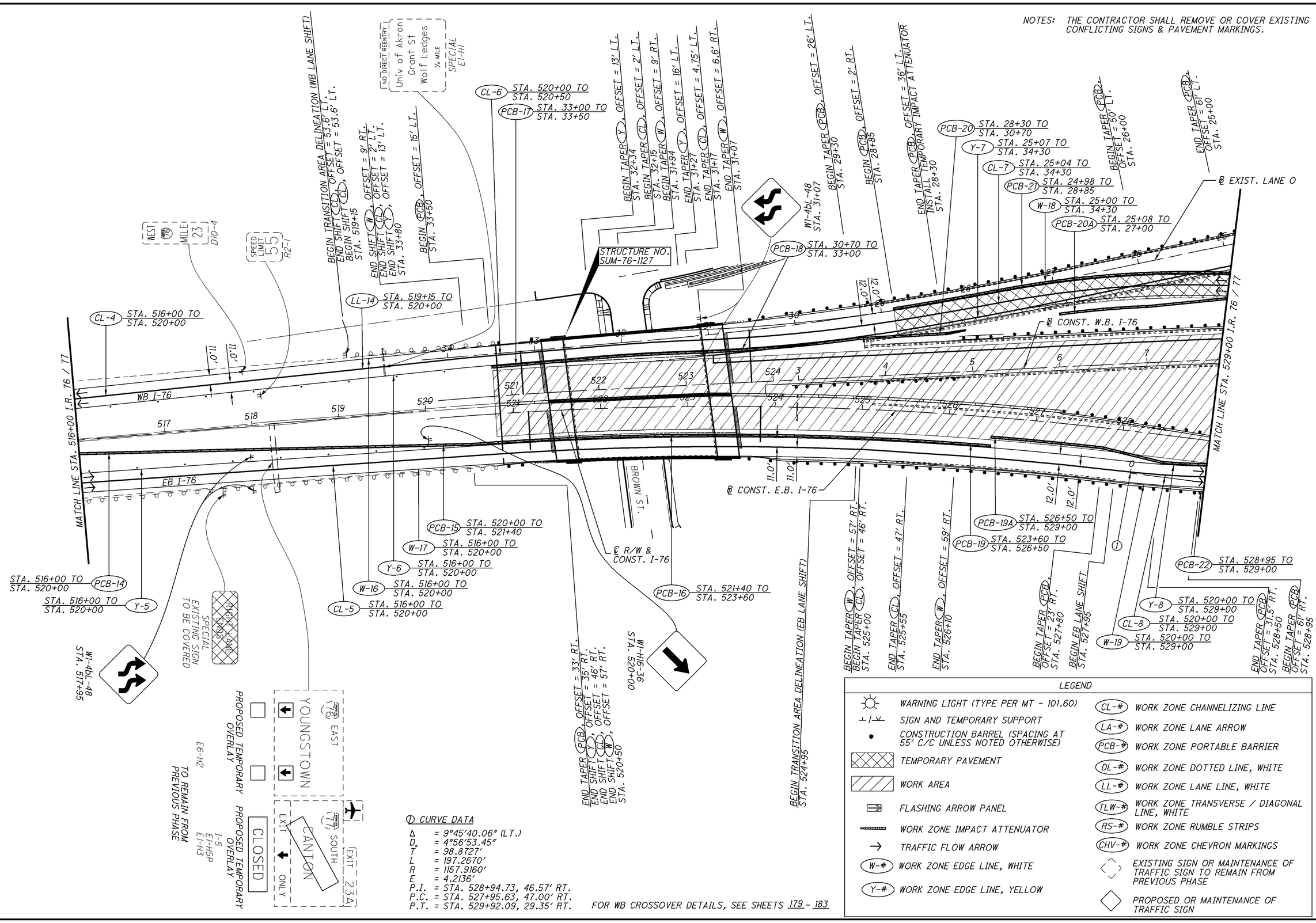
MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 9 & 10 - STA. 503+00 TO STA. 516+00

SUM-76/77-11.27/12.12

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652

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NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.



① CURVE DATA

Δ = 9°45'40.06" (LT.)
D_c = 4°56'53.45"
T = 98.8727'
L = 197.2670'
R = 1157.9160'
E = 4.2136'
P.I. = STA. 528+94.73, 46.57' RT.
P.C. = STA. 527+95.63, 47.00' RT.
P.T. = STA. 529+92.09, 29.35' RT.

FOR WB CROSSOVER DETAILS, SEE SHEETS 179 - 183

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKINGS
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED ADG
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 9 & 10 - STA. 516+00 TO STA. 529+00

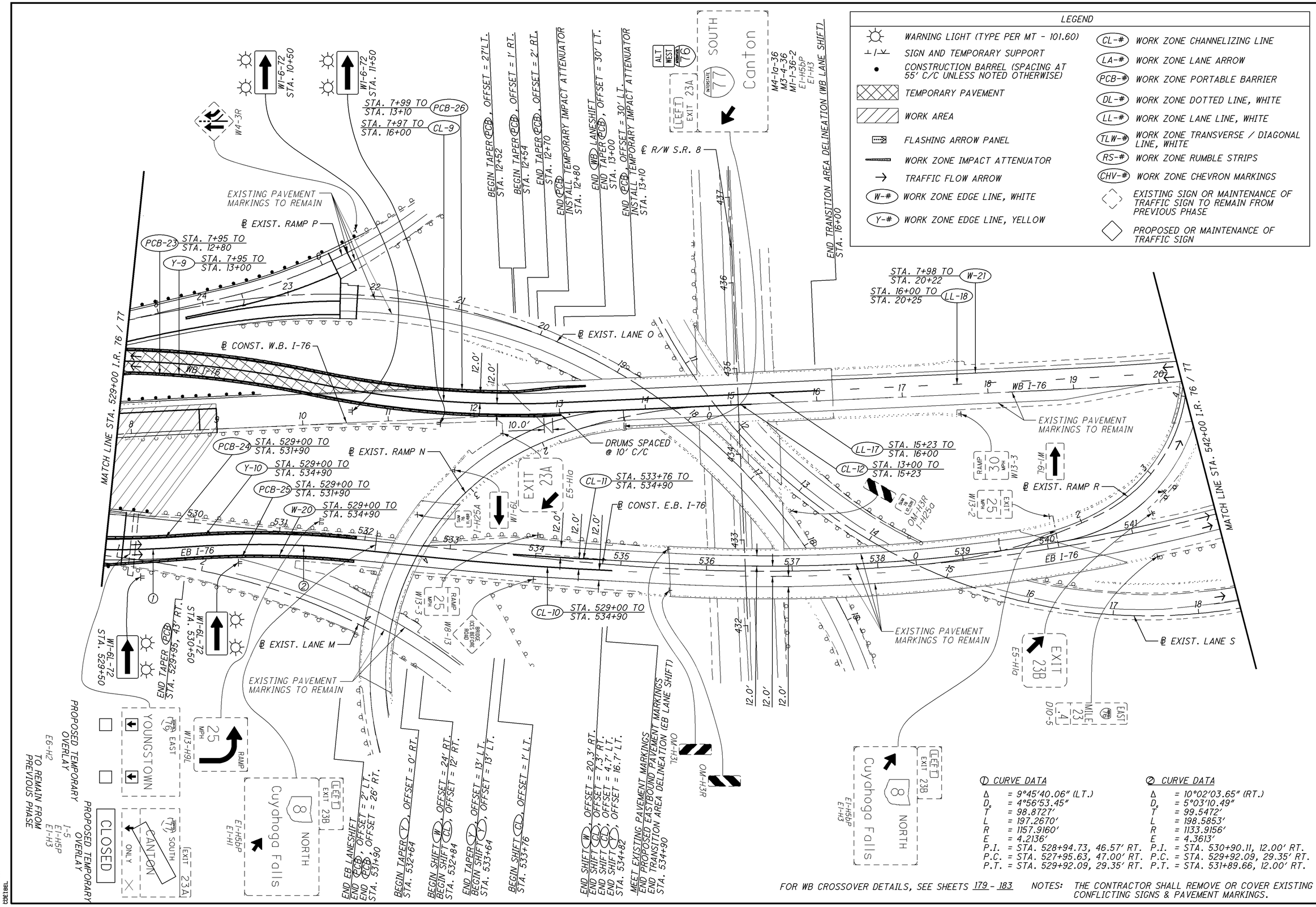
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CDEIBEL

TRAFFIC PLAN - I.R. 76/77
STA. 529+00 TO STA. 542+00
MAINTENANCE OF TRAFFIC
PHASES 9 & 10 - SUM-76/77-11.27/12.12

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED ADG | CHECKED AKF



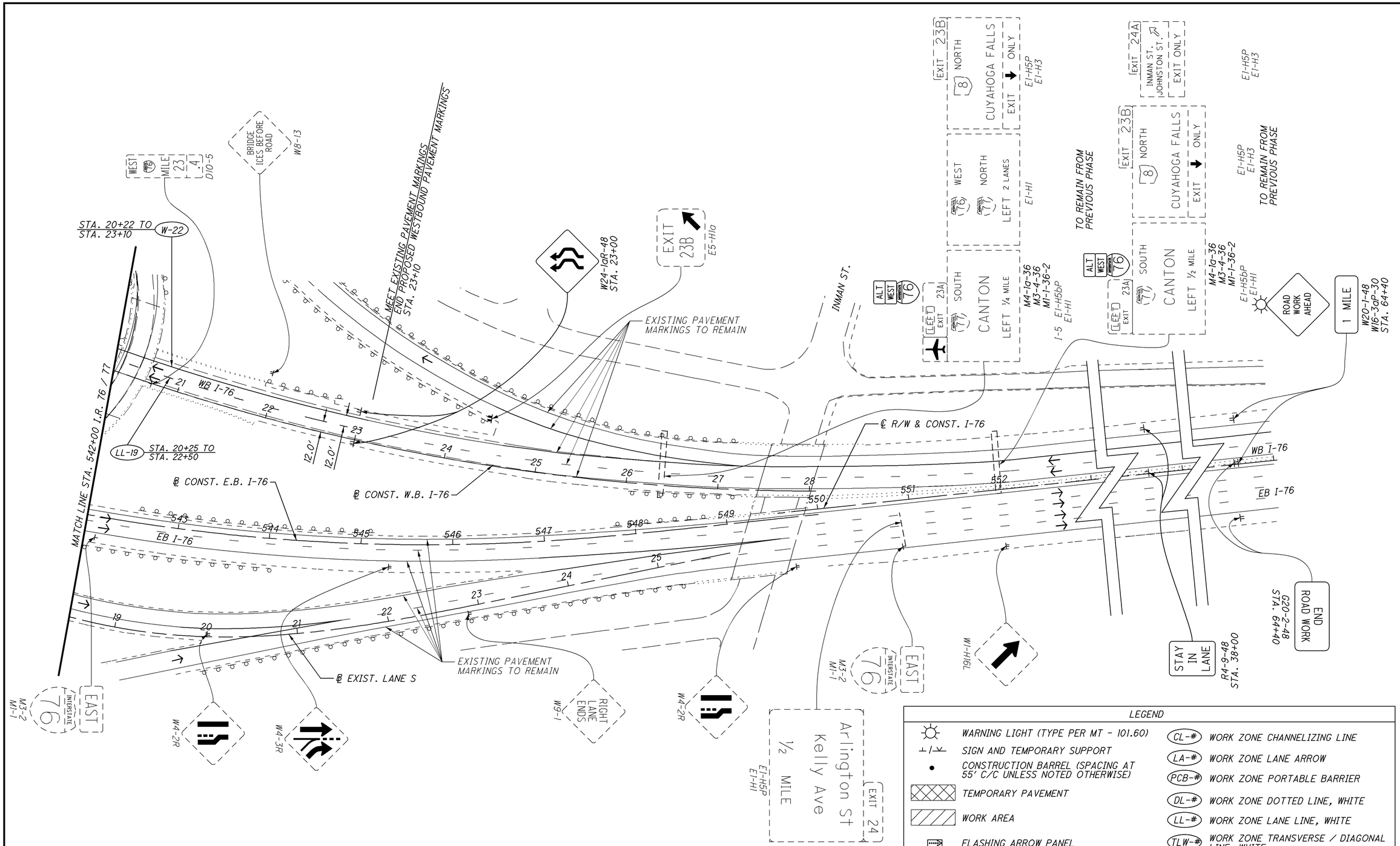
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MAINTENANCE OF TRAFFIC PLAN - I.R. 76/77
PHASES 9 & 10 - STA. 542+00 TO END

CALCULATED ADG
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100

SUM-76/77-11.27/12.12



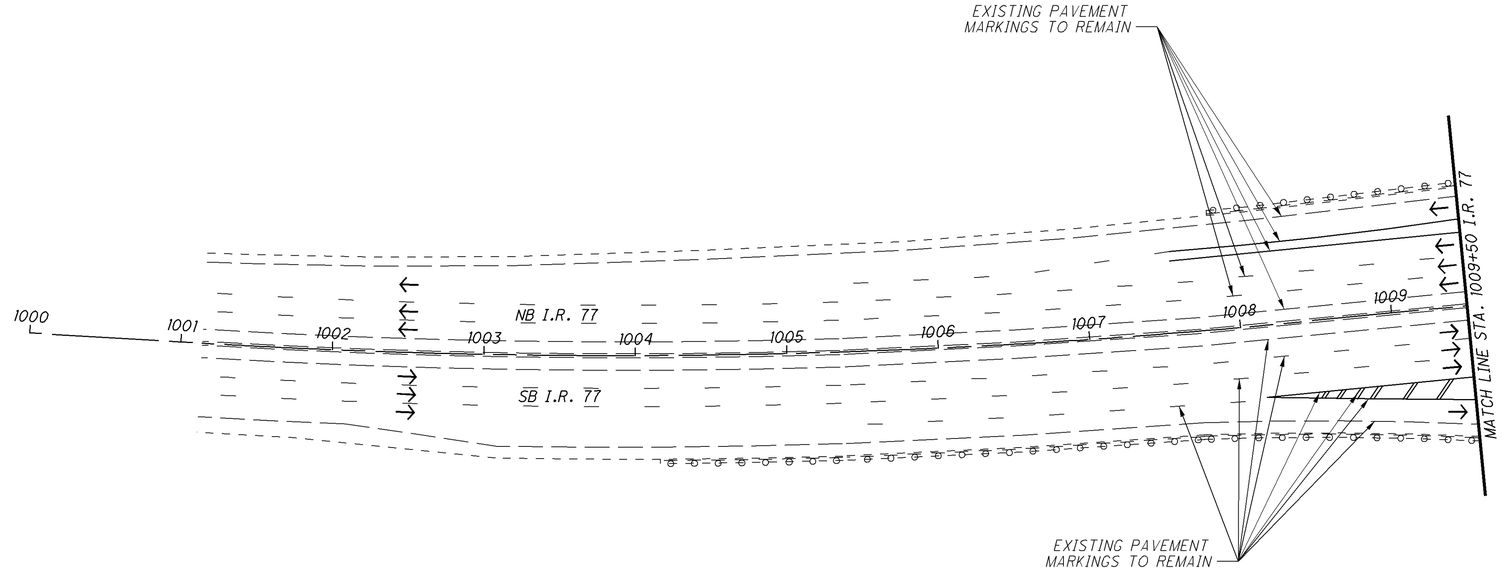
LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKINGS
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

FOR WB CROSSOVER DETAILS, SEE SHEETS 179 - 183

NOTES: THE CONTRACTOR SHALL REMOVE OR COVER EXISTING CONFLICTING SIGNS & PAVEMENT MARKINGS.

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LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

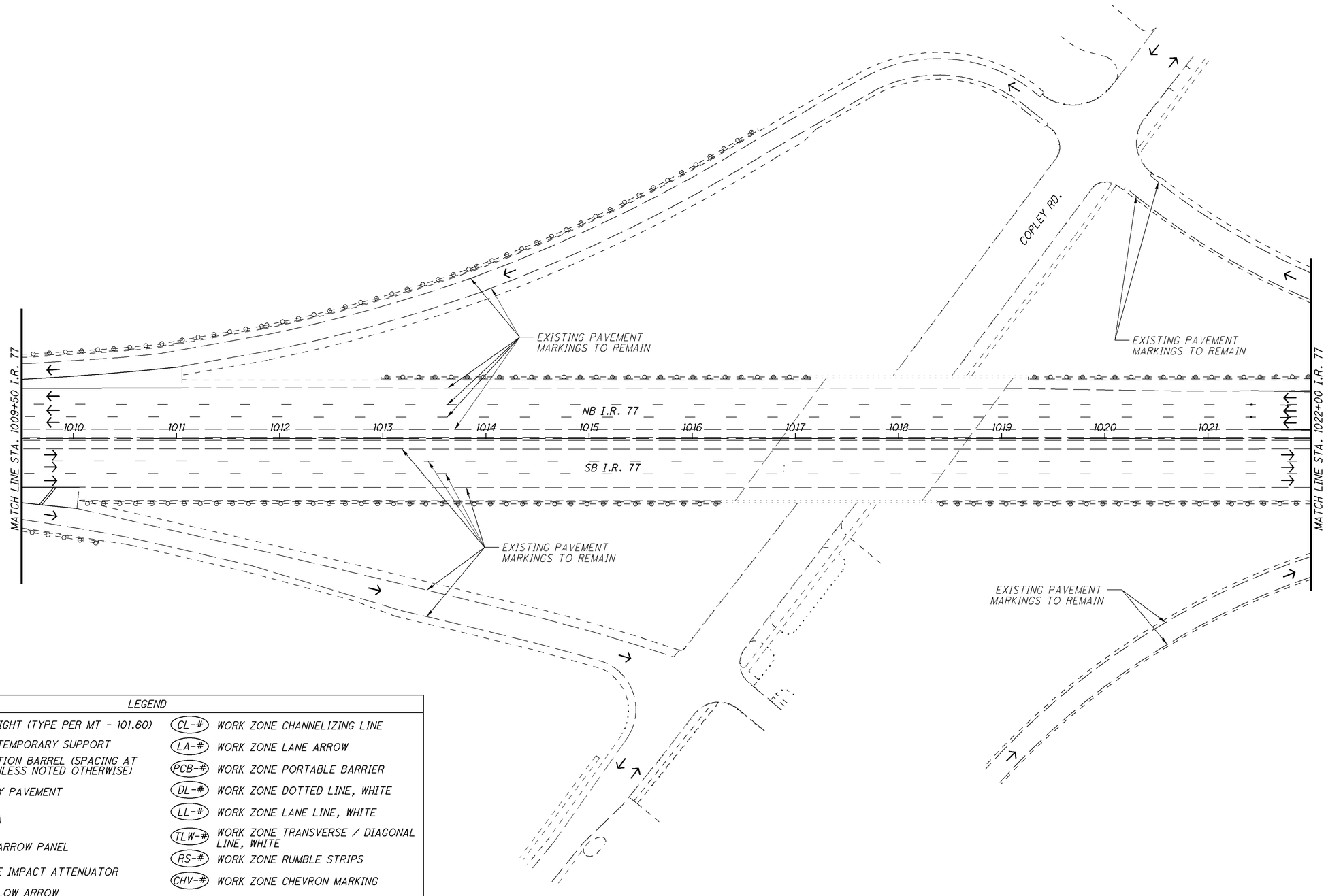
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DEITBEL

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - BEGIN TO STA. 1009+50

SUM-76/77-11.27/12.12



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

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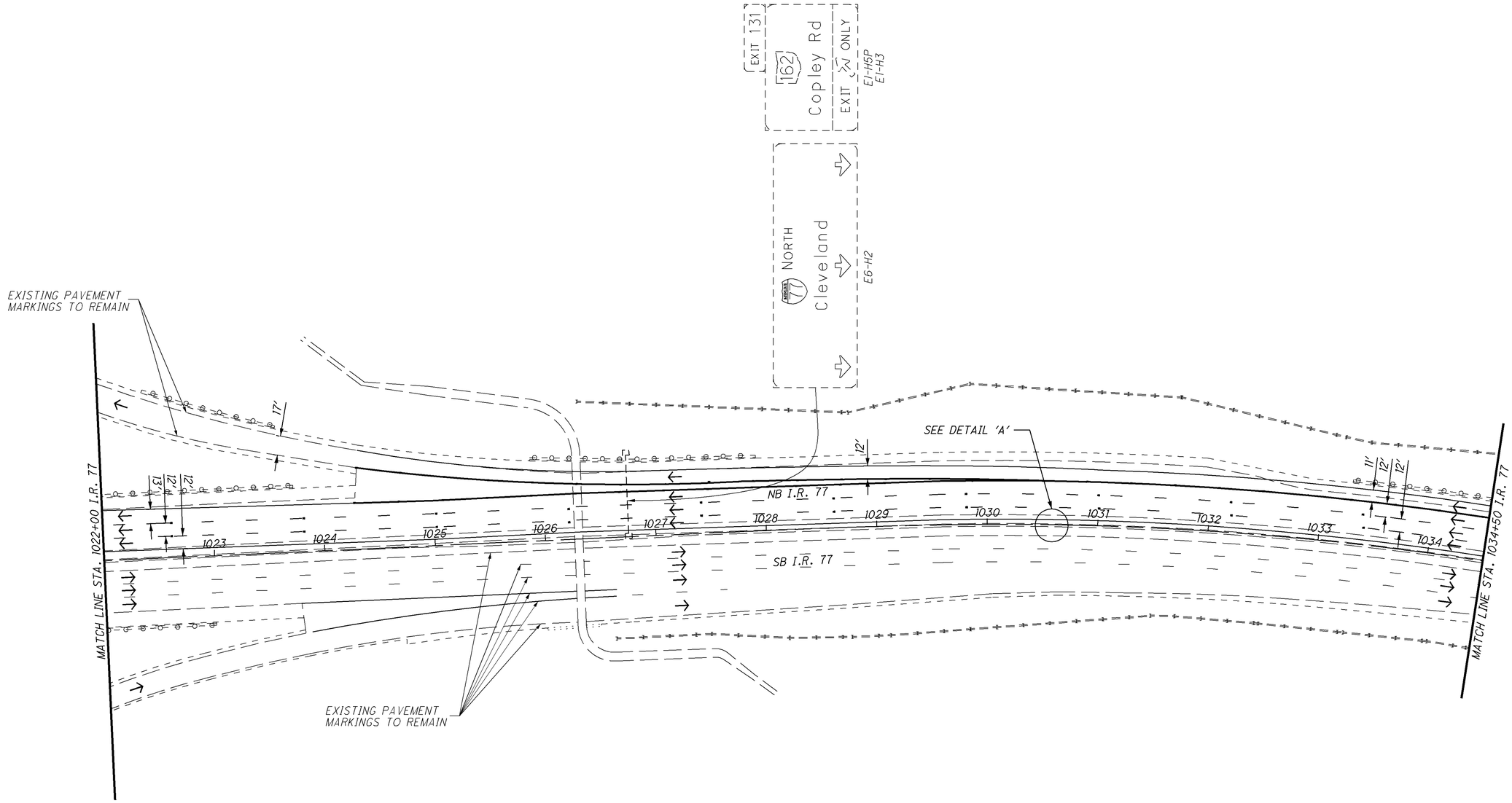
HORIZONTAL SCALE IN FEET
0 25 50 100

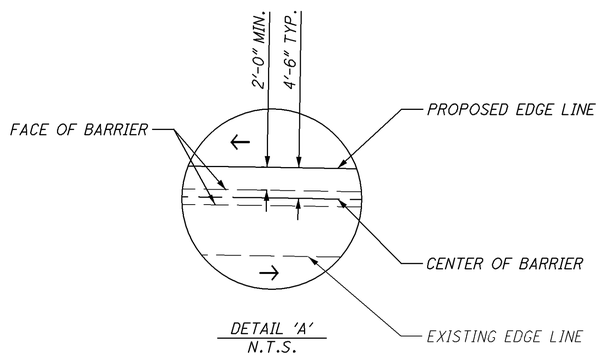
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1009+50 TO STA. 1022+00

SUM-76/77-11.27-12.12

111
652





DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

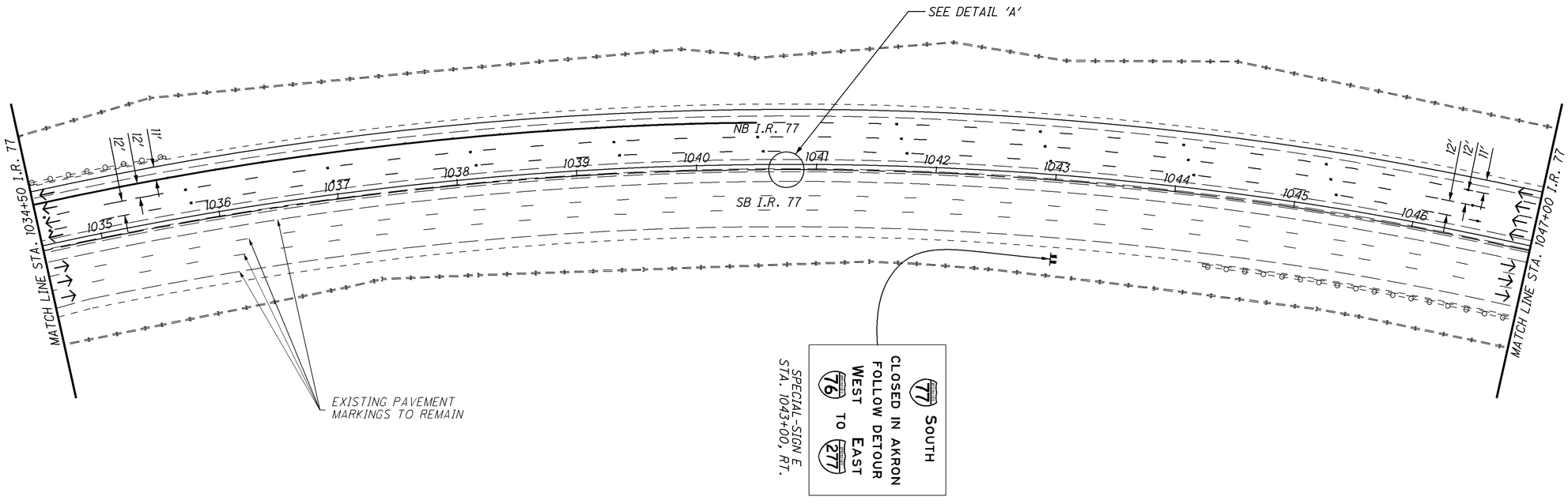
HORIZONTAL SCALE IN FEET
0 25 50 100

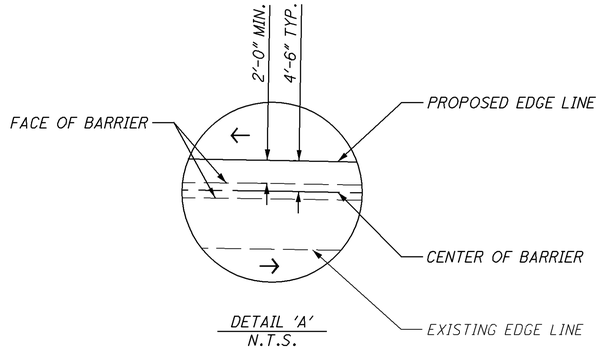
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1022+00 TO STA. 1034+50

SUM-76/77-11.27/12.12

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DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
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- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

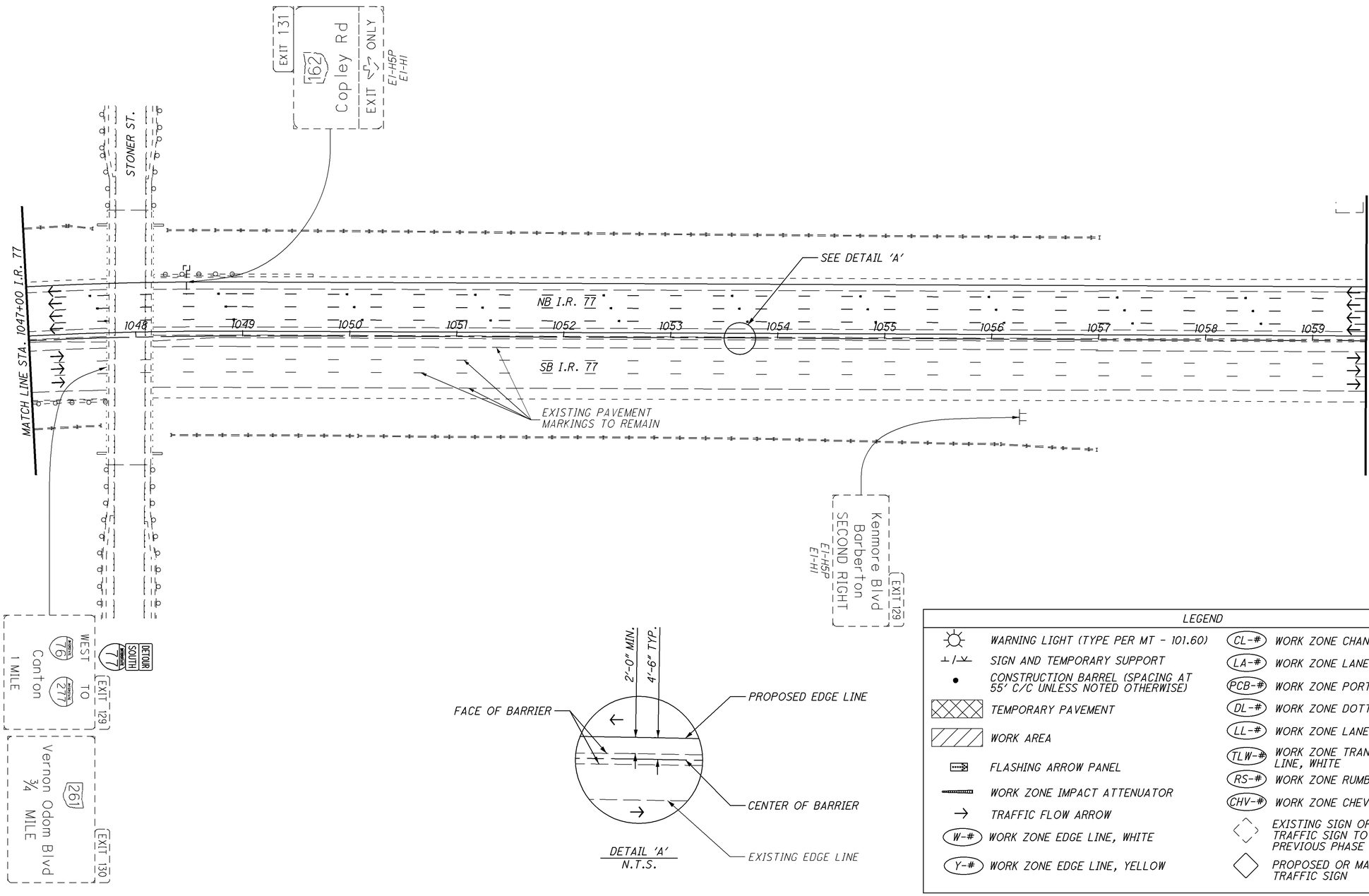
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1034+50 TO STA. 1047+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

N

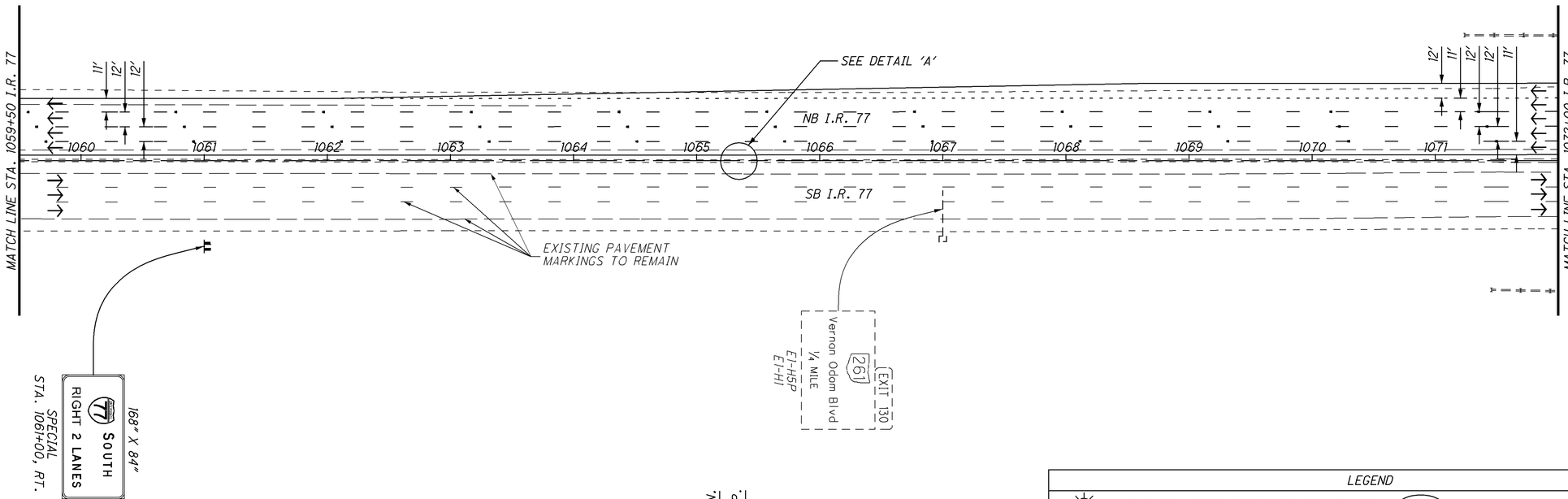
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HORIZONTAL SCALE IN FEET

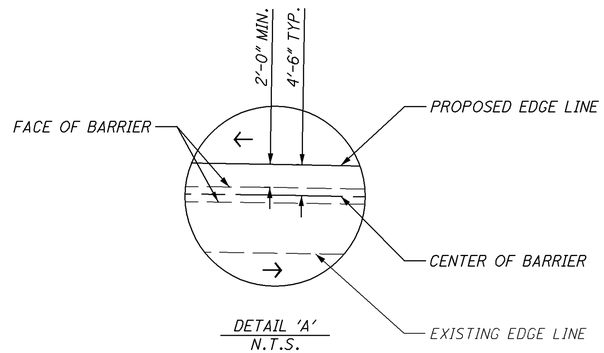
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CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1047+00 TO STA. 1059+50

SUM-76/77-11.27/12.12

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DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
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- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
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- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

N

0 25 50 100
HORIZONTAL SCALE IN FEET

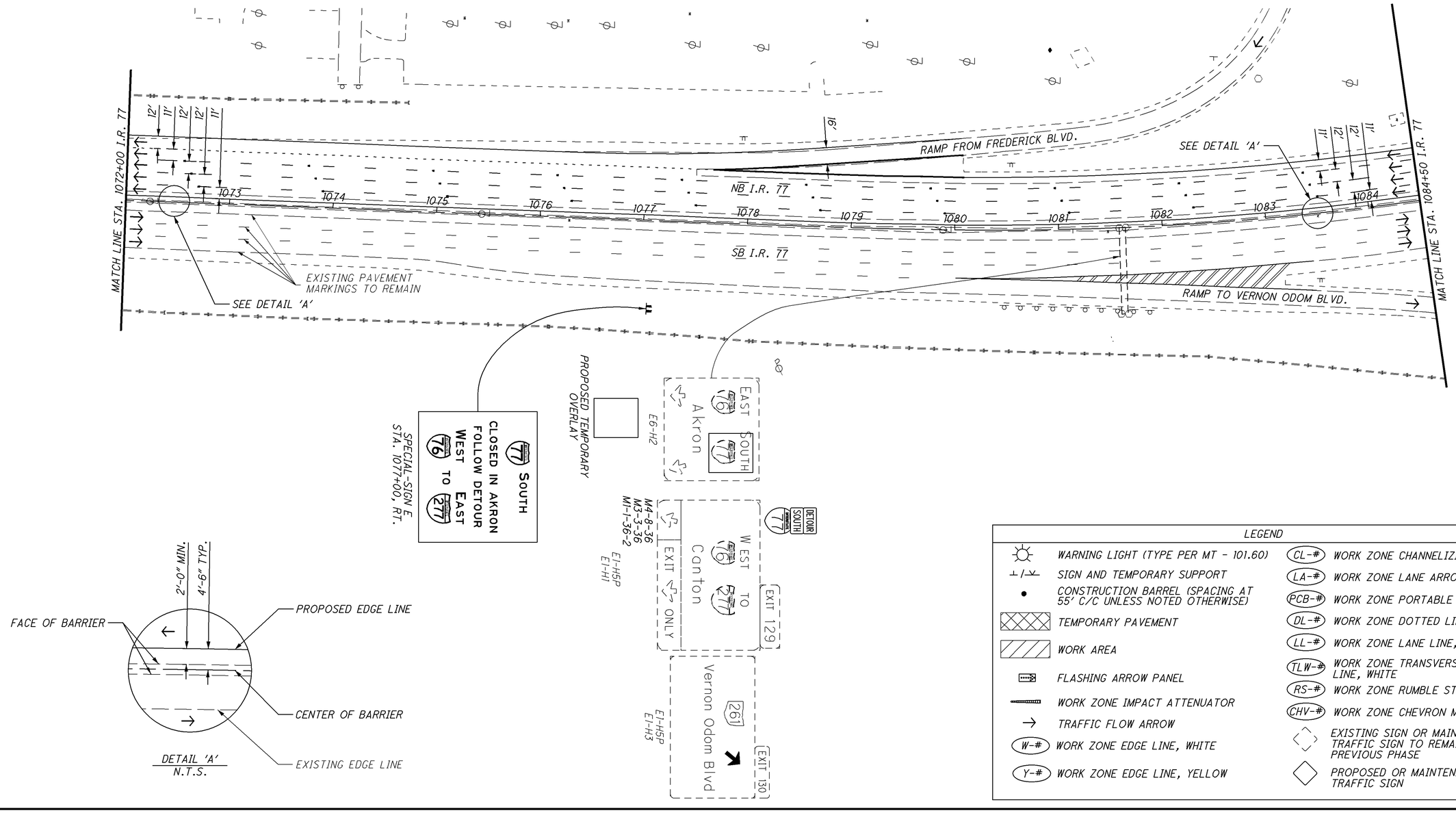
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CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1059+50 TO STA. 1072+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

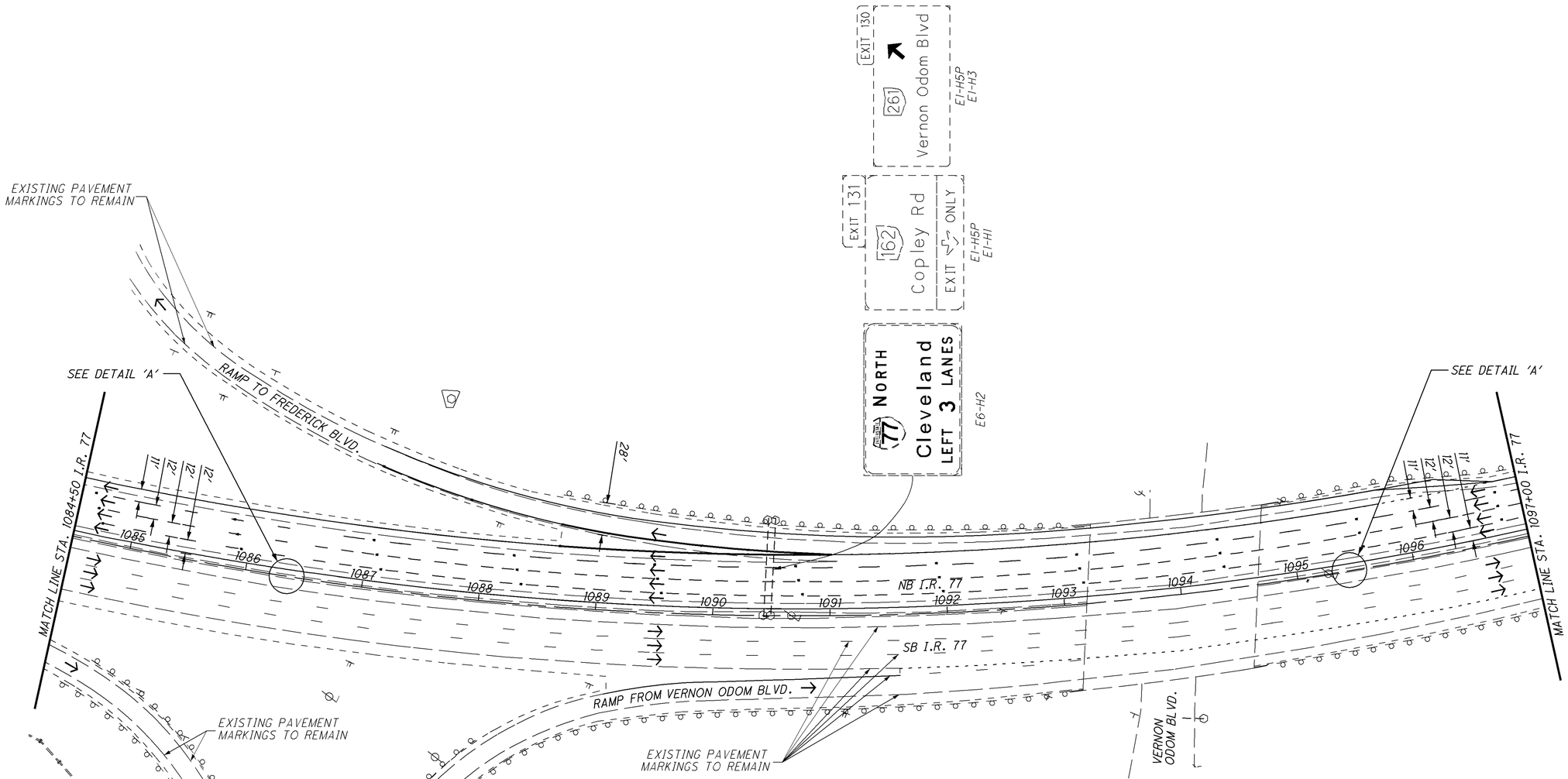
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CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1072+00 TO STA. 1084+50

SUM-76/77-11.27/12.12

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652

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DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
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- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

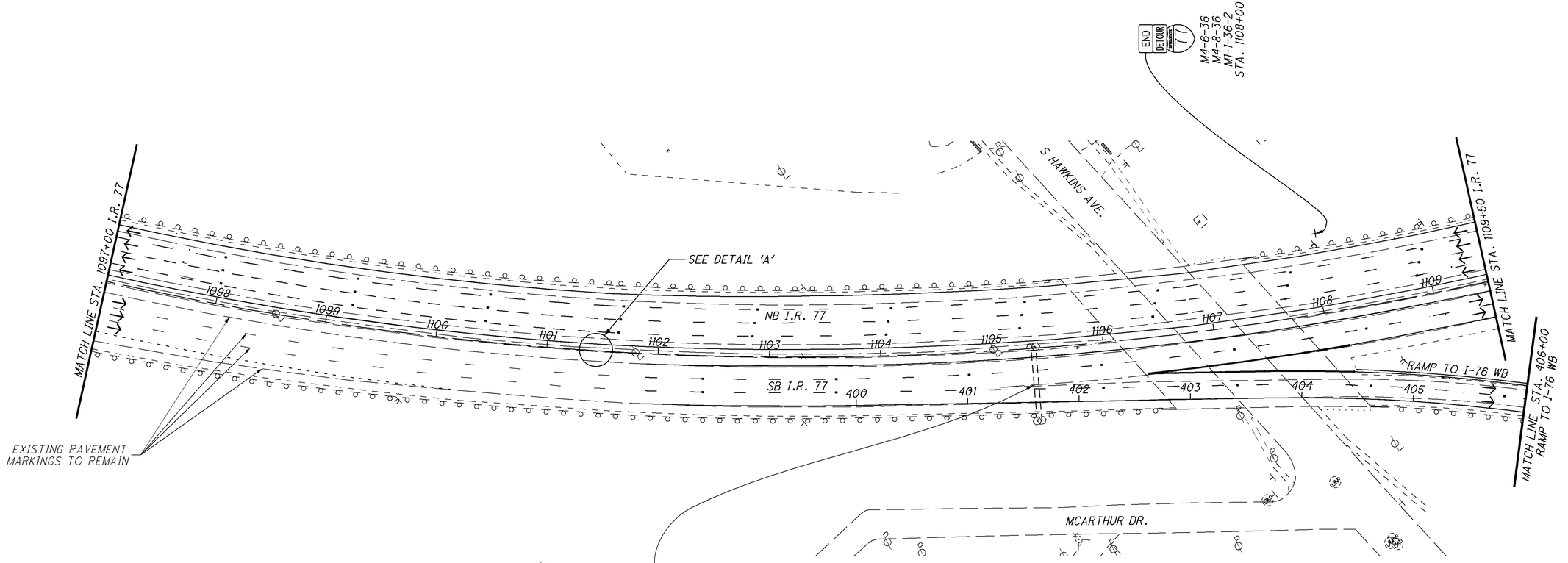
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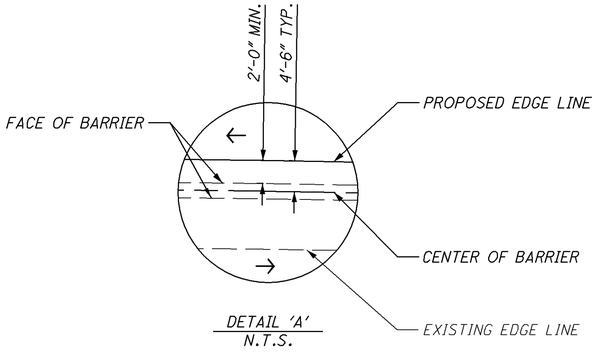
MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1084+50 TO STA. 1097+00

SUM-76/77-11.27/12.12

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652

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DETBEL





DETAIL 'A'
N.T.S.

LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1097+00 TO STA. 1109+50

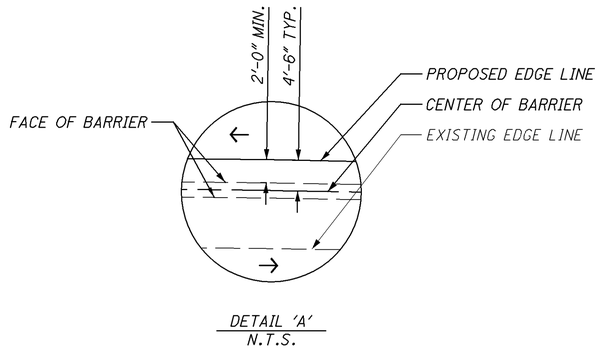
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LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
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- WORK ZONE IMPACT ATTENUATOR
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- (W-#) WORK ZONE EDGE LINE, WHITE
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- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



DETAIL 'A'
N.T.S.

DETAIL 'B'
N.T.S.

DETAIL 'C'
N.T.S.

N

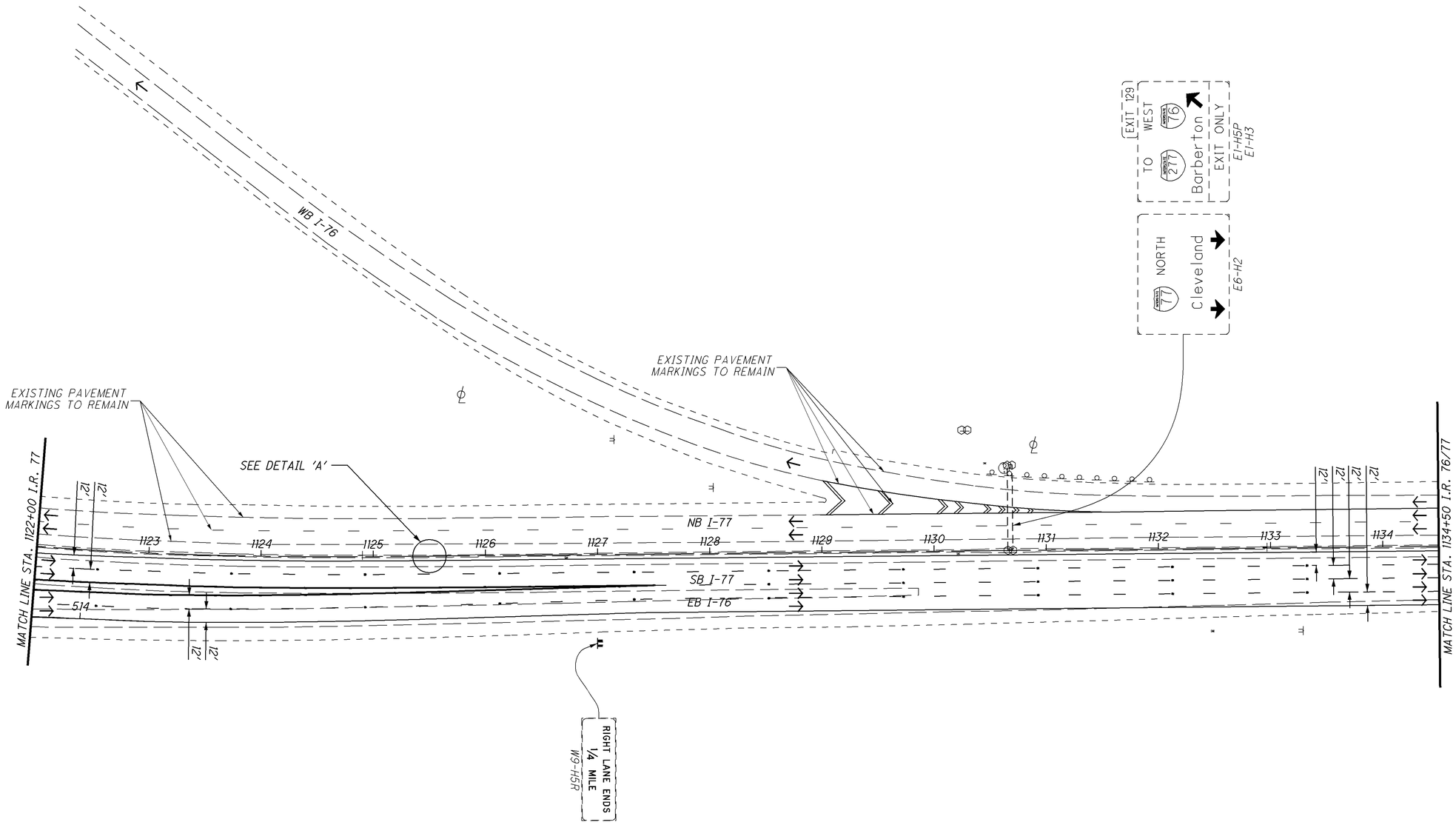
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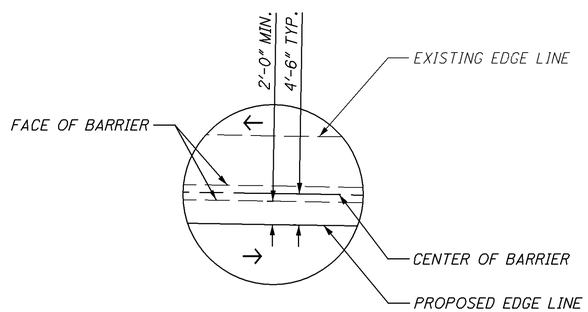
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CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1109+50 TO STA. 1122+00

SUM-76/77-11.27/12.12

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DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

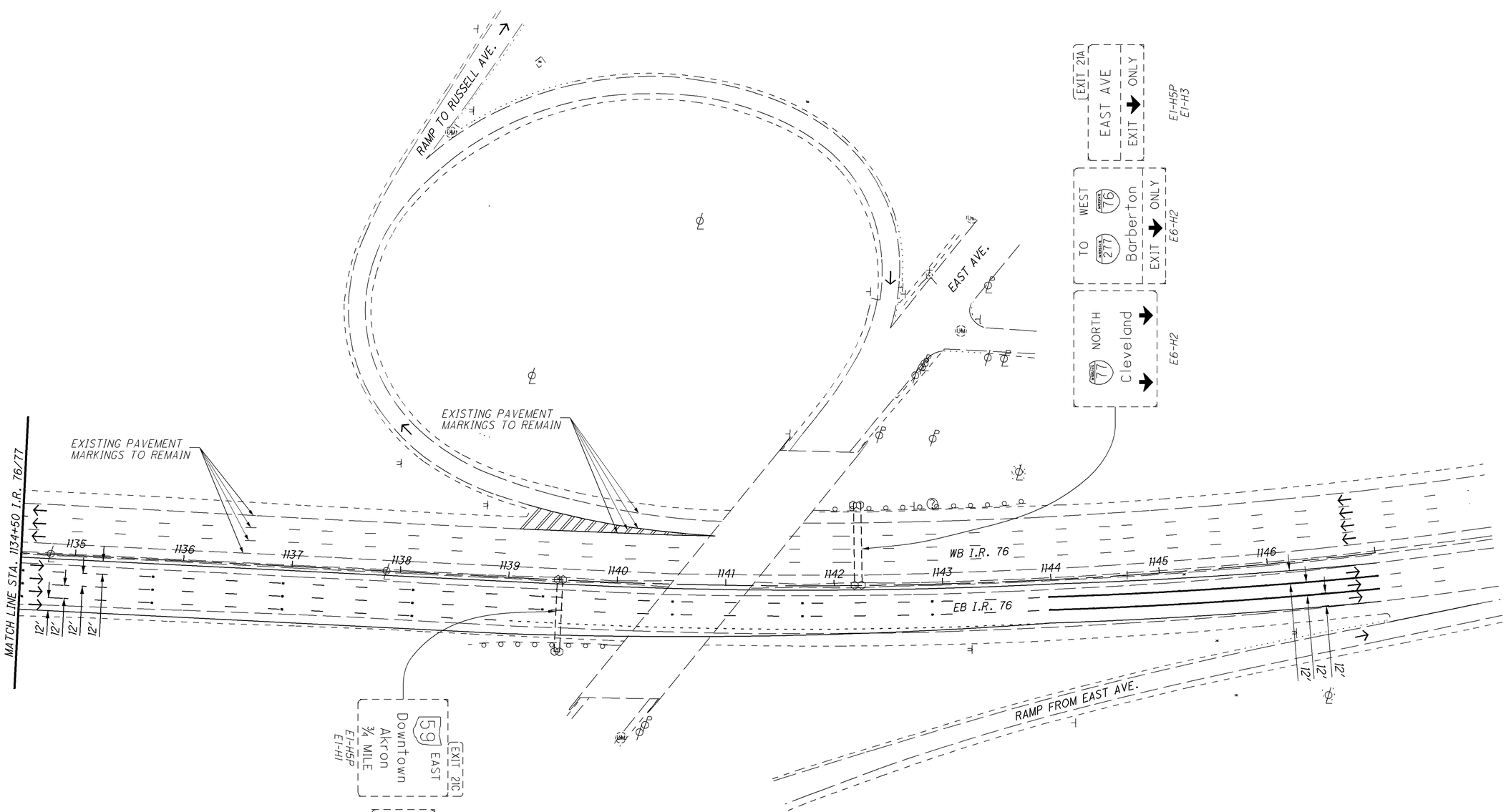
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1122+00 TO STA. 1134+50

SUM-76/77-11.27/12.12

120
652

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DEIBEL



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
PHASES 7, 8, 9 & 10 - STA. 1134+50 TO END

SUM-76/77-11.27/12.12

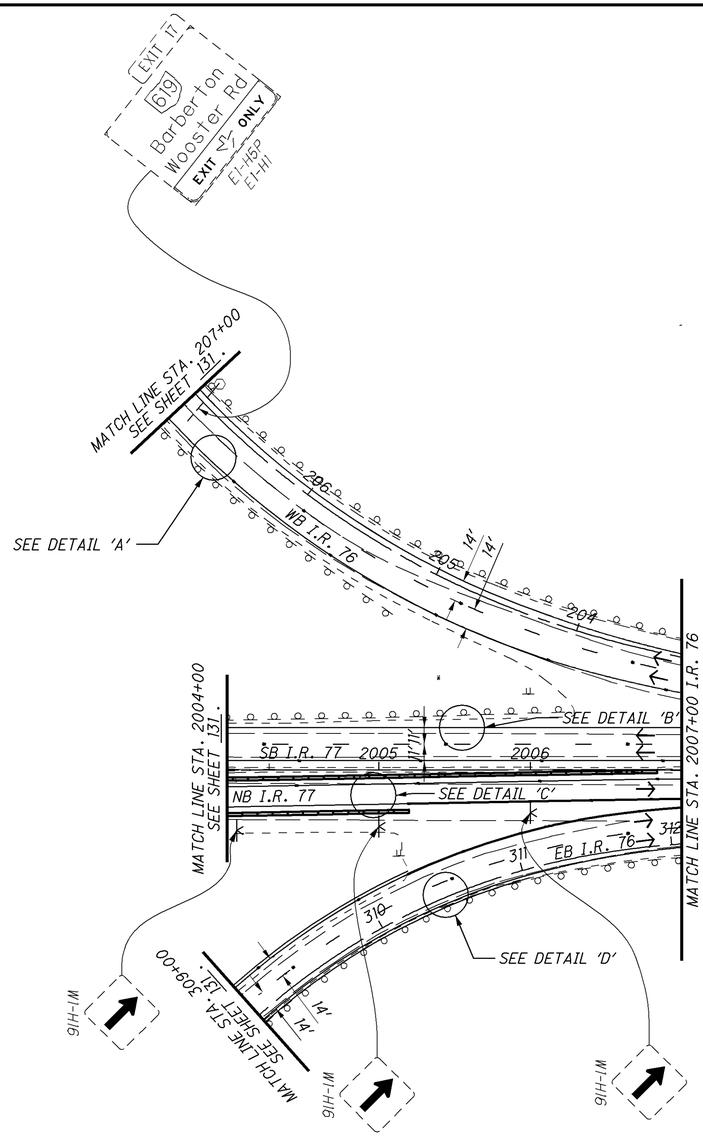
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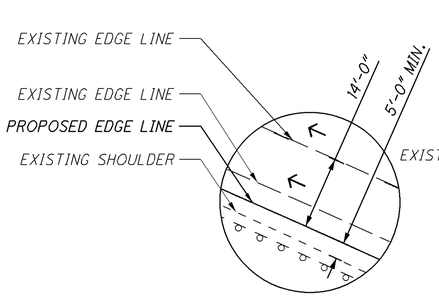
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LEGEND

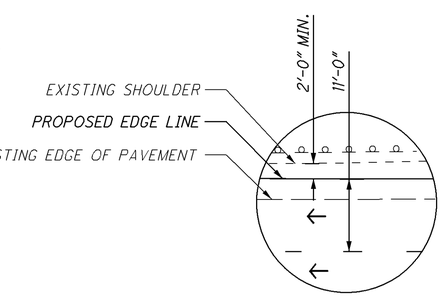
- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

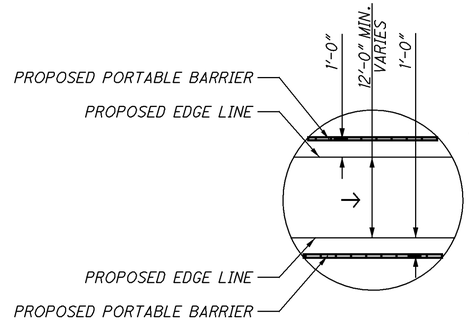




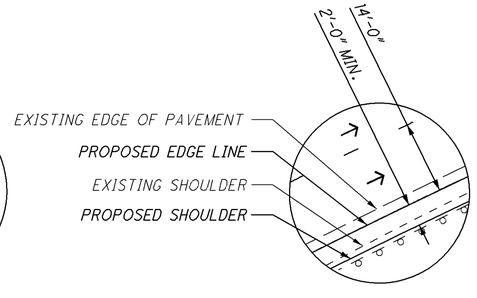
DETAIL 'A'
N.T.S.



DETAIL 'B'
N.T.S.



DETAIL 'C'
N.T.S.



DETAIL 'D'
N.T.S.

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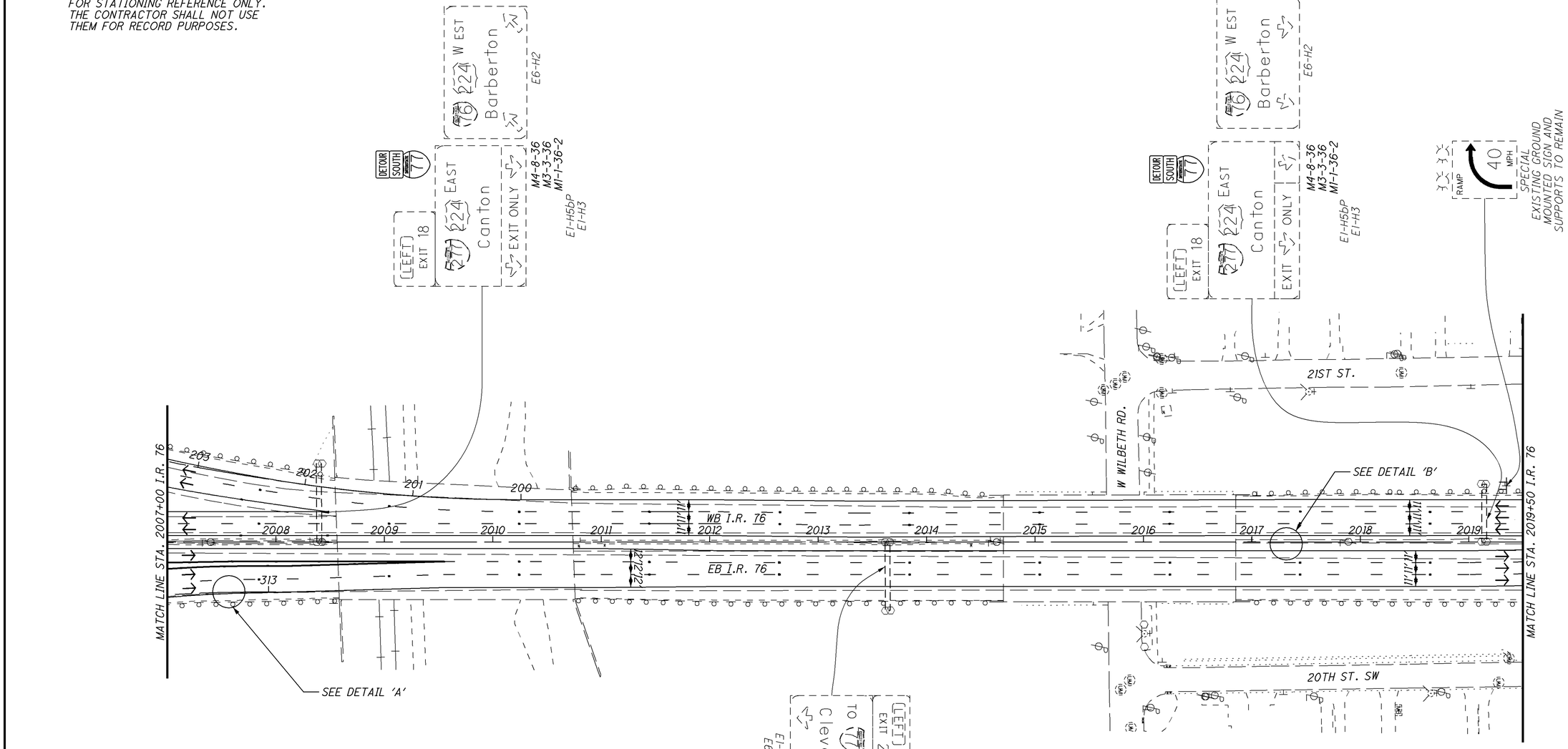
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0 25 50 100

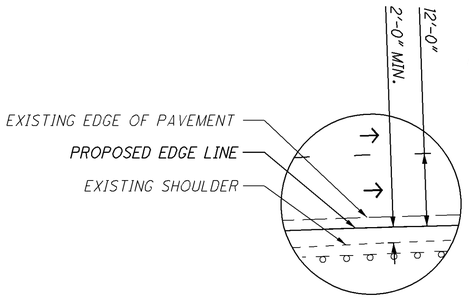
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CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
KENMORE LEG
PHASES 7, 8, 9 & 10 - BEGIN TO STA. 2007+00

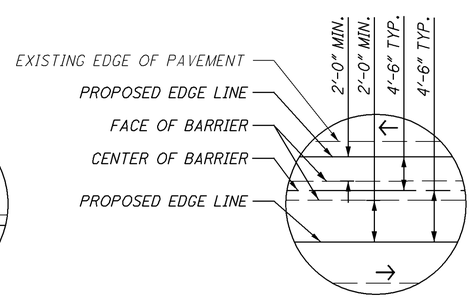
SUM-76/77-11.27/12.12

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.



DETAIL 'B'
N.T.S.

LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

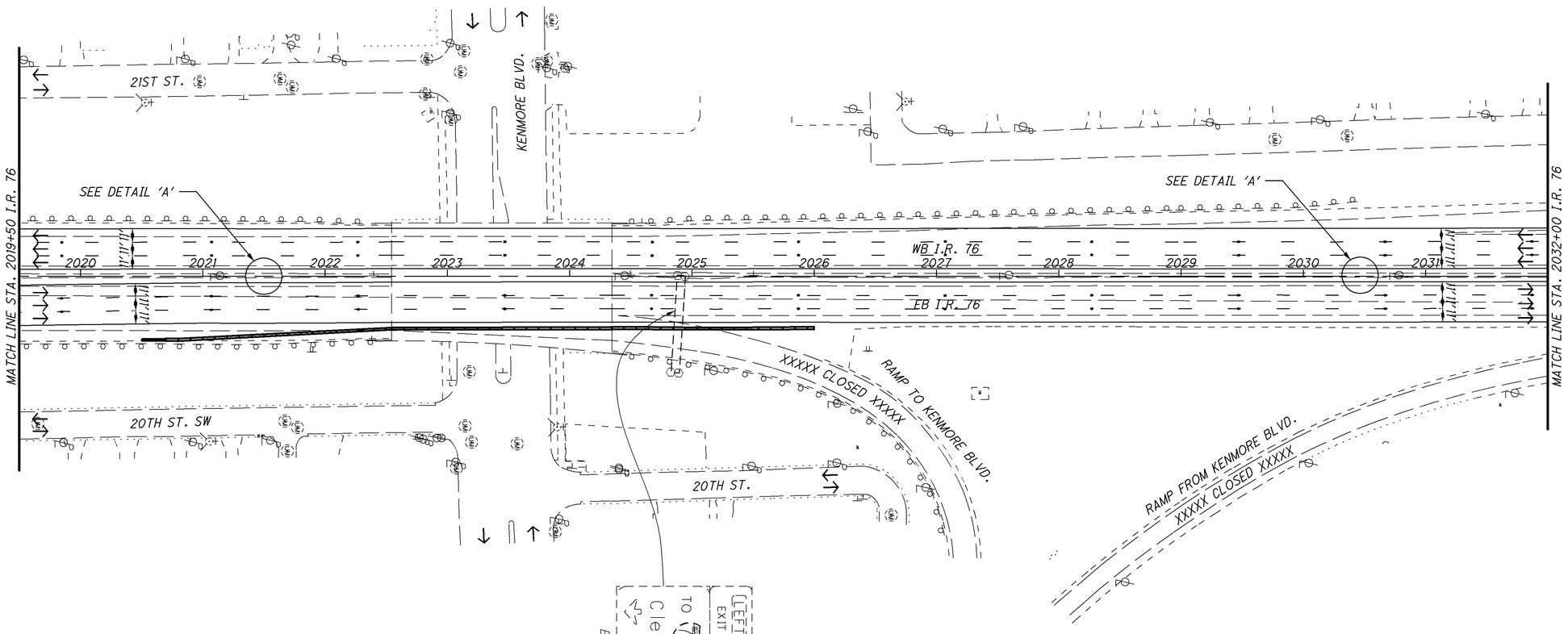
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
KENMORE LEG
PHASES 7, 8, 9 & 10 - STA. 2007+00 TO STA. 2019+50

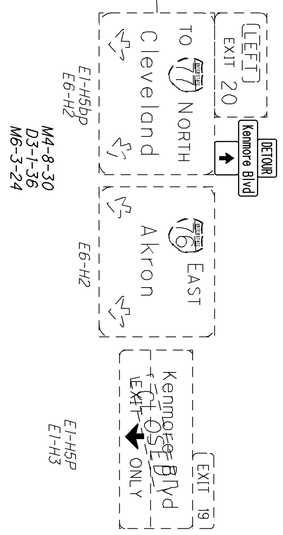
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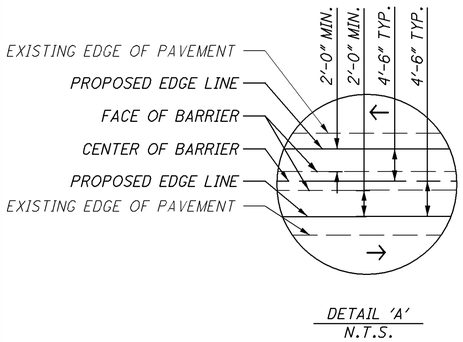
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CBEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.







DETAIL 'A'
N.T.S.

LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#) WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	(LA-#) WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#) WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	(DL-#) WORK ZONE DOTTED LINE, WHITE
WORK AREA	(LL-#) WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	(TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	(RS-#) WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	(CHV-#) WORK ZONE CHEVRON MARKING
(W-#) WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#) WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

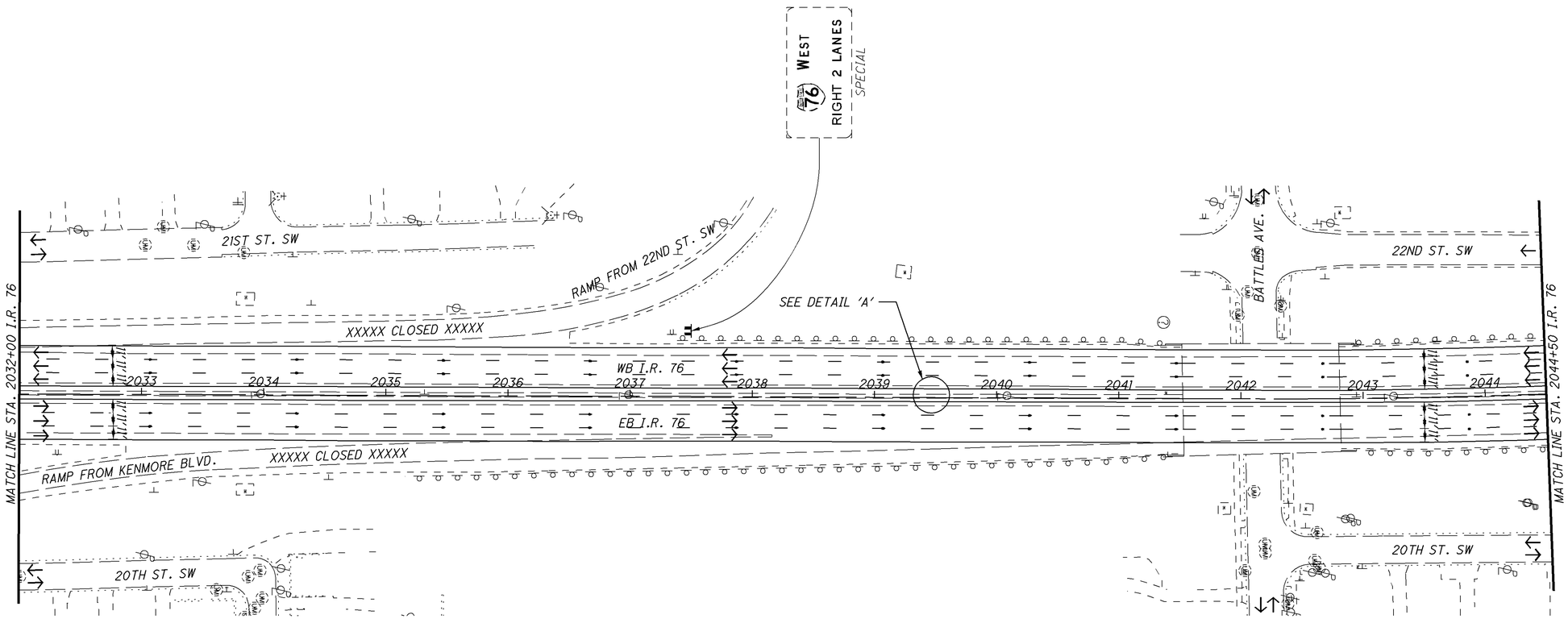
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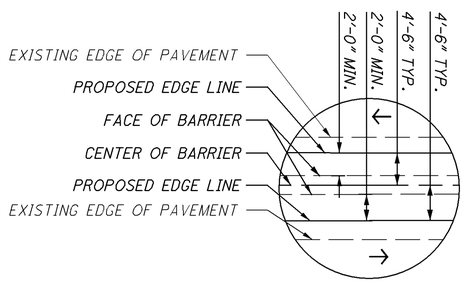
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
KENMORE LEG
PHASES 7, 8, 9 & 10 - STA. 2019+50 TO STA. 2032+00

SUM-76/77-11.27/12.12

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CBEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
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- (Y-#) WORK ZONE EDGE LINE, YELLOW
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- (DL-#) WORK ZONE DOTTED LINE, WHITE
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- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED CRW
CHECKED AKF

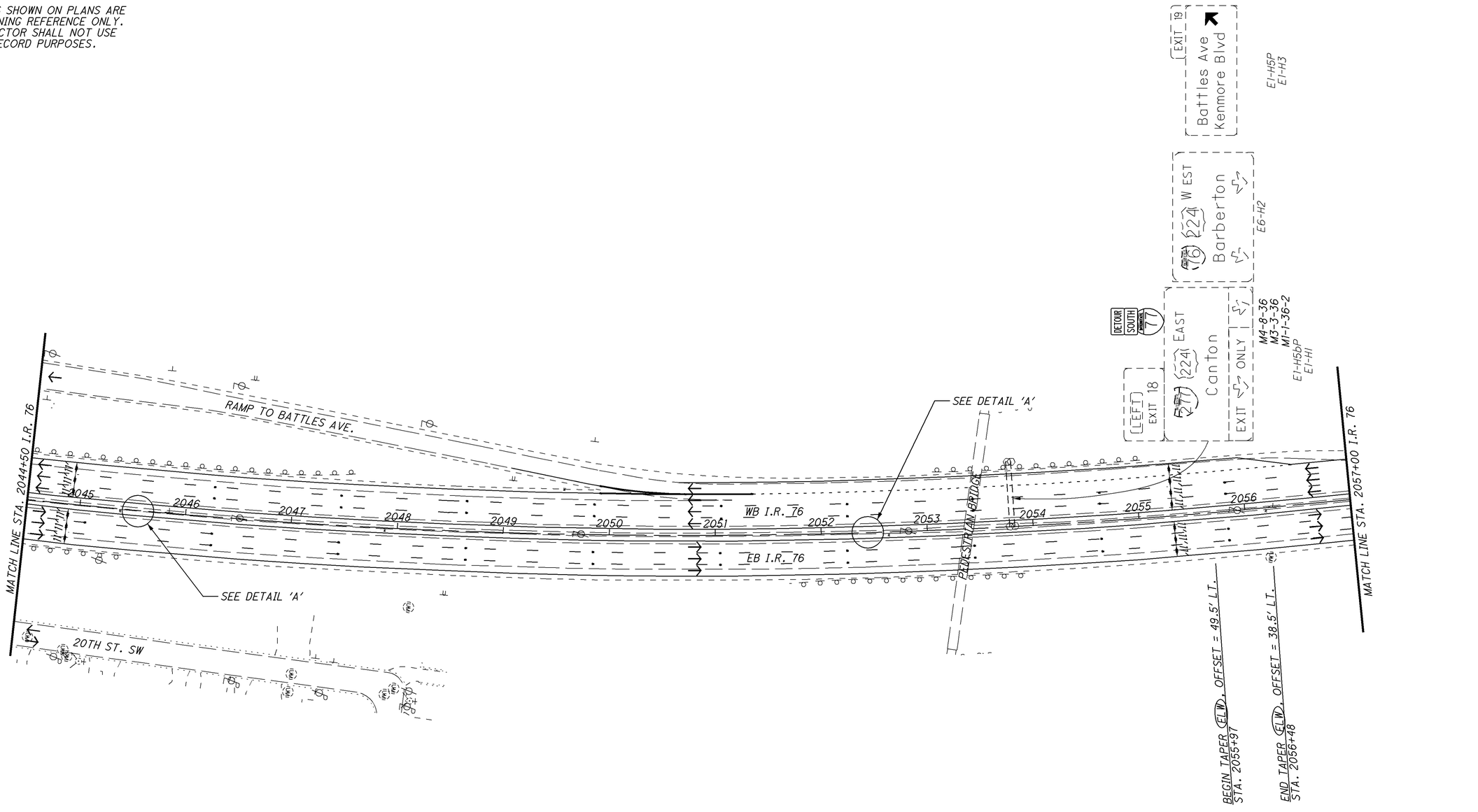
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
KENMORE LEG
PHASES 7, 8, 9 & 10 - STA. 2032+00 TO STA. 2044+50

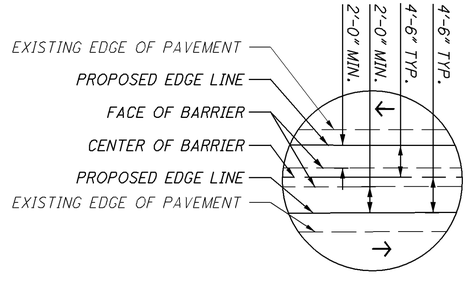
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DEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
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- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

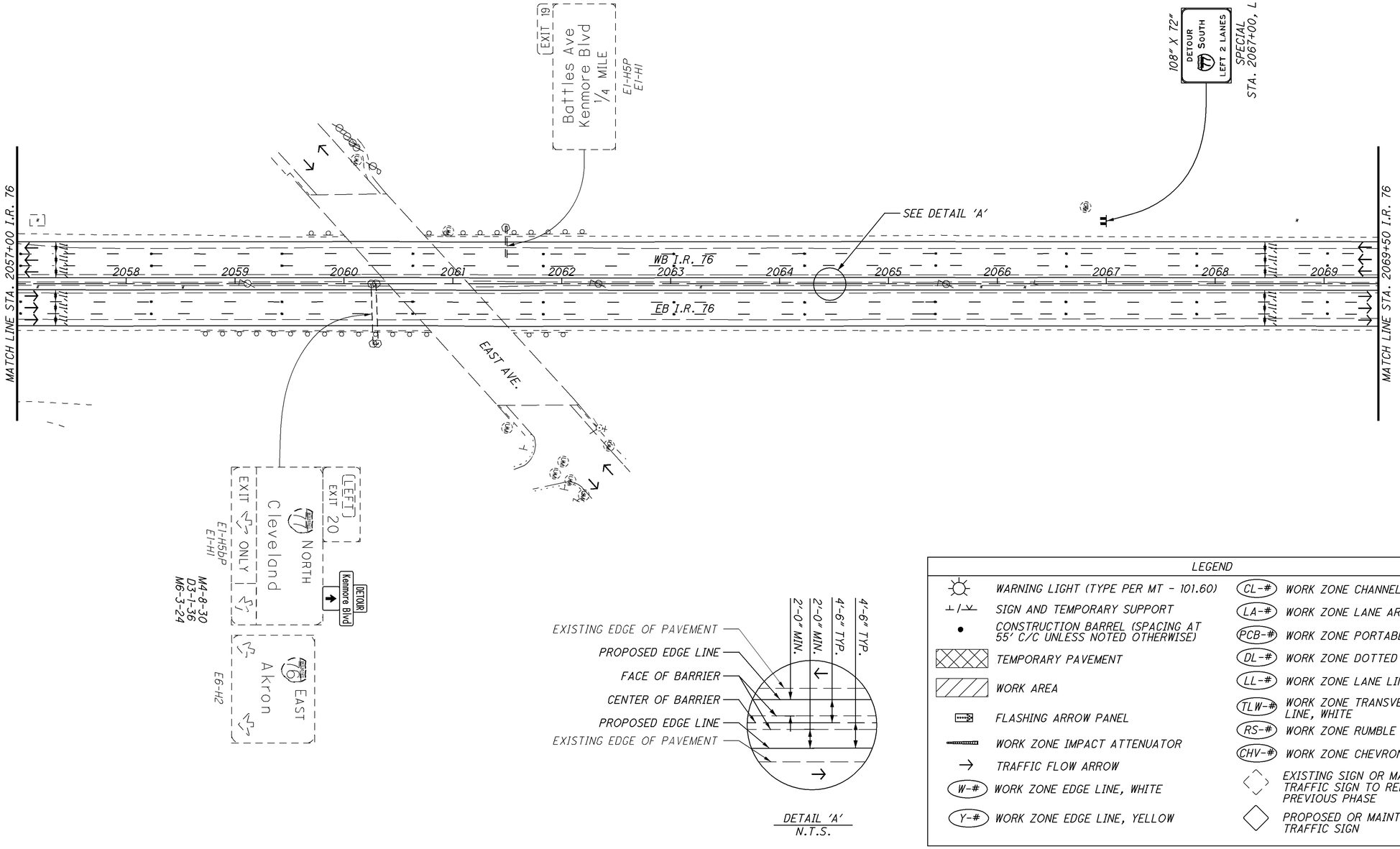
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MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
KENMORE LEG
PHASES 7, 8, 9 & 10 - STA. 2044+50 TO STA. 2057+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



DETAIL 'A'
N.T.S.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
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- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

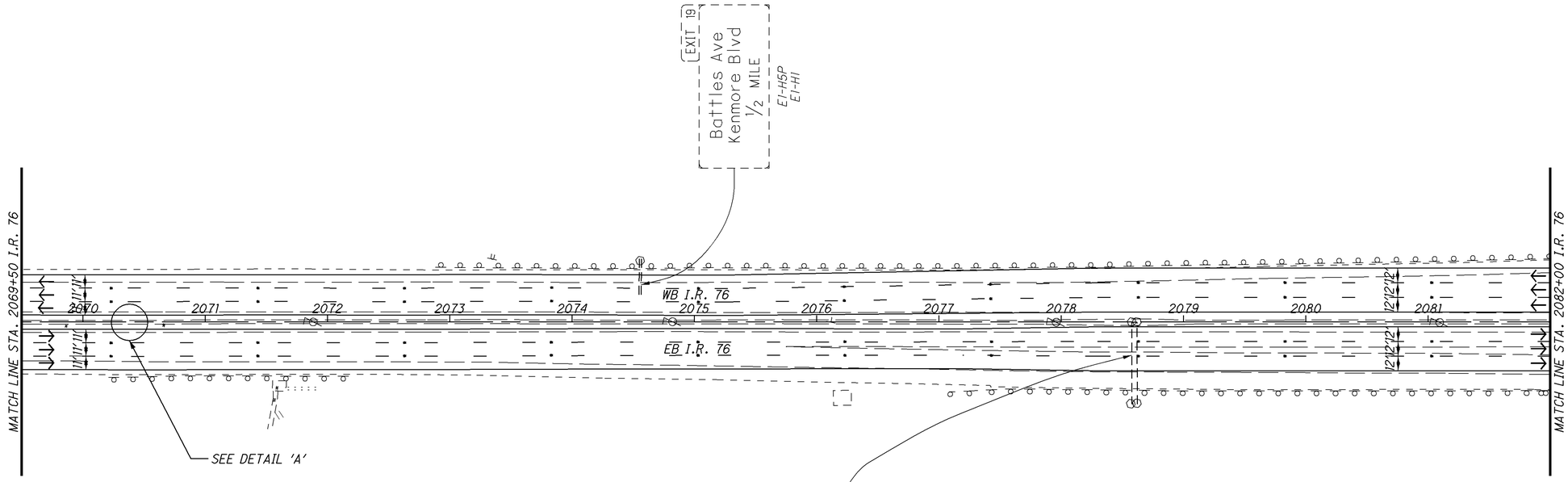
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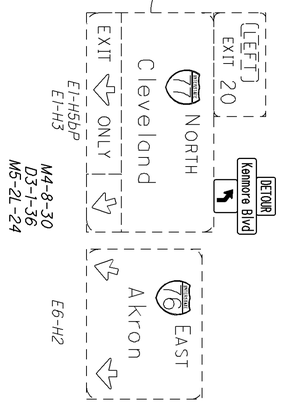
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
KENMORE
PHASES 7, 8, 9 & 10 - STA. 2057+00 TO STA. 2069+50

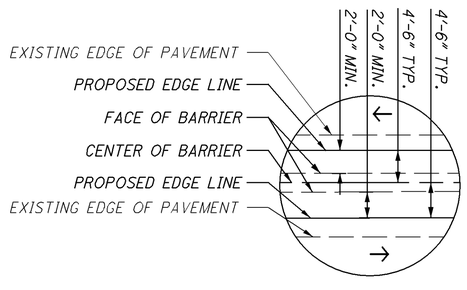
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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.







DETAIL 'A'
N.T.S.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

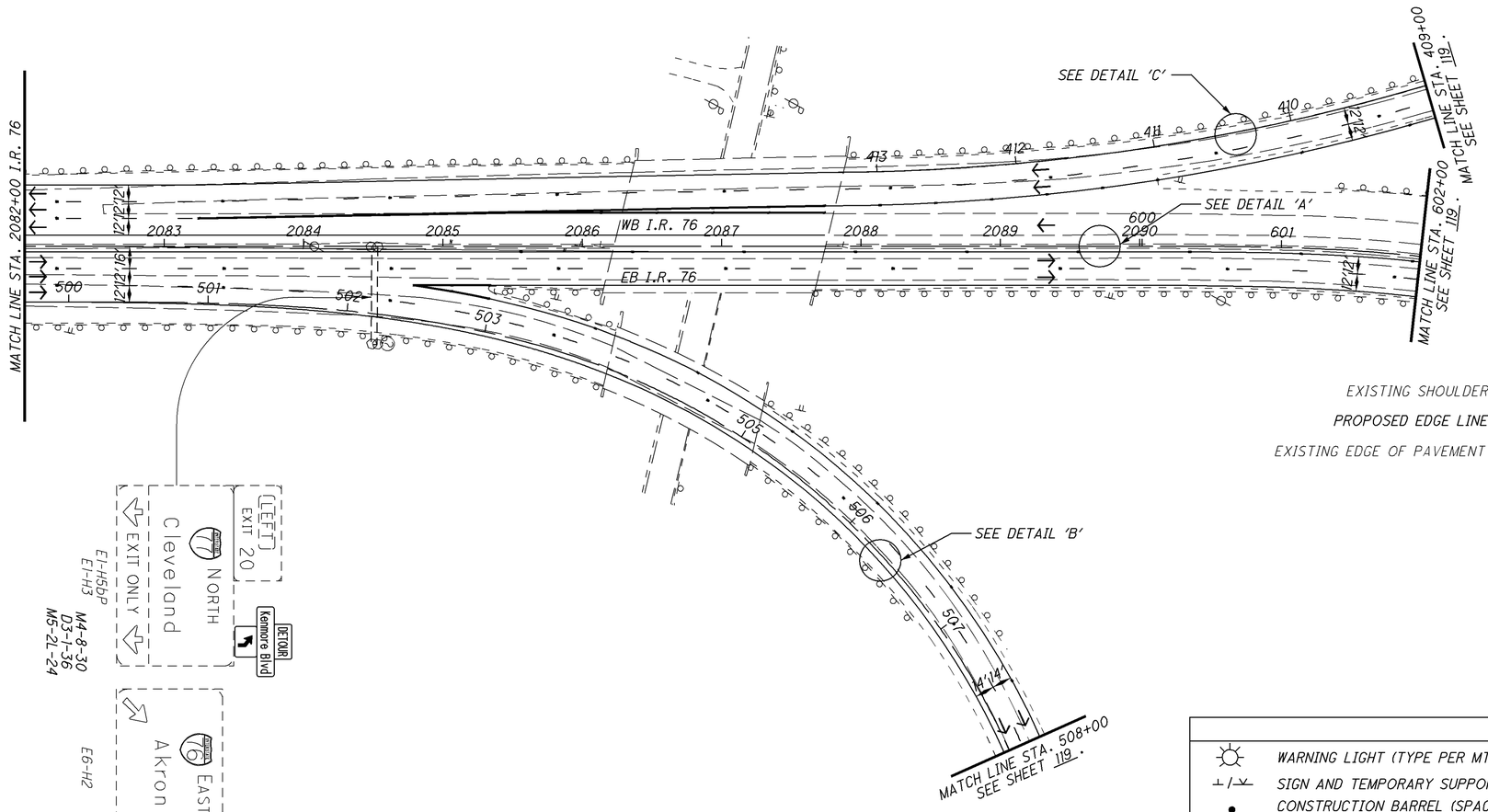
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CHECKED AKF

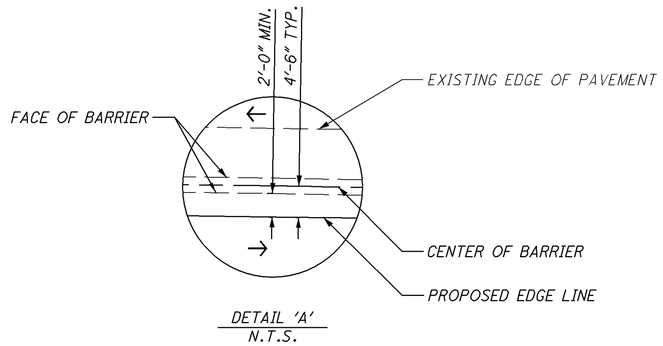
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
KENMORE LEG
PHASES 7, 8, 9 & 10 - STA. 2069+50 TO STA. 2082+00

SUM-76/77-11.27/12.12

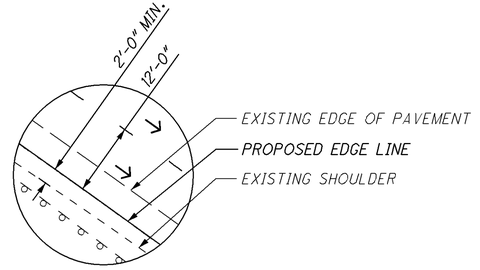
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CDEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

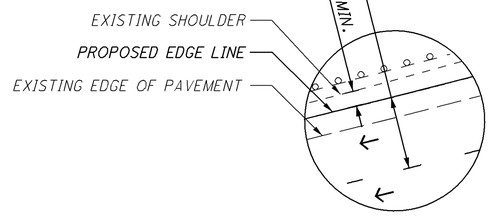




DETAIL 'A'
N.T.S.



DETAIL 'B'
N.T.S.



DETAIL 'C'
N.T.S.

LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

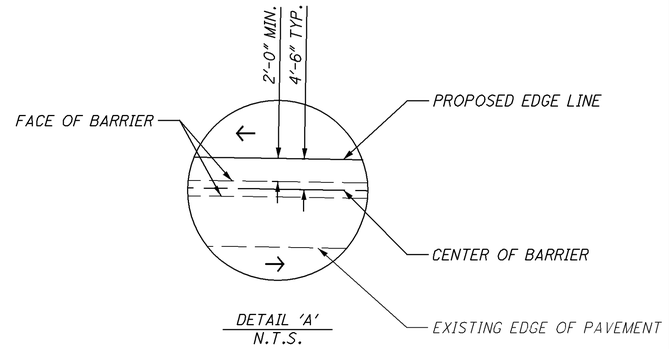
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

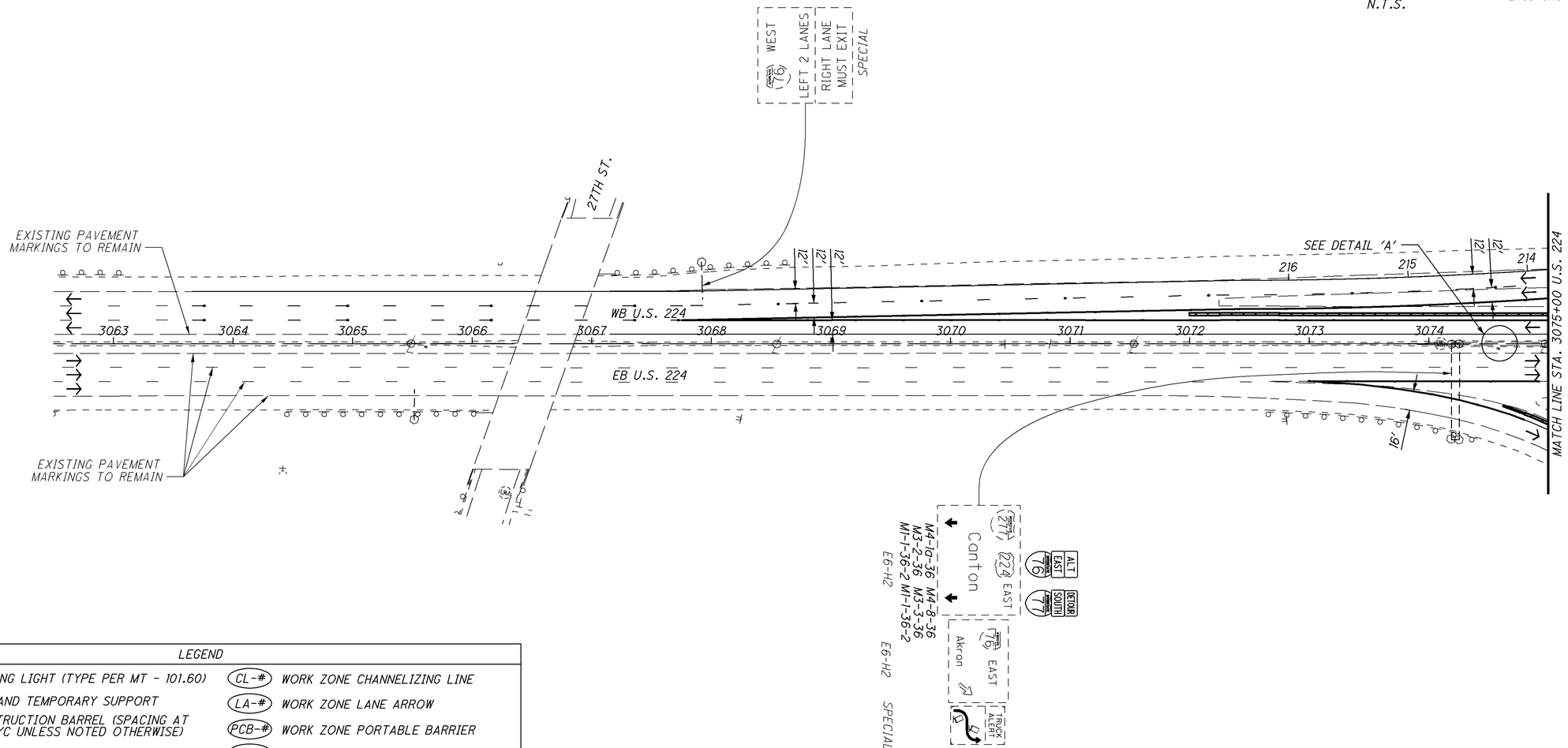
TRAFFIC PLAN - I-77 DETOUR
MAINTENANCE OF TRAFFIC
KENMORE LEG
PHASES 7, 8, 9 & 10 - STA. 2082+00 TO STA. 602+00

SUM-76/77-11.27/12.12

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9/16/2014
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CDEIBEL



DETAIL 'A'
N.T.S.



LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#) WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	(LA-#) WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#) WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	(DL-#) WORK ZONE DOTTED LINE, WHITE
WORK AREA	(LL-#) WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	(TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	(RS-#) WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	(CHV-#) WORK ZONE CHEVRON MARKING
(W-#) WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#) WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

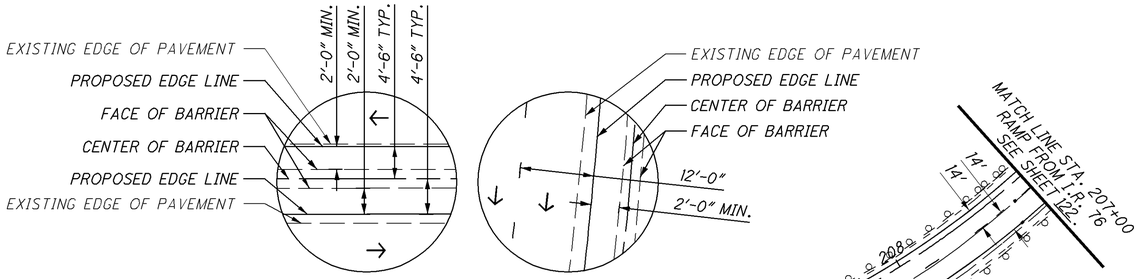
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR U.S. 224/I-277 & 10 - BEGIN TO STA. 3075+00

PHASES 7, 8, 9 & 10

SUM-76/77-11.27/12.12

130
652

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CDEIBEL



DETAIL 'A'
N.T.S.

DETAIL 'B'
N.T.S.

DETAIL 'C'
N.T.S.

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

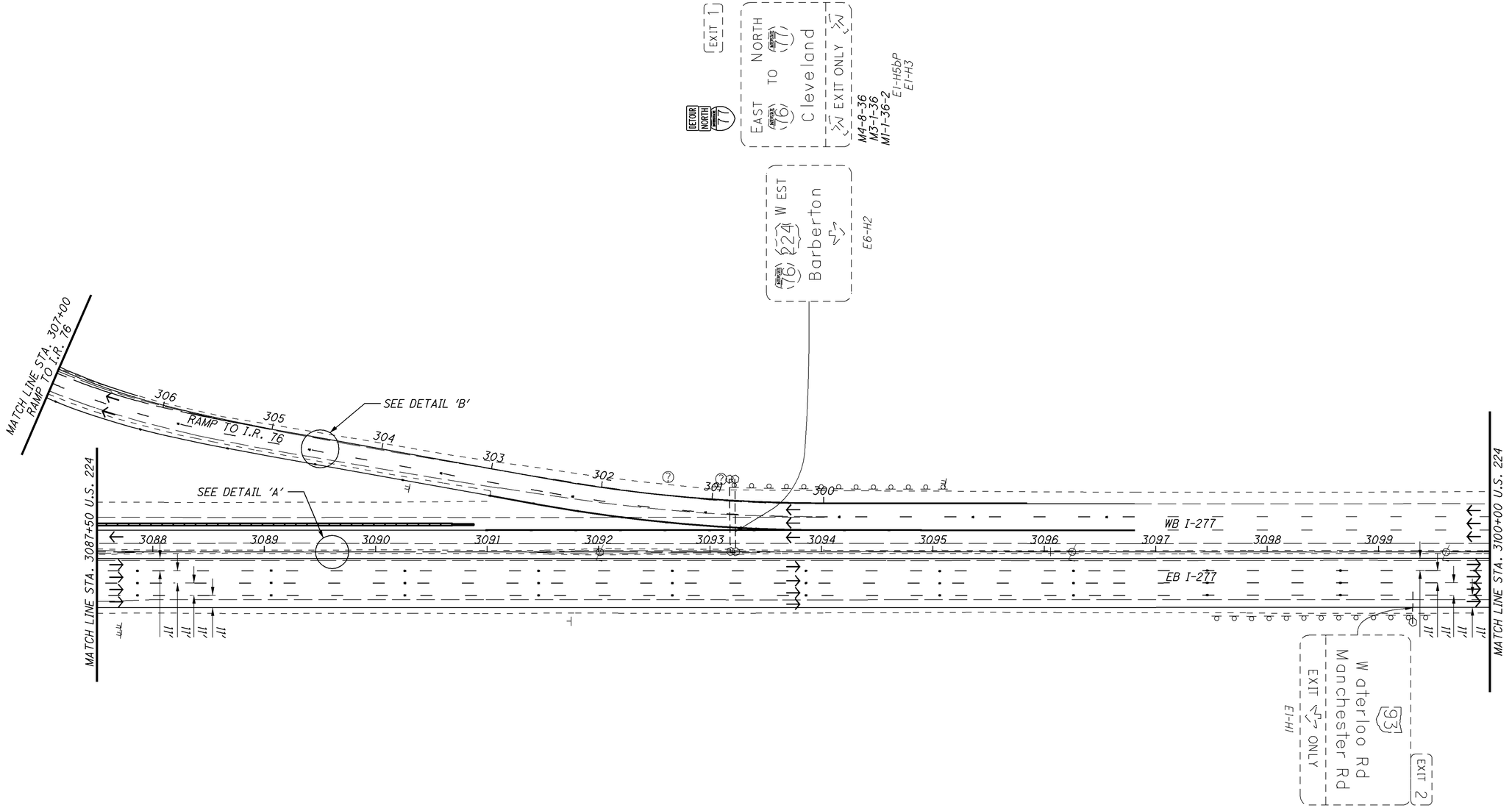
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CHECKED AKF

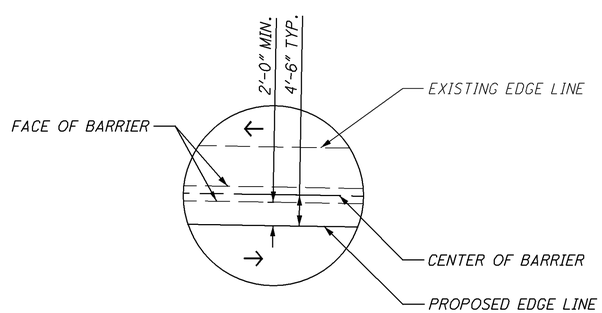
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3075+00 TO STA. 3087+50

SUM-76/77-11.27/12.12

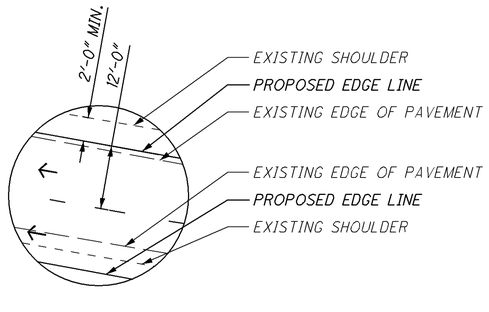
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CDEIBEL





DETAIL 'A'
N.T.S.



DETAIL 'B'
N.T.S.

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

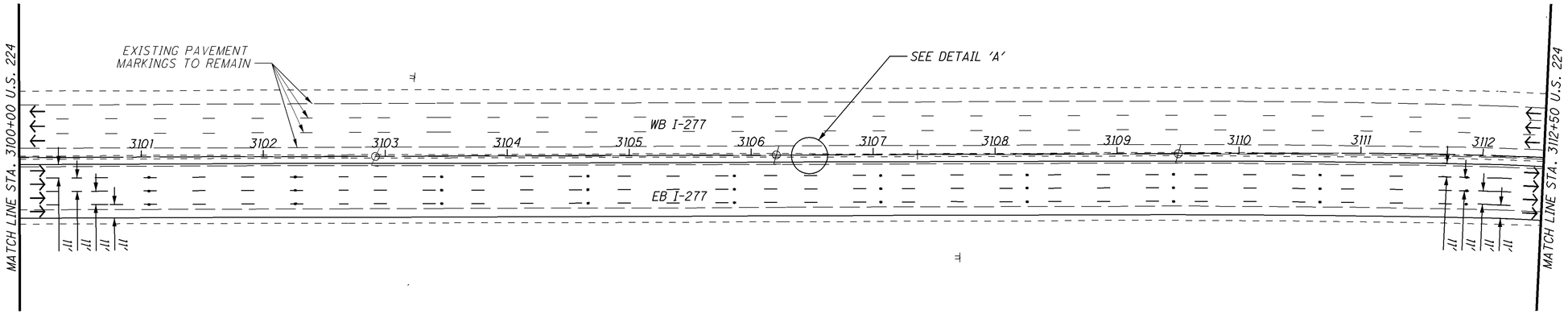
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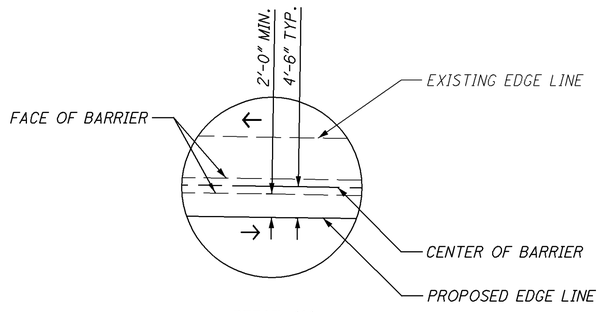
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3087+50 TO STA. 3100+00

SUM-76/77-11.27/12.12

132
652

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9/16/2014
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DEIBEL





DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#) WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	(LA-#) WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#) WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	(DL-#) WORK ZONE DOTTED LINE, WHITE
WORK AREA	(LL-#) WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	(TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	(RS-#) WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	(CHV-#) WORK ZONE CHEVRON MARKING
(W-#) WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#) WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

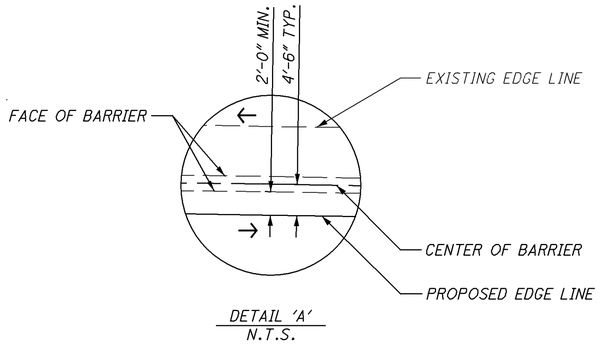
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CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3100+00 TO STA. 3112+50

SUM-76/77-11.27/12.12

133
652

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DBEIBEL



DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

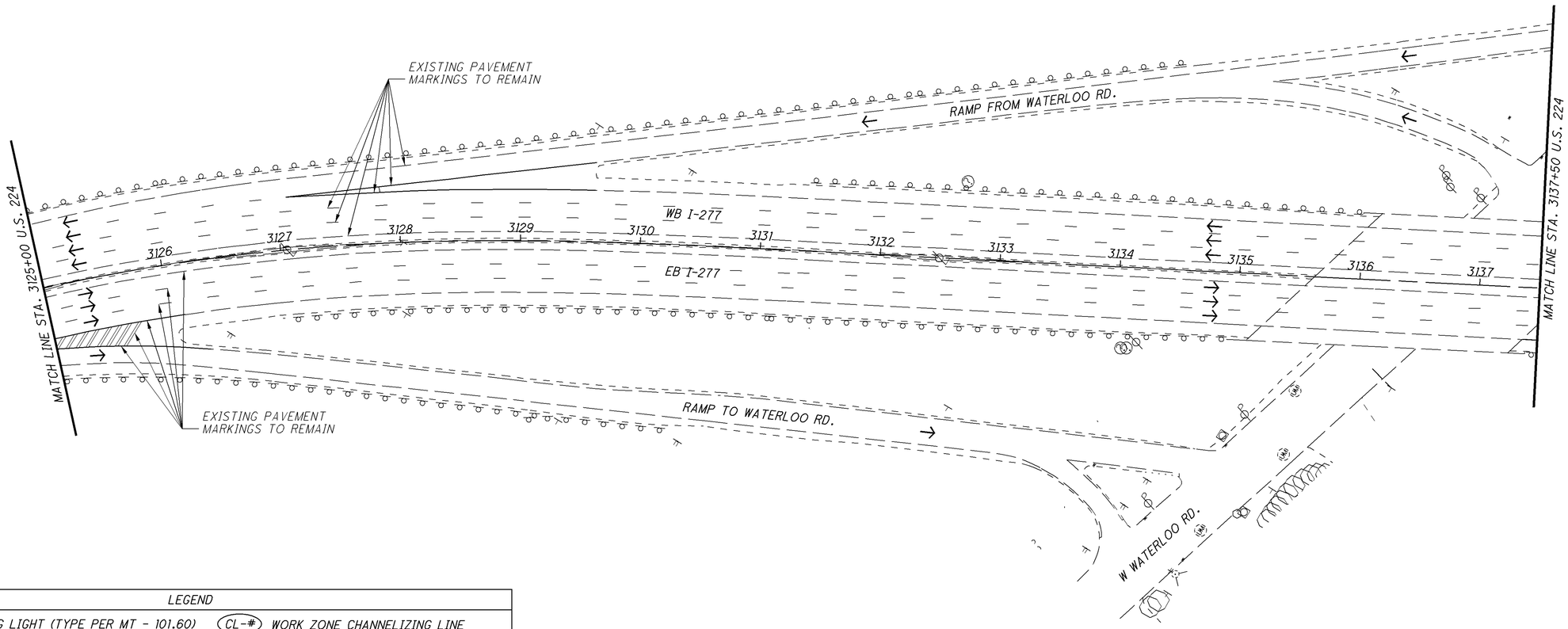
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3112+50 TO STA. 3125+00

SUM-76/77-11.27/12.12

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LEGEND			
	WARNING LIGHT (TYPE PER MT - 101.60)	CL-#	WORK ZONE CHANNELIZING LINE
	SIGN AND TEMPORARY SUPPORT	LA-#	WORK ZONE LANE ARROW
	CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-#	WORK ZONE PORTABLE BARRIER
	TEMPORARY PAVEMENT	DL-#	WORK ZONE DOTTED LINE, WHITE
	WORK AREA	LL-#	WORK ZONE LANE LINE, WHITE
	FLASHING ARROW PANEL	TLW-#	WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
	WORK ZONE IMPACT ATTENUATOR	RS-#	WORK ZONE RUMBLE STRIPS
	TRAFFIC FLOW ARROW	CHV-#	WORK ZONE CHEVRON MARKING
W-#	WORK ZONE EDGE LINE, WHITE		EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-#	WORK ZONE EDGE LINE, YELLOW		PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

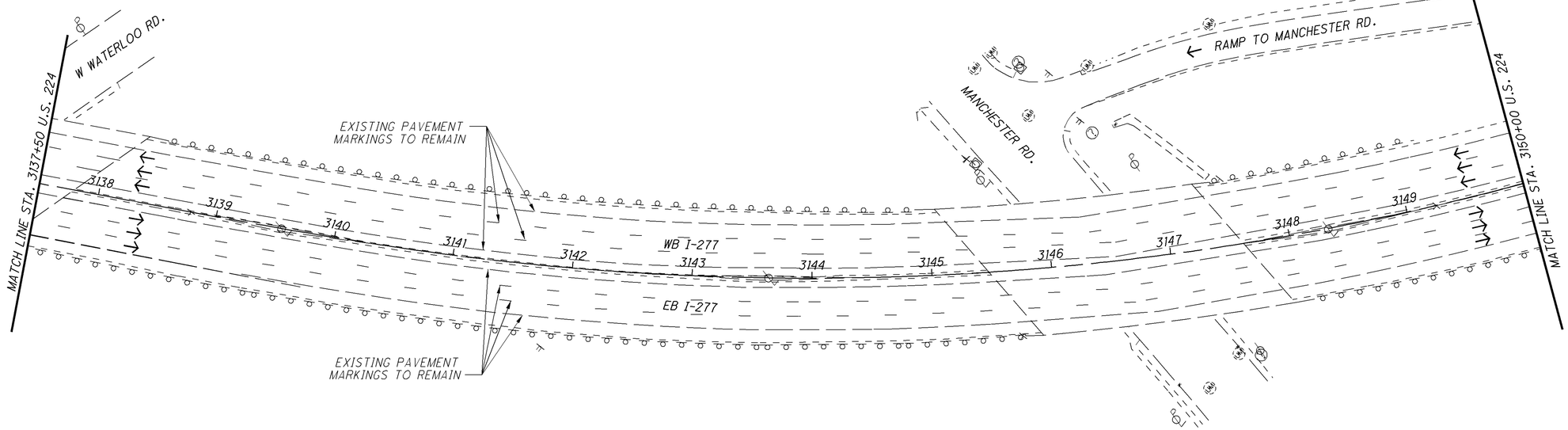
HORIZONTAL SCALE IN FEET
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CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3125+00 TO STA. 3137+50

SUM-76/77-11.27/12.12

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LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

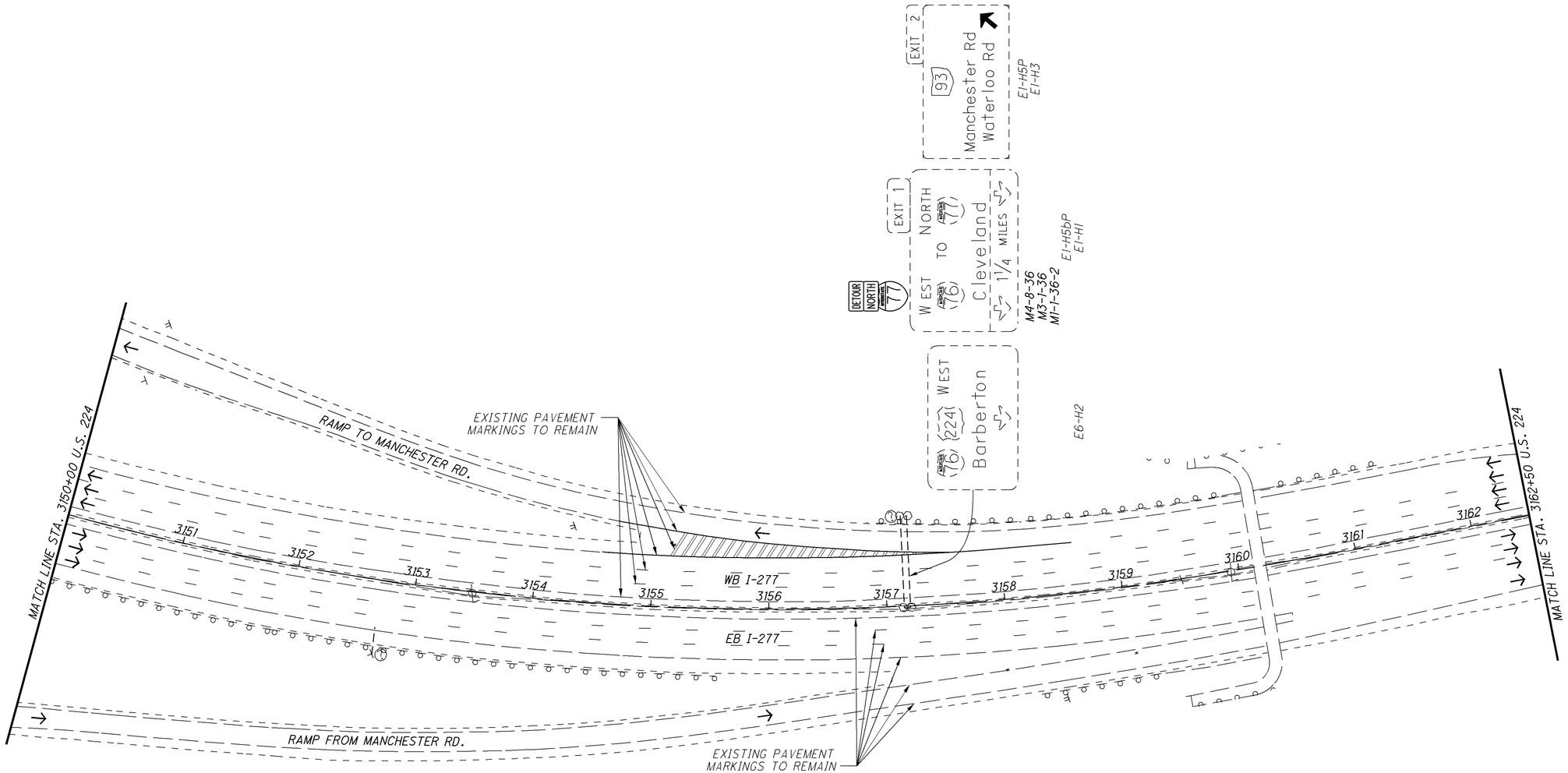
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3137+50 TO STA. 3150+00

SUM-76/77-11.27/12.12

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652

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9/16/2014
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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

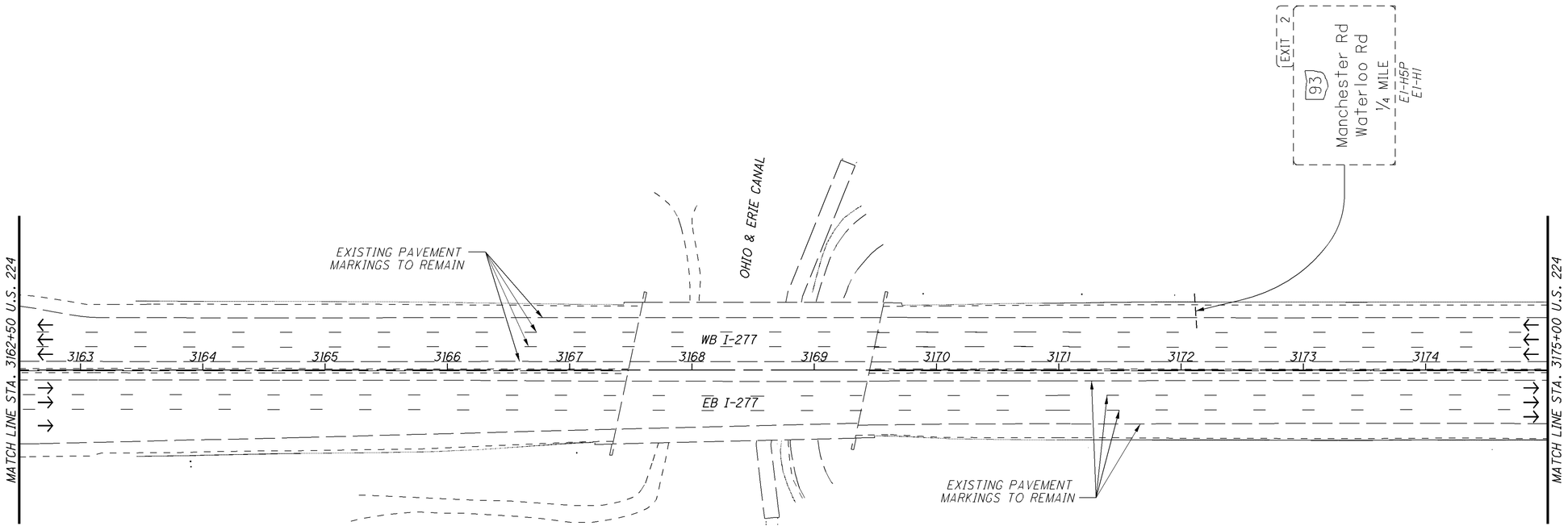
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3150+00 TO STA. 3162+50

SUM-76/77-11.27/12.12

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LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

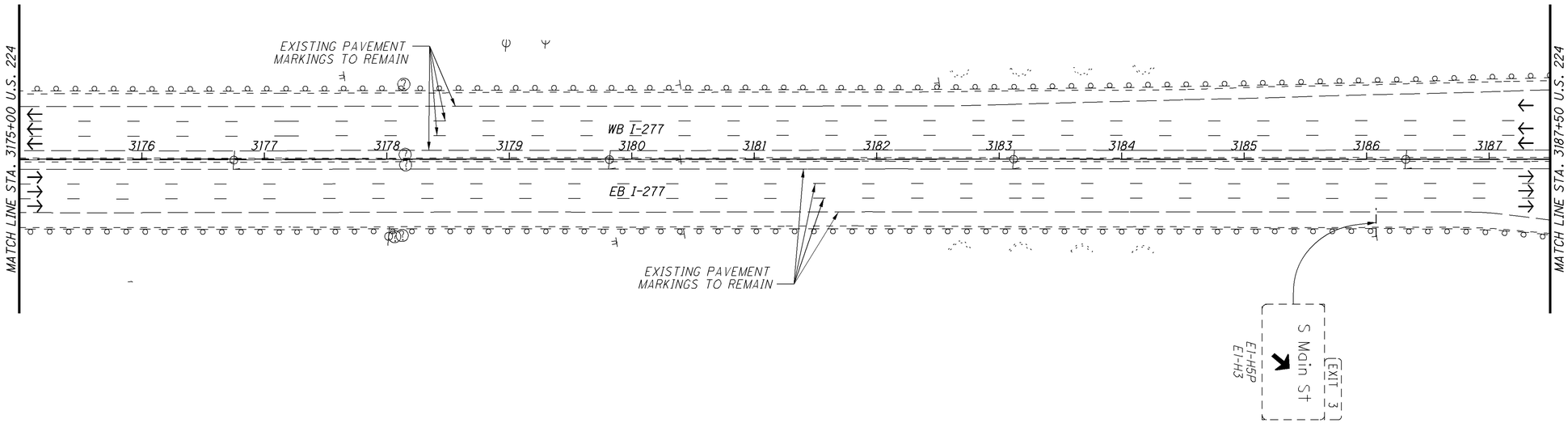
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3162+50 TO STA. 3175+00

SUM-76/77-11.27/12.12

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DBEIBEL



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

N

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR U.S. 224/I-277 PHASES 7, 8, 9 & 10 - STA. 3175+00 TO STA. 3187+50

SUM-76/77-11.27/12.12

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CDEIBEL

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3187+50 TO STA. 3200+00

CALCULATED CRW
CHECKED AKF

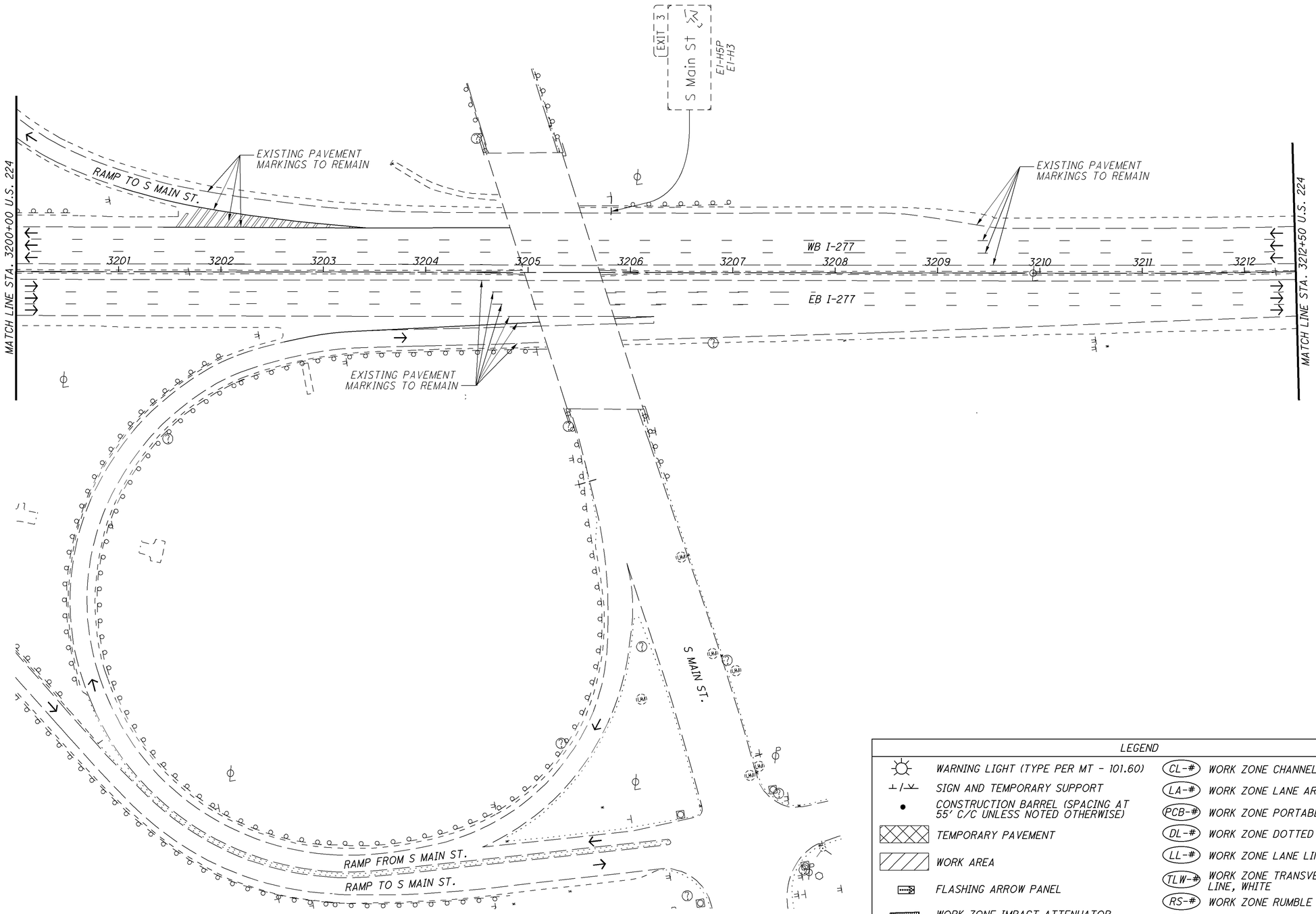
HORIZONTAL SCALE IN FEET
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SUM-76/77-11.27/12.12

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

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DEIBEL



NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

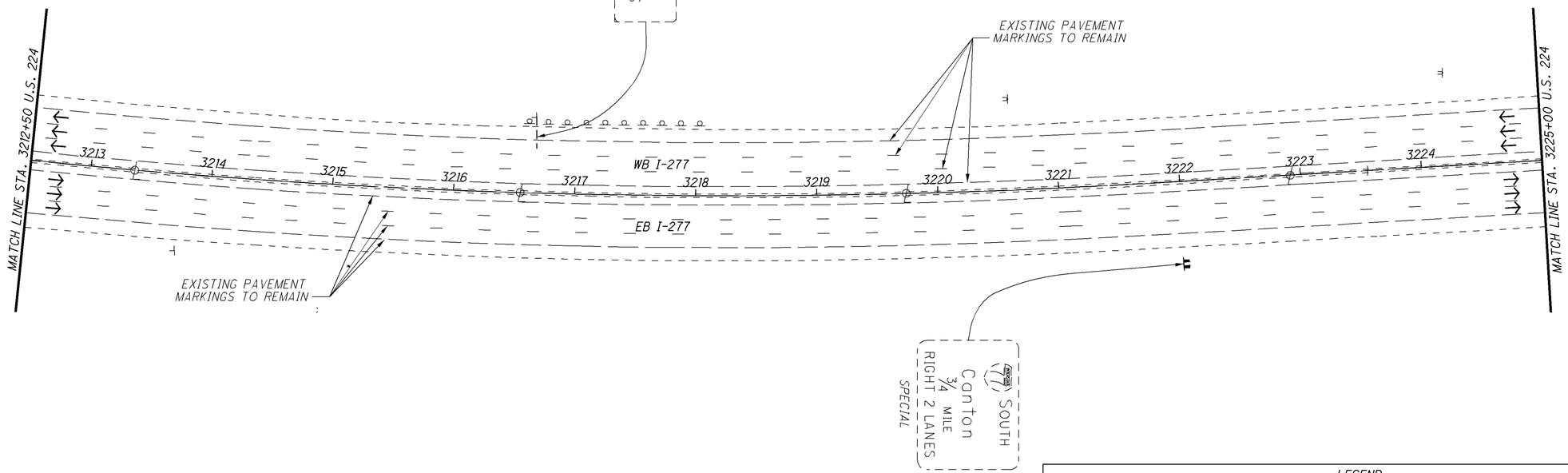
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3200+00 TO STA. 3212+50

SUM-76/77-11.27/12.12

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652

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CDEIBEL



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

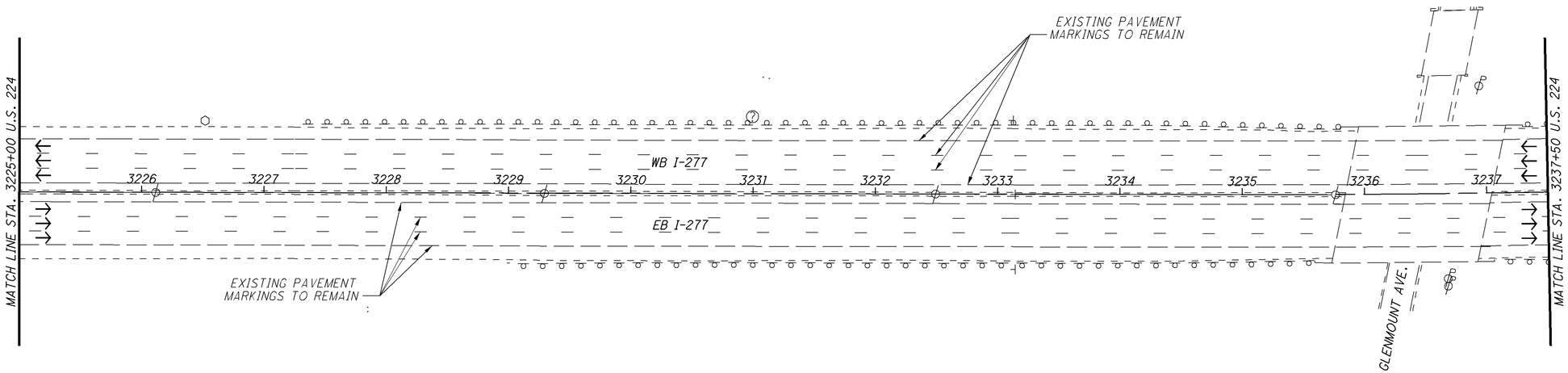
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3212+50 TO STA. 3225+00

SUM-76/77-11.27/12.12

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CBEIBEL



LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

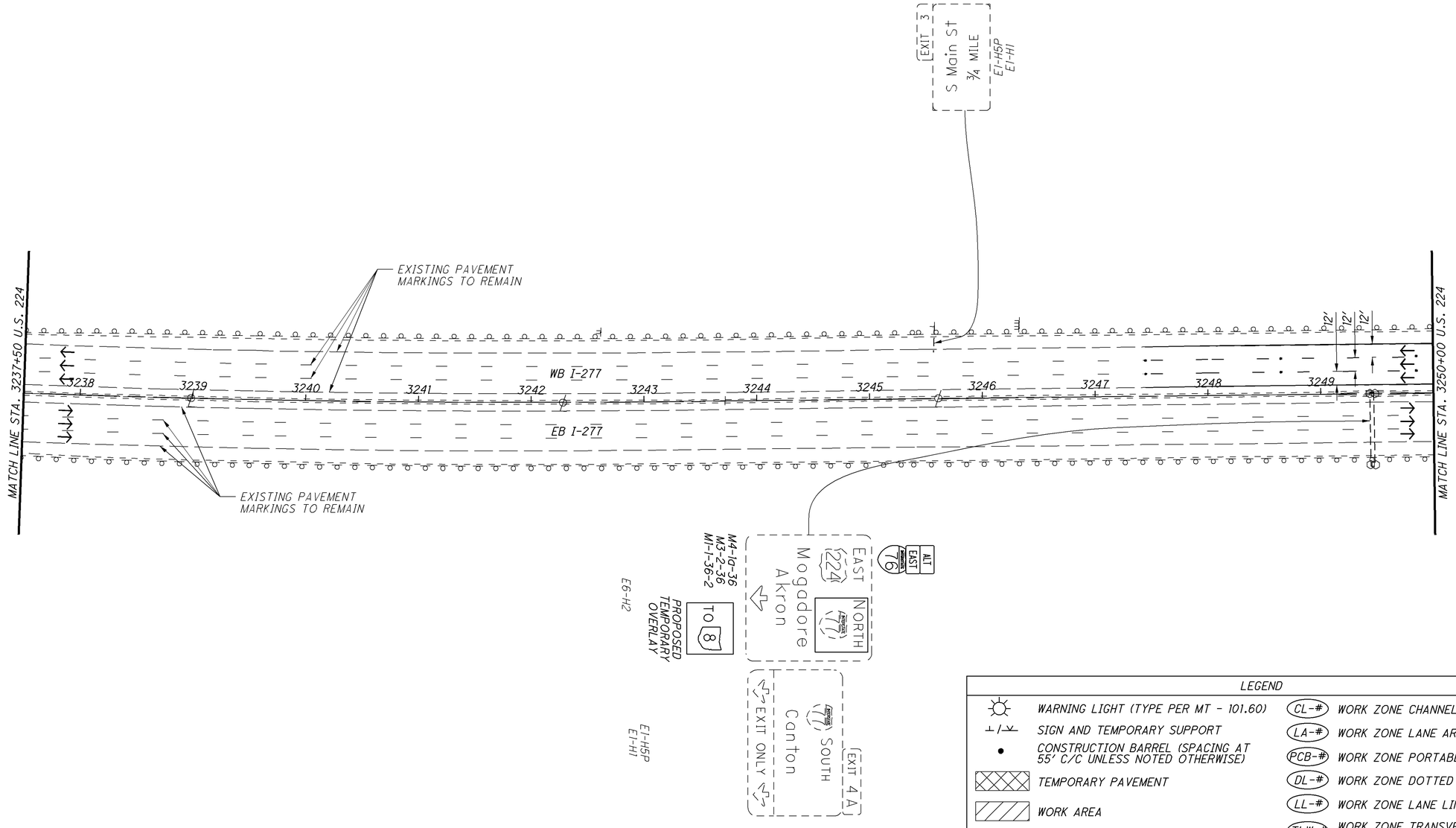
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3225+00 TO STA. 3237+50

SUM-76/77-11.27/12.12

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LEGEND			
	WARNING LIGHT (TYPE PER MT - 101.60)	CL-#	WORK ZONE CHANNELIZING LINE
	SIGN AND TEMPORARY SUPPORT	LA-#	WORK ZONE LANE ARROW
	CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-#	WORK ZONE PORTABLE BARRIER
	TEMPORARY PAVEMENT	DL-#	WORK ZONE DOTTED LINE, WHITE
	WORK AREA	LL-#	WORK ZONE LANE LINE, WHITE
	FLASHING ARROW PANEL	TLW-#	WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
	WORK ZONE IMPACT ATTENUATOR	RS-#	WORK ZONE RUMBLE STRIPS
	TRAFFIC FLOW ARROW	CHV-#	WORK ZONE CHEVRON MARKING
W-#	WORK ZONE EDGE LINE, WHITE		EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-#	WORK ZONE EDGE LINE, YELLOW		PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

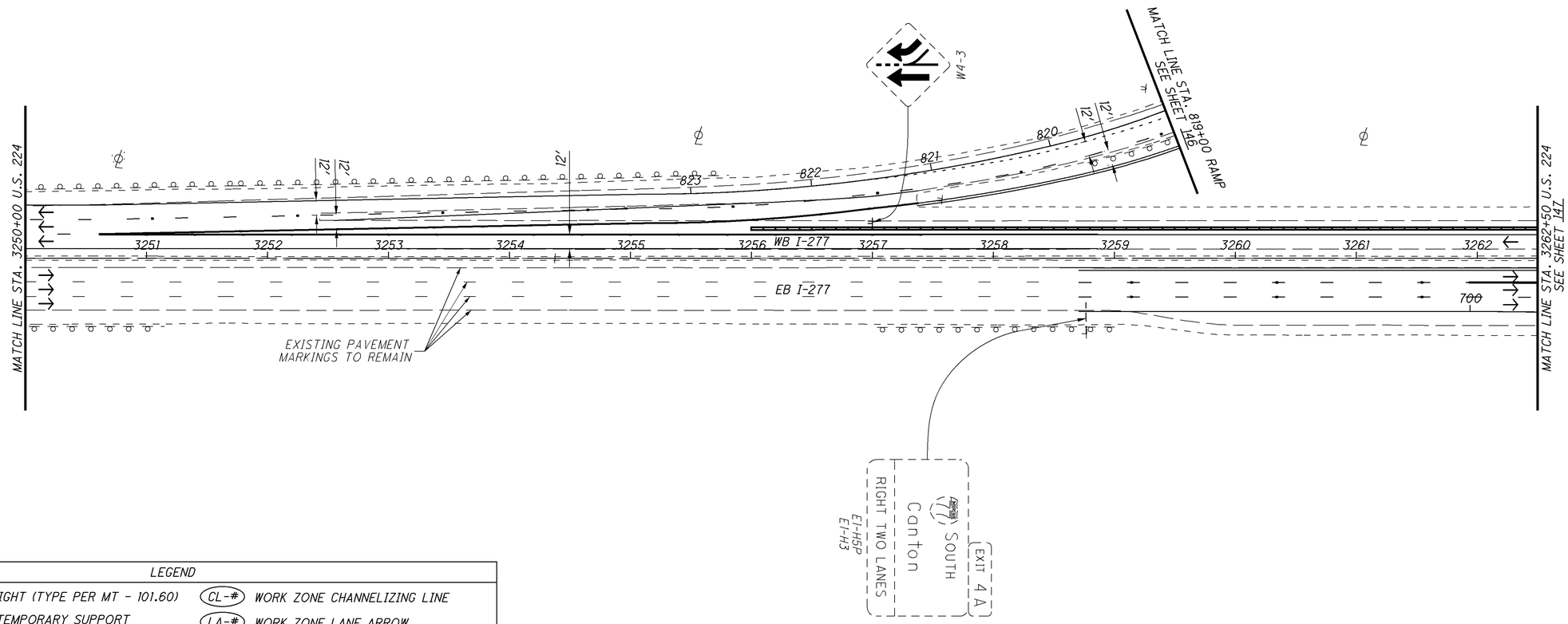
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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3237+50 TO STA. 3250+00

SUM-76/77-11.27/12.12



LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

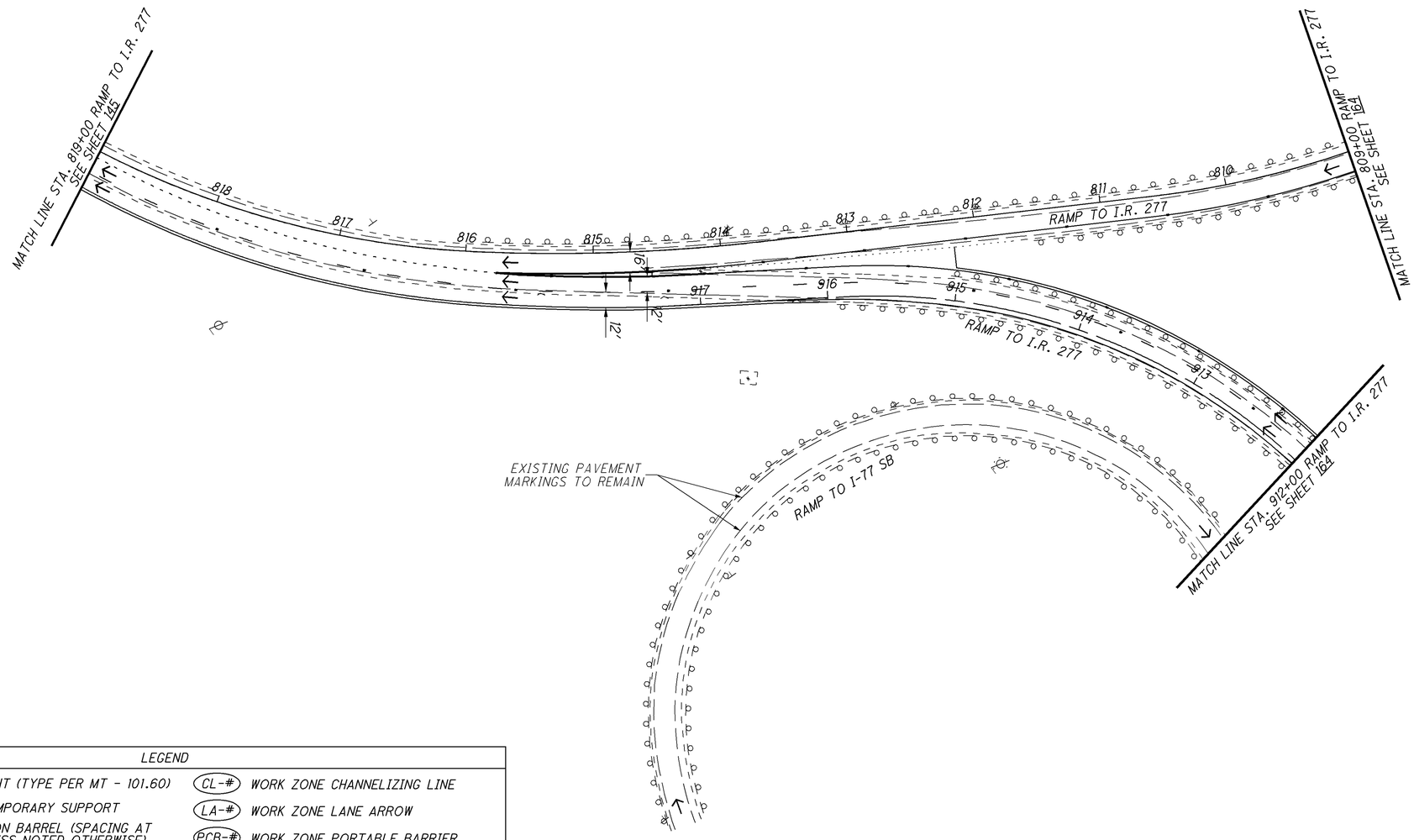
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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3250+00 TO STA. 3262+50

SUM-76/77-11.27/12.12



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 809+00 TO STA. 819+00

SUM-76/77-11.27/12.12

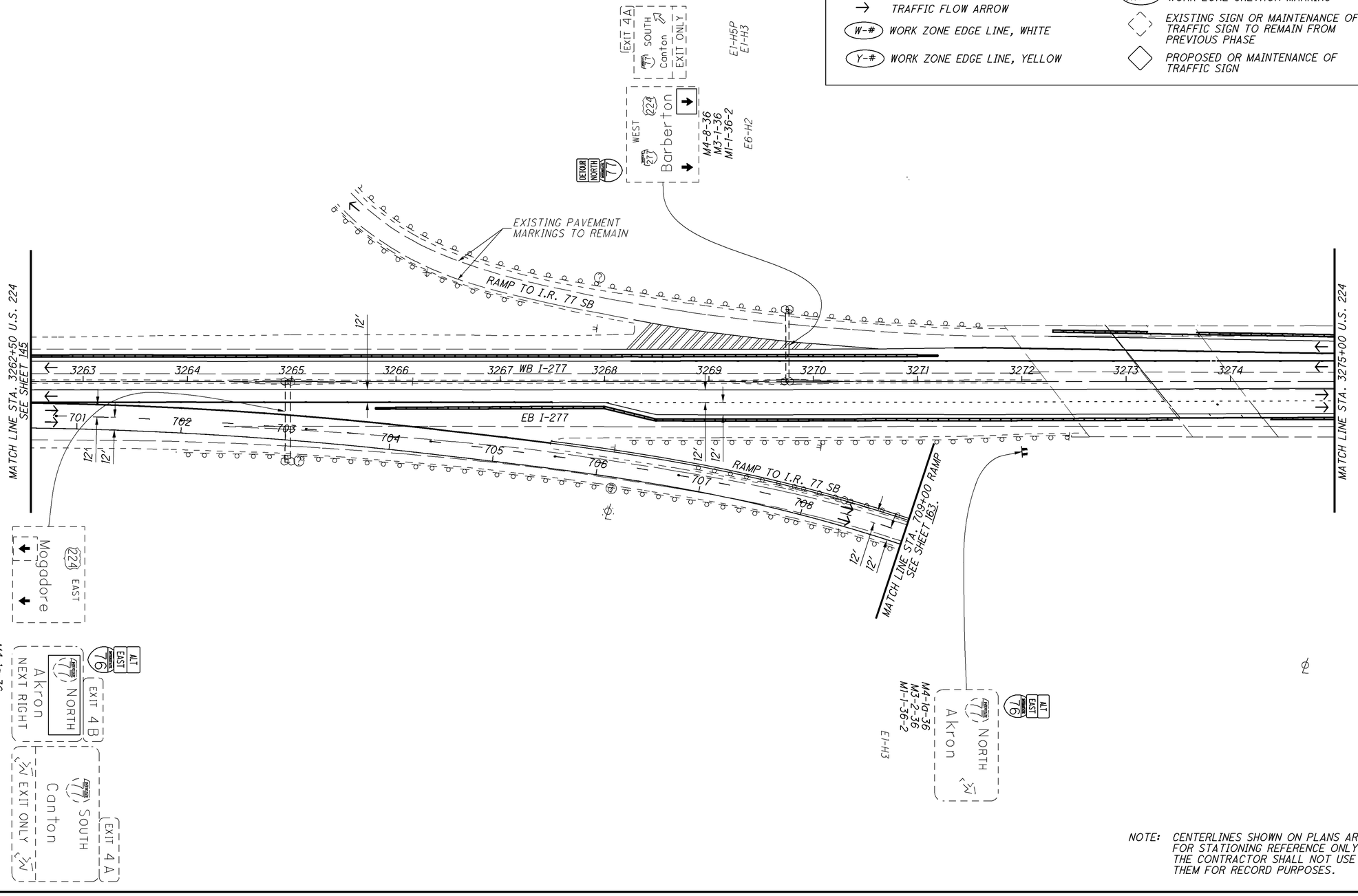
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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

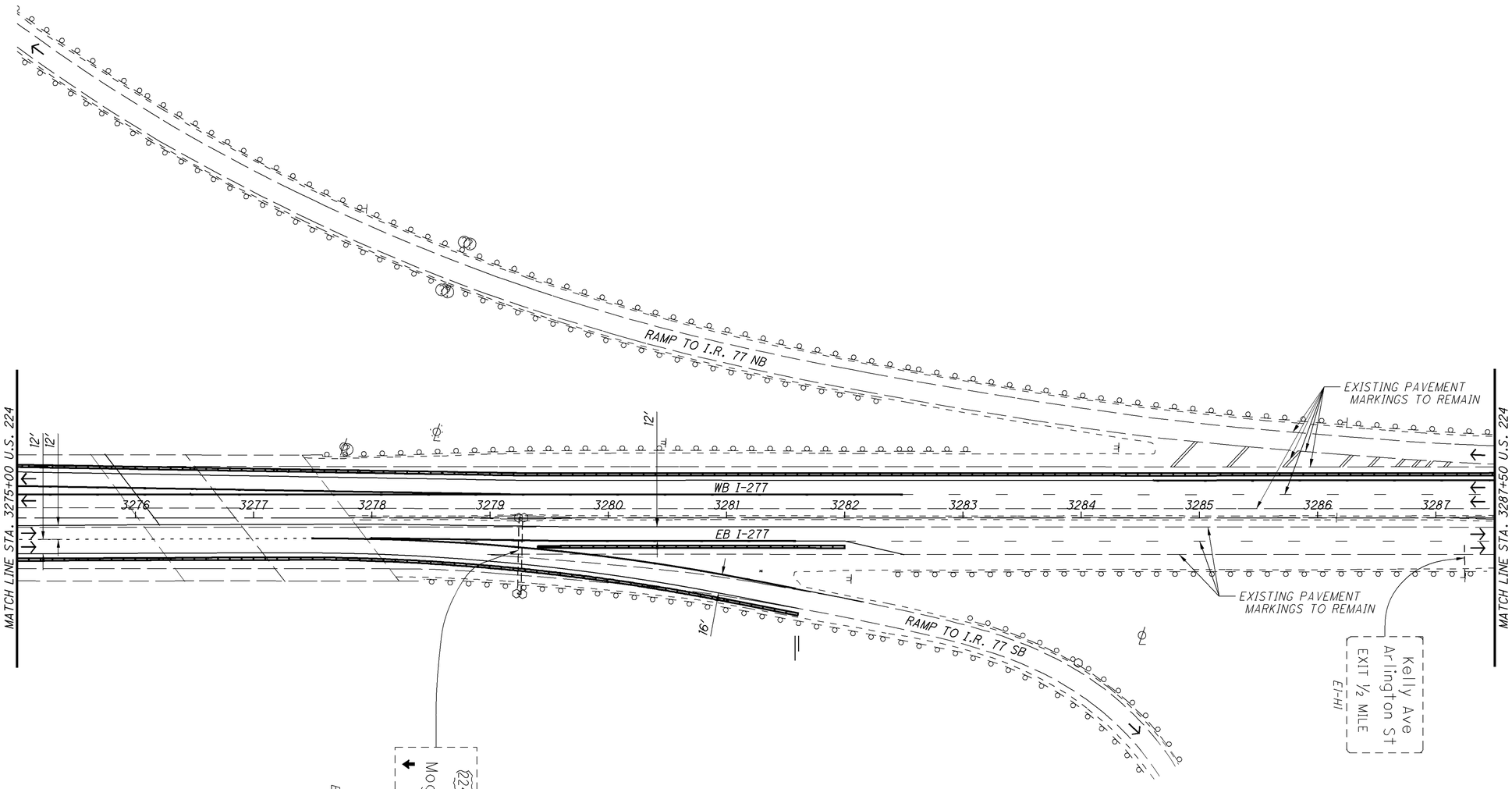
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3262+50 TO STA. 3275+00

SUM-76/77-11.27/12.12

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652

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

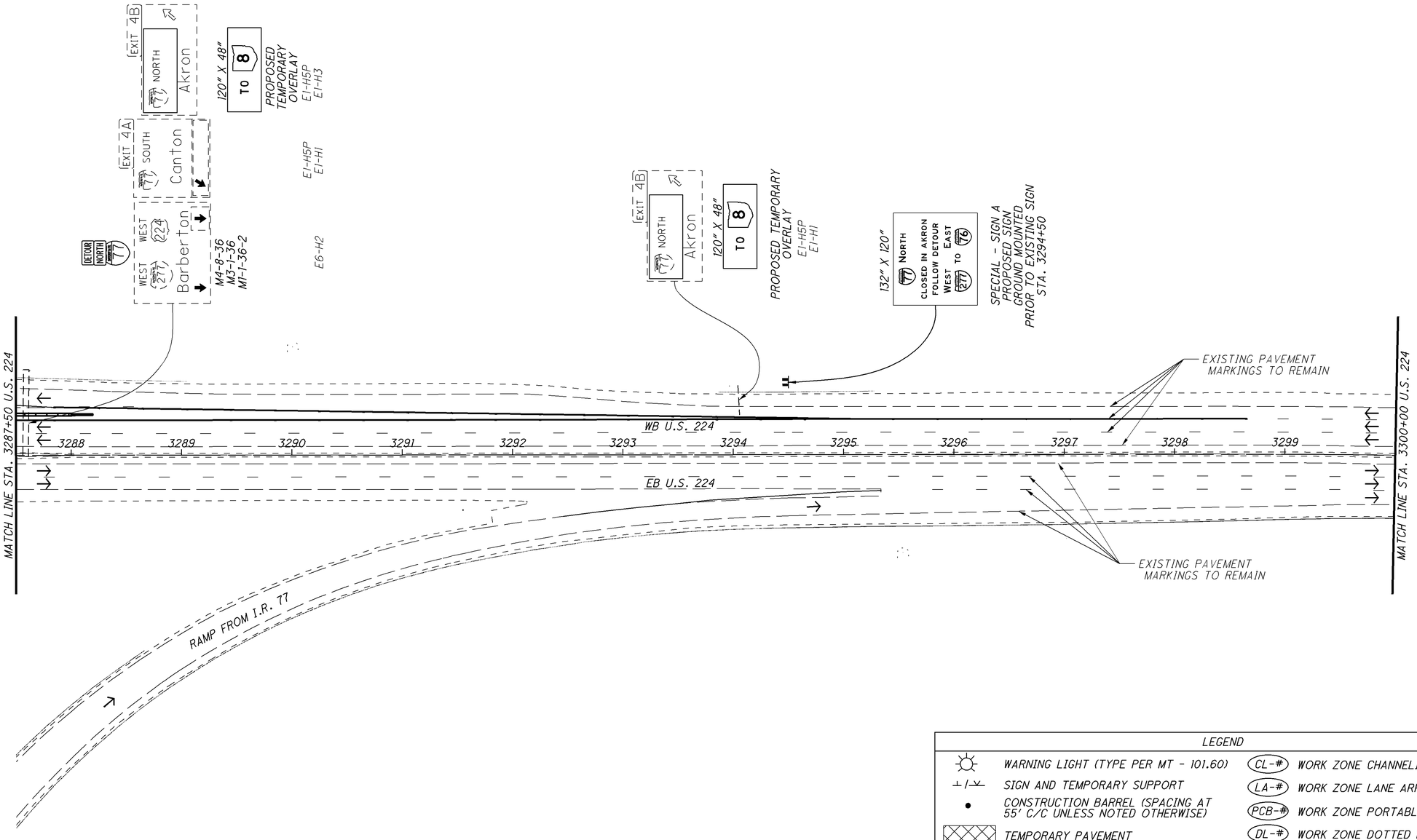
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3275+00 TO STA. 3287+50

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

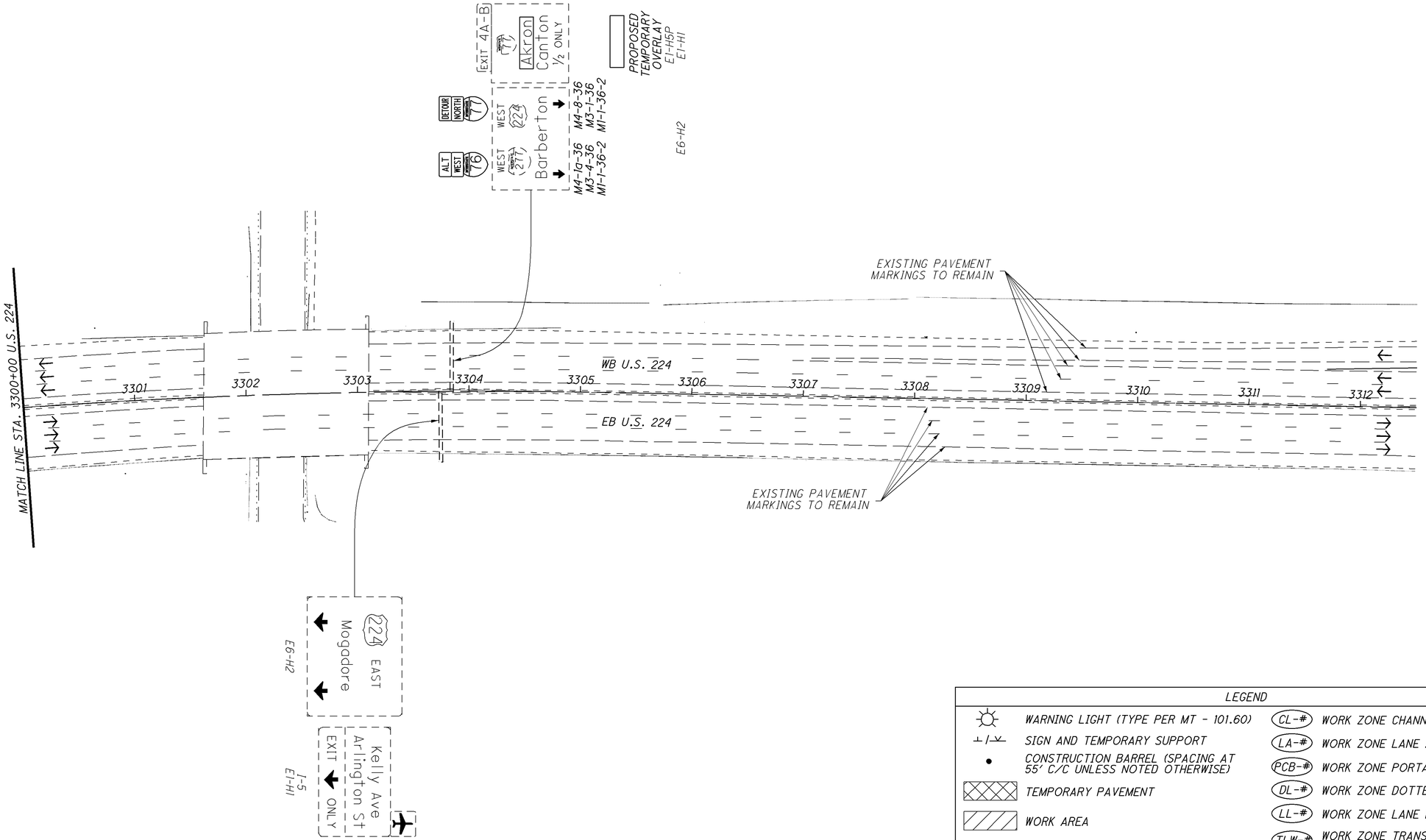
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3287+50 TO STA. 3300+00

SUM-76/77-11.27/12.12

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9/16/2014
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CDEIBEL



NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
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- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
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- Y-# WORK ZONE EDGE LINE, YELLOW
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- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
U.S. 224/I-277
PHASES 7, 8, 9 & 10 - STA. 3300+00 TO END

SUM-76/77-11.27/12.12

150
652

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9/16/2014
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CDEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#) WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	(LA-#) WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#) WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	(DL-#) WORK ZONE DOTTED LINE, WHITE
WORK AREA	(LL-#) WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	(TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	(RS-#) WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	(CHV-#) WORK ZONE CHEVRON MARKING
(W-#) WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#) WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

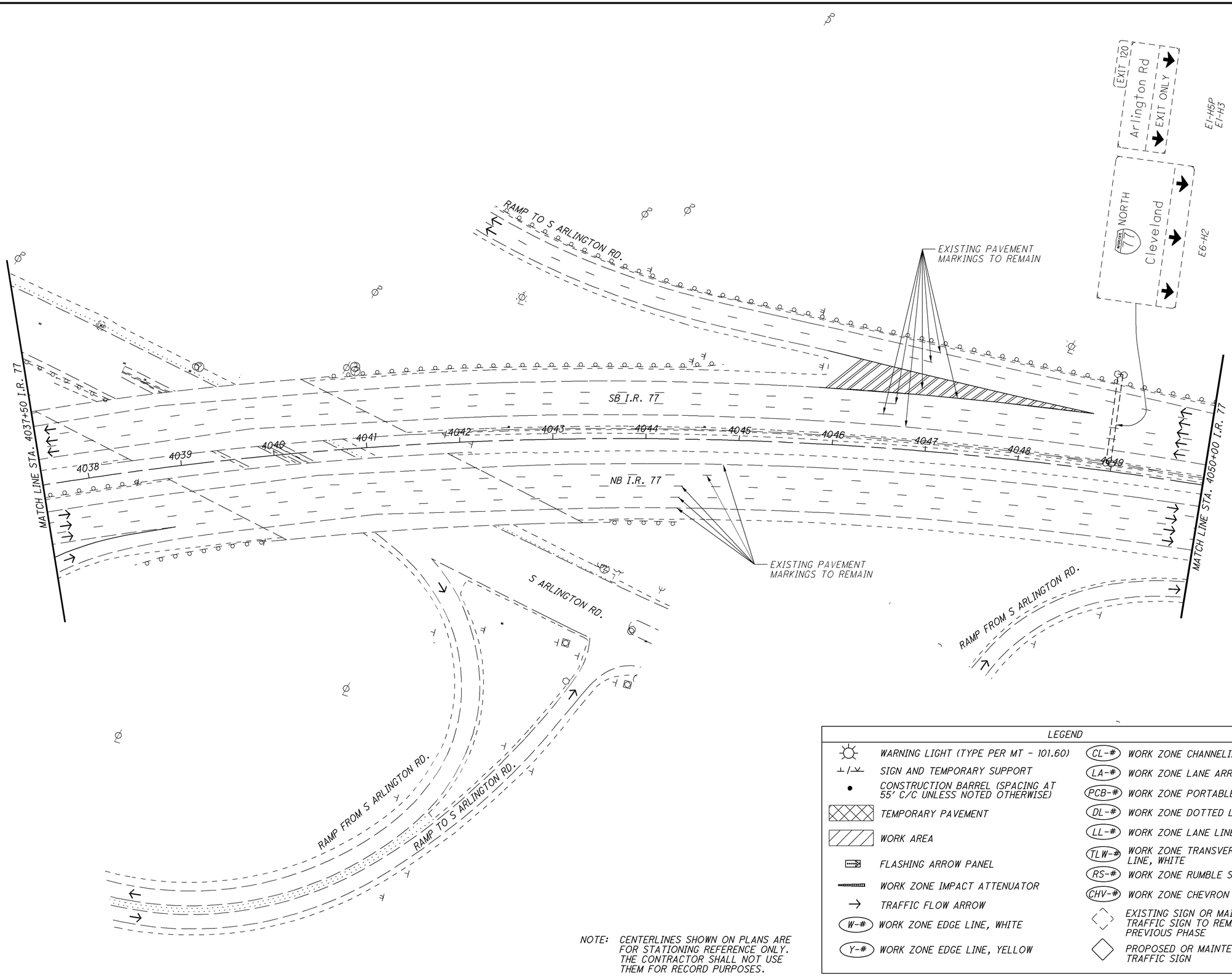
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - BEGIN TO STA. 4037+50

SUM-76/77-11.27/12.12

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9/16/2014
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CDEIBEL



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
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- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

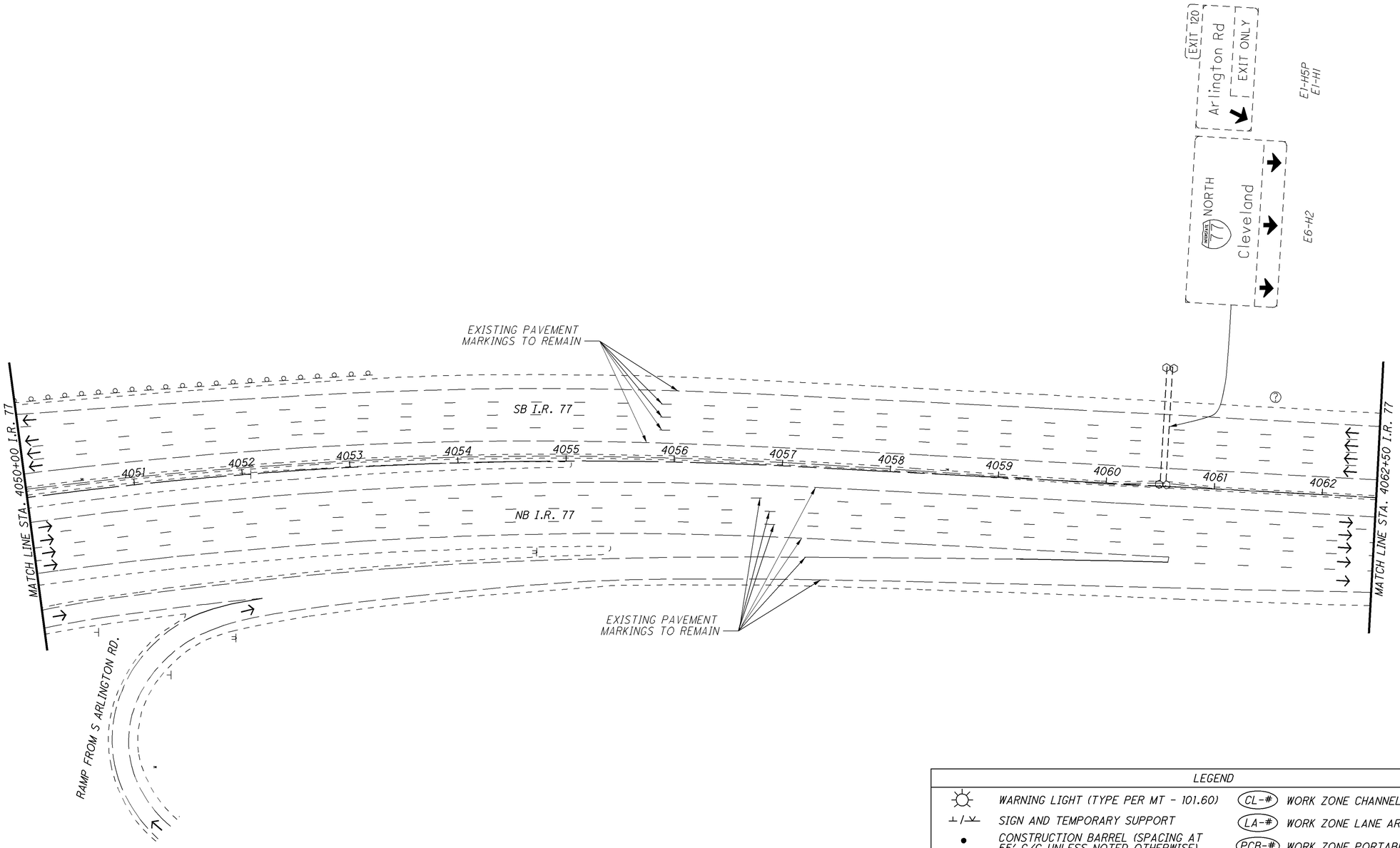
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4037+50 TO STA. 4050+00

SUM-76/77-11.27/12.12

\\AKRNAS3\DATA\2010\2012597\SUM\86979\MOT\SHEETS\86979MP404.DGN
9/16/2014
2:32:08 PM
CBEIBEL



LEGEND			
	WARNING LIGHT (TYPE PER MT - 101.60)	CL-#	WORK ZONE CHANNELIZING LINE
	SIGN AND TEMPORARY SUPPORT	LA-#	WORK ZONE LANE ARROW
	CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-#	WORK ZONE PORTABLE BARRIER
	TEMPORARY PAVEMENT	DL-#	WORK ZONE DOTTED LINE, WHITE
	WORK AREA	LL-#	WORK ZONE LANE LINE, WHITE
	FLASHING ARROW PANEL	TLW-#	WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
	WORK ZONE IMPACT ATTENUATOR	RS-#	WORK ZONE RUMBLE STRIPS
	TRAFFIC FLOW ARROW	CHV-#	WORK ZONE CHEVRON MARKING
W-#	WORK ZONE EDGE LINE, WHITE		EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-#	WORK ZONE EDGE LINE, YELLOW		PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

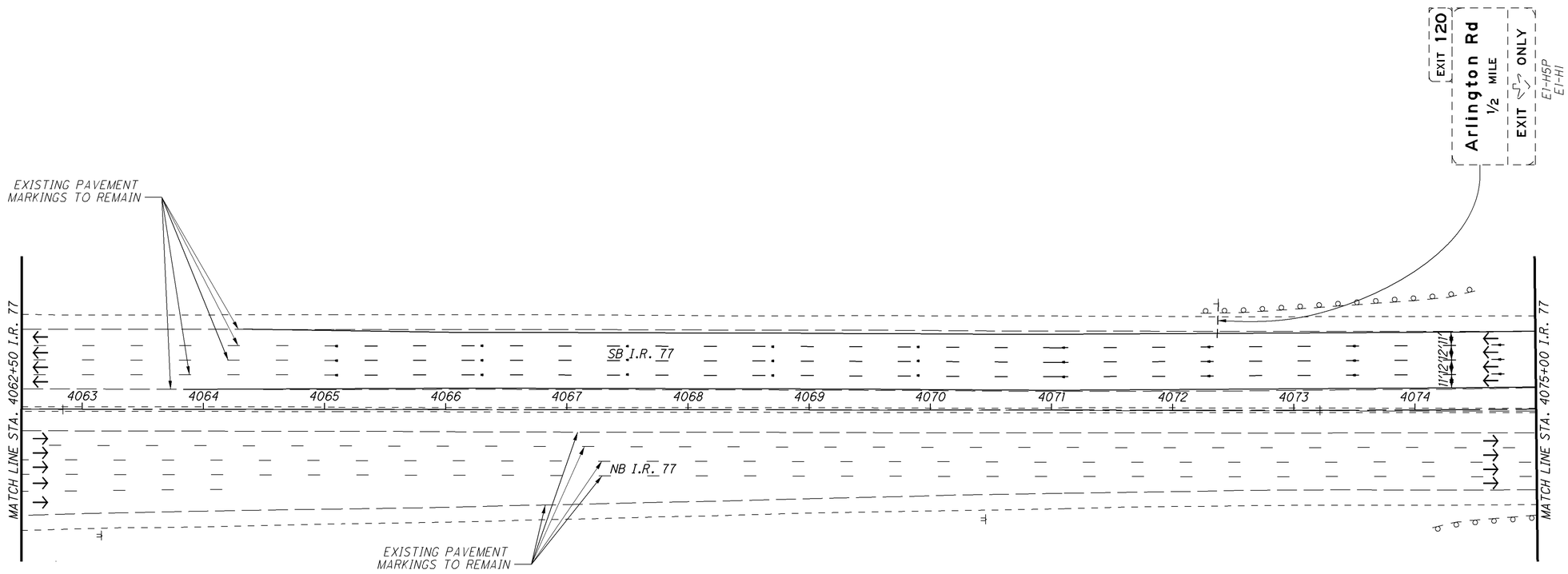
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4050+00 TO STA. 4062+50

SUM-76/77-11.27/12.12

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9/16/2014
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CDEIBEL



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

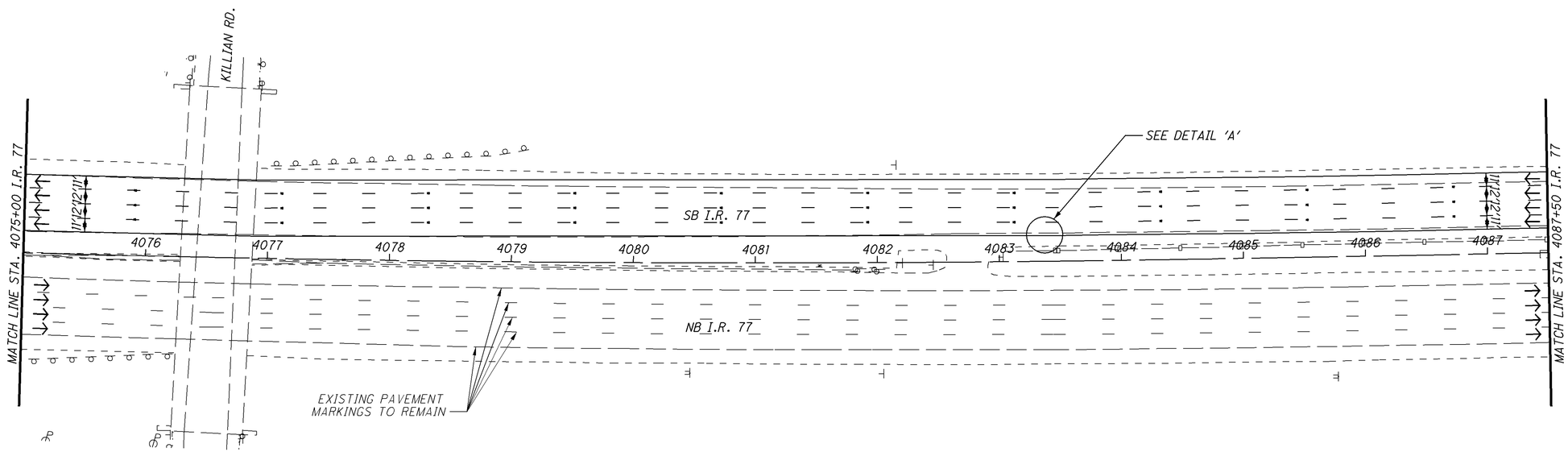
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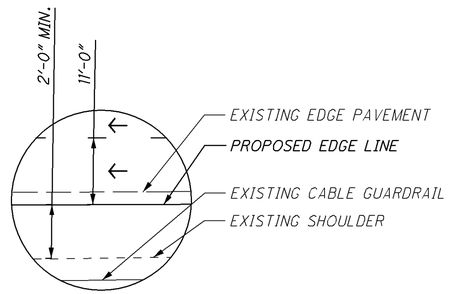
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4062+50 TO STA. 4075+00

SUM-76/77-11.27/12.12

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9/16/2014
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CBEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

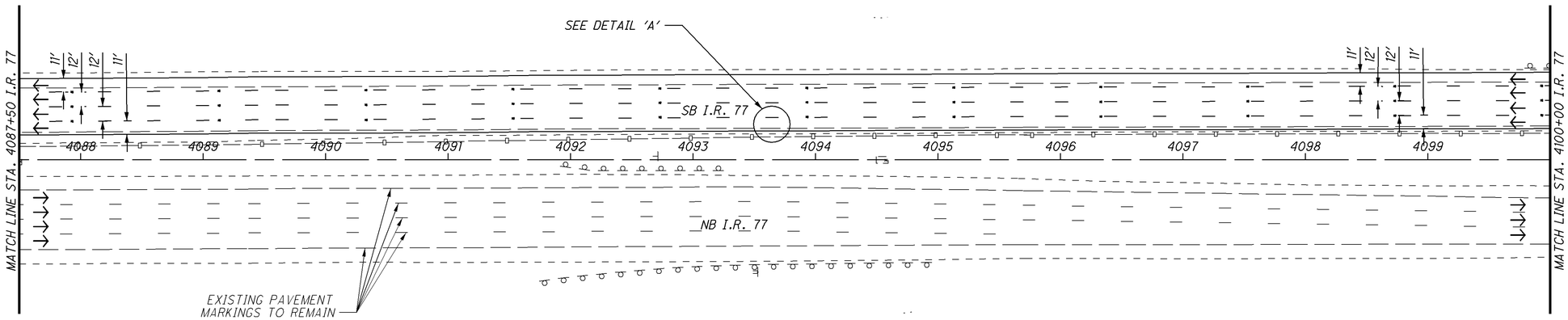
CALCULATED CRW
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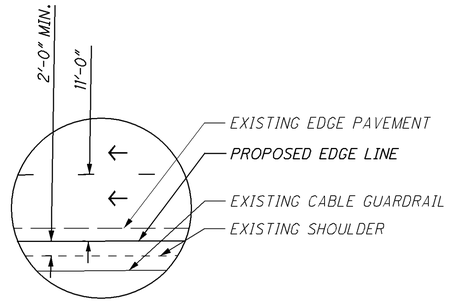
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4075+00 TO STA. 4087+50

SUM-76/77-11.27/12.12

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CDEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND			
	WARNING LIGHT (TYPE PER MT - 101.60)	CL-#	WORK ZONE CHANNELIZING LINE
	SIGN AND TEMPORARY SUPPORT	LA-#	WORK ZONE LANE ARROW
	CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-#	WORK ZONE PORTABLE BARRIER
	TEMPORARY PAVEMENT	DL-#	WORK ZONE DOTTED LINE, WHITE
	WORK AREA	LL-#	WORK ZONE LANE LINE, WHITE
	FLASHING ARROW PANEL	TLW-#	WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
	WORK ZONE IMPACT ATTENUATOR	RS-#	WORK ZONE RUMBLE STRIPS
	TRAFFIC FLOW ARROW	CHV-#	WORK ZONE CHEVRON MARKING
W-#	WORK ZONE EDGE LINE, WHITE		EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-#	WORK ZONE EDGE LINE, YELLOW		PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

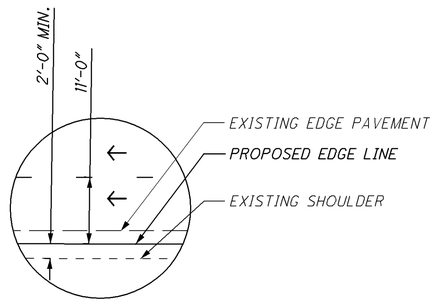
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4087+50 TO STA. 4100+00

SUM-76/77-11.27/12.12

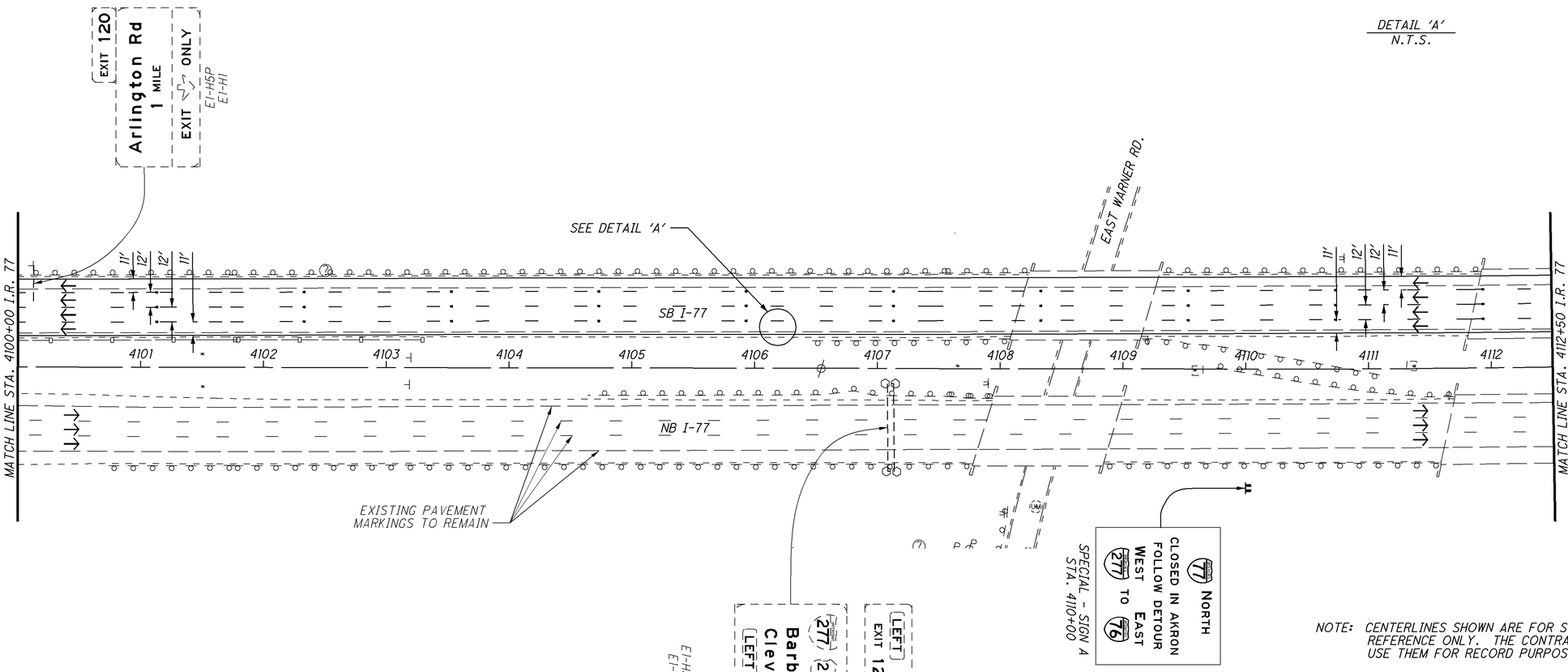
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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



DETAIL 'A'
N.T.S.



NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

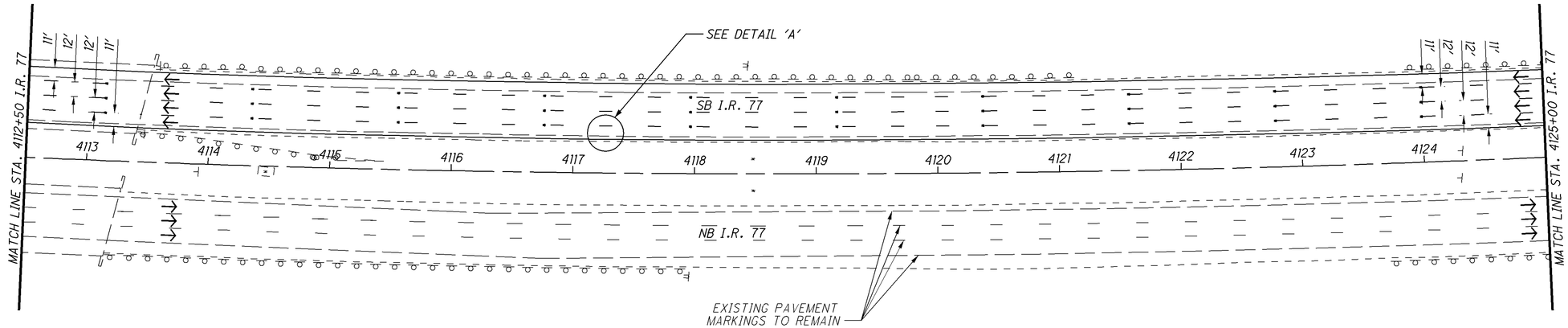
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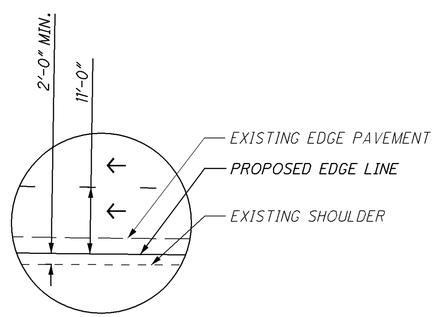
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4100+00 TO STA. 4112+50

SUM-76/77-11.27/12.12

157
652

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CDEIBEL





NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

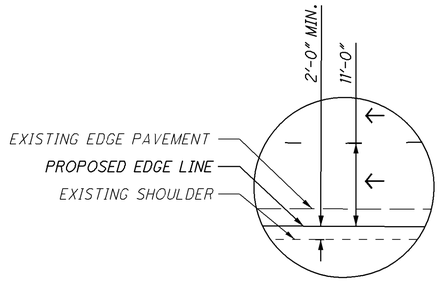
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

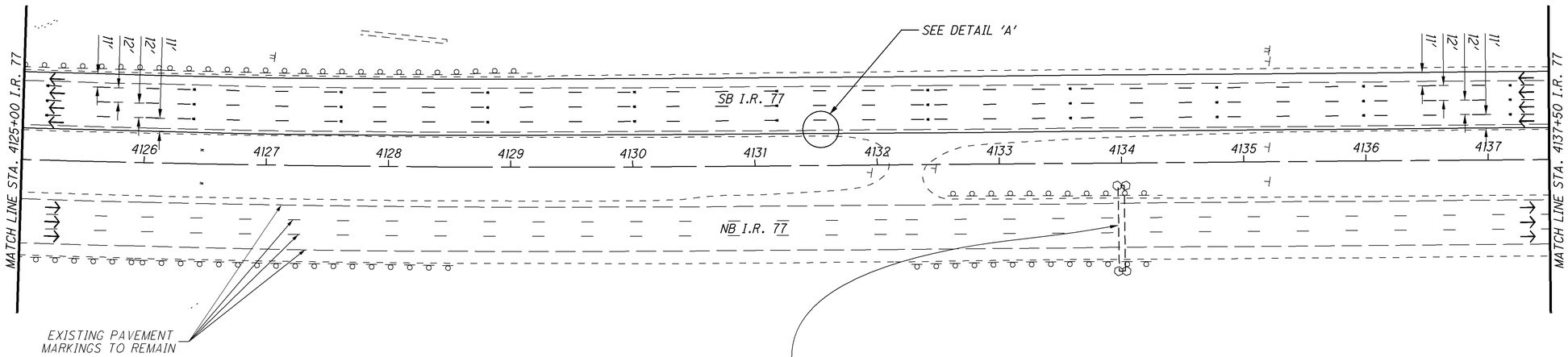
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4112+50 TO STA. 4125+00

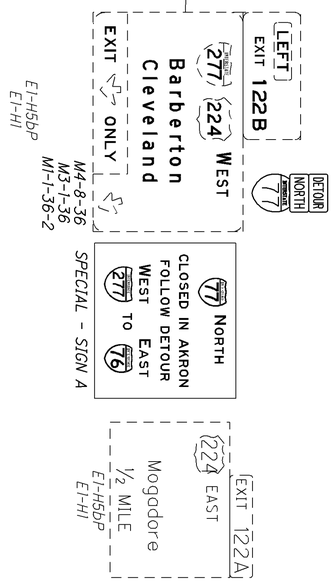
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CDEIBEL



DETAIL 'A'
N.T.S.





NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

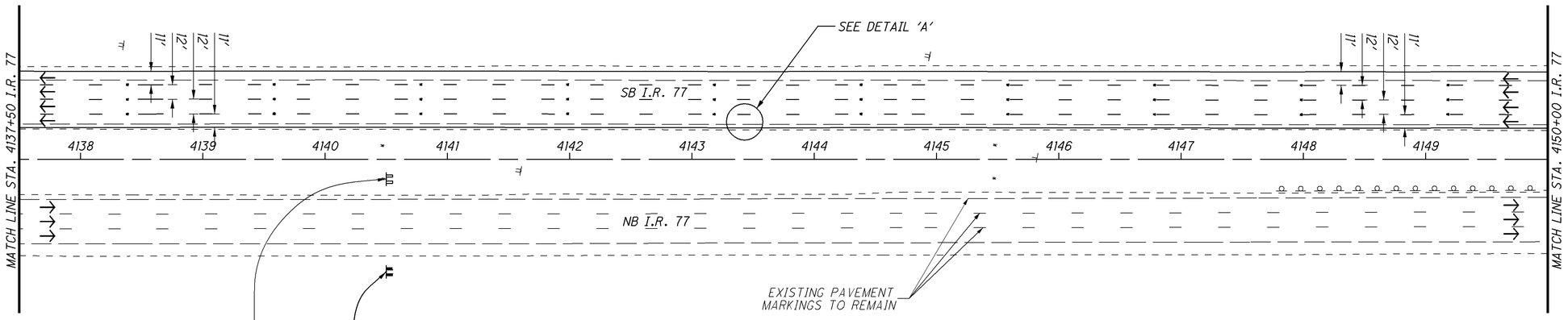
HORIZONTAL SCALE IN FEET
0 25 50 100

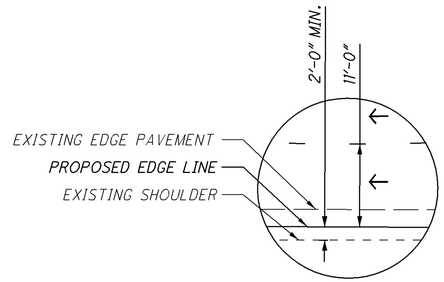
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4125+00 TO STA. 4137+50

SUM-76/77-11.27/12.12

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CBEIBEL





DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

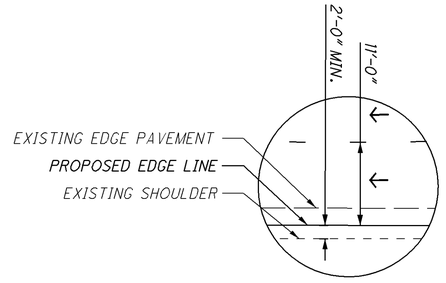
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CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4137+50 TO STA. 4150+00

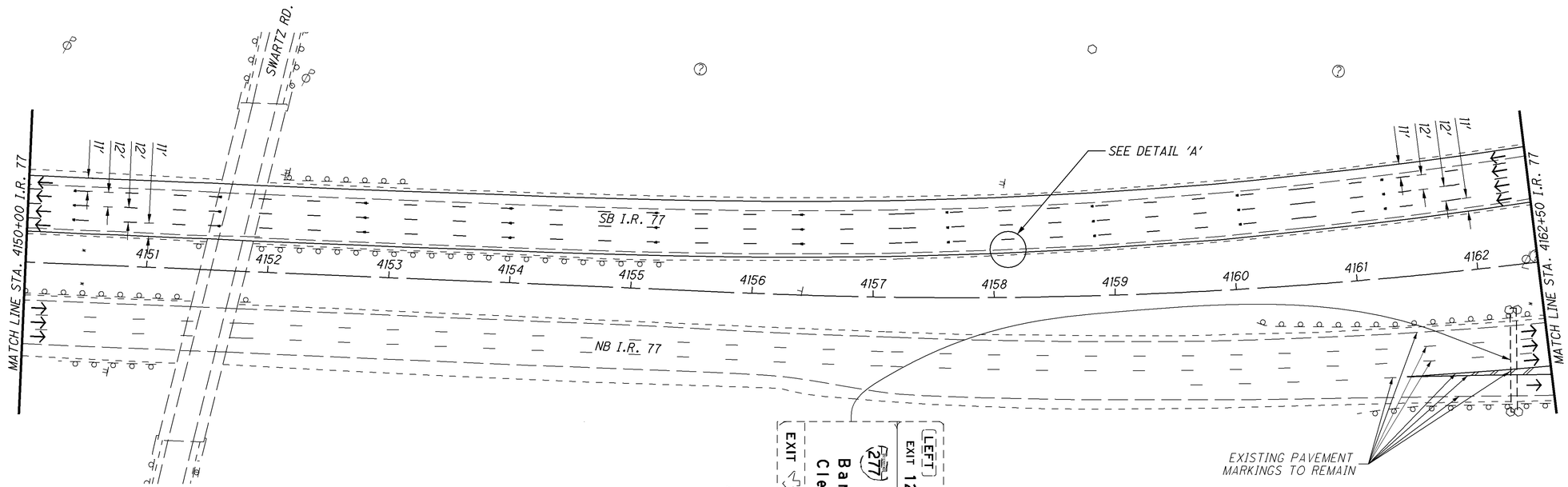
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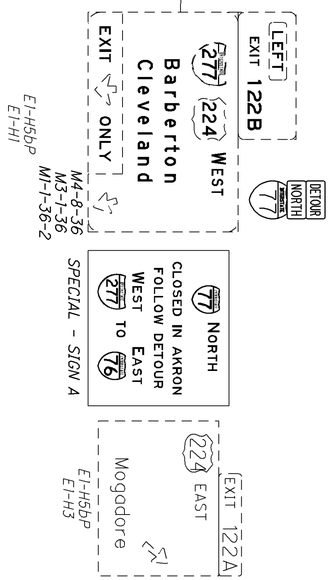
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9/16/2014
2:37:11 PM
CDEIBEL



DETAIL 'A'
N.T.S.





NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

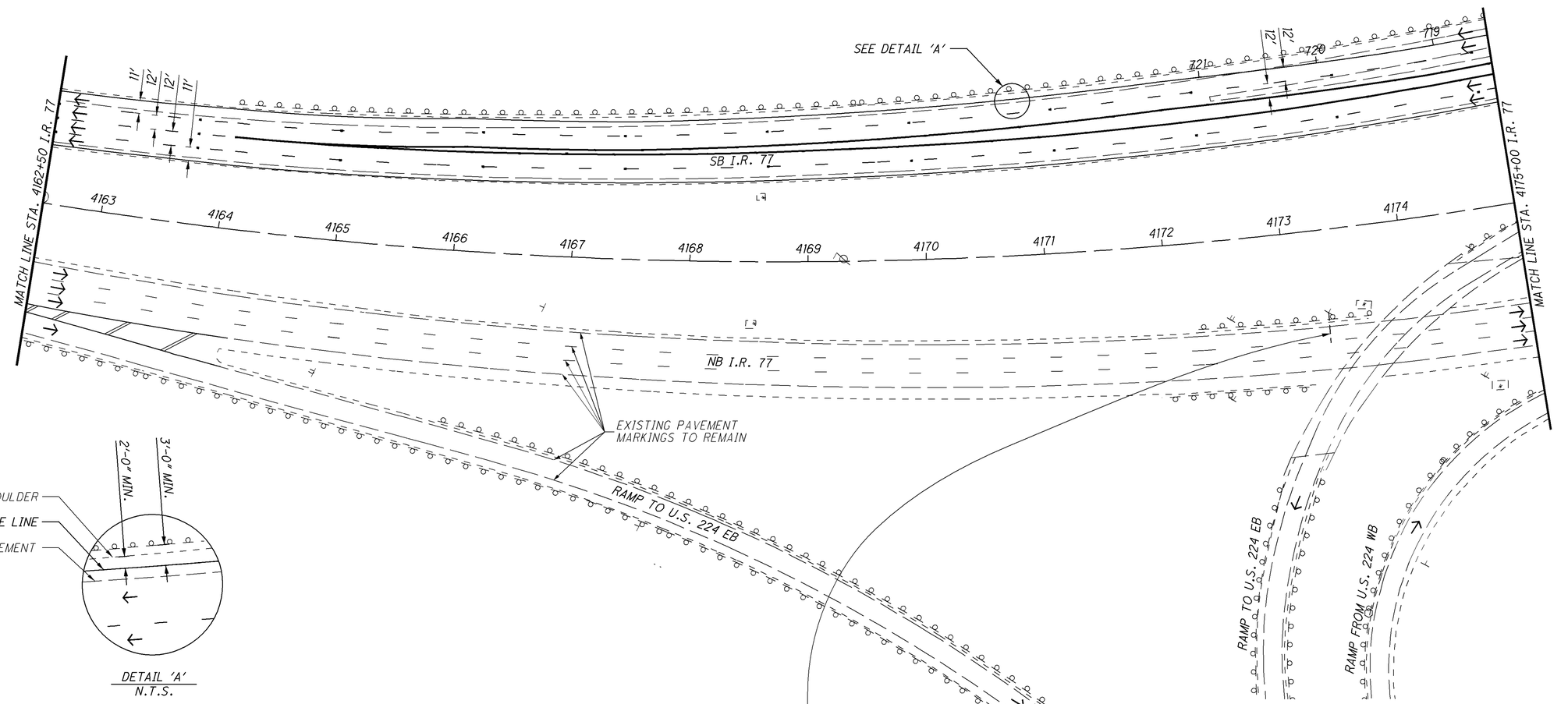
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4150+00 TO STA. 4162+50

SUM-76/77-11.27/12.12

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CBEIBEL



LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#) WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	(LA-#) WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#) WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	(DL-#) WORK ZONE DOTTED LINE, WHITE
WORK AREA	(LL-#) WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	(TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	(RS-#) WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	(CHV-#) WORK ZONE CHEVRON MARKING
(W-#) WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#) WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4162+50 TO STA. 4175+00

SUM-76/77-11.27/12.12

162
652

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9/16/2014
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MATCH LINE STA. 4175+00 I.R. 77

MATCH LINE STA. 4187+50 I.R. 77

MATCH LINE STA. 709+00 RAMP FROM I.R. 277 SEE SHEET 42

RAMP FROM U.S. 224 EB

RAMP TO U.S. 224 EB

SB I.R. 77

NB I.R. 77

RAMP TO I.R. 277

RAMP FROM U.S. 224 WB

EXIT 122A EAST 224 Mogadore

E1-H5P
E1-H3

EXIT ONLY

E1-H5P
E1-H3

277 224 WEST Barberton Cleveland

LEFT EXIT 122B

PROPOSED TEMPORARY OVERLAYS
E6-H2

77 NORTH Cleveland Youngstown 76

12'

700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 4176 4177 4178 4179 4180 4181 4182 4183 4184 4185 4186 4187 900 901 902 903 904 905 906

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR

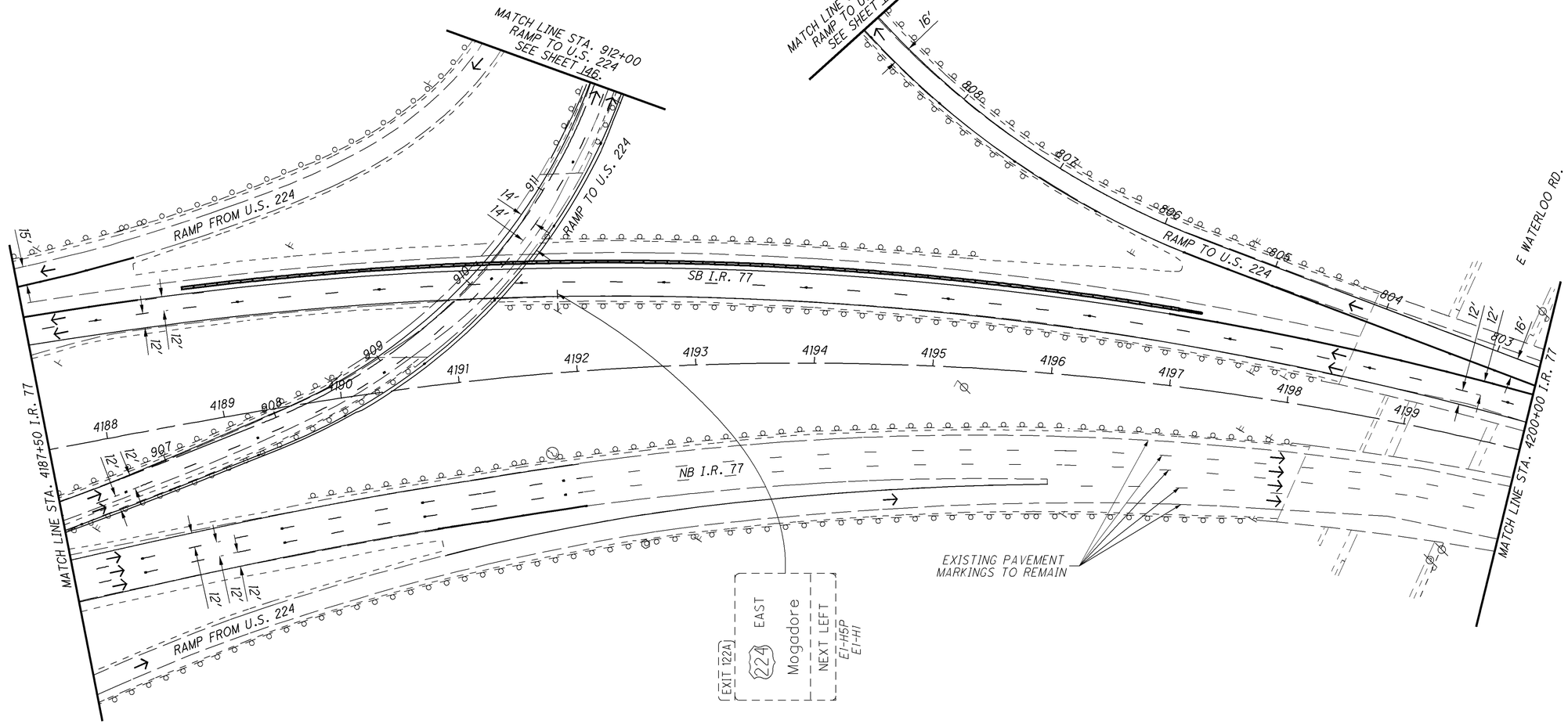
I-77 NORTH AND SOUTH LEG

PHASES 7, 8, 9 & 10 - STA. 4175+00 TO STA. 4187+50

SUM-76/77-11.27/12.12

163
652

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9/16/2014
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CDEIBEL



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
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- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

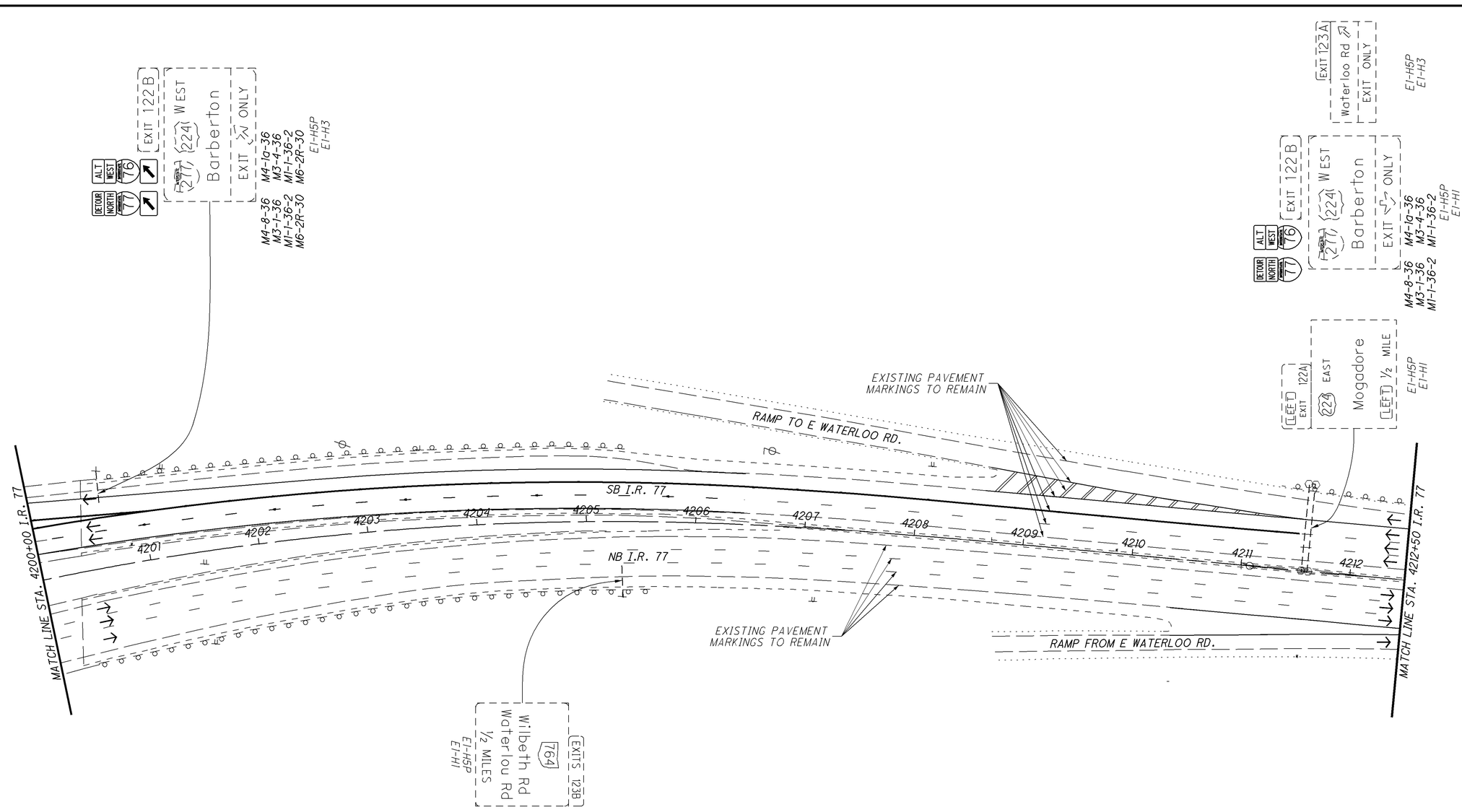
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4187+50 TO STA. 4200+00

SUM-76/77-11.27/12.12

164
652

\\KRNAS\DATA\2010\2018237\SUM\86979\MOT\SHEETS\86979MP416.DGN
9/15/2014
2:39:05 PM
DBEIBEL



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

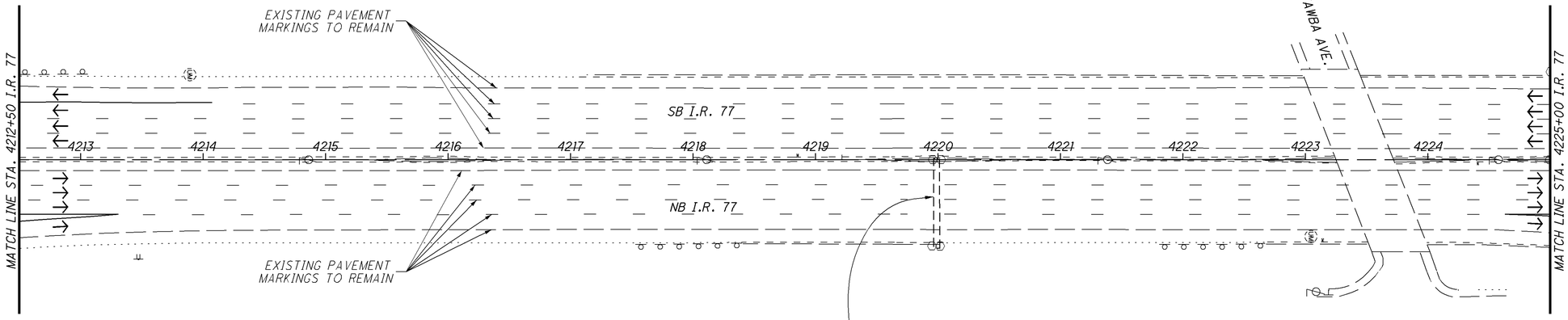
CALCULATED CRW
CHECKED AKF

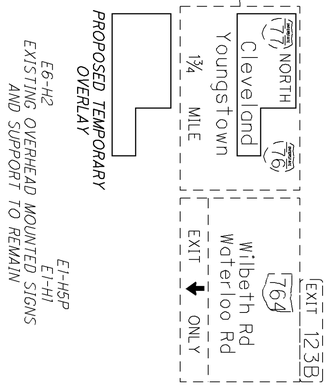
MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4200+00 TO STA. 4212+50

SUM-76/77-11.27/12.12

165
652

\\AKRN83\DATA\2010\2010297\SUM\86979\MOT\SHEETS\86979MPF417.DGN
9/16/2014
2:38:37 PM
CDEIBEL





LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LA-#) WORK ZONE LANE ARROW
- (PCB-#) WORK ZONE PORTABLE BARRIER
- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

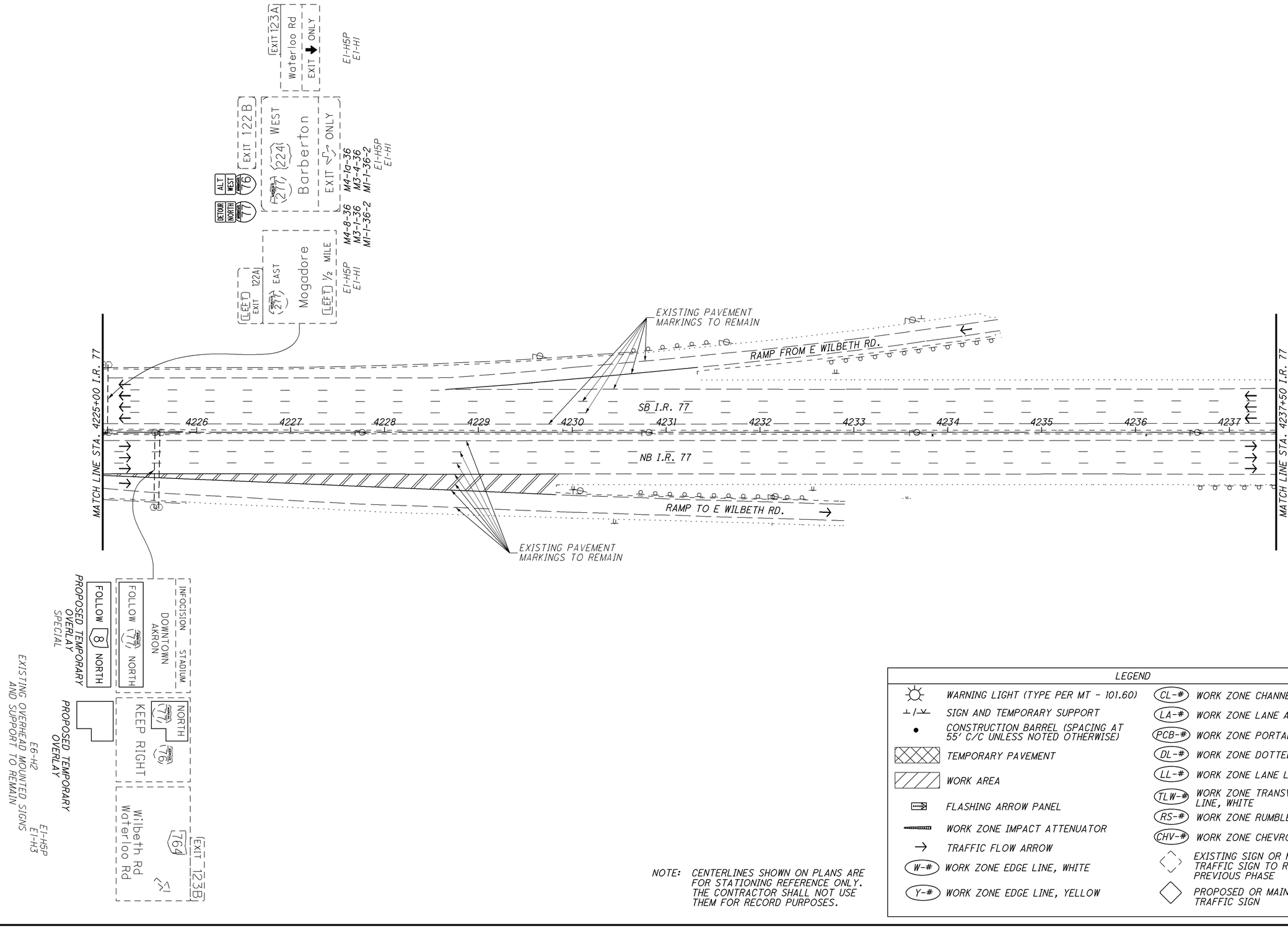
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4212+50 TO STA. 4225+00

SUM-76/77-11.27/12.12

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9/16/2014
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CDEIBEL



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
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- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
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- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

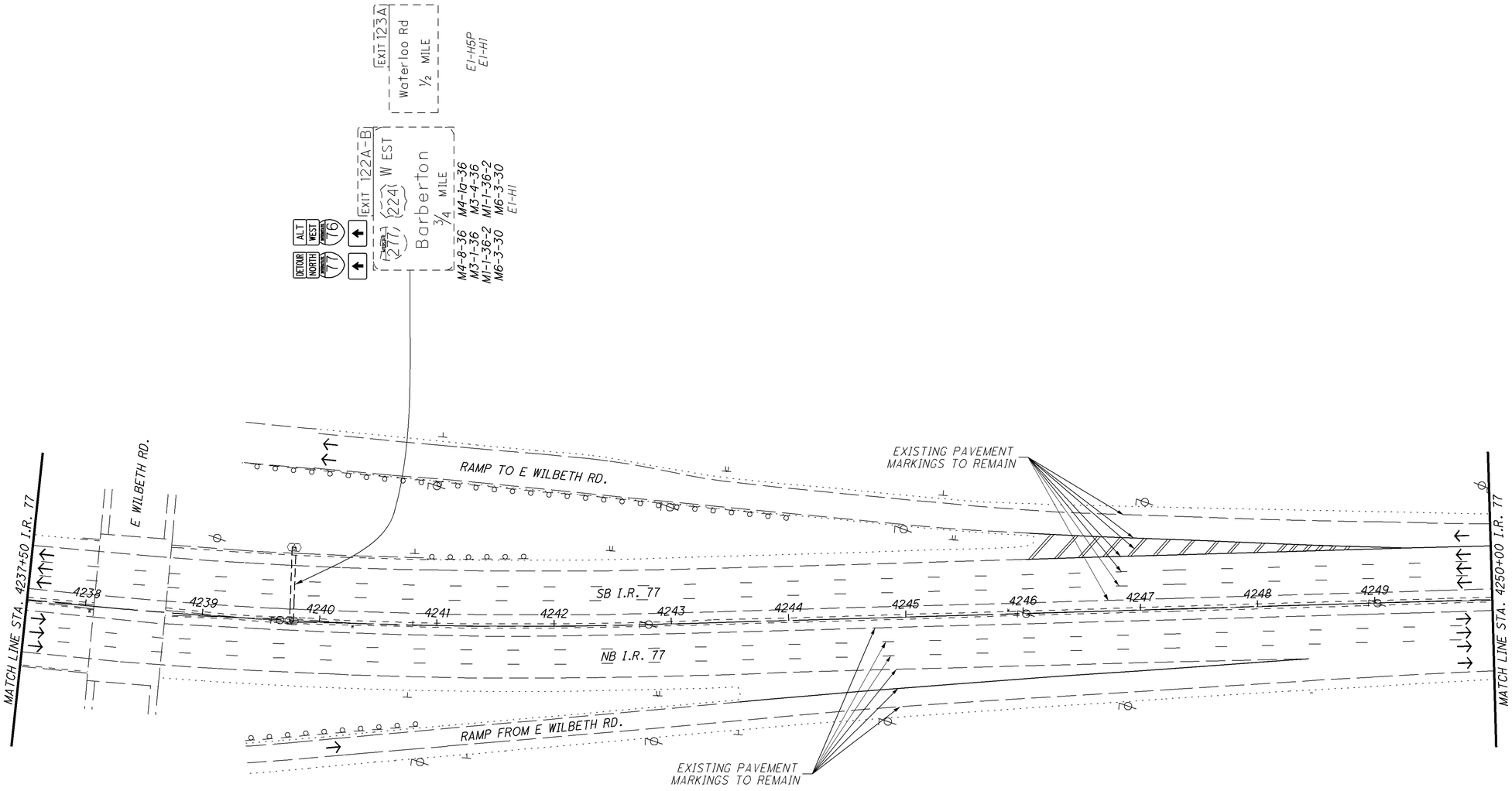
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4225+00 TO STA. 4237+50

SUM-76/77-11.27/12.12

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LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

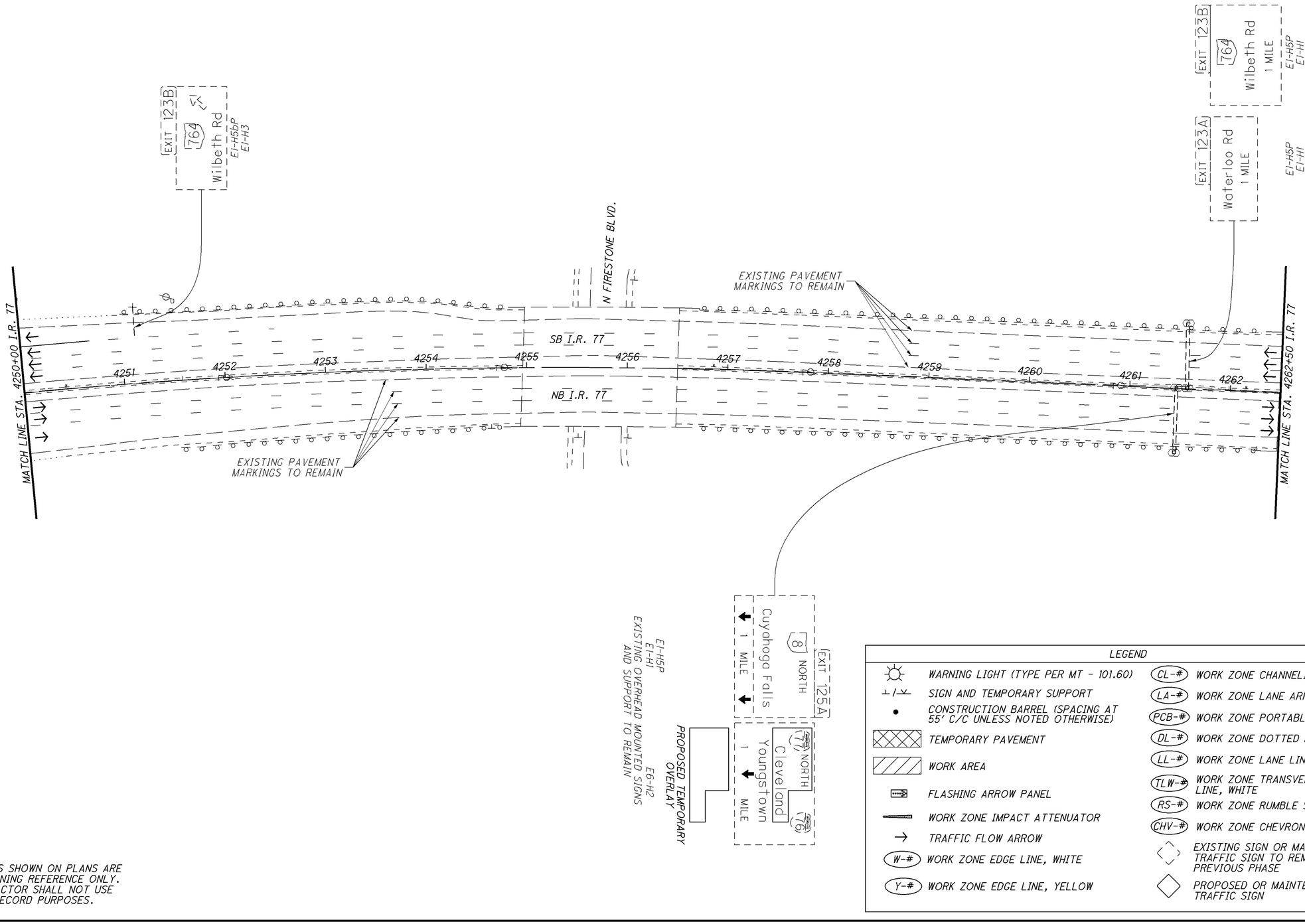
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CDEIBEL

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4237+50 TO STA. 4250+00

SUM-76/77-11.27/12.12



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	(CL-#) WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	(LA-#) WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	(PCB-#) WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	(DL-#) WORK ZONE DOTTED LINE, WHITE
WORK AREA	(LL-#) WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	(TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	(RS-#) WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	(CHV-#) WORK ZONE CHEVRON MARKING
(W-#) WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
(Y-#) WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4250+00 TO STA. 4262+50

SUM-76/77-11.27/12.12

169
652

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CDEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

N

0 25 50 100 HORIZONTAL SCALE IN FEET

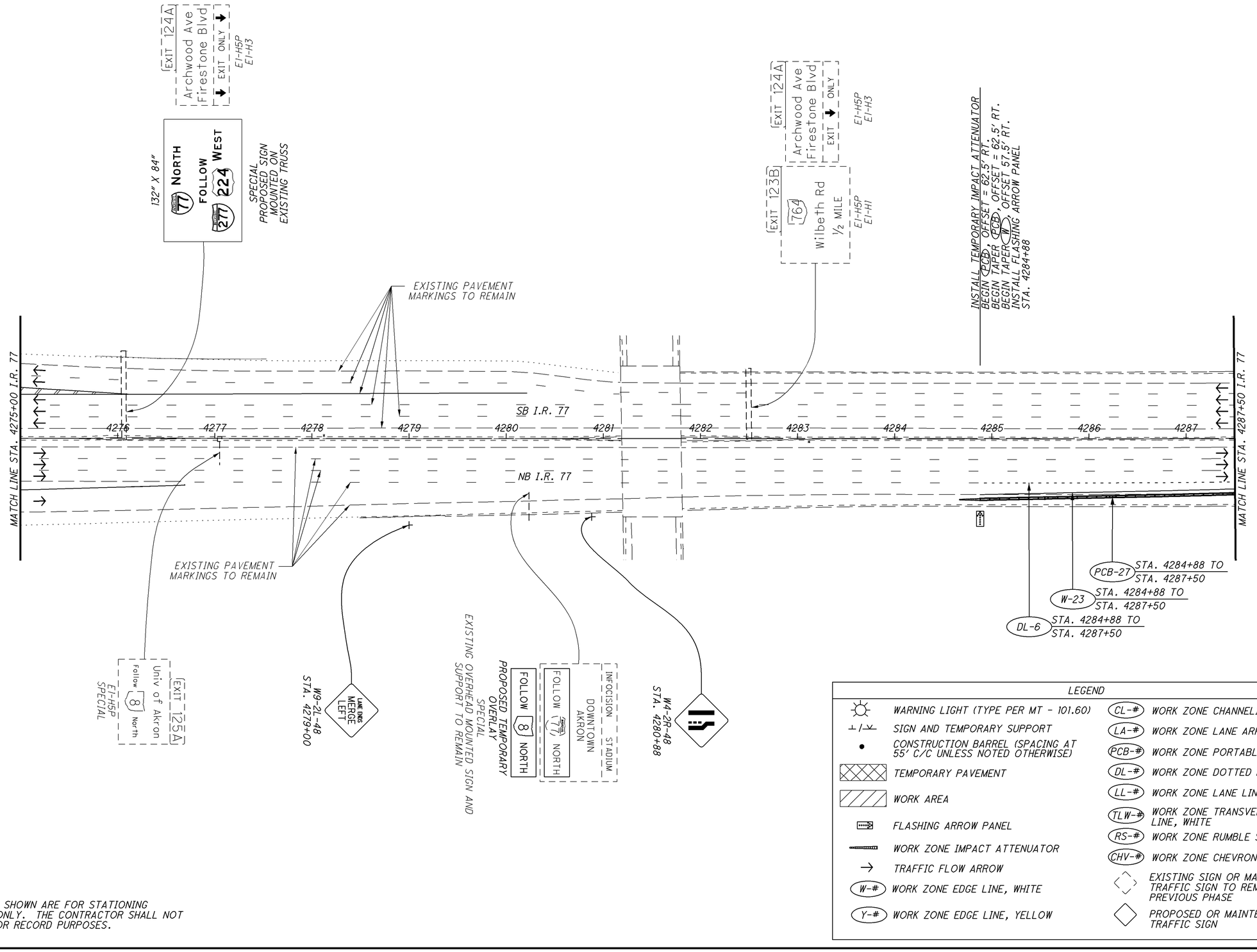
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4262+50 TO STA. 4275+00

SUM-76/77-11.27/12.12

170
652

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LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
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- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
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- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4275+00 TO STA. 4287+50

SUM-76/77-11.27/12.12

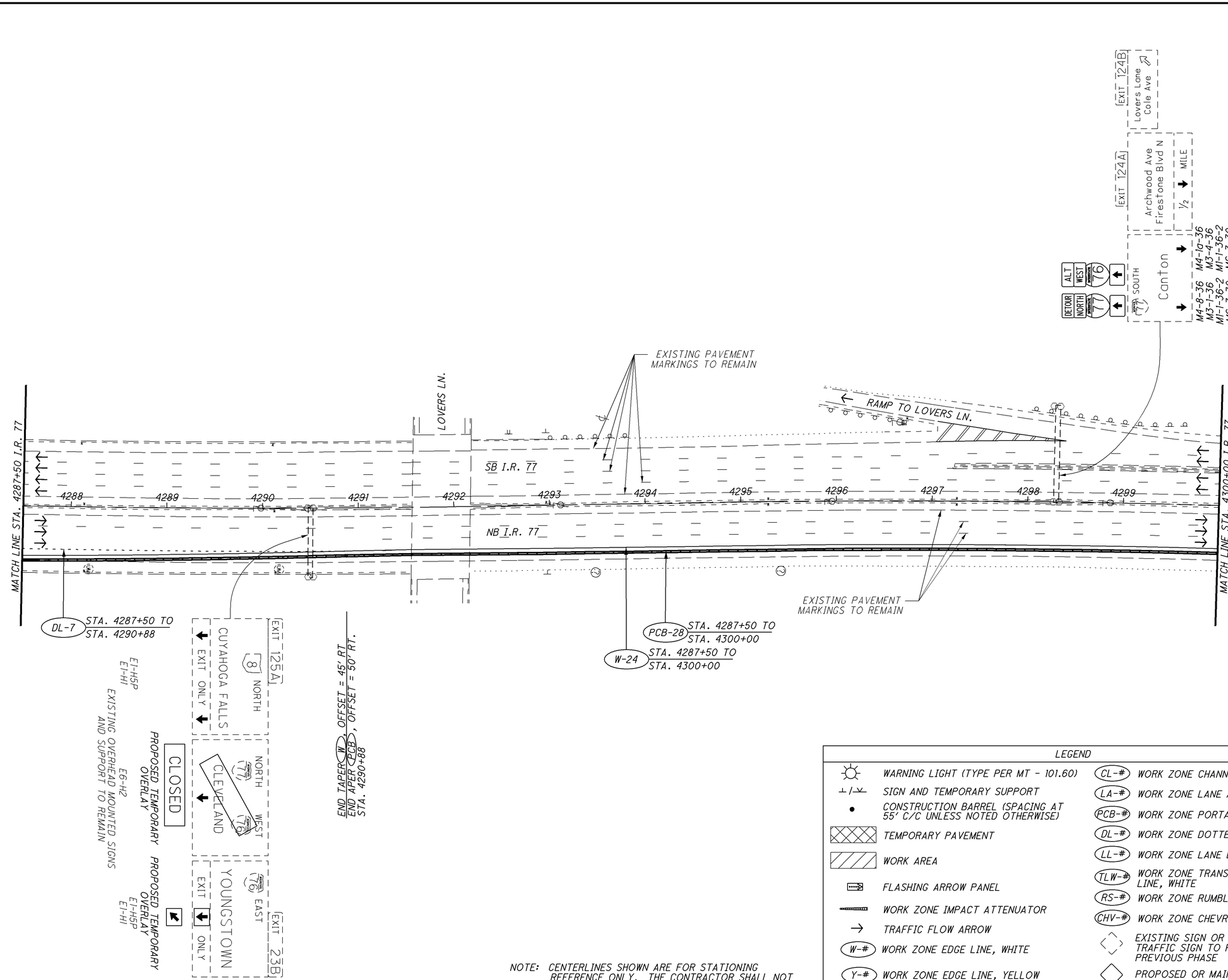
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MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4287+50 TO STA. 4300+00

CALCULATED CRW
CHECKED AKF

0 25 50 100
HORIZONTAL SCALE IN FEET

SUM-76/77-11.27/12.12



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LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
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- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
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- (LA-#) WORK ZONE LANE ARROW
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- (DL-#) WORK ZONE DOTTED LINE, WHITE
- (LL-#) WORK ZONE LANE LINE, WHITE
- (TLW-#) WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- (RS-#) WORK ZONE RUMBLE STRIPS
- (CHV-#) WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

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CDEIBEL

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
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- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
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- RS-# WORK ZONE RUMBLE STRIPS
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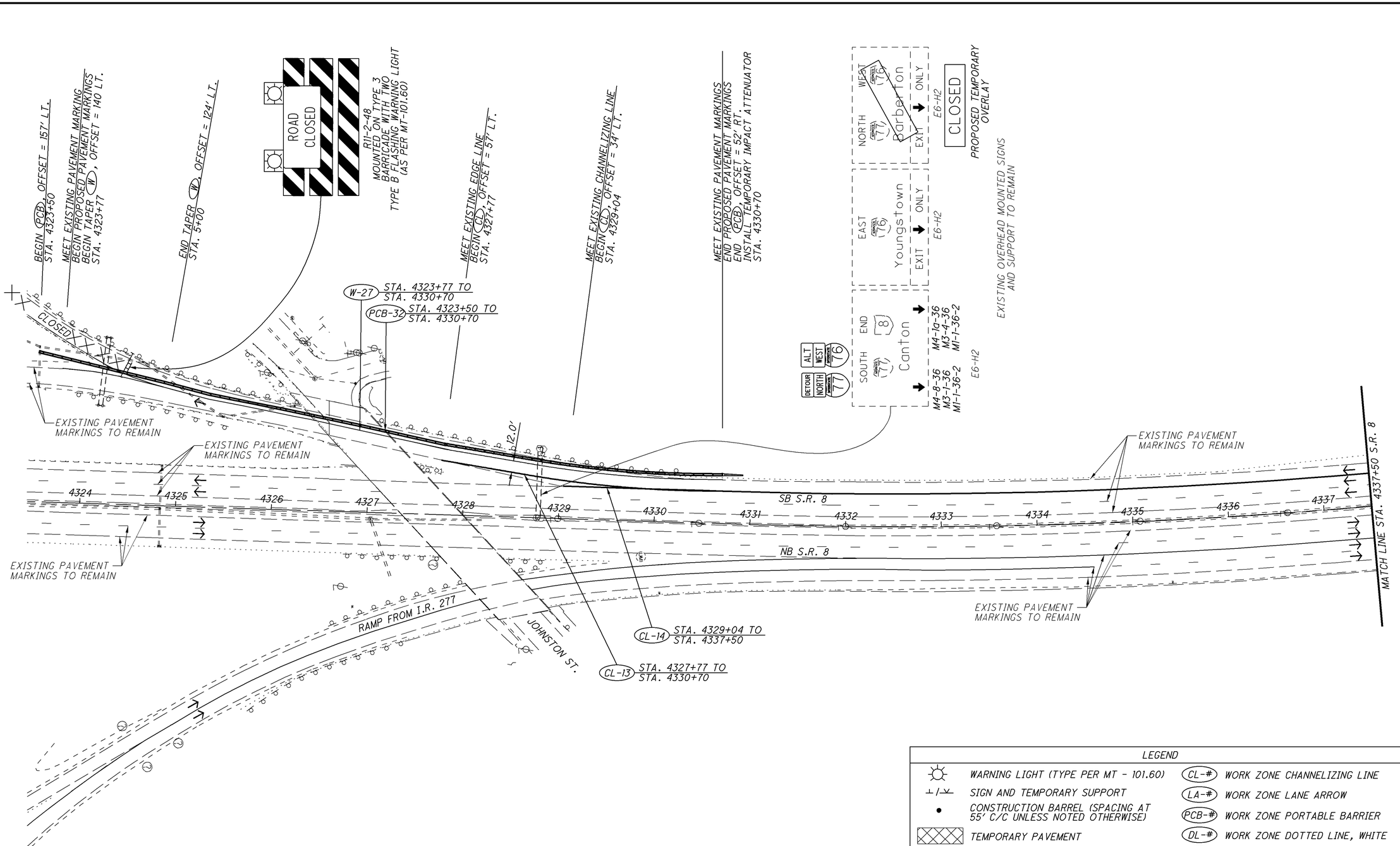
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
PHASES 7, 8, 9 & 10 - STA. 4300+00 TO END

SUM-76/77-11.27/12.12

173
652



LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

N

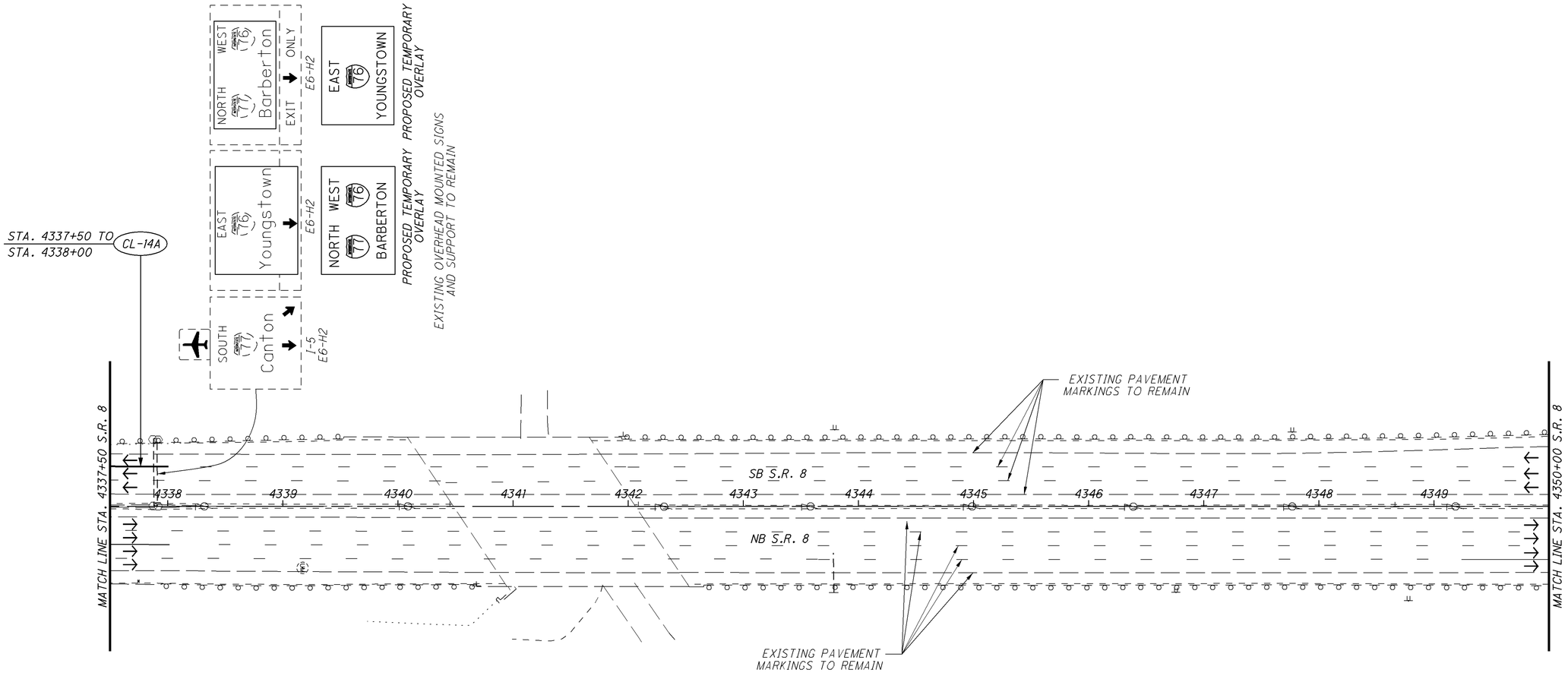
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HORIZONTAL SCALE IN FEET

CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
S.R. 8
PHASES 7, 8, 9 & 10 - BEGIN TO STA. 4337+50

SUM-76/77-11.27/12.12

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CDEIBEL



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
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- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

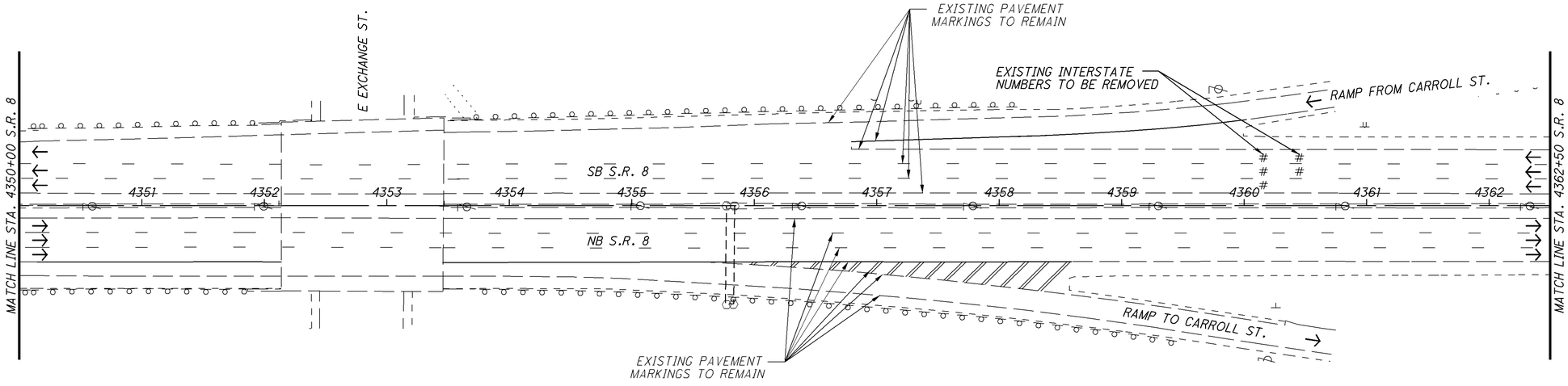
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CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
S.R. 8
PHASES 7, 8, 9 & 10 - STA. 4337+50 TO STA. 4350+00

SUM-76/77-11.27/12.12

175
652

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CDEIBEL



NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)
- TEMPORARY PAVEMENT
- WORK AREA
- FLASHING ARROW PANEL
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LA-# WORK ZONE LANE ARROW
- PCB-# WORK ZONE PORTABLE BARRIER
- DL-# WORK ZONE DOTTED LINE, WHITE
- LL-# WORK ZONE LANE LINE, WHITE
- TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
- RS-# WORK ZONE RUMBLE STRIPS
- CHV-# WORK ZONE CHEVRON MARKING
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

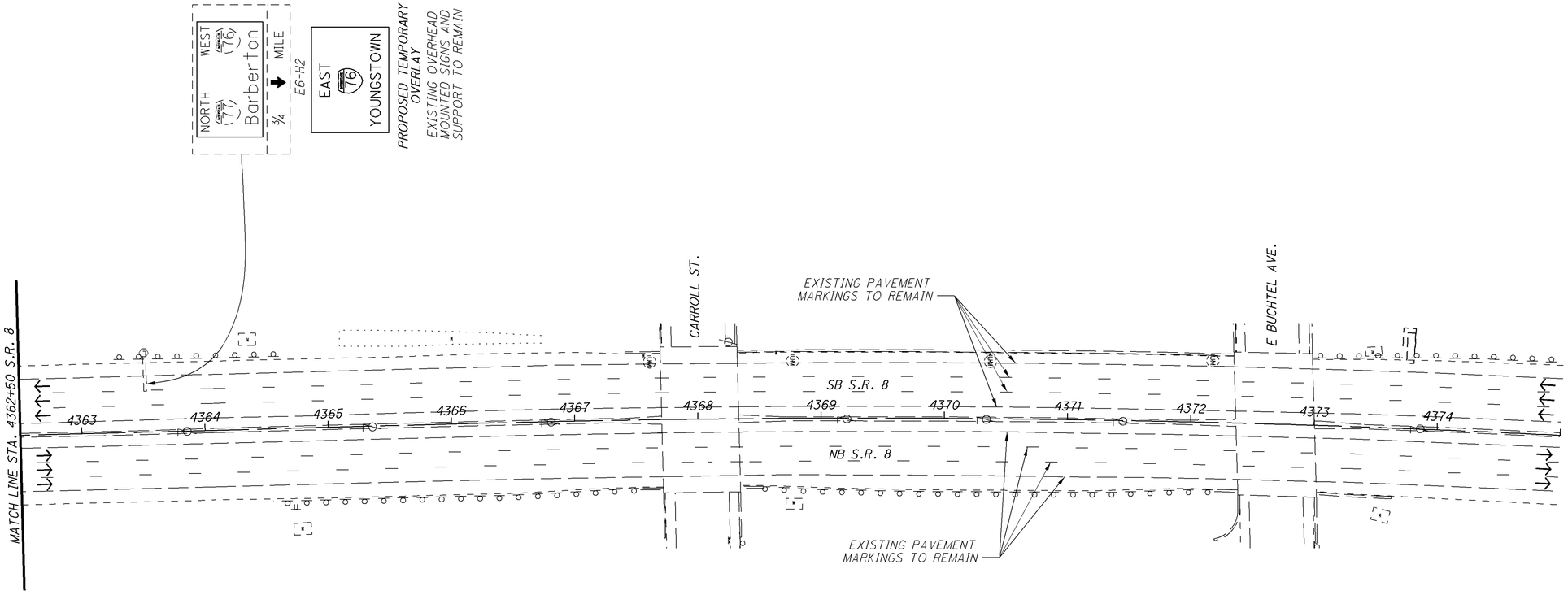
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
S.R. 8
PHASES 7, 8, 9 & 10 - STA. 4350+00 TO STA. 4362+50

SUM-76/77-11.27/12.12

176
652

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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	CL-# WORK ZONE CHANNELIZING LINE
SIGN AND TEMPORARY SUPPORT	LA-# WORK ZONE LANE ARROW
CONSTRUCTION BARREL (SPACING AT 55' C/C UNLESS NOTED OTHERWISE)	PCB-# WORK ZONE PORTABLE BARRIER
TEMPORARY PAVEMENT	DL-# WORK ZONE DOTTED LINE, WHITE
WORK AREA	LL-# WORK ZONE LANE LINE, WHITE
FLASHING ARROW PANEL	TLW-# WORK ZONE TRANSVERSE / DIAGONAL LINE, WHITE
WORK ZONE IMPACT ATTENUATOR	RS-# WORK ZONE RUMBLE STRIPS
TRAFFIC FLOW ARROW	CHV-# WORK ZONE CHEVRON MARKING
W-# WORK ZONE EDGE LINE, WHITE	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
Y-# WORK ZONE EDGE LINE, YELLOW	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN

HORIZONTAL SCALE IN FEET
0 25 50 100

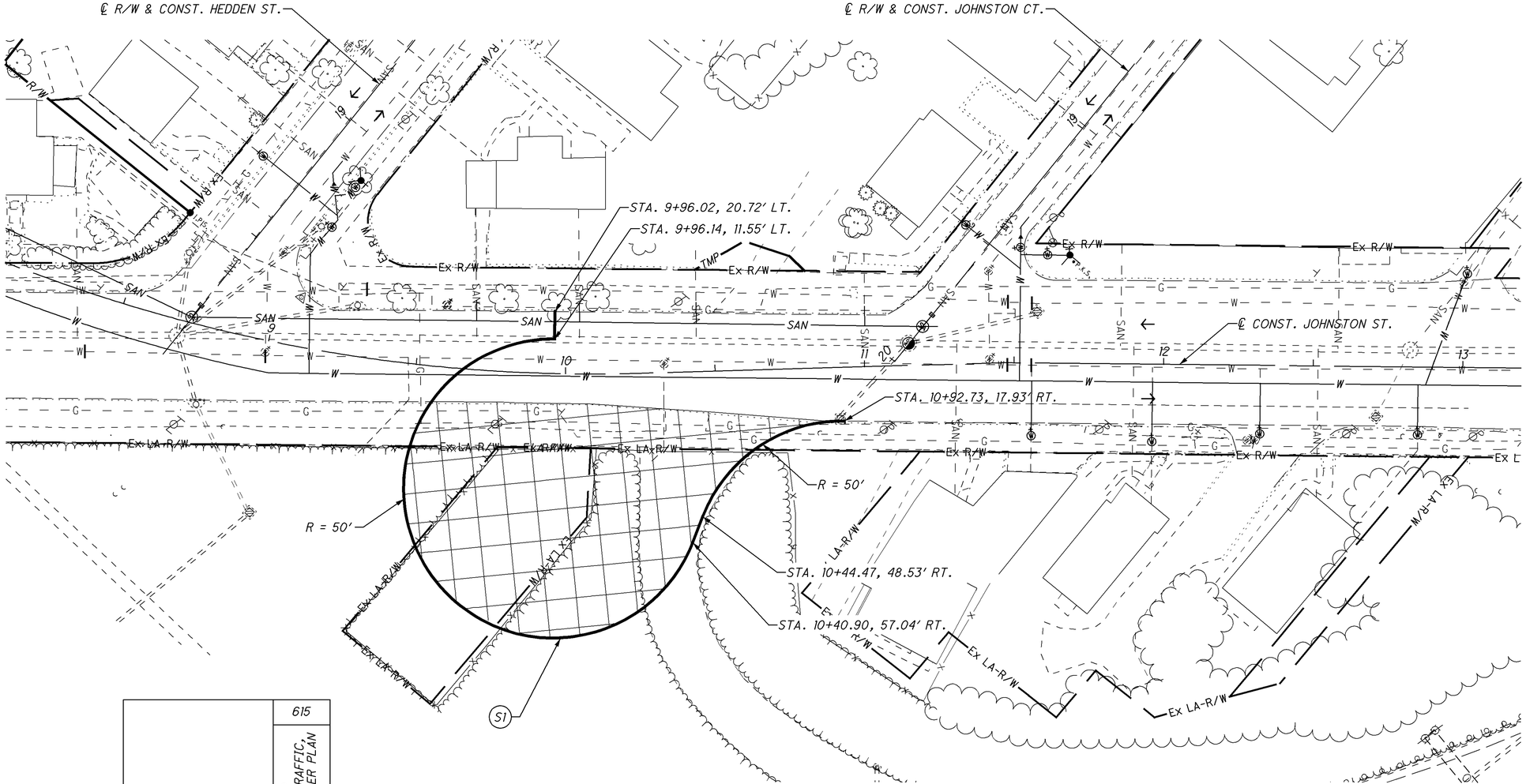
CALCULATED CRW
CHECKED AKF

MAINTENANCE OF TRAFFIC PLAN - I-77 DETOUR
S.R. 8
PHASES 7, 8, 9 & 10 - STA. 4362+50 TO END

SUM-76/77-11.27/12.12

177
652

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LEGEND
EXISTING PAVEMENT
TRAFFIC FLOW ARROW
WORK AREA
TEMPORARY PAVEMENT

REFERENCE	615	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
	SY	
S1	793.0	
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY	793	

HORIZONTAL SCALE IN FEET
0 10 20 40

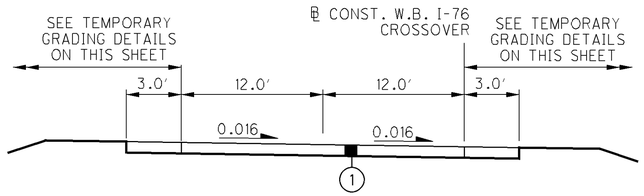
CALCULATED AKF
CHECKED MAH

MAINTENANCE OF TRAFFIC DETAIL
TEMPORARY CUL-DE-SAC - JOHNSTON ST.

SUM-76/77-11.27/12.12

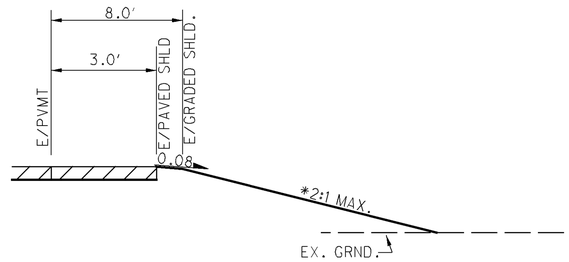
178
652

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DETSEL



W.B. I-76 TEMPORARY CROSSOVER SECTION

STA. 404+06.12 TO STA. 412+10.56



TEMPORARY GRADING - FILL SECTION

PROPOSED LEGEND

(1) ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

* OR AS SHOWN ON CROSS SECTION

FOR SUPERELEVATION TABLE, SEE SHEET 180

QUANTITY NOTE:

ALL WORK AND ITEMS REQUIRED TO PROVIDE, MAINTAIN, AND REMOVE TEMPORARY ROADS TO BE INCLUDED IN COST FOR ITEM 615 - ROADS FOR MAINTAINING TRAFFIC. THIS INCLUDES AND IS NOT LIMITED TO GUARDRAIL, EARTHWORK, PAVEMENT, DRAINAGE, ETC.

PROPOSED TYPICAL SECTIONS - TEMPORARY ROADS

SUM-76/77-11.27/12.12

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CURVE 11 SUPERELEVATION TABLE

P.I. Sta. 403+28.25	Dc = 1° 27′ 28″

LEFT SIDE					BASELINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
1077.65	185	-0.66	-0.0275	24.00	404+06.12	1078.31						
1078.08	185	-0.56	-0.0232	24.00	404+25.00	1078.64						
1078.67	185	-0.42	-0.0176	24.00	404+50.00	1079.09						
1079.14	185	-0.29	-0.0120	24.00	404+75.00	1079.43						
1079.59	185	-0.15	-0.0064	24.00	405+00.00	1079.74						
1080.09	185	-0.02	-0.0007	24.00	405+25.00	1080.11						
1080.16	185	0.00	0.0000	24.00	405+28.22	1080.16						P.R.C.

CURVE 9 SUPERELEVATION TABLE

P.I. Sta. 407+71.06	Dc = 5° 00′ 00″

LEFT SIDE					BASELINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
1080.16	185	0.00	0.0000	24.00	405+28.22	1080.16						P.R.C.
1080.68	185	0.12	0.0049	24.00	405+50.00	1080.56						
1081.34	185	0.25	0.0105	24.00	405+75.00	1081.08						
1082.05	185	0.38	0.0160	24.00	405+99.26	1081.67						
1082.07		0.38	0.0160	24.00	406+00.00	1081.69						
1082.75		0.38	0.0160	24.00	406+25.00	1082.37						
1083.51		0.38	0.0160	24.00	406+50.00	1083.13						
1084.35		0.38	0.0160	24.00	406+75.00	1083.97						
1085.27		0.38	0.0160	24.00	407+00.00	1084.89						
1086.26		0.38	0.0160	24.00	407+25.00	1085.88						
1087.34		0.38	0.0160	24.00	407+50.00	1086.95						
1088.49		0.38	0.0160	24.00	407+75.00	1088.11						
1089.72		0.38	0.0160	24.00	408+00.00	1089.34						
1091.03		0.38	0.0160	24.00	408+25.00	1090.64						
1092.41		0.38	0.0160	24.00	408+50.00	1092.03						
1093.83		0.38	0.0160	24.00	408+75.00	1093.45						
1095.16		0.38	0.0160	24.00	409+00.00	1094.77						
1096.38		0.38	0.0160	24.00	409+25.00	1096.00						
1097.50		0.38	0.0160	24.00	409+50.00	1097.12						
1098.52		0.38	0.0160	24.00	409+75.00	1098.14						
1099.44		0.38	0.0160	24.00	410+00.00	1099.06						
1099.68		0.38	0.0160	24.00	410+06.83	1099.29						P.R.C.

CURVE 10 SUPERELEVATION TABLE

P.I. Sta. 411+54.22	Dc = 5° 00′ 00″

LEFT SIDE					BASELINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
1099.68		0.38	0.0160	24.00	410+06.83	1099.29						P.R.C.
1100.26		0.38	0.0160	24.00	410+25.00	1099.88						
1100.97		0.38	0.0160	24.00	410+50.00	1100.59						
1101.36		0.38	0.0160	24.00	410+65.06	1100.98						

CALCULATED AJE
CHECKED CWL

SUPERELEVATION TABLE W.B. I-76 CROSSOVER

SUM-76/77-11.27/12.12

180
652

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FOR CROSS SECTIONS, SEE SHEETS 239-283
FOR LANE O PLANS, SEE SHEETS 223-227
FOR W.B. I-76 PLANS, SEE SHEETS 213-218

STRUCTURE No. SUM-76-1127

℄ R/W & CONST. SPICER ST.

℄ CONST. LANE O

℄ CONST. WB-76 CROSSOVER

℄ CONST. W.B. I-76

℄ CONST. E.B. I-76

PT Sta. 31+62.04

PC Sta. 401+27.93

PRC Sta. 405+28.22

PC Sta. 26+95.87

MATCH LINE STA. 406+50.00
WB-76 CROSSOVER

EQUATION:
Sta 524+28.92 BK =
Sta 3+00.00 AH

S 85°46'37" E

S 85°15'04" W

brick drive
5' chainlink fence
LA-R/W
dense vegetation
brush
asphalt
12" G(QL-D)(AATUR)
guardrail
grass
wall
bridge pier(typ.)
conc. sidewalk
conc.
overhead sign
bench wall
16" (TO BE ABAND.)
12" cmp
Ex. A
RISER
railroad
shed
brick
conc. headwall
cane ditch
30rebar
18" rcp
6" wall
gravel
conc. ditch
EOI
UNK
P-6
FP-1
FP-10
AB-12
D-10
D-16
D-17
D-37

CONST. LANE O

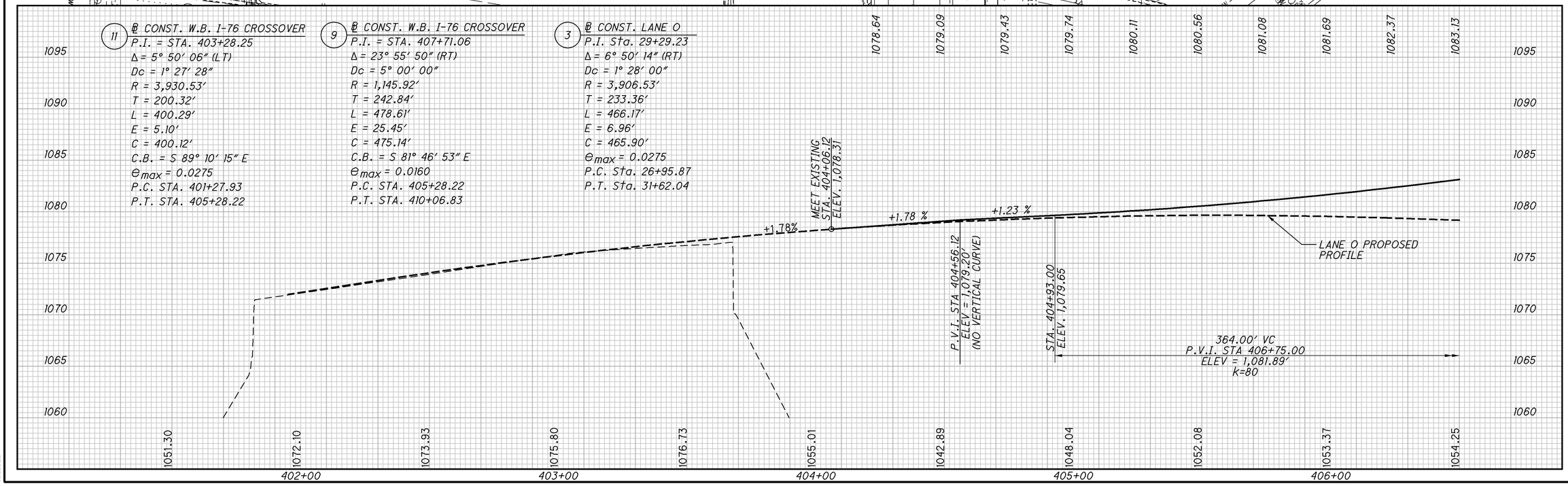
P.I. Sta. 29+29.23
Δ = 6° 50′ 14″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 233.36′
L = 466.17′
E = 6.96′
C = 465.90′
e max = 0.0275
P.C. Sta. 26+95.87
P.T. Sta. 31+62.04

(11) ℄ CONST. W.B. I-76 CROSSOVER

P.I. = STA. 403+28.25
Δ = 5° 50′ 06″ (LT)
Dc = 1° 27′ 28″
R = 3,930.53′
T = 200.32′
L = 400.29′
E = 5.10′
C = 400.12′
C.B. = S 89° 10′ 15″ E
e max = 0.0275
P.C. STA. 401+27.93
P.T. STA. 405+28.22

(9) ℄ CONST. W.B. I-76 CROSSOVER

P.I. = STA. 407+71.06
Δ = 23° 55′ 50″ (RT)
Dc = 5° 00′ 00″
R = 1,145.92′
T = 242.84′
L = 478.61′
E = 25.45′
C = 475.14′
C.B. = S 81° 46′ 53″ E
e max = 0.0160
P.C. STA. 405+28.22
P.T. STA. 410+06.83



HORIZONTAL SCALE IN FEET
0 10 20 40

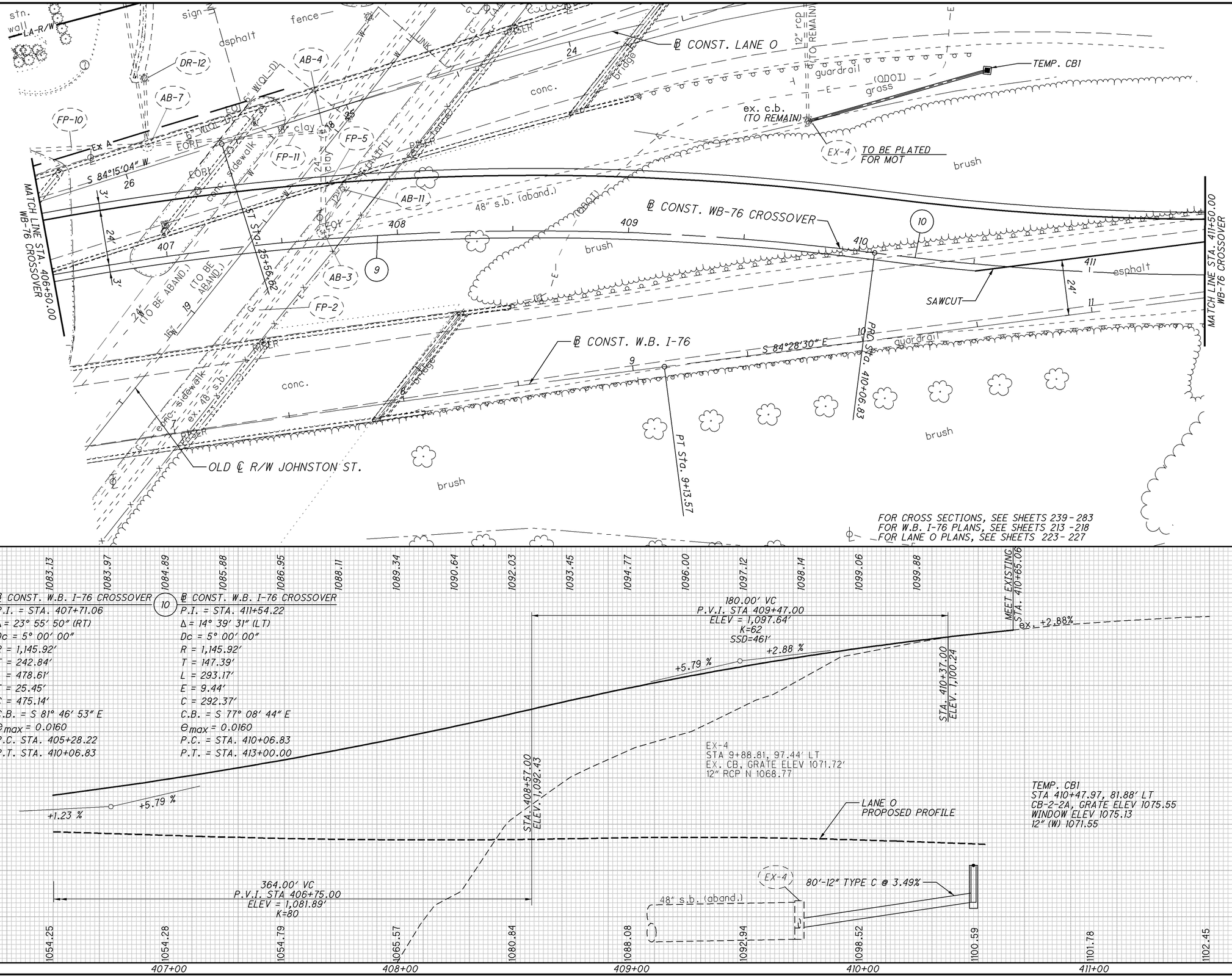
CALCULATED AJE
CHECKED CWL

PLAN AND PROFILE - WB-76 CROSSOVER
BEGIN TO STA. 406+50.00

SUM-76/77-11.27/12.12

181
652

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AJE
CHECKED CWL

PLAN AND PROFILE - WB-76 CROSSOVER STA. 406+50.00 TO STA. 411+50.00

SUM-76/77-11.27/12.12

182
652

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℄ CONST. W.B. I-76

℄ CONST. W.B. I-76

MATCH LINE STA. 411+50.00
WB-76 CROSSOVER

SAWCUT

3"

3.44'

24'

10

S 84° 28' 30" E

℄ CONST. WB-76 CROSSOVER

℄ EXIST. RAMP N

PC STA. 0+00.00

RISER (SUPPORT)

FOR W.B. I-76 PLANS, SEE SHEETS 213-218
FOR CROSS SECTIONS, SEE SHEETS 239-283

10 ℄ CONST. W.B. I-76 CROSSOVER
P.I. = STA. 411+54.22
Δ = 14° 39' 31" (LT)
Dc = 5° 00' 00"
R = 1,145.92'
T = 147.39'
L = 293.17'
E = 9.44'
C = 292.37'
C.B. = S 77° 08' 44" E
e_{max} = 0.0160
P.C. = STA. 410+06.83
P.T. = STA. 413+00.00

1115 1110 1105 1100 1095 1090 1085 1080

1102.45 1102.88 1103.11 1102.49 1101.51 1100.53 1099.56 1098.58 1097.60 1096.62 1095.46

412+00 413+00 414+00 415+00 416+00

HORIZONTAL SCALE IN FEET
0 10 20 40

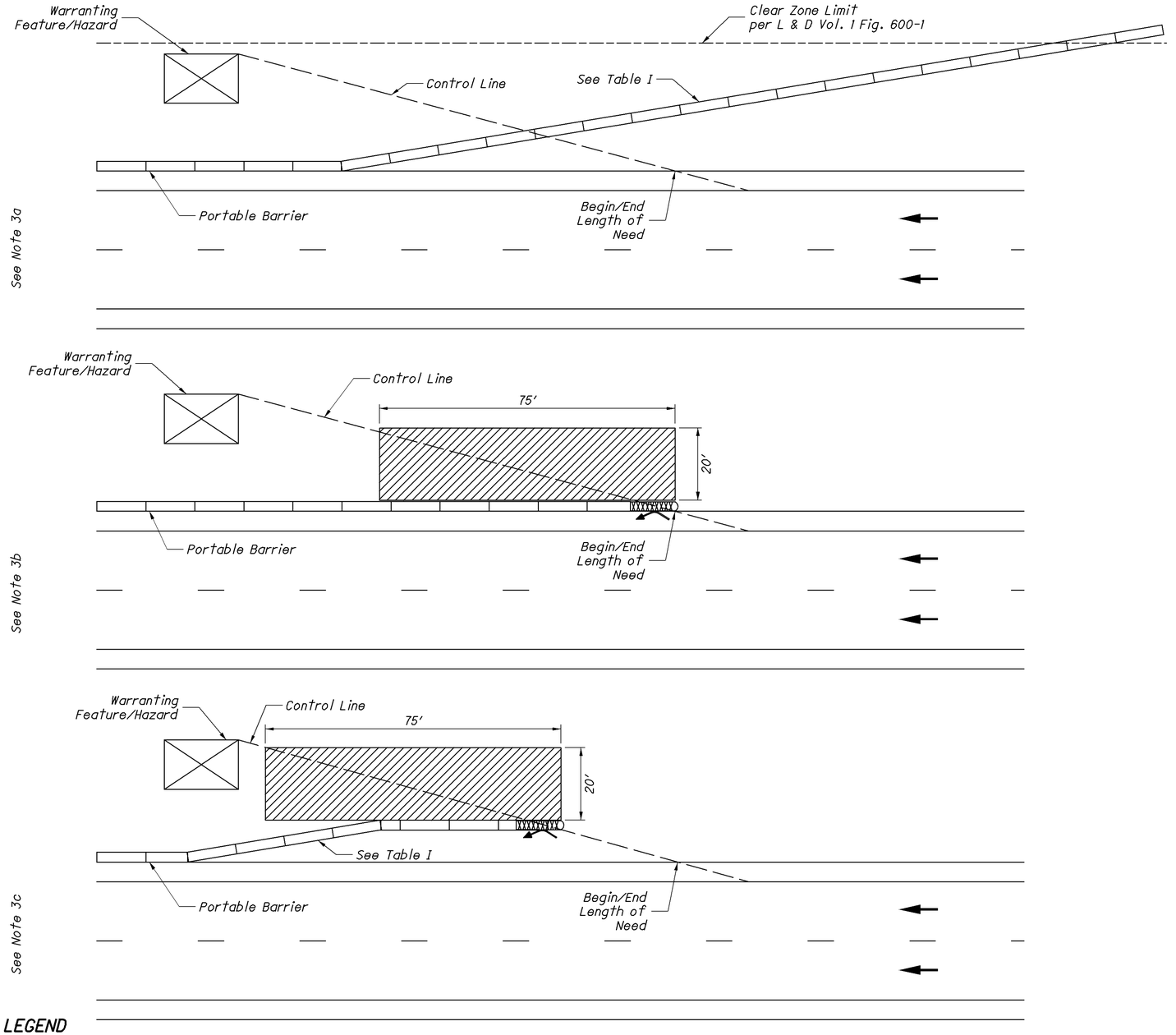
CALCULATED AJE
CHECKED CWL

PLAN AND PROFILE - WB-76 CROSSOVER
STA. 411+50.00 TO END

SUM-76/77-11.27/12.12

183
652

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LEGEND

- RECOVERY AREA
- PORTABLE BARRIER
- NON-GATING IMPACT ATTENUATOR
- DIRECTION OF TRAVEL

NOTES:

1. Attenuators shall be installed per the manufacturer's 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 portable barrier:

   a) Terminate flared section of portable barrier outside clear zone with tapered end only where cross slopes are 10:1 or flatter.
   b) Terminate portable barrier with an impact attenuator. A non-gating attenuator may be included in the length of need measurement.
   c) Flare a section of portable 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 portable barrier.

4. The Contractor shall submit documentation to the Engineer, 2 weeks prior to implementation, for acceptance when:

   a) Deviating from the three acceptable options for terminating portable barrier.

      Documentation shall explain any deviations and verify that the recovery area fulfills the manufacturer's 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 portable 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 manufacturer's specifications and and Note 2.

5. Gating impact attenuators shall not be used in gore locations or within the clear zone between bi-directional traffic.

TABLE I

SPEED LIMIT (MPH)	PB FLARE RATE MINIMUM
25	8:1
30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

THIS DRAWING REPLACES PIS 2010175 DATED 7-20-2012.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED | CHECKED

PIS NUMBER 2010175 | REVISION DATE 7-19-2013

PLAN INSERT SHEET

IMPACT ATTENUATOR PLACEMENT

PIS 2010175

1 / 1

CALCULATED AKF | CHECKED ---

MAINTENANCE OF TRAFFIC PLAN INSERT SHEET

SUM-76/77-11.27/12.12

184
652

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9/16/2014
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SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	24	26	28		190	193	206	211		582	01/IMS/OT	02/BRO/BR	03/NFA/OT/AKRN						
																		ROADWAY	
	LS										LS			201	11000	LS		CLEARING AND GRUBBING	
					LS						LS			202	00200	LS		RAILROAD CROSSING REMOVED	
		424			13431						13465		390	202	23000	13855	SY	PAVEMENT REMOVED	
					4516						4516			202	23010	4516	SY	PAVEMENT REMOVED, ASPHALT	
		167			21087						21087		167	202	30000	21254	SF	WALK REMOVED	
					68						68			202	30200	68	FT	STEPS REMOVED	
					200						200			202	30700	200	FT	CONCRETE BARRIER REMOVED	
		46			4270						4270		46	202	32000	4316	FT	CURB REMOVED	
					101						101			202	32500	101	FT	CURB AND GUTTER REMOVED	
					413						413			202	32700	413	SY	GUTTER REMOVED	
					2600					145	2600	145		202	32800	2745	SY	CONCRETE SLOPE PROTECTION REMOVED	
					814		1235				2033		16	202	35100	2049	FT	PIPE REMOVED, 24" AND UNDER	
					53						53			202	35200	53	FT	PIPE REMOVED, OVER 24"	
					1661						1661			202	38000	1661	FT	GUARDRAIL REMOVED	
					3						3			202	58000	3	EACH	MANHOLE REMOVED	
					8						8			202	58100	8	EACH	CATCH BASIN REMOVED	
					15						15			202	58200	15	EACH	INLET REMOVED	
					2						2			202	58400	2	EACH	INLET ABANDONED	
					2						2			202	58500	2	EACH	CATCH BASIN ABANDONED	
					9						9			202	58700	9	EACH	MANHOLE ABANDONED	
					1462						1462			SPECIAL	20270000	1462	FT	FILL AND PLUG EXISTING CONDUIT	29
					2481						2481			202	75000	2481	FT	FENCE REMOVED	
					303						303			202	75001	303	FT	FENCE REMOVED, AS PER PLAN	24
							16				16			202	75610	16	EACH	VALVE BOX REMOVED	
					1						1			202	98100	1	EACH	REMOVAL MISC.: ROCK GARDEN	
					1						1			202	98100	1	EACH	REMOVAL MISC.: BENCH REMOVED AND RESET	27
					2						2			202	98100	2	EACH	REMOVAL MISC.: BOLLARD	
	50000										50000			202	98100	50000	EACH	REMOVAL MISC.: REMOVAL AND DISPOSAL OF REGULATED UNIVERSAL HAZARDOUS WASTE	24
			3								3			SPECIAL	20307500	3	EACH	PNEUMATIC PIEZOMETER	28
						16632					16632			203	10000	16632	CY	EXCAVATION	
						1494					1494			203	20000	1494	CY	EMBANKMENT	
			7								7			SPECIAL	20365000	7	EACH	SETTLEMENT PLATFORM	28
24059											24059			204	10000	24059	SY	SUBGRADE COMPACTION	
						963					963			204	13000	963	CY	EXCAVATION OF SUBGRADE	
						963					963			204	30011	963	CY	GRANULAR MATERIAL, TYPE B, AS PER PLAN	27
13											13			204	45000	13	HOUR	PROOF ROLLING	
						1033					1033			204	50000	1033	SY	GEOTEXTILE FABRIC	
31											31			209	60201	31	STA	LINEAR GRADING, AS PER PLAN	27
					2007						2007			606	15050	2007	FT	GUARDRAIL, TYPE MGS	
					550						550			606	15100	550	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
					50						50			606	15550	50	FT	GUARDRAIL, BARRIER DESIGN, TYPE MGS	
					1						1			606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E	27
					1						1			606	26550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
					2						2			606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					4						4			606	35102	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
					1586						1586			607	23000	1586	FT	FENCE, TYPE CLT	
					303						303			607	23001	303	FT	FENCE, TYPE CLT, AS PER PLAN	24
					1586						1586			607	70000	1586	FT	FENCELINE SEEDING AND MULCHING	
		73						10848			10848		73	608	10000	10921	SF	4" CONCRETE WALK	
								732			732			608	13001	732	SF	6" CONCRETE WALK, AS PER PLAN	26
								170			170			608	15001	170	SF	8" CONCRETE WALK, AS PER PLAN	26
								69			69			608	40000	69	FT	CONCRETE STEPS, TYPE A	
		94											94	608	52010	94	SF	CURB RAMP, TYPE A1	

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED HAZARDOUS WASTE NOTE	ATR	03-12-15

CALCULATED AJE
CHECKED CWL

GENERAL SUMMARY

SUM-76/77-11.27/12.12

\\AKRN83\DATA\2010\2010297\SUM\86979\ROADWAY\SHEETS\86979GS001.DGN
3/13/2015
8:48:01 AM
ARGLLAND

SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	25	27		30	190		193	211			01/IMS/OT	02/BRO/BR	03/NFA/OT/AKRN						
																		ROADWAY (CONTINUED)	
								270			270			608	52020	270	SF	CURB RAMP, TYPE A2	
								96			96			608	52030	96	SF	CURB RAMP, TYPE B1	
								948			948			608	52040	948	SF	CURB RAMP, TYPE B2	
								195			195			608	52044	195	SF	CURB RAMP, TYPE B3	
								521			521			608	52050	521	SF	CURB RAMP, TYPE C1	
								506			506			608	52060	506	SF	CURB RAMP, TYPE C2	
					302						302			622	10100	302	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1	
					42						42			622	10140	42	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	
					1						1			622	10200	1	EACH	BARRIER TRANSITION	
					1						1			622	24850	1	EACH	CONCRETE BARRIER END SECTION, TYPE B1	
					1						1			622	25014	1	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	
					3						3			622	25015	3	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	26
	9										9			623	38500	9	EACH	MONUMENT ASSEMBLY	
	1										1			623	40900	1	EACH	MONUMENT, MISC.: GEODETIC MONUMENT	25
				700							700			SPECIAL	69065016	700	TON	WORK INVOLVING PETROLEUM CONTAMINATED SOIL	30
				10000							10000			SPECIAL	69065022	10000	GAL	WORK INVOLVING NON-REGULATED WATER	30
				10000							10000			SPECIAL	69065024	10000	GAL	WORK INVOLVING REGULATED WATER	30
				20							20			SPECIAL	69070100	20	SF	ASBESTOS ABATEMENT, HEATING DUCT CLOTH WRAP	30
				15							15			SPECIAL	69070100	15	SF	ASBESTOS ABATEMENT, 1/4" FIBER SHEET HEATING DUCTS	30
				8							8			SPECIAL	69070100	8	SF	ASBESTOS ABATEMENT, FLOORING MATERIAL	30
				30232							30232			SPECIAL	69070100	30232	SF	ASBESTOS ABATEMENT, DRYWALL WITH JOINT COMPOUND	30
				1800							1800			SPECIAL	69070100	1800	SF	ASBESTOS ABATEMENT, FLOOR TILE	30
				41000							41000			SPECIAL	69070100	41000	SF	ASBESTOS ABATEMENT, ROOFING MEMBRANE	30
				7352							7352			SPECIAL	69070100	7352	SF	ASBESTOS ABATEMENT, CEILING TILE	30
				41000							41000			SPECIAL	69070100	41000	SF	ASBESTOS ABATEMENT, SPRAY ON FIRE PROOFING	30
				2220							2220			SPECIAL	69070100	2220	SF	ASBESTOS ABATEMENT, SHINGLES/TAR PAPER	30
				7000							7000			SPECIAL	69070120	7000	FT	ASBESTOS ABATEMENT, PIPE INSULATION AND ASSOCIATED FITTINGS	30
		1									1			SPECIAL	69098000	1	EACH	MISC.: VERTICAL CLEARANCE	27
							999				999			861	10000	999	SY	GEOGRID FOR SUBGRADE STABILIZATION	
							23245				23245			863	00300	23245	SY	GEOGRID, TYPE P3	
							15201				15201			863	00801	15201	CY	REINFORCED EMBANKMENT, AS PER PLAN	27

CALCULATED AJE
CHECKED CWL

GENERAL SUMMARY

SUM-76/77-11.27/12.12

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED TO ASBESTOS NOTE	ATR	03-12-15

\\VAKRN03\DATA\2010\2010297\SUM\86979\ROADWAY\SHEETS\86979GG002.DGN
3/13/2015
11:46:02 AM
ARGLLAND

SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	25	27	29	30	191	193			212	582	01/IMS/OT	02/BRO/BR	03/NFA/OT/AKRN						
																		EROSION CONTROL	
										145		145		601	21000	145	SY	CONCRETE SLOPE PROTECTION	
			8		4						12			601	21050	12	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
					198						198			601	37501	198	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN	30
						2					2			659	00100	2	EACH	SOIL ANALYSIS TEST	
						2629					2629			659	00300	2629	CY	TOPSOIL	
						1601					1601			659	00530	1601	SY	SEEDING AND MULCHING, CLASS 3B	
						17492					17492			659	10000	17492	SY	SEEDING AND MULCHING	
						955					955			659	14000	955	SY	REPAIR SEEDING AND MULCHING	
						955					955			659	15000	955	SY	INTER-SEEDING	
						2.66					2.66			659	20000	2.66	TON	COMMERCIAL FERTILIZER	
						3.94					3.94			659	31000	3.94	ACRE	LIME	
						106					106			659	35000	106	MGAL	WATER	
					33						33			660	30000	33	SY	SODDING UNSTAKED	
						1520					1520			670	00500	1520	SY	SLOPE EROSION PROTECTION	
					1662						1662			670	00700	1662	SY	DITCH EROSION PROTECTION	
									LS		LS			832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
									100000		100000			832	30000	100000	EACH	EROSION CONTROL	
																		DRAINAGE	
					1546						1546			605	11110	1546	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31	
					212						212			605	11110	212	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 TYPE CP OR 707.41	
			40		105						145			605	13410	145	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31	
					264						264			605	13510	264	FT	6" ROCK CUT UNDERDRAINS WITH FABRIC WRAP, 707.31	
					8446						8446			605	14020	8446	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31	
			40		538						578			611	00510	578	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
			200								200			611	00900	200	FT	6" CONDUIT, TYPE B	
			200								200			611	01100	200	FT	6" CONDUIT, TYPE C	
			200								200			611	01400	200	FT	6" CONDUIT, TYPE E	
			200								200			611	01500	200	FT	6" CONDUIT, TYPE F	
					432						432			611	04400	432	FT	12" CONDUIT, TYPE B	
					8						8			611	04400	8	FT	12" CONDUIT, TYPE B, 706.08	
					9						9			611	04600	9	FT	12" CONDUIT, TYPE C	
					523						523			611	05900	523	FT	15" CONDUIT, TYPE B	
					94						94			611	06100	94	FT	15" CONDUIT, TYPE C	
					170						170			611	06700	170	FT	15" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	
					182						182			611	07400	182	FT	18" CONDUIT, TYPE B	
					324						324			611	10400	324	FT	24" CONDUIT, TYPE B	
					5						5			611	10400	5	FT	24" CONDUIT, TYPE B, 706.08	
					182						182			611	10600	182	FT	24" CONDUIT, TYPE C	
					347						347			611	23801	347	FT	60" CONDUIT, TYPE B, 706.03, AS PER PLAN	29
					2						2			611	98150	2	EACH	CATCH BASIN, NO. 3	
					14						14			611	98180	14	EACH	CATCH BASIN, NO. 3A	
					4						4			611	98470	4	EACH	CATCH BASIN, NO. 2-2B	
					1						1			611	98510	1	EACH	CATCH BASIN, NO. 2-3	
					1						1			611	98630	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
					2						2			611	99110	2	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1	
					8						8			611	99574	8	EACH	MANHOLE, NO. 3	
			4		2						6			611	99710	6	EACH	PRECAST REINFORCED CONCRETE OUTLET	
					1						1			611	99731	1	EACH	JUNCTION CHAMBER, AS PER PLAN, TYPE 1	29
					1						1			611	99731	1	EACH	JUNCTION CHAMBER, AS PER PLAN, TYPE 2	29
			1000								1000			SPECIAL	61199820	1000	LB	MISCELLANEOUS METAL	29

CALCULATED AJE CHECKED CWL

GENERAL SUMMARY

SUM-76/77-11.27/12.12

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9/16/2014
8:41:36 PM
SSCHUSTER

SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	26			203				211			01/IMS/OT	02/BRO/BR	03/NFA/OT/AKRN						
																		PAVEMENT	
1626											1626			254	01000	1626	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
1513	73										1520		66	301	46000	1586	CY	ASPHALT CONCRETE BASE, PG64-22	
3298											3298			302	46000	3298	CY	ASPHALT CONCRETE BASE, PG64-22	
2182											2182			304	20001	2182	CY	AGGREGATE BASE, AS PER PLAN "A"	25
1662											1662			304	20001	1662	CY	AGGREGATE BASE, AS PER PLAN "B"	25
530											530			305	14010	530	SY	10" CONCRETE BASE, CLASS QC1	
123											123			SPECIAL	40720500	123	GAL	TACK COAT, TRACKLESS TACK	26
40											40			SPECIAL	40720500	40	GAL	TACK COAT, TRACKLESS TACK, 702.13	26
1661	16										1661		16	SPECIAL	40720510	1677	GAL	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE	26
549											549			408	10000	549	GAL	PRIME COAT	
323	14										323		14	441	10000	337	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG64-22	
713	34										714		33	441	10200	747	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446)	
22											22			441	50400	22	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
30											30			441	50600	30	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)	
104											104			441	50701	104	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN	27
528											528			442	20051	528	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (448), AS PER PLAN	25
623											623			442	20250	623	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (448)	
205											205			SPECIAL	45130000	205	FT	PRESSURE RELIEF JOINT, TYPE A	
161											161			452	10050	161	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
17											17			452	12050	17	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
51											51			609	10000	51	FT	ASPHALT CONCRETE CURB, TYPE 1	
2071											2071			609	12000	2071	FT	COMBINATION CURB AND GUTTER, TYPE 2	
50											50			609	12001	50	FT	COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN	25
2073	46							149			2222		46	609	26000	2268	FT	CURB, TYPE 6	
118											118			609	26001	118	FT	CURB, TYPE 6, AS PER PLAN	25
								155			155			609	28000	155	FT	CURB, TYPE 7	
10											10			609	52000	10	CY	4" CONCRETE TRAFFIC ISLAND	
43											43			617	10101	43	CY	COMPACTED AGGREGATE, AS PER PLAN	25
758											758			617	20000	758	SY	SHOULDER PREPARATION	
3											3			617	25000	3	MGAL	WATER	
0.82											0.82			618	40600	0.82	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	
																		WATER WORK	
				255							203		52	SPECIAL	63850000	255	FT	6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (AKRON SPECIFICATIONS)	34
				883							713		170	SPECIAL	63850100	883	FT	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (AKRON SPECIFICATIONS)	34
				6							6			SPECIAL	63850110	6	FT	10" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (AKRON SPECIFICATIONS)	34
				54							54			SPECIAL	63850120	54	FT	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (AKRON SPECIFICATIONS)	34
				148							148			SPECIAL	63850150	148	FT	16" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (AKRON SPECIFICATIONS)	34
				1707							1461		246	SPECIAL	63850220	1707	FT	24" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (AKRON SPECIFICATIONS)	34
				8									8	SPECIAL	63850224	8	FT	30" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS (AKRON SPECIFICATIONS)	34
				255							203		52	638	51070	255	FT	POLYETHYLENE ENCASEMENT, 6" PIPE (AKRON SPECIFICATIONS)	35
				883							713		170	638	51070	883	FT	POLYETHYLENE ENCASEMENT, 8" PIPE (AKRON SPECIFICATIONS)	35
				6							6			638	51070	6	FT	POLYETHYLENE ENCASEMENT, 10" PIPE (AKRON SPECIFICATIONS)	35
				54							54			638	51070	54	FT	POLYETHYLENE ENCASEMENT, 12" PIPE (AKRON SPECIFICATIONS)	35
				148							148			638	51070	148	FT	POLYETHYLENE ENCASEMENT, 16" PIPE (AKRON SPECIFICATIONS)	35
				1707							1461		246	638	51070	1707	FT	POLYETHYLENE ENCASEMENT, 24" PIPE (AKRON SPECIFICATIONS)	35
				8									8	638	51070	8	FT	POLYETHYLENE ENCASEMENT, 30" PIPE (AKRON SPECIFICATIONS)	35
				14							12		2	SPECIAL	63851090	14	EACH	6" GATE VALVE WITH VALVE BOX, COMPLETE (AKRON SPECIFICATIONS)	35
				7							5		2	SPECIAL	63851100	7	EACH	8" GATE VALVE WITH VALVE BOX, COMPLETE (AKRON SPECIFICATIONS)	35
				1							1			SPECIAL	63851120	1	EACH	12" GATE VALVE WITH VALVE BOX, COMPLETE (AKRON SPECIFICATIONS)	35
				2							2			SPECIAL	63851200	2	EACH	16" BUTTERFLY VALVE WITH VALVE BOX, COMPLETE (AKRON SPECIFICATIONS)	35

CALCULATED AJE
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GENERAL SUMMARY

SUM-76/77-11.27/12.12

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9/16/2014
8:42:13 PM
SSCHUSTER

SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	38	190	193	200	204	205			571	572	01/IMS/OT	02/BRO/BR	03/NFA/OT/AKRN						
																		WATER WORK (CONTINUED)	
					2	1					2		1	SPECIAL	63851208	3	EACH	24" BUTTERFLY VALVE WITH VALVE BOX, COMPLETE (AKRON SPECIFICATIONS)	35
					4						2		2	SPECIAL	63851400	4	EACH	FURNISHING AND SETTING 6" HYDRANT, COMPLETE (AKRON SPECIFICATIONS)	35
					4						4			638	98000	4	EACH	WATER WORK, MISC.: FIRE HYDRANT REMOVED AND RESET	37
					224	128					188		164	638	98600	352	FT	WATER WORK, MISC.: TRENCHES FOR WATER SERVICES IN EARTH	34
					224	128					188		164	638	98600	352	FT	WATER WORK, MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES	37
																		SANITARY SEWER	
	200										200			611	00900	200	FT	6" CONDUIT, TYPE B	
	200										200			611	01100	200	FT	6" CONDUIT, TYPE C	
				6							6			611	97200	6	EACH	CONDUIT, MISC.: 6 INCH SHORT HOUSE LATERAL, 707.20	42
				10							10			611	97400	10	FT	CONDUIT, MISC.: 8 INCH SANITARY SEWER, 706.08, CLASS "B" BEDDING	42
				249							249			611	97400	249	FT	CONDUIT, MISC.: 8 INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING	42
				633							633			611	97400	633	FT	CONDUIT, MISC.: 12 INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING	42
				4							4			611	99575	4	EACH	MANHOLE, NO. 3, AS PER PLAN	38
				7							7			611	99655	7	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	38
				2							2			611	99661	2	EACH	MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN	38
																		LIGHTING	
										8	8			625	00480	8	EACH	CONNECTION, UNFUSED PERMANENT	
										1	1			625	11200	1	EACH	LIGHT TOWER, BB100	
										1	1			625	11300	1	EACH	LIGHT TOWER, BB110	
										1	1			625	11400	1	EACH	LIGHT TOWER, BB120	
										3	3			625	15100	3	EACH	LIGHT TOWER FOUNDATION, 36" X 20' DEEP	
										418	418			625	23200	418	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
										1908	1908			625	24100	1908	FT	1-1/2" DUCT CABLE WITH TWO NO. 4 AWG 5000 VOLT CABLES	
										189	189			625	25902	189	FT	CONDUIT, 3", JACKED OR DRILLED, 725.04	
										6	6			625	26261	6	EACH	LUMINAIRE, HIGH MAST, 1000W, HPS, TYPE III, 480V, AS PER PLAN	571
										1735	1735			625	29002	1735	FT	TRENCH, 24" DEEP	
										5	5			625	30700	5	EACH	PULL BOX, 725.08, 18"	
										6	6			625	32000	6	EACH	GROUND ROD	
										1	1			625	34451	1	EACH	CONTROL CENTER CABINET, COMPLETE, AS PER PLAN	571
										1735	1735			625	36000	1735	FT	PLASTIC CAUTION TAPE	
										1	1			625	37100	1	EACH	SERVICE TO UNDERPASS LIGHTING	
									5		5			625	39520	5	EACH	PULL BOX CLEANED	571
									LS		LS			SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	571
									2		2			SPECIAL	62540010	2	EACH	REPLACEMENT OF EXISTING LIGHTING UNIT	571
										9	9			625	75400	9	EACH	LIGHT POLE REMOVED	
										3	3			625	75500	3	EACH	LIGHT POLE FOUNDATION REMOVED	
										9	9			625	75801	9	EACH	DISCONNECT CIRCUIT, AS PER PLAN	571
										LS	LS			625	98200	LS		LIGHTING, MISC.: RECONNECT UNDERPASS LIGHTING	571
																		TRAFFIC CONTROL	
																		FOR TRAFFIC CONTROL GENERAL SUMMARY	398
																		TRAFFIC SIGNALS	
																		FOR TRAFFIC SIGNALS GENERAL SUMMARY	554
																		RETAINING WALLS	
																		FOR JOHNSTON STREET RETAINING WALL GENERAL SUMMARY	376
																		FOR JOHNSTON STREET MODULAR BLOCK WALL GENERAL SUMMARY	381
			4186								4186			840	20001	4186	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN (TEMPORARY)	27
			95300								95300			840	23001	95300	CY	SELECT GRANULAR BACKFILL, AS PER PLAN	25
			5636								5636			840	23050	5636	CY	NATURAL SOIL	
																		BUILDING DEMOLITION	
		LS									LS			202	56000	LS		BUILDING DEMOLISHED: PARCEL NO. 15, 2 STORY FRAME BLDG, GARAGE, WALK	
		LS									LS			202	56000	LS		BUILDING DEMOLISHED: PARCEL NO. 16, 2 STORY FRAME BLDG, GARAGE, STEPS, WALK	
		LS									LS			202	56000	LS		BUILDING DEMOLISHED: PARCEL NO. 21, 2 STORY BLDG, BOLLARDS, STONE WALLS, WALK, GATE, SHED,	
																		FENCE, FLAGPOLES, SIGN, YARD LIGHTS	
		LS									LS			202	56000	LS		BUILDING DEMOLISHED: PARCEL NO. 22, 2 STORY FRAME BLDG, SHED, WALL, CONC. STEPS, WALK	
																		STRUCTURE REPAIR (SUM-76-1127)	
																		FOR STRUCTURE SUM-76-1127 GENERAL SUMMARY	582
																		STRUCTURES	
																		FOR STRUCTURE SUM-76-1137L GENERAL SUMMARY	633
																		FOR STRUCTURE SUM-76-1137R GENERAL SUMMARY	633
																		FOR STRUCTURE SUM-77-1212R GENERAL SUMMARY	633
																		MAINTENANCE OF TRAFFIC	
																		FOR MAINTENANCE OF TRAFFIC GENERAL SUMMARY	52
																		INCIDENTALS	
											LS			SPECIAL	10810000	LS		CPM PROGRESS SCHEDULE	
											LS			614	11000	LS		MAINTAINING TRAFFIC	
											27			619	16020	27	MNTH	FIELD OFFICE, TYPE C	
											LS			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS			624	10000	LS		MOBILIZATION	

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

CALCULATED AJE CHECKED CWL

GENERAL SUMMARY

SUM-76/77-11.27/12.12

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ARGILLAND

SHEET NO.	202 RAILROAD CROSSING REMOVED	202 PAVEMENT REMOVED	202 PAVEMENT REMOVED, ASPHALT	202 GUTTER REMOVED	202 WALK REMOVED	202 STEPS REMOVED	202 CONCRETE BARRIER REMOVED	202 CURB REMOVED	202 CURB AND GUTTER REMOVED	202 CONCRETE SLOPE PROTECTION REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 GUARDRAIL REMOVED	202 BUILDING DEMOLISHED: PARCEL NO. 15, 2 STORY FRAME BLDG, GARAGE, WALK	202 BUILDING DEMOLISHED: PARCEL NO. 16, 2 STORY FRAME BLDG, GARAGE, STEPS, WALK	202 BUILDING DEMOLISHED: PARCEL NO. 21, 2 STORY BLDG, BOLLARDS, STONE WALLS, WALK, GATE, SHED, FENCE, FLAGPOLES, SIGN, YARD LIGHTS	202 BUILDING DEMOLISHED: PARCEL NO. 22, 2 STORY FRAME BLDG, SHED, WALL, CONC. STEPS, WALK	202 MANHOLE REMOVED	202 CATCH BASIN REMOVED	202 INLET REMOVED	202 CATCH BASIN ABANDONED	202 MANHOLE ABANDONED	202 INLET ABANDONED	
	LS	SY	SY	SY	SF	FT	FT	FT	FT	SY	FT	FT	FT	LS	LS	LS	LS	EACH	EACH	EACH	EACH	EACH	EACH	
194							200														2	9	2	
195																		3	8	15				
196													1661											
197											454													
198											360	53												
199	LS	1126	2247			68				2600				LS	LS	LS	LS							
209		12305	2269	413	21087			4270	101															
TOTALS CARRIED TO GENERAL SUMMARY	LS	13431	4516	413	21087	68	200	4270	101	2600	814	53	1661	LS	LS	LS	LS	3	8	15	2	9	2	

SHEET NO.	SPECIAL FILL AND PLUG EXISTING CONDUIT	202 FENCE REMOVED	202 FENCE REMOVED, AS PER PLAN	202 REMOVAL MISC.: ROCK GARDEN	202 REMOVAL MISC.: BENCH REMOVED AND RESET	202 REMOVAL MISC.: BOLLARD	606 GUARDRAIL, TYPE MGS	606 GUARDRAIL, TYPE MGS WITH LONG POSTS	606 GUARDRAIL, BARRIER DESIGN, TYPE MGS	606 ANCHOR ASSEMBLY, MGS TYPE E	606 ANCHOR ASSEMBLY, MGS TYPE T	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	607 FENCE, TYPE CLT	607 FENCE, TYPE CLT, AS PER PLAN	607 FENCELINE SEEDING AND MULCHING	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B1	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	622 CONCRETE BARRIER END SECTION, TYPE B1	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	622 BARRIER TRANSITION	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	626 BARRIER REFLECTOR, TYPE A *	626 BARRIER REFLECTOR, TYPE B *	
	FT	FT	FT	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH
194																	302	82	1	1	1	3		
196	1462	2250	303				2007	550	50	1	1	2	4	1586	303	1586							45	16
199		231		1	1	2																		
BARRIER INLET DEDUCTIONS																		-40						
* QUANTITY CARRIED TO TRAFFIC CONTROL SUMMARY ON SHEET 398																								
TOTALS CARRIED TO GENERAL SUMMARY	1462	2481	303	1	1	2	2007	550	50	1	1	2	4	1586	303	1586	302	42	1	1	1	3	61	

CALCULATED AJE CHECKED CWL

ROADWAY SUBSUMMARY

SUM-76/77-11.27/12.12

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ARGILLAND

SHEET NO.	601 TIED CONCRETE BLOCK MAT, TYPE 1 SY	601 PAVED GUTTER, TYPE 1-2, AS PER PLAN FT		605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 TYPE CP OR 707.41 FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" ROCK CUT UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT		611 12" CONDUIT, TYPE B, 706.08 FT	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT	611 12" CONDUIT, TYPE B FT	611 12" CONDUIT, TYPE C FT	611 15" CONDUIT, TYPE B FT	611 15" CONDUIT, TYPE C FT	611 15" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21 FT	611 18" CONDUIT, TYPE B FT	611 24" CONDUIT, TYPE B FT	611 24" CONDUIT, TYPE C FT	611 60" CONDUIT, TYPE B, 706.03, AS PER PLAN FT	611 24" CONDUIT, TYPE B, 706.08 FT	
195		198																					
197										8		432	9	523	94	170	182	324	182	347	5		
201				1429	160	37		6722			221												
202	4			117	52	68	264	1724			317												
TOTALS CARRIED TO GENERAL SUMMARY	4	198		1546	212	105	264	8446		8	538	432	9	523	94	170	182	324	182	347	5		

SHEET NO.	611 CATCH BASIN, NO. 3 EACH	611 CATCH BASIN, NO. 3A EACH	611 CATCH BASIN, NO. 2-2B EACH	611 CATCH BASIN, NO. 2-3 EACH	611 CATCH BASIN ADJUSTED TO GRADE EACH			611 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1 EACH		611 MANHOLE, NO.3 EACH		611 PRECAST REINFORCED CONCRETE OUTLET EACH		611 JUNCTION CHAMBER, AS PER PLAN, TYPE 1 EACH	611 JUNCTION CHAMBER, AS PER PLAN, TYPE 2 EACH		660 SODDING UNSTAKED SY		670 DITCH EROSION PROTECTION SY			
194	2	14	4					2		6				1	1							
195				1	1					2							33		1662			
202												2										
TOTALS CARRIED TO GENERAL SUMMARY	2	14	4	1	1			2		8		2		1	1		33		1662			

CALCULATED AJE CHECKED CWL

EROSION CONTROL AND DRAINAGE SUBSUMMARY

SUM-76/77-11.27/12.12

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AROLLAND

SHEET NO.	STATION TO STATION		203 EXCAVATION	203 EMBANKMENT	204 EXCAVATION OF SUBGRADE	204 GRANULAR MATERIAL, TYPE B, AS PER PLAN	204 GEOTEXTILE FABRIC	659 SEEDING AND MULCHING (SM)	659 SEEDING AND MULCHING, CLASS 3B (SM3B)	659 SOIL ANALYSIS TEST	659 TOPSOIL	659 REPAIR SEEDING AND MULCHING (0.05*(SM+SM3B))	659 INTER-SEEDING (0.05*(SM+SM3B))	659 COMM. FERTILIZER ([30*(SM+SM3B)]+ (20*.05*(SM+SM3B))*9 /1000*2000)	659 LIME (SM+SM3B)/14840)	659 WATER ([2*300*(SM+SM3B) +(300*0.05*(SM+SM3B))*9 /1000*1000)	670 SLOPE EROSION PROTECTION	840 MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	840 SELECT GRANULAR BACKFILL, AS PER PLAN	840 NATURAL SOIL	861 GEOGRID FOR SUBGRADE STABILIZATION	863 GEOGRID, TYPE P3	863 REINFORCED EMBANKMENT, AS PER PLAN	878 INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS
			CY	CY	CY	CY	SY	SY	SY	EACH	CY	SY	SY	TON	ACRE	MGAL	SY	SF	CY	CY	SY	SY	CY	LS
	WB-76, EB-76, LANE O, RAMP P (PHASE 12)																							
275	520+00.79	521+00.00	19	13				112																
			53	53																				
276	521+41.15	523+50.17	33	14				87											6					
			32	32																				
277	524+00.00	4+00.00	774	2				1664	287								206	702	11470	943		3955	2669	
			740															498	740					
278	4+50.00	6+00.00	662					3561	994		127						994	2182	48151	1992		15570	9901	
																		200						
279	6+50.00	7+50.00	1977					2629	320		89						320	604	23844	1394		3720	2631	LS
280	7+75.74	9+00.00	132					2099			71								8927	1106				
			786																786					
281	9+13.57	10+45.34	49					596											609	192				
			187																187					
282	10+50.00	12+00.00	28					203											7	9				
			573																573					
283	12+50.00																							
	JOHNSTON STREET																							
284	0+25.00	0+50.00	150	10	138	138	205	124													199			
285	0+75.00	1+00.00	204	15	124	124	184	112													178			
286	1+25.00	1+50.00	204	17	124	124	184	108													178			
287	1+75.00	2+00.00	101	7	69	69	103	32													99			
288	2+02.95	2+25.00	152	12	117	117	173	44													167			
289	2+50.00	2+75.00	206	2	124	124	184	102													178			
290	3+00.00	3+50.00	141	85				220			3													
291	3+75.00	4+25.00	1378	35	18	18		411			29													
292	4+43.50	4+75.00	1554	10	98	98		425			31													
293	5+00.00	5+25.00	1223	9	86	86		364			26													
294	5+50.00	5+75.00	954	83	65	65		338			27													
295	6+00.00	6+16.36	163	178				161			11													
296	6+25.00	6+50.00	808	4				284			19													
297	6+75.00		237	2				128			8													
298	7+00.00	7+25.00	597	3				195			15													
299	7+50.00	7+75.00	661	21				358			18													
300	8+00.00	8+25.00	431	107				423			16													
301	8+50.00	8+75.00	107	134				324			20													
302	9+00.00	9+25.00	35	117				250																
303	9+50.00	10+00.00	67	75				265																
304	10+24.19	10+50.00	37	47				254																
305	10+75.00	11+06.75	39	1				167																
306	11+25.00	11+50.00	0	0				0																
307	11+75.00	12+00.00	0	0				0																
	SPICER STREET																							
308	14+75.00	14+97.25	1	0				2																
309	15+00.00	15+25.00	19	1				43																
310	15+47.39	15+50.00	13	6				50																
311	15+75.00	16+00.00	35	20				74																
	HEDDEN AVENUE																							
312	18+75.00	19+06.59	13	0				11																
313	19+25.00	19+50.00	20	0				17																
SUBTOTALS CARRIED TO SHEET 193			15595	1115	963	963	1033	16237	1601		510						1520	4186	95300	5636	999	23245	15201	LS

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

CALCULATED AJE CHECKED CWL

EARTHWORK SUBSUMMARY AND CALCULATIONS

SUM-76/77-11.27/12.12

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ARDLAND

SHEET NO.	STATION TO STATION		203 EXCAVATION CY	203 EMBANKMENT CY	204 EXCAVATION OF SUBGRADE CY	204 GRANULAR MATERIAL, TYPE B, AS PER PLAN CY	204 GEOTEXTILE FABRIC SY	659 SEEDING AND MULCHING (SM) SY	659 SEEDING AND MULCHING, CLASS 3B (SM3B) SY	659 SOIL ANALYSIS TEST EACH	659 TOPSOIL ((111*(SM+SM3B))/1000) CY	659 REPAIR SEEDING AND MULCHING (0.05*(SM+SM3B)) SY	659 INTER-SEEDING (0.05*(SM+SM3B)) SY	659 COMM. FERTILIZER ([30*(SM+SM3B))+ (20*.05*(SM+SM3B))]*9 /1000*2000) TON	659 LIME (SM+SM3B)/14840) ACRE	659 WATER [(2*300*(SM+SM3B) +(300*0.05*(SM+SM3B))]*9 /1000*1000) MGAL	670 SLOPE EROSION PROTECTION SY	840 MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN SF	840 SELECT GRANULAR BACKFILL, AS PER PLAN CY	840 NATURAL SOIL CY	861 GEOGRID FOR SUBGRADE STABILIZATION SY	863 GEOGRID, TYPE P3 SY	863 REINFORCED EMBANKMENT, AS PER PLAN CY	878 INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS LS
	BROWN STREET																							
314	14+50.00	15+00.00	36	0				39																
315	15+50.00	16+00.00	49	68				116																
316	16+50.00	17+00.00	108	83				189																
317	17+50.00	18+00.00	157	3				28																
318	18+50.00	19+00.00	120	1				80																
319	19+50.00	20+00.00	74	0				14																
320	20+50.00	21+00.00	7	0				2																
	SOUTH STREET																							
321	22+00.00	22+50.00	17	16				50																
322	22+75.00	23+20.61	147	73				144																
323	23+25.00	23+50.00	164	60				128																
324	23+75.00	24+00.00	35	20				110																
325	24+17.85	24+25.00	6	3				59																
326	24+50.00	24+75.00	15	2				82																
327	25+00.00	25+25.00	24	0				67																
328	25+50.00	25+75.00	30	0				68																
329	26+00.00	26+94.91	23	0				0																
	LAMPARTER STREET																							
330	0+25.00	0+55.58	9	50				63																
331	0+75.00	0+87.37	16	0				16																
332	0+98.00	1+25.00	0	0				0																
SUBTOTALS THIS SHEET			1037	379				1255																
SUBTOTALS SHEET 192			15595	1115	963	963	1033	16237	1601		510						1520	4186	95300	5636	999	23245	15201	LS
TOTALS CARRIED TO THE GENERAL SUMMARY			16632	1494	963	963	1033	17492	1601	2	2629	955	955	2.66	3.94	106	1520	4186	95300	5636	999	23245	15201	LS

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

CALCULATED AJE
CHECKED CWL

EARTHWORK SUBSUMMARY AND CALCULATIONS

SUM-76/77-11.27/12.12

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AROLLAND

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 CONCRETE BARRIER REMOVED FT	202 CATCH BASIN ABANDONED EACH	202 MANHOLE ABANDONED EACH	202 INLET ABANDONED EACH	611 CATCH BASIN, NO. 3 EACH	611 CATCH BASIN, NO. 3A EACH	611 CATCH BASIN, NO. 2-2B EACH	611 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1 EACH	611 JUNCTION CHAMBER, AS PER PLAN, TYPE 1 EACH	611 JUNCTION CHAMBER, AS PER PLAN, TYPE 2 EACH	611 MANHOLE, NO.3 EACH		622 CONCRETE BARRIER END SECTION, TYPE B1 EACH	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1 EACH	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 FT	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE C1 FT	622 BARRIER TRANSITION EACH	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN EACH
AB-1	362	19+37.75 (SPICER ST)		RT			1															
AB-2	362	21+38.32 (OLD JOHNSTON ST)		LT			1															
AB-3	362	18+37.88 (OLD JOHNSTON ST)		LT			1															
AB-4	362	18+03.78 (OLD JOHNSTON ST)		RT			1															
AB-5	362	21+26.18 (OLD JOHNSTON ST)		LT		1																
AB-6	228	4+62.30 (JOHNSTON ST)		RT			1															
AB-7	362	6+14.00 (JOHNSTON ST)		RT			1															
AB-9	235	18+99.38 (BROWN ST)		RT			1															
AB-10	229	8+81.49 (JOHNSTON ST)		RT				1														
AB-11	362	18+18.10 (OLD JOHNSTON ST)		LT				1														
AB-12	362	5+41.86 (JOHNSTON ST)		RT			1															
AB-13	228	4+83.63 (JOHNSTON ST)		RT			1															
AB-14	235	25+88.38 (SOUTH ST)		RT		1																
B-1	219	520+85.00 (E.B. I-76)	521+41.24 (E.B. I-76)	LT																36.24	1	2
B-2	219	523+49.88 (E.B. I-76)	523+95.00 (E.B. I-76)	LT														1		45.12		1
B-3	219	523+95.00 (E.B. I-76)	527+26.84 (E.B. I-76)	LT													1		301.84			
BR-1	219	520+85.00 (E.B. I-76)	521+41.24 (E.B. I-76)	LT	56.24																	
BR-2	219	523+49.88 (E.B. I-76)	524+92.66 (E.B. I-76)	LT	142.78																	
D-1	230	10+91.45 (JOHNSTON ST)		RT						1												
D-2	229	9+23.53 (JOHNSTON ST)		LT						1												
D-3	232	9+06.08 (JOHNSTON ST)		LT						1												
D-4	232	19+42.08 (HEDDEN AVE)		RT						1												
D-5	229	8+97.05 (JOHNSTON ST)		LT												1						
D-6	236	23+28.17 (SOUTH ST)		RT									1									
D-7	221	528+61.30 (E.B. I-76)		RT												1						
D-10	219	523+67.74 (E.B. I-76)		LT								1										
D-13	236	26+04.87 (SOUTH ST)		RT						1												
D-16	215	3+92.29 (W.B. I-76)		RT							1											
D-17	215	29+08.58 (LANE O)		LT							1											
D-18	219	521+28.50 (E.B. I-76)		RT						1												
D-19	213	521+23.50 (E.B. I-76)		LT								1										
D-20	213	521+19.54 (W.B. I-76)		LT						1												
D-21	237	0+70.00 (LAMPARTER ST)		LT						1												
D-22	233	17+61.00 (BROWN ST)		RT						1												
D-23	237	0+39.42 (LAMPARTER ST)		RT						1												
D-24	233	15+83.00 (BROWN ST)		RT						1												
D-25	233	16+79.51 (BROWN ST)		RT												1						
D-26	233	16+29.01 (BROWN ST)		LT						1												
D-27	233	17+16.29 (BROWN ST)		LT						1												
D-28	228	16+79.51 (BROWN ST)		LT												1						
D-29	228	1+74.18 (JOHNSTON ST)		LT					1													
D-30	228	1+74.18 (JOHSNTON ST)		RT					1													
D-31	228	1+68.90 (JOHNSTON ST)		RT												1						
D-32	228	2+59.41 (JOHNSTON ST)		RT												1						
D-34	228	3+75.00 (JOHNSTON ST)		RT							1											
D-35	228	3+63.35 (JOHNSTON ST)		RT										1								
D-36	228	4+01.10 (JOHNSTON ST)		LT						1												
D-37	228	2+50.00 (JOHNSTON ST)		RT							1											
TOTALS CARRIED TO SUBSUMMARY ON SHEETS 190,191					200	2	9	2	2	14	4	2	1	1	6		1	1	302	82	1	3

CALCULATED AJE CHECKED CWL

ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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9/29/2014
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ARDLLAND

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 MANHOLE REMOVED EACH	202 CATCH BASIN REMOVED EACH	202 INLET REMOVED EACH	601 PAVED GUTTER, TYPE 1-2, AS PER PLAN FT	611 CATCH BASIN, NO. 2-3 EACH	611 CATCH BASIN ADJUSTED TO GRADE EACH		611 MANHOLE, NO.3 EACH		660 SODDING UNSTAKED SY	670 DITCH EROSION PROTECTION SY							
D-38	237	0+39.42 (LAMPARTER ST)		LT								1										
D-39	229	8+69.99 (JOHNSTON ST)		RT								1										
D-41	236	526+76.27 (E.B. I-76)		RT					1													
DJ-5	236	22+67.35 (SOUTH ST)		LT						1												
DR-1	236	26+05.26 (SOUTH ST)		RT			1															
DR-2	362	21+17.43 (OLD JOHNSTON ST)		RT			1															
DR-3	236	22+79.90 (SOUTH ST)		RT			1															
DR-4	234	0+39.06 (LAMPARTER ST)		LT		1																
DR-6	228	4+95.97 (JOHNSTON ST)		RT		1																
DR-8	229	5+33.88 (JOHNSTON ST)		RT			1															
DR-9	229	6+04.44 (JOHNSTON ST)		LT			1															
DR-10	229	6+14.76 (JOHNSTON ST)		LT		1																
DR-11	229	6+15.43 (JOHNSTON ST)		LT	1																	
DR-12	362	18+33.89 (OLD JOHNSTON ST)		RT		1																
DR-13	232	19+68.09 (HEDDEN AVE)		RT			1															
DR-14	232	19+33.60 (HEDDEN AVE)		LT			1															
DR-15	234	0+38.79 (LAMPARTER ST)		LT			1															
DR-16	234	16+95.72 (BROWN ST)		RT			1															
DR-17	234	0+31.63 (LAMPARTER ST)		RT			1															
DR-18	234	16+38.54 (BROWN ST)		RT			1															
DR-19	234	16+39.85 (BROWN ST)		LT			1															
DR-20	234	0+50.20 (JOHNSTON ST)		RT		1																
DR-23	229	8+69.99 (JOHNSTON ST)		RT	1																	
DR-25	229	9+27.68 (JOHNSTON ST)		LT			1															
DR-27	362	17+52.74 (OLD JOHNSTON ST)		RT		1																
DR-28	219	523+44.46 (W.B. I-76)		RT			1															
DR-29	219	523+61.38 (E.B. I-76)		RT		1																
DR-30	362	21+15.41 (OLD JOHNSTON ST)		LT			1															
DR-31	230	10+91.45 (JOHNSTON ST)		RT		1																
DR-32	229	5+29.74 (JOHNSTON ST)		RT	1																	
E-1	228	0+75.00 (JOHNSTON ST)	2+70.21 (JOHNSTON ST)	RT				197.16						32.86								
E-2	223,225	23+02.46 (LANE O)	27+53.42 (LANE O)	LT											308.18							
E-3	221	525+18.86 (E.B. I-76)	529+01.66 (E.B. I-76)	LT											371.34							
E-4	221	526+76.27 (E.B. I-76)	528+15.32 (E.B. I-76)	RT											112.83							
E-5	228,229	3+49.85 (JOHNSTON ST)	5+50.00 (JOHNSTON ST)	RT											240.80							
E-6	225	5+98.12 (RAMP P)	4+05.64 (RAMP P)	RT											151.70							
E-7	229,230	9+04.87 (JOHNSTON ST)	10+75.00 (JOHNSTON ST)	RT											154.20							
E-8	229	5+50.00 (JOHNSTON ST)	9+04.87 (JOHNSTON ST)	RT											322.04							
TOTALS CARRIED TO SUBSUMMARY ON SHEETS 190,191					3	8	15	198	1	1		2		33	1662							

CALCULATED AJE CHECKED CWL

ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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ESTIMATED QUANTITIES

CALCULATED AJE CHECKED CWL

SUM-76/77-11.27/12.12

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED	202 FENCE REMOVED	SPECIAL FILL AND PLUG EXISTING CONDUIT	202 FENCE REMOVED, AS PER PLAN	606 GUARDRAIL, TYPE MGS	606 GUARDRAIL, TYPE MGS WITH LONG POSTS	606 GUARDRAIL, BARRIER DESIGN, TYPE MGS	606 ANCHOR ASSEMBLY, MGS TYPE E	606 ANCHOR ASSEMBLY, MGS TYPE T	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	607 FENCE, TYPE CLT	607 FENCE, TYPE CLT, AS PER PLAN	607 FENCELINE SEEDING AND MULCHING		626 BARRIER REFLECTOR, TYPE A	626 BARRIER REFLECTOR, TYPE B
					FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	FT	FT	FT		EACH	EACH
F-1	634	0+98.00 (LAMPARTER ST)	19+22.28 (BROWN ST)	RT												151	149	151			
F-2	634	0+51.01 (JOHNSTON ST)	528+32.76 (E.B. I-76)	RT												656	154	656			
F-3	634	2+65.04 (JOHNSTON ST)	10+10.27 (JOHNSTON ST)	RT												779		779			
FP-1	362	16+61.27 (SPICER ST)	19+62.99 (SPICER ST)	RT			306														
FP-2	362	18+37.88 (OLD JOHNSTON ST)	21+38.32 (OLD JOHNSTON ST)	LT			303														
FP-3	362	21+38.32 (OLD JOHNSTON ST)	21+67.24 (OLD JOHNSTON ST)	LT/RT			53														
FP-4	362	20+64.46 (OLD JOHNSTON ST)	21+25.40 (OLD JOHNSTON ST)	LT			131														
FP-5	362	18+05.35 (OLD JOHNSTON ST)	18+36.31 (OLD JOHNSTON ST)	LT/RT			39														
FP-6	362	15+77.24 (OLD JOHNSTON ST)	18+01.78 (OLD JOHNSTON ST)	RT			225														
FP-8	362	21+26.96 (OLD JOHNSTON ST)	21+37.48 (OLD JOHNSTON ST)	LT			25														
FP-9	228	3+85.18 (JOHNSTON ST)	4+60.30 (JOHNSTON ST)	RT			70														
FP-10	362	4+64.28 (JOHNSTON ST)	6+12.02 (JOHNSTON ST)	RT			149														
FP-11	362	6+14.00 (JOHNSTON ST)	6+78.16 (JOHNSTON ST)	RT			77														
FP-12	228,229	4+63.82 (JOHNSTON ST)	5+28.22 (JOHNSTON ST)	RT			84														
FR-1	634	0+98.00 (LAMPARTER ST)	19+22.28 (BROWN ST)	RT		156		149													
FR-2	634	3+25.76 (JOHNSTON ST)	23+46.98 (SOUTH ST)	RT		724		154													
FR-3	634	16+56.84 (SPICER ST)	19+70.35 (SPICER ST)	RT		314															
FR-4	634	10+10.27 (JOHNSTON ST)	528+32.76 (E.B. I-76)	RT		832															
FR-5	634	9+79.05 (JOHNSTON ST)	10+10.27 (JOHNSTON ST)	RT		224															
G-1	219	520+77.67 (E.B. I-76)	521+49.35 (E.B. I-76)	RT					43.75					1							
G-2	219,221	523+57.57 (E.B. I-76)	529+14.42 (E.B. I-76)	RT						550.00					1						
G-3	221	527+24.85 (E.B. I-76)	529+49.47 (E.B. I-76)	LT					225.00						1						
G-4	213	520+77.22 (W.B. I-76)	521+39.07 (W.B. I-76)	LT					62.50						1						
G-5	223,225	30+85.52 (LANE O)	22+14.99 (LANE O)	RT					862.50					1							
G-6	215	4+86.99 (W.B. I-76)	5+36.99 (W.B. I-76)	LT							50										
G-7	215,217	5+36.99 (W.B. I-76)	12+11.06 (W.B. I-76)	LT					675.00						1						
G-8	213,215	524+21.42 (W.B. I-76)	4+92.50 (W.B. I-76)	RT					137.50			1	1								
GR-1	219	520+77.67 (E.B. I-76)	521+58.84 (E.B. I-76)	RT	80																
GR-2	219	523+50.11 (E.B. I-76)	525+02.67 (E.B. I-76)	RT	151																
GR-3	221	528+26.51 (E.B I-76)	529+14.42 (E.B. I-76)	RT	90																
GR-4	221	529+11.62 (E.B. I-76)	529+49.47 (E.B. I-76)	LT	38																
GR-5	213	523+92.69 (E.B. I-76)	524+92.30 (E.B. I-76)	LT	102																
GR-6	213	520+77.22 (W.B. I-76)	521+48.77 (W.B. I-76)	LT	73																
GR-7	223	523+35.10 (W.B. I-76)	3+59.75 (W.B. I-76)	LT	155																
GR-8	215,217	8+50.54 (W.B. I-76)	12+09.72 (W.B. I-76)	LT	360																
GR-9	215,217	8+08.48 (W.B. I-76)	11+55.40 (W.B. I-76)	RT	348																
GR-10	225	6+55.80 (RAMP P)	5+38.23 (RAMP P)	RT	116																
GR-11	225	23+77.42 (LANE O)	22+24.60 (LANE O)	LT	148																
REFLECTORS																					
	213,223,225	G-4	G-5	RT																16	4
	215,217	G-6	G-7	LT																9	
	213,215	G-8	G-8	RT																3	
	219	B-1	B-2	RT																5	
	219,221	B-1	G-3	LT																4	8
	219,221	G-1	G-2	RT																8	4
TOTALS CARRIED TO SUBSUMMARY ON SHEET 190					1661	2250	1462	303	2007	550	50	1	1	2	4	1586	303	1586		45	16

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED, 24" AND UNDER	611 12" CONDUIT, TYPE B, 706.08	611 12" CONDUIT, TYPE B	611 12" CONDUIT, TYPE C	611 15" CONDUIT, TYPE B	611 15" CONDUIT, TYPE C	611 15" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	611 18" CONDUIT, TYPE B	611 24" CONDUIT, TYPE B	611 24" CONDUIT, TYPE C	611 60" CONDUIT, TYPE B, 706.03, AS PER PLAN	611 24" CONDUIT, TYPE B, 706.08						
		FROM	TO		FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT						
P-1	230	D-1	10+94.29 (JOHNSTON ST)	RT		5																
P-2	229	D-2	D-5	LT			26															
P-3	232	D-3	D-5	LT					22													
P-4	232	D-4	D-5	LT/RT			36															
P-5	229	D-5	D-39	LT/RT					33													
P-6	363	D-6	D-35	LT											347							
P-7	221	D-7	D-41	RT										182								
P-10	219,221	D-10	D-16	LT					152													
P-13	236	D-13	26+02.64 (SOUTH ST)	RT		3																
P-16	215	D-16	D-17	LT/RT					57													
P-17	223	D-17	D-37	LT/RT					45		90											
P-18	219	D-18	D-19	LT/RT					67													
P-19	213	D-19	D-20	LT/RT					72													
P-20	213	D-20	D-38	LT					15		80											
P-21	237	D-21	D-38	LT			31															
P-22	233	D-22	D-25	RT			82															
P-23	237	D-23	D-38	LT/RT			25															
P-24	233	D-24	D-25	RT			97															
P-25	234	D-25	D-28	LT								26										
P-26	234	D-26	D-28	LT/RT			50															
P-27	233	D-27	D-28	LT			38															
P-28	228	D-28	D-31	RT								156										
P-29	228	D-29	D-31	LT					18													
P-30	228	D-30	D-31	RT					14													
P-31	228	D-31	D-32	RT									91									
P-32	228	D-32	D-35	RT									88									
P-34	228	D-34	D-35	RT				9														
P-36	228	D-36	D-34	LT/RT			47															
P-37	228	D-37	D-35	RT						94												
P-38	234	D-38	D-25	LT					28													
P-39	229	D-39	EX-1	RT									77									
P-41	236	D-41	SJ-4	RT									52									
P-100	236	D-6	SJ-4	RT									16									
P-101	229	D-39	8+74.80 (JOHNSTON ST)	RT												5						
PR-1	236	DR-1	26+01.77 (SOUTH ST)	RT	5																	
PR-2	362	DR-2	AB-2	RT	36																	
PR-3	236	DR-3	AB-2	RT	60																	
PR-5	228,229	DR-6	AB-8	RT	31																	
PR-8	229	DR-8	AB-8	RT	10																	
PR-9	229	DR-9	DR-11	LT	11																	
PR-10	229	DR-10	DR-11	LT	13																	
PR-12	362	DR-12	AB-7	RT	26																	
PR-13	229	DR-14	DR-23	LT/RT	57																	
PR-14	229	DR-13	DR-23	LT/RT	24																	
PR-15	234	DR-4	SJ-1	RT	50																	
PR-16	234	DR-15	SJ-1	RT	42																	
PR-17	234	DR-16	SJ-1	RT	40																	
PR-18	234	DR-17	SJ-1	RT	28																	
PR-19	234	DR-18	SJ-1	RT	21																	
TOTALS CARRIED TO SUBSUMMARY ON SHEETS 190,191					454	8	432	9	523	94	170	182	324	182	347	5						

CALCULATED AJE
CHECKED CWL

ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"
					FT	FT
PR-20	234	DR-19	SJ-1	LT	20	
PR-21	234	DR-20	SJ-1	LT	50	
PR-22	221	528+48.33 (E.B. I-76)	D-7	RT	13	
PR-23	229	DR-25	DR-23	LT/RT	57	
PR-25	362	DR-27	AB-4	RT	53	
PR-26	219	DR-28	DR-29	LT/RT	75	
PR-27	362	DR-30	AB-2	RT	19	
PR-28	362	526+05.98 (E.B. I-76)	526+35.88 (E.B. I-76)	RT		39
PR-29	230	DR-31	10+94.29 (JOHNSTON ST)	RT	5	
PR-30	228	3+55.68 (JOHNSTON ST)	3+85.18 (JOHNSTON ST)	RT	28	
PR-31	362	3+56.81 (JOHNSTON ST)	D-35	RT		7
PR-32	236	23+15.37 (SOUTH ST)	23+40.21 (SOUTH ST)	RT	40	
PR-33	236	D-6	23+36.47(SOUTH ST)	RT		7
TOTALS CARRIED TO SUBSUMMARY ON SHEET 190					360	53

CALCULATED AJE
CHECKED CWL

ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A)	202 CONCRETE SLOPE PROTECTION REMOVED	202 PAVEMENT REMOVED	202 PAVEMENT REMOVED, ASPHALT	202 BUILDING DEMOLISHED: PARCEL NO. 15, 2 STORY FRAME BLDG, GARAGE, WALK	202 BUILDING DEMOLISHED: PARCEL NO. 16, 2 STORY FRAME BLDG, GARAGE, STEPS, WALK	202 BUILDING DEMOLISHED: PARCEL NO. 21, 2 STORY BLDG, BOLLARDS, STONE WALLS, WALK, GATE, SHED, FENCE, FLAGPOLES, SIGN, YARD LIGHTS	202 BUILDING DEMOLISHED: PARCEL NO. 22, 2 STORY FRAME BLDG, SHED, WALL, CONC. STEPS, WALK	202 REMOVAL MISC.: BENCH REMOVED AND RESET		202 STEPS REMOVED	202 REMOVAL MISC.: ROCK GARDEN	202 REMOVAL MISC.: BOLLARD	202 FENCE REMOVED	202 RAILROAD CROSSING REMOVED
					FT	FT	SF	SY	SY	SY	LS	LS	LS	LS	EACH		FT	EACH	EACH	FT	LS
R-2	335	0+87.37 (LAMPARTER)	6 TREAD	RT		5.00											30.00				
R-3	335	0+55.58 (LAMPARTER)	8 TREAD	RT		4.80											38.40				
R-4	335	0+93.97 (JOHNSTON)		LT	CADD		2185.15		243												
R-5	235	18+70.56 (BROWN)		LT											1						
R-14	335	2+29.73 (JOHNSTON)		LT														1			
R-15	335	2+57.45 (JOHNSTON)		LT							LS										
R-16	335	2+63.47 (JOHNSTON)		LT								LS									
	335	2+71.37 (JOHNSTON)	3+13.30 (JOHNSTON)	LT	CADD		252.35		28												
R-20	335	15+82.06 (SPICER)	16+85.23 (SPICER)																	128	
R-20	335	15+76.14 (SPICER)	16+37.31 (SPICER)	LT	CADD		125.11			14											
R-21	335	6+54.62 (JOHNSTON)		LT									LS								
		15+76.14 (SPICER)	16+93.05 (SPICER)	LT	CADD		3143.90			349											
		15+98.58 (SPICER)	17+75.36 (SPICER)	LT	CADD		2230.83		248												
		16+69.72 (SPICER)	18+96.24 (SPICER)	LT	CADD		4431.33		492												
		4+80.07 (JOHNSTON)	7+01.99 (JOHNSTON)	RT	CADD		16703.00			1856											
		6+00.57 (JOHNSTON)	6+64.27 (JOHNSTON)	RT	CADD		741.44		82												
R-22	335	7+76.11 (JOHNSTON)		LT										LS							
	335	7+94.18 (JOHNSTON)		LT																	
	335	7+96.84 (JOHNSTON)	8+61.64 (JOHNSTON)	LT	CADD		295.86		33												
	335	8+25.79 (JOHNSTON)	8+46.98 (JOHNSTON)	LT	CADD		252.43			28											
R-45	335	23+18.30 (SOUTH)		LT															1		
R-45	335	23+29.79 (SOUTH)		LT																80	
R-46	335	20+54.39 (SOUTH)																	1	23	
R-50	335	17+36.45 (SPICER)	19+33.94 (SPICER)	RT	CADD		10425.29	1158													
R-51	335	20+34.37 (OLD JOHNSTON)	21+19.04 (OLD JOHNSTON)	LT	CADD		5490.36	610													
R-52	335	18+85.01 (OLD JOHNSTON)	19+51.74 (OLD JOHNSTON)	LT	CADD		3837.46	426													
R-53	335	17+06.19 (OLD JOHNSTON)	17+94.84 (OLD JOHNSTON)	LT	CADD		3652.88	406													
R-54	335	19+48.12 (SPICER)		LT																	LS
TOTALS CARRIED TO SUBSUMMARY ON SHEET 190								2600	1126	2247	LS	LS	LS	LS	1		68	1	2	231	LS

CALCULATED AJE CHECKED CWL

ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE			611 CONDUIT, MISC.: 8 INCH SANITARY SEWER, 706.08, CLASS "B" BEDDING FT		611 CONDUIT, MISC.: 6 INCH SHORT HOUSE LATERAL, 707.20 EACH	611 CONDUIT, MISC.: 8 INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING FT	611 CONDUIT, MISC.: 12 INCH SANITARY SEWER, 707.20, CLASS "NR" BEDDING FT	611 MANHOLE, NO. 3, AS PER PLAN (SANITARY) EACH	611 MANHOLE, NO. 3, AS PER PLAN, W/ DROP PIPES (SANITARY) EACH	611 MANHOLE ADJUSTED TO GRADE, AS PER PLAN (SANITARY) EACH	611 MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN (SANITARY) EACH							
SA-3	384	11+19.75 (JOHNSTON ST)		LT								1										
SA-4	383	8+73.16 (JOHNSTON ST)		LT								1										
SA-5	383	6+48.15 (JOHNSTON ST)		RT								1										
SA-6	382	3+48.68 (JOHNSTON ST)		LT									1									
SJ-1	387	16+57.45 (BROWN ST)		LT										1								
SJ-2	387	16+67.53 (BROWN ST)		LT										1								
SJ-3	384	11+14.92 (JOHNSTON ST)		LT										1								
SJ-4	390	23+14.16 (SOUTH ST)		RT											1							
SJ-5	390	23+46.13 (SOUTH ST)		RT										1								
SJ-6	390	25+68.42 (SOUTH ST)		RT										1								
SJ-9	385	15+05.91 (SPICER ST)		RT										1								
SJ-10	388	18+69.15 (BROWN ST)		LT										1								
SJ-11	382	1+76.81 (JOHNSTON ST)		RT											1							
SL-1	385	15+46.81 (SPICER ST)	SP-6	RT					1													
SL-2	385	15+14.84 (SPICER ST)	SP-6	RT					1													
SL-3	383	9+68.52 (JOHNSTON ST)	SP-3	LT					1													
SL-4	384	10+04.43 (JOHNSTON ST)	SP-3	LT					1													
SL-5	384	10+44.29 (JOHNSTON ST)	SP-3	LT					1													
SL-6	384	11+00.56 (JOHNSTON ST)	SP-3	LT					1													
SP-2	384	SA-3	11+24.75	LT						5												
SP-3	383,384	SA-4	SA-3	LT						244												
SP-4	383	SA-5	SA-4	LT/RT							224											
SP-5	382,383	SA-6	SA-5	LT/RT							300											
SP-6	385	SJ-9	SA-6	RT							109											
SP-7	386	SA-4	8+75.22	LT			5															
SP-8	384	SA-3	11+23.03	LT			5															
TOTALS CARRIED TO GENERAL SUMMARY							10		6	249	633	4		7	2							

CALCULATED AJE CHECKED CWL

SANITARY SEWER ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE				605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT		605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 TYPE CP OR 707.41 FT		611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT			BENDS & BRANCHES - FOR INFORMATION ONLY 6" x 6" TEE EACH	6" PLUG EACH	6" - 90° BEND EACH	6" x 6" CROSS EACH		
U-1	373	33+11.51 (LANE O)	EXISTING	RT							38							1	1			
U-2	373	32+99.18 (LANE O)	D-20	RT							10							1				
U-3	373	32+99.12 (LANE O)	EXISTING	RT				50									1	1	1			
U-4	373	521+20.66 (W.B. I-76)	U-71	RT							35						1	1				
U-5	373	521+35.10 (W.B. I-76)	D-19	RT										11					1			
U-6	373	521+25.81 (E.B. I-76)	EXISTING	RT							45							1	1			
U-7	373	521+34.73 (E.B. I-76)	U-73	LT/RT				17				50						1	1			
U-8	373	27+36.18 (LANE O)	U-62	RT							315							1		1		
U-9	373	27+36.18 (LANE O)	U-62	RT				317									1	1				
U-10	373	9+00.00 (W.B. I-76)	D-10	RT							663			10			1			1		
U-11	373	529+00.00 (E.B. I-76)	U-68	LT							526			10								
U-12	373	529+00.00 (E.B. I-76)	U-48	RT				530									1	1				
U-13	373	529+00.00 (E.B. I-76)	U-67	RT							527						1					
U-14	373	27+34.18 (LANE O)	U-64	RT							258							1		1		
U-15	373	27+34.18 (LANE O)	U-64	RT				258										1		1		
U-16	373	27+36.17 (LANE O)	D-17	LT							167			10			1	1				
U-17	373	12+12.25 (W.B. I-76)	D-17	LT							730			10			1					
U-18	373	27+34.19 (LANE O)	U-64	LT							258						1	1				
U-19	373	22+57.51 (LANE O)	U-64	RT							228							1				
U-20	373	22+53.89 (LANE O)	U-64	RT				230										1				
U-21	373	23+66.33 (LANE O)	U-64	LT							108							1				
U-22	373	22+55.79 (LANE O)	EXISTING	RT							9						1	1	1			
U-23	373	22+52.17 (LANE O)	EXISTING	RT				6										1	1			
U-24	373	23+64.27 (LANE O)	EXISTING	LT							114							1				
U-25	373	0+98.00 (LAMPARTER ST)	D-23	RT							49			10								
U-26	373	16+54.57 (BROWN ST)	D-24	RT							77			10				1				
U-27	373	15+00.00 (BROWN ST)	D-24	RT							73			10								
U-28	373	0+98.00 (LAMPARTER ST)	D-21	LT							18			10								
U-29	373	0+67.39 (LAMPARTER ST)	D-38	LT							18			10				1				
U-30	373	16+81.81 (BROWN ST)	D-25	RT							34			10			1	1				
U-31	373	17+58.69 (BROWN ST)	U-30	RT							63							1				
U-32	373	19+62.45 (BROWN ST)	D-22	RT							192			10				1				
U-33	373	19+64.29 (BROWN ST)	EXISTING	RT							27							1				
U-34	373	20+65.00 (BROWN ST)	EXISTING	RT							60											
U-35	373	20+65.00 (BROWN ST)	D-13	LT							98			10			1					
U-36	373	22+47.22 (SOUTH ST)	U-35	LT							312							1				
U-37	373	22+65.32 (SOUTH ST)	D-13	RT							388			10				1				
U-38	373	19+76.78 (BROWN ST)	D-27	LT							258			10				1				
U-39	373	0+21.09 (JOHNSTON ST)	D-30	RT							168			10				1				
U-40	373	15+00.00 (BROWN ST)	D-26	LT							119			10								
U-41	373	0+18.38 (JOHNSTON ST)	D-29	LT							152			10				1				
U-42	373	3+33.79 (JOHNSTON ST)	D-29	LT							152			10				1				
U-43	373	3+73.98 (JOHNSTON ST)	D-30	RT							187			10			1	1				
U-44	373	16+06.37 (SPICER ST)	EXISTING	RT							113							1				
U-45	373	16+05.69 (SPICER ST)	EXISTING	LT							71							1				
U-46	373	4+43.50 (JOHNSTON ST)	D-34	RT							62			10					1			
U-47	373	30+76.37 (LANE O)	D-10	LT/RT					21			60		10				1	1			
U-48	373	523+56.73 (E.B. I-76)	U-67	RT				21				50						1				
U-49	373	29+16.52 (LANE O)	U-16	LT					8									1				
U-50	373	3+85.08 (W.B. I-76)	U-18	LT					8									1				
TOTALS CARRIED TO SUBSUMMARY ON SHEET 191								1429	37		6722	160		221			13	38	9	4		

CALCULATED AJE CHECKED CWL

UNDERDRAIN ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

\\AKRN03\DATA\2010\2010237\SUM\86979\DRAINAGE\SHEETS\86979DQ001.DGN
9/29/2014
3:52:26 PM
ARGLAND

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE				601 TIED CONCRETE BLOCK MAT, TYPE 1 SY	605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" ROCK CUT UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 FT	605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, 707.31 TYPE CP OR 707.41 FT			611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT	611 PRECAST REINFORCED CONCRETE OUTLET EACH		BENDS & BRANCHES - FOR INFORMATION ONLY 6" x 6" TEE EACH	6" PLUG EACH	6" - 90° BEND EACH	6" x 6" CROSS EACH
U-51	373	5+75.00 (JOHNSTON ST)	U-61	LT							132											
U-52	373	5+75.00 (JOHNSTON ST)	U-46	RT							132											
U-53	373	8+77.81 (JOHNSTON ST)	U-51	LT								306							1			
U-54	373	8+69.02 (JOHNSTON ST)	U-52	RT								301							1			
U-55	373	19+04.32 (HEDDEN AVE)	D-4	RT								28					10					
U-56	373	19+06.59 (HEDDEN AVE)	D-3	LT								25					10					
U-57	373	9+21.01 (JOHNSTON ST)	D-3	LT								12					10			1		
U-58	373	11+06.75 (JOHNSTON ST)	D-2	LT								170					10					
U-59	373	10+88.96 (JOHNSTON ST)	D-39	RT								222					10			1	1	
U-60	373	11+06.75 (JOHNSTON ST)	D-1	RT								5					10					
U-61	373	4+43.50 (JOHNSTON ST)	D-36	LT								33					10					
U-62	373	30+53.02 (LANE O)	OUTLET	RT				2									65	1				
U-63	373	529+00.00 (E.B. I-76)	U-48	RT								536							1	1		
U-64	373	24+76.47 (LANE O)	OUTLET	LT/RT				2									53	1				
U-65	373	30+73.49 (LANE O)	U-62	RT						20										1		
U-66	373	30+73.41 (LANE O)	U-62	RT						21										1		
U-67	373	523+66.39 (E.B. I-76)	D-13	RT													129				1	
U-68	373	523+58.34 (W.B. I-76)	U-10	RT						11										1		
U-69	373	521+37.49 (E.B. I-76)	EXISTING	RT					58										1	1		
U-70	373	32+98.39 (LANE O)	U-5	LT/RT						16				52						1		
U-71	373	521+32.06 (W.B. I-76)	EXISTING	RT					59											1	1	
U-72	373	521+35.15 (E.B. I-76)	U-69	RT								75							1	1	1	
U-73	373	521+40.07 (E.B. I-76)	D-18	RT								11										
TOTALS CARRIED TO SUBSUMMARY ON SHEET 191								4	117	68	264	1724	52			317	2		3	12	4	

CALCULATED AJE CHECKED CWL

UNDERDRAIN ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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9/29/2014
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ARGLAND

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	SPECIAL 6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS		SPECIAL 8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS		SPECIAL 10" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS	SPECIAL 12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS	SPECIAL 16" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS		SPECIAL 24" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS	SPECIAL 30" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS	638 POLYETHYLENE ENCASEMENT, 6" PIPE		638 POLYETHYLENE ENCASEMENT, 8" PIPE		638 POLYETHYLENE ENCASEMENT, 10" PIPE	638 POLYETHYLENE ENCASEMENT, 12" PIPE	638 POLYETHYLENE ENCASEMENT, 16" PIPE		638 POLYETHYLENE ENCASEMENT, 24" PIPE	638 POLYETHYLENE ENCASEMENT, 30" PIPE	SPECIAL 6" GATE VALVE WITH VALVE BOX, COMPLETE		SPECIAL 8" GATE VALVE WITH VALVE BOX, COMPLETE		SPECIAL 12" GATE VALVE WITH VALVE BOX, COMPLETE	SPECIAL 16" BUTTERFLY VALVE WITH VALVE BOX, COMPLETE
					FT		FT		FT	FT	FT			FT	FT			FT	FT	FT	FT			FT		EACH		EACH		EACH	EACH
					01/OT	03/AKRN	01/OT	03/AKRN	01/OT	01/OT	01/OT	01/OT	03/AKRN	03/AKRN	01/OT	03/AKRN	01/OT	01/OT	01/OT	01/OT	03/AKRN	03/AKRN	01/OT	03/AKRN	01/OT	03/AKRN	01/OT	01/OT
W-1	382-384, 387-388	20+63.00 (BROWN ST)	13+62.04 (JOHNSTON ST)	LT/RT							82	1444	246	8						82	1444	246	8							
W-2	382	0+42.80 (JOHNSTON ST)		LT	53										53									1						
W-4	382	0+71.43 (JOHNSTON ST)		LT																				1						
																								1						
W-5	382	0+76.57 (JOHNSTON ST)		LT																				1						
W-6	385	15+76.37 (SPICER ST)		LT																										1
W-7	385	15+49.26 (SPICER ST)	16+03.38 (SPICER ST)	LT							56									56										
W-8	385	15+72.12 (SPICER ST)		LT																				1						
W-9	385	15+80.86 (SPICER ST)		LT																				1						
W-12	383	6+70.99 (JOHNSTON ST)		LT	29										29									1						
W-13	386	19+13.40 (HEDDEN AVE)		LT	11										11									1						
W-15	386	19+12.37 (HEDDEN AVE)	19+74.57 (HEDDEN AVE)	LT	9		66								9		66													
W-16	386	19+31.62 (HEDDEN AVE)		LT																						1				
W-17	384	11+51.76 (JOHNSTON ST)	11+54.33 (JOHNSTON ST)	LT/RT		8		48								8		48												
W-18	384	11+68.23 (JOHNSTON ST)		LT		16										16										1				
W-20	384	19+43.88 (JOHNSTON CT.)		LT																							1			
W-21	384	13+57.27 (JOHNSTON ST)		RT																										
W-23	384	13+51.86 (JOHNSTON ST)		RT		19										19										1				
W-24	384	13+52.26 (JOHNSTON ST)	14+70.45 (JOHNSTON ST)	LT/RT		9		122								9		122												
W-25	384	14+59.36 (JOHNSTON ST)		LT																							1			
W-26	385	15+91.53 (SPICER ST)		LT	43										43									1						
W-27	387	15+02.00 (BROWN ST)	16+83.56 (BROWN ST)	LT	8		183								8		183													
W-28	387	16+41.16 (BROWN ST)		LT																						1				
W-29	389	19+75.66 (BROWN ST)		LT																										
W-30	389	20+17.10 (BROWN ST)		LT																										1
W-31	389	20+52.34 (BROWN ST)		RT																						1				
W-32	388	20+10.70 (BROWN ST)	20+63.00 (BROWN ST)	RT			49		6								49		6											
W-34	389	20+34.64 (BROWN ST)		RT	14										14									1						
W-35	390	26+49.88 (SOUTH ST)	26+34.68 (SOUTH ST)	RT								17									17									
W-36	390	20+10.99 (BROWN ST)		RT																										1
W-37	390	25+98.04 (SOUTH ST)		LT																						1				
W-38	390	26+93.43 (SOUTH ST)	22+93.74 (SOUTH ST)	LT/RT	18		365			54	10				18		365			54	10								
W-40	390	22+93.72 (SOUTH ST)		RT	9										9									1						
W-41	390	22+95.25 (SOUTH ST)		RT																				1						
W-42	391	16+62.52 (BROWN ST)	16+71.37 (BROWN ST)	LT/RT	9		50								9		50									1				
W-43	391	0+17.74 (LAMPARTER ST)		RT																										
W-44	390	25+88.34 (SOUTH ST)		LT																										
W-45	390	25+63.36 (SOUTH ST)		LT																										
W-46	390	25+21.36 (SOUTH ST)		LT																										
W-47	390	24+68.33 (SOUTH ST)		LT																										
W-48	390	23+74.26 (SOUTH ST)		LT																										
W-49	386	19+27.45 (HEDDEN AVE)		RT																										
W-50	384	19+49.54 (JOHNSTON CT.)		RT																										
W-51	384	11+55.90 (JOHNSTON ST)		RT																										
W-52	384	11+96.27 (JOHNSTON ST)		RT																										
W-53	384	12+32.30 (JOHNSTON ST)		RT																										
W-54	384	12+85.03 (JOHNSTON ST)		RT																										
W-55	384	13+01.15 (JOHNSTON ST)		LT																										
W-56	384	13+84.09 (JOHNSTON ST)		LT																										
TOTALS CARRIED TO GENERAL SUMMARY					203	52	713	170	6	54	148	1461	246	8	203	52	713	170	6	54	148	1461	246	8	12	2	5	2	1	2

CALCULATED AJE
CHECKED CWL

WATER WORK ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

\\AKRN83\DATA\2010\2010297\SUM\86979\ROADWAY\SHEETS\86979QQ06.DGN
9/29/2014
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ARGLLAND

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	SPECIAL 24" BUTTERFLY VALVE WITH VALVE BOX, COMPLETE EACH 01/OT	SPECIAL 24" BUTTERFLY VALVE WITH VALVE BOX, COMPLETE EACH 03/AKRN	SPECIAL FURNISHING AND SETTING 6" HYDRANT, COMPLETE EACH 01/OT	SPECIAL FURNISHING AND SETTING 6" HYDRANT, COMPLETE EACH 03/AKRN	638 WATER WORK, MISC.: FIRE HYDRANT REMOVED AND RESET EACH 01/OT	638 WATER WORK, MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH) FT 01/OT	638 WATER WORK, MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH) FT 03/AKRN	638 WATER WORK, MISC.: TRENCHES FOR WATER SERVICES IN EARTH FT 01/OT	638 WATER WORK, MISC.: TRENCHES FOR WATER SERVICES IN EARTH FT 03/AKRN	FOR INFORMATION ONLY 6" - 22.5° BEND EACH	24" - 22.5° BEND EACH	6" - 45° BEND EACH	8" - 45° BEND EACH	10" - 45° BEND EACH	12" - 45° BEND EACH	16" - 45° BEND EACH	24" - 45° BEND EACH	30" - 45° BEND EACH	6" - 90° BEND EACH	6" x 6" TEE EACH	8" x 6" TEE EACH	8" x 8" TEE EACH	12" x 8" TEE EACH	16" x 6" TEE EACH	24" x 6" TEE EACH	24" x 8" TEE EACH	24" x 16" TEE EACH	24" x 24" TEE EACH	16" x 12" CROSS EACH	24" x 8" CROSS EACH	8"x 6" REDUCER EACH	10"x 8" REDUCER EACH	12"x 8" REDUCER EACH	16"x 12" REDUCER EACH	24"x 16" REDUCER EACH	30"x 24" REDUCER EACH
W-1	382-384, 387-388	20+63.00 (BROWN ST)	13+62.04 (JOHNSTON ST)	LT/RT											1						2	8	1							2	2	1	1	1					1	1
W-2	382	0+42.80 (JOHNSTON ST)		LT					1															1	1														
W-4	382	0+71.43 (JOHNSTON ST)		LT																																			
W-5	382	0+76.57 (JOHNSTON ST)		LT																																			
W-6	385	15+76.37 (SPICER ST)		LT																																			
W-7	385	15+49.26 (SPICER ST)		LT																			2							2									
W-8	385	15+72.12 (SPICER ST)		LT																																			
W-9	385	15+80.86 (SPICER ST)		LT																																			
W-12	383	6+70.99 (JOHNSTON ST)		LT			1										1													1								
W-13	386	19+13.40 (HEDDEN AVE)		LT					1								2																			1			
W-15	386	19+74.57 (HEDDEN AVE)	19+74.57 (HEDDEN AVE)	LT														2									1											
W-16	386	19+31.62 (HEDDEN AVE)		LT																																			
W-17	384	11+51.76 (JOHNSTON ST)	11+54.33 (JOHNSTON ST)	LT/RT													1										1					1				1		
W-18	384	11+68.23 (JOHNSTON ST)		LT				1																															
W-20	384	19+43.88 (JOHNSTON CT.)		LT																																			
W-21	384	13+57.27 (JOHNSTON ST)		RT		1																																	
W-23	384	13+51.86 (JOHNSTON ST)		RT				1									1																						
W-24	384	13+52.26 (JOHNSTON ST)	14+70.45 (JOHNSTON ST)	LT/RT										1				2				1													1	2			
W-25	384	14+59.36 (JOHNSTON ST)		LT																																			
W-26	385	15+91.53 (SPICER ST)		LT					1																1	1														
W-27	387	15+02.00 (BROWN ST)	16+83.56 (BROWN ST)	LT													1	2										1								1			
W-28	387	16+41.16 (BROWN ST)		LT																																			
W-29	389	19+75.66 (BROWN ST)		LT	1																																		
W-30	389	20+17.10 (BROWN ST)		LT																																			
W-31	389	20+52.34 (BROWN ST)		RT																																			
W-32	388	20+10.70 (BROWN ST)	20+63.00 (BROWN ST)	RT														1	1								1									1			
W-34	389	20+34.64 (BROWN ST)		RT					1																														
W-35	390	26+49.88 (SOUTH ST)	26+34.68 (SOUTH ST)	RT																			2																
W-36	389	20+10.99 (BROWN ST)		RT																																			
W-37	390	25+98.04 (SOUTH ST)		LT																																			
W-38	390	26+93.43 (SOUTH ST)	22+93.74 (SOUTH ST)	LT/RT													2	2		1	1						1		1							1	1		
W-40	390	22+93.72 (SOUTH ST)		RT			1																																
W-41	390	22+95.25 (SOUTH ST)		RT																																			
W-42	391	16+62.52 (BROWN ST)	16+71.37 (BROWN ST)	LT/RT													1	1																		1			
W-43	391	0+17.74 (LAMPARTER ST)		RT																																			
W-44	390	25+88.34 (SOUTH ST)		LT						5		5																											
W-45	390	25+63.36 (SOUTH ST)		LT						6		6																											
W-46	390	25+21.36 (SOUTH ST)		LT						6		6																											
W-47	390	24+68.33 (SOUTH ST)		LT						5		5																											
W-48	390	23+74.26 (SOUTH ST)		LT						6		6																											
W-49	386	19+27.45 (HEDDEN AVE)		RT						32		32																											
W-50	384	19+49.54 (JOHNSTON CT.)		RT							23		23																										
W-51	384	11+55.90 (JOHNSTON ST)		RT							18		18																										
W-52	384	11+96.27 (JOHNSTON ST)		RT							20		20																										
W-53	384	12+32.30 (JOHNSTON ST)		RT							17		17																										
W-54	384	12+85.03 (JOHNSTON ST)		RT							17		17																										
W-55	384	13+01.15 (JOHNSTON ST)		LT							40		40																										
W-56	384	13+84.09 (JOHNSTON ST)		LT							29		29																										
TOTALS CARRIED TO GENERAL SUMMARY					1	1	2	2	4	60	164	60	164	1	1	9	10	1	1	5	11	1	2	2	4	1	1	2	3	3	1	1	1	1	7	1	1	1	1	1

CALCULATED AJE
CHECKED CWL

WATER WORK ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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9/30/2014
11:08:04 AM
AROLLAND

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	SPECIAL 24" BUTTERFLY VALVE WITH VALVE BOX, COMPLETE			638 WATER WORK, MISC.: TRENCHES FOR WATER SERVICES IN EARTH	638 WATER WORK, MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)		FOR INFORMATION ONLY
					EACH			FT	FT		
					01/OT			01/OT	01/OT		
W-57	387	16+14.94 (BROWN ST.)		RT				30	30		
W-58	387	15+51.01 (BROWN ST.)		RT				30	30		
W-59	387	15+12.15 (BROWN ST.)		RT				31	31		
W-60	387	15+93.18 (BROWN ST.)		LT				8	8		
W-61	387	15+63.87 (BROWN ST.)		LT				8	8		
W-62	387	15+35.17 (BROWN ST.)		LT				8	8		
W-63	387	15+05.36 (BROWN ST.)		LT				13	13		
W-64	382	0+74.23 (JOHNSTON ST.)		LT	1						
TOTALS CARRIED TO GENERAL SUMMARY					1			128	128		

CALCULATED AJE
CHECKED CWL

WATER WORK ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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9/30/2014
11:08:53 AM
AROLLAND

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 VALVE BOX REMOVED		202 PIPE REMOVED, 24" AND UNDER												
					EACH		FT												
					01/OT		01/OT	03/AKRN											
WR-1	385	15+49.26 (SPICER ST)	16+60.41 (SPICER ST)	LT			111												
WR-2	382	3+68.31 (JOHNSTON ST)		LT	1														
WR-3	387,388	15+02.00 (BROWN ST)	20+26.13 (BROWN ST)	LT			524												
WR-4	389	20+19.83 (BROWN ST)	20+63.00 (BROWN ST)	LT			43												
WR-5	389	20+02.31 (BROWN ST)	20+63.00 (BROWN ST)	RT			61												
WR-6	391	16+71.24 (BROWN ST)	16+71.37 (BROWN ST)	LT/RT			48												
WR-7	383	5+37.61 (JOHNSTON ST)	5+42.00 (JOHNSTON ST)	LT/RT			71												
WR-8	384	11+47.76 (JOHNSTON ST)	11+55.76 (JOHNSTON ST	LT				8											
WR-9	384	11+47.76 (JOHNSTON ST)	11+55.76 (JOHNSTON ST)	RT				8											
WR-10	383	8+42.61 (JOHNSTON ST)	8+99.93 (JOHNSTON ST)	RT			60												
WR-11	383	7+90.65 (JOHNSTON ST)	9+30.00 (JOHNSTON ST)	LT/RT			144												
WR-12	390	23+60.85 (SOUTH ST)	23+18.25 (SOUTH ST)	RT			101												
WR-13	389	20+33.80 (BROWN ST)		RT	1														
WR-14	382	3+38.36 (JOHNSTON ST)		LT	1														
WR-15	382	3+36.21 (JOHNSTON ST)		RT	1														
WR-16	384	10+33.01 (JOHNSTON ST)		LT	1														
WR-17	386	19+48.27 (HEDDEN AVE)		LT	1														
WR-18	387	16+71.00 (BROWN ST)		LT	1														
WR-19	391	0+31.05 (LAMPARTER ST)		LT	1														
WR-20	389	19+85.00 (BROWN ST)	20+11.13 (BROWN ST)	LT			56												
WR-21	389	20+04.10 (BROWN ST)		RT	1														
WR-22	389	26+80.07 (SOUTH ST)		LT	1														
WR-23	390	23+54.27 (SOUTH ST)		RT	1														
WR-24	390	23+13.41 (SOUTH ST)		RT	1														
WR-25	390	23+14.18 (SOUTH ST)		RT	1														
WR-26	390	23+10.06 (SOUTH ST)		RT	1														
WR-27	390	23+02.53 (SOUTH ST)		RT	1														
WR-28	389	19+89.94 (BROWN ST)		LT	1														
TOTALS CARRIED TO GENERAL SUMMARY					16		1219	16											

CALCULATED AJE CHECKED CWL

WATER WORK ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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ARGILAND

STATION TO STATION		SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	CADD AREAS		202 PAVEMENT REMOVED, ASPHALT SY	202 PAVEMENT REMOVED SY										
W.B. I-76/I-77																			
520+85.37	521+41.74	RT				475.00		53											
520+85.37	521+37.76	LT				501.90		56											
521+12.98	521+41.15	℄				1314.07			146										
523+50.17	3+55.74	℄				5177.74			575										
523+51.29	3+56.17	RT				1221.43		136											
8+27.02	9+00.00	RT				166.81			19										
8+30.60	8+80.00	℄				888.69		99											
8+55.45	12+12.25	LT				3571.65		397											
E.B. I-76/I-77																			
520+85.00	521+42.08	LT				502.52		56											
520+85.00	521+46.72	RT				597.19		66											
521+17.08	521+45.99	℄				1285.22			143										
523+50.31	524+87.25	LT				1013.74		113											
523+51.67	524+87.25	℄				6502.39			722										
523+58.22	524+95.25	RT				1122.31			125										
528+46.57	529+00.00	LT				268.11		30											
528+46.57	529+00.00	℄				3460.01			384										
528+02.56	529+00.00	RT				843.37		94											
LANE O																			
22+39.17	23+30.87	℄				3243.83			360										
22+39.17	23+59.10	LT				492.66		55											
29+48.22	30+82.78	℄				3234.48			359										
29+48.22	30+82.78	RT				1413.28		157											
RAMP P																			
5+87.75	6+79.33	℄				1230.87			137										
5+87.75	6+55.95	RT				526.39		58											
RAMP Q																			
0+67.74	2+61.06	℄				3748.49			416										
OLD ℄ R/W JOHNSTON																			
13+35.22	22+22.32	℄				31803.46			3534										
22+00.34, 26.37'		LT				953.68		106											
21+55.87, 50.94'		LT				1504.74			167										
SPICER																			
14+97.25	15+47.39	RT	50.14	14.19	711.49				79										
15+47.39	19+53.06	RT	405.67	14.29	5797.02				644										
15+47.39	19+30.13	LT	382.74	13.65	5224.40				580										
19+30.13	19+62.31	LT				543.62			60										
19+53.06	19+76.87	RT				225.80			25										
HEDDEN																			
19+04.32	19+06.59	RT	2.27	1.94	4.40				1										
19+06.59	19+38.94	LT	32.35	12.86	416.02				46										
19+06.59	19+71.17	RT	64.58	12.83	828.56				92										
BROWN																			
15+00.00	16+40.74	℄	140.74	30.05	4229.24				470										
16+40.74	16+97.47	℄				1868.66			208										
16+97.47	18+53.90	LT	156.43	15.17	2373.04				264										
18+53.90	18+71.55	LT	17.65	17.95	316.82				35										
18+71.55	19+57.05	LT	85.50	20.98	1793.79				199										
19+57.05	20+37.80	LT	80.75	20.83	1682.02				187										
20+37.80	20+39.83	LT	2.03	20.50	41.61				5										
20+39.83	20+65.00	LT	25.17	20.55	517.24				57										
16+97.47	20+46.24	RT	348.77	21.04	7338.12				815										
20+46.24	20+50.64	RT	4.40	21.37	94.03				10										
20+50.64	20+65.00	RT	14.36	21.21	304.58				34										
SUBTOTALS CARRIED TO SHEET 209								1476	10898										

CALCULATED AJE
CHECKED CWL

PAVEMENT REMOVAL CALCULATIONS

SUM-76/77-11.27/12.12

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AHOLLAND

STATION TO STATION		SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	CADD AREAS		202 PAVEMENT REMOVED, ASPHALT	202 PAVEMENT REMOVED		202 CURB REMOVED	202 CURB AND GUTTER REMOVED							
								SY	SY		FT	FT							
SOUTH																			
22+38.05	23+04.99	℄				4637.46		515											
23+04.99	24+17.85	℄				5048.44			561										
24+17.85	26+00.00	RT	182.15	2.22	404.37				45										
24+17.85	26+00.00	LT	182.15	5.03	916.21				102										
26+00.00	26+27.49	RT				668.54			74										
26+00.00	26+27.49	LT				640.27			71										
26+69.26	26+94.91	RT				641.00			71										
26+69.26	26+94.91	LT				600.19			67										
LAMPARTER																			
0+17.60	0+33.42	RT				255.75			28										
0+17.60	0+36.92	LT				302.72			34										
0+33.42	0+98.00	RT	64.58	13.19	851.81				95										
0+36.92	0+98.00	LT	61.08	12.67	773.88				86										
E.B. I-76																			
524+61.07	525+02.62	RT	41.04								41								
528+26.51	529+00.00	RT	73.51								74								
℄ OLD JOHNSTON																			
13+34.41	21+17.21	LT	782.80								783								
21+17.21	21+84.33	LT	133.92								134								
13+35.85	15+14.65	RT	178.80								179								
15+88.84	17+40.01	RT	151.17								151								
17+40.01	17+53.40	RT	17.98								18								
18+06.72	18+14.93	RT	15.15								15								
18+14.93	18+91.31	RT	76.38								76								
18+91.31	19+01.12	RT	14.97								15								
19+47.96	19+67.60	RT	20.68								21								
19+67.60	20+44.32	RT	76.94								77								
20+94.57	21+09.96	RT	18.92								19								
21+09.96	21+54.77	RT	44.81								45								
SPICER																			
14+97.25	19+53.06	RT	455.81								456								
15+47.39	19+30.13	LT	382.74								383								
19+30.13	19+41.01	LT	31.51								32								
19+53.06	19+76.87	RT	28.90								29								
HEDDEN																			
19+04.32	19+73.42	RT	69.10									69							
19+06.59	19+38.94	LT	32.35									32							
19+38.94	19+49.45	LT	36.59								37								
19+73.52	19+91.93	RT	21.52								22								
BROWN																			
15+00.00	16+40.74	RT	140.74								141								
15+00.00	18+53.90	LT	353.90								354								
16+97.47	19+57.62	RT	260.15								260								
18+53.90	18+71.55	LT	18.49								18								
18+71.55	19+58.34	LT	86.80								87								
20+37.80	20+65.00	LT	27.21								27								
20+40.45	20+46.24	RT	5.79								6								
20+46.24	20+50.64	RT	4.41								4								
20+50.64	20+65.00	RT	14.36								14								
SOUTH																			
23+07.79	23+26.83	LT	22.81								23								
23+26.83	26+00.00	LT	270.98								271								
23+40.63	23+47.78	RT	11.56								12								
23+47.78	26+00.00	RT	267.50								268								
SUBTOTALS CARRIED TO SHEET 209								515	1234		4092	101							

CALCULATED AJE CHECKED CWL

PAVEMENT REMOVAL CALCULATIONS

SUM-76/77-11.27/12.12

208
652

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AHOLLAND

PAVEMENT REMOVAL CALCULATIONS

CALCULATED AJE
CHECKED CWL

SUM-76/77-11.27/12.12

STATION TO STATION		SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	CADD AREAS		202 PAVEMENT REMOVED, ASPHALT SY	202 PAVEMENT REMOVED SY		202 CURB REMOVED FT	202 CURB AND GUTTER REMOVED FT	202 GUTTER REMOVED SY	202 WALK REMOVED SF					
LAMPARTER																			
0+14.59	0+33.42	LT	26.29								26								
0+20.90	0+36.92	RT	26.30								26								
0+33.42	0+98.00	LT	64.58								65								
0+36.92	0+98.00	RT	61.08								61								
℄ OLD JOHNSTON																			
13+34.91	13+46.92	LT	12.01	4.90	58.85									59					
13+36.29	15+17.88	RT				1111.07								1111					
15+88.98	17+53.40	RT				876.29								876					
17+05.33	21+30.10	LT				2215.82							246						
16+36.84	21+37.39	LT				4287.91								4288					
18+06.72	19+00.61	RT				841.50								841					
19+50.07	20+57.99	RT				856.55								857					
17+40.01	18+14.58	RT				574.06		64											
18+97.63	19+67.60	RT				380.28		42											
20+45.64	21+09.97	RT				430.32		48											
SPICER																			
15+47.39	19+76.49	RT				2888.36								2888					
16+76.05	19+35.85	RT				1503.35							167						
16+48.17		RT				148.62		17											
17+73.96		LT				317.07			35										
18+02.20		LT				964.66		107											
HEDDEN																			
19+27.00	19+51.49	LT				289.93								290					
19+41.83	19+91.37	RT				401.49								401					
19+12.59 (DV-12)		RT				54.10			6										
1952.83 (DV-13)		RT				55.30			6										
BROWN																			
15+58.55	16+52.93	RT				563.24								563					
15+72.62	19+71.29	LT				3568.18								3569					
16+82.59	19+74.62	RT				2217.84								2218					
15+21.37 (DV-6)		RT				82.55			9										
15+22.71 (DV-7)		LT				84.79			9										
15+51.18 (DV-8)		LT				72.54			8										
15+64.55 (DV-5)		RT				114.64			13										
16+15.95 (DV-10)		LT				120.95			13										
16+54.99		LT				109.84			12										
SOUTH																			
23+14.34	24+12.39	LT				584.25								584					
23+40.93	26+20.72	RT				1564.40								1564					
26+06.78	26+27.92	LT				229.00								229					
26+74.70	26+94.91	RT				159.61								160					
26+71.00	26+91.40	LT				217.91								218					
25+02.25 (DV-2)		LT				57.47			6										
25+45.48 (DV-3)		LT				51.36			6										
LAMPARTER																			
0+23.53	0+98.00	LT				371.29			41					371					
0+70.63 (DV-4)		LT				79.38			9										
SUBTOTALS THIS SHEET								278	173		178		413	21087					
SUBTOTALS SHEET 207								1476	10898										
SUBTOTALS SHEET 208								515	1234		4092	101							
TOTALS CARRIED TO SUBSUMMARY ON SHEET 190								2269	12305		4270	101	413	21087					

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HROLLAND

STATION TO STATION		SIDE	LENGTH	AVERAGE WIDTH W	SURFACE AREA A A=LxW	CADD AREAS		608 4" CONCRETE WALK	608 6" CONCRETE WALK, AS PER PLAN	608 8" CONCRETE WALK, AS PER PLAN	608 CURB RAMP,TYPE A2	608 CURB RAMP,TYPE B1	608 CURB RAMP,TYPE B2	608 CURB RAMP, TYPE B3			608 CURB RAMP, TYPE C1	608 CURB RAMP, TYPE C2	609 CURB, TYPE 6
								SF	SF	SF	SF	SF	SF	SF			SF	SF	FT
JOHNSTON ST.																			
0+32.41	0+36.52	LT				33.57		33.57											
0+42.65	CURB RAMP	LT				96.49												96.49	
0+47.78	3+30.64	LT				1410.28		1410.28											
3+30.68	CURB RAMP	LT				114.94												114.94	
3+98.45	CURB RAMP	LT				94.00								94.00					
3+98.45	7+07.17	LT				1527.81		1527.81											
7+07.17	7+42.83	LT				169.42				169.42									
7+42.83	8+44.36	LT				482.41		482.41											
8+44.36	8+52.63	LT				76.14		76.14											
8+55.63	CURB RAMP	LT				113.63											113.63		
9+19.53	CURB RAMP	LT				127.44											127.44		
9+22.20	9+27.34	LT				46.52		46.52											
9+27.34	10+52.62	LT				602.33		602.33											
10+52.62	10+75.39	LT	22.77	5.00	113.85				113.85										
10+75.39	10+94.50	LT				95.20		95.20											
11+00.00	CURB RAMP	LT				106.77												106.77	
11+05.50	11+06.75	LT	1.25	4.34	5.42			5.42											
11+00.00	CURB RAMP	RT				87.05												87.05	
0+41.90	CURB RAMP	RT				95.99						95.99							
SPICER ST.																			
15+31.46	15+40.38	RT	8.92	4.87	43.44			43.44											
15+40.38	15+46.78	RT				32.14		32.14											
15+46.78	15+69.37	RT				139.55			139.55										
15+69.37	15+88.16	RT				95.22		95.22											
HEDDEN AVE.																			
19+41.83	19+48.33	RT				34.78			34.78										
19+48.33	19+57.39	RT	9.06	5.50	49.83				49.83										
19+57.39	19+65.18	RT				53.95			53.95										
19+27.00	19+40.29	LT				60.00		60.00											
19+40.29	19+46.87	LT				39.27		39.27											
BROWN ST.																			
15+58.55	15+75.55	RT	17.00	5.81	98.77				98.77										
15+75.55	16+21.99	RT	46.44	6.03	280.03			280.03											
16+21.99	16+30.49	RT				107.05		107.05											
16+34.99	CURB RAMP	RT				166.73											166.73		
16+39.49	16+51.99	RT				101.26		101.26											
15+90.00	16+03.48	LT	13.48	6.00	80.88			80.88											
16+03.48	16+26.65	LT				130.86			130.86										
16+28.38	CURB RAMP	LT				100.31												100.31	
16+99.50	17+03.59	RT	4.09	6.50	26.59			26.59											
17+06.09	CURB RAMP	RT				82.62					82.62								
17+08.59	17+29.51	RT	20.92	6.50	135.98			135.98											
17+29.51	17+78.71	RT	49.20	6.00	295.20			295.20											49.20
17+78.71	18+77.99	RT	99.28	5.89	584.76			584.76											99.28
18+77.99	19+53.80	RT	75.81	6.50	492.77			492.77											
19+53.80	19+59.58	RT				38.23		38.23											
SUBTOTALS CARRIED TO SHEET 211								6693	622	170	83	96		94			408	506	149

CALCULATED AJE
CHECKED CWL

WALK CALCULATIONS

SUM-76/77-11.27/12.12

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9/29/2014
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ARGLLAND

STATION TO STATION		SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	CADD AREAS	608 CONCRETE STEPS, TYPE A	608 4" CONCRETE WALK	608 6" CONCRETE WALK, AS PER PLAN	608 8" CONCRETE WALK, AS PER PLAN	608 CURB RAMP,TYPE A2	608 CURB RAMP,TYPE B1	608 CURB RAMP,TYPE B2	608 CURB RAMP, TYPE B3		608 CURB RAMP, TYPE C1	608 CURB RAMP, TYPE C2	609 CURB, TYPE 6	609 CURB, TYPE 7
							FT.	SF	SF	SF	SF	SF	SF	SF		SF	SF	FT	FT
BROWN ST.																			
16+88.54	16+96.29	LT				57.31		57.31											
17+06.03	CURB RAMP	LT				128.36							128.36						
17+14.54	17+29.78	LT	15.24	6.00	91.44			91.44											
17+29.78	18+83.96	LT	154.18	5.53	852.62			852.62											154.18
18+83.96	19+52.94	LT	68.98	6.50	448.37			448.37											
19+52.94	19+60.32	LT				49.07		49.07											
SOUTH ST.																			
22+61.77	CURB RAMP	LT				84.60					84.60								
22+61.77	24+12.19	LT				496.21		496.21											
22+86.11	CURB RAMP	RT				101.98					101.98								
22+86.11	24+17.85	RT				938.40		938.40											
24+17.85	25+99.25	RT	181.40	5.00	907.00			907.00											
25+99.25	26+06.16	RT				44.24		44.24											
26+11.86	CURB RAMP	RT				164.51							164.51						
26+83.04	CURB RAMP	RT				172.23							172.23						
26+89.91	26+94.91	RT				37.93		37.93											
26+16.06	CURB RAMP	LT				250.97							250.97						
26+81.96	CURB RAMP	LT				231.48							231.48						
LAMPARTER ST.																			
0+29.67	CURB RAMP	RT				112.03										112.03			
0+34.17	0+42.67	RT				67.75		67.75											
0+42.67	0+59.16	RT	16.49	5.00	82.45			82.45											
0+59.16	0+81.16	RT	22.00	5.00	110.00				110.00										
0+81.16	0+88.00	RT	6.84	5.00	34.20			34.20											
0+88.00	0+98.00	RT	10.00	4.80	48.00			48.00											
0+26.93	CURB RAMP	LT				100.04								100.04					
CONCRETE STEPS (LAMPARTER ST.)																			
0+55.58	8 TREAD	RT		4.80			38.40												
0+87.37	6 TREAD	RT		5.00			30.00												
SUBTOTALS THIS SHEET							69	4155	110		187		948	101		113			155
SUBTOTALS SHEET 210								6693	622	170	83	96		94		408	506	149	
TOTALS CARRIED TO GENERAL SUMMARY							69	10848	732	170	270	96	948	195		521	506	149	155

CALCULATED AJE
CHECKED CWL

WALK CALCULATIONS

SUM-76/77-11.27/12.12

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ARGLLAND

PROJECT DATA				
TOTAL AREA OF PROJECT (RIGHT OF WAY)	14.7 AC.	SOIL DATA	(SEE SOIL PROFILE SHEETS)	
PROJECT EARTH DISTURBED AREA	14.0 AC.	CONTRACTOR EARTH DISTURBED AREA		3.0 AC.
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.50	NOTICE OF INTENT EARTH DISTURBED AREA		17.0 AC.
RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.50	IMPERVIOUS AREA FOR PRE-CONSTRUCTION		5.98 AC.
SOIL AND WATER CONSERVATION MAPS	23	IMPERVIOUS AREA FOR POST CONSTRUCTION		5.32 AC.
IMMEDIATE RECEIVING WATERS	N/A			
SUBSEQUENT RECEIVING WATERS	LITTLE CUYAHOGA RIVER			

USGS QUADRANT NO. 41081-A5-TF-024
AKRON WEST, OHIO

LONGITUDE: W 81°30'29"*
LATITUDE: N 41°03'44"*

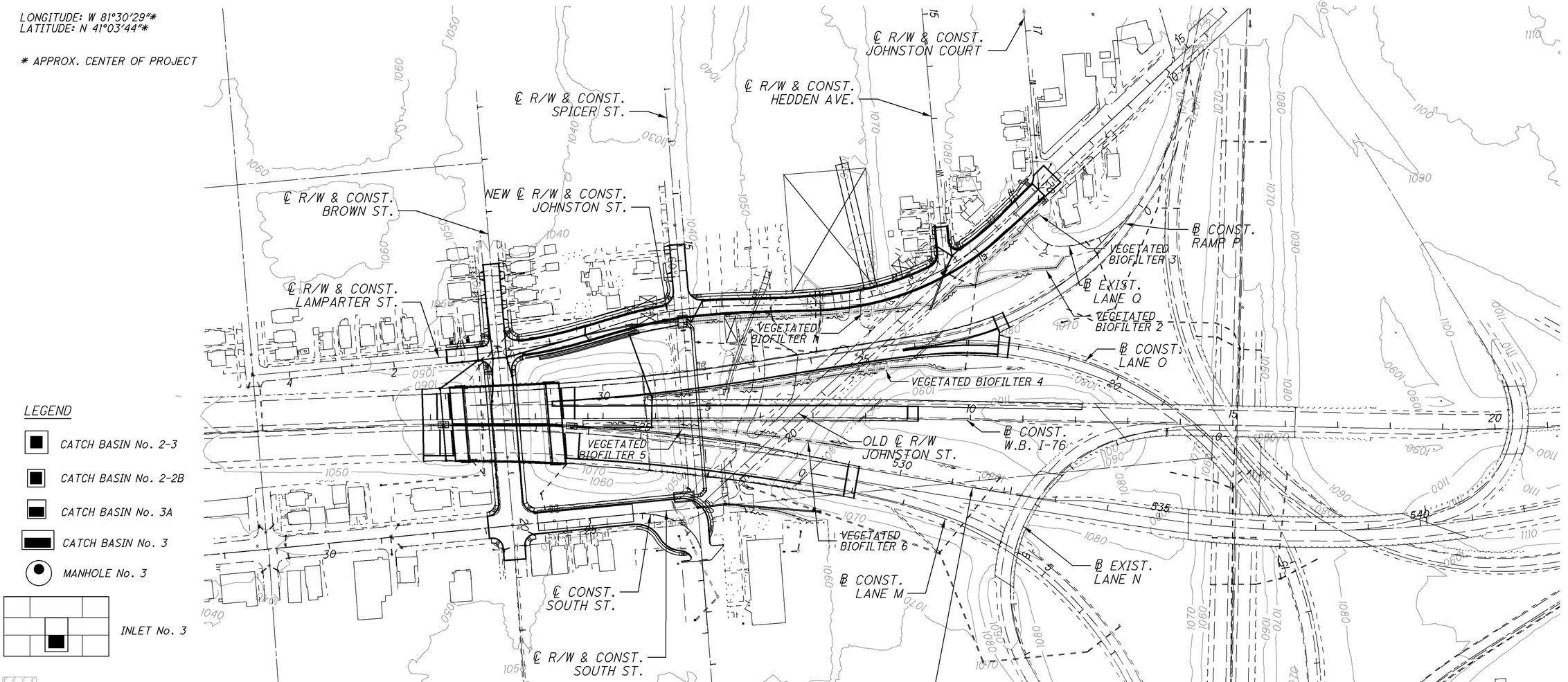
* APPROX. CENTER OF PROJECT

BMP TYPE	LOCATION	STATION	LATITUDE	LONGITUDE	EDA TREATMENT CREDIT (ACRES)
VEGETATED BIOFILTER 1	℄ R/W & CONST. JOHNSTON ST.	9+05	41° 03' 46.29" N	81° 30' 23.40" W	1.51
		3+75	41° 03' 46.08" N	81° 30' 30.52" W	
VEGETATED BIOFILTER 2	℄ R/W & CONST. JOHNSTON ST.	10+50	41° 03' 46.67" N	81° 30' 21.14" W	0.63
		9+05	41° 03' 46.29" N	81° 30' 23.40" W	
VEGETATED BIOFILTER 3	℄ R/W & CONST. JOHNSTON ST.	10+75	41° 03' 47.52" N	81° 30' 21.66" W	0.19
		9+05	41° 03' 46.29" N	81° 30' 23.40" W	
VEGETATED BIOFILTER 4	℄ CONST. W.B. I-76	5+50	41° 03' 44.76" N	81° 30' 29.61" W	0.77
		9+89	41° 03' 44.74" N	81° 30' 23.83" W	
VEGETATED BIOFILTER 5	℄ CONST. W.B. I-76	6+75	41° 03' 43.68" N	81° 30' 28.09" W	0.47
		3+92	41° 03' 44.16" N	81° 30' 31.73" W	
VEGETATED BIOFILTER 6	℄ CONST. W.B. I-76	7+76	41° 03' 43.44" N	81° 30' 26.80" W	0.24
		6+75	41° 03' 43.68" N	81° 30' 28.09" W	
TREATMENT PROVIDED					3.81
TREATMENT REQUIRED*					2.81

* CALCULATED PER L&D VOL. 2, SEC. 1115.7

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REMOVAL OF STRUCTURES SUM-76-1137 L & R AND SUM-77-1212R (I-76 & I-77 OVER SPICER AND JOHNSTON STREETS) AND REHABILITATION OF SUM-76-1127 (I-76 OVER BROWN STREET). PROJECT ALSO INVOLVES THE REALIGNMENT OF JOHNSTON STREET WITH DRAINAGE, UTILITY AND INTERSECTION IMPROVEMENTS.



LEGEND

- CATCH BASIN No. 2-3
- CATCH BASIN No. 2-2B
- CATCH BASIN No. 3A
- CATCH BASIN No. 3
- MANHOLE No. 3
- INLET No. 3
- ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER WITH 6" ITEM 659 - TOPSOIL)

ITEM 832 - STORM WATER POLLUTION PREVENTION PLAN = LS
ITEM 832 - EROSION CONTROL = 100,000 EACH

QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED ATR
CHECKED CWL

PROJECT SITE PLAN

SUM-76/77-11.27/12.12

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BEGIN WORK
STA. 520+77.22
W.B. I-76

BEGIN PROJECT
STA. 520+85.37
W.B. I-76

℄ R/W & CONST.
LAMPARTER ST.

NEW ℄ R/W & CONST. JOHNSTON ST.

MEET EX. GUARDRAIL
STA. 520+77.22

BEGIN RESURF. & WIDENING
STA. 520+85.37 (WB)
STA. 33+44.18 (LANE O)

SUSPEND RESURF. BEGIN FULL DEPTH PVMT.
STA. 520+72.98 (WB)
STA. 33+16.32 (LANE O)

END FULL DEPTH COMP. PVMT. BEGIN FULL DEPTH ASPH. PVMT.
STA. 523+75.17 (WB)
STA. 30+53.02 (LANE O)

STRUCTURE NO. SUM-76-1127

PROP. RET. WALL

BEGIN CURB STA. 33+17.00

PT Sta. 31+62.04

℄ CONST. LANE O

℄ CONST. W.B. I-76

PC Sta. 520+00.79

PC Sta. 520+00.79

℄ CONST. E.B. I-76

PT Sta. 522+14.27

MATCH LINE STA. 3+75.00 W.B. I-76

EQUATION:
Sta 524+28.92 BK =
Sta 3+00.00 AH

ex. O/H 4kv transmission line

℄ R/W & CONST. BROWN ST.

1 BEGIN APPROACH SLAB
STA. 521+41.15
END APPROACH SLAB
STA. 521+66.15

2 BEGIN APPROACH SLAB
STA. 523+25.17
END APPROACH SLAB
STA. 523+50.17

PRESSURE RELIEF JOINT, TYPE A

3 ℄ CONST. LANE O
P.I. Sta. 29+29.23
Δ = 6° 50′ 14″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 233.36′
L = 466.17′
E = 6.96′
C = 465.90′
Θ_{max} = 0.0275
P.C. Sta. 26+95.87
P.T. Sta. 31+62.04

5 ℄ CONST. W.B. I-76
P.I. Sta. 521+07.54
Δ = 2° 08′ 05″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 106.75′
L = 213.47′
E = 0.99′
C = 213.46′
Θ_{max} = 0.0179 (NDC = 0.027)
P.C. Sta. 520+00.79
P.T. Sta. 522+14.27

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
A	33+19.04	LANE O	33+44.04	LANE O	RT	SHOULDER	10.00′	9.59′	61:1

FOR W.B. I-76 PROFILE, SEE SHEET 214
FOR E.B. I-76 PLANS, SEE SHEETS 219 - 222
FOR LANE O PLANS, SEE SHEETS 223 - 227
FOR BROWN ST. PLANS, SEE SHEET 233 - 235
FOR LAMPARTER ST. PLANS, SEE SHEET 237
FOR JOHNSTON ST. PLANS, SEE SHEETS 228-230
FOR STRUCTURE PLANS, SEE SHEETS 577 - 632
FOR PIPE PROFILES, SEE SHEET 214, 276, 372
FOR GORE DETAILS, SEE SHEET 347
FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR RETAINING WALL DETAILS, SEE SHEETS 375 - 381
FOR ESTIMATED QUANTITIES, SEE SHEETS 194 - 206

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED ATR CHECKED CWL

PLAN - W.B. I-76
STA. 520+00.79 TO STA. 3+75.00

SUM-76/77-11.27/12.12

213
652

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+85.37 1061.58 | 1062.17 | 1063.17 | 1064.18 | 1065.16 | 1066.15 | 1067.14 | 1068.13 | 1069.12 | 1070.11 | 1071.09 | 1072.05 | 1072.99 | 1073.91 | 1074.82 / 1074.96 | 1075.84 | 1076.71 | 1077.56

D-19
STA 521+23.50, 7.76' LT
(E.B. I-76)
I-3-C1, GRATE ELEV 1062.60
15" (N) 1056.85
15" (S) 1056.85
6" UD (E) 1057.85

ex. O/H 4kv transmission line (approx. height)

D-10
STA 523+67.74, 10.74' LT
(E.B. I-76)
I-3-C1, GRATE ELEV 1072.12
15" (E) 1068.12
6" UD (E) 1068.87
6" UD (NE) 1068.87
6" UD (W) 1068.87

EQUATION:
STA. 524+28.92 BK =
STA. 3+00.00 AH

250.00' VC
P.V.I. STA 524+25.00
ELEV = 1,075.05'
K = 340

STA. 523+00.00
ELEV 1070.11

D-10

+3.95 %

+3.22 %

P-10 152'-15" TYPE B @ 0.60%

MEET EXISTING
STA. 520+85.37

+4.20 %

D-19

+4.01 %

P.V.I. STA 521+50.00
ELEV = 1,064.18'
(NO VERTICAL CURVE)

+3.95 %

ex. O/H electric (approx. height)

elec.

18.41' EXIST. ACTUAL
18.38' PROP.
16.50' REQ'D

12" gas
8" gas
2" fiber optic
8" gas
8" gas
6" water
8" san.
PROP. 24" WATER
W-1

1085 | 1080 | 1075 | 1070 | 1065 | 1060 | 1055 | 1050 | 1045 | 1040 | 1035 | 1030

1060.16 | 1062.20 | 1064.15 | 1045.66 | 1040.48 | 1054.97 | 1071.89 | 1073.90 | 1074.97 | 1076.48

521+00 | 522+00 | 523+00 | 524+00 | 3+00

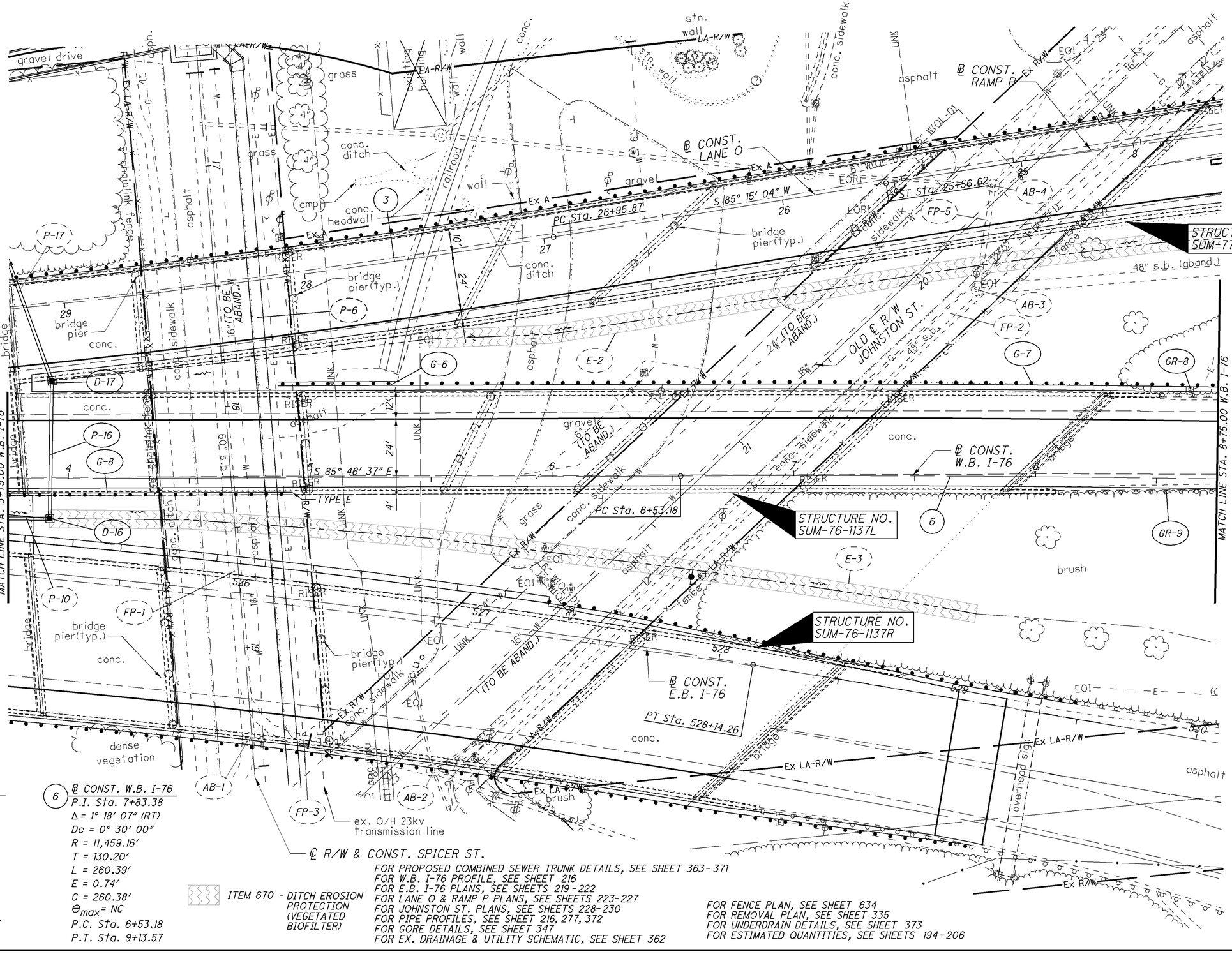
FOR W.B. I-76 PLAN, SEE SHEET 213

PROFILE - W.B. I-76
STA. 520+00.79 TO STA. 3+75.00

CALCULATED ATR
CHECKED CWL

SUM-76/77-11.27/12.12

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3 ℄ CONST. LANE O	6 ℄ CONST. W.B. I-76
P.I. Sta. 29+29.23	P.I. Sta. 7+83.38
Δ = 6° 50' 14" (RT)	Δ = 1° 18' 07" (RT)
Dc = 1° 28' 00"	Dc = 0° 30' 00"
R = 3,906.53'	R = 11,459.16'
T = 233.36'	T = 130.20'
L = 466.17'	L = 260.39'
E = 6.96'	E = 0.74'
C = 465.90'	C = 260.38'
e_{max} = 0.0275	e_{max} = NC
P.C. Sta. 26+95.87	P.C. Sta. 6+53.18
P.T. Sta. 31+62.04	P.T. Sta. 9+13.57

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

FOR PROPOSED COMBINED SEWER TRUNK DETAILS, SEE SHEET 363-371
FOR W.B. I-76 PROFILE, SEE SHEET 216
FOR E.B. I-76 PLANS, SEE SHEETS 219-222
FOR LANE O & RAMP P PLANS, SEE SHEETS 223-227
FOR JOHNSTON ST. PLANS, SEE SHEETS 228-230
FOR PIPE PROFILES, SEE SHEET 216, 277, 372
FOR GORE DETAILS, SEE SHEET 347
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362

FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR ESTIMATED QUANTITIES, SEE SHEETS 194-206

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED CWL

PLAN - W.B. I-76
STA. 3+75.00 TO STA. 8+75.00

SUM-76/77-11.27/12.12

215
652

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1077.56 1078.39 1079.20 1080.00 1080.81 1081.61 1082.42 1083.22 1084.03 1084.83 1085.64 1086.44 1087.24 1088.05 1088.87 1089.71 1090.58 1091.48 1092.40 1093.35 1094.32

ex. O/H 23kv transmission line (approx. height)

1100 1095 1090 1085 1080 1075 1070 1065 1060 1055 1050 1045 1040 1035 1030

250.00' VC
P.V.I. STA 524+25.00
ELEV = 1,075.05'
K = 340

STA. 4+21.08
ELEV 1079.07

+3.22 %

D-16

P-16

P-10

152'-15" TYPE B @ 0.60%

STA. 7+00.00
ELEV. 1088.05

+3.22 %

+4.06 %

200.00' VC
P.V.I. STA 8+00.00
ELEV = 1,091.27'
K = 239

ex. O/H electric (approx. height)

unk.

unk.

6" water (TO BE ABAND.)

24" water (TO BE ABAND.)

16" water (TO BE ABAND.)

12" gas

D-16
STA 3+92.29, 16.52' RT
(W.B. I-76)
CB-2-2B, GRATE ELEV 1076.35
15" (W) 1067.21
15" (N) 1067.21

16" water (TO BE ABAND.)

FP-1

60" s.b.

P-6

FP-2

48" s.b.

1062.23 1044.87 1047.47 1052.31 1053.12 1053.31 1054.09 1070.02 1091.52 1093.34

4+00 5+00 6+00 7+00 8+00

FOR W.B. I-76 PLAN, SEE SHEET 215

CALCULATED ATR
CHECKED CWL

PROFILE - W.B. I-76
STA. 3+75.00 TO STA. 8+75.00

SUM-76/77-11.27/12.12

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TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
B	11+99.06	W.B. I-76	12+09.06	W.B I-76	LT	SHOULDER	12.00′	11.70′	33:1

FOR W.B. I-76 PROFILE, SEE SHEET 218
FOR LANE O & RAMP P PLANS, SEE SHEETS 223-227
FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR ESTIMATED QUANTITIES, SEE SHEETS 194-206

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

ex. 48″ sewer (TO REMAIN)
Ex LA-R/W
EX-1
UNK
conc. sidewalk
12″ cp (TO REMAIN)
guardrail
(QDOT)
asphalt
℄ CONST. RAMP P
brush
PT Sta. 7+18.98
℄ CONST. LANE O
CS Sta. 23+56.62
bridge
E-2
guardrail
grass
CONST. LIMITS
END WORK STA. 12+12.25 W.B. I-76
edge of berm
grass
ex. cb (TO REMAIN)
48″ s.b. (aband.)
EX-4
asphalt
END SHLD. WIDENING/REPLACEMENT STA. 12+12.25
brush
END FULL DEPTH ASPH. PVMT. RESUME RESURF. STA. 8+80.00
G-7
GR-8
B
conc. wall
MATCH LINE STA. 8+75.00 W.B. I-76
12′
24′
SAWCUT
BTA, TYPE 2
11.70′
bridge
asphalt
℄ CONST. W.B. I-76
S 84° 28′ 30″ E
guardrail
GR-9
PT Sta. 9+13.57
MEET EXIST. END RESURF.
℄ EXIST. RAMP N
grass
brush
dense vegetation
conc. wall
Ex LA-R/W
END PROJECT STA. 9+00.00 W.B. I-76
CONST. LIMITS
(QDOT)
edge of berm
asphalt
Ex R/W
E(QL-D)
E01

6 ℄ CONST. W.B. I-76
P.I. Sta. 7+83.38
Δ = 1° 18′ 07″ (RT)
Dc = 0° 30′ 00″
R = 11,459.16′
T = 130.20′
L = 260.39′
E = 0.74′
C = 260.38′
e max = NC
P.C. Sta. 6+53.18
P.T. Sta. 9+13.57

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED ATR
CHECKED CWL

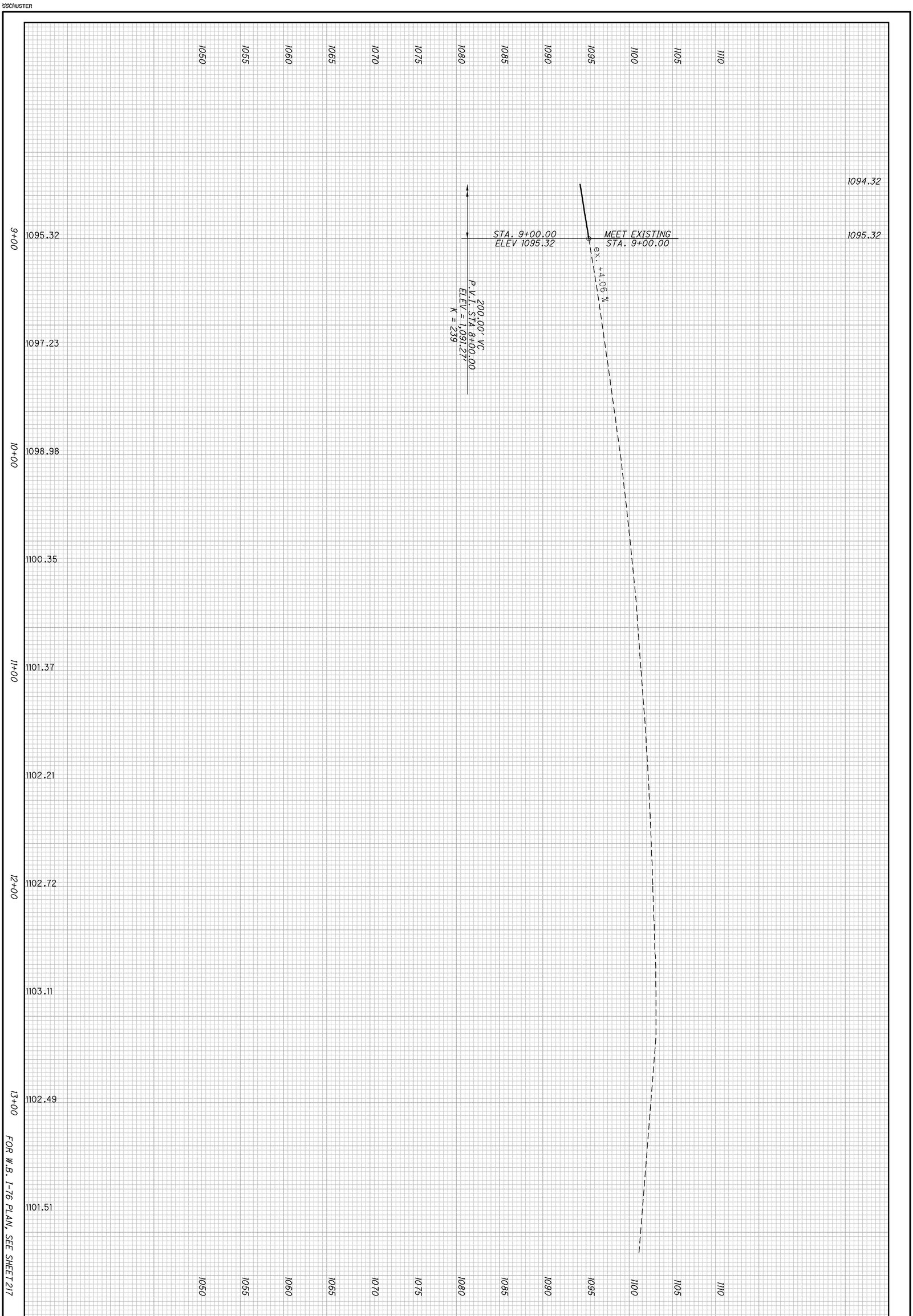
PLAN - W.B. I-76
STA. 8+75.00 TO END

SUM-76/77-11.27/12.12

217
652

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218 / 652	SUM-76/77-11.27/12.12	**PROFILE - W.B. I-76** **STA. 8+75.00 TO END**	CALCULATED ATR CHECKED CWL

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
C	520+85.00	E.B. I-76	521+05.00	E.B. I-76	RT	SHOULDER	10.62′	10.00′	32:1
D	523+85.00	E.B. I-76	524+10.00	E.B. I-76	RT	SHOULDER	10.00′	12.00′	13:1

7 ℄ CONST. E.B. I-76
P.I. Sta. 524+09.00
Δ = 11° 55′ 51″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 408.21′
L = 813.47′
E = 21.27′
C = 812.00′
e_{max} = 0.025 (NDC = 0.0363)
P.C. Sta. 520+00.79
P.T. Sta. 528+14.26

℄ R/W & CONST. BROWN ST.
℄ CONST. W.B. I-76
℄ CONST. E.B. I-76
℄ CONST. LANE O
℄ R/W & CONST. SOUTH ST.
PT Sta. 31+62.04
PT Sta. 522+14.27
PI Sta. 20+00.00
PC Sta. 520+00.79
BEGIN CURB STA. 521+21.00
MEET EX. GUARDRAIL STA. 520+77.67
SUSPEND RESURF. BEGIN FULL DEPTH COMP. PVMT. STA. 521+17.08
MEET EXIST. BEGIN RESURF. & WIDENING STA. 520+85.00
END FULL DEPTH COMP. PVMT. BEGIN FULL DEPTH ASPH. PVMT. STA. 523+83.53
EQUATION: Sta 524+28.92 BK = Sta 3+00.00 AH
END TYPE CI BARRIER
BEGIN TYPE BI BARRIER
STA. 523+95.00
STRUCTURE NO. SUM-76-1127
BTA, TYPE 1
BTA, TYPE 2
MATCH LINE STA. 525+00.00 E.B. I-76
BEGIN WORK STA. 520+77.67 E.B. I-76
ex. O/H 4kv transmission line

1 BEGIN APPROACH SLAB
STA. 521+42.08
END APPROACH SLAB
STA. 521+67.11

2 BEGIN APPROACH SLAB
STA. 523+26.54
END APPROACH SLAB
STA. 523+51.67

PRESSURE RELIEF JOINT, TYPE A

FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

FOR E.B. I-76 PROFILE, SEE SHEET 220
FOR W.B. I-76 PLANS, SEE SHEETS 213 - 218
FOR LANE O PLANS, SEE SHEETS 223 - 227
FOR BROWN ST. PLANS, SEE SHEETS 233 - 235
FOR SOUTH ST. PLANS, SEE SHEET 236
FOR STRUCTURE PLANS, SEE SHEETS 577 - 632
FOR PIPE PROFILES, SEE SHEET 220,276,372

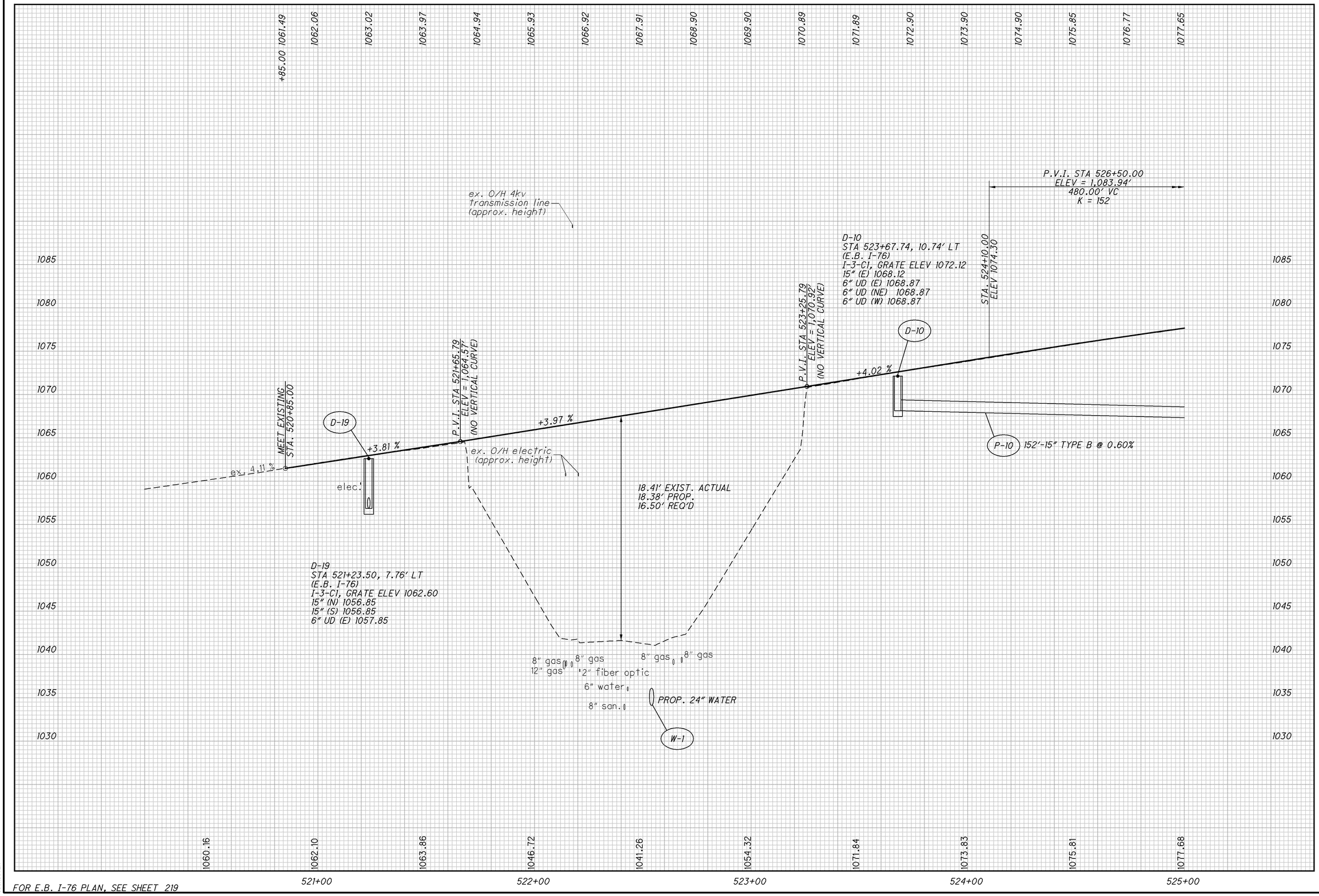
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED ATR
CHECKED CWL

PLAN - E.B. I-76
STA. 520+00.79 TO STA. 525+00.00

SUM-76/77-11.27/12.12

219
652

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FOR E.B. I-76 PLAN, SEE SHEET 219

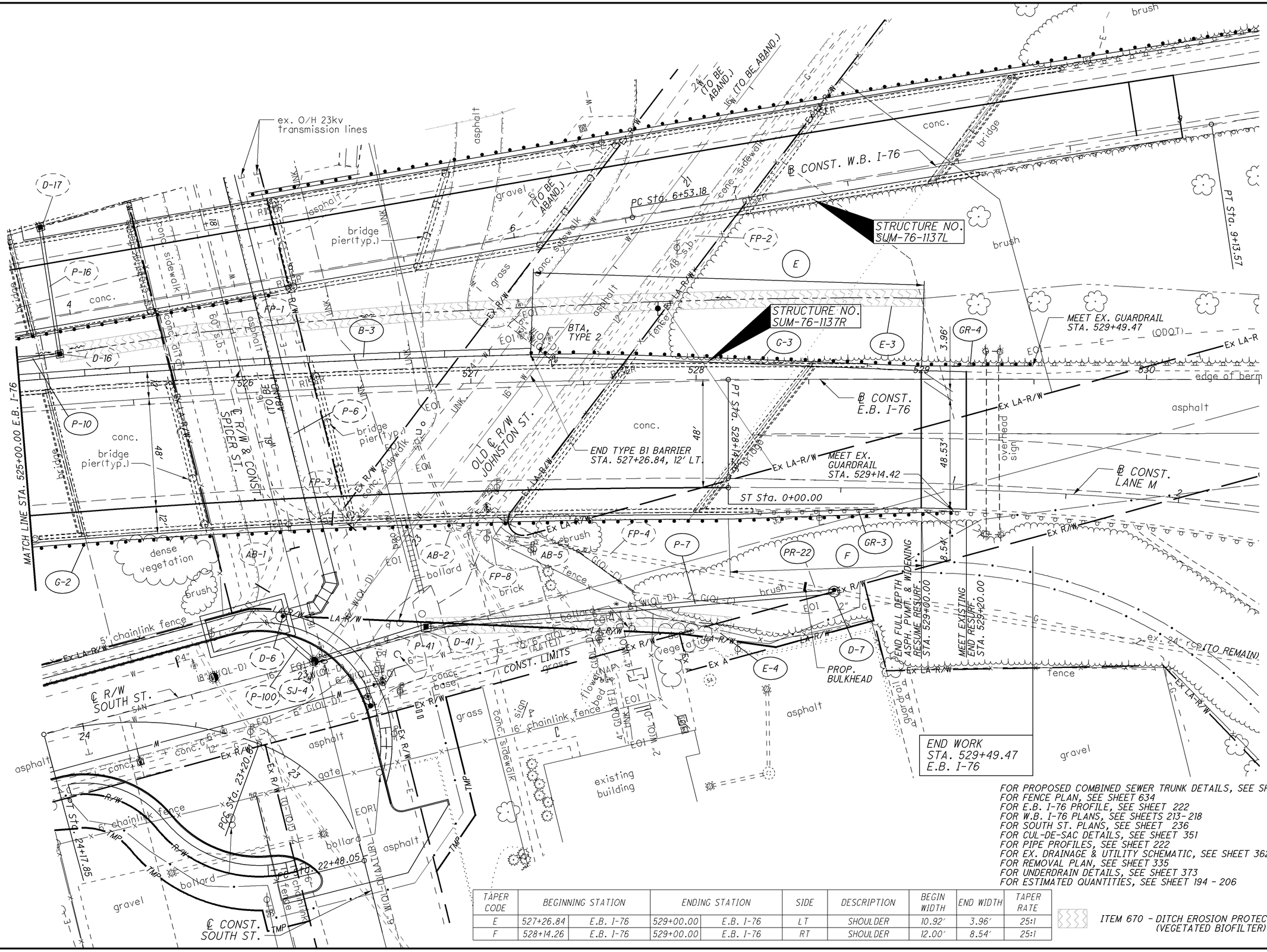
PROFILE - E.B. I-76
STA. 520+00.79 TO STA. 525+00.00

CALCULATED ATR
CHECKED CWL

SUM-76/77-11.27/12.12

220
652

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FOR PROPOSED COMBINED SEWER TRUNK DETAILS, SEE SHEET 363 - 371
FOR FENCE PLAN, SEE SHEET 634
FOR E.B. I-76 PROFILE, SEE SHEET 222
FOR W.B. I-76 PLANS, SEE SHEETS 213- 218
FOR SOUTH ST. PLANS, SEE SHEET 236
FOR CUL-DE-SAC DETAILS, SEE SHEET 351
FOR PIPE PROFILES, SEE SHEET 222
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
E	527+26.84	E.B. I-76	529+00.00	E.B. I-76	LT	SHOULDER	10.92'	3.96'	25:1
F	528+14.26	E.B. I-76	529+00.00	E.B. I-76	RT	SHOULDER	12.00'	8.54'	25:1

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED CWL

PLAN - E.B. I-76
STA. 525+00.00 TO END

SUM-76/77-11.27/12.12

221
652

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SSCHUSTER

CALCULATED ATR
CHECKED CWL

PROFILE - E.B. I-76
STA. 525+00.00 TO END

SUM-76/77-11.27/12.12

1077.65 1078.48 1079.28 1080.03 1080.74 1081.41 1082.04 1082.63 1083.18 1083.69 1084.15 1084.58 1084.96 1085.30 1085.61 1085.87 1086.09 1086.15 +20.00

ex. O/H 23kv transmission line (approx. height)

ex. O/H 23kv transmission line (approx. height)

480.00' VC
P.V.I. STA 526+50.00
ELEV = 1,083.94'
K = 152

20' GRAPHIC GRADE

STA. 528+90.00 ELEV 1086.00 MEET EXISTING

STA. 529+00.00 END RESURFACING

MEET EXISTING STA. 529+20.00

ex. +0.56%

+4.02 %

+0.86 %

D-16
STA 3+92.29, 16.52' RT
(W.B. I-76)
CB-2-2B, GRATE ELEV 1076.35
15" (W) 1067.21
15" (N) 1067.21

D-16

P-16

P-10 152'-15" TYPE B @ 0.60%

ex. O/H electric (approx. height)

D-41
STA 526+76.27, 107.30' RT
(E.B. I-76)
CB-2-3, GRATE ELEV 1050.38
24" (W) 1040.02
24" (E) 1040.02

AB-5
STA 21+26.18, 37.83' LT
(OLD JOHNSTON)
EX. CB, GRATE ELEV 1052.42'
ex. 24" RCP NW 1048.27
ex. 24" RCP SE 1048.27

D-7
STA 528+61.30, 94.18' RT
(E.B. I-76)
MH-3, RIM ELEV 1067.91
24" (W) 1050.65
EX. 24" (SE) 1050.65

D-7

PROP. BULKHEAD

D-41

AB-5

unk.

unk.

unk.

12" gas

24" water (TO BE ABAND.)

16" water (TO BE ABAND.)

ex. 24" rcp (TO REMAIN)

16" water (TO BE ABAND.)

P-7 182'-24" TYPE C @ 5.84%

P-41 52'-24" TYPE B @ 5.83%

60" s.b.

P-6

FP-1

FP-2

48" s.b.

1077.68 1054.71 1046.90 1049.99 1052.03 1052.99 1060.33 1085.72 1086.09 1086.09 1085.76

525+00 526+00 527+00 528+00 529+00

FOR E.B. I-76 PLAN, SEE SHEET 221

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ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

PRESSURE RELIEF JOINT, TYPE A

FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR RETAINING WALL DETAILS, SEE SHEETS 375 - 381
FOR ESTIMATED QUANTITIES, SEE SHEETS 194 - 206

FOR LANE O PROFILE, SEE SHEET 224
FOR W.B. I-76 PLANS, SEE SHEETS 213 - 218
FOR JOHNSTON ST. PLANS, SEE SHEETS 228 - 230
FOR PIPE PROFILES, SEE SHEETS 277, 372
FOR STRUCTURE PLANS, SEE SHEETS 577 - 632
FOR GORE DETAILS, SEE SHEET 347
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR PROPOSED COMBINED SEWER TRUNK DETAILS, SEE SHEETS 363 - 371

3 ℄ CONST. LANE O
P.I. Sta. 29+29.23
Δ = 6° 50' 14" (RT)
Dc = 1° 28' 00"
R = 3,906.53'
T = 233.36'
L = 466.17'
E = 6.96'
C = 465.90'
e max = 0.0275
P.C. Sta. 26+95.87
P.T. Sta. 31+62.04

1 END APPROACH SLAB
STA. 30+82.78

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
X	30+22.29	LANE O	30+52.29	LANE O	RT	GUARDRAIL	12.00'	10.00'	15:1

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED CWL

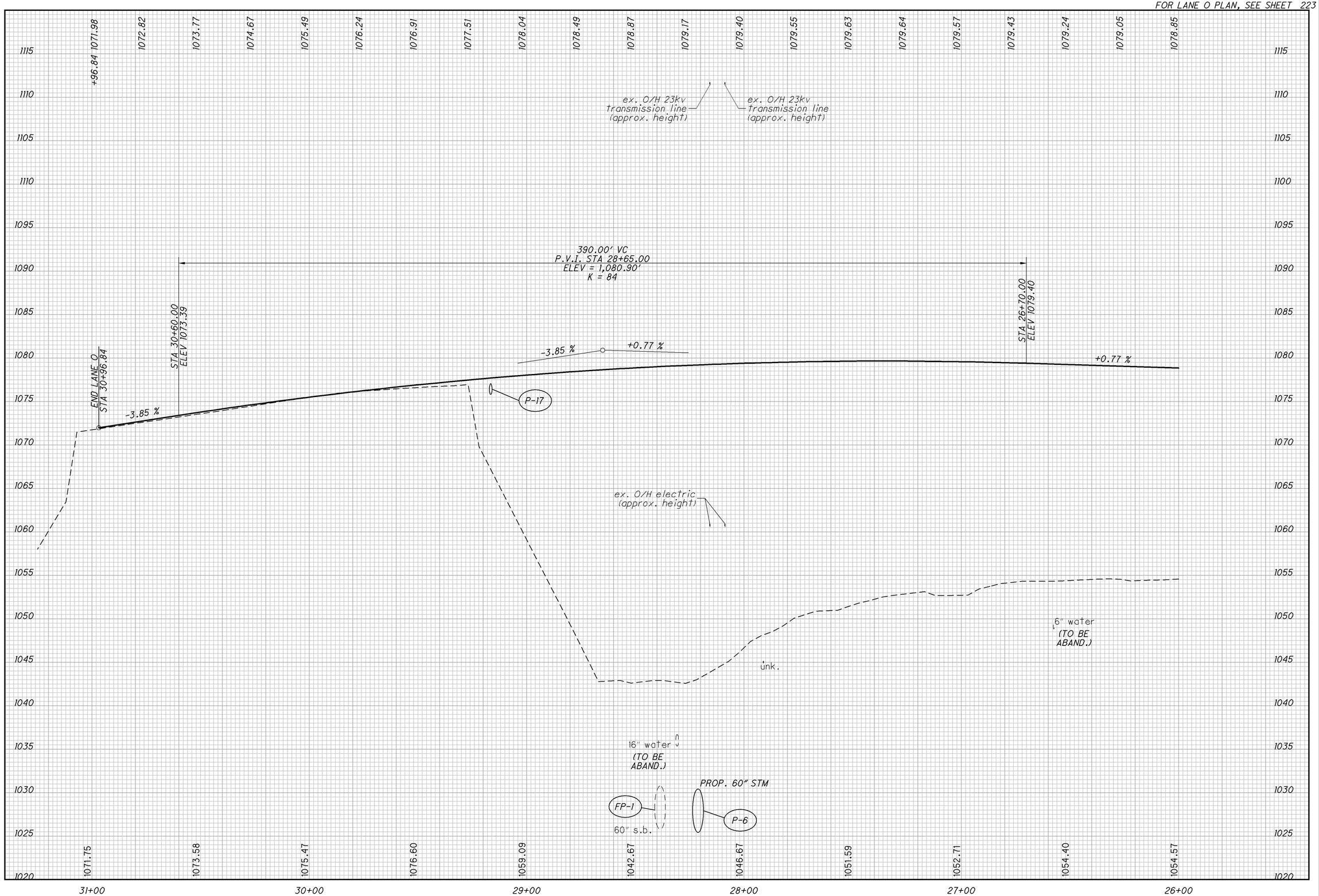
PLAN - LANE O
STA. 26+00.00 TO STA. 31+25.00

SUM-76/77-11.27/12.12

223
652

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FOR LANE O PLAN, SEE SHEET 223

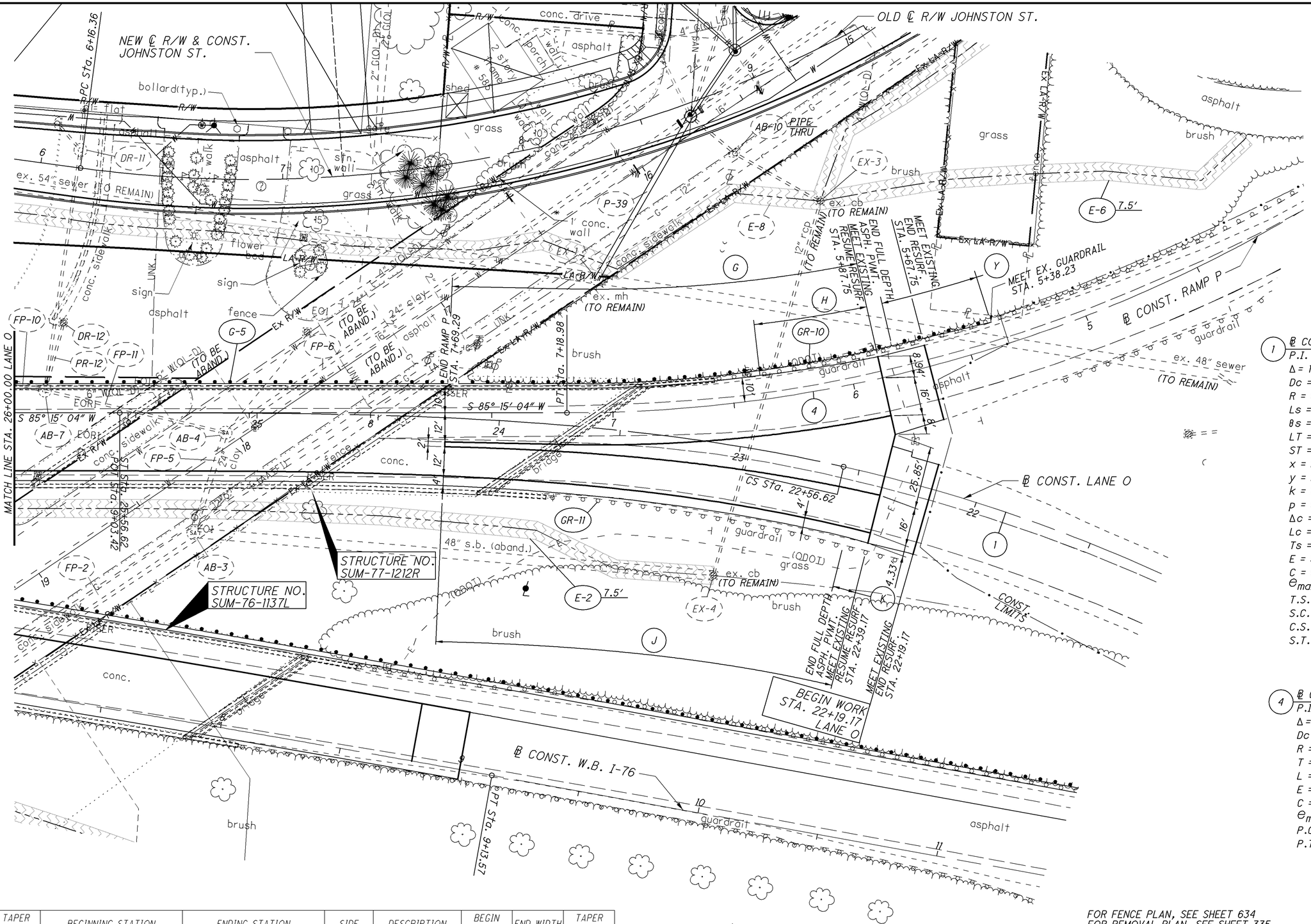


CALCULATED ATR
CHECKED CWL

PROFILE - LANE O
STA. 26+00.00 TO STA. 31+25.00

SUM-76/77-11.27/12.12

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1 ℄ CONST. LANE O
P.I. Sta. 20+78.63
Δ = 109° 18' 31" (LT)
Dc = 8° 30' 00"
R = 674.07'
Ls = 300.00'
θs = 12° 45' 00"
LT = 200.52'
ST = 100.47'
x = 298.52'
y = 22.17'
k = 149.75'
p = 5.55'
Δc = 83° 48' 31" (LT)
Lc = 985.99'
Ts = 1,108.00'
E = 500.71'
C = 900.41'
e_{max} = 0.0763
T.S. Sta. 9+70.63
S.C. Sta. 12+70.63
C.S. Sta. 22+56.62
S.T. Sta. 25+56.62

4 ℄ CONST. RAMP P
P.I. Sta. 4+11.19
Δ = 69° 30' 07" (RT)
Dc = 9° 40' 00"
R = 592.71'
T = 411.19'
L = 718.98'
E = 128.67'
C = 675.70'
e_{max} = 0.0394
P.C. Sta 0+00.00
P.T. Sta. 7+18.98

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
G	5+87.75	RAMP P	7+69.29	RAMP P	RT	PAVEMENT	16.00'	12.00'	45:1
H	5+87.75	RAMP P	6+37.75	RAMP P	RT	SHOULDER	8.94'	10.00'	47:1
J	22+39.17	LANE O	24+22.02	LANE O	LT	PAVEMENT	16.00'	12.00'	46:1
K	22+39.17	LANE O	22+49.17	LANE O	LT	SHOULDER	4.33'	4.00'	30:1
Y	5+38.23	RAMP P	5+80.98	RAMP P	RT	GUARDRAIL	10.48'	12.00'	28:1

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR LANE O PROFILE, SEE SHEET 226
FOR RAMP P PROFILE, SEE SHEET 227
FOR W.B. I-76 PLANS, SEE SHEETS 213-218
FOR JOHNSTON ST. PLANS, SEE SHEETS 228-230
FOR GORE DETAILS, SEE SHEET 346
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR ESTIMATED QUANTITIES, SEE SHEETS 194 -206

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED ATR
CHECKED CWL

PLAN - LANE O/RAMP P
STA. 21+00.00 TO STA. 26+00.00/STA. 4+00.00 TO STA. 7+69.29

SUM-76/77-11.27/12.12

225
652

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FOR LANE O PLAN, SEE SHEET 225

1078.85 1078.66 1078.50 1078.38 1078.31 1078.29 1078.32 1078.39 1078.50 1078.56 1078.55 1078.48 1078.34 1078.14 1077.91 1077.81 1077.76

+39.17 +19.17

1110 1105 1100 1095 1090 1085 1080 1075 1070 1065 1060 1055 1050

135.00' VC
P.V.I. STA 23+45.00
ELEV = 1,078.78'
K = 97

STA. 22+77.50
ELEV 1078.16

MEET EXISTING
STA. 22+39.17

MEET EXISTING
STA. 22+19.17

+0.77 %

+0.77 %

-0.49 %

-0.49 %

+0.91 %

+0.91 %

ex. +0.16%

STA 25+77.50
ELEV 1078.68

165.00' VC
P.V.I. STA 24+95.00
ELEV = 1,078.04'
K = 131

STA 24+12.50
ELEV 1078.45

elec.

12" rcp
(TO REMAIN)

12" gas

tele.

10" stm.

6" water (TO BE ABAND.)

6" water (TO BE ABAND.)

6" water (TO BE ABAND.)

24" water (TO BE ABAND.)

16" water (TO BE ABAND.)

24" san.

FP-6

1054.57 1054.82 1055.95 1059.45 1070.51 1078.18 1078.07 1077.85 1077.71 1077.55 1077.49

26+00 25+00 24+00 23+00 22+00 21+00

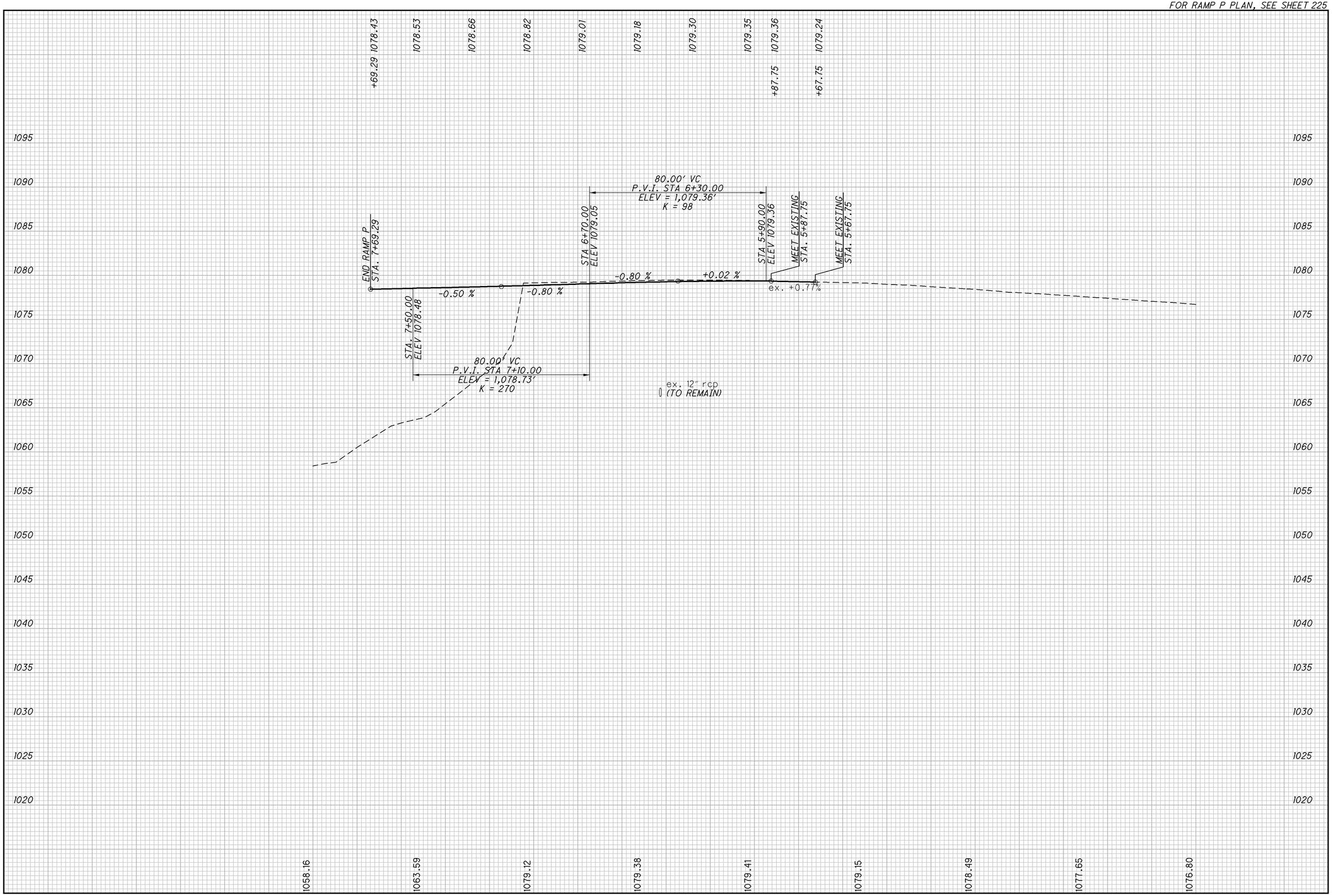
CALCULATED ATR
CHECKED CWL

PROFILE - LANE O
STA. 21+00.00 TO STA. 26+00.00

SUM-76/77-11.27/12.12

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FOR RAMP P PLAN, SEE SHEET 225



CALCULATED ATR
CHECKED CWL

PROFILE - RAMP P
STA. 4+00.00 TO STA. 7+69.29

SUM-76/77-11.27/12.12

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TAPER TABLE								
TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
N	1+69.61	JOHNSTON ST.	2+36.28	JOHNSTON ST.	LT	PAVEMENT	14.50′	12.00′	27:1
DD	1+69.61	JOHNSTON ST.	2+36.28	JOHNSTON ST.	RT	PAVEMENT	12.00′	14.50′	27:1
P	4+10.17	JOHNSTON ST.	4+76.84	JOHNSTON ST.	RT	PAVEMENT	14.50′	12.00′	27:1

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

℄ R/W & CONST. SPICER ST.

1 BEGIN RETAINING WALL STA. 1+95.00, 25.46′ LT

2 END RETAINING WALL STA. 2+55.00, 23.92′ LT

STRUCTURE No. SUM-76-11127

℄ CONST. JOHNSTON ST. (15)
P.I. Sta. 1+24.42
Δ = 11° 49′ 21″ (LT)
Dc = 7° 30′ 00″
R = 763.94′
T = 79.10′
L = 157.63′
E = 4.08′
C = 157.36′
C.B. = N 80° 43′ 50″ E
e_{max} = NC
P.C. Sta. 0+45.32
P.R.C. Sta. 2+02.95

℄ CONST. JOHNSTON ST. (16)
P.I. Sta. 3+24.23
Δ = 18° 02′ 28″ (RT)
Dc = 7° 30′ 00″
R = 763.94′
T = 121.28′
L = 240.55′
E = 9.57′
C = 239.56′
C.B. = N 83° 50′ 23″ E
e_{max} = NC
P.R.C. Sta. 2+02.95
P.T. Sta. 4+43.50

FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR SPICER ST. PLANS, SEE SHEET 231
FOR PIPE PROFILES, SEE SHEETS 284, 287, 289-291, 372
FOR BROWN ST. PLANS, SEE SHEETS 233-235
FOR LAMPARTER ST. PLANS, SEE SHEET 237
FOR INTERSECTION DETAILS, SEE SHEETS 349, 350
FOR ENLARGED PLAN DETAIL AT BROWN ST. INTERSECTION, SEE SHEET 234
FOR STRUCTURE PLANS, SEE SHEET 577 - 632

FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR PROPOSED COMBINED SEWER DETAILS, SEE SHEETS 363 - 371
FOR RETAINING WALL DETAILS, SEE SHEETS 375 - 381
FOR WATER WORK & SANITARY PLANS, SEE SHEETS 382 - 391
FOR ESTIMATED QUANTITIES, SEE SHEETS 194 - 206

D-28
STA 16+79.51, 15.00′ LT
(BROWN)
MH-3, RIM ELEV 1037.24
18″ (E) 1030.78
18″ (W) 1031.73
12″ (N) 1032.23
12″ (S) 1033.07

D-37
STA 2+50.00, 25.94′ RT
(JOHNSTON)
CB-2-2B, GRATE ELEV 1037.87
15″ (E) 1035.50
15″ (S) 1035.50

D-31
STA 1+68.90, 0.78′ RT
(JOHNSTON)
MH-3, RIM ELEV 1035.48
24″ (E) 1028.00
18″ (W) 1028.50
15″ (N) 1030.69
15″ (SE) 1030.77

D-32
STA 2+59.41, 9.60′ RT
(JOHNSTON)
MH-3, RIM ELEV 1035.91
24″ (E) 1027.15
24″ (W) 1027.15

D-35
STA 3+83.35, 26.69′ RT
(JOHNSTON)
JUNCTION CHAMBER, APP, TYPE 2
JUNCTION CHAMBER #2
RIM ELEV 1039.29
EX. 60″ SEG. BLOCK (N) 1023.34±
60″ (SE) 1023.69
24″ (W) 1026.69
15″ (SW) 1027.44
12″ (E) 1027.69

D-34
STA 3+75.00, 25.00′ RT
(JOHNSTON)
CB-2-2B, GRATE ELEV 1037.23
12″ (NE) 1033.23
12″ (NW) 1028.23
6″ UD (N) 1034.23

D-36
STA 4+01.10, 14.00′ LT
(JOHNSTON)
CB-3A, GRATE ELEV 1039.06
12″ (SW) 1035.06
6″ UD (E) 1036.56

DR-20
STA 0+50.20, 10.35′ RT
(JOHNSTON)
EX. CB, GRATE ELEV 1035.02
EX. 15″ CONC NW 1032.12

DR-6
STA 4+95.97, 15.75′ RT
(JOHNSTON)
EX. CB, GRATE ELEV 1053.15′
12″ CLAY E 1050.95

P.V.I. STA 0+23.03
ELEV = 1,036.91′
NO VERTICAL CURVE

P-28 156′-18″ TYPE B @ 1.46%

P-31 91′-24″ TYPE B @ 0.93%

P-37 94′-15″ TYPE C @ 8.57%

P-25 26′-18″ TYPE B @ 1.46%

P-32 88′-24″ TYPE B @ 0.52%

550.00′ VC
P.V.I. STA 3+65.00
ELEV = 1,032.47′
K = 65

P-36 47′-12″ TYPE C @ 3.94%

P-34 9′-12″ TYPE C @ 5.98%

P-6 347′-60″ TYPE B, 706.03, A.P.P. @ 1.71%

STA 0+90.00
ELEV 1,036.04

-2.05 %
-1.30 %
+1.19 %
-1.30 %

6′ MIN COVER

ex. 15″ rcp
8″ WATER
ex. 24″ clay (TO REMAIN)
ex. 4″ gas
ex. 16″ water

MATCH LINE STA. 5+00.00 JOHNSTON STREET

PLAN AND PROFILE - JOHNSTON STREET
STA. 0+00.00 TO STA. 5+00.00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED CWL

SUM-76/77-11.27/12.12

228
652

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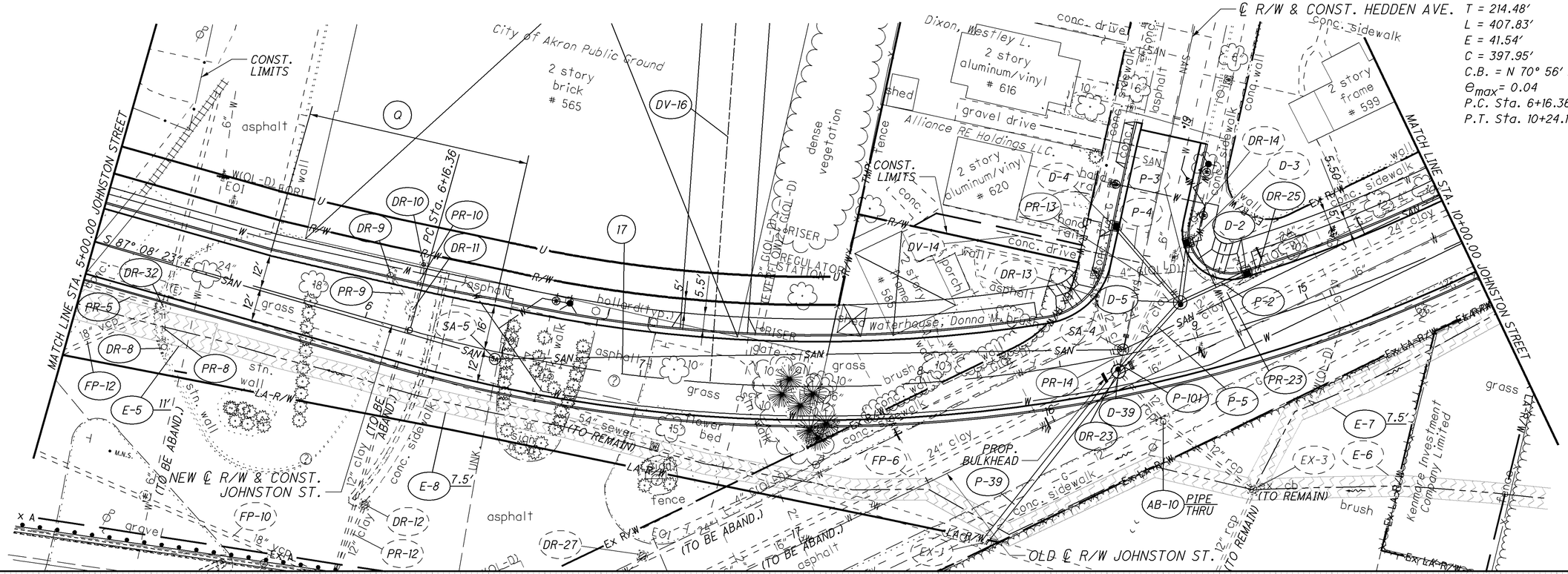
TAPER TABLE								
TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
Q	5+61.32	JOHNSTON ST.	6+43.88	JOHNSTON ST.	LT	PAVEMENT	12.00'	16.00'	21:1

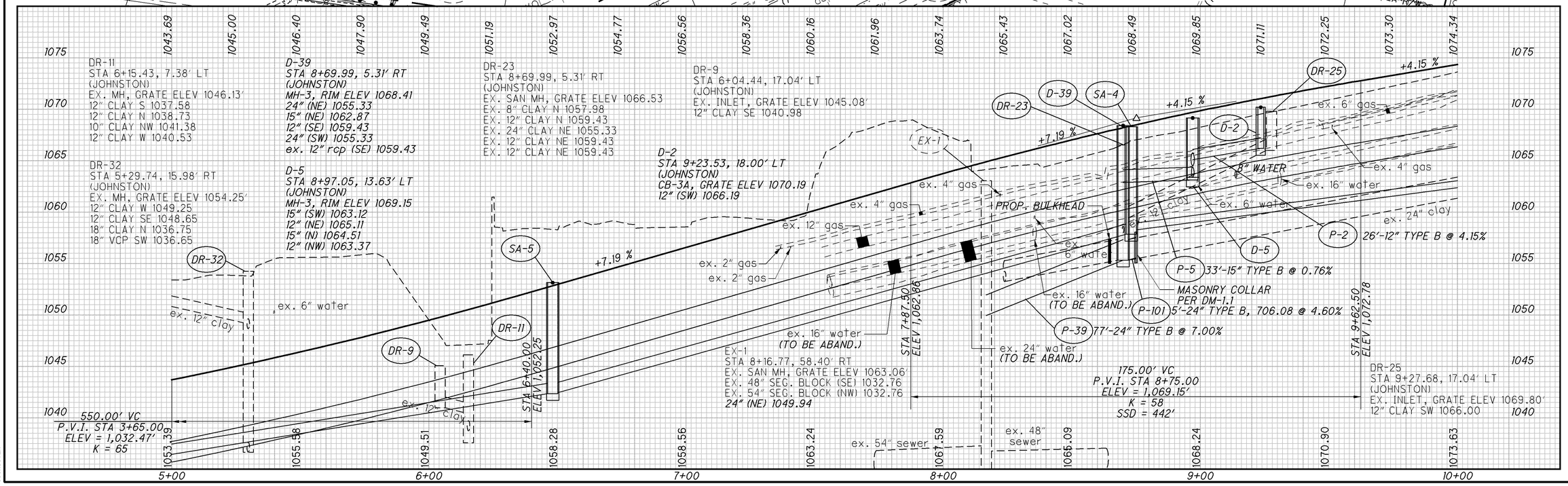
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR HEDDEN AVE. PLANS, SEE SHEET 232
FOR INTERSECTION DETAILS, SEE SHEETS 348 - 350
FOR PIPE PROFILES, SEE SHEETS 300- 302
FOR WATER WORK & SANITARY PLANS, SEE SHEETS 382 - 391
FOR LANE O PLANS, SEE SHEETS 223-227
FOR ESTIMATED QUANTITIES, SEE SHEETS 194-206

FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR DRIVE DETAILS AND PROFILES, SEE SHEETS 352-361

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50' 29" (LT)
Dc = 10° 45' 00"
R = 532.98'
T = 214.48'
L = 407.83'
E = 41.54'
C = 397.95'
C.B. = N 70° 56' 23" E
e_{max} = 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED CWL

PLAN AND PROFILE - JOHNSTON STREET STA. 5+00.00 TO STA. 10+00.00

SUM-76/77-11.27/12.12

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SSCHUSTER

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50′ 29″ (LT)
Dc = 10° 45′ 00″
R = 532.98′
T = 214.48′
L = 407.83′
E = 41.54′
C = 397.95′
C.B. = N 70° 56′ 23″ E
e_{max} = 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19

FOR ESTIMATED QUANTITIES, SEE SHEETS 194-206
FOR WATER WORK & SANITARY PLANS, SEE SHEETS 382 - 391
FOR PIPE PROFILES, SEE SHEETS 305, 306
FOR DRIVE DETAILS AND PROFILES, SEE SHEETS 352- 361
FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373

END WORK STA. 14+54.42

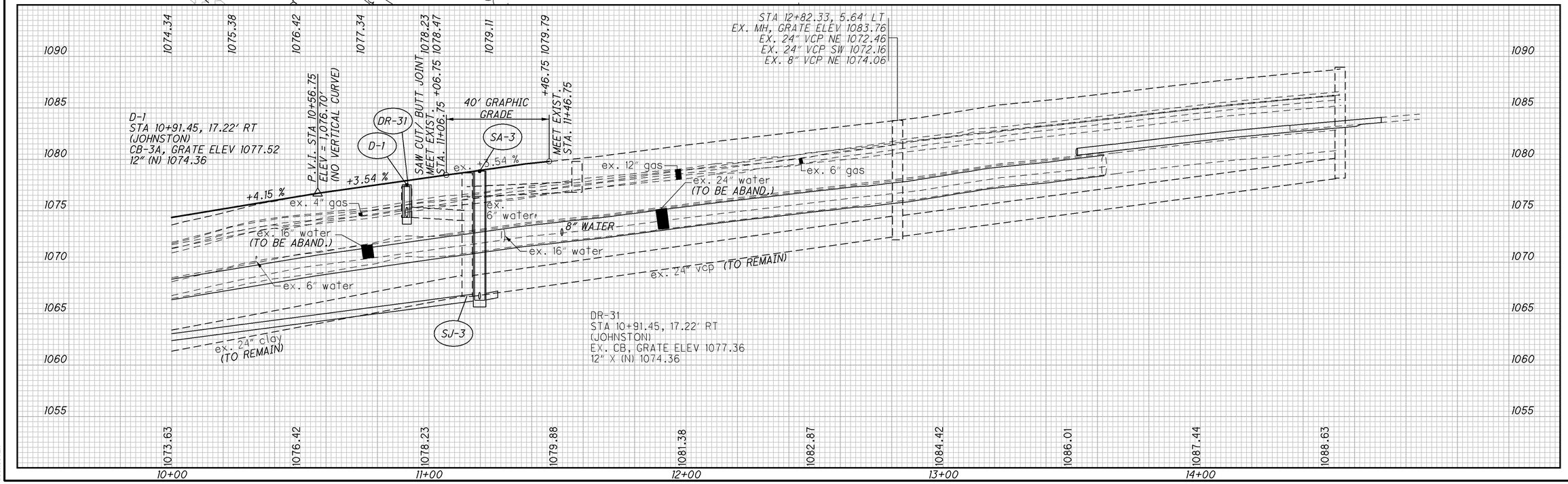
℄ R/W & CONST. JOHNSTON CT.
OLD ℄ R/W JOHNSTON ST.
MATCH LINE STA. 10+00.00 JOHNSTON STREET
NEW ℄ R/W & CONST. JOHNSTON ST.
℄ R/W & CONST. JOHNSTON ST.
CONST. LIMITS
SAW CUT/ BUTT JOINT MEET EXISTING STA. 11+06.75
END RESURFACING STA. 11+46.75
DEFLECTION = 2°15′ NO CURVE
P.I. STA. 11+71.04
Archimedes Holdings LLC.
Kenmore Investment Company Limited
Kayco Limited
Phillipi, Donna
Weitzel, George K. & Debra L.
609 Johnston St. LLC Johnston St.
626 Johnston St LLC
Marcia Realty LLC.
Caplen, Charles W.
Herbrock, Richard K.
607 Hedden Ave LLC
Dodd, Roger & Christopher
603 Hedden Ave
1 1/2 story aluminum/vinyl # 607
2 story frame # 613
2 story brick # 617 & 621
2 story aluminum/vinyl # 623
2 story frame # 630
2 story aluminum/vinyl # 618 & 620
2 story aluminum/vinyl # 626
2 story aluminum/vinyl # 630
2 story frame # 637
2 story block # 643
existing building
trailer
grass
gravel drive
asphalt
brush
dense vegetation
fence
wall
porch
bridge
guardrail
conc. sidewalk
r/r tie wall
hand rail
Ex R/W
Ex LA-R/W
DV-15
D-1
PR-29
DR-31
P-1
E-7
SA-3
SJ-3
24" clay (TO REMAIN)
24" vcp (TO REMAIN)
N 49° 01′ 08″ E
N 51° 16′ 08″ E
7.5%
15.13′
16.53′
5.50′

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

1 MEET EXISTING WALK STA. 11+06.75 LT.
2 BEGIN WALK STA. 10+94.00 RT.
3 MEET EXISTING WALK STA. 11+06.00 RT.

TAPER TABLE

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
R	10+81.75	JOHNSTON ST.	11+06.75	JOHNSTON ST.	LT	PAVEMENT	16.00′	15.13′	29:1
S	10+06.75	JOHNSTON ST.	11+06.75	JOHNSTON ST.	RT	PAVEMENT	12.00′	16.53′	22:1



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HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED ATR
CHECKED CWL

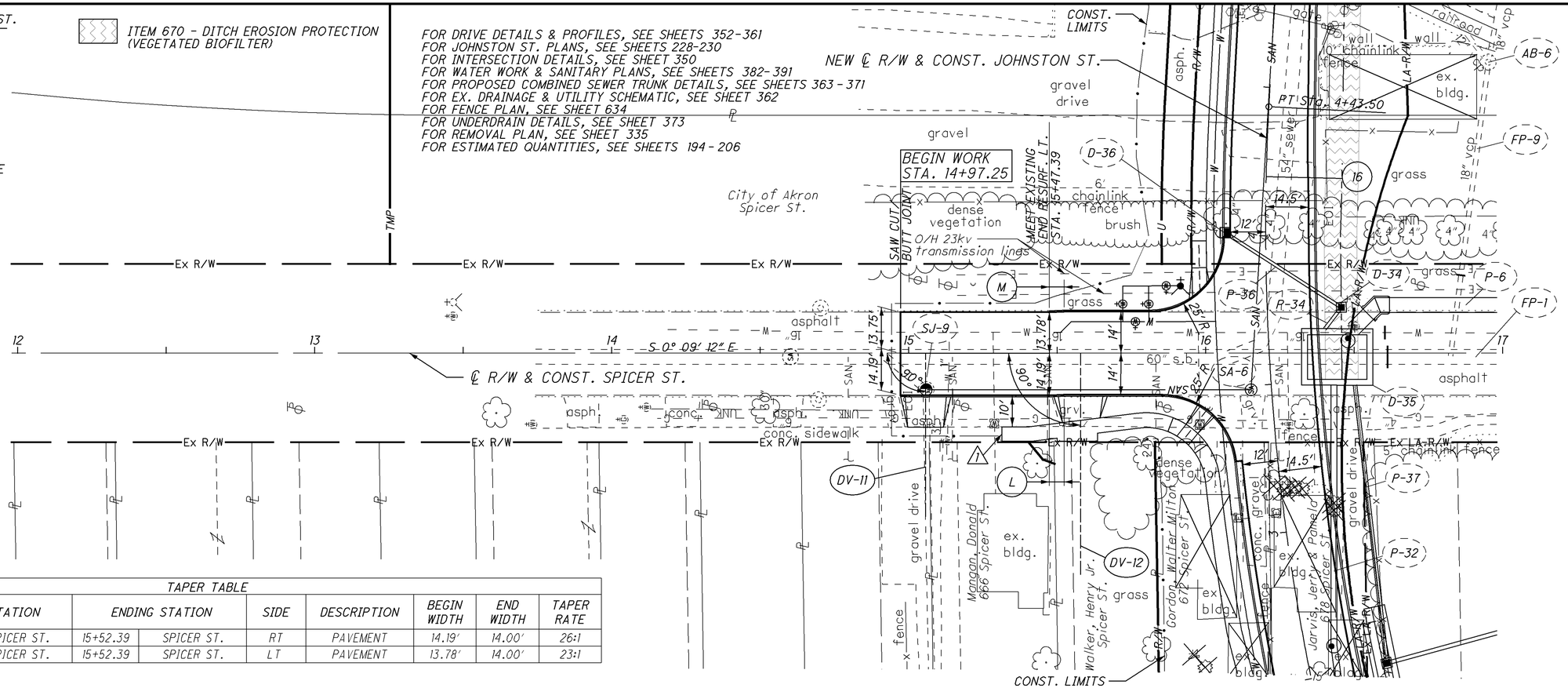
PLAN AND PROFILE - JOHNSTON STREET
STA. 10+00.00 TO END

SUM-76/77-11.27/12.12

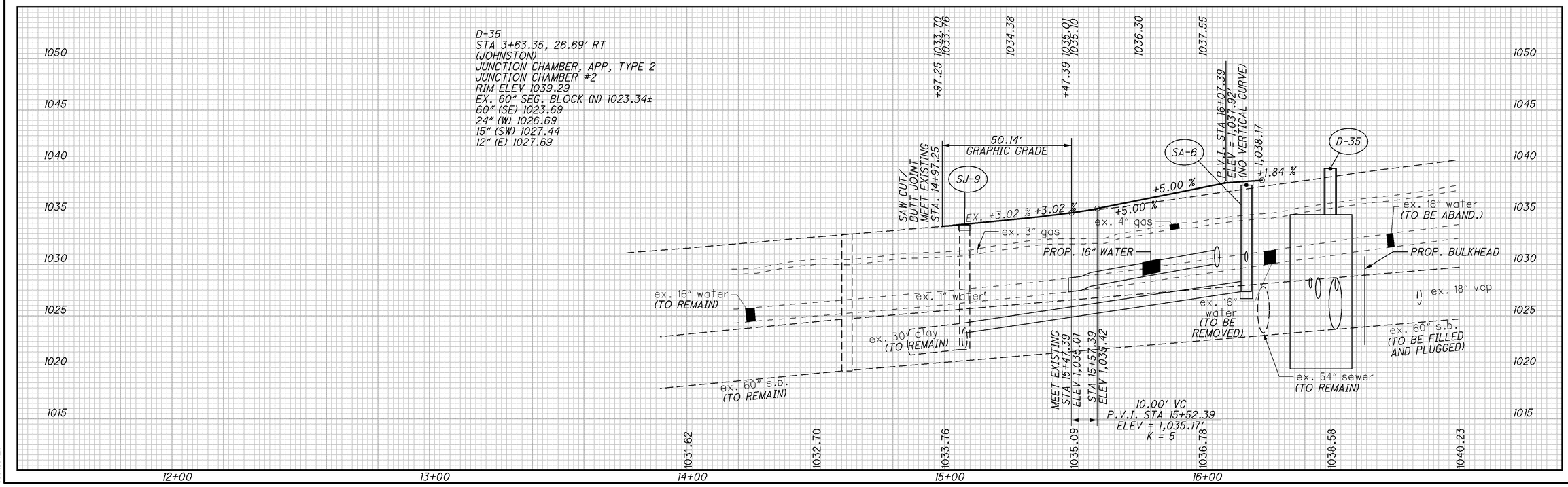
16 ℄ CONST. JOHNSTON ST.
P.I. Sta. 3+24.23
Δ = 18° 02′ 28″ (RT)
Dc = 7° 30′ 00″
R = 763.94′
T = 121.28′
L = 240.55′
E = 9.57′
C = 239.56′
C.B. = N 83° 50′ 23″ E
e_{max} = NC
P.R.C. Sta. 2+02.95
P.T. Sta. 4+43.50

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

FOR DRIVE DETAILS & PROFILES, SEE SHEETS 352-361
FOR JOHNSTON ST. PLANS, SEE SHEETS 228-230
FOR INTERSECTION DETAILS, SEE SHEET 350
FOR WATER WORK & SANITARY PLANS, SEE SHEETS 382-391
FOR PROPOSED COMBINED SEWER TRUNK DETAILS, SEE SHEETS 363-371
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR FENCE PLAN, SEE SHEET 634
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR REMOVAL PLAN, SEE SHEET 335
FOR ESTIMATED QUANTITIES, SEE SHEETS 194-206



TAPER TABLE									
TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
L	15+47.39	SPICER ST.	15+52.39	SPICER ST.	RT	PAVEMENT	14.19′	14.00′	26:1
M	15+47.39	SPICER ST.	15+52.39	SPICER ST.	LT	PAVEMENT	13.78′	14.00′	23:1



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CALCULATED ATR CHECKED CWL

HORIZONTAL SCALE IN FEET 0 10 20 40

PROFILE - SPICER STREET

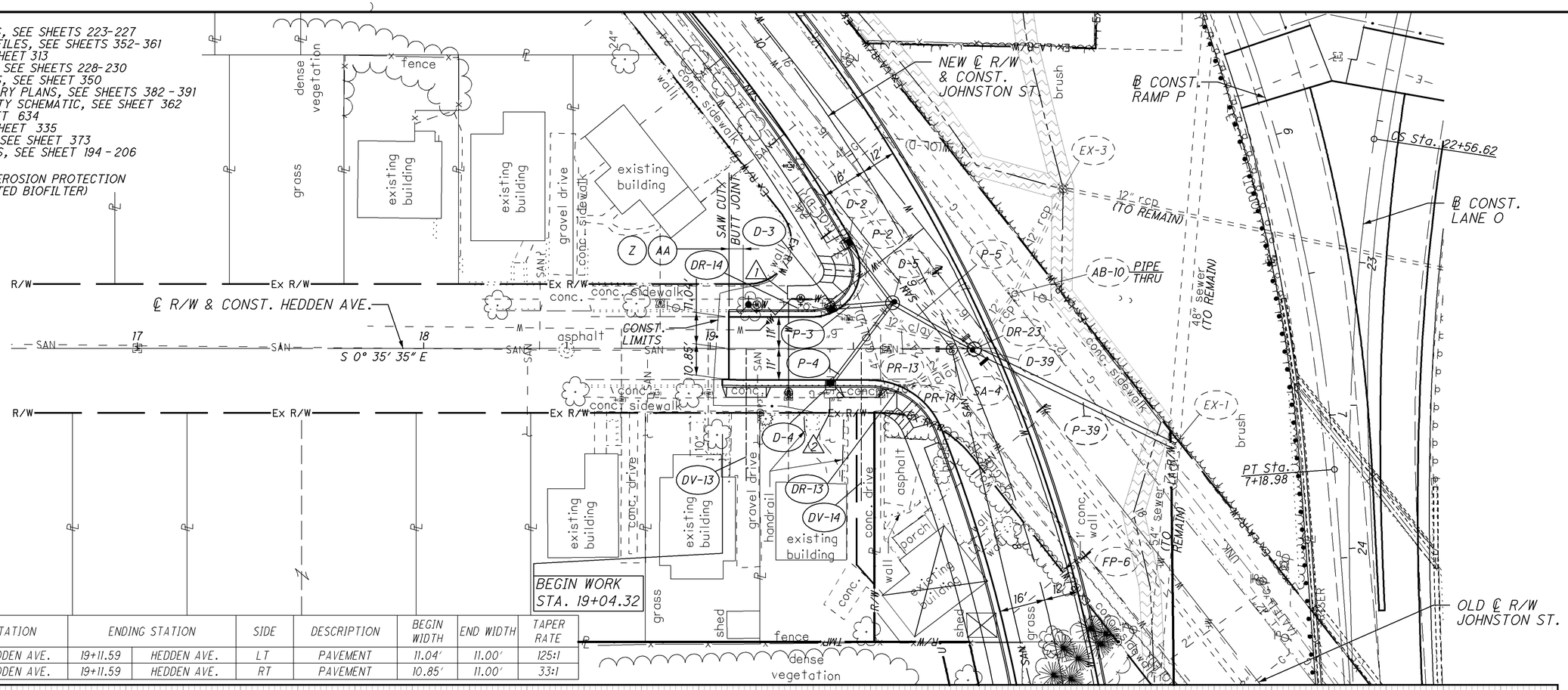
PLAN AND PROFILE

SUM-76/77-11.27/12.12

231
652

FOR LANE O/RAMP P PLANS, SEE SHEETS 223-227
FOR DRIVE DETAILS & PROFILES, SEE SHEETS 352-361
FOR PIPE PROFILES, SEE SHEET 313
FOR JOHNSTON ST. PLANS, SEE SHEETS 228-230
FOR INTERSECTION DETAILS, SEE SHEET 350
FOR WATER WORK & SANITARY PLANS, SEE SHEETS 382 - 391
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

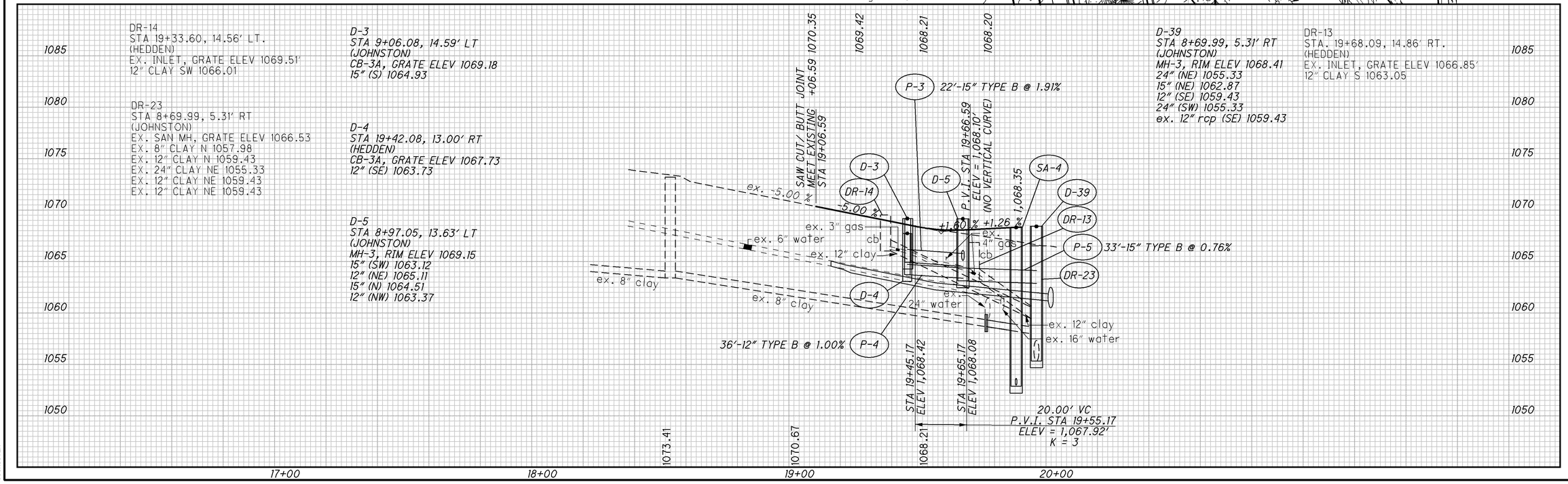
ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)



1 MEET EXISTING WALK STA. 19+27.00

2 MEET EXISTING WALK STA. 19+41.83

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
Z	19+06.59	HEDDEN AVE.	19+11.59	HEDDEN AVE.	LT	PAVEMENT	11.04'	11.00'	125:1
AA	19+06.59	HEDDEN AVE.	19+11.59	HEDDEN AVE.	RT	PAVEMENT	10.85'	11.00'	33:1



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PLAN AND PROFILE
HEDDEN AVENUE

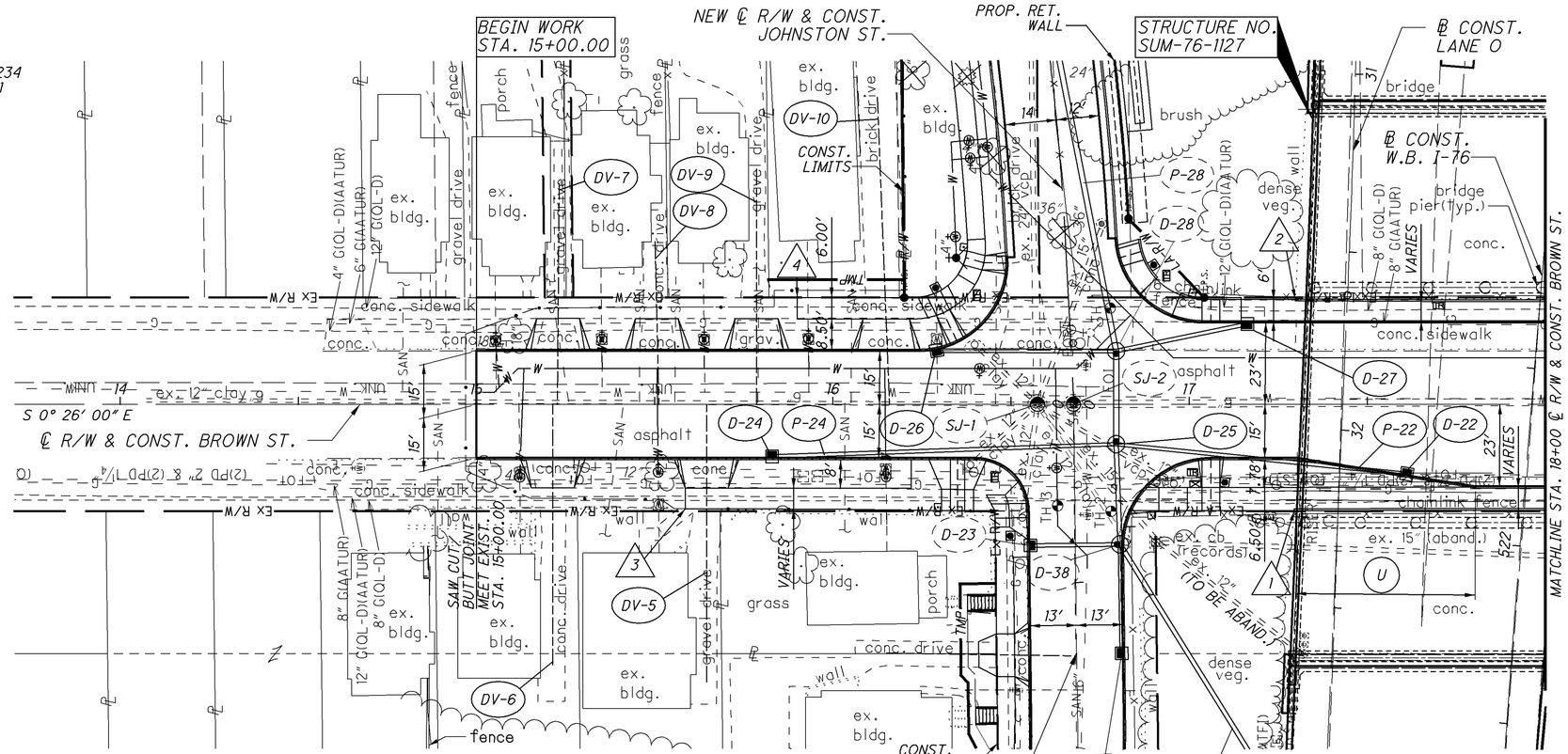
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AJE
CHECKED CWL

SUM-76/77-11.27/12.12

232
652

FOR DRIVE DETAILS & PROFILES, SEE SHEETS 352-361
FOR PIPE PROFILES, SEE SHEET 316
FOR JOHNSTON ST. PLANS, SEE SHEETS 228-230
FOR INTERSECTION DETAILS, SEE SHEET 349
FOR ENLARGED PLAN DETAIL AT INTERSECTION, SEE SHEET 234
FOR WATER WORK & SANITARY PLANS, SEE SHEETS 382 - 391
FOR STRUCTURE PLANS, SEE SHEETS 577 - 632
FOR RETAINING WALL DETAILS, SEE SHEETS 375 - 381
FOR LANE O PLANS, SEE SHEETS 223-227
FOR W.B. I-76 PLANS, SEE SHEETS 213-218
FOR LAMPARTER ST. PLANS, SEE SHEET 237
FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR ESTIMATED QUANTITIES, SEE SHEETS 194-206



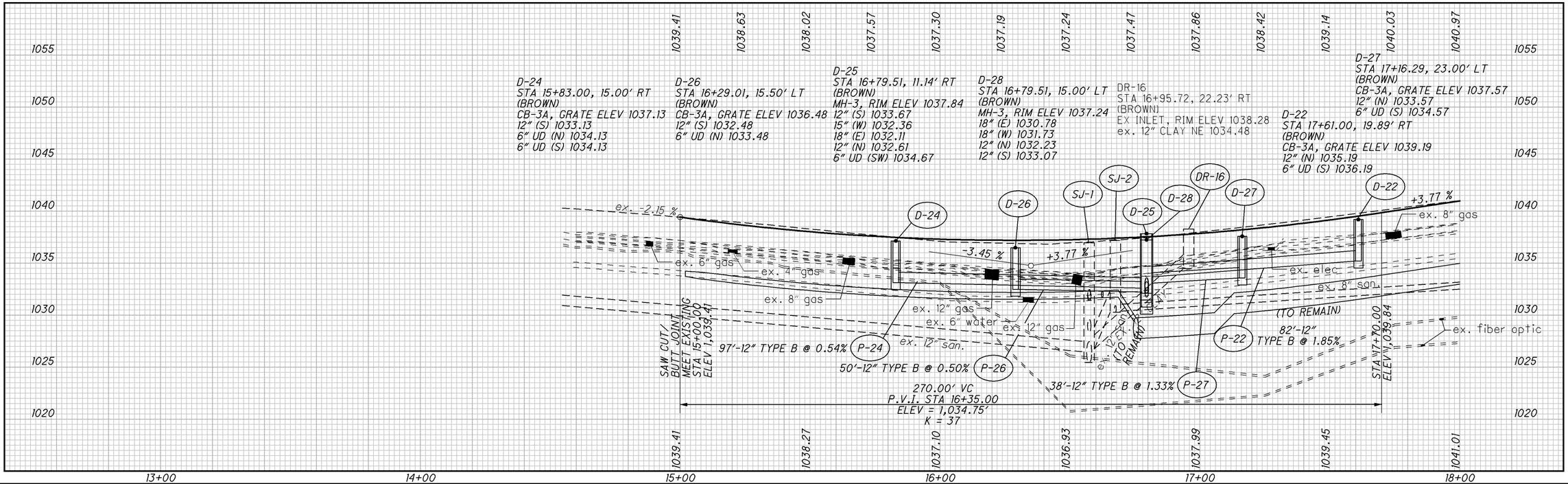
1 BEGIN TYPE 6 CURB RT.
STA. 17+29.51

2 BEGIN TYPE 7 CURB LT.
STA. 17+29.78

3 MEET EXISTING WALK RT.
STA. 15+58.55

4 MEET EXISTING WALK LT.
STA. 15+90.00

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
U	17+30.45	BROWN ST.	17+80.45	BROWN ST.	RT	PAVEMENT	15.00'	23.00'	6:1



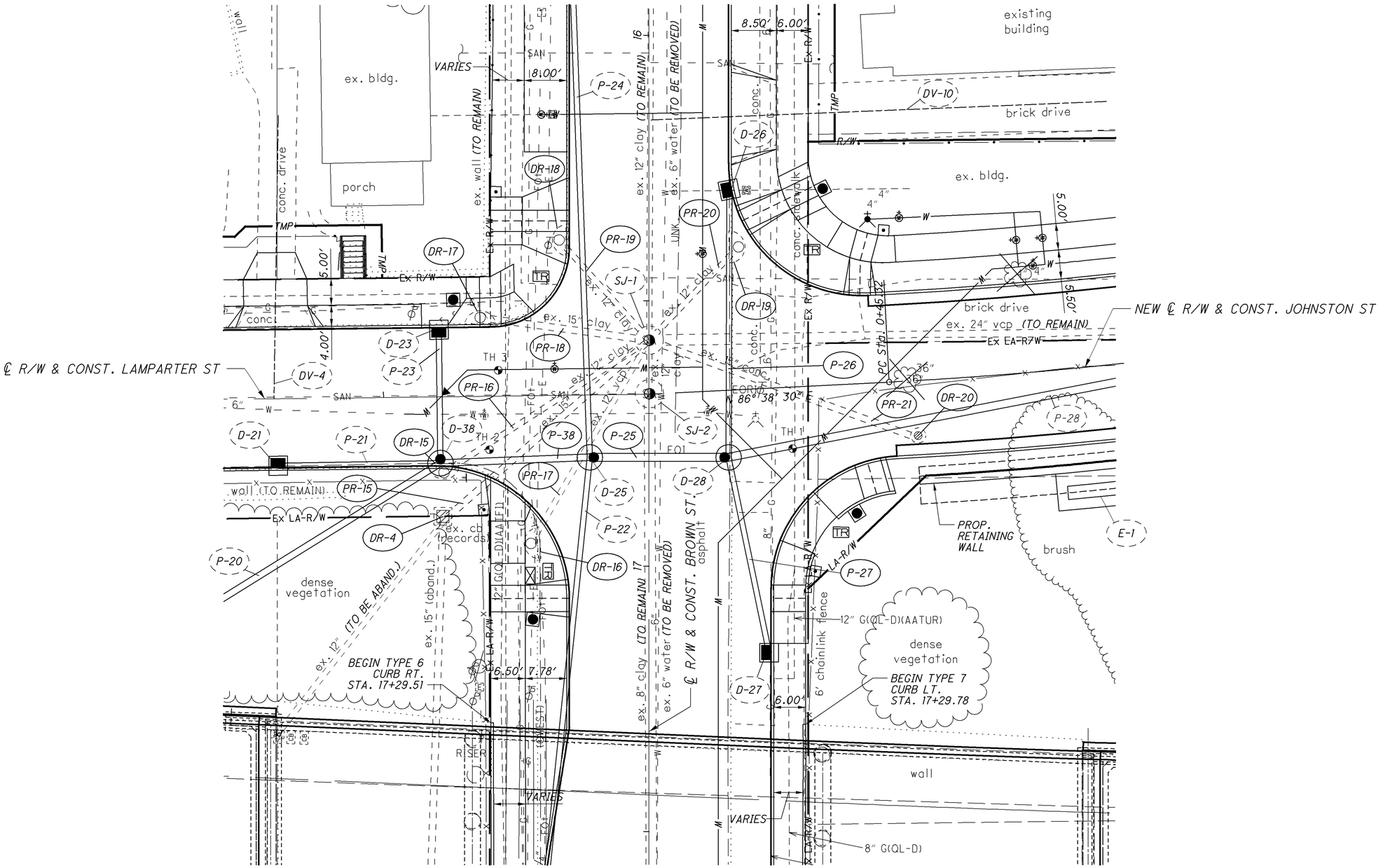
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HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED AJE
CHECKED CWL

PLAN AND PROFILE - BROWN STREET
BEGIN TO STA. 18+00.00

SUM-76/77-11.27/12.12

233
652



FOR RETAINING WALL DETAILS, SEE SHEET 375 - 381
FOR STRUCTURE PLANS, SEE SHEET 577- 632
FOR PIPE PROFILES, SEE SHEETS 228, 233 237, 284, 316, 330
FOR WATER WORK & SANITARY PLANS, SEE SHEETS 382 - 391
FOR DRIVE DETAILS & PROFILES, SEE SHEETS 352- 361
FOR JOHNSTON ST. PLANS, SEE SHEETS 228-230
FOR LAMPARTER ST. PLANS, SEE SHEET 237
FOR INTERSECTON DETAILS, SEE SHEET 349
FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR ESTIMATED QUANTITIES, SEE SHEETS 194 - 206

HORIZONTAL SCALE IN FEET
0 5 10 20
CALCULATED AJE
CHECKED CWL

ENLARGED PLAN DETAIL
JOHNSTON ST / LAMPARTER ST / BROWN ST

SUM-76 / 77-11.27 / 12.12

234
652

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FOR SOUTH ST. PLANS, SEE SHEET 236
FOR STRUCTURE PLANS, SEE SHEETS 577 - 632
FOR WATER WORK & SANITARY PLANS, SEE SHEETS 382 - 391
FOR INTERSECTION DETAILS, SEE SHEET 348
FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR ESTIMATED QUANTITIES, SEE SHEETS 194 - 206

1 END TYPE 6 CURB RT. STA. 18+77.99
2 END TYPE 7 CURB LT. STA. 18+83.96
3 MEET EXISTING WALK RT. STA. 20+41.39
4 MEET EXISTING WALK LT. STA. 20+39.95

℄ B CONST. W.B. I-76
℄ B CONST. E.B. I-76
STRUCTURE NO. SUM-76-1127
MATCHLINE STA. 18+00 ℄ R/W & CONST. BROWN ST.
℄ R/W & CONST. SOUTH ST.
℄ R/W & CONST. BROWN ST.
gravel drive
ex. bldg.
ex. 60" s.b. (TO REMAIN)
5' chainlink fence
conc. sidewalk
asphalt
bench
dense vegetation
ex. cb (records)
ex. mh (records)
ex. 15" (aband.)
ex. 12" (records)
ex. 54" s.b.
ex. 8" G(QL-D)(AATUR)
ex. 8" G(AATUR)
ex. 6" G(QL-D)
ex. 12" G(QL-D)
ex. 16" W(QL-D)
ex. 8" W(QL-D)
ex. 6" W(QL-D)
ex. 12" W(QL-D)
ex. 10" W(QL-D)
ex. 8" W(AATUR)
ex. 12" CLAY
ex. 8" SAN
ex. 12" SAN
ex. 15" SAN
ex. 8" (2)PD 2" (WEST)
ex. 12" (2)PD 2" (WEST)
ex. 8" FOT
ex. 12" FOT
ex. 16" W(QL-D)
ex. 8" G(QL-D)(AATUR)
ex. 8" G(AATUR)
ex. 6" W
ex. 8" W
ex. 12" W
ex. 10" W
ex. 16" W
ex. 1.25" wall
ex. guardrail
ex. fence
ex. brush
ex. bridge
ex. Ex R/W
ex. Ex LA-R/W
P-13
D-13
DR-1
AB-14
AB-9
PR-1
SJ-10
R-5
EX-6
EX-7
EX-8
EX-9
EX-10
EX-11
TO BE ABANDONED
CONST. LIMITS
VARIES
523
522
6.50'
23'
20.5'
21.2'
P.I. STA. 20+00.00
DEFLECTION = 0° 2' 58"
NO CURVE
S 0° 26' 00" E
S 0° 23' 02" W
SAW CUT/ BUTT JOINT MEET EXISTING STA. 20+65.00
END WORK STA. 20+65.00

EX-9
STA 20+38.11, 4.92' LT
(BROWN)
EX. MH, RIM ELEV 1046.76'
EX. 54" S.B. S 1033.16
EX. 60" S.B. NE 1033.16
EX. 12" CLAY E 1042.12
EX. 12"CLAY SW 1042.12

86' GRAPHIC GRADE
18.41' EXIST. ACTUAL
18.38' PROP.
16.50' REQ'D
90.00' VC
P.V.I. STA 19+31.00
ELEV = 1,045.12'
K = 73
SSD = 916'
STA 19+76.00 MEETING EXISTING
ELEV 1,045.93 STA. 19+79.00
STA 18+86.00
ELEV 1,043.75
89' RT
EV 1039.19
P.V.I. STA 18+23.00
ELEV = 1,041.84'
(NO VERTICAL CURVE)
+3.77 %
+3.04 %
+1.80 %
ex. +2.91 %
ex. 8" gas
ex. 6" gas
ex. 12" gas
ex. 6" water
ex. 10" water
ex. 16" water
ex. 8" san. (TO REMAIN)
ex. fiber optic
ex. 54" s.b. (TO REMAIN)
ex. 60" s.b. (TO REMAIN)
1040.97 1041.90 1042.66 1043.42 1044.17 1044.83 1045.42 1045.91 1046.59 1046.52 1046.86 1047.17
1041.01 1042.56 1044.16 1045.48 1046.59 1046.86
1065 1060 1055 1050 1045 1040 1035 1030
18+00 19+00 20+00 21+00 22+00 23+00

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED AJE
CHECKED CWL

PLAN AND PROFILE - BROWN STREET
STA. 18+00.00 TO END

SUM-76/77-11.27/12.12

235
652

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19 ℄ CONST. SOUTH ST.
P.I. Sta. 22+87.50
Δ = 55° 47' 36" (LT)
Dc = 76° 53' 35"
R = 74.51'
T = 39.45'
L = 72.56'
E = 9.80'
C = 69.73'
C.B. = N 27° 56' 07" W
e_{max}= NC
P.C. Sta. 22+48.05
P.C.C. Sta. 23+20.61

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER)

FOR E.B. I-76 PLANS, SEE SHEETS 219 - 222
FOR DRIVE PROFILES & DETAILS, SEE SHEETS 352 - 361
FOR PIPE PROFILES, SEE SHEETS 322-323, 329
FOR BROWN ST. PLANS, SEE SHEET 233-235
FOR INTERSECTION DETAILS, SEE SHEET 348
FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR FENCE PLAN, SEE SHEET 634
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

FOR CUL-DE-SAC DETAILS, SEE SHEET 351
FOR WATER WORK & SANITARY PLANS, SEE SHEET 382- 391
FOR PROPOSED COMBINED SEWER TRUNK DETAILS, SHEETS 363 - 371
FOR REMOVAL PLAN, SEE SHEET 335

℄ R/W & CONST. BROWN ST.
℄ R/W & CONST. SOUTH ST.
℄ R/W & CONST. SPICER ST.
OLD ℄ R/W JOHNSTON ST.
CONST. LIMITS
END WORK STA. 26+94.91
SAW CUT/ BUTT JOINT
END RESURF. RESUME FULL DEPTH PVMT. STA. 26+00.00
SUSPEND FULL DEPTH PVMT. BEGIN RESURF. STA. 24+17.85
MEET EX. WALK STA. 24+11.99
BEGIN WORK STA. 22+38.05
PC Sta. 22+48.05
PC Sta. 23+20.67
PT Sta. 24+17.85
existing building
gravel drive
railroad
dense vegetation
PROP. BULKHEAD
guardrail
chainlink fence
5' chainlink fence
6' chainlink fence
conc. sidewalk
asphalt
gravel
grass
ex. O/H 4kv transmission line
ex. O/H 23kv transmission line
ex. cb (records)
ex. cb (TO REMAIN)
PROP. MASONRY COLLAR PER DM-1.1
SAWCUT
S 88° 53' 30" W
ex. 8" clay
ex. 60" s.b.
ex. 60" seg. block
12" clay (aband.)
24" vcp (TO REMAIN)
18" clay (TO REMAIN)
ex. 8" clay (TO REMAIN)
ex. 60" seg. block (to remain)
ex. 16" water (TO BE ABAND.)
ex. 24" water (TO BE ABAND.)
PROP. 8" WATER
PROP. 12" WATER
PROP. 24" WATER
ex. 4" water
ex. 6" water (to remain)
ex. 2" gas
ex. 12" gas
ex. 6" gas
ex. 8" gas
ex. 16" water
ex. 12" clay
ex. 10" water
ex. -1.80%
-1.27 %
-1.34 %
-2.26 %
-0.25 %

EX-9
STA 20+38.11, 4.92' LT
(BROWN)
EX. MH, RIM ELEV 1046.76'
EX. 54" S.B. S 1033.16
EX. 60" S.B. NE 1033.16
EX. 12" CLAY E 1042.12
EX. 12" CLAY SW 1042.12

EX-6
STA 26+09.55, 21.96' LT
(SOUTH)
EX. INLET
EX. GRATE ELEV 1046.57'
ex. 12" CLAY NW 1042.17

D-13
STA 26+04.87, 21.60' RT
(SOUTH)
CB-3A, GRATE ELEV 1045.65
12" (SE) 1041.65
6" UD (S) 1042.65
6" UD (E) 1042.65
6" UD (NE) 1042.65

DR-1
STA 26+05.26, 22.90' RT
(SOUTH)
EX. INLET, RIM ELEV 1046.47
12" CLAY (SW) 1043.32

D-6
STA 23+28.17, 56.68' RT
(SOUTH)
JUNCTION CHAMBER, APP, TYPE 1
JUNCTION CHAMBER #1
RIM ELEV 1051.17
EX. 60" SEG. BLOCK (W) 1030.29±
60" (E) 1029.63
24" (SE) 1034.13

D-41
STA 526+76.27, 107.30' RT
(E.B. I-76)
CB-2-3, GRATE ELEV 1050.38
24" (W) 1040.02
24" (E) 1040.02

94.91' GRAPHIC GRADE
P.V.I. STA 25+25.00
ELEV = 1,047.75
(NO VERTICAL CURVE)
90.00' VC
SSD = 582'
P.V.I. STA 23+15.00
ELEV = 1,051.39'
K = 45
STA 23+60.00
ELEV 1,050.37
STA 22+70.00
ELEV 1,051.50
90.00' VC
P.V.I. STA 24+05.00
ELEV = 1,049.36'
K = 98
STA 24+50.00
ELEV 1,048.75

P-7 182'-24" TYPE C @ 5.84%
P-41 52'-24" TYPE B @ 5.85%
P-100 16'-24" TYPE B @ 17.81%
P-6 347'-60" TYPE B, 706.03, A.P.P.

FOR DRIVE PROFILE, SEE SHEET 353

27+00 26+00 25+00 24+00 23+00

HORIZONTAL SCALE IN FEET
CALCULATED ATR CHECKED CWL

PLAN AND PROFILE SOUTH STREET

SUM-76/77-11.27/12.12

236 652

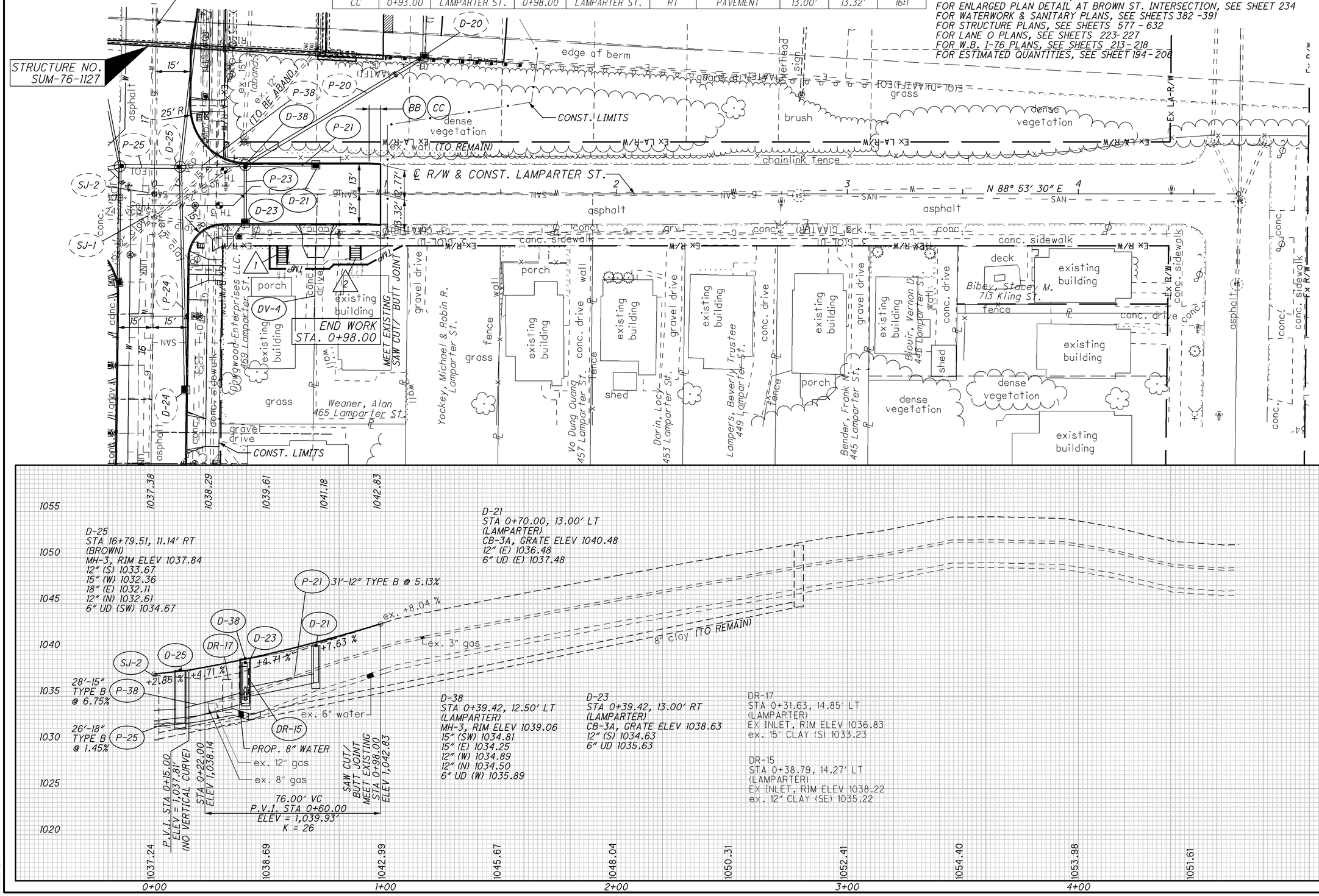
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9:06:55 PM
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1 3.8' WALK/STEPS (W/ 6" INTEGRAL WALLS) +55.58

2 4.0' WALK/STEPS (W/ 6" INTEGRAL WALLS) +87.37

TAPER TABLE									
TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
BB	0+93.00	LAMPARTER ST.	0+98.00	LAMPARTER ST.	LT	PAVEMENT	13.00'	12.77'	22:1
CC	0+93.00	LAMPARTER ST.	0+98.00	LAMPARTER ST.	RT	PAVEMENT	13.00'	13.32'	16:1

FOR UNDERDRAIN DETAILS, SEE SHEET 373
FOR FENCE PLAN, SEE SHEET 634
FOR REMOVAL PLAN, SEE SHEET 335
FOR BROWN ST. PLANS, SEE SHEET 233-235
FOR DRIVE DETAILS & PROFILES, SEE SHEETS 352-361
FOR PIPE PROFILES, SEE SHEETS 330, 332, 372
FOR JOHNSTON ST. PLANS, SEE SHEETS 228-230
FOR INTERSECTION DETAILS, SEE SHEET 349
FOR ENLARGED PLAN DETAIL AT BROWN ST. INTERSECTION, SEE SHEET 234
FOR WATERWORK & SANITARY PLANS, SEE SHEETS 382-391
FOR STRUCTURE PLANS, SEE SHEETS 577-632
FOR LANE O PLANS, SEE SHEETS 223-227
FOR W.B. I-76 PLANS, SEE SHEETS 213-218
FOR ESTIMATED QUANTITIES, SEE SHEET 194-206



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CALCULATED AJE CHECKED CWL

HORIZONTAL SCALE IN FEET 0 10 20 40

PLAN AND PROFILE - LAMPARTER STREET

SUM-76/77-11.27/12.12

237
652

℄ R/W & CONST.
BROWN ST.

℄ R/W & CONST.
SPICER ST.

NEW ℄ R/W & CONST. JOHNSTON ST.

℄ R/W & CONST.
JOHNSTON COURT

℄ R/W & CONST.
HEDDEN AVE.

℄ EXIST.
LANE Q

OLD ℄ R/W
JOHNSTON ST.

℄ CONST.
RAMP P

℄ CONST.
LANE O

℄ R/W & CONST.
LAMPARTER ST.

STRUCTURE NO.
SUM-76-1127

STRUCTURE No.
SUM-77-1212R

STRUCTURE No.
SUM-76-1137L

STRUCTURE No.
SUM-76-1137R

℄ CONST.
W.B. I-76

℄ CONST. E.B. I-76

℄ R/W & CONST.
SOUTH ST.

℄ CONST.
SOUTH ST.

℄ CONST.
LANE M

℄ EXIST.
LANE N

HORIZONTAL
SCALE IN FEET
0 25 50 100

CALCULATED ATR
CHECKED CWL

CROSS SECTION LAYOUT

SUM-76/77-11.27/12.12

238
652

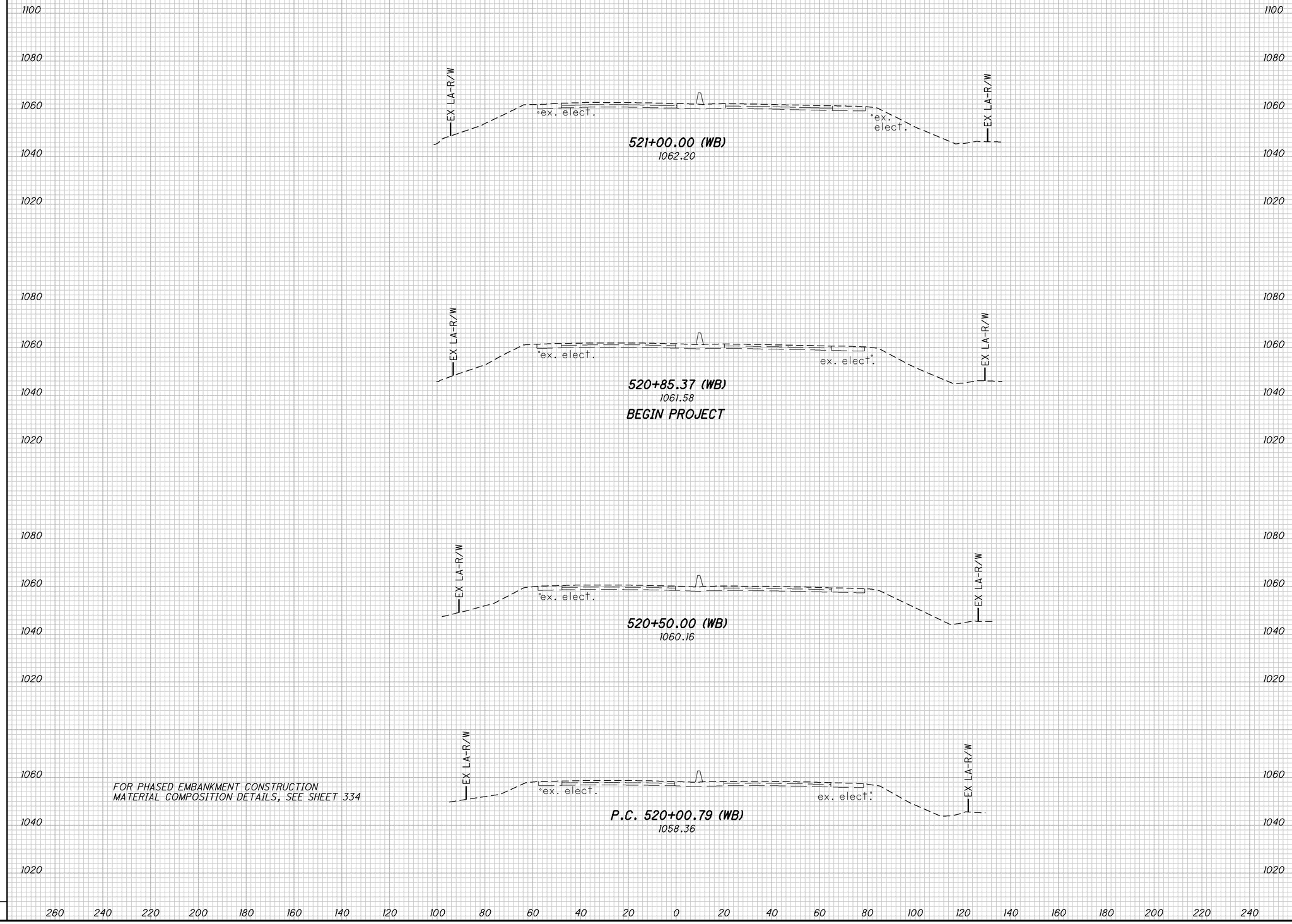
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SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL



FOR PHASED EMBANKMENT CONSTRUCTION
MATERIAL COMPOSITION DETAILS, SEE SHEET 334

CROSS SECTIONS - PHASE 2
STA. 520+00.79 TO STA. 521+00.00

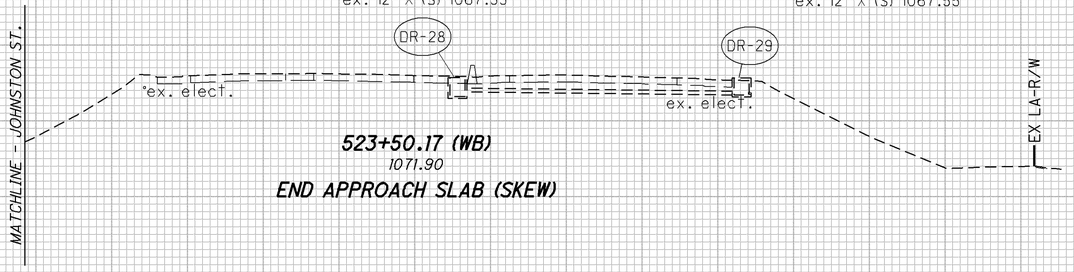
SUM-76/77-11.27/12.12

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9:08:33 PM
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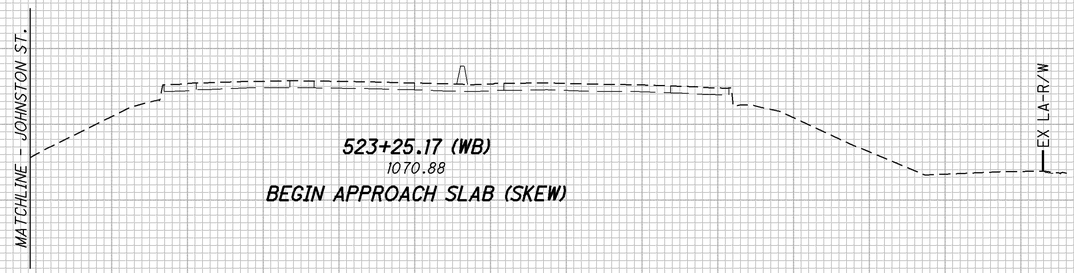
SEEDING	
END WIDTH	SQ. YDS.

DR-28
STA 523+44.46, 11.36' RT
(W.B. I-76)
EX. I-2-12, GRATE ELEV 1071.36'
ex. 12" X (S) 1067.55

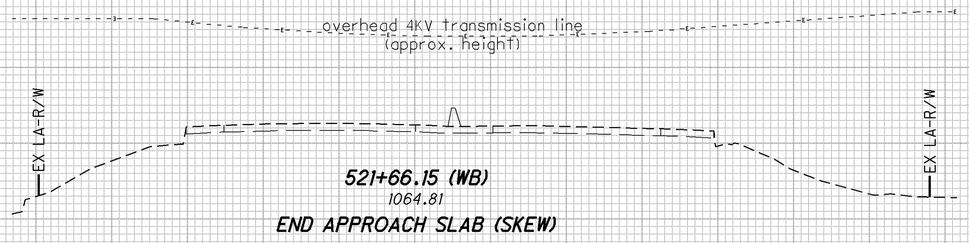
DR-29
STA 523+61.38, 58.53' RT
(E.B. I-76)
EX. CB, GRATE ELEV 1071.36'
ex. 12" X (S) 1067.55



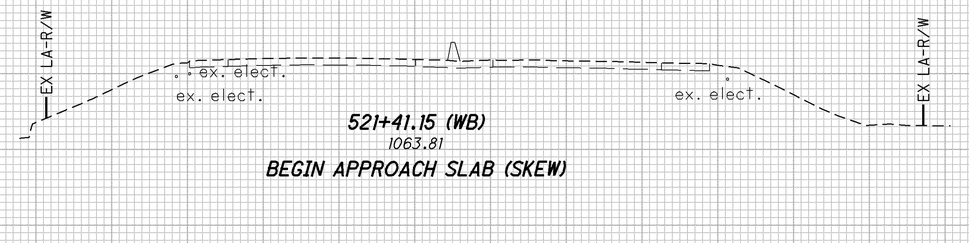
523+50.17 (WB)
1071.90
END APPROACH SLAB (SKEW)



523+25.17 (WB)
1070.88
BEGIN APPROACH SLAB (SKEW)



521+66.15 (WB)
1064.81
END APPROACH SLAB (SKEW)



521+41.15 (WB)
1063.81
BEGIN APPROACH SLAB (SKEW)

1080 1060 1040 1020

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

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 2
STA. 521+41.15 TO STA. 523+50.17

SUM-76/77-11.27/12.12

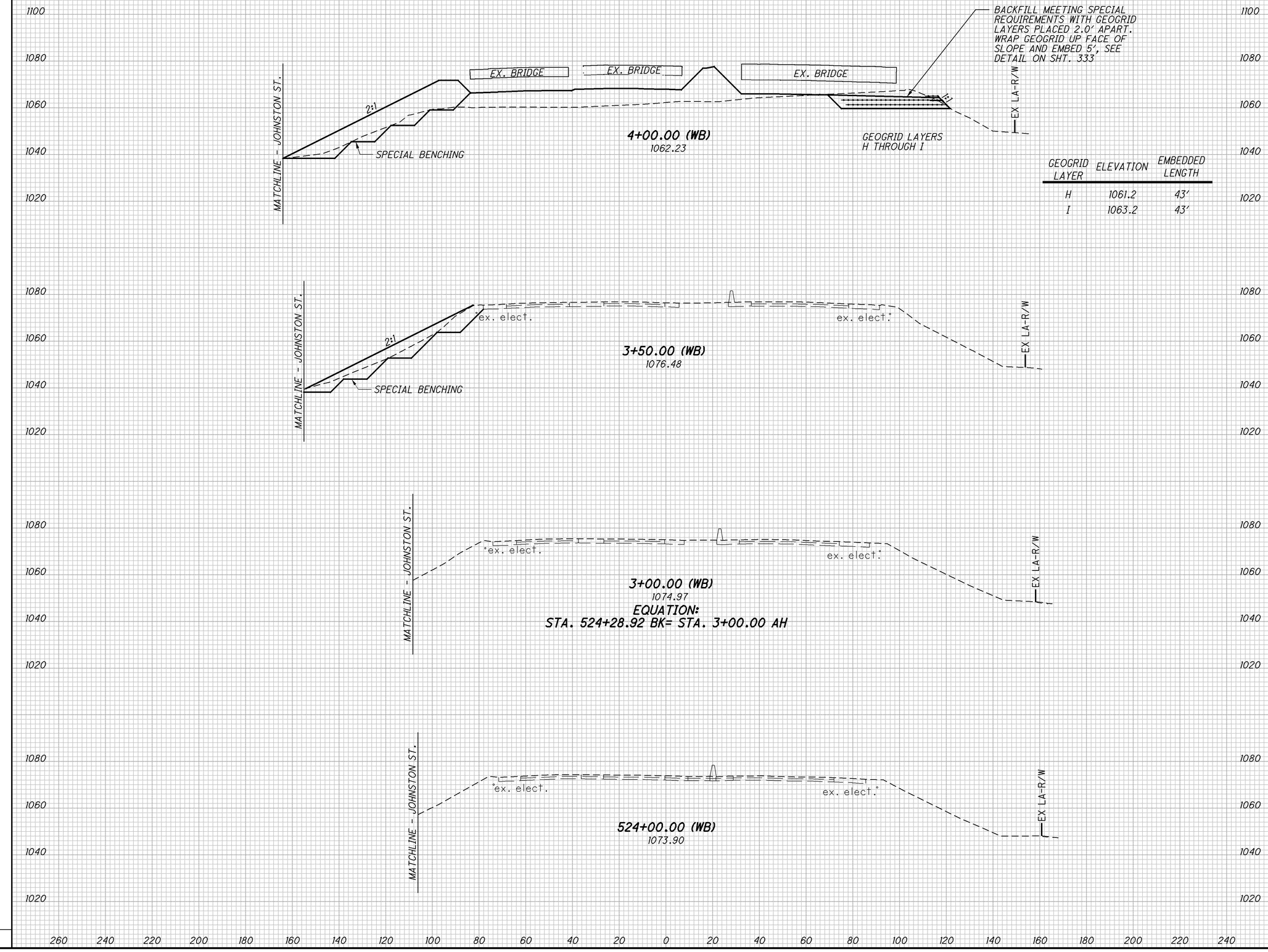
240
652

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9/15/2014
9:09:06 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL



CROSS SECTIONS - PHASE 2
STA. 524+00.00 TO STA. 4+00.00

SUM-76/77-11.27/12.12

241
652

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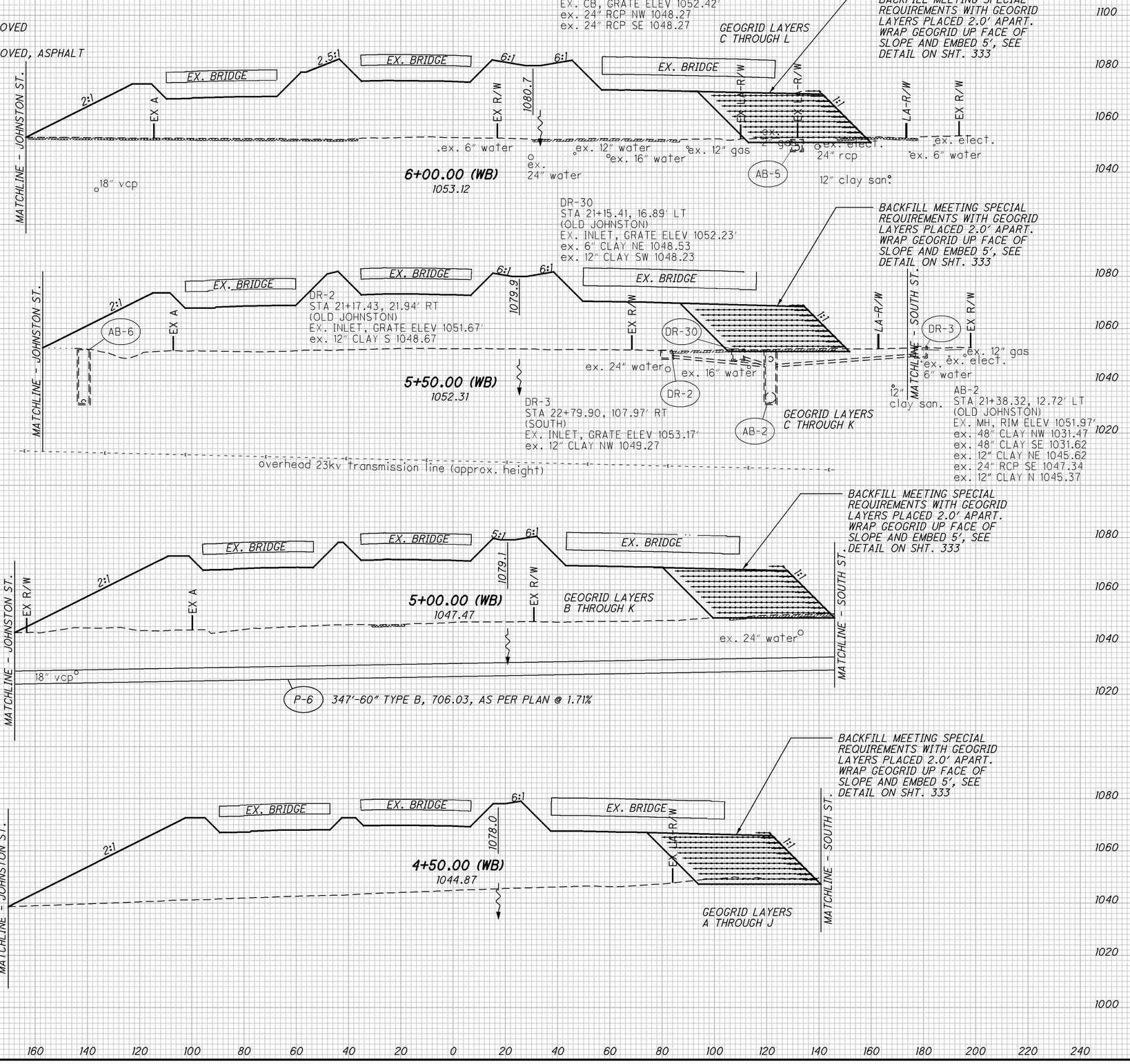
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT



GEOGRID LAYER	ELEVATION	EMBEDDED LENGTH
A	1047.2	43'
B	1049.2	43'
C	1051.2	43'
D	1053.2	43'
E	1055.2	43'
F	1057.2	43'
G	1059.2	43'
H	1061.2	43'
I	1063.2	43'
J	1065.2	43'
K	1067.2	43'
L	1069.2	43'

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 - PHASE 2
STA. 4+50.00 TO STA. 6+00.00

SUM-76/77-11.27/12.12

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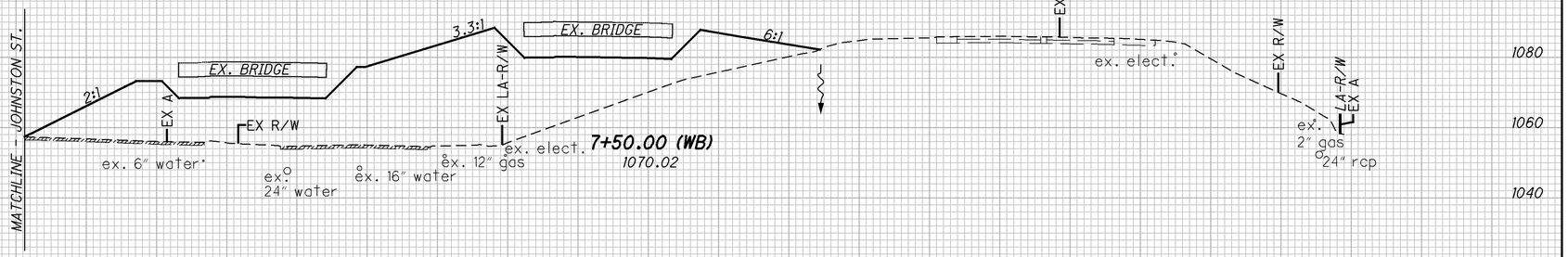
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

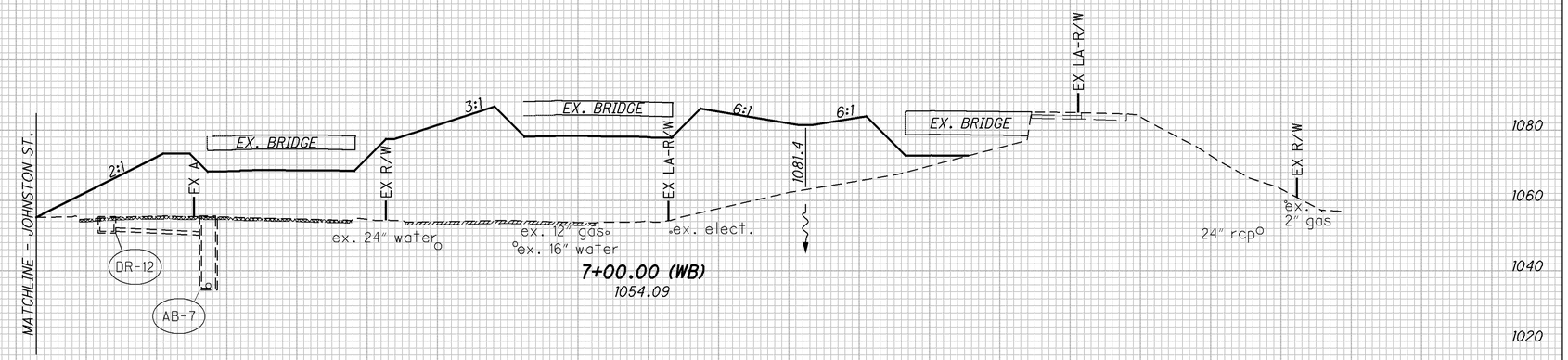
ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

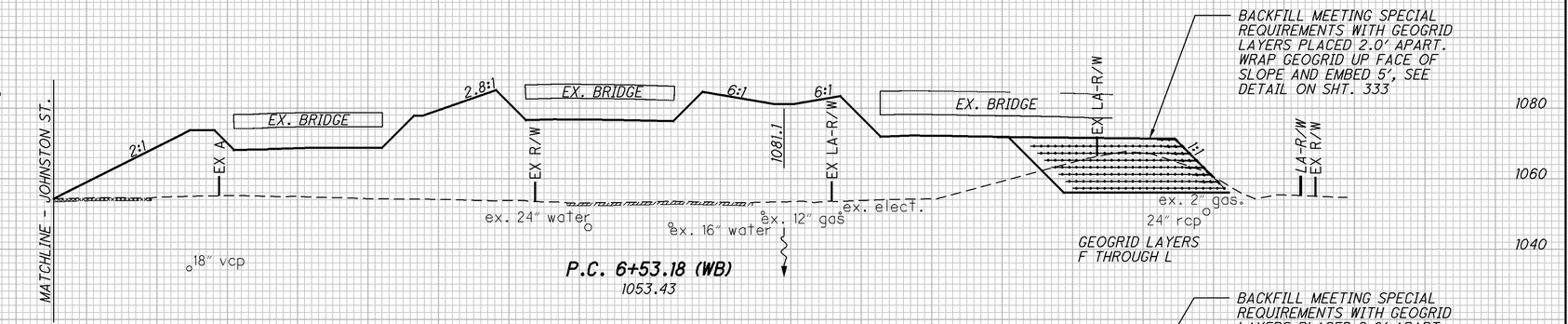


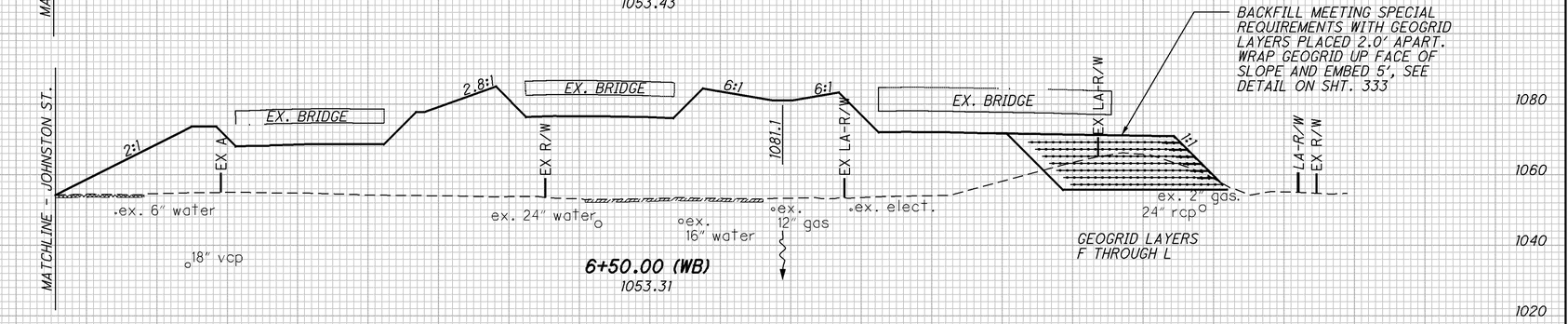
DR-12
STA 18+33.89, 80.24' RT
(OLD JOHNSTON)
EX. CB, GRATE ELEV 1055.42'
ex. 12" CLAY S 1051.22

AB-7
STA 6+14.00, 92.93' RT
(JOHNSTON)
EX. MH, RIM ELEV 1055.62'
ex. 12" CLAY N 1050.02
ex. 18" VCP NW 1035.02
ex. 18" CLAY SE 1035.02
ex. 12" CLAY NE 1043.62
ex. 12" CLAY NE 1036.02



GEOGRID LAYER	ELEVATION	EMBEDDED LENGTH
F	1057.2	43'
G	1059.2	43'
H	1061.2	43'
I	1063.2	43'
J	1065.2	43'
K	1067.2	43'
L	1069.2	43'





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 - PHASE 2
STA. 6+50.00 TO STA. 7+50.00

SUM-76 / 77-11.27 / 12.12

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SEEDING	
END WIDTH	SQ. YDS.

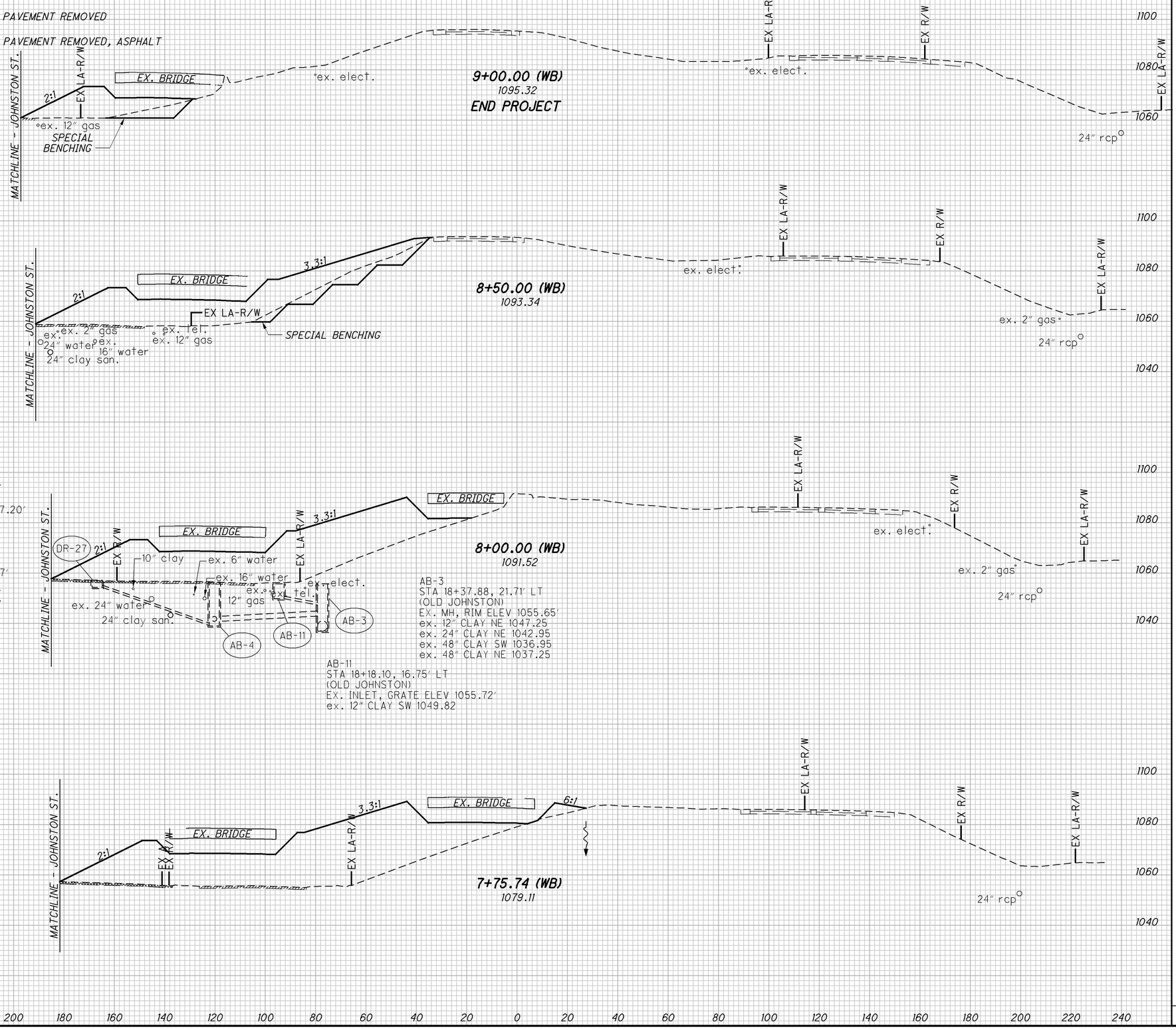
END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT



CROSS SECTIONS - PHASE 2
STA. 7+75.74 TO STA. 9+00.00

SUM-76/77-11.27/12.12

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9/16/2014
9:10:19 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 2
STA. 9+13.57 TO STA. 10+45.34

SUM-76/77-11.27/12.12

245
652

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9/16/2014
9:18:39 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE

CHECKED CWL

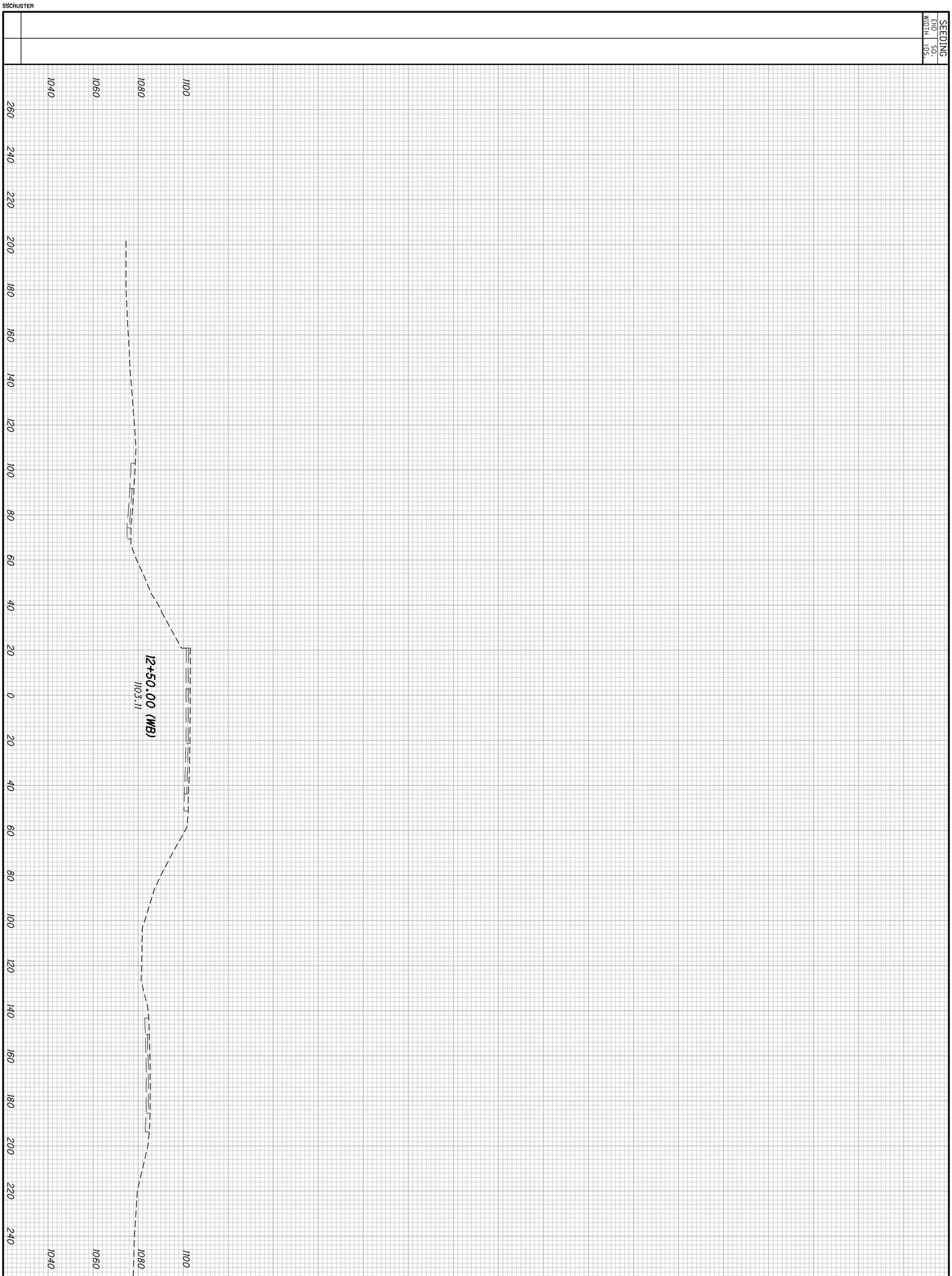
CROSS SECTIONS - PHASE 2
STA. 10+50.00 TO STA. 12+00.00

SUM-76/77-11.27/12.12

246
652

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SSCHUSTER

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9/16/2014
9:11:12 PM
SSCHUSTER



247
652

SUM-76/77-11.27/12.12

CROSS SECTIONS - PHASE 2

STA. 12+50.00

CALCULATED AJE

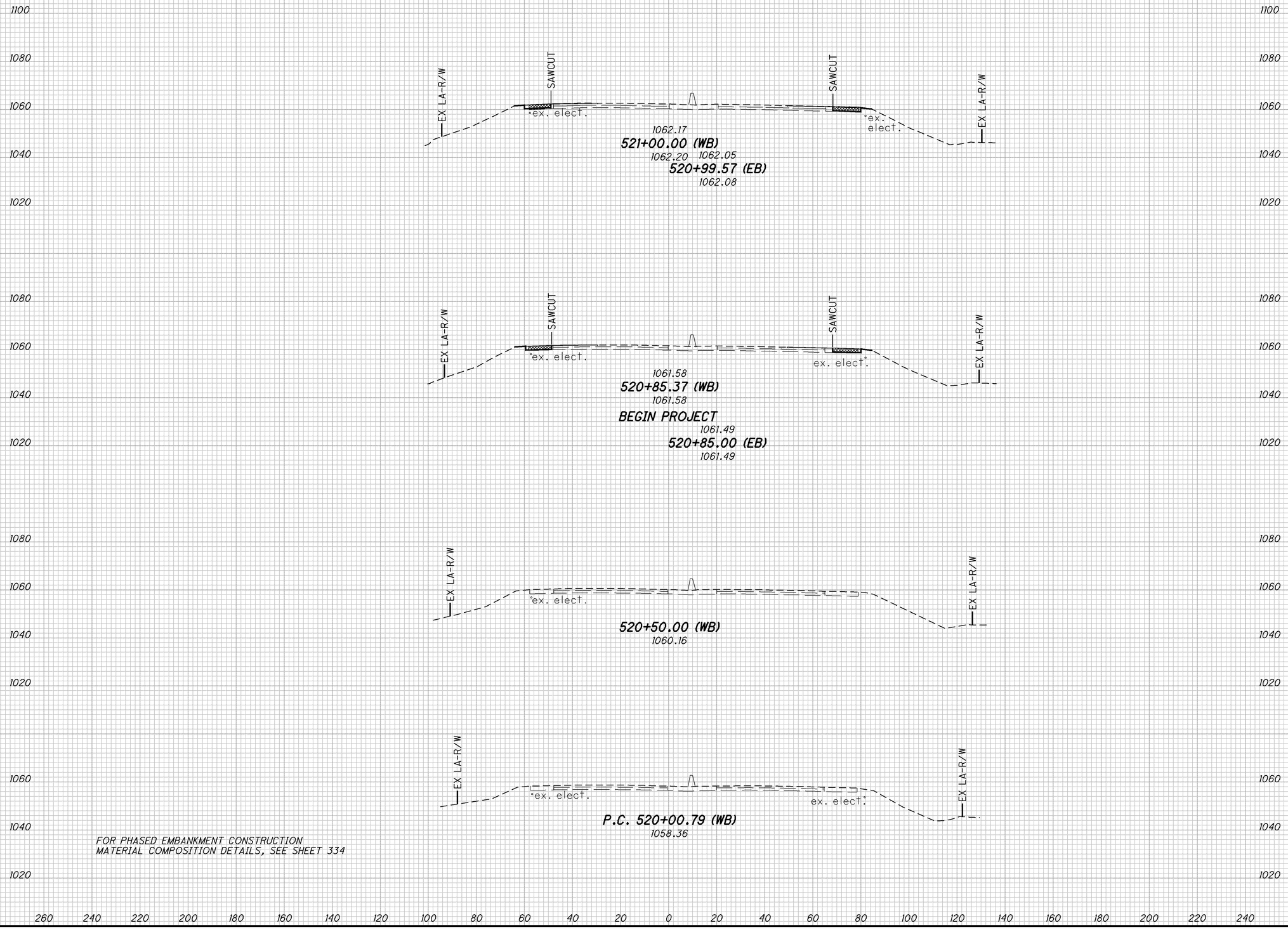
CHECKED CWL

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED, ASPHALT



FOR PHASED EMBANKMENT CONSTRUCTION
MATERIAL COMPOSITION DETAILS, SEE SHEET 334

CROSS SECTIONS - PHASE 8
STA. 520+00.79 TO STA. 521+00.00

SUM-76/77-11.27/12.12

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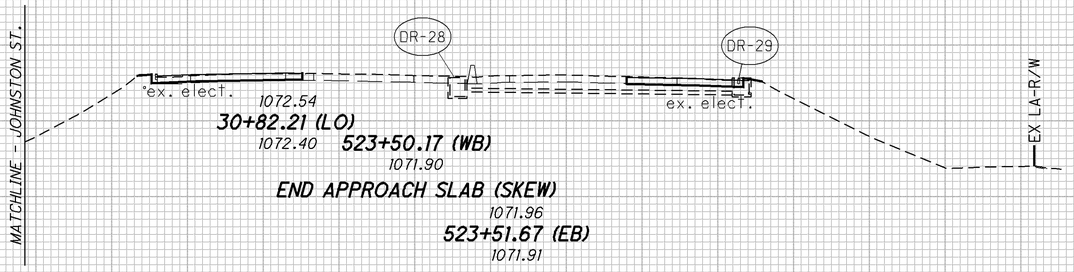
SEEDING	
END WIDTH	SQ. YDS.

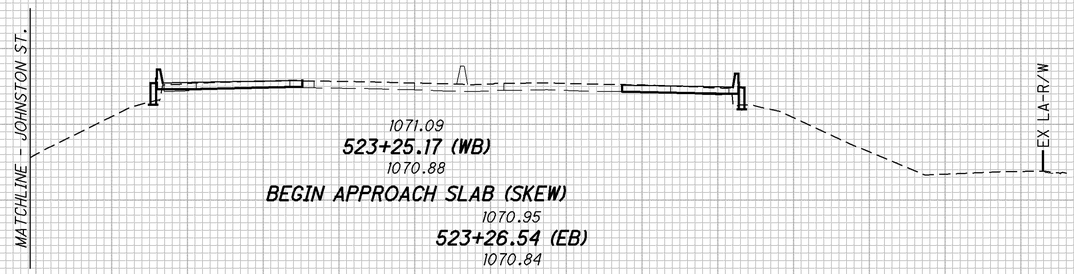
END AREA		VOLUME	
CUT	FILL	CUT	FILL

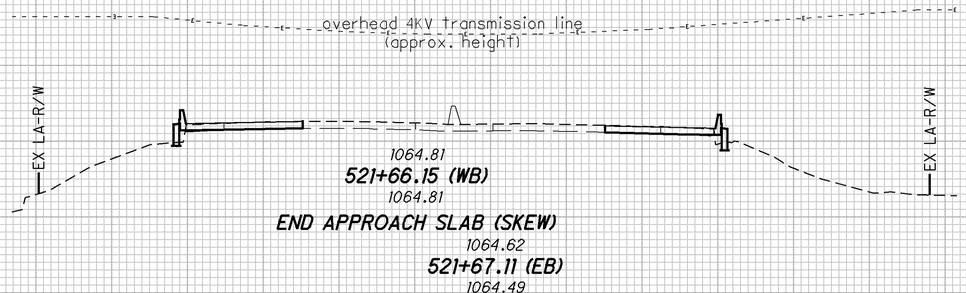
CALCULATED AJE
CHECKED CWL

DR-28
STA 523+44.46, 11.36' RT
(W.B. I-76)
EX. I-2-12, GRATE ELEV 1071.36'
ex. 12" X (S) 1067.55

DR-29
STA 523+61.38, 58.53' RT
(E.B. I-76)
EX. CB, GRATE ELEV 1071.36'
ex. 12" X (S) 1067.55

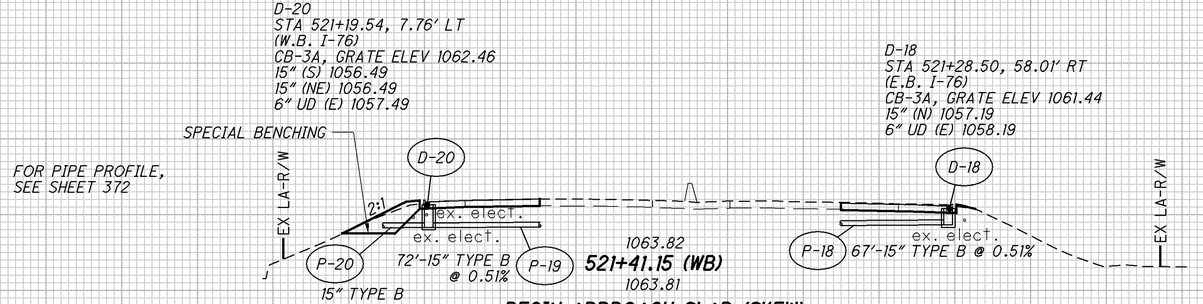






D-20
STA 521+19.54, 7.76' LT
(W.B. I-76)
CB-3A, GRATE ELEV 1062.46
15" (S) 1056.49
15" (NE) 1056.49
6" UD (E) 1057.49

D-18
STA 521+28.50, 58.01' RT
(E.B. I-76)
CB-3A, GRATE ELEV 1061.44
15" (N) 1057.19
6" UD (E) 1058.19



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 - PHASE 8
STA. 521+41.15 TO STA. 523+50.17

SUM-76/77-11.27/12.12

249
652

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9/16/2014
9:12:30 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

D-17
STA 29+08.58, 31.38' LT
(LANE O)
CB-2-2B, GRATE ELEV 1077.07
15" (S) 1066.92
15" (N) 1066.92
6" UD (N) 1072.82
6" UD (S) 1072.82

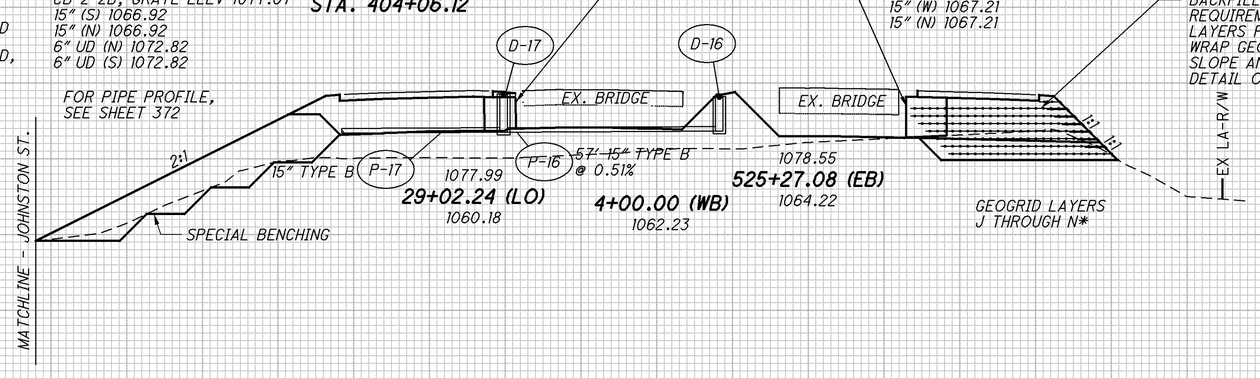
FOR PIPE PROFILE, SEE SHEET 372

END LANE O
STA. 28+85.55
BEGIN W.B. CROSSOVER
STA. 404+06.12

WIRE-FACED MSE WALL SEE DETAIL ON SHT. 333

D-16
STA 3+92.29, 16.52' RT
(W.B. I-76)
CB-2-2B, GRATE ELEV 1076.35
15" (W) 1067.21
15" (N) 1067.21

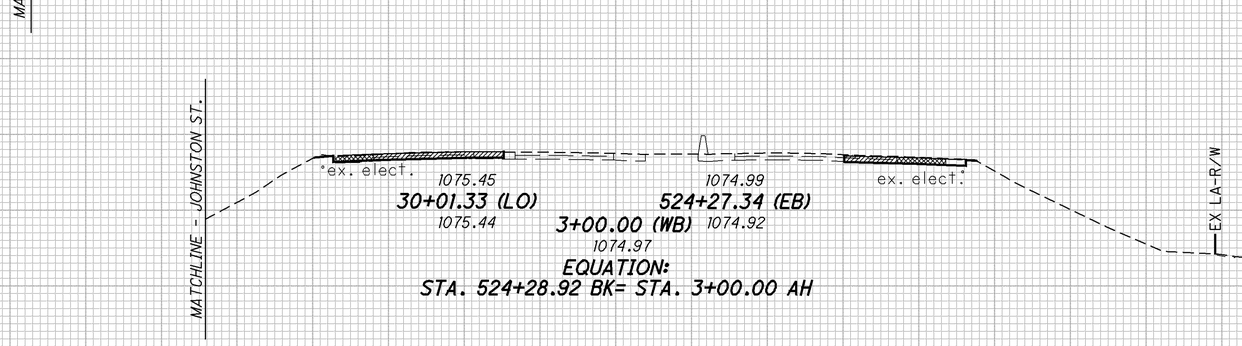
BACKFILL MEETING SPECIAL REQUIREMENTS WITH GEOGRID LAYERS PLACED 2.0' APART. WRAP GEOGRID UP FACE OF SLOPE AND EMBED 5', SEE DETAIL ON SHT. 333

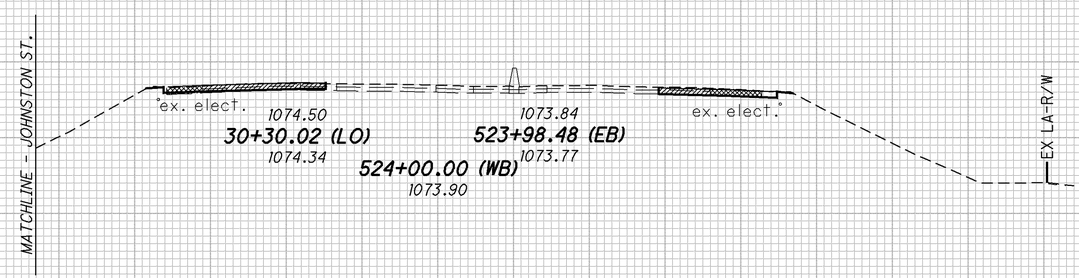


GEOGRID LAYER	ELEVATION	EMBEDDED LENGTH
J	1065.2	43'
K	1067.2	43'
L	1069.2	43'
M	1071.2	43'
N	1073.2	43'*

* TAPER EMBEDMENT LENGTH ADJACENT TO WIRE-FACED MSE WALL

BEGIN TEMP. MSE WALL:
STA. 3+80.80 (WB-76)
STA. 525+12.80 (EB-76)





END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 8
STA. 524+00.00 TO STA. 4+00.00

SUM-76/77-11.27/12.12

250
652

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9/16/2014
9:12:48 PM
SSCHUSTER

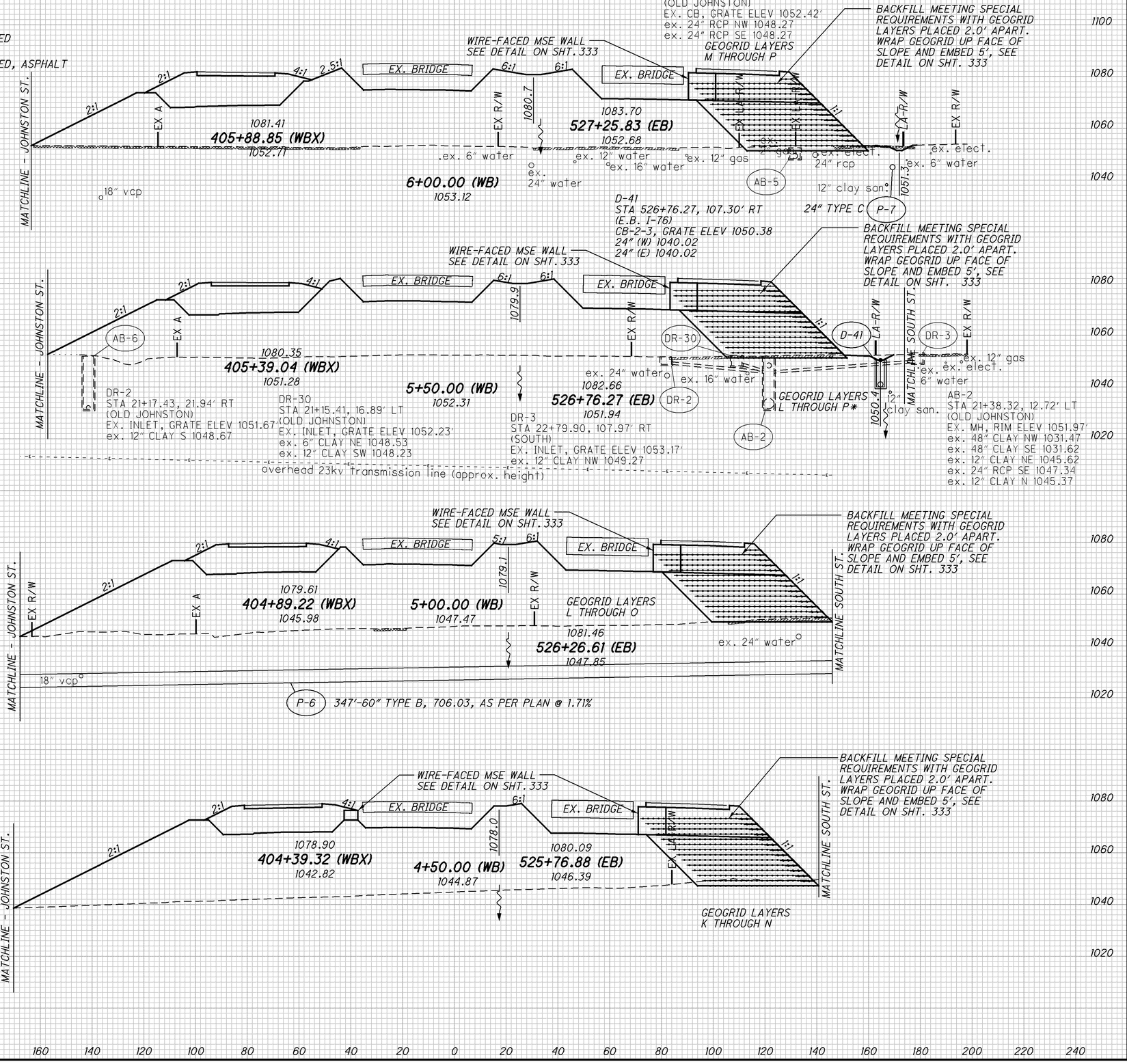
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT



GEOGRID LAYER	ELEVATION	EMBEDDED LENGTH
K	1067.2	43'
L	1069.2	43'
M	1071.2	43'
N	1073.2	43'
O	1075.2	43'
P	1077.2	43'*

* TAPER EMBEDMENT LENGTH ADJACENT TO WIRE-FACED MSE WALL

END TEMP. MSE WALL: STA. 5+00.00 (WB-76)

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 - PHASE 8
STA. 4+50.00 TO STA. 6+00.00

SUM-76/77-11.27/12.12

251
652

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9/16/2014
9:13:09 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

END TEMP. MSE WALL:
STA. 528+46.57 (EB-76)

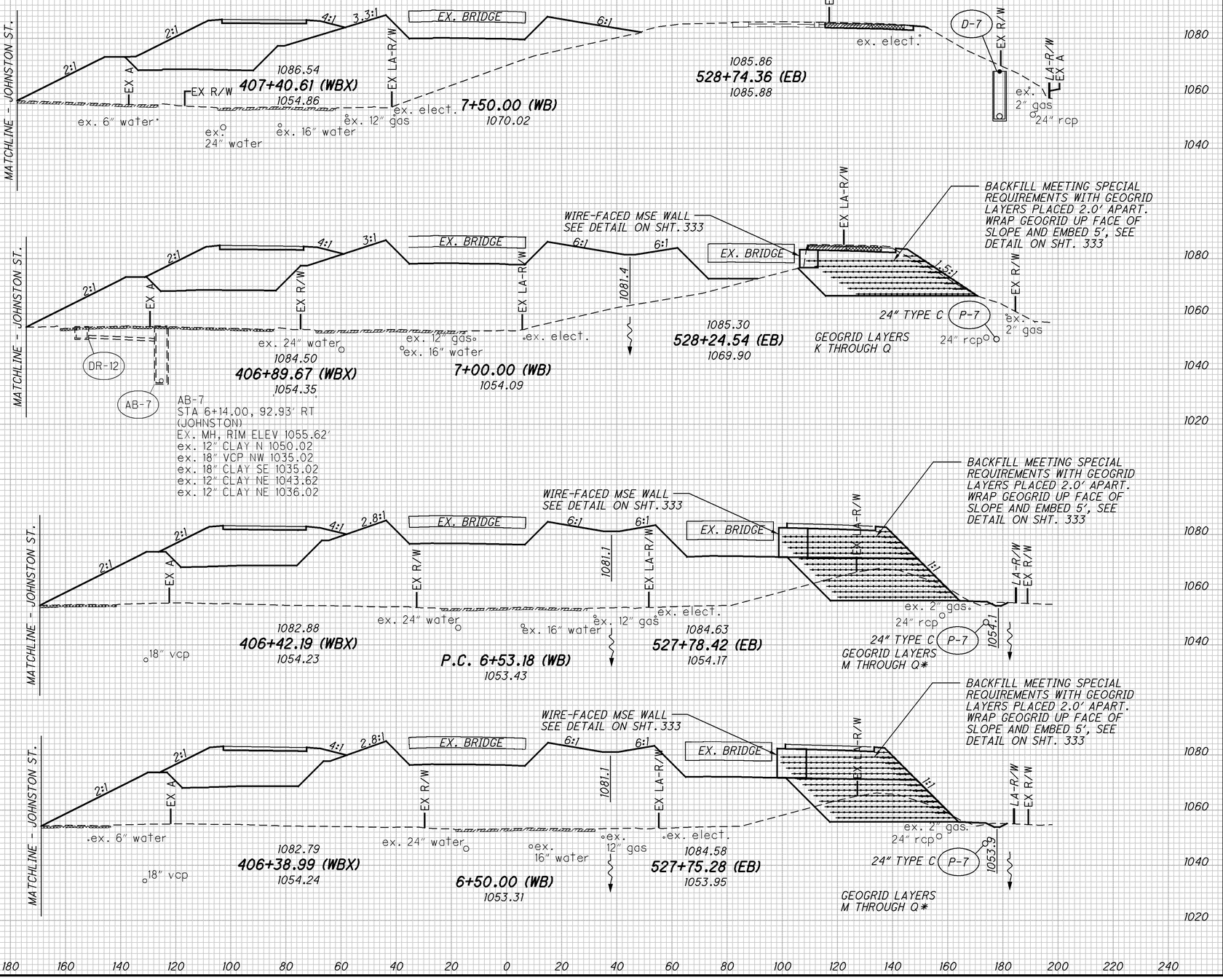
DR-12
STA 18+33.89, 80.24' RT
(OLD JOHNSTON)
EX. CB, GRATE ELEV 1055.42'
ex. 12" CLAY S 1051.22

AB-7
STA 6+14.00, 92.93' RT
(JOHNSTON)
EX. MH, RIM ELEV 1055.62'
ex. 12" CLAY N 1050.02
ex. 18" VCP NW 1035.02
ex. 18" CLAY SE 1035.02
ex. 12" CLAY NE 1043.62
ex. 12" CLAY NE 1036.02

D-7
STA 528+61.30, 94.18' RT
(E.B. I-76)
MH-3, RIM ELEV 1067.91
24" (W) 1050.65
EX. 24" (SE) 1050.65

GEOGRID LAYER	ELEVATION	EMBEDDED LENGTH
K	1067.2	43'
L	1069.2	43'
M	1071.2	43'
N	1073.2	43'
O	1075.2	43'
P	1077.2	43'
Q	1079.2	43'*

* TAPER EMBEDMENT LENGTH ADJACENT TO WIRE-FACED MSE WALL



CROSS SECTIONS - PHASE 8
STA. 6+50.00 TO STA. 7+50.00

SUM-76 / 77-11.27 / 12.12

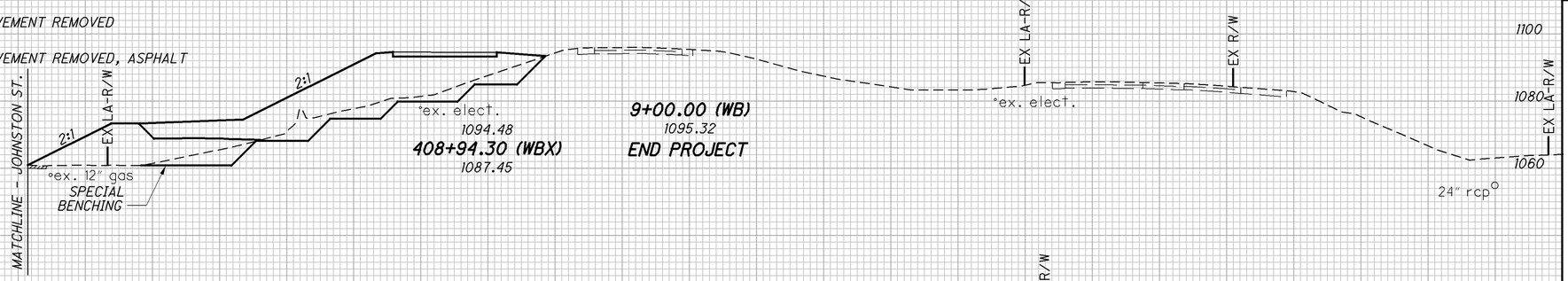
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652

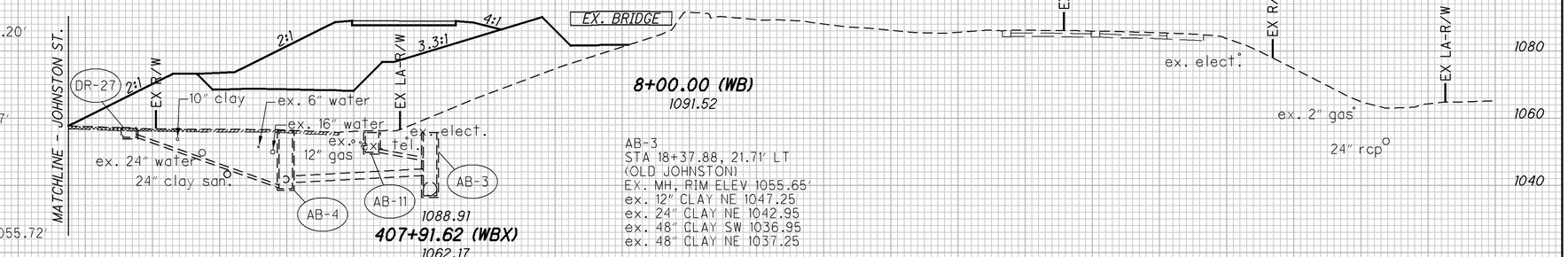
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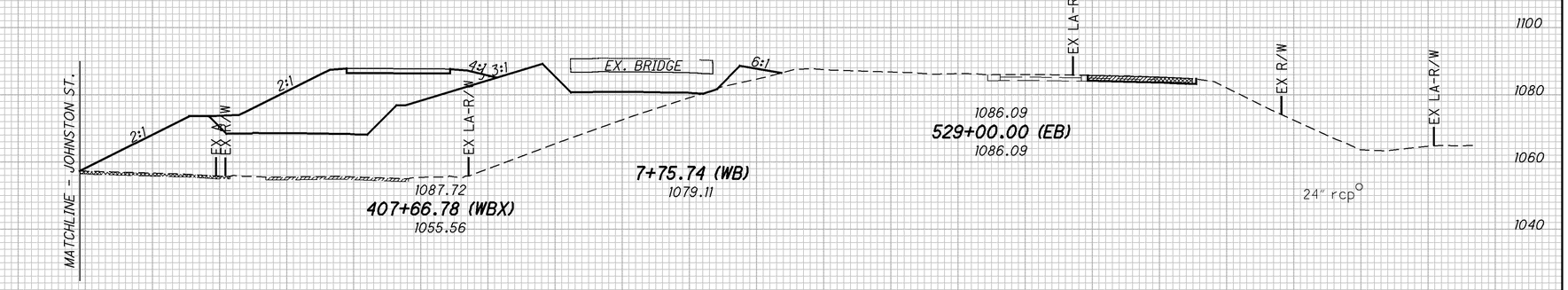
SEEDING	
END WIDTH	SQ. YDS.

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT







END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 8
STA. 7+75.74 TO STA. 9+00.00

SUM-76/77-11.27/12.12

253
652

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9:13:55 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED, ASPHALT

1100
1080
1060
1040

2:1

410+43.19 (WBX)
1100.41

10+45.34 (WB)
1100.24

12" TYPE C

EX LA-R/W

EX R/W

48" sewer

EX-4
STA 9+88.81, 97.44' LT
EX. CB, GRATE ELEV 1071.72'
12" RCP N 1068.77

ex. elect.

ex. elect.

12" rcp (TO REMAIN)

EX-4

1098.94
409+96.49 (WBX)
1098.36

10+00.00 (WB)
1098.98

ex. elect.

ex. elect.

48" sewer

MATCHLINE - JOHNSTON ST.

2:1

1096.91
409+45.20 (WBX)
1092.35

ex. elect.

9+50.00 (WB)
1097.23

EX-5
STA 9+46.14, 254.35' RT
EX. CB, GRATE ELEV 1060.10'
ex. 24" RCP NW 1054.60
ex. 12" RCP NE 1055.75
ex. 12" RCP SE 1055.35

EX-5

MATCHLINE - JOHNSTON ST.

EX LA-R/W

2:1

1095.18
409+08.13 (WBX)
1088.76

ex. elect.

P.T. 9+13.57 (WB)
1095.87

24" rcp

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 - PHASE 8
STA. 9+13.57 TO STA. 10+45.34

SUM-76/77-11.27/12.12

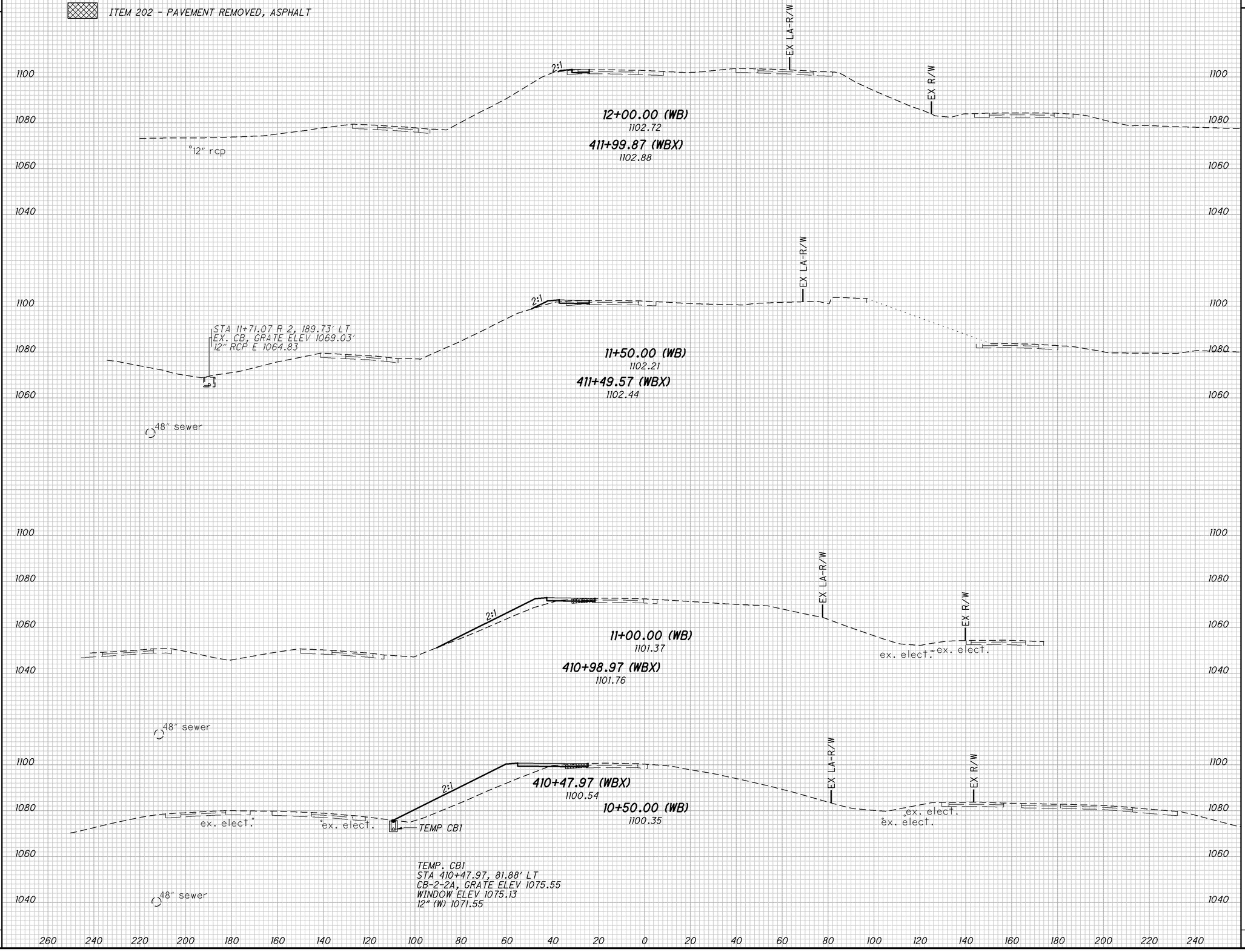
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9:14:11 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED, ASPHALT



CROSS SECTIONS - PHASE 8
STA. 10+50.00 TO STA. 12+00.00

SUM-76/77-11.27/12.12

255
652

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SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE

CHECKED CWL

CROSS SECTIONS - PHASE 8

STA. 12+50.00

SUM-76/77-11.27/12.12

256
652

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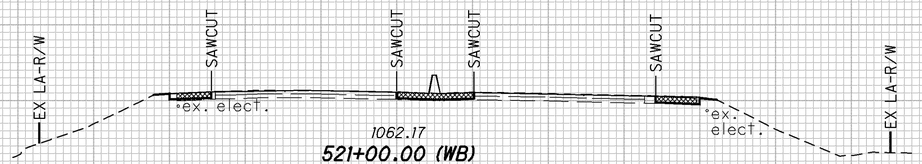
SEEDING	
END WIDTH	SQ. YDS.

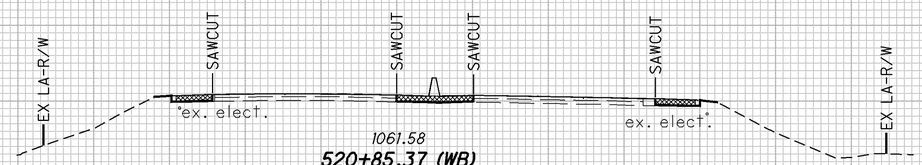
END AREA	
CUT	FILL

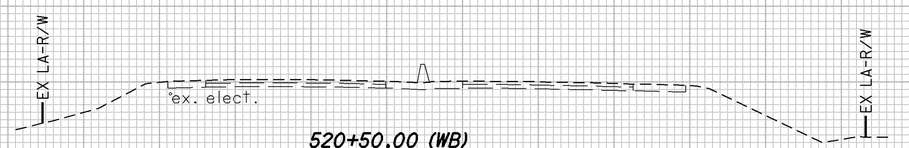
VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED, ASPHALT









FOR PHASED EMBANKMENT CONSTRUCTION
MATERIAL COMPOSITION DETAILS, SEE SHEET 334

1120 1100 1080 1060 1040 1020

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 - PHASE 10
STA. 520+00.79 TO STA. 521+00.00

SUM-76/77-11.27/12.12

257
652

\\KRNBV\DATA\2810\2810257\SUM\86979\ROADWAY\SHEETS\86979XS182.DGN
9/16/2014
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SEEDING	
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END AREA	
CUT	FILL

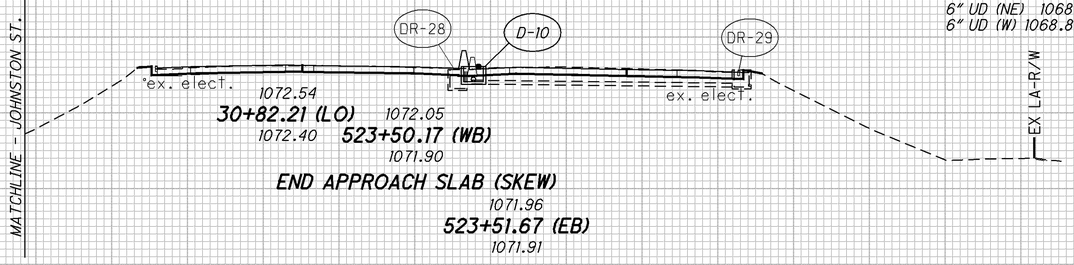
VOLUME	
CUT	FILL

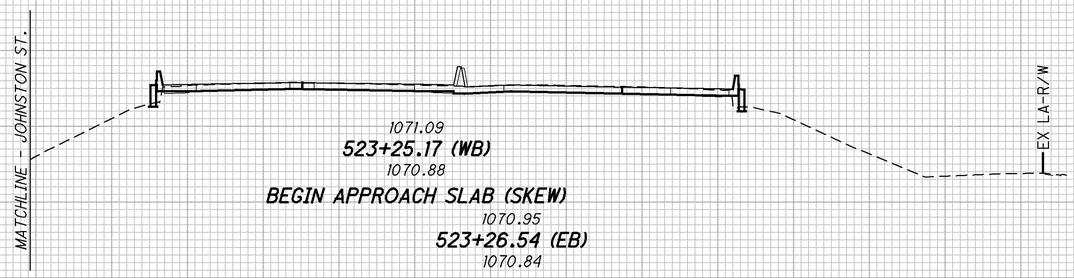
CALCULATED AJE
CHECKED CWL

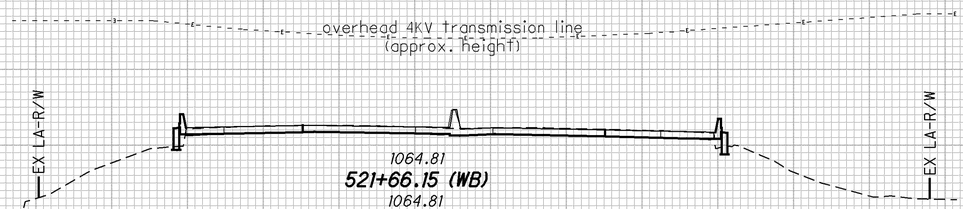
DR-28
STA 523+44.46, 11.36' RT
(W.B. I-76)
EX. I-2-12, GRATE ELEV 1071.36'
ex. 12" X (S) 1067.55

DR-29
STA 523+61.38, 58.53' RT
(E.B. I-76)
EX. CB, GRATE ELEV 1071.36'
ex. 12" X (S) 1067.55

D-10
STA 523+67.74, 10.74' LT
(E.B. I-76)
I-3-C1, GRATE ELEV 1072.12
15" (E) 1068.12
6" UD (E) 1068.87
6" UD (NE) 1068.87
6" UD (W) 1068.87







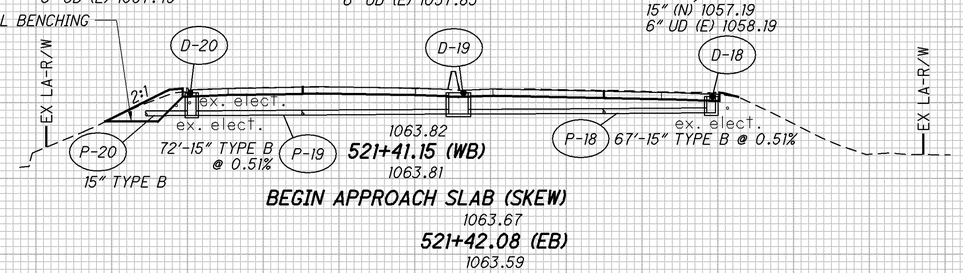
D-20
STA 521+19.54, 7.76' LT
(W.B. I-76)
CB-3A, GRATE ELEV 1062.46
15" (S) 1056.49
15" (NE) 1056.49
6" UD (E) 1057.49

D-19
STA 521+23.50, 7.76' LT
(E.B. I-76)
I-3-C1, GRATE ELEV 1062.60
15" (N) 1056.85
15" (S) 1056.85
6" UD (E) 1057.85

D-18
STA 521+28.50, 58.01' RT
(E.B. I-76)
CB-3A, GRATE ELEV 1061.44
15" (N) 1057.19
6" UD (E) 1058.19

SPECIAL BENCHING

FOR PIPE PROFILE, SEE SHEET 372



15" 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

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SSCHUSTER

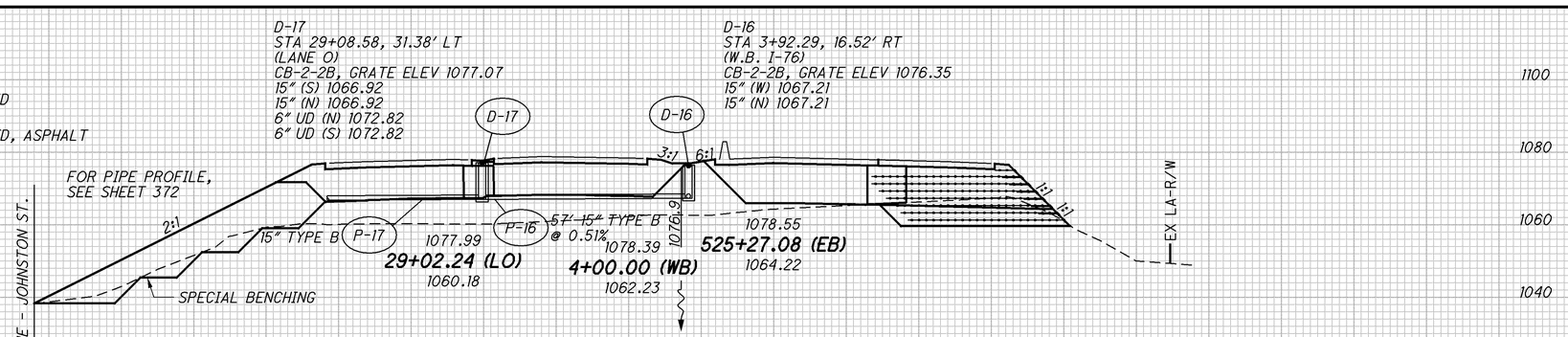
CROSS SECTIONS - PHASE 10
STA. 521+41.15 TO STA. 523+50.17

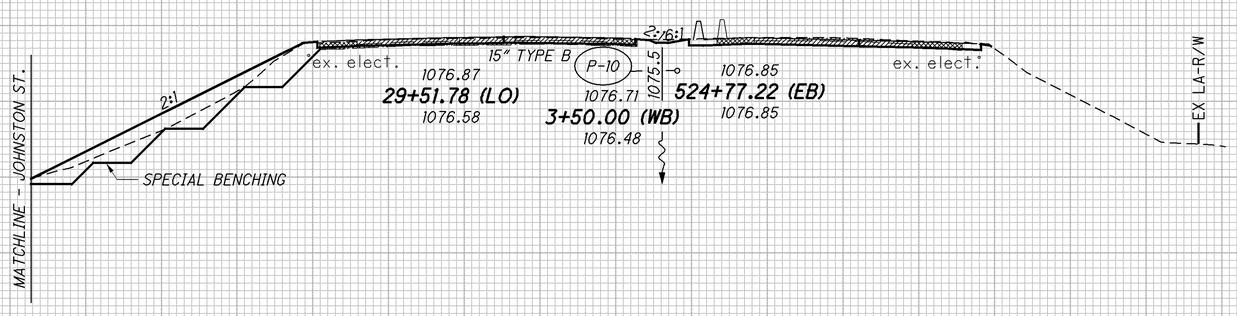
SUM-76/77-11.27/12.12

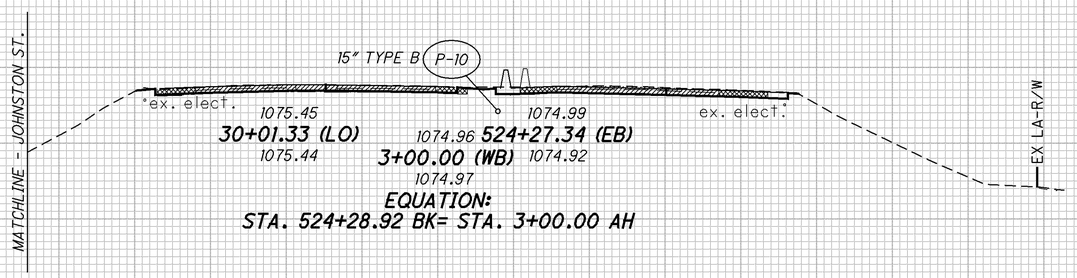
SEEDING	
END WIDTH	SQ. YDS.

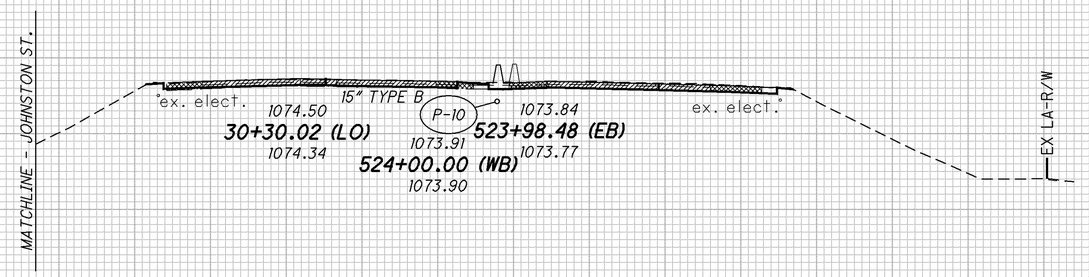
ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT









END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 10
STA. 524+00.00 TO STA. 4+00.00

SUM-76/77-11.27/12.12

\\KFN03\DATA\2010\2010297\SUM\86979\ROADWAY\SHEETS\86979XS102.DGN
9/16/2014
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SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

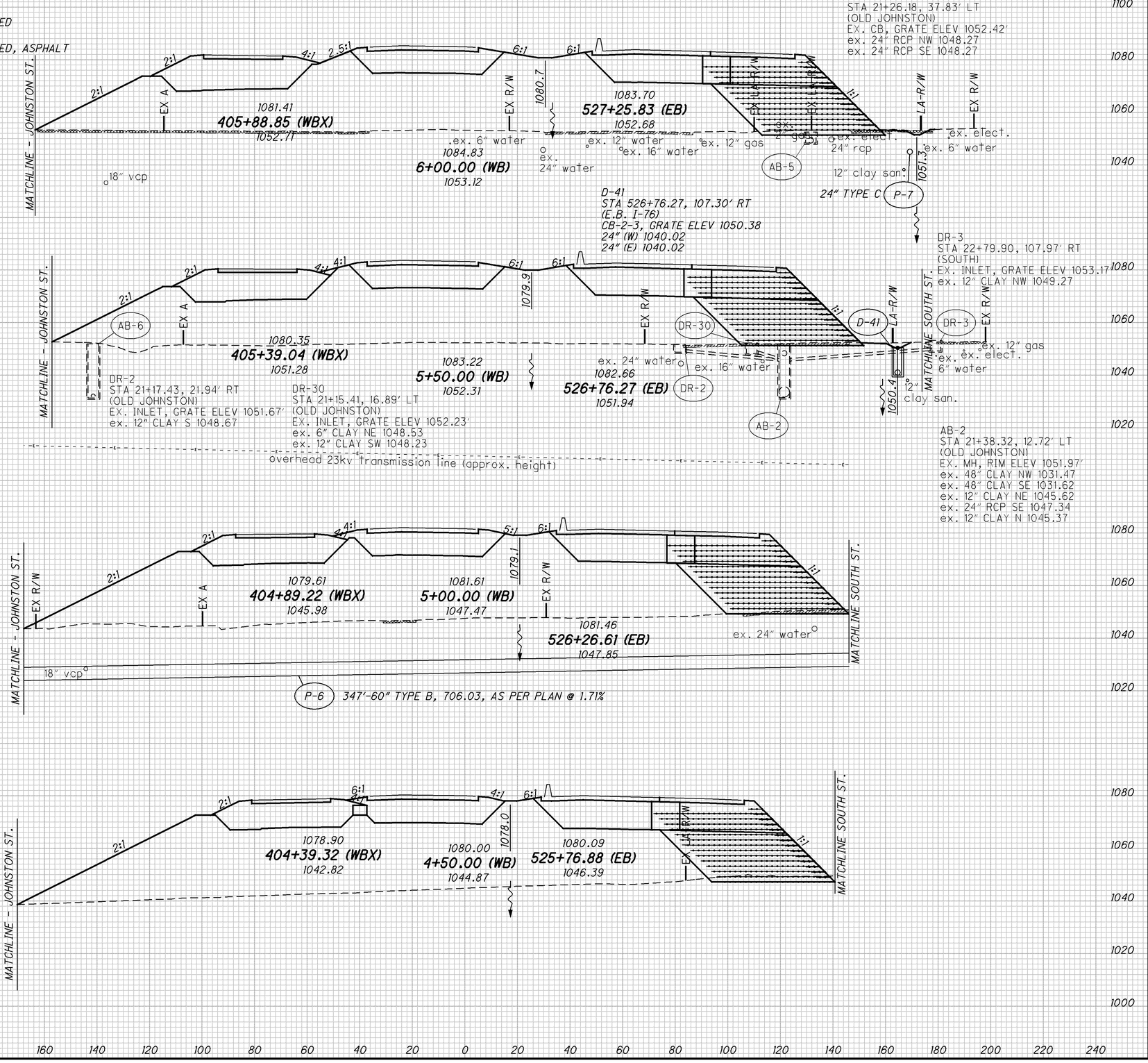
END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT



CROSS SECTIONS - PHASE 10
STA. 4+50.00 TO STA. 6+00.00

SUM-76/77-11.27/12.12

260
652

\\AKRNAS\DATA\2818\2818297\SUM\86979\ROADWAY\SHEETS\86979XS182.DGN
9/16/2014
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SSCHUSTER

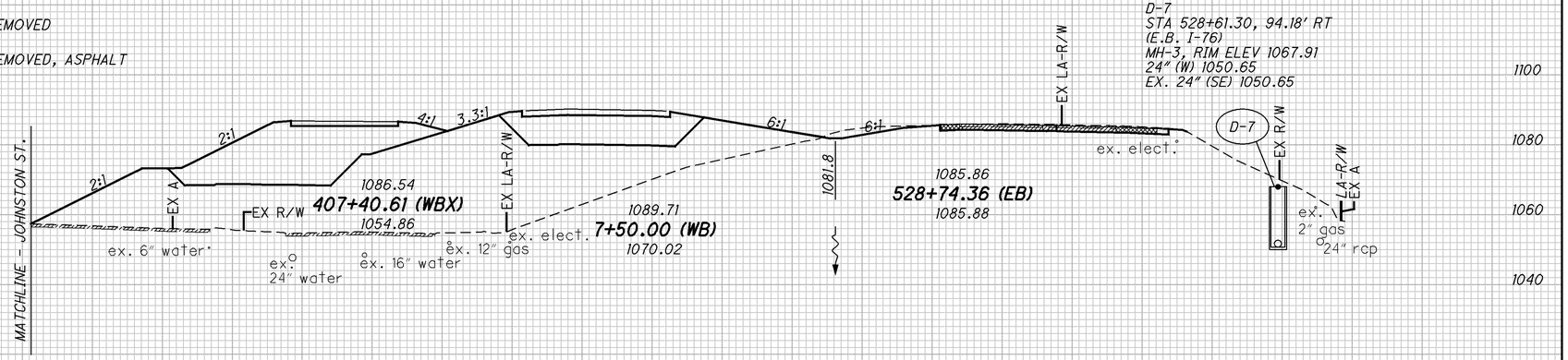
SEEDING	
END WIDTH	SQ. YDS.

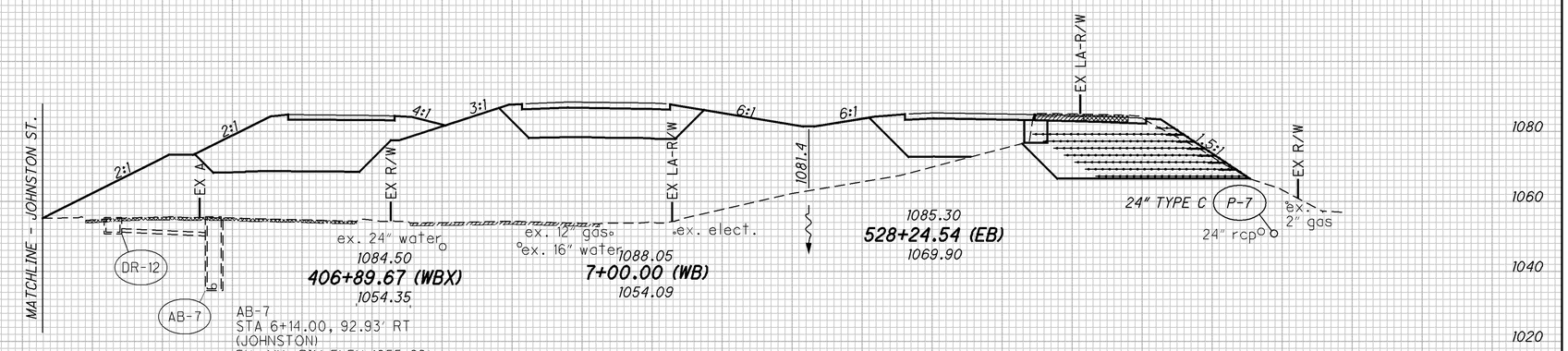
END AREA		VOLUME	
CUT	FILL	CUT	FILL

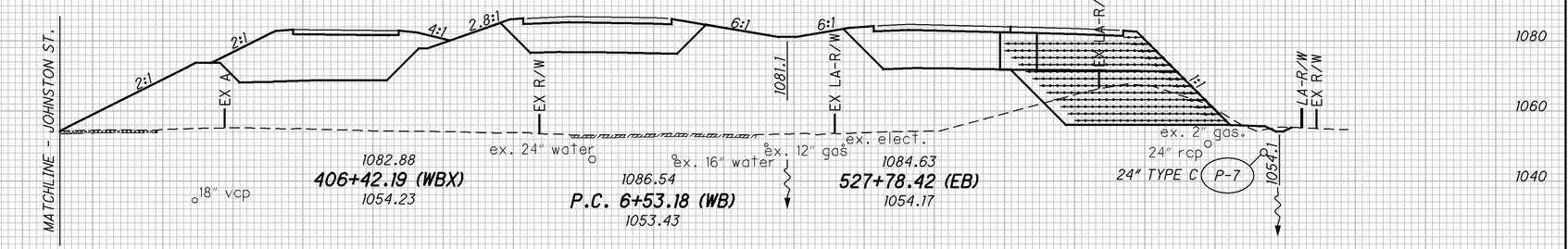
CALCULATED AJE
CHECKED CWL

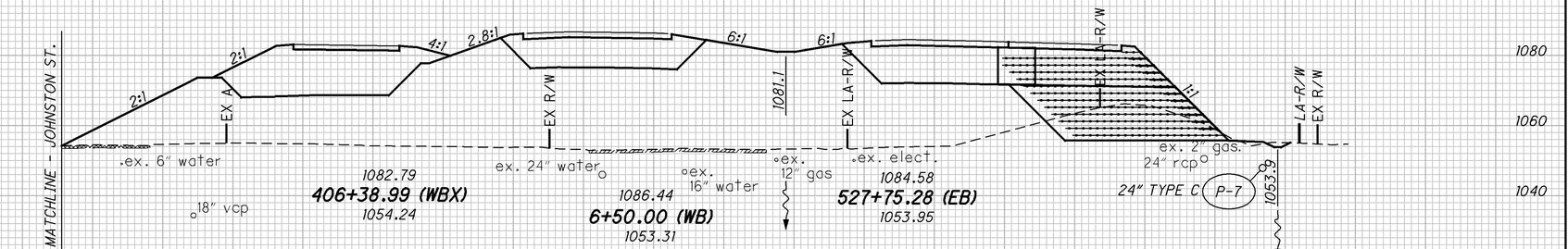
ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT









1100 1080 1060 1040 1020

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 - PHASE 10
STA. 6+50.00 TO STA. 7+50.00

SUM-76 / 77-11.27 / 12.12

261
652

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9/16/2014
9:16:51 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

MATCHLINE - JOHNSTON ST.

EX LA-R/W

2:1

3.2:1

SAWCUT

SAWCUT

ex. elect.

1094.48

408+94.30 (WBX)

1087.45

1095.32

9+00.00 (WB)

1095.32

END PROJECT

ex. 12" gas

SPECIAL BENCHING

EX LA-R/W

EX R/W

EX LA-R/W

24" rcp

MATCHLINE - JOHNSTON ST.

2:1

4:1

3.3:1

4:1

2:1

2:1

EX LA-R/W

ex. 2" gas

ex. 24" water

ex. 16" water

24" clay san.

ex. el.

ex. 12" gas

1091.64

408+43.14 (WBX)

1079.02

SPECIAL BENCHING

1093.35

8+50.00 (WB)

1093.34

ex. elect.

EX LA-R/W

EX R/W

EX LA-R/W

ex. 2" gas

24" rcp

DR-27
STA 17+52.74, 20.80' RT
(OLD JOHNSTON)
EX. CB, GRATE ELEV 1057.20'
ex. 10" CLAY S 1054.30

AB-4
STA 18+03.78, 5.18' RT
(OLD JOHNSTON)
EX. MH, RIM ELEV 1056.27'
ex. 24" CLAY NE 1039.17
ex. 24" CLAY SW 1038.97
ex. 24" CLAY SW 1040.77

AB-11
STA 18+18.10, 16.75' LT
(OLD JOHNSTON)
EX. INLET, GRATE ELEV 1055.72'
ex. 12" CLAY SW 1049.82

MATCHLINE - JOHNSTON ST.

DR-27

EX LA-R/W

2:1

4:1

3.3:1

6:1

10" clay

ex. 6" water

ex. 16" water

ex. 24" water

24" clay san.

ex. tel.

ex. elect.

12" gas

AB-4

AB-11

AB-3

1088.91

407+91.62 (WBX)

1062.17

1091.48

8+00.00 (WB)

1091.52

AB-3
STA 18+37.88, 21.71' LT
(OLD JOHNSTON)
EX. MH, RIM ELEV 1055.65'
ex. 12" CLAY NE 1047.25
ex. 24" CLAY NE 1042.95
ex. 48" CLAY SW 1036.95
ex. 48" CLAY NE 1037.25

EX LA-R/W

EX R/W

EX LA-R/W

ex. elect.

ex. 2" gas

24" rcp

MATCHLINE - JOHNSTON ST.

2:1

4:1 3:1

6:1

6:1

6:1

EX LA-R/W

EX R/W

1087.72

407+66.78 (WBX)

1055.56

1090.61

7+75.74 (WB)

1079.11

1081.9

1086.09

529+00.00 (EB)

1086.09

EX LA-R/W

EX R/W

EX LA-R/W

24" rcp

1100 1080 1060 1040

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 - PHASE 10
STA. 7+75.74 TO STA. 9+00.00

SUM-76/77-11.27/12.12

262
652

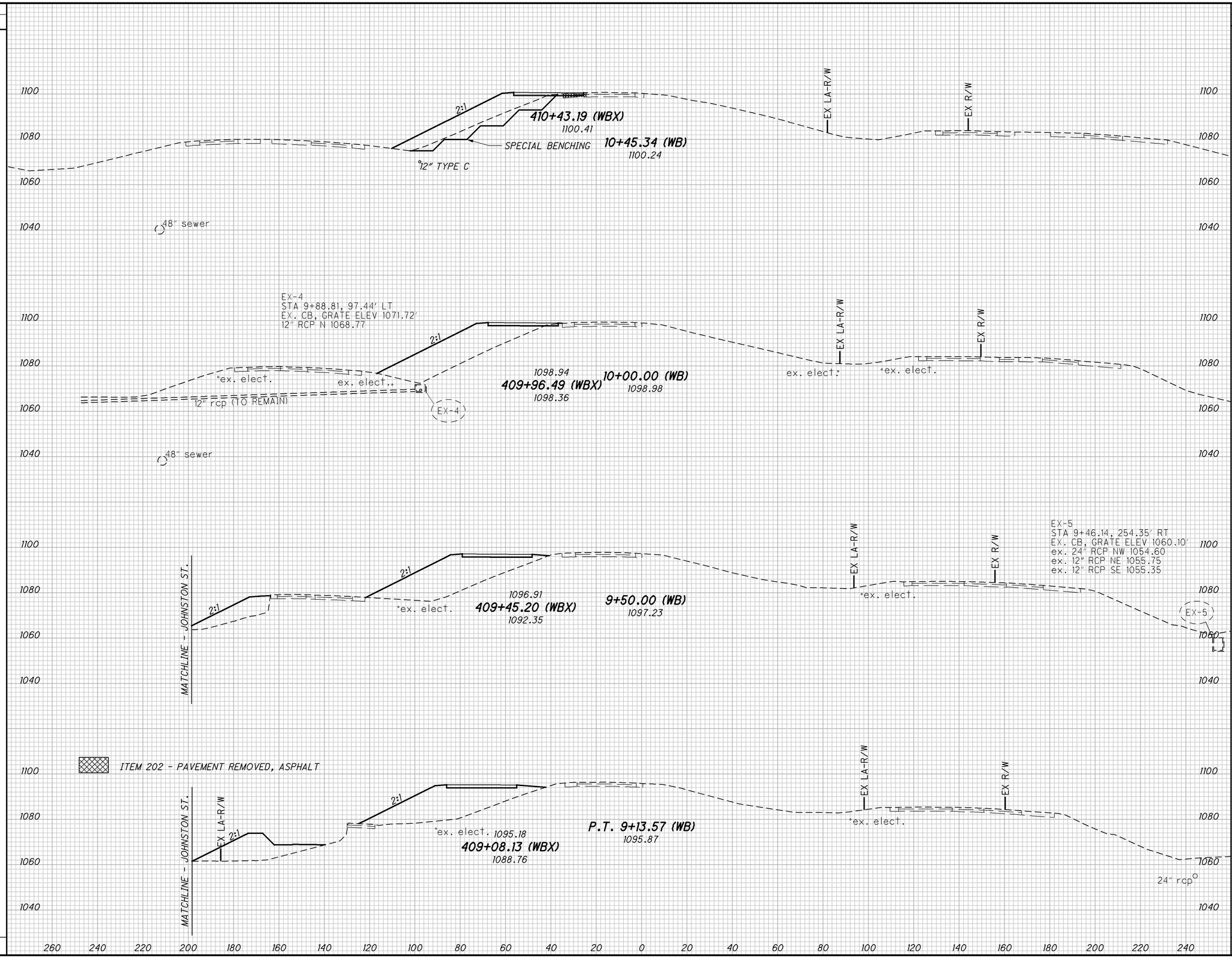
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9/16/2014
9:17:05 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL



CROSS SECTIONS - PHASE 10
STA. 9+13.57 TO STA. 10+45.34

SUM-76/77-11.27/12.12

263
652

\\KRNB3\DATA\2010\2012257\SUM\86779\ROADWAY\SHEETS\86779XS182.DGN
9/16/2014
9:17:25 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED, ASPHALT

EX LA-R/W
EX R/W
2:1
12+00.00 (WB)
1102.72
411+99.87 (WBX)
1102.88
12" rcp
48" sewer

STA 11+71.07 R 2, 189.73' LT
EX. CB, GRATE ELEV 1069.03'
12" RCP E 1064.83
11+50.00 (WB)
1102.21
411+49.57 (WBX)
1102.44

11+00.00 (WB)
1101.37
410+98.97 (WBX)
1101.76
SPECIAL BENCHING
ex. elect.

TEMP. CB1
STA 410+47.97, 81.88' LT
CB-2-2A, GRATE ELEV 1075.55
WINDOW ELEV 1075.13
12" (W) 1071.55
410+47.97 (WBX)
1100.54
10+50.00 (WB)
1100.35
TEMP CB1

1100
1080
1060
1040

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

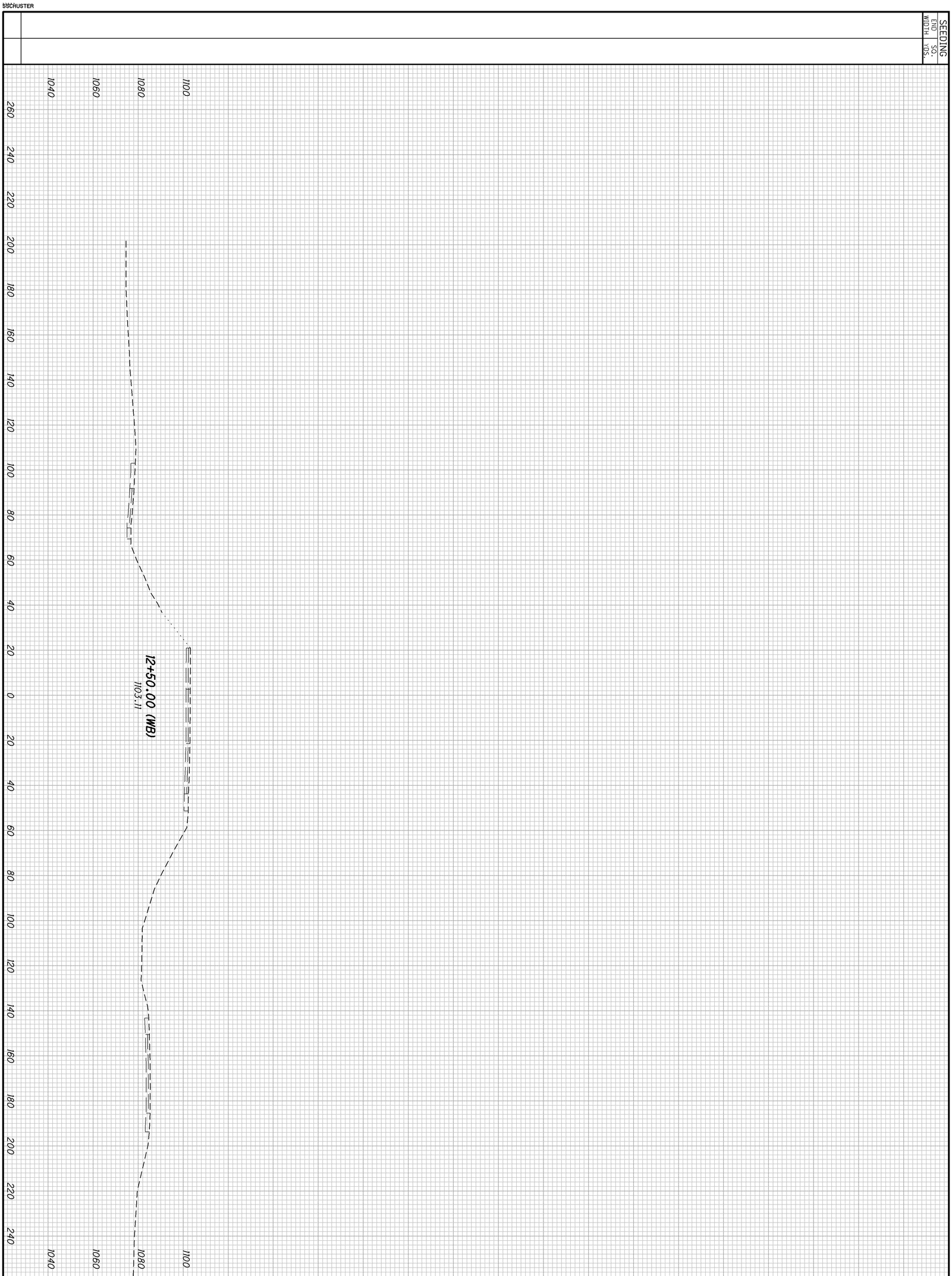
CROSS SECTIONS - PHASE 10
STA. 10+50.00 TO STA. 12+00.00

SUM-76/77-11.27/12.12

264
652

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SSCHUSTER

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SSCHUSTER



265
652

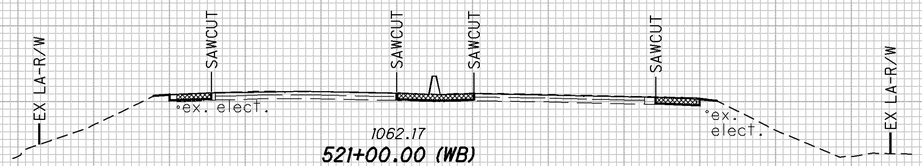
SUM-76/77-11.27/12.12

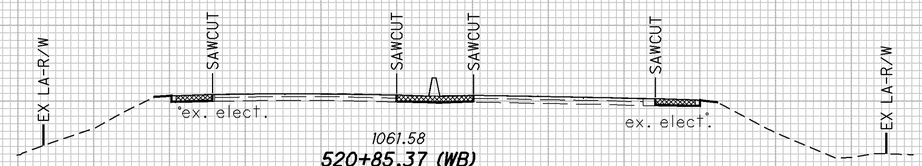
CROSS SECTIONS - PHASE 10
STA. 12+50.00

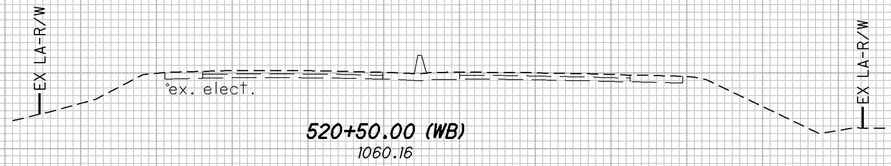
CALCULATED AJE
CHECKED CWL

SEEDING	
END WIDTH	SQ. YDS.

ITEM 202 - PAVEMENT REMOVED, ASPHALT









FOR PHASED EMBANKMENT CONSTRUCTION
MATERIAL COMPOSITION DETAILS, SEE SHEET 334

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 11
STA. 520+00.79 TO STA. 521+00.00

SUM-76/77-11.27/12.12

266
652

\\AKRNAS\DATA\2818\2818297\SUM\86979\ROADWAY\SHEETS\86979XS183.DGN
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SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

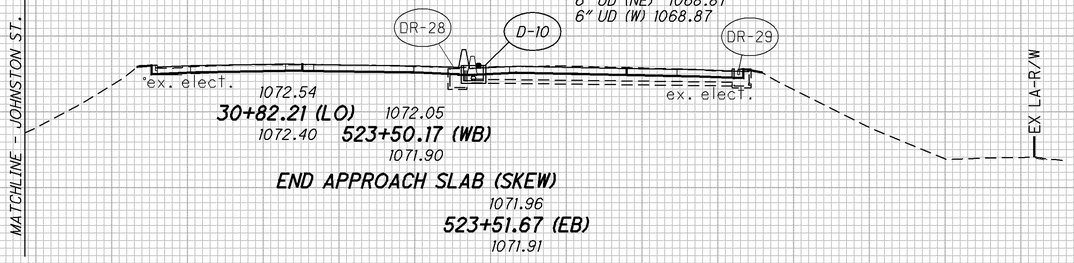
END AREA		VOLUME	
CUT	FILL	CUT	FILL

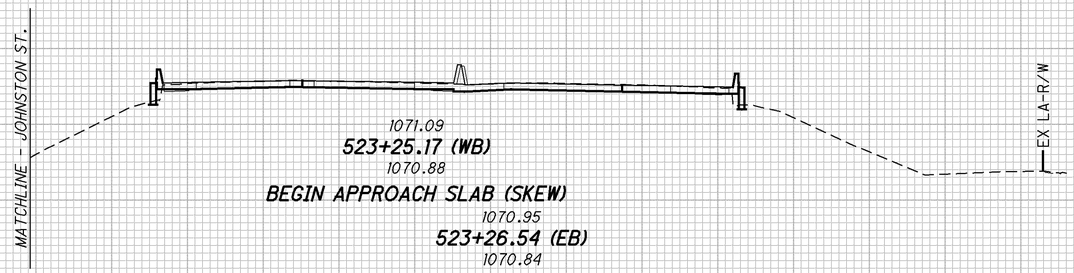
CALCULATED AJE
CHECKED CWL

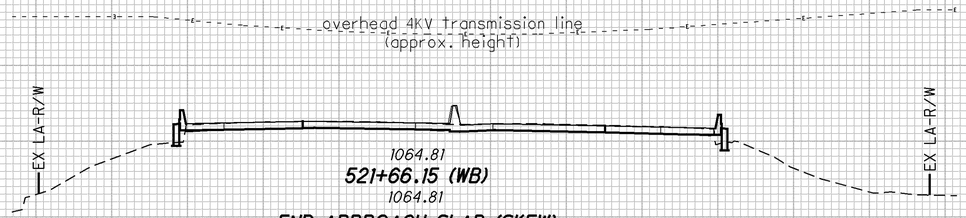
DR-28
STA 523+44.46, 11.36' RT
(W.B. I-76)
EX. I-2-12, GRATE ELEV 1071.36'
ex. 12" X (S) 1067.55

D-10
STA 523+67.74, 10.74' LT
(E.B. I-76)
I-3-C1, GRATE ELEV 1072.12
15" (E) 1068.12
6" UD (E) 1068.87
6" UD (NE) 1068.87
6" UD (W) 1068.87

DR-29
STA 523+61.38, 58.53' RT
(E.B. I-76)
EX. CB, GRATE ELEV 1071.36'
ex. 12" X (S) 1067.55







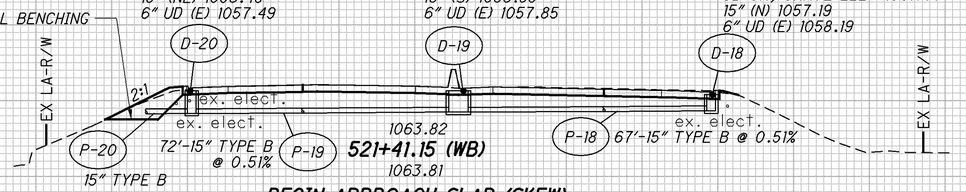
D-20
STA 521+19.54, 7.76' LT
(W.B. I-76)
CB-3A, GRATE ELEV 1062.46
15" (S) 1056.49
15" (NE) 1056.49
6" UD (E) 1057.49

D-19
STA 521+23.50, 7.76' LT
(E.B. I-76)
I-3-C1, GRATE ELEV 1062.60
15" (N) 1056.85
15" (S) 1056.85
6" UD (E) 1057.85

D-18
STA 521+28.50, 58.01' RT
(E.B. I-76)
CB-3A, GRATE ELEV 1061.44
15" (N) 1057.19
6" UD (E) 1058.19

SPECIAL BENCHING

FOR PIPE PROFILE,
SEE SHEET 372



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 - PHASE 11
STA. 521+41.15 TO STA. 523+50.17

SUM-76/77-11.27/12.12

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9/16/2014
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SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

ITEM 202 - PAVEMENT REMOVED

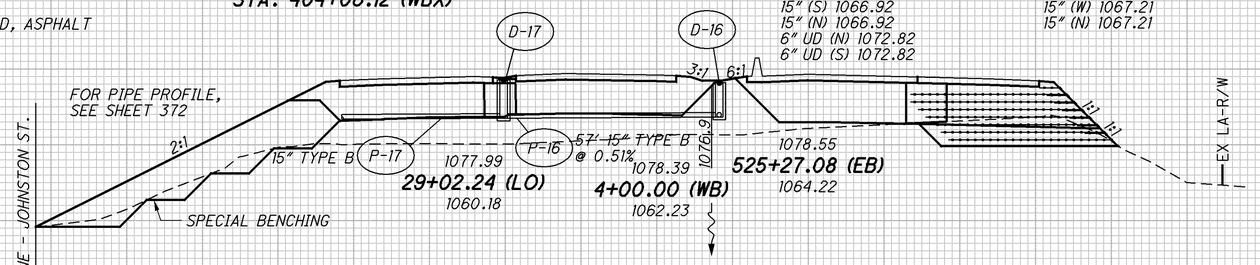
ITEM 202 - PAVEMENT REMOVED, ASPHALT

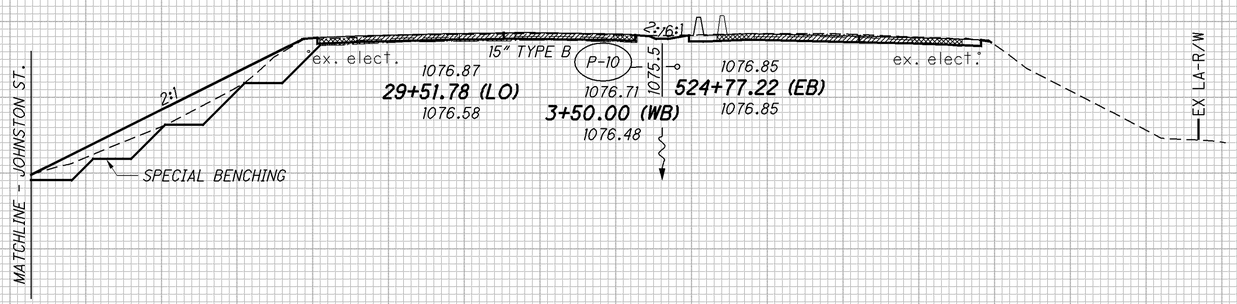
BEGIN DEMO
W.B. CROSSOVER
STA. 28+85.55 (LO)
STA. 404+06.12 (WBX)

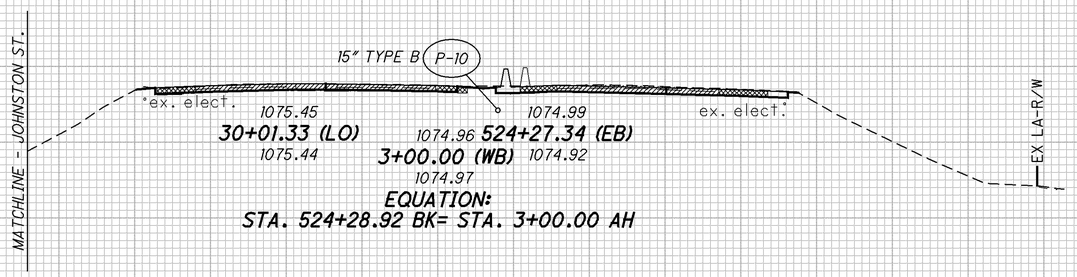
D-17
STA 29+08.58, 31.38' LT
(LANE O)
CB-2-2B, GRATE ELEV 1077.07
15" (S) 1066.92
15" (N) 1066.92
6" UD (N) 1072.82
6" UD (S) 1072.82

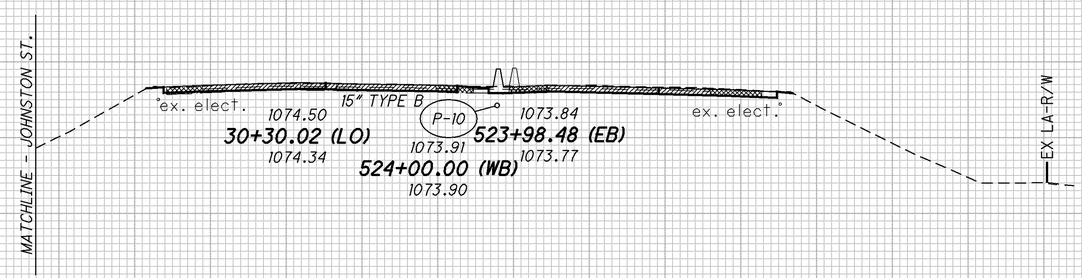
D-16
STA 3+92.29, 16.52' RT
(W.B. I-76)
CB-2-2B, GRATE ELEV 1076.35
15" (W) 1067.21
15" (N) 1067.21

BEGIN EARTHWORK FOR TEMPORARY WB-76 CROSSOVER
STA. 404+06.12 (WBX)
STA. 4+16.77 (WB)









:##: - ITEM 203 - EARTHWORK FOR TEMPORARY WB-76 CROSSOVER FOR REFERENCE ONLY, (INCLUDED IN COST FOR ITEM 615 - ROADS FOR MAINTAINING TRAFFIC)

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		:18:	:18:
:0:	:0:		
:0:	:0:		
		:18:	:18:

CALCULATED AJE
CHECKED CWL

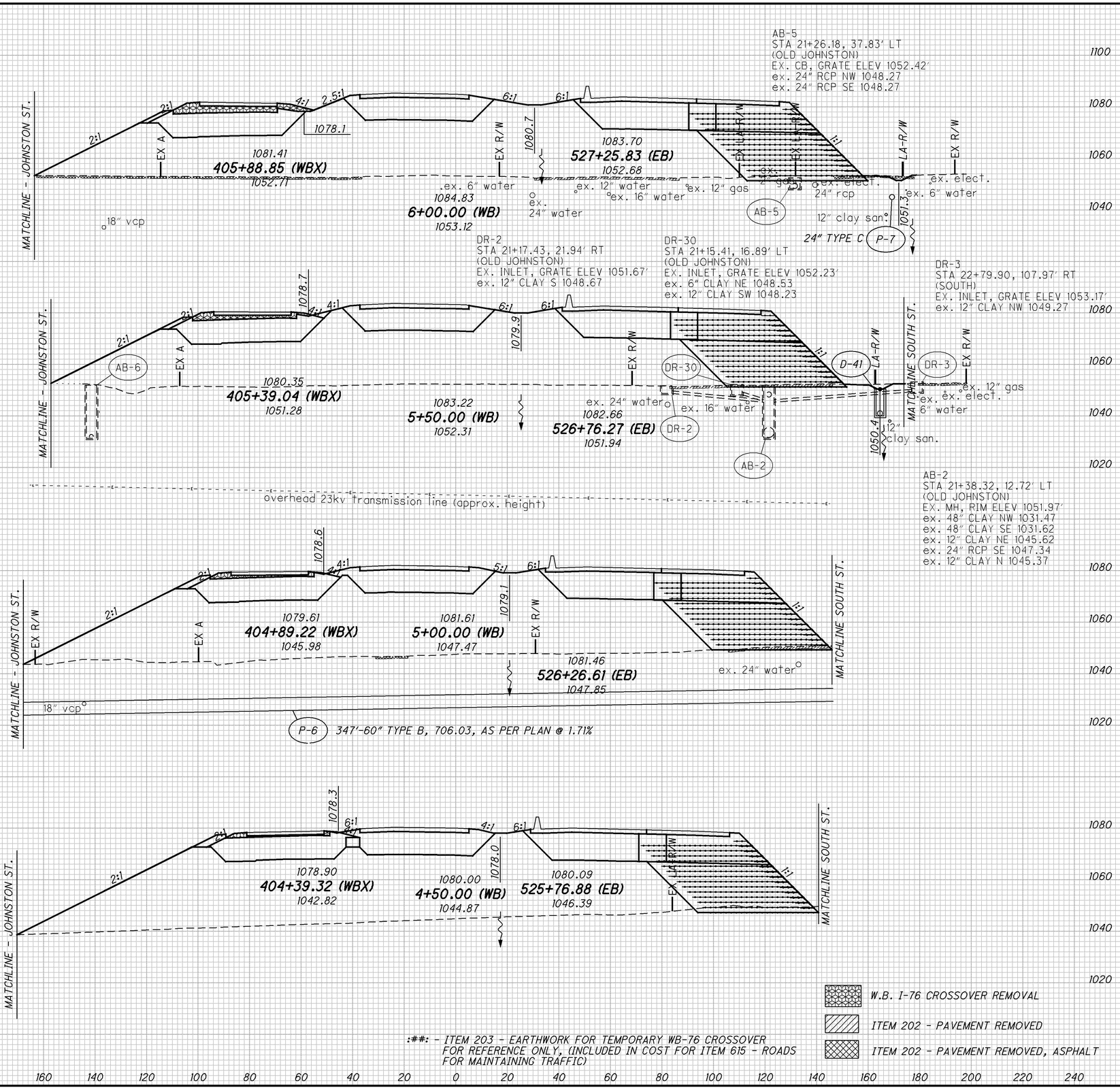
CROSS SECTIONS - PHASE 11
STA. 524+00.00 TO STA. 4+00.00

SUM-76/77-11.27/12.12

268
652

\\KHRM03\DATA\2018\2018297\SUM\86979\ROADWAY\SHEETS\86979XS103.DGN
9/16/2014
9:19:20 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		:335:	:335:
:134:	:134:		
		:193:	:193:
:75:	:75:		
		:110:	:110:
		:44:	:44:
		:68:	:68:
		:30:	:30:
		:706:	:706:

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 11
STA. 4+50.00 TO STA. 6+00.00

SUM-76/77-11.27/12.12

269
652

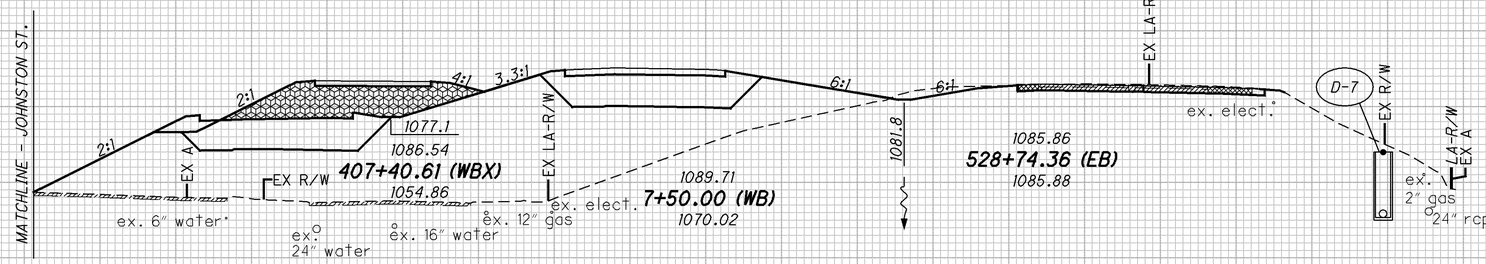
\\WKRNBS\DATA\2018\2018237\SUN\69979\ROADWAY\SHEETS\69979XS183.DGN
9/16/2014
9:19:38 PM
SSCHUSTER

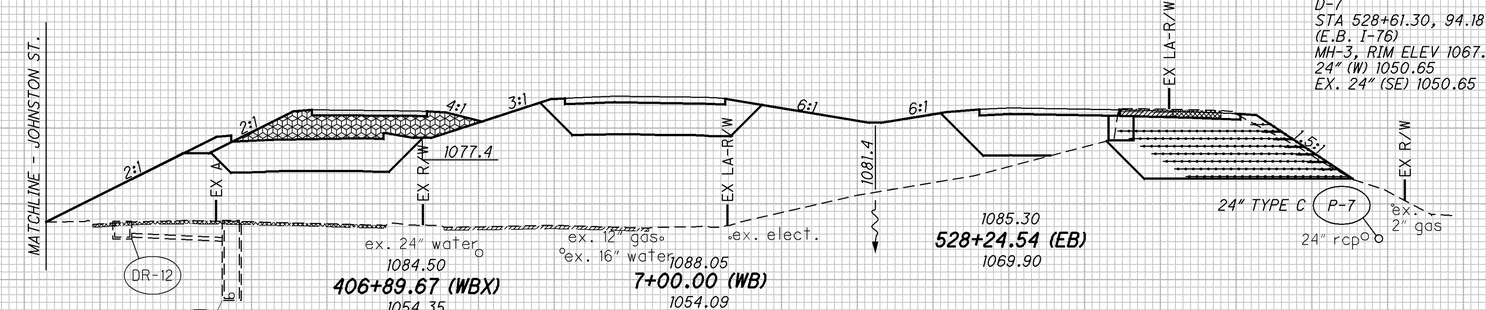
SEEDING	
END WIDTH	SQ. YDS.

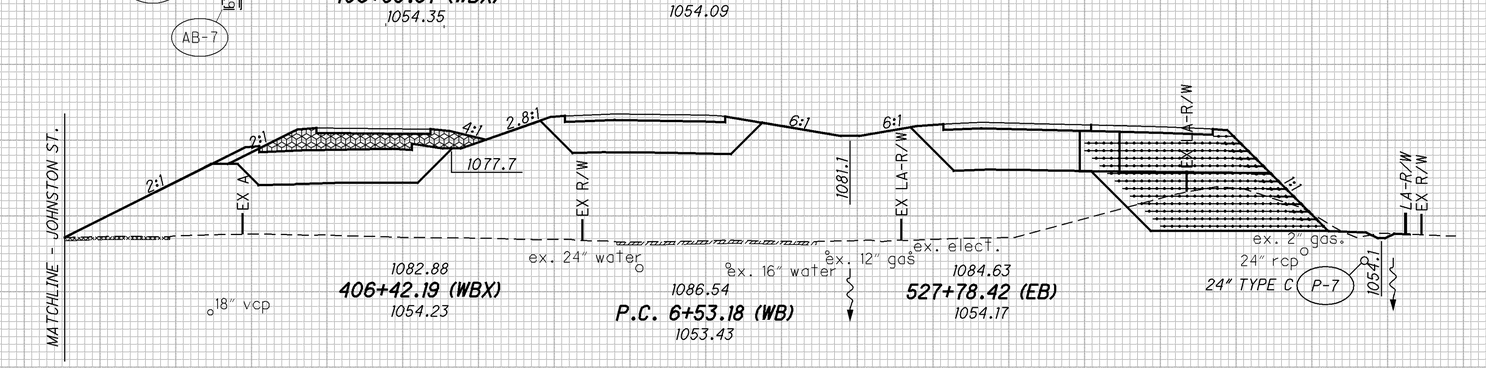
W.B. I-76 CROSSOVER REMOVAL

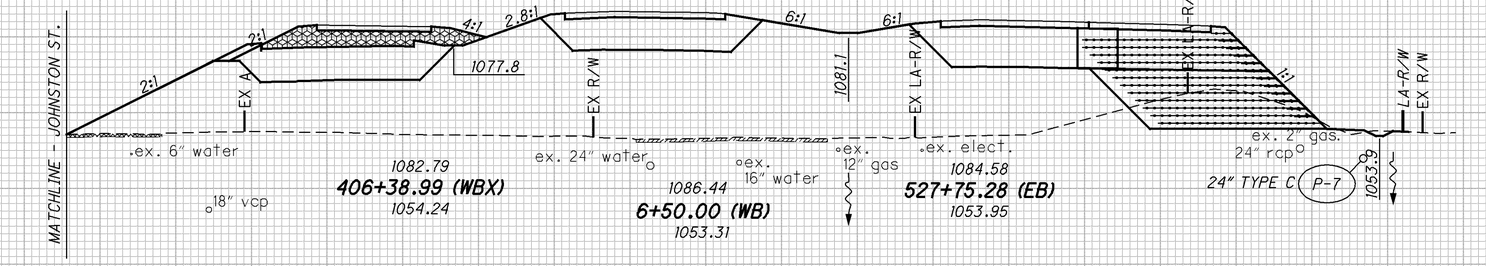
ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT









:##: - ITEM 203 - EARTHWORK FOR TEMPORARY WB-76 CROSSOVER FOR REFERENCE ONLY, (INCLUDED IN COST FOR ITEM 615 - ROADS FOR MAINTAINING TRAFFIC)

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		:448:	:448:
		:437:	:437:
		:725:	:725:
		:332:	:332:
		:497:	:497:
		:233:	:233:
		:27:	:27:
		:227:	:227:
		:1697:	:1697:

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 11
STA. 6+50.00 TO STA. 7+50.00

SUM-76/77-11.27/12.12

270
652

\\WKRNBS\DATA\2018\2018277\SUM\69779\ROADWAY\SHEETS\69779XS183.DGN
9/16/2014
9:19:54 PM
SSCHUSTER

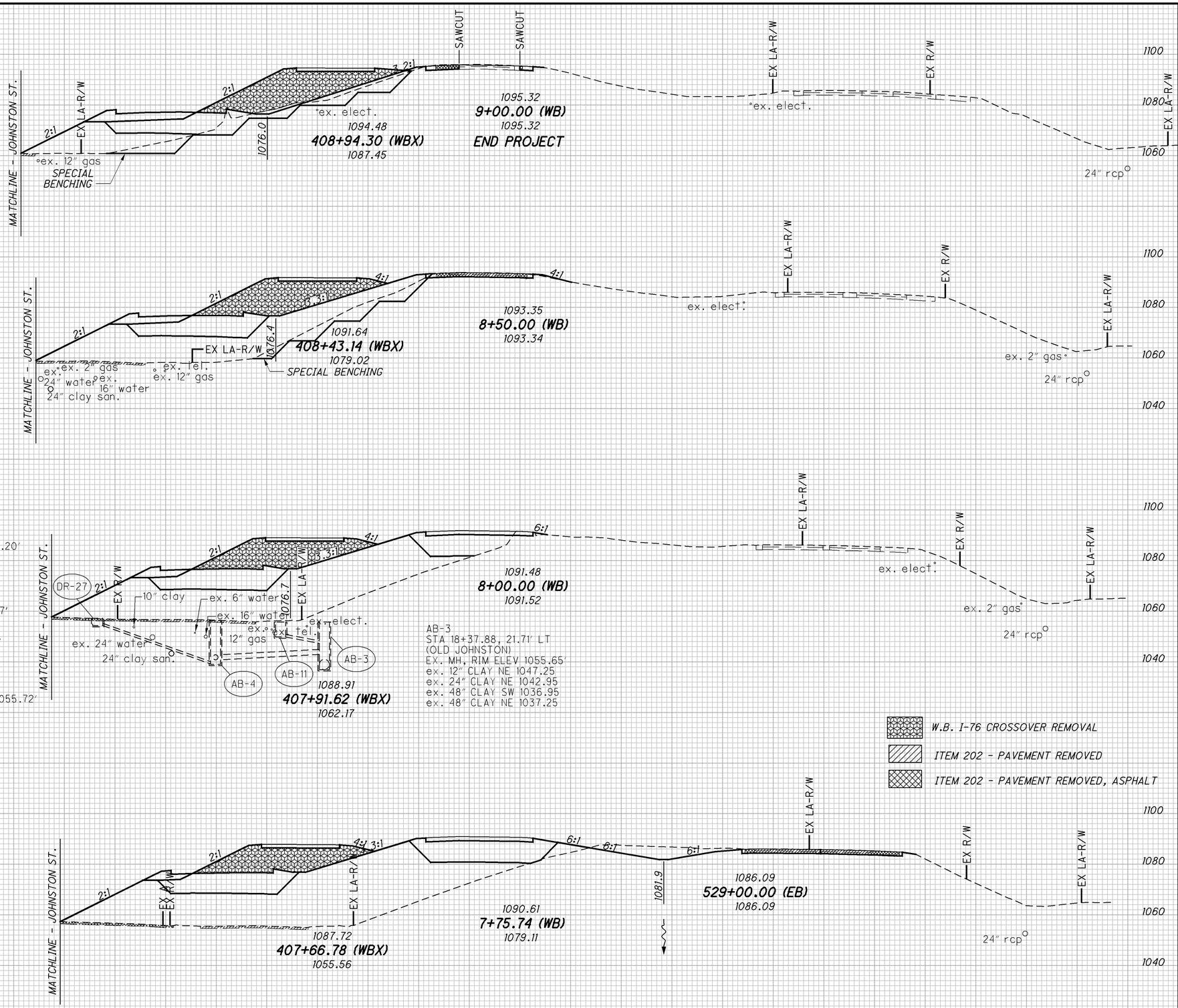
CROSS SECTIONS - PHASE 11
STA. 7+75.74 TO STA. 9+00.00

SUM-76/77-11.27/12.12

271
652

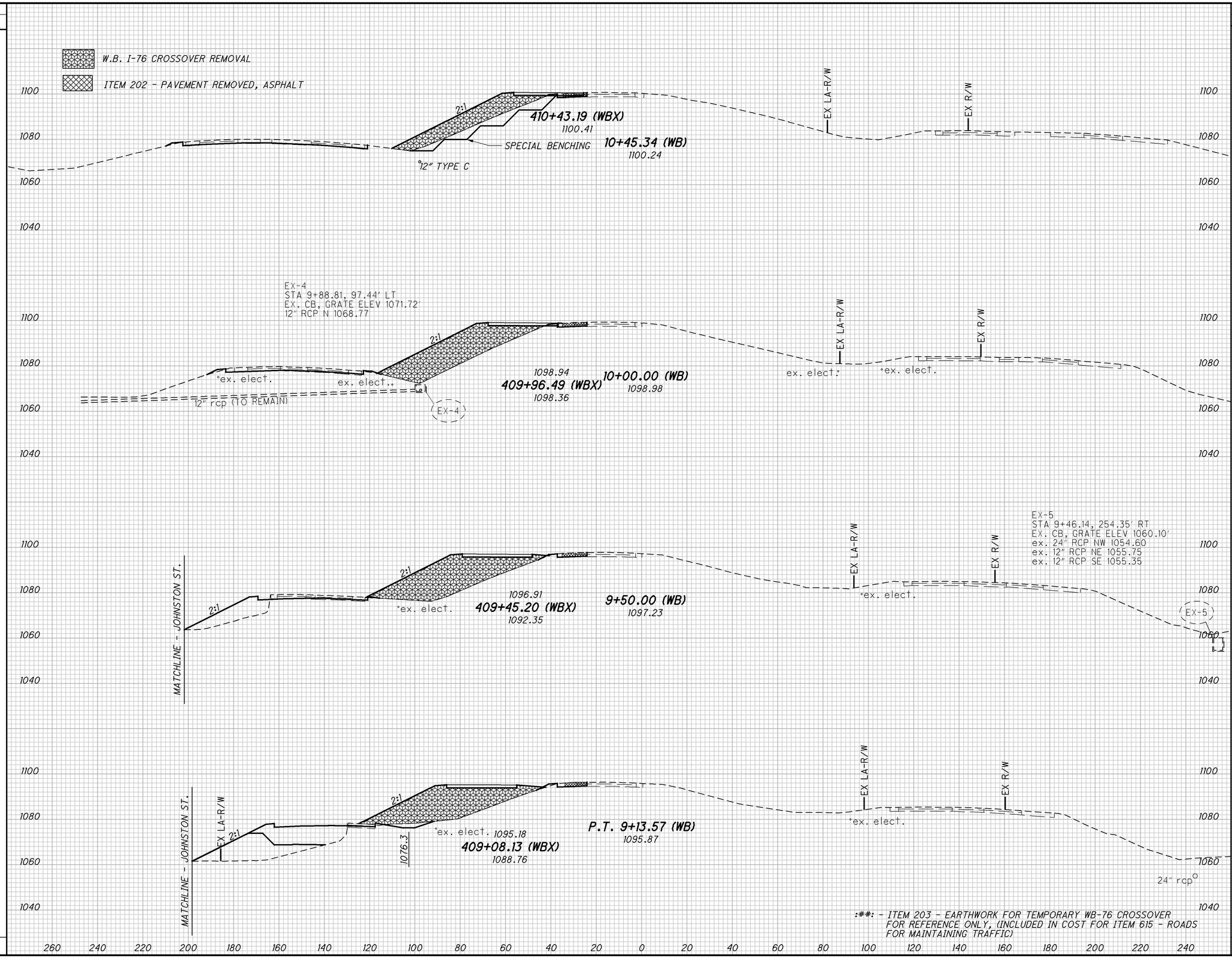
CALCULATED AJE | CHECKED CWL

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
				:341:	:341:
		:643:	:643:		
				:1185:	:1185:
		:608:	:608:		
				:1087:	:1087:
		:531:	:531:		
				:468:	:468:
		:487:	:487:		
				:3081:	:3081:



\\KPNB3\DATA\2018\2018297\SUM\86979\ROADWAY\SHEETS\86979XS183.DGN
9/16/2014
9:20:05 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		:66:	:66:
:409:	:409:		
		:948:	:948:
:687:	:687:		
		:1347:	:1347:
:731:	:731:		
		:973:	:973:
:687:	:687:		
		:3334:	:3334:

:##: - ITEM 203 - EARTHWORK FOR TEMPORARY WB-76 CROSSOVER FOR REFERENCE ONLY, (INCLUDED IN COST FOR ITEM 615 - ROADS FOR MAINTAINING TRAFFIC)

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 11
STA. 9+13.57 TO STA. 10+45.34

SUM-76/77-11.27/12.12

272
652

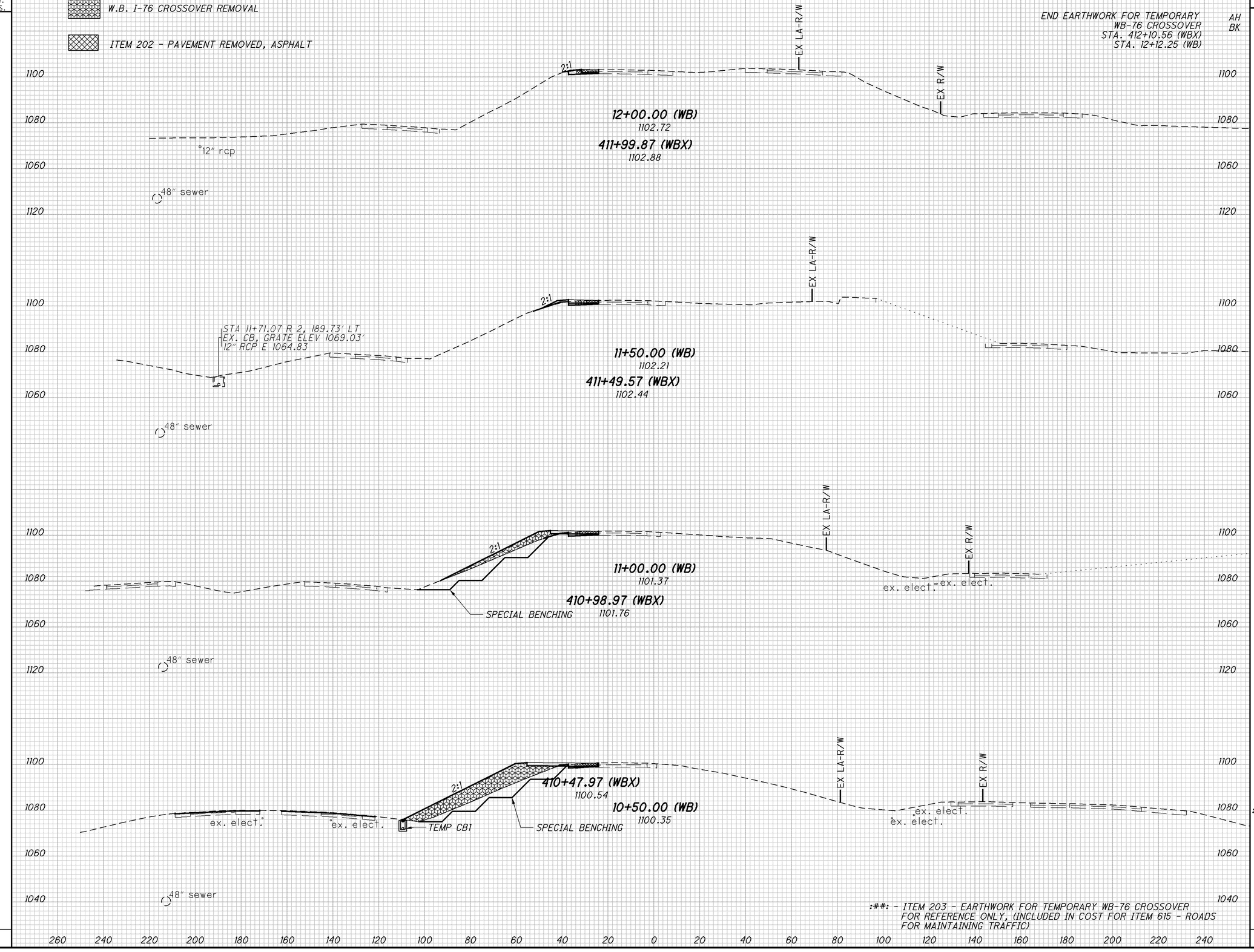
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9/16/2014
9:20:24 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

W.B. I-76 CROSSOVER REMOVAL

ITEM 202 - PAVEMENT REMOVED, ASPHALT

END EARTHWORK FOR TEMPORARY
WB-76 CROSSOVER
STA. 412+10.56 (WBX)
STA. 12+12.25 (WB)



END AREA		VOLUME		
	CUT	FILL	CUT	FILL
AH	:0:	:0:		
BK	:2:	:2:		
			:1:	:1:
	:2:	:2:		
			:8:	:8:
	:7:	:7:		
			:101:	:101:
	:101:	:101:		
			:451:	:451:
	:377:	:377:		
			:561:	:561:

:##: - ITEM 203 - EARTHWORK FOR TEMPORARY WB-76 CROSSOVER FOR REFERENCE ONLY, (INCLUDED IN COST FOR ITEM 615 - ROADS FOR MAINTAINING TRAFFIC)

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 11
STA. 10+50.00 TO STA. 12+00.00

SUM-76/77-11.27/12.12

\\AKRNAS\DATA\2010\2012297\SUM\86979\ROADWAY\SHEETS\86979XS103.DGN
9/16/2014
9:28:48 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE

CHECKED CWL

CROSS SECTIONS - PHASE 11

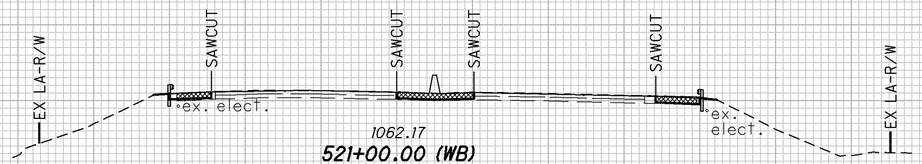
STA. 12+50.00

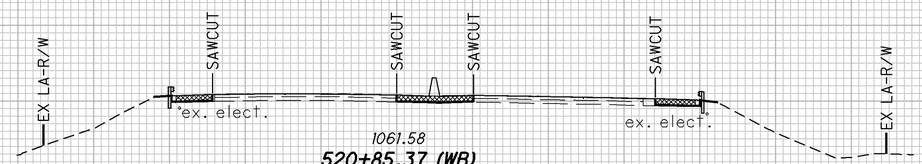
SUM-76/77-11.27/12.12

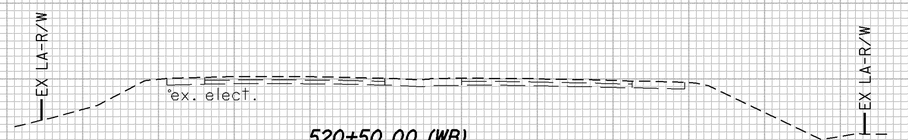
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9/16/2014
9:28:56 PM
SSCHUSTER

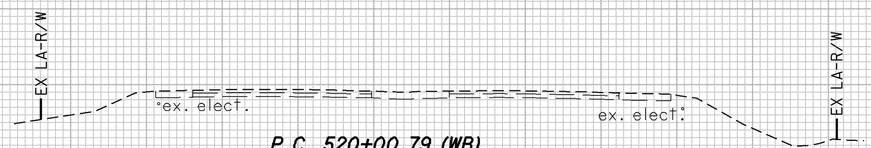
SEEDING END WIDTH	SEEDING SQ. YDS.
	93
11	
	19
12	
0	
	112

ITEM 202 - PAVEMENT REMOVED, ASPHALT









FOR PHASED EMBANKMENT CONSTRUCTION
MATERIAL COMPOSITION DETAILS, SEE SHEET 334

AH BEGIN SEEDING
BK

AH BEGIN EARTHWORK
BK

"##" SPECIAL BENCHING

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		"53" 16	"53" 12
"0" 6	"0" 1		
		3	1
4	0		
0	0		
		"53" 19	"53" 13

CALCULATED AJE
CHECKED CWL

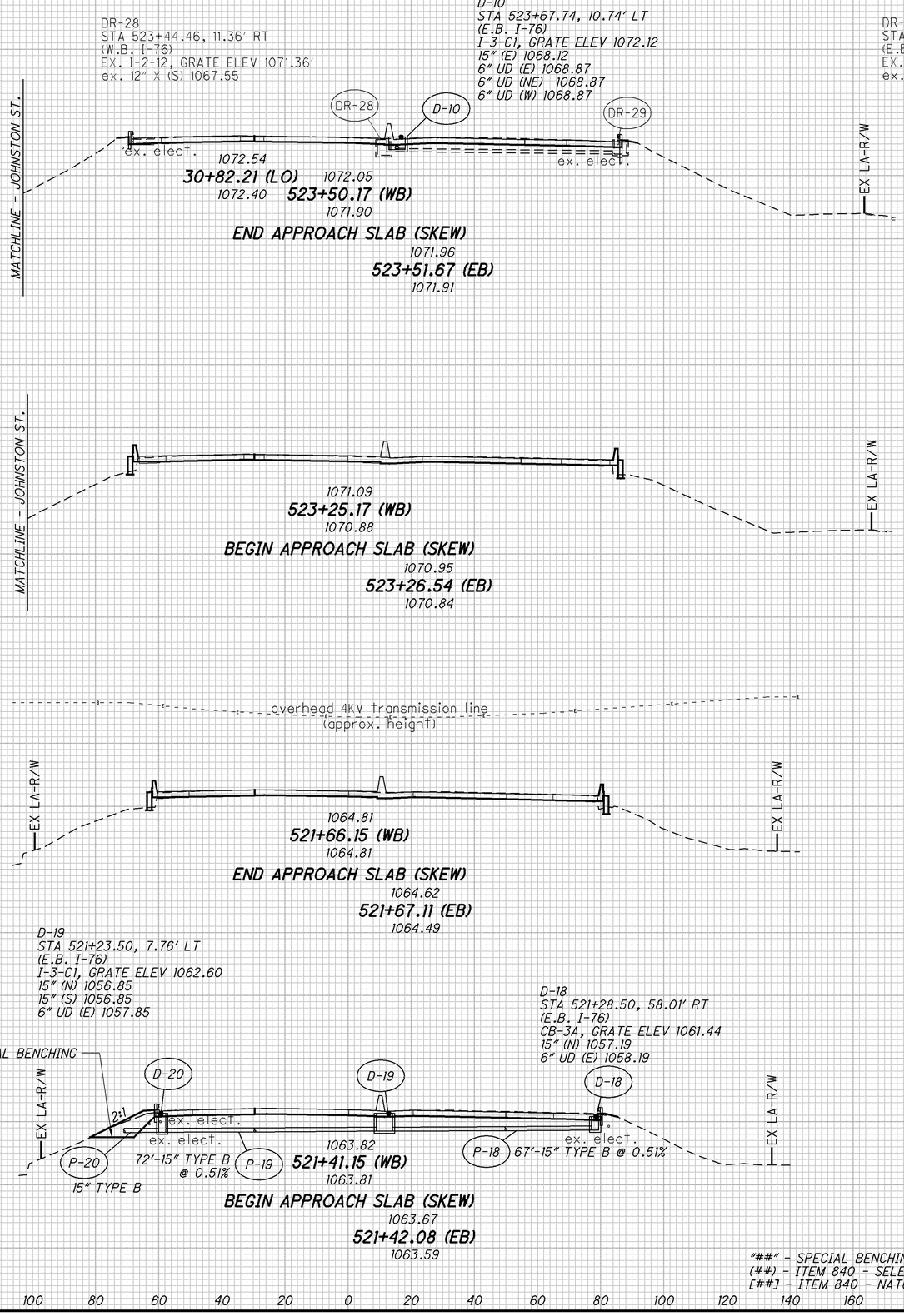
CROSS SECTIONS - PHASE 12
STA. 520+00.79 TO STA. 521+00.00

SUM-76/77-11.27/12.12

275
652

\\KRNBS\DATA\2810\2810257\SUM\86979\ROADWAY\SHEETS\86979XS184.DGN
9/16/2014
9:22:05 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	30
11	
	15
0	
0	
	42
	30
	87



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		23	2 (2)
13	2 (2)		
		4	1 (4)
0	0 (9)		
0	0		
"0" 0	"0" 0		
"0" 0	"0" 9		
		"32' 6	"32" 11
"69" 14	"69" 14		
		"32" 33	(6) 14 "32"

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

"##" - SPECIAL BENCHING
(##) - ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN
[##] - ITEM 840 - NATURAL SOIL

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 12
STA. 521+41.15 TO STA. 523+50.17

SUM-76 / 77-11.27 / 12.12

276
652

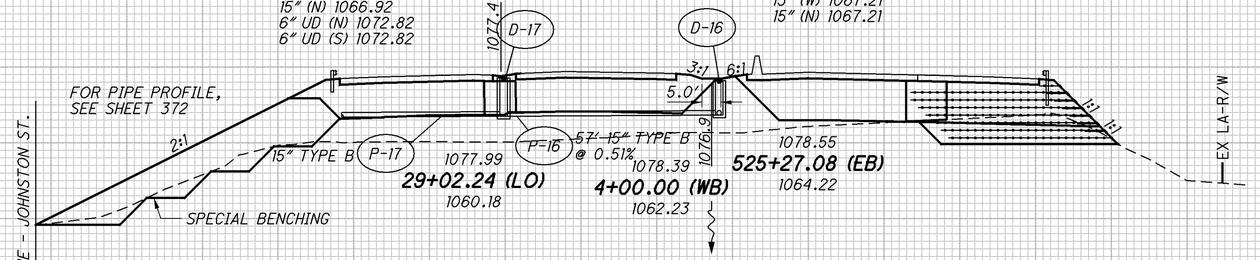
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3/18/2015
12:08:02 PM
HOLLAND

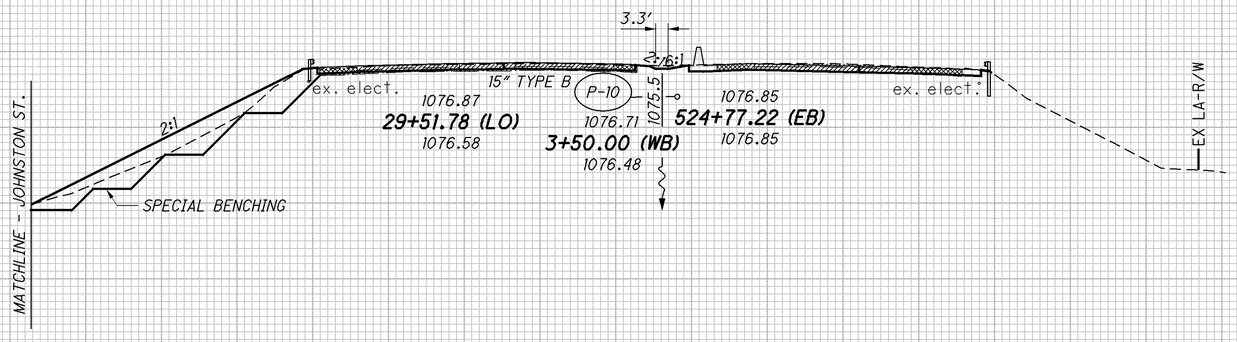
SEEDING END WIDTH	SEEDING SQ. YDS.
	〈2969〉 653 +206+ /548/ -325-
〈355〉 103 +29+ /11/ -9-	
	〈986〉 581 +81+ /157/ -173-
/11/ -9-	
/0/ -0-	
〈0〉 +0+ 106	
	358
23	
	72
22	
	〈3955〉 1664 +287+ /702/ -498-

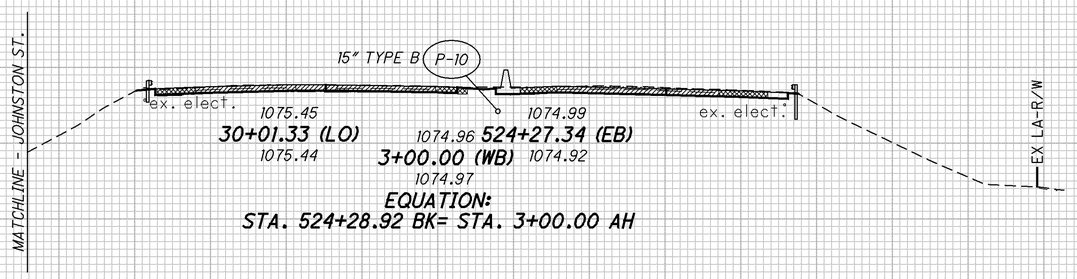
AH BEGIN TEMP. MSE WALL:
STA. 3+80.80 (WB-76)
BK STA. 525+12.80 (EB-76)

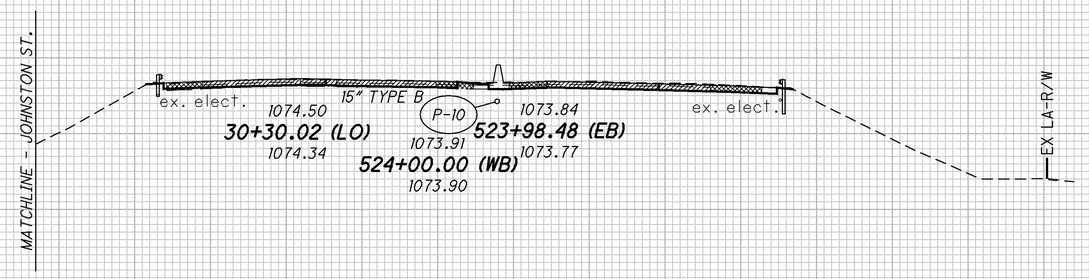
D-17
STA 29+08.58, 31.38' LT
(LANE O)
CB-2-2B, GRATE ELEV 1077.07
15" (S) 1066.92
15" (N) 1066.92
6" UD (N) 1072.82
6" UD (S) 1072.82

D-16
STA 3+92.29, 16.52' RT
(W.B. I-76)
CB-2-2B, GRATE ELEV 1076.35
15" (W) 1067.21
15" (N) 1067.21









*### ITEM 863 - REINFORCED EMBANKMENT, AS PER PLAN
"##" SPECIAL BENCHING
[##] ITEM 840 - NATURAL SOIL
(##) ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN
〈##〉 ITEM 863 - GEOGRID, TYPE P3
+###+ ITEM 659 - SEEDING & MULCHING, CLASS 3B
AND 670 - SLOPE EROSION PROTECTION
/##/ ITEM 840 - (EB) MSE WALL, AS PER PLAN, (SQ. FT.)
-##- ITEM 840 - (WB) MSE WALL, AS PER PLAN, (SQ. FT.)

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
			1980
		386 "125"	[436] "125"
			(8867)
	0		
	744		
313 "135"	[224] "135"		
	(2660)		
			1
			689
		316 "370"	[357] "370"
			(2533)
	1		
	0		
28 "265"	[162] "265"		
	(76)		
			1
		51 "245"	[150] "245"
			(70)
27 "0"	0 "0" (0)		
		21	0 (0)
12	0 (0)		
		774 "740"	2 *2669* [943] "740" (11470)

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 12
STA. 524+00.00 TO STA. 4+00.00

SUM-76/77-11.27/12.12

277
652

\\KFNB03\DATA\2810\2810297\SUM\86979\ROADWAY\SHEETS\86979XS104.DGN
3/18/2015
12:08:26 PM
AHOLLAND

SEEDING END WIDTH	SEEDING SQ. YDS.
	⟨3678⟩ 969 +244+ /544/
⟨713⟩ 165 +45+ /11/	
	⟨3961⟩ 967 +250+ /545/
⟨713⟩ 183 +45+ /11/	
	⟨3964⟩ 883 +250+ /546/
⟨714⟩ 135 +45+ /11/	
-0-	
-4-	
	⟨3967⟩ 742 +250+ /541/ -200-
⟨714⟩ 132 +45+ /11/ -4-	
	⟨15570⟩ 3561 +994+ /2182/ -200-

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

MATCHLINE - JOHNSTON ST.

1079.59
27+03.98 (LO)
1052.69

1084.83
6+00.00 (WB)
1053.12

1083.70
527+25.83 (EB)
1052.68

AB-5
STA 21+26.18, 37.83' LT
(OLD JOHNSTON)
EX. CB, GRATE ELEV 1052.42'
ex. 24" RCP NW 1048.27
ex. 24" RCP SE 1048.27

18" vcp
ex. 6" water
ex. 12" water
ex. 16" water
ex. 12" gas
ex. elect.
24" rcp
ex. 6" water
12" clay san.
24" TYPE C
P-7
AB-5

MATCHLINE - JOHNSTON ST.

1079.63
27+53.42 (LO)
1051.27

1083.22
5+50.00 (WB)
1052.31

1082.66
526+76.27 (EB)
1051.94

AB-6
STA 4+62.30, 73.00' RT
(JOHNSTON)
EX. MH, RIM ELEV 1051.94'
ex. 18" VCP SE 1031.34
ex. 18" VCP NW 1031.34
ex. 6" VCP NW 1047.64
ex. 12" VCP NE 1046.84

DR-2
STA 21+17.43, 21.94' RT
(OLD JOHNSTON)
EX. INLET, GRATE ELEV 1051.67'
ex. 12" CLAY S 1048.67

DR-30
STA 21+15.41, 16.89' LT
(OLD JOHNSTON)
EX. INLET, GRATE ELEV 1052.23'
ex. 6" CLAY NE 1048.53
ex. 12" CLAY SW 1048.23

ex. 24" water
ex. 16" water
ex. 12" gas
ex. elect.
6" water
12" clay san.

D-41
STA 526+76.27, 107.30' RT
(E.B. I-76)
CB-2-3, GRATE ELEV 1050.38
24" (W) 1040.02
24" (E) 1040.02

DR-3
STA 22+79.90, 107.97' RT
(SOUTH)
EX. INLET, GRATE ELEV 1053.17'
ex. 12" CLAY NW 1049.27

AB-2
STA 21+38.32, 12.72' LT
(OLD JOHNSTON)
EX. MH, RIM ELEV 1051.97'
ex. 48" CLAY NW 1031.47
ex. 48" CLAY SE 1031.62
ex. 12" CLAY NE 1045.62
ex. 24" RCP SE 1047.34
ex. 12" CLAY N 1045.37

overhead 23kv transmission line (approx. height)

MATCHLINE - JOHNSTON ST.

1079.37
28+02.95 (LO)
1045.98

1081.61
5+00.00 (WB)
1047.47

1081.46
526+26.61 (EB)
1047.85

END TEMP. MSE WALL:
STA. 5+00.00 (WB-76)

18" vcp

ex. 24" water

P-6 347'-60" TYPE B, 706.03, AS PER PLAN @ 1.71%

MATCHLINE - JOHNSTON ST.

1078.83
28+52.56 (LO)
1042.82

1080.00
4+50.00 (WB)
1044.87

1080.09
525+76.88 (EB)
1046.39

FOR BREAKDOWN OF NATURAL SOIL/TOPSOIL
SEE DETAIL "A" ON SHEET 334

**** ITEM 863 - REINFORCED EMBANKMENT, AS PER PLAN
[**] ITEM 840 - NATURAL SOIL/ITEM 659 - TOPSOIL
(**) ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN
⟨**⟩ ITEM 863 - GEOGRID, TYPE P3
/**/ ITEM 840 - (EB) MSE WALL, AS PER PLAN, (SQ. FT.)
-**- ITEM 840 - (WB) MSE WALL, AS PER PLAN, (SQ. FT.)
+***+ ITEM 659 - SEEDING & MULCHING, CLASS 3B AND 670 - SLOPE EROSION PROTECTION

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

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
		430	*2384* [609] (11899)
	1374 [310] (6368)	77	
		93	*2492* [550] (11538)
	1317 [284] (6093)	23	
		32	*2477* [497] (11976)
	1358 [253] (6841)	12	
		107	*2548* [463] (12738)
	1394 [247] (6916)	104 "0"	
		662	*9901* [2119] (48151)

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 12
STA. 4+50.00 TO STA. 6+00.00

SUM-76/77-11.27/12.12

278
652

\\KRN03\DATA\281\D281823?\SUM\86979\ROADWAY\SHEETS\86979XS184.DGN
3/18/2015
12:08:43 PM
HROLLAND

SEEDING END WIDTH	SEEDING SQ. YDS.
	578
<0>	197
	+0+
/0/	
/7/	
<989>	1042
	+100+
	/154/
<356>	178
	+36+
	/7/
<2515>	944
	+205+
	/415/
<611>	185
	+43+
	/11/
<216>	65
	+15+
	/35/
<611>	184
	+43+
	/11/
<3720>	2629
	+320+
	/604/

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

**** ITEM 863 - REINFORCED EMBANKMENT, AS PER PLAN
[##] ITEM 840 - NATURAL SOIL/ITEM 659 - TOPSOIL
(##) ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN
<##> ITEM 863 - GEOGRID, TYPE P3
/##/ ITEM 840 - (EB) MSE WALL, AS PER PLAN, (SQ. FT.)
-##- ITEM 840 - (WB) MSE WALL, AS PER PLAN, (SQ. FT.)
+###+ ITEM 659 - SEEDING & MULCHING, CLASS 3B
AND 670 - SLOPE EROSION PROTECTION

FOR BREAKDOWN OF NATURAL SOIL/TOPSOIL
SEE DETAIL "A" ON SHEET 334

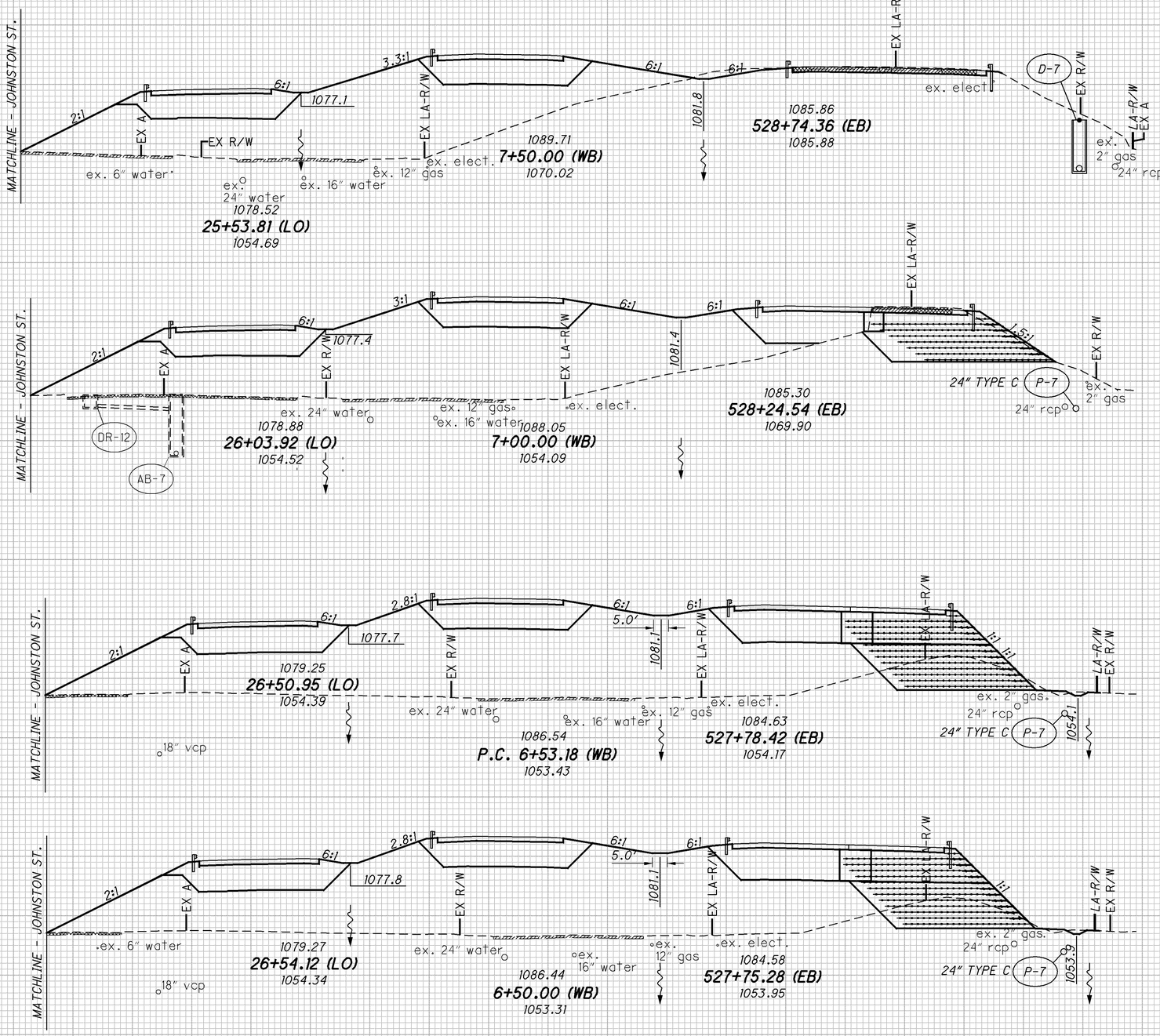
D-7
STA 528+61.30, 94.18' RT
(E.B. I-76)
MH-3, RIM ELEV 1067.91
24" (W) 1050.65
EX. 24" (SE) 1050.65

AH
END TEMP. MSE WALL:
STA. 528+46.57 (EB-76)

BK

DR-12
STA 18+33.89, 80.24' RT
(OLD JOHNSTON)
EX. CB, GRATE ELEV 1055.42'
ex. 12" CLAY S 1051.22

AB-7
STA 6+14.00, 92.93' RT
(JOHNSTON)
EX. MH, RIM ELEV 1055.62'
ex. 12" CLAY N 1050.02
ex. 18" VCP NW 1035.02
ex. 18" CLAY SE 1035.02
ex. 12" CLAY NE 1043.62
ex. 12" CLAY NE 1036.02



NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

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
		104	[262] (3489)
46	*0* [292] (4001)		
		761	*749* [583] (9012)
776	*809* [338] (5732)		
		1063	*174* [597] (10580)
450	*1199* [350] (6470)		
		49	*141* [41] (763)
387	*1201* [348] (6483)		
		1977	*263* [1483] (23844)

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 12
STA. 6+50.00 TO STA. 7+50.00

SUM-76/77-11.27/12.12

279
652

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12:41:06 PM
JHOLLAND

SEEDING END WIDTH	SEEDING SQ. YDS.
	160
132	
	756
140	
	736
125	
	447
207	
	2099

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

MATCHLINE - JOHNSTON ST.

EX LA-R/W

2:1

6:1

3.2:1

SAWCUT

SAWCUT

*ex. elect.

1095.32

9+00.00 (WB)

1095.32

END PROJECT

EX LA-R/W

EX R/W

EX LA-R/W

1078.50

1076.4

*ex. 12" gas

SPECIAL BENCHING

1078.54

1070.00

23+99.99 (LO)

7+47.54 (RP)

1063.73

24" rcp

MATCHLINE - JOHNSTON ST.

2:1

6:1

3.3:1

4:1

1076.6

EX LA-R/W

1093.35

8+50.00 (WB)

1093.34

ex. elect.

EX LA-R/W

EX R/W

EX LA-R/W

*ex. 2" gas

*ex. 2" gas

*ex. el.

*ex. 12" gas

*24" water

*ex. 16" water

24" clay san.

SPECIAL BENCHING

1078.31

24+52.54 (LO)

1058.83

24" rcp

DR-27
STA 17+52.74, 20.80' RT
(OLD JOHNSTON)
EX. CB, GRATE ELEV 1057.20'
ex. 10" CLAY S 1054.30

AB-4
STA 18+03.78, 5.18' RT
(OLD JOHNSTON)
EX. MH, RIM ELEV 1056.27'
ex. 24" CLAY NE 1039.17
ex. 24" CLAY SW 1038.97
ex. 24" CLAY SW 1040.77

MATCHLINE - JOHNSTON ST.

1078.32

25+03.71 (LO)

1055.81

6:1

3.3:1

6:1

EX LA-R/W

EX R/W

EX LA-R/W

DR-27

2:1

EX R/W

10" clay

ex. 6" water

1076.7

EX LA-R/W

ex. 16" water

ex. elect.

ex. 12" gas

ex. elect.

ex. 24" water

24" clay san.

AB-4

AB-11

AB-3

1091.48

8+00.00 (WB)

1091.52

ex. elect.

ex. 2" gas

24" rcp

AB-11
STA 18+18.10, 16.75' LT
(OLD JOHNSTON)
EX. INLET, GRATE ELEV 1055.72'
ex. 12" CLAY SW 1049.82

AB-3
STA 18+37.88, 21.71' LT
(OLD JOHNSTON)
EX. MH, RIM ELEV 1055.65'
ex. 12" CLAY NE 1047.25
ex. 24" CLAY NE 1042.95
ex. 48" CLAY SW 1036.95
ex. 48" CLAY NE 1037.25

MATCHLINE - JOHNSTON ST.

2:1

6:1

3.3:1

6:1

6:1

EX LA-R/W

EX R/W

EX LA-R/W

EX R/W

1076.9

EX LA-R/W

1078.39

25+28.13 (LO)

1055.70

1090.61

7+75.74 (WB)

1079.11

1081.9

1086.09

529+00.00 (EB)

1086.09

24" rcp

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

FOR BREAKDOWN OF NATURAL SOIL/TOPSOIL SEE DETAIL "A" ON SHEET 334

"##" SPECIAL BENCHING
[##] ITEM 840 - NATURAL SOIL/ITEM 659 - TOPSOIL
(##) ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN

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
		16 "85"	[82] "85" (325)
33 "339"	[243] "339" (738)		
		37 "507"	[447] "507" (2112)
7 "209"	[240] "209" (1543)		
		14 "194"	[431] "194" (3833)
8 "0"	[226] "0" (2597)		
		81	[217] (2657)
173	[257] (3318)		
		132 "786"	[117] "786" (8927)

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 12
STA. 7+75.74 TO STA. 9+00.00

SUM-76/77-11.27/12.12

280
652

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3/18/2015
12:41:31 PM
AHOLLAND

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

1079.36
5+87.75 (RP)
1079.36

1077.81
22+39.17 (LO)
1077.81

SPECIAL BENCHING

10+45.34 (WB)
1100.24

EX LA-R/W

EX R/W

48" sewer

EX-4
STA 9+88.81, 97.44' LT
EX. CB, GRATE ELEV 1071.72'
12" RCP N 1068.77

ex. elect.

ex. elect.

1078.27

12" rcp (TO REMAIN)
1079.22
6+43.32 (RP)
1079.42

22+90.56 (LO)
1078.03

EX-4

10+00.00 (WB)
1098.98

ex. elect.

ex. elect.

48" sewer

MATCHLINE - JOHNSTON ST.

1078.86
6+94.98 (RP)
1079.16

1078.54
23+46.05 (LO)
1078.18

ex. elect.

9+50.00 (WB)
1097.23

EX-5
STA 9+46.14, 254.35' RT
EX. CB, GRATE ELEV 1060.10'
ex. 24" RCP NW 1054.60
ex. 12" RCP NE 1055.75
ex. 12" RCP SE 1055.35

ex. elect.

(EX-5)

24" rcp

MATCHLINE - JOHNSTON ST.

EX LA-R/W

1078.62
7+33.16 (RP)
1065.88

1078.54
23+85.46 (LO)
1078.04

1076.3

ex. elect.

P.T. 9+13.57 (WB)
1095.87

ex. elect.

"##" SPECIAL BENCHING
[##] ITEM 840 - NATURAL SOIL
(##) ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	5			1 "32"	[1] "32" (1)
15		8 "185"	[13] "185" (1)		
	101			11 "155"	[17] "155" (2)
25		5 "0"	[7] "0" (1)		
	219			11	[71] (134)
54		7	[70] (144)		
	271			26	[103] (472)
80		32 "0"	[82] "0" (556)		
	596			49 "187"	[192] "187" (609)

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 12
STA. 9+13.57 TO STA. 10+45.34

SUM-76/77-11.27/12.12

281
652

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3/18/2015
12:01:58 PM
HOLLAND

SEEDING END WIDTH	SEEDING SQ. YDS.
0	
6	8
6	
	64
17	
	81
12	
	50
6	
	203

AH
BK

END SEEDING
STA. 12+12.25 (WB-76)

ITEM 202 - PAVEMENT REMOVED, ASPHALT

END EARTHWORK
STA. 12+12.25 (WB-76)

EX LA-R/W
EX R/W

12+00.00 (WB)
1102.72

12" rcp

48" sewer

11+50.00 (WB)
1102.21

STA 11+71.07 R 2, 189.73' LT
EX. CB, GRATE ELEV 1069.03'
12" RCP E 1064.83

48" sewer

11+00.00 (WB)
1101.37

SPECIAL BENCHING

ex. elect.
ex. elect.

48" sewer

10+50.00 (WB)
1100.35

SPECIAL BENCHING

ex. elect.
ex. elect.

48" sewer

1100
1080
1060
1040

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
0	[0] (0)		
5	[0] (1)	2	[0] (1)
5	[0] (1)		
		9	[2] (2)
5 "0"	[2] "0" (1)		
		9 "199"	[4] "199" (2)
5 "215"	[2] "215" (1)		
		8 "374"	[3] "374" (2)
4 "189"	[1] "189" (1)		
		28 "573"	[9] "573" (7)

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

"##" SPECIAL BENCHING
[##] ITEM 840 - NATURAL SOIL
(##) ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN

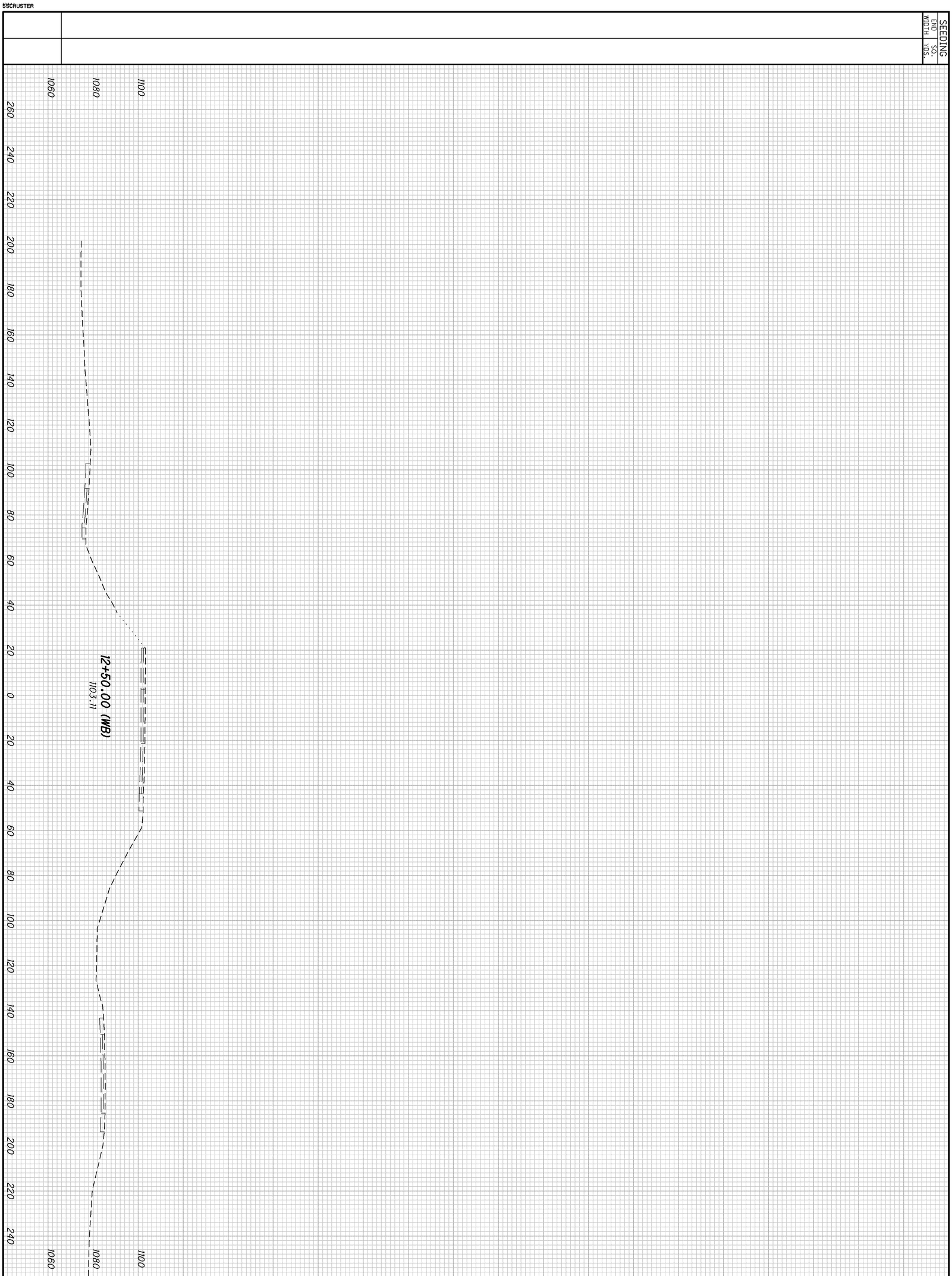
CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - PHASE 12
STA. 10+50.00 TO STA. 12+00.00

SUM-76/77-11.27/12.12

\\WKRNBS\DATA\2018\2018277\SUM\66979\ROADWAY\SHEETS\66979XS184.DGN
3/18/2015
12:02:12 PM
HROLLAND

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9/16/2014
9:24:23 PM
SSCHUSTER



283
652

SUM-76/77-11.27/12.12

CROSS SECTIONS - PHASE 12
STA. 12+50.00

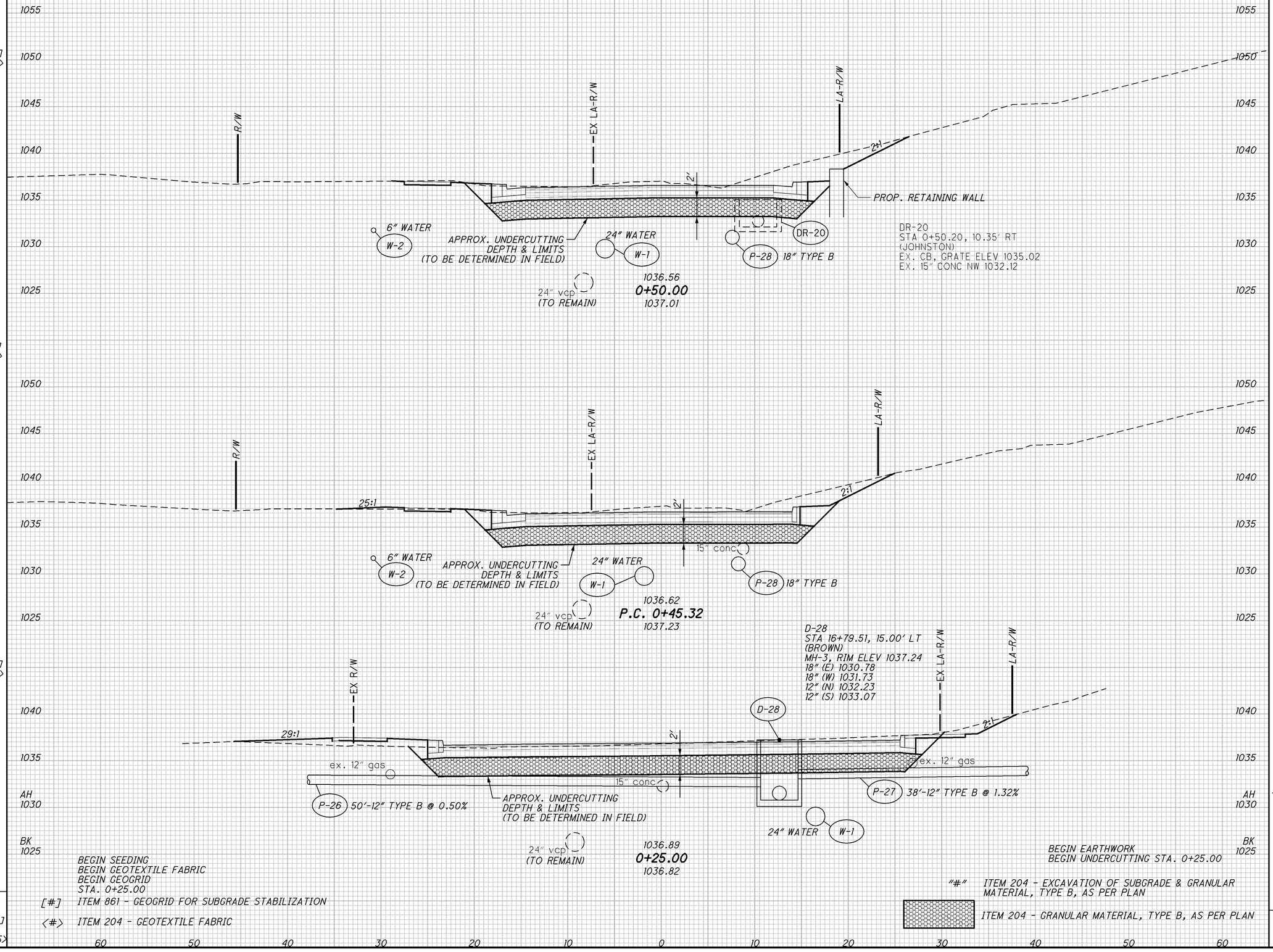
CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET
STA. 0+25.00 TO STA. 0+50.00

SUM-76/77-11.27/12.12

CALCULATED ATR
CHECKED CWL

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	61 [89] ‹92›			"62" 82	"62" 6
18 [32] ‹33›		"67" 77	"67" 0		
	11 [17] ‹17›			"12" 13	"12" 0
24 [32] ‹33›		"67" 70	"67" 1		
	52 [93] ‹96›			"64" 55	"64" 4
22 [50] ‹52›		"103" 77	"103" 10		
0 [0] ‹0›		"0" 0	"0" 0		
124 [199] ‹205›				"138" 150	"138" 10



BEGIN SEEDING
BEGIN GEOTEXTILE FABRIC
BEGIN GEOGRID
STA. 0+25.00

[#] ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION

‹#› ITEM 204 - GEOTEXTILE FABRIC

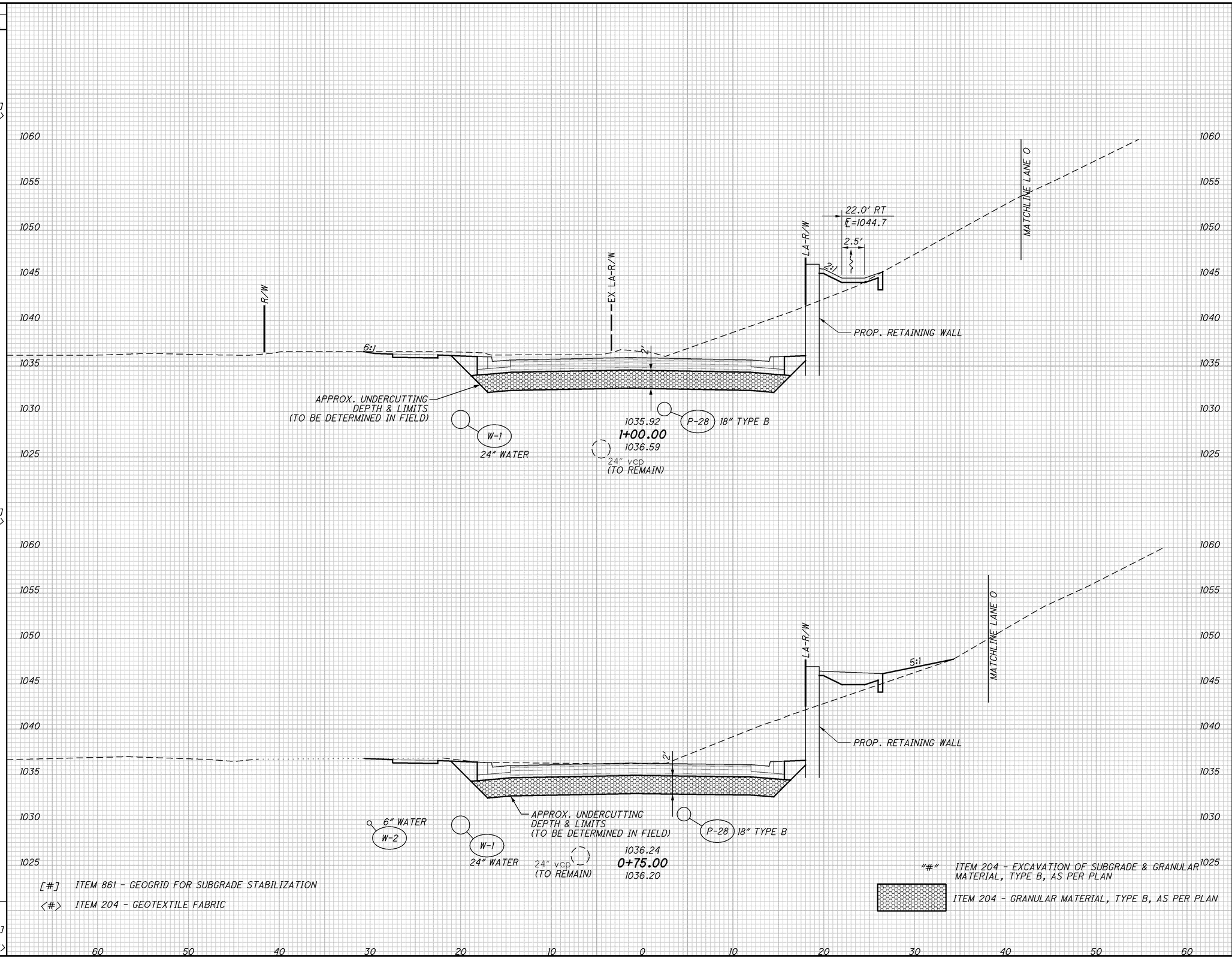
BEGIN EARTHWORK
BEGIN UNDERCUTTING STA. 0+25.00

"#" ITEM 204 - EXCAVATION OF SUBGRADE & GRANULAR MATERIAL, TYPE B, AS PER PLAN

ITEM 204 - GRANULAR MATERIAL, TYPE B, AS PER PLAN

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9:25:18 PM
SSGANUSTER

SEEDING	
END WIDTH	SQ. YDS.
	51 [89] ⟨92⟩
18 [32] ⟨33⟩	
	61 [89] ⟨92⟩
26 [32] ⟨33⟩	
	112 [178] ⟨184⟩



[#] ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION

⟨#⟩ ITEM 204 - GEOTEXTILE FABRIC

"#" ITEM 204 - EXCAVATION OF SUBGRADE & GRANULAR MATERIAL, TYPE B, AS PER PLAN

ITEM 204 - GRANULAR MATERIAL, TYPE B, AS PER PLAN

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		"62" 105	"62" 6
"67" 112	"67" 7		
		"62" 99	"62" 9
"67" 101	"67" 13		
		"124" 204	"124" 15

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET STA. 0+75.00 TO STA. 1+00.00

SUM-76/77-11.27/12.12

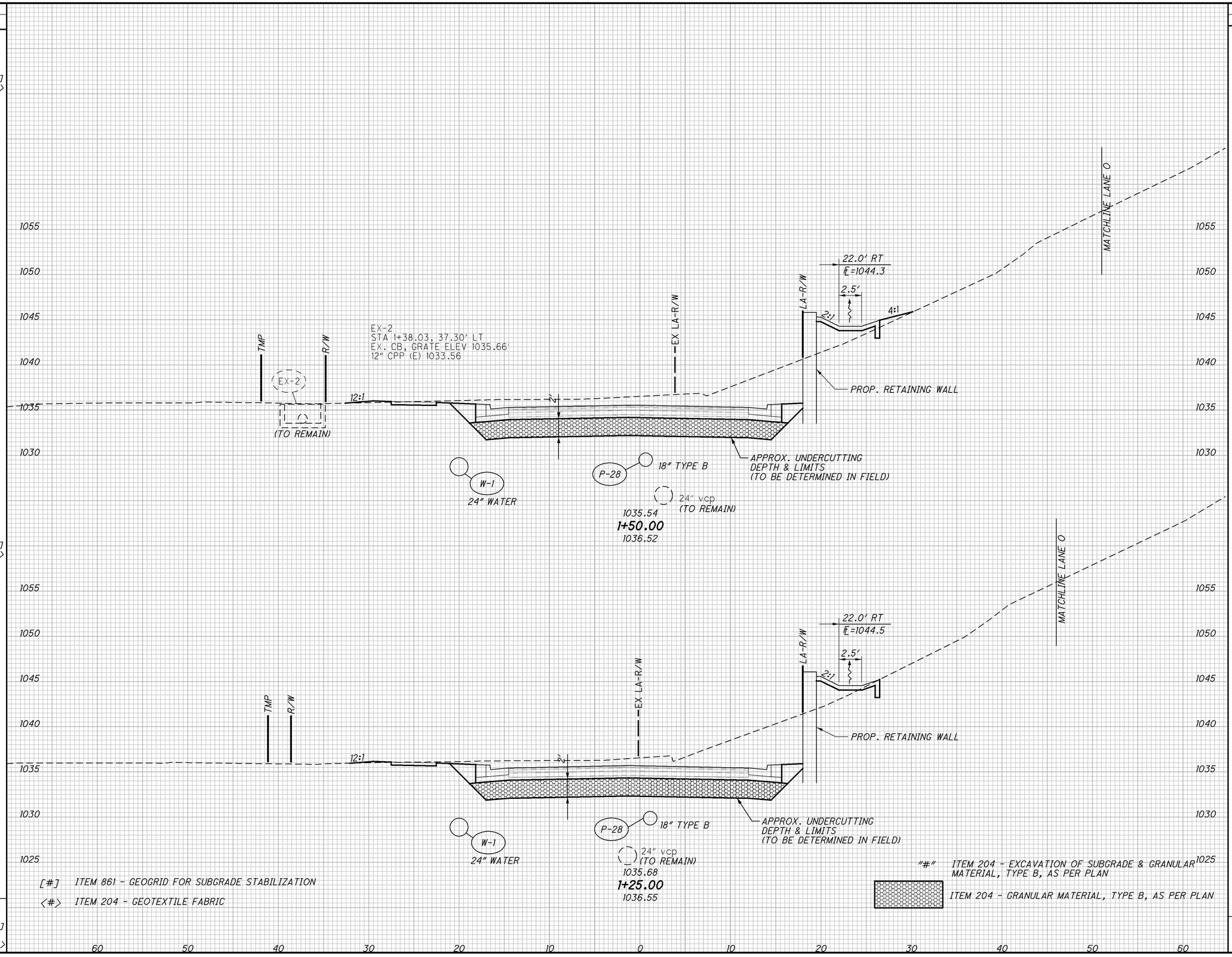
285
652

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9:25:34 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	50 [89] ⟨92⟩
	23 [32] ⟨33⟩
	58 [89] ⟨92⟩
	19 [32] ⟨33⟩
	108 [178] ⟨184⟩

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		"62" 100	"62" 8
"67" 109	"67" 12		
		"62" 104	"62" 9
"67" 115	"67" 7		
		"124" 204	"124" 17

CALCULATED ATR
CHECKED CWL

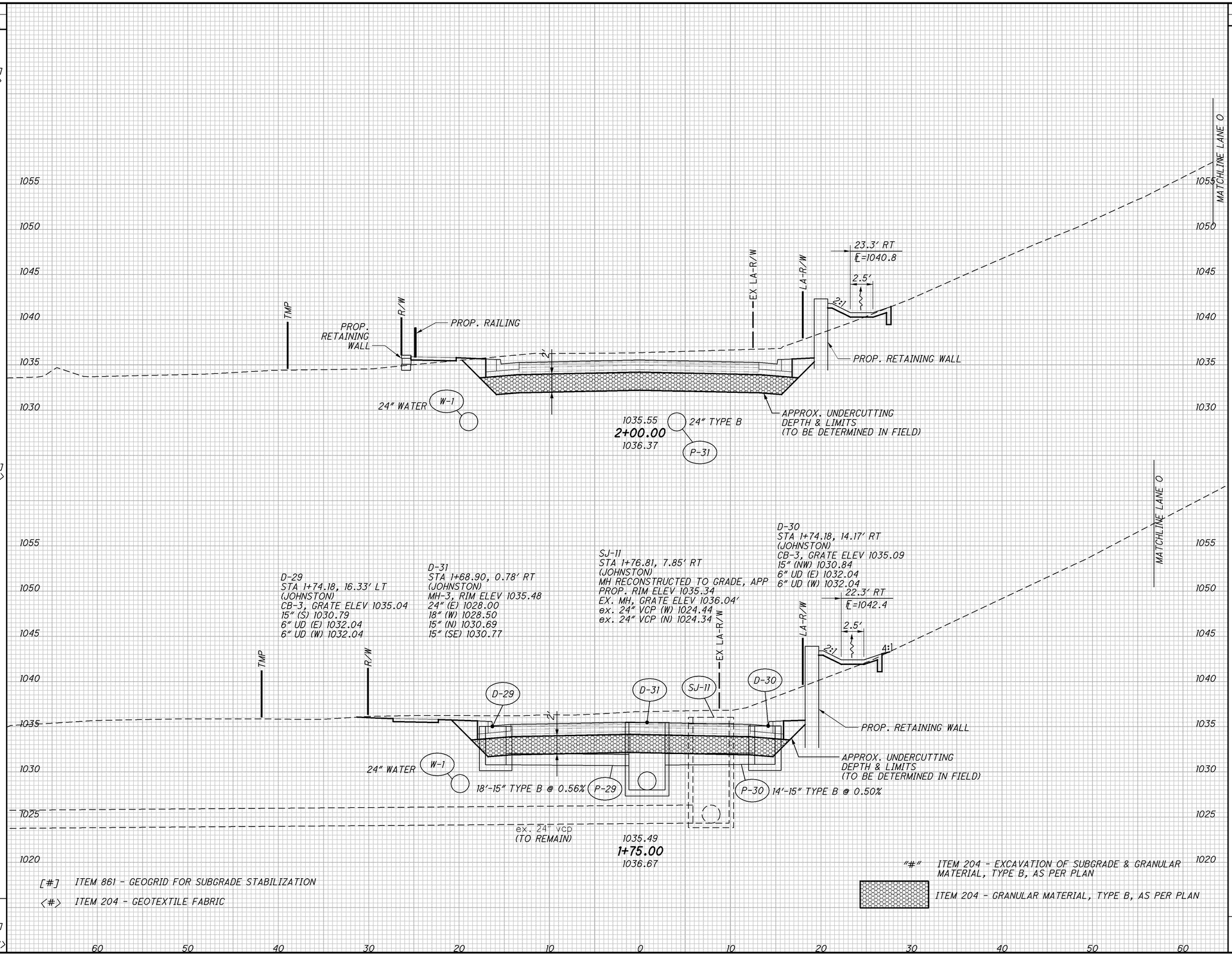


CROSS SECTIONS - JOHNSTON STREET STA. 1+25.00 TO STA. 1+50.00

SUM-76/77-11.27/12.12

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SSGHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	3 [10] <11>
8 [32] <33>	
	29 [89] <92>
13 [32] <33>	
	32 [99] <103>



[#] ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION

<#> ITEM 204 - GEOTEXTILE FABRIC

"#" ITEM 204 - EXCAVATION OF SUBGRADE & GRANULAR MATERIAL, TYPE B, AS PER PLAN

ITEM 204 - GRANULAR MATERIAL, TYPE B, AS PER PLAN

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		"7" 10	"7" 1
"67" 89	"67" 6		
		"62" 91	"62" 6
"67" 108	"67" 6		
		"69" 101	"69" 7

CALCULATED ATR
CHECKED CWL

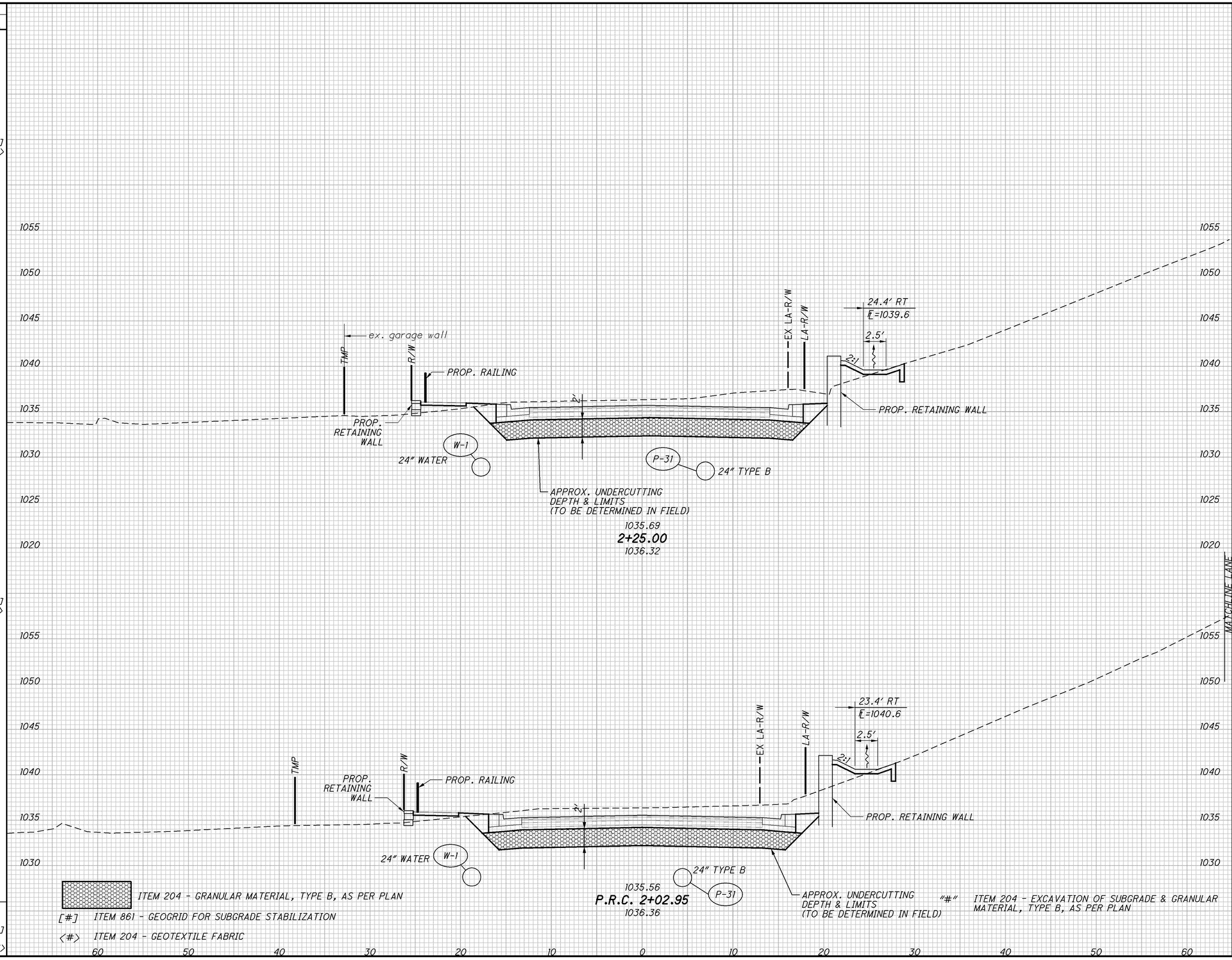
CROSS SECTIONS - JOHNSTON STREET
STA. 1+75.00 TO STA. 2+00.00

SUM-76/77-11.27/12.12

287
652

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9:26:17 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	24 [89] ⟨92⟩
	20 [78] ⟨81⟩
8 [32] ⟨33⟩	8 [32] ⟨33⟩
	44 [167] ⟨173⟩



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		"62" 81	"62" 6
"67" 86	"67" 7		
		"55" 71	"55" 6
"67" 87	"67" 7		
		"117" 152	"117" 12

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET STA. 2+02.95 TO STA. 2+25.00

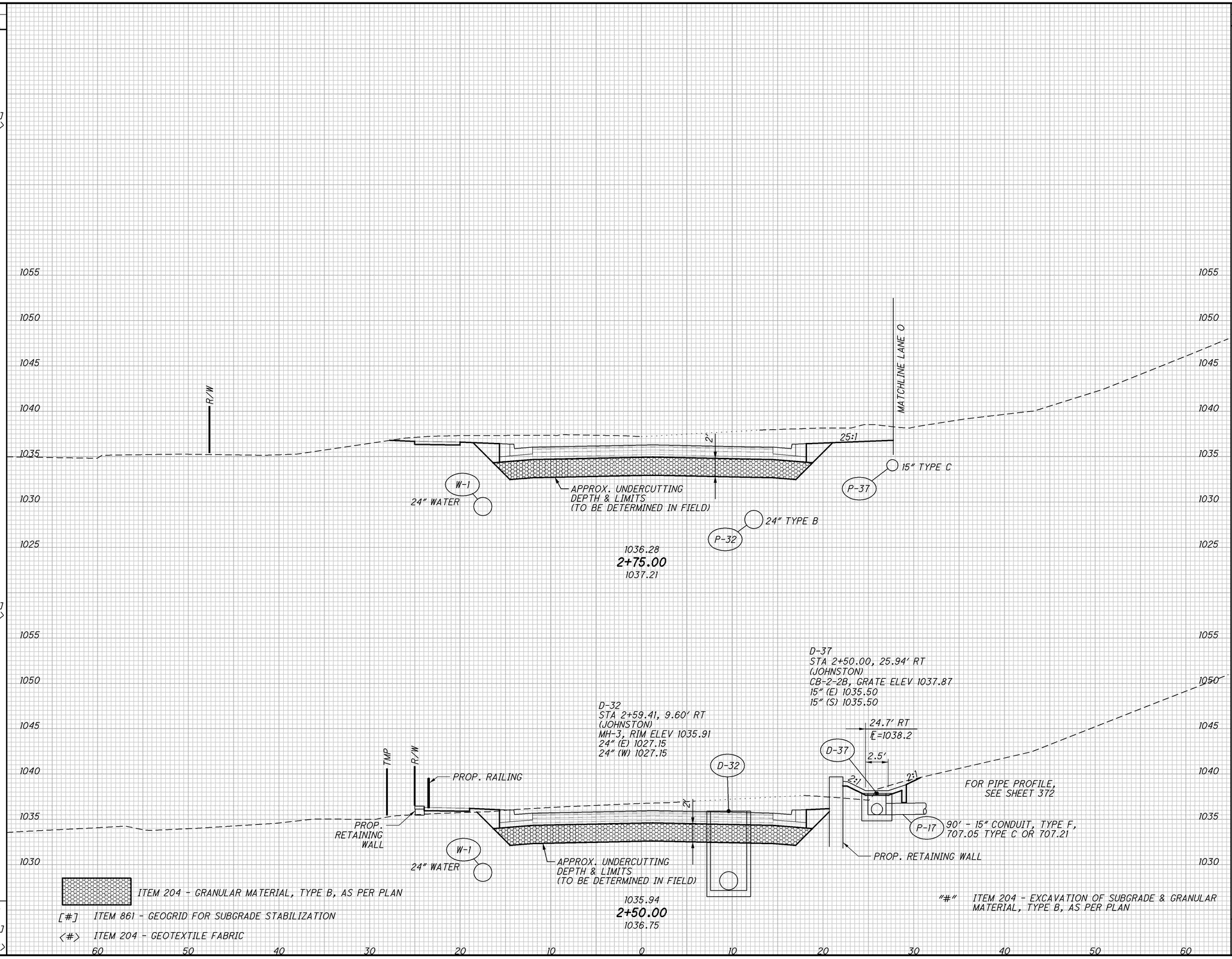
SUM-76/77-11.27/12.12

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9:26:32 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	63 [89] ⟨92⟩
19 [32] ⟨33⟩	
	39 [89] ⟨92⟩
9 [32] ⟨33⟩	
	102 [178] ⟨184⟩

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		"62" 110	"62" 0
"67" 119	"67" 0		
		"62" 96	"62" 2
"67" 89	"67" 5		
		"124" 206	"124" 2

CALCULATED ATR
CHECKED CWL



ITEM 204 - GRANULAR MATERIAL, TYPE B, AS PER PLAN

[#] ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION

⟨#⟩ ITEM 204 - GEOTEXTILE FABRIC

"#" ITEM 204 - EXCAVATION OF SUBGRADE & GRANULAR MATERIAL, TYPE B, AS PER PLAN

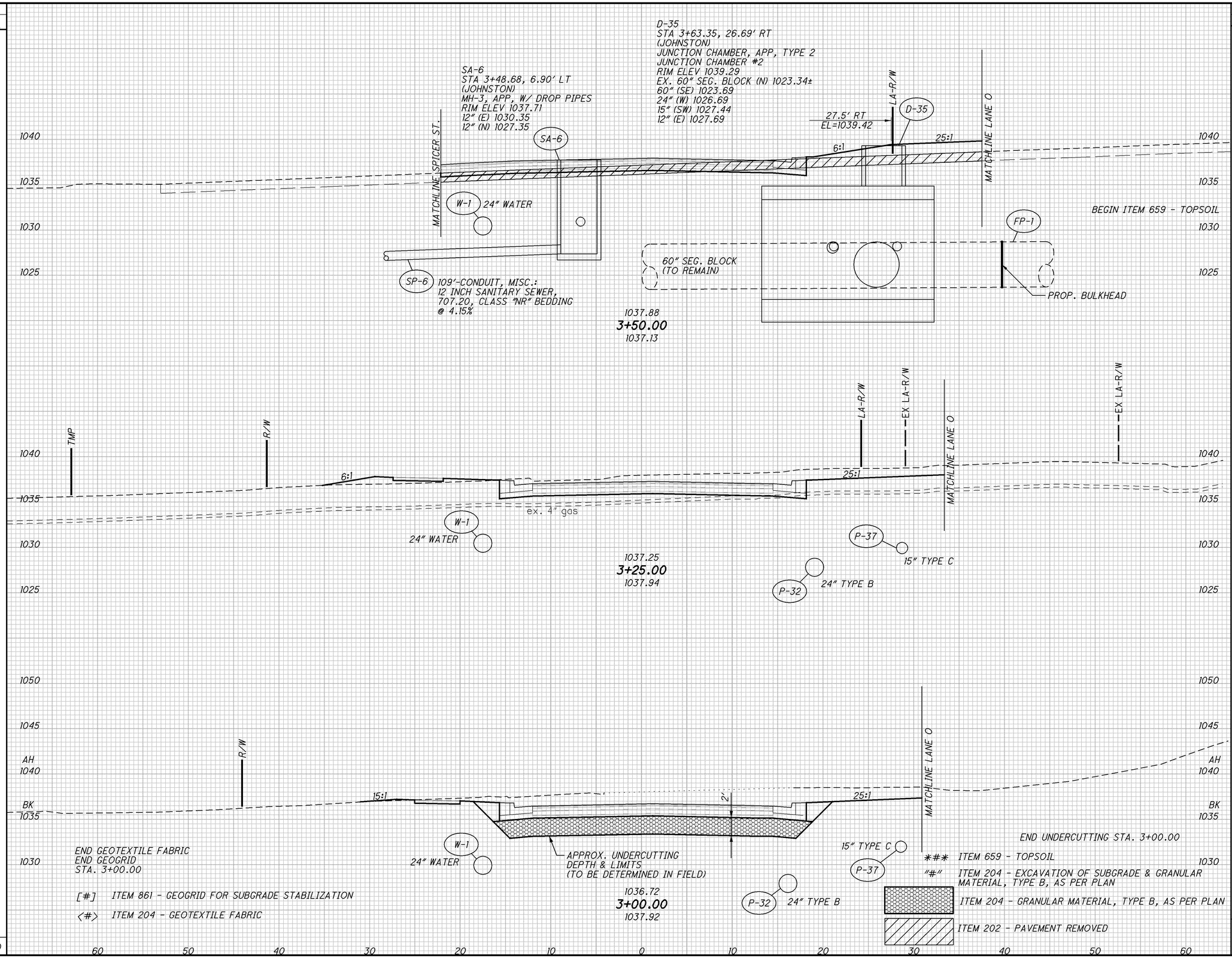
CROSS SECTIONS - JOHNSTON STREET STA. 2+50.00 TO STA. 2+75.00

SUM-76/77-11.27/12.12

289
652

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9/16/2014
9:26:49 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	67
22	
	74
31	
	79
26 [0] <0>	
26 [32] <33>	
	220



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		2	55
			3
	0		
4	52		
		43	27
89	7		
		96	3
"0"	"0"		
"67"	"67"		
118	0		
		141	85
			3

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET
STA. 3+00.00 TO STA. 3+50.00

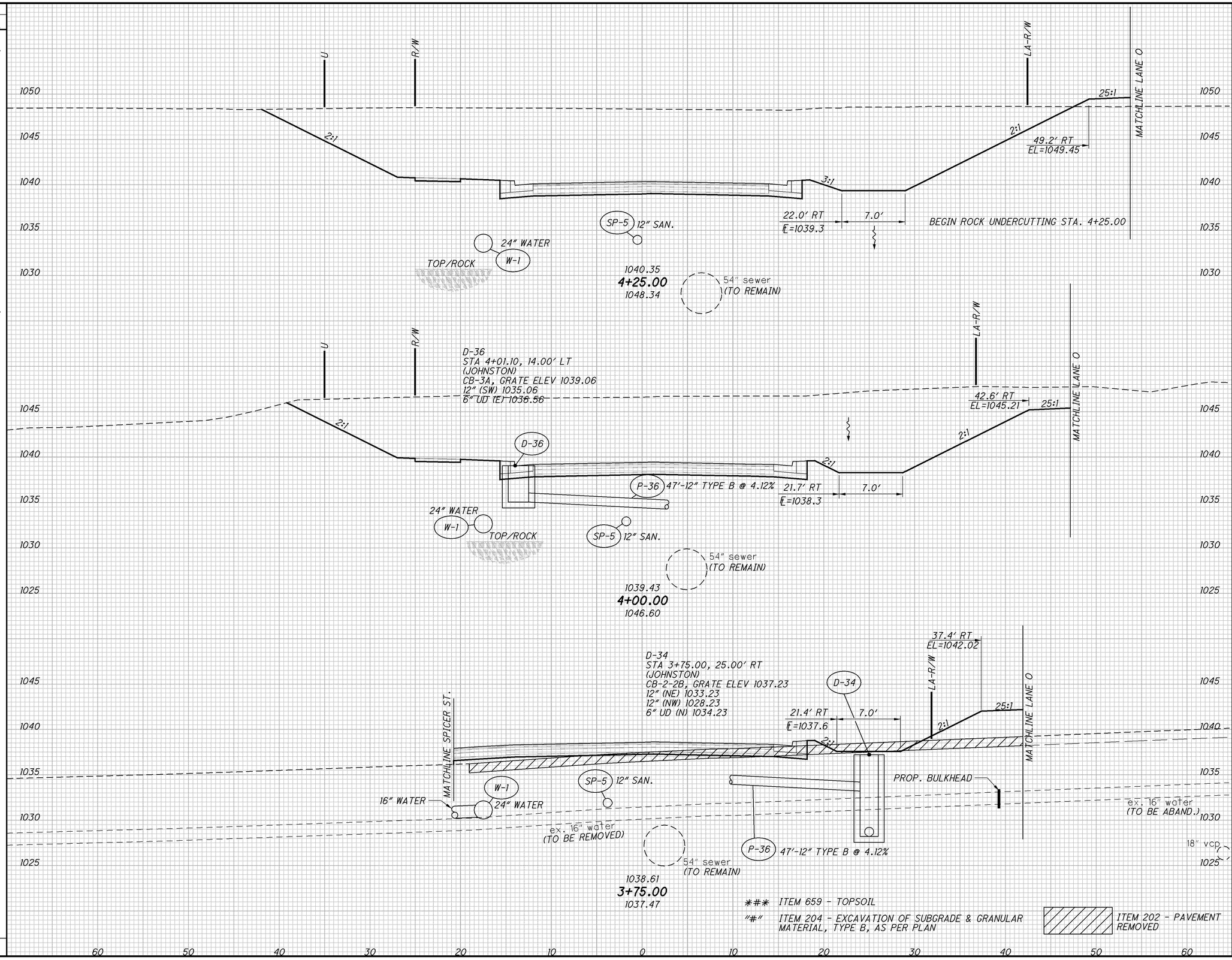
SUM-76/77-11.27/12.12

290
652

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9/16/2014
9:27:08 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	138
64	
	163
53	
	110
26	
	411

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		"18" 506	"18" 6 *10*
"0" 661	"0" 2 *14*		
		589	1 *11*
611	0 *10*		
		283	28 *8*
1	60 *7*		
			29
		"18" 1378	"18" 35



CALCULATED ATR
CHECKED CWL

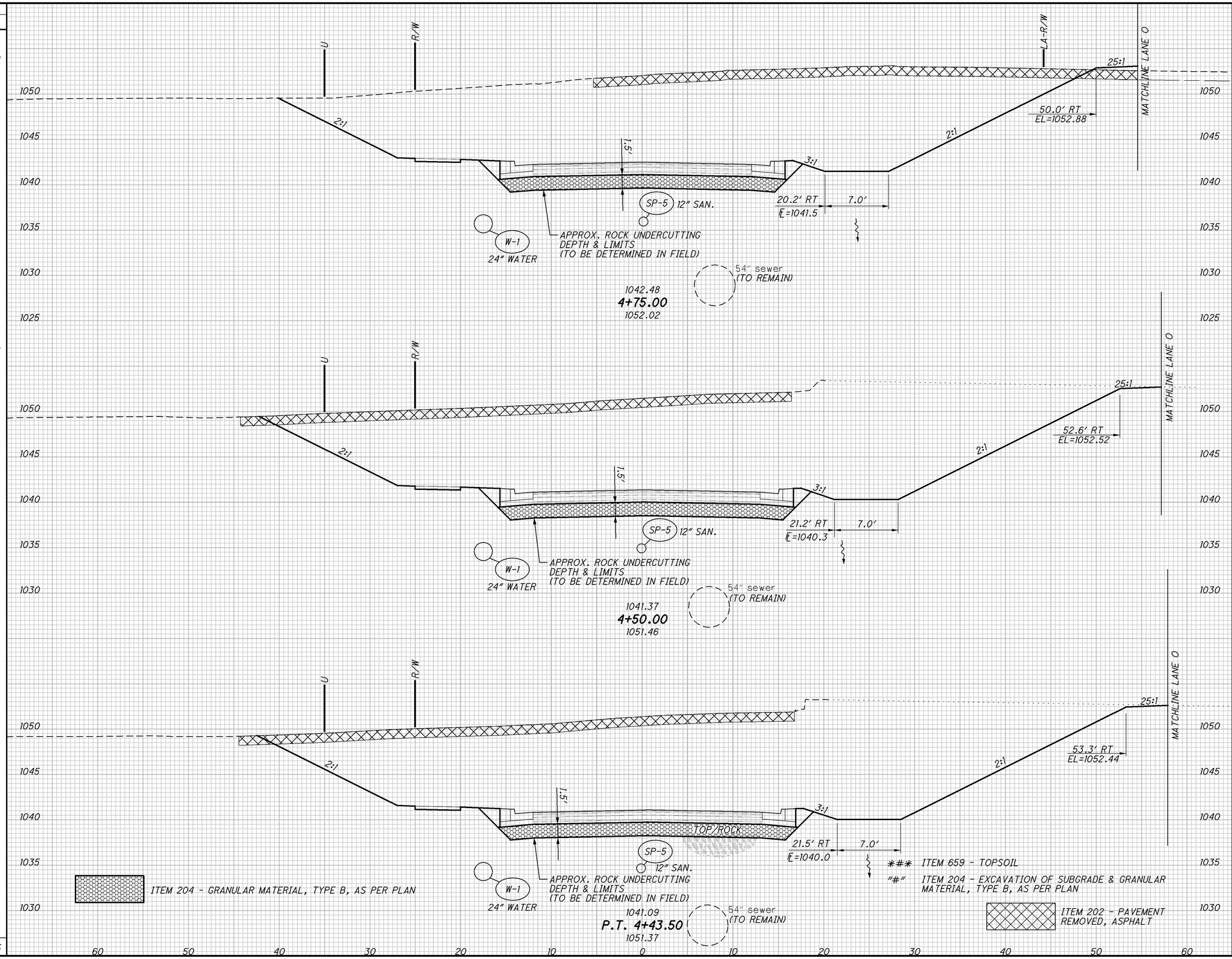
CROSS SECTIONS - JOHNSTON STREET STA. 3+75.00 TO STA. 4+25.00

SUM-76/77-11.27/12.12

291
652

\\KRN03\DATA\2018\2018297\SUM\86979\ROADWAY\SHEETS\86979XS015.DGN
9/16/2014
9:27:23 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	189
65	
	186
69	
50	
70	
	425



ITEM 204 - GRANULAR MATERIAL, TYPE B, AS PER PLAN

*** ITEM 659 - TOPSOIL

"#" ITEM 204 - EXCAVATION OF SUBGRADE & GRANULAR MATERIAL, TYPE B, AS PER PLAN

ITEM 202 - PAVEMENT REMOVED, ASPHALT

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		"43" 666	"43" 6 *13*
"46" 695	"46" 4 *15*		
		"43" 693	"43" 3 *14*
"47" 802	"47" 16		
		"12" 195	"12" 1 *4*
"53" 816	"53" 16		
			31
		"98" 1554	"98" 10

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET STA. 4+43.50 TO STA. 4+75.00

SUM-76/77-11.27/12.12

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9/16/2014
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SSGHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	175
	65
	189
	71
	364

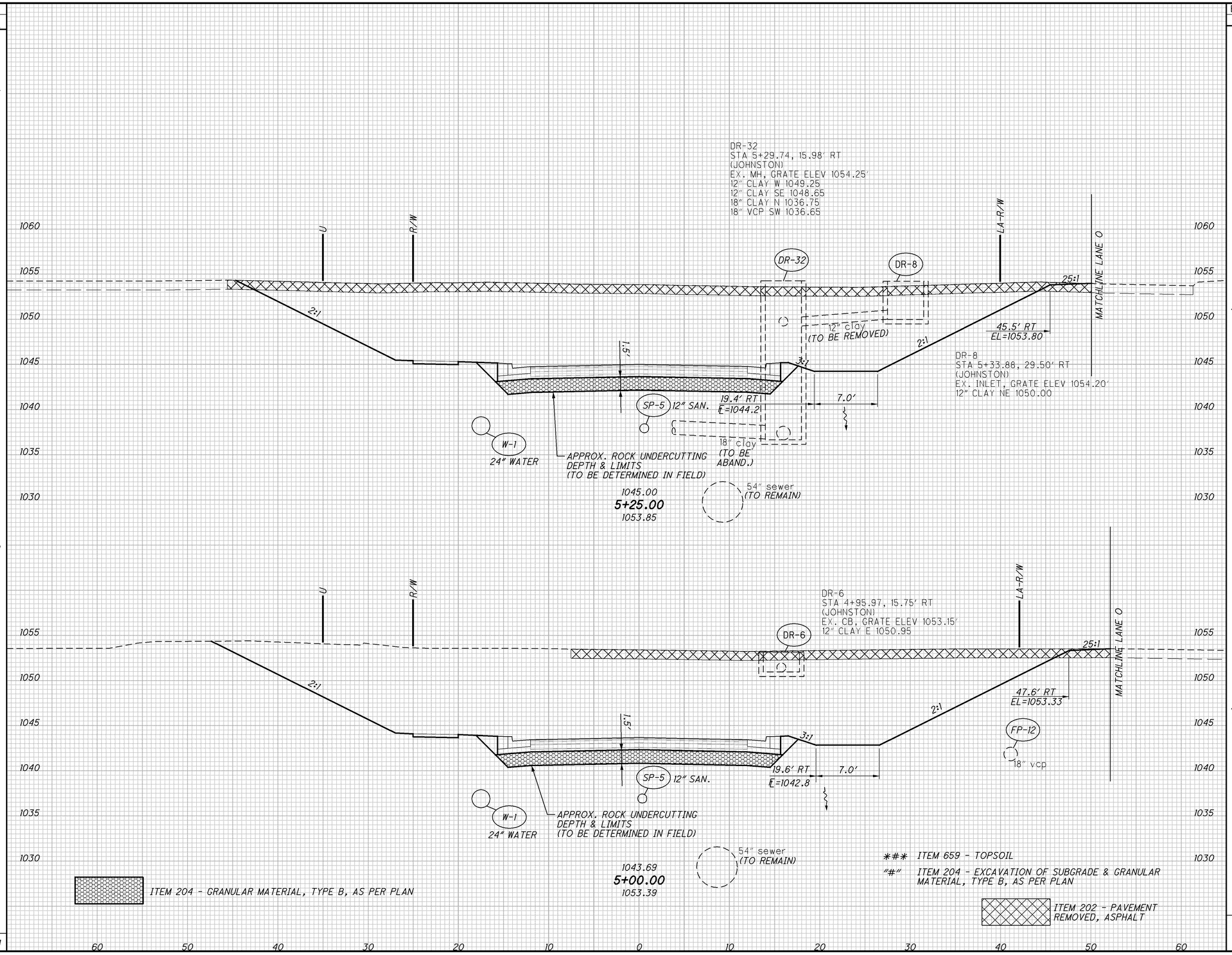
END AREA		VOLUME	
CUT	FILL	CUT	FILL
		"43" 596	"43" 4 *13*
"46" 611	"46" 3 *14*		
		"43" 627	"43" 5 *13*
"46" 744	"46" 2 *14*		
			26
		"86" 1223	"86" 9

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET
STA. 5+00.00 TO STA. 5+25.00

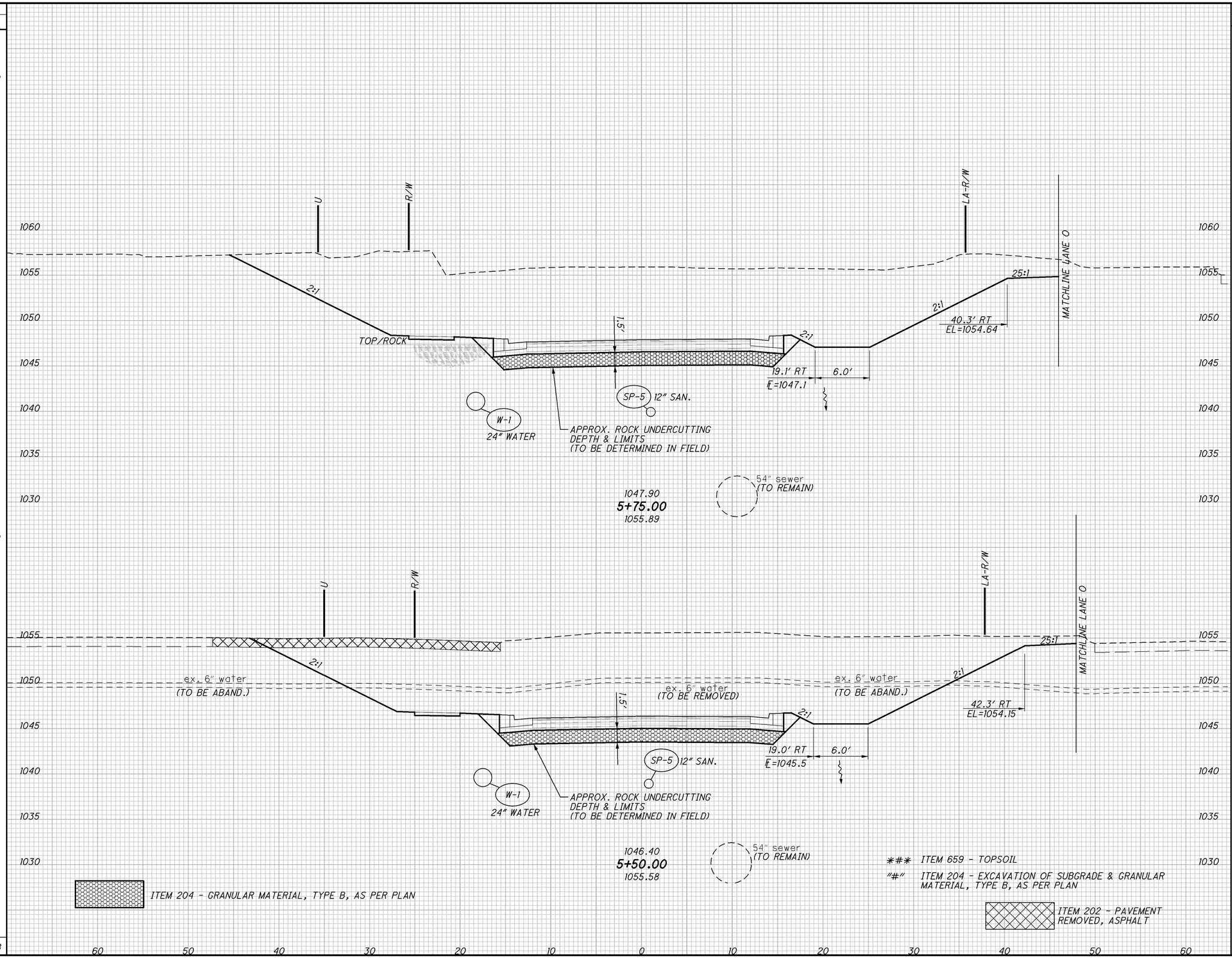
SUM-76/77-11.27/12.12

293
652



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9/16/2014
9:27:59 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	169
	61
	169
	61
	338



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		"22" 343	"22" 81 *13*
"47" 662	"47" 0 *17*		
		"43" 611	"43" 2 *14*
"46" 658	"46" 5 *13*		
			27
		"65" 954	"65" 83

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET
STA. 5+50.00 TO STA. 5+75.00

SUM-76/77-11.27/12.12

294
652

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9/16/2014
9:28:17 PM
SSGHUSTER

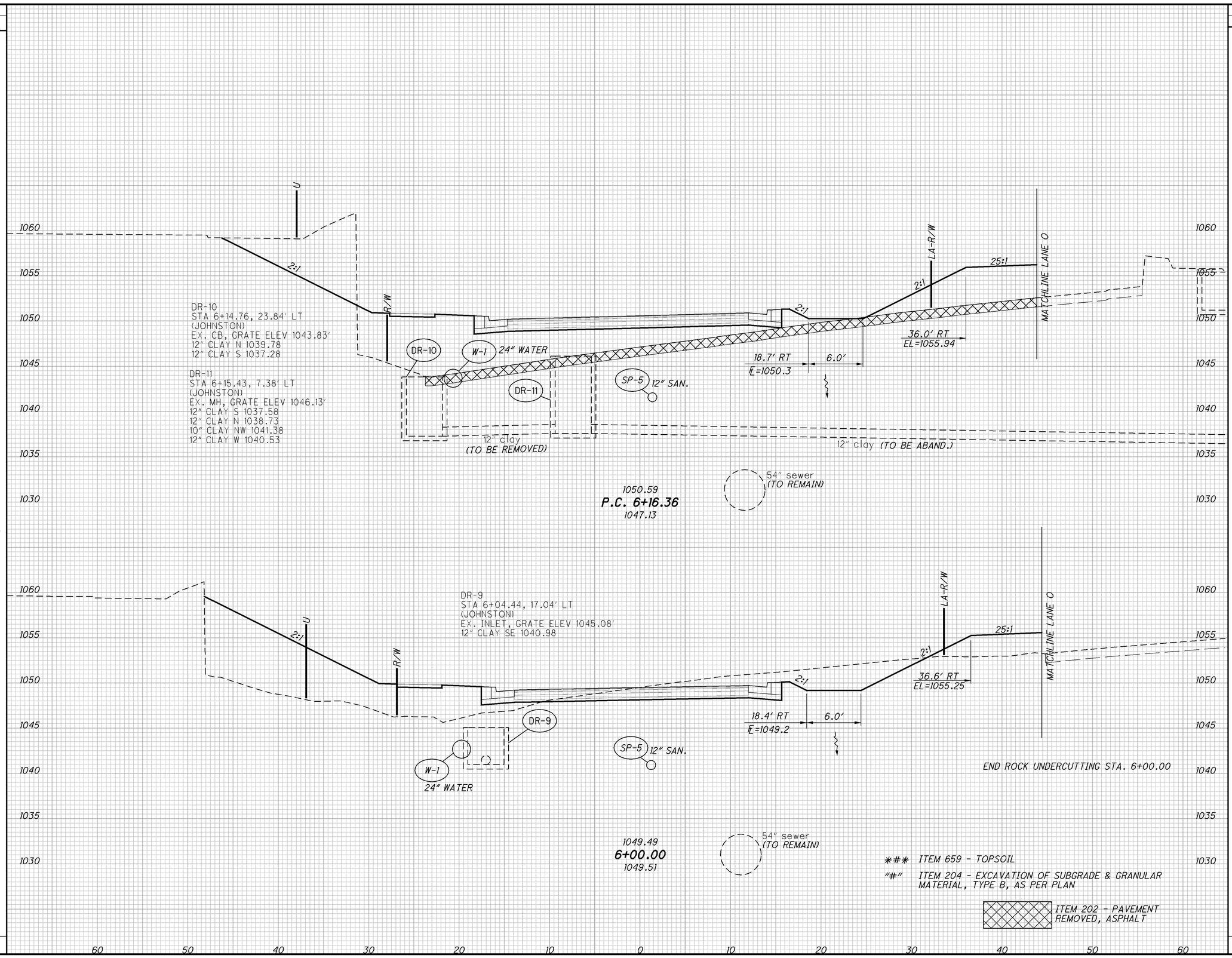
CROSS SECTIONS - JOHNSTON STREET
STA. 6+00.00 TO STA. 6+16.36

CALCULATED ATR | CHECKED CWL

SUM-76/77-11.27/12.12

295/652

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	54			120	43 *4*
57		63	270 *11*		
	107			43	135 *7*
61		"0" 78	"0" 175 *11*		
	11				
161				163	178



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9/16/2014
9:29:34 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	135
51	
	149
56	
	284

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		319	3 *9*
370	2 *10*		
		489	1 *10*
687	1 *11*		
			19
		808	4

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET STA. 6+25.00 TO STA. 6+50.00

SUM-76/77-11.27/12.12

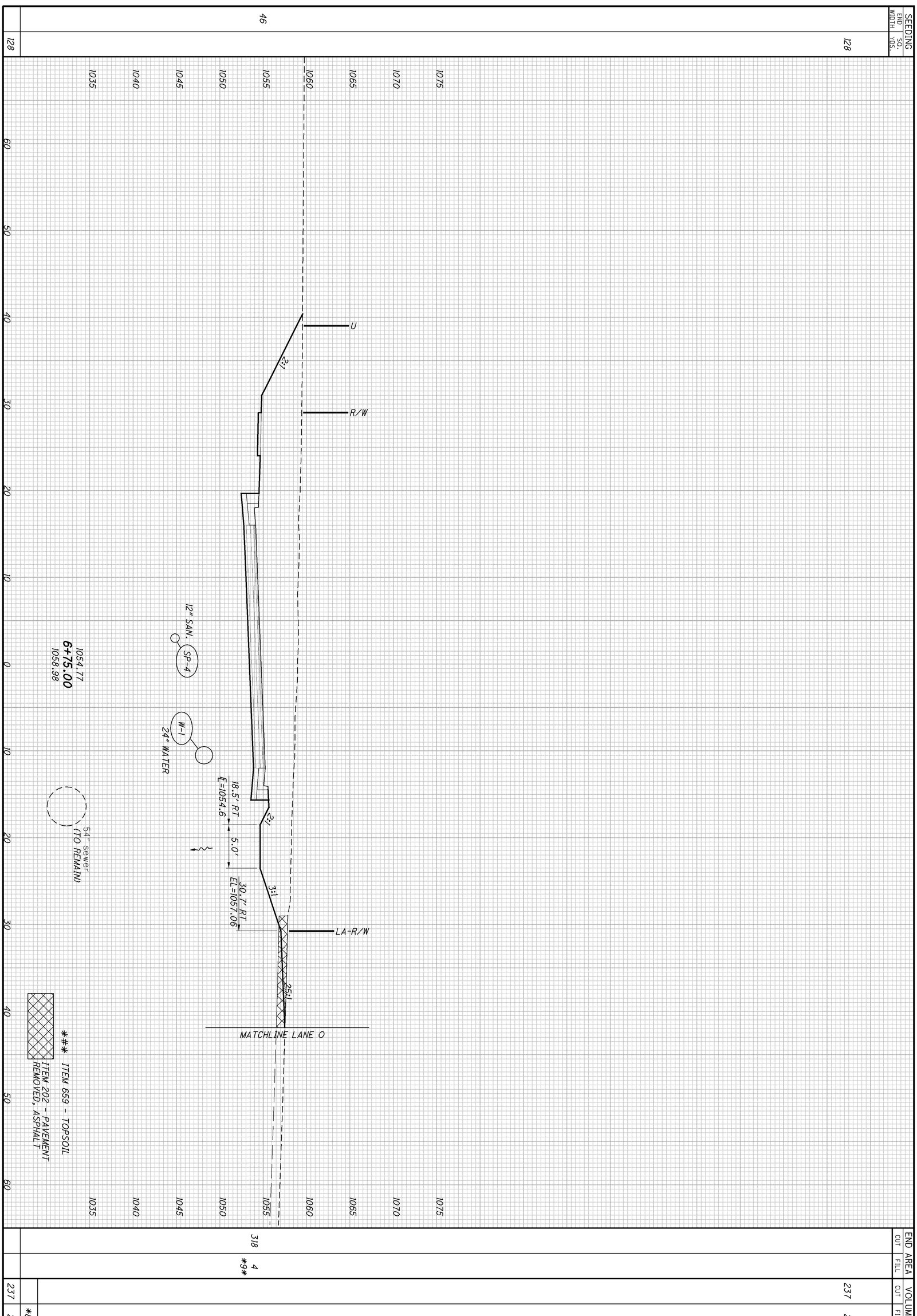
296
652

*** ITEM 659 - TOPSOIL

ITEM 202 - PAVEMENT REMOVED, ASPHALT

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9/16/2014
9:29:56 PM
SSCHUSTER

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9/16/2014
9:30:29 PM
SSCHUSTER



297
652

SUM-76/77-11.27/12.12

CROSS SECTIONS - JOHNSTON STREET
STA. 6+75.00

CALCULATED ATR
CHECKED CWL

SEEDING END WIDTH	SEEDING SQ. YDS.
	114
32	
	81
46	
	195

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		296	3 *7*
456	0 *8*		
		301	0 *8*
194	0 *9*		
			15
		597	3

CALCULATED ATR
CHECKED CWL

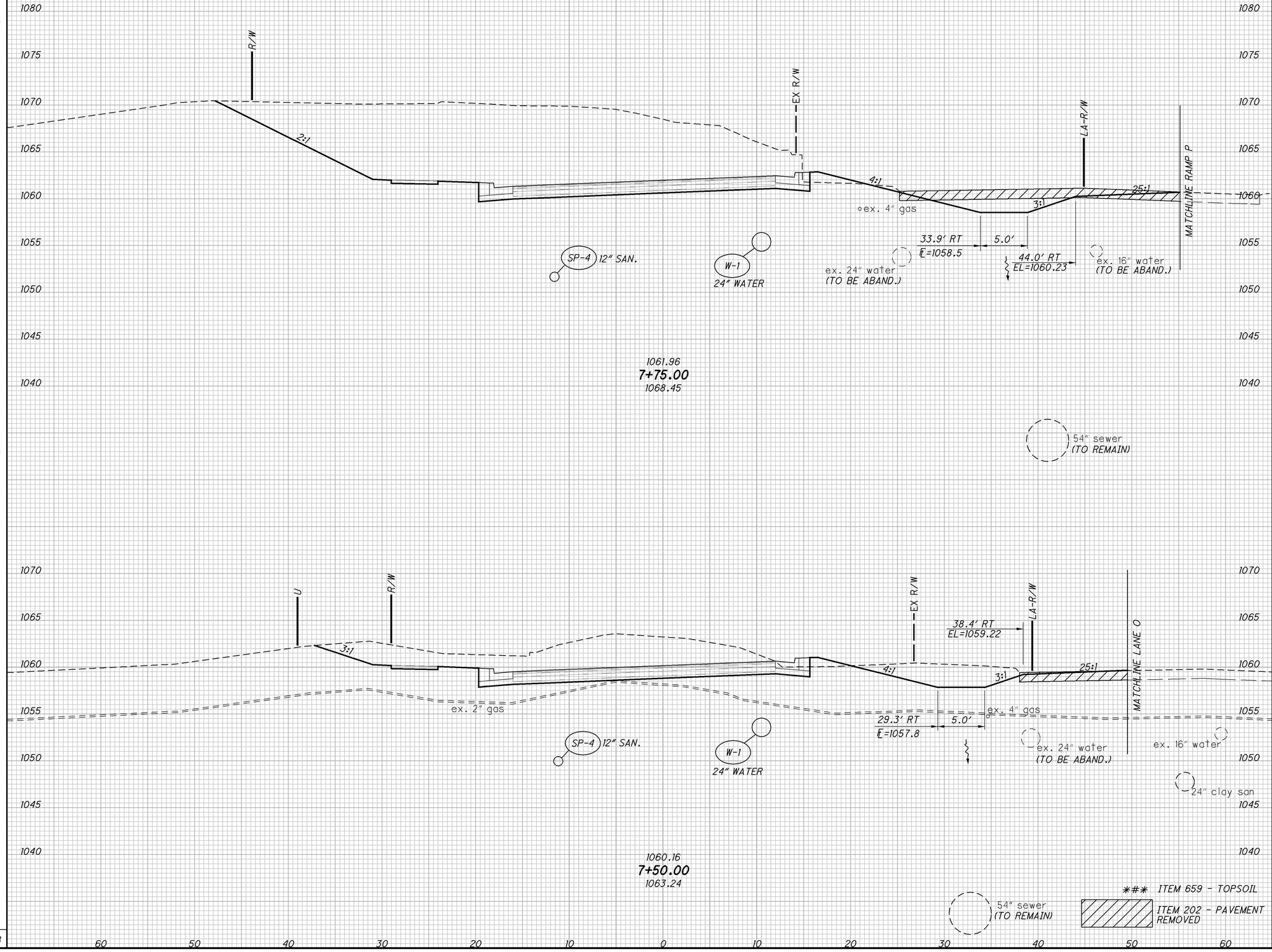
CROSS SECTIONS - JOHNSTON STREET
STA. 7+00.00 TO STA. 7+25.00

SUM-76/77-11.27/12.12

298
652

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9/16/2014
9:30:45 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	194
68	
	164
50	
	358



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		365	15 *10*
456	5 *9*		
		296	6 *8*
184	7 *8*		
			18
		661	21

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET
STA. 7+50.00 TO STA. 7+75.00

SUM-76/77-11.27/12.12

299
652

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9/16/2014
9:31:25 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	210
81	
	213
72	
	423

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		165	63 *9*
242	67 *7*		
		266	44 *7*
332	28 *12*		
			16
		431	107

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET
STA. 8+00.00 TO STA. 8+25.00

SUM-76/77-11.27/12.12

300
652

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9/16/2014
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SSCHUSTER

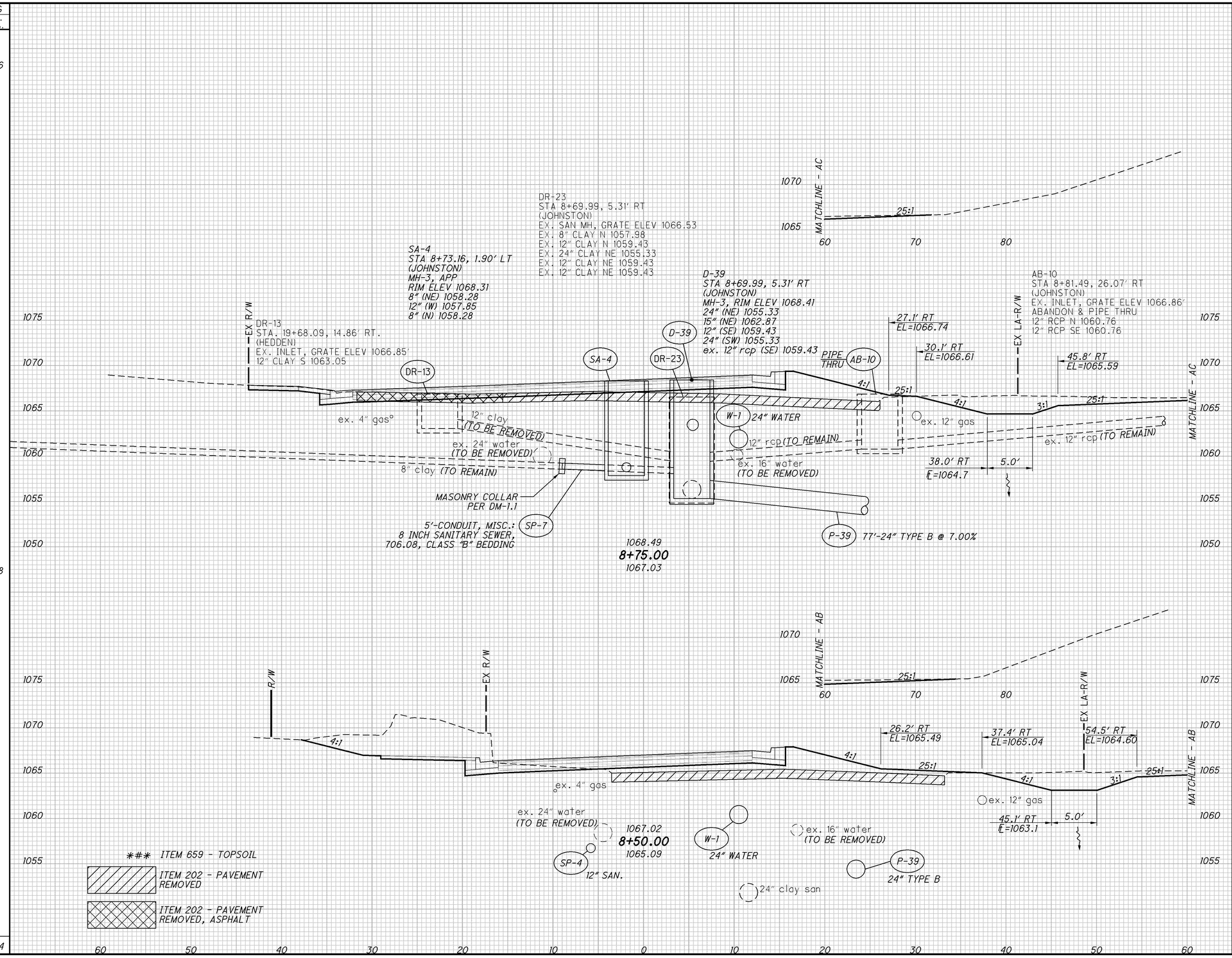
CROSS SECTIONS - JOHNSTON STREET
STA. 8+50.00 TO STA. 8+75.00

CALCULATED ATR | CHECKED CWL

SUM-76/77-11.27/12.12

301/652

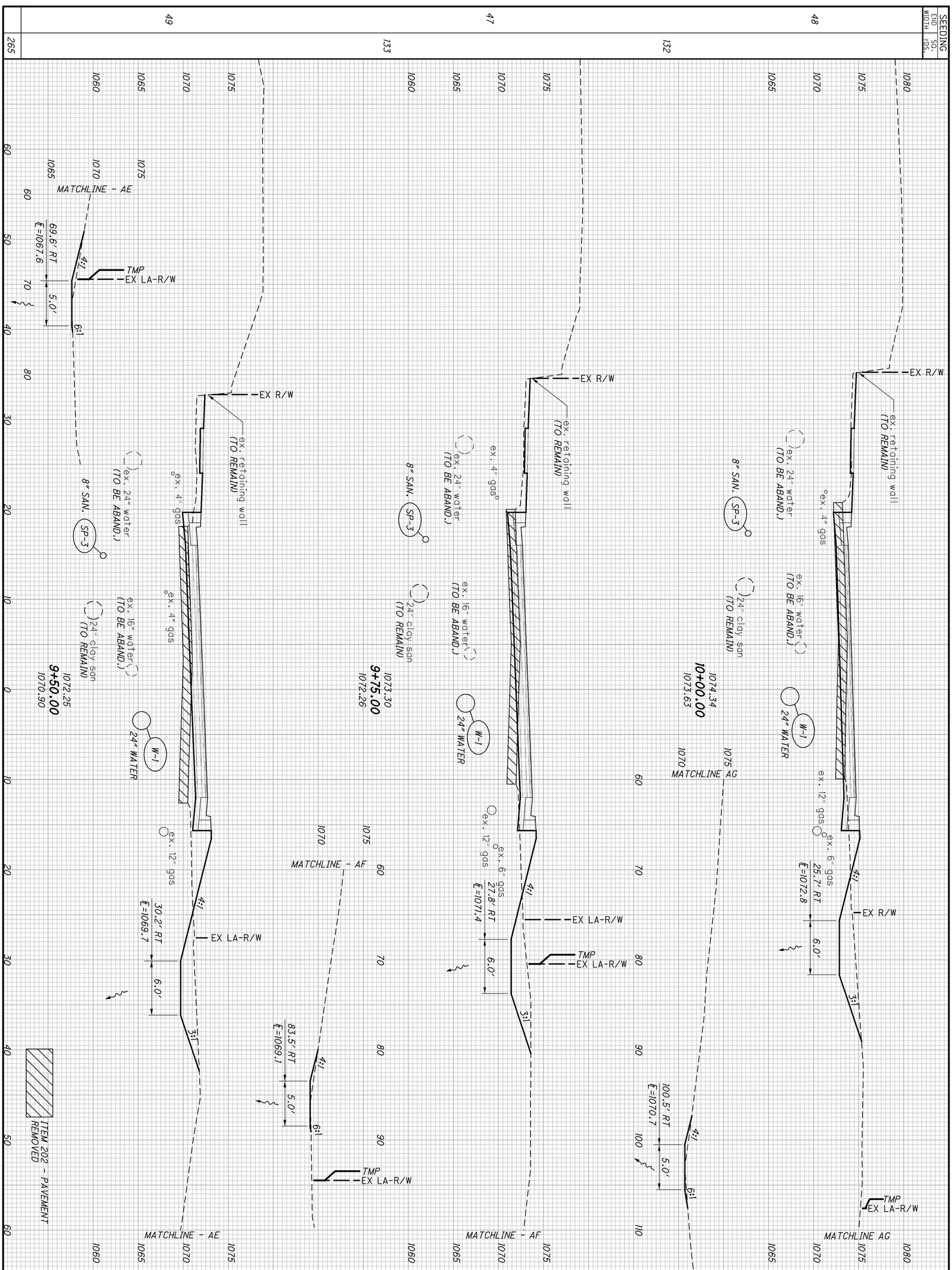
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	146			28	68 *7*
58		56	73 *15*		
	178			79	66 *13*
70		115	69 *13*		
	324			107	134 *20*



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9/16/2014
9:31:56 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	126
42	
	124
47	

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9/16/2014
9:32:28 PM
SSCHUSTER



	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
265						
49			23	52	67	75
133			23	32	21	39
47						
132			26	18	23	23
48						

303
652

SUM-76/77-11.27/12.12

CROSS SECTIONS - JOHNSTON STREET
STA. 9+50.00 TO STA. 10+00.00

CALCULATED ATR
CHECKED CWL

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
				24	9
41		16	16		
	122			12	37
47		9	64		
	4			1	1
47		25	10		
	128				
	254			37	47

CALCULATED ATR
CHECKED CWL

FOR DRIVE PROFILE, SEE SHEET 360

60 70 80 90 100 110 120 130

1075 1070 1080 1075 1070 1065 1060

MATCHLINE - AJ

TMP — EX R/W — EX LA-R/W

ex. retaining wall (TO REMAIN)

6:1 6:1

123.1' RT
℄=1074.6
5.0'

22.8' RT
EL=1077.11

25:1 4:1 3:1

ex. 4" gas ex. 6" gas ex. 12" gas

29.5' RT
℄=1075.4
6.0'

ex. 24" water (TO BE ABAND.)
8" SAN. SP-3
ex. 16" water (TO BE ABAND.)
24" clay san (TO REMAIN)
W-1 24" WATER

1076.42
10+50.00
1076.42

60 70 80 90 100 110 120 130 140

1075 1070 1080 1075 1070 1065 1060

MATCHLINE AI

TMP — EX R/W — EX LA-R/W

ex. retaining wall (TO REMAIN)

6:1 4:1

126.3' RT
℄=1073.6
5.0'

21.7' RT
EL=1076.22

25:1 4:1 3:1

ex. 4" gas ex. 6" gas ex. 12" gas

29.8' RT
℄=1074.2
6.0'

ex. 24" water (TO BE ABAND.)
8" SAN. SP-3
ex. 16" water (TO BE ABAND.)
24" clay san (TO REMAIN)
W-1 24" WATER

1075.38
10+25.00
1075.11

1080 60 70 80 90 100 110 120 130 140

1075 1070 1080 1075 1070 1065 1060

MATCHLINE AH

TMP — EX R/W — EX LA-R/W

ex. retaining wall (TO REMAIN)

6:1 4:1

125.8' RT
℄=1073.5
5.0'

21.7' RT
EL=1076.19

25:1 4:1 3:1

ex. 4" gas ex. 6" gas ex. 12" gas

29.9' RT
℄=1074.1
6.0'

ex. 24" water (TO BE ABAND.)
8" SAN. SP-3
ex. 16" water (TO BE ABAND.)
24" clay san (TO REMAIN)
W-1 24" WATER

1075.34
P.T. 10+24.19
1075.06

60 50 40 30 20 10 0 10 20 30 40 50 60

ITEM 202 - PAVEMENT REMOVED

CROSS SECTIONS - JOHNSTON STREET STA. 10+24.19 TO STA. 10+50.00

SUM-76/77-11.27/12.12

304
652

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9/16/2014
9:32:45 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	18
0	
18	
	9
5	
	54
	34
	104
	167

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	0
0	0		
19	0		
		7	0
33	0		
		32	1
36	3		
		39	1

CALCULATED ATR
CHECKED CWL

SJ-3
STA 11+14.92, 7.42' LT
(JOHNSTON)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1078.69
EX. MH, GRATE ELEV 1078.69'
ex. 24" CLAY (SW) 1066.69
ex. 24" CLAY (NE) 1066.69
ex. 8" CLAY (N) 1066.00
ex. 12" CLAY (NE) 1076.35
ex. 12" CLAY (SW) 1074.02

TMP
EX R/W
EX LA-R/W
SJ-3
ex. 4" gas
ex. 12" clay
ex. 6" gas
ex. 12" gas
ex. 24" water (TO BE ABAND.)
ex. 16" water (TO BE ABAND.)
ex. 8" clay (TO BE ABAND.)
8" SAN. SP-3
W-1 24" WATER

AH
BK END SEEDING STA. 11+06.75
END EARTHWORK STA. 11+06.75
AH
BK

MEET EXISTING
END FULL DEPTH PVMT.
BEGIN RESURFACING
1078.47
11+06.75
1078.47

D-1
STA 10+91.45, 17.22' RT
(JOHNSTON)
CB-3A, GRATE ELEV 1077.52
12" (N) 1074.36

DR-31
STA 10+91.45, 17.22' RT
(JOHNSTON)
EX. CB, GRATE ELEV 1077.36
12" X (N) 1074.36

D-1
DR-31
4:1
P-1 5'-12" TYPE B, 706.08
MASONRY COLLAR PER DM-1.1
ex. 24" water (TO BE ABAND.)
ex. 16" water (TO BE ABAND.)
8" SAN. SP-3
24" clay san (TO REMAIN)
W-1 24" WATER

1078.23
11+00.00
1078.23

23.8' RT
EL=1077.85
25:1
3:1
3:1
30.7' RT
EL=1076.1
6.0'

ex. 24" water (TO BE ABAND.)
8" SAN. SP-3
ex. 16" water (TO BE ABAND.)
24" clay san (TO REMAIN)
W-1 24" WATER

1077.34
10+75.00
1077.34

ITEM 202 - PAVEMENT REMOVED

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - JOHNSTON STREET
STA. 10+75.00 TO STA. 11+06.75

SUM-76/77-11.27/12.12

305
652

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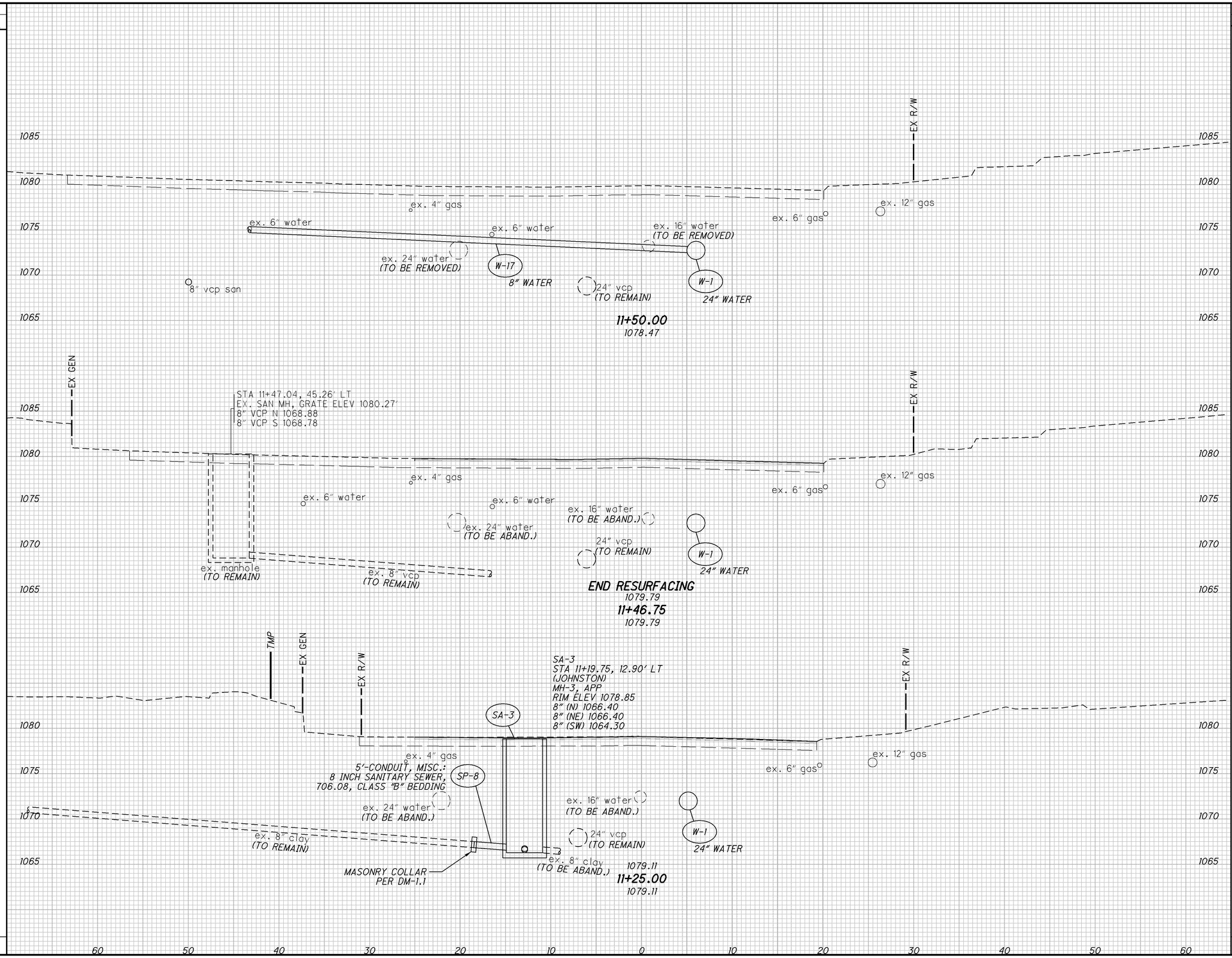
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET
STA. 11+25.00 TO STA. 11+50.00



SUM-76/77-11.27/12.12

306
652

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9:33:14 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - JOHNSTON STREET
STA. 11+75.00 TO STA. 12+00.00

SUM-76/77-11.27/12.12

307
652

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9/16/2014
9:33:30 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	2
10	
0	
	2

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		1	0
8	0		
0	0		
		1	0

CALCULATED ATR
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

1045
1040
1035
1030
1025
1020

EX R/W

BEGIN SEEDING
STA. 14+97.25
AH
BK

ex. 16" water
(TO REMAIN)

ex. 60" s.b.
(TO REMAIN)

ex. 3" gas

BEGIN EARTHWORK
STA. 14+97.25
AH
BK

MEET EXISTING
BEGIN WORK
BEGIN RESURF. LT.
BEGIN FULL DEPTH PVMT. RT.
1033.70
14+97.25
1033.70

14+75.00
1033.24

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - SPICER STREET
STA. 14+75.00 TO STA. 14+97.25

SUM-76/77-11.27/12.12

308
652

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9/16/2014
9:34:17 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
10	29
	14
0	
	43

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		10	1
8	1		
		9	0
11	0		
		19	1

CALCULATED ATR
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

EX R/W

EX R/W

ex. 4" gas

ex. 16" water
(TO REMAIN)

ex. 60" s.b.
(TO REMAIN)

SP-6
12" SAN.

1034.38
15+25.00
1034.38

SJ-9
STA 15+05.91, 12.29' RT
(SPICER)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1033.33
EX. MH, GRATE ELEV 1033.33'
ex. 24" CLAY (W) 1021.83
ex. 30" CLAY (NE) 1021.73
12" (S) 1023.33

FOR DRIVE PROFILE, SEE SHEET 357

EX R/W

EX R/W

SJ-9

ex. 3" gas

ex. 16" water
(TO REMAIN)

ex. 60" s.b.
(TO REMAIN)

1033.76
15+00.00
1033.76

1045
1040
1035
1030
1025
1020

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - SPICER STREET
STA. 15+00.00 TO STA. 15+25.00

SUM-76/77-11.27/12.12

309
652

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9/16/2014
9:34:31 PM
SBOHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	47
8	
	3
13	
	50

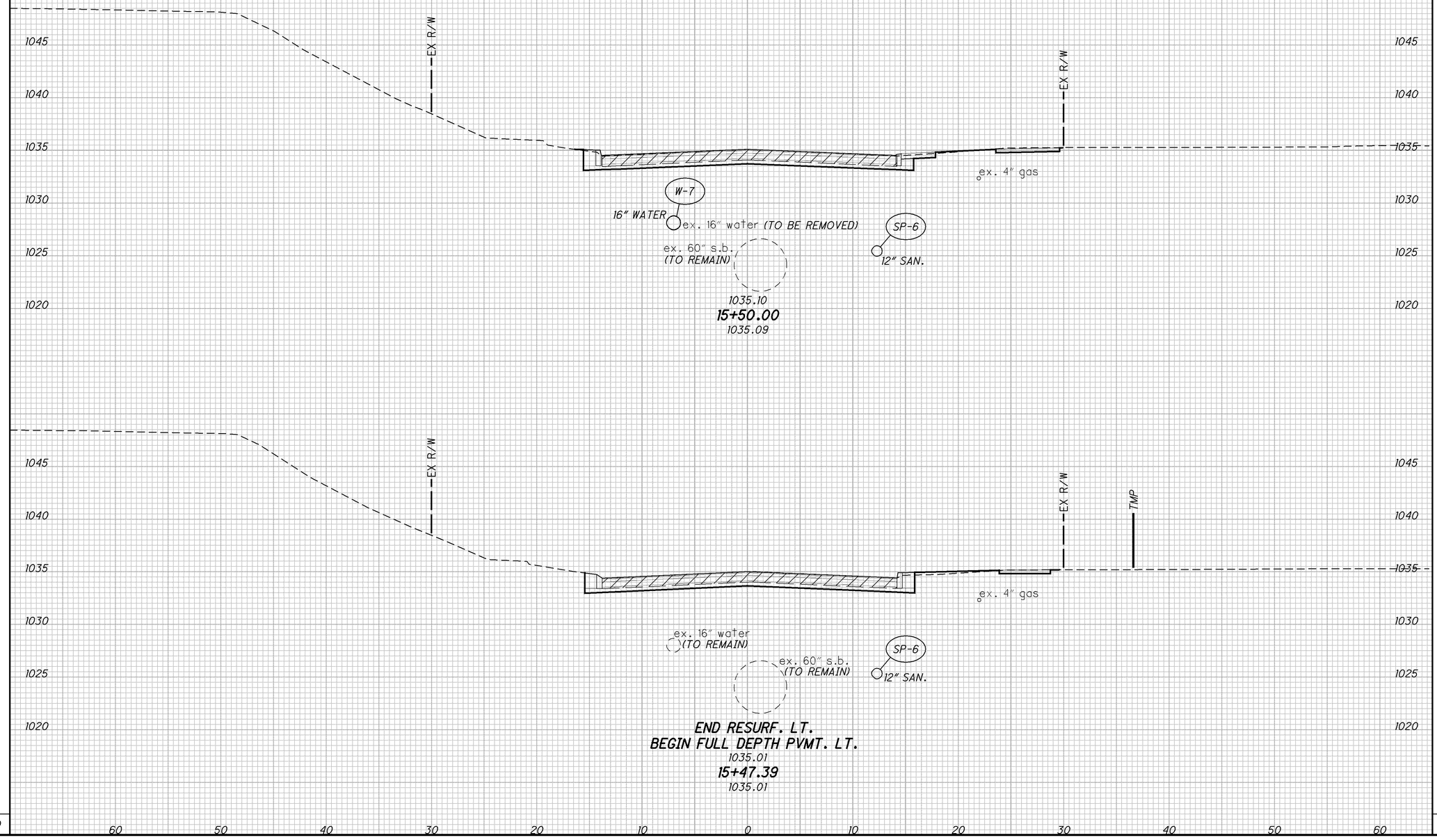
END AREA	
CUT	FILL
18	0
17	1

VOLUME	
CUT	FILL
11	6
2	0
13	6

CALCULATED ATR
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

FOR DRIVE PROFILE, SEE SHEET 357



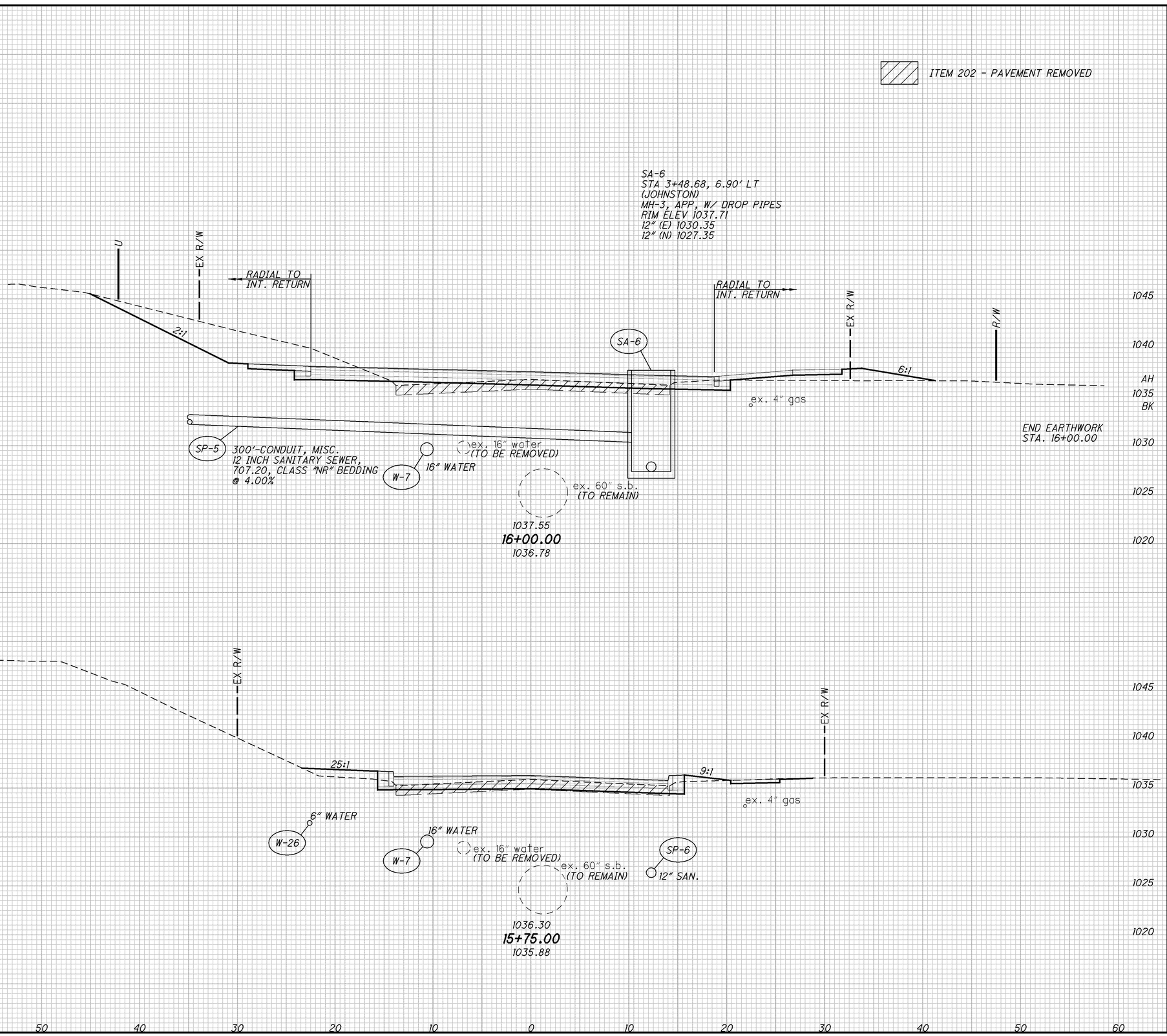
CROSS SECTIONS - SPICER STREET
STA. 15+47.39 TO STA. 15+50.00

SUM-76/77-11.27/12.12

310
652

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9/16/2014
9:34:45 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
0	74
27	26
	74



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
71	30		
5	13		
		35	20
		35	20

CALCULATED ATR
CHECKED CWL

CROSS SECTIONS - SPICER STREET
STA. 15+75.00 TO STA. 16+00.00

SUM-76/77-11.27/12.12

311
652

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9/16/2014
9:35:01 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	11
4	
0	
	11

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		13	0
21	0		
0	0		
		13	0

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED, ASPHALT

FOR DRIVE PROFILE, SEE SHEET 358

EX R/W

ex. wall (TO REMAIN)

1075
1070
1065
1060

AH BEGIN SEEDING STA. 19+06.59

BK 1065

BEGIN EARTHWORK STA. 19+06.59

ex. 6" water (TO REMAIN)

8" clay san. (TO REMAIN)

MEET EXISTING
1070.35
19+06.59
1070.35

ex. 6" water

8" clay san.

19+00.00
1070.67

1080
1075
1070
1065
1060

18+75.00
1071.91

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - HEDDEN AVE
STA. 18+75.00 TO STA. 19+06.59

SUM-76/77-11.27/12.12

312
652

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9/16/2014
9:35:41 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
0	
5	
	17
7	
	17

END AREA	
CUT	FILL

VOLUME	
CUT	FILL
20	0
20	0

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - HEDDEN AVE
STA. 19+25.00 TO STA. 19+50.00

SUM-76 / 77-11.27 / 12.12

313
652

ITEM 202 - PAVEMENT REMOVED, ASPHALT

FOR DRIVE PROFILE, SEE SHEET 358

D-3
STA 9+06.08, 14.59' LT
(JOHNSTON)
CB-3A, GRATE ELEV 1069.18
15" (S) 1064.93

D-4
STA 19+42.08, 13.00' RT
(HEDDEN)
CB-3A, GRATE ELEV 1067.73
12" (SE) 1063.73

DR-14
STA 19+33.60, 14.56' LT.
(HEDDEN)
EX. INLET, GRATE ELEV 1069.51'
12" CLAY SW 1066.01

AH
BK
END SEEDING
STA. 19+50.00

END EARTHWORK
STA. 19+50.00

4:1

EX R/W

D-3
D-4
DR-14
P-4 36'-12" TYPE B @ 1.00%
W-15
8" WATER
12" clay (TO BE REMOVED)
ex. 6" water (TO BE REMOVED)
ex. 3" gas
8" clay san. (TO REMAIN)
ex. wall (TO REMAIN)

1068.21
19+50.00
1068.21

1069.42
19+25.00
1069.43

1070
1065
1060
1075
1055

60 50 40 30 20 10 0 10 20 30 40 50 60

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SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	39
6	
0	
	39

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		36	0
14	0		
0	0		
		36	0

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

FOR DRIVE PROFILE, SEE SHEET 355

FOR DRIVE PROFILE, SEE SHEET 355

1060 1055 1050 1045 1040 1035 1030

EX R/W

EX R/W

ex. 12" gas
ex. 6" gas
ex. 4" gas
ex. 6" water (TO REMAIN)
(abnd.) ex. 8" gas
ex. fiber optic
ex. 8" gas
(abnd.) ex. 12" gas

AH BEGIN SEEDING STA. 15+00.00
BK

AH BEGIN EARTHWORK STA. 15+00.00
BK

12" clay san (TO REMAIN)

MEET EXISTING
SAW CUT/ BUTT JOINT
BEGIN WORK
1039.41
15+00.00
1039.41

12" clay san
14+50.00
1041.18

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - BROWN STREET
STA. 14+50.00 TO STA. 15+00.00

SUM-76/77-11.27/12.12

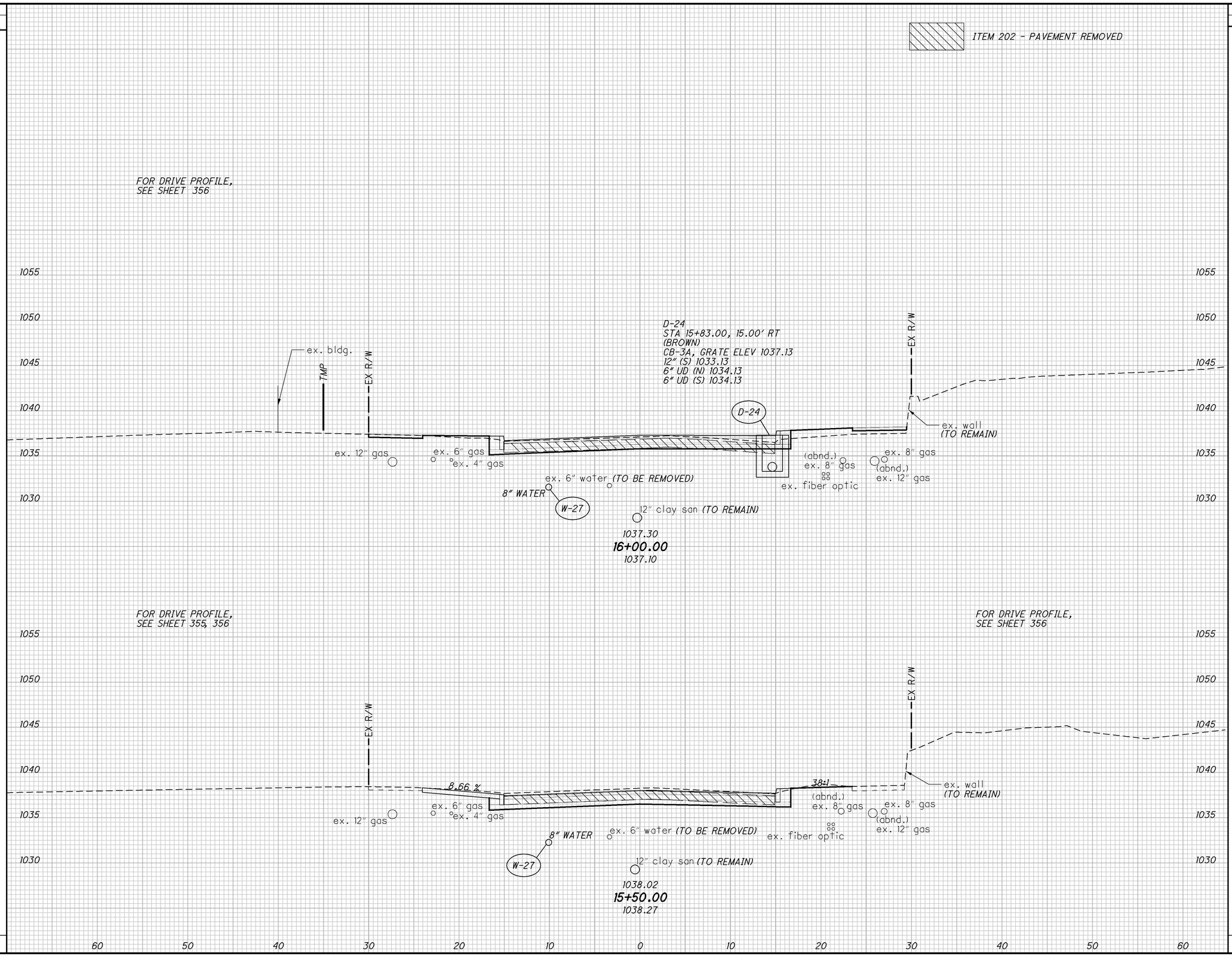
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SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	47			18	56
17		9	13		
	69			31	12
8		25	0		
	116			49	68

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - BROWN STREET
STA. 15+50.00 TO STA. 16+00.00

SUM-76/77-11.27/12.12



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9/16/2014
9:36:46 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	108
29	
81	
0	
189	

END AREA	
CUT	FILL
30	20
37	63
10	48
108	83

VOLUME	
CUT	FILL
71	20

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

D-28
STA 16+79.51, 15.00' LT
(BROWN)
MH-3, RIM ELEV 1037.24
18" (E) 1030.78
18" (W) 1031.73
12" (N) 1032.23
12" (S) 1033.07

D-27
STA 17+16.29, 23.00' LT
(BROWN)
CB-3A, GRATE ELEV 1037.57
12" (N) 1033.57
6" UD (S) 1034.57

D-25
STA 16+79.51, 11.14' RT
(BROWN)
MH-3, RIM ELEV 1037.84
12" (S) 1033.67
15" (W) 1032.36
18" (E) 1032.11
12" (N) 1032.61
6" UD (SW) 1034.67

DR-16
STA 16+95.72, 22.23' RT
(BROWN)
EX INLET, RIM ELEV 1038.28
ex. 12" CLAY NE 1034.48

D-38
STA 0+39.42, 12.50' LT
(LAMPARTER)
MH-3, RIM ELEV 1039.06
15" (SW) 1034.81
15" (E) 1034.25
12" (W) 1034.89
12" (N) 1034.50
6" UD (W) 1035.89

LA-R/W
EX LA-R/W
EX LA-R/W
3:1
6:1
RADIAL TO INT. RETURN

D-26
STA 16+29.01, 15.50' LT
(BROWN)
CB-3A, GRATE ELEV 1036.48
12" (S) 1032.48
6" UD (N) 1033.48

DR-19
STA 16+39.85, 16.85' LT
(BROWN)
EX. INLET, GRATE ELEV 1036.48'
12" CLAY SW 1033.08

SJ-1
STA 16+57.45, 0.06' LT
(BROWN)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1037.29
EX. MH, GRATE ELEV 1036.94'
ex. 12" CLAY (NW) 1028.31
ex. 12" CLAY (NE) 1028.14
ex. 12" CLAY (N) 1026.44
ex. 12" CLAY (SW) 1031.44
ex. 12" VCP (SW) 1031.44
ex. 15" (SW) 1033.75
ex. 15" RCP (SE) 1031.24
ex. 15" CLAY (W) 1028.34
ex. 12" CLAY (S) 1026.74
ex. 24" CLAY (E) 1025.44

DR-18
STA 16+38.54, 16.92' RT
(BROWN)
EX. INLET, GRATE ELEV 1036.6
12" CLAY SE 1032.83

MATCHLINE JOHNSTON ST.

P-28 156'-18" TYPE B @ 1.46%
P-27 38'-12" TYPE B @ 1.32%
P-25 26'-18" TYPE B @ 1.46%
P-38 28'-15" TYPE B @ 6.75%
P-21 31'-12" TYPE B @ 5.13%
P-24 12" TYPE B
W-1 24" WATER (1.5' MIN CLEARANCE UNDER PROP. STORM)
W-27 8" WATER

ex. 12" gas
ex. 8" gas
ex. 6" water (TO BE REMOVED)
8" clay san (TO REMAIN)
ex. 8" gas (aband.)
ex. 12" gas (aband.)
ex. 8" gas
ex. 6" gas
ex. 4" gas
12" clay (TO BE REMOVED)
ex. 6" water (TO BE REMOVED)
24" vcp (TO REMAIN)
ex. 8" gas (abnd.)
ex. 12" gas (abnd.)
ex. wall (TO REMAIN)
ex. fiber optic
ex. fiber optic
ex. fiber optic
ex. fiber optic

1037.86
17+00.00
1037.99

1037.24
16+50.00
1036.93

1060 1055 1050 1045 1040 1035 1030 1025

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - BROWN STREET
STA. 16+50.00 TO STA. 17+00.00

SUM-76/77-11.27/12.12

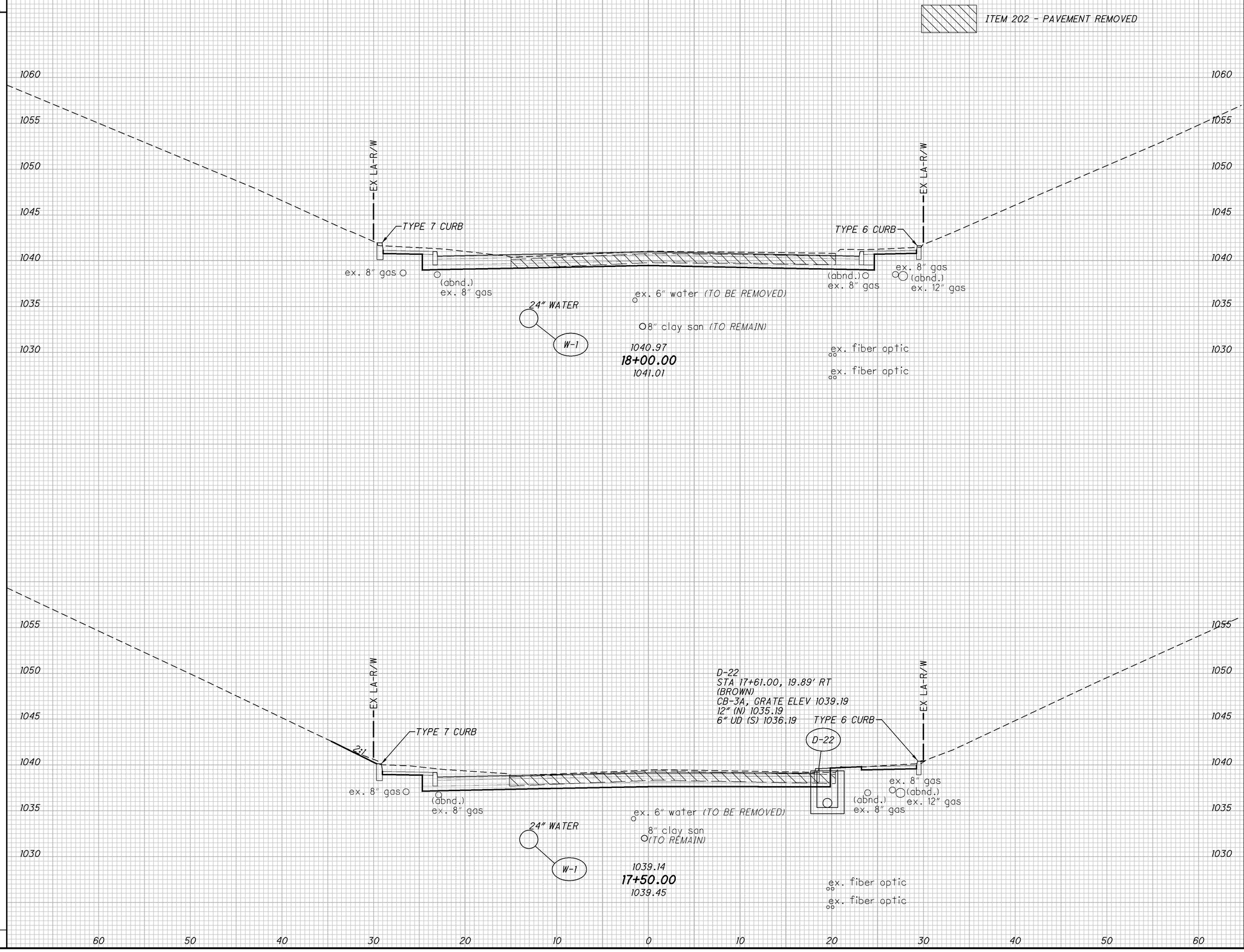
316
652

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9/15/2014
9:37:03 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	0
0	
	28
10	
	28

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		73	1
44	0		
		84	2
47	2		
		157	3

CALCULATED AJE
CHECKED CWL



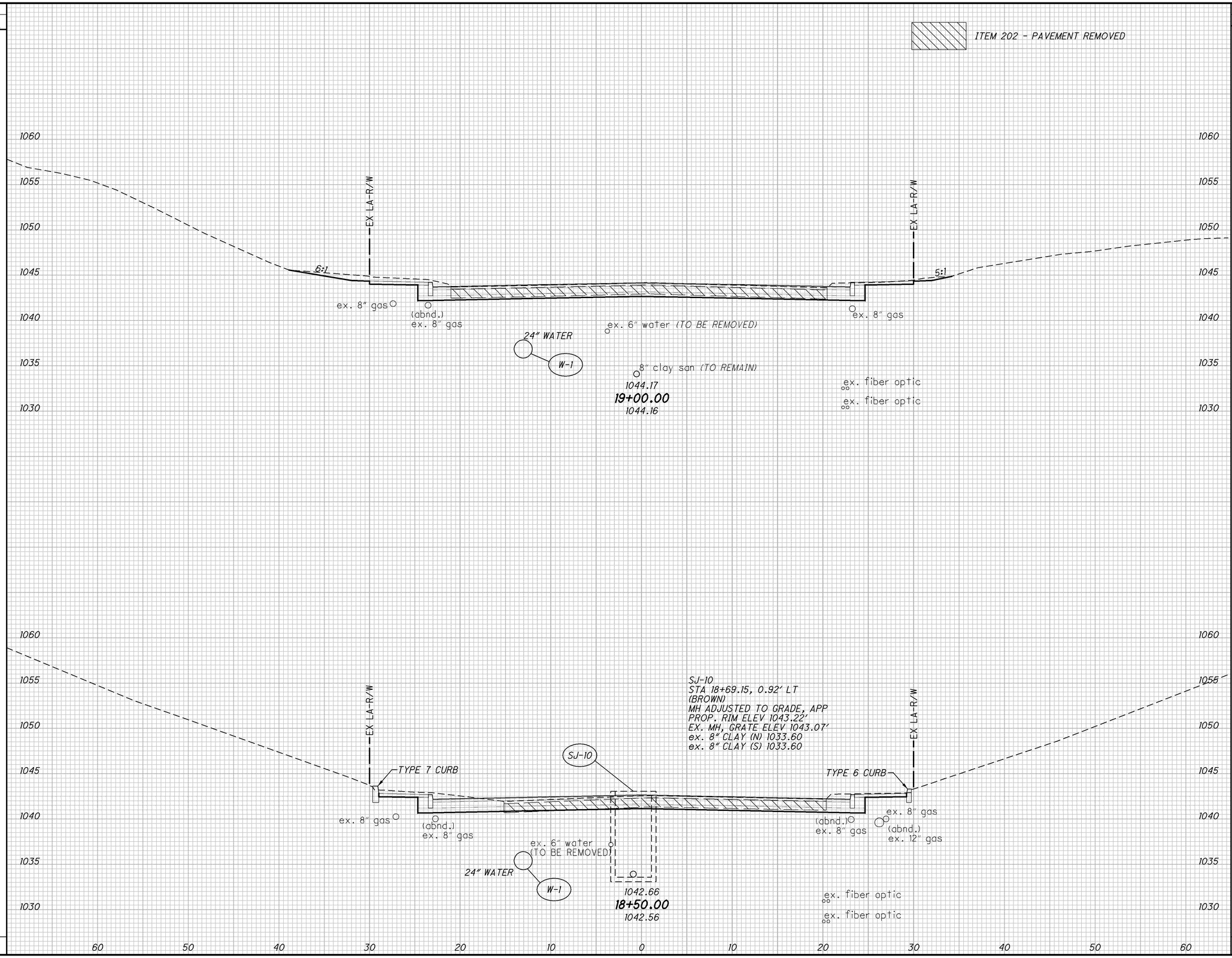
CROSS SECTIONS - BROWN STREET
STA. 17+50.00 TO STA. 18+00.00

SUM-76/77-11.27/12.12

317
652

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9/16/2014
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SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	44			56	0
13		34	0		
	36			64	1
0		35	1		
	80			120	1



CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - BROWN STREET
STA. 18+50.00 TO STA. 19+00.00

SUM-76/77-11.27/12.12

318
652

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9/16/2014
9:37:30 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	6
0	
	8
3	
	14

END AREA	
CUT	FILL
19	0
27	0

VOLUME	
CUT	FILL
31	0
43	0
74	0

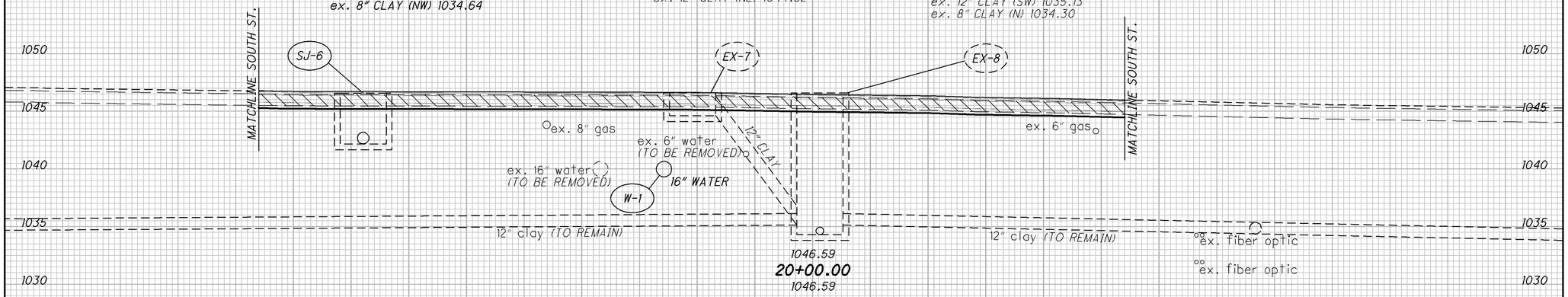
CALCULATED AJE
CHECKED CWL

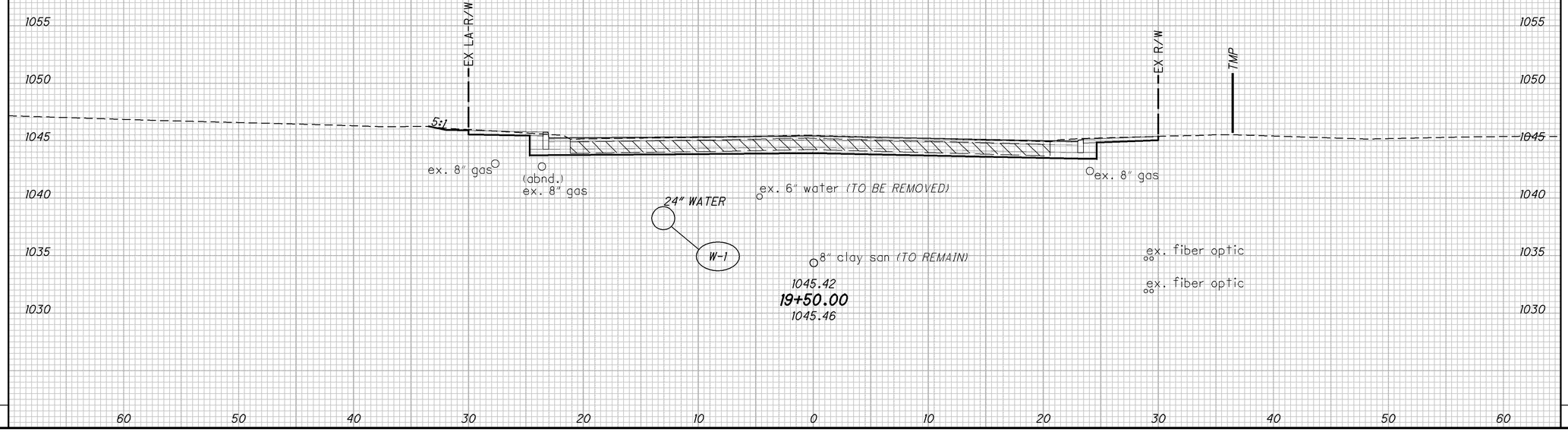
ITEM 202 - PAVEMENT REMOVED

SJ-6
STA 25+68.42, 0.63' RT
(SOUTH)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1047.17'
EX. MH, GRATE ELEV 1047.44'
ex. 8" CLAY (SE) 1034.64
ex. 8" CLAY (NW) 1034.64

EX-7
STA 20+05.60, 10.42' LT
(BROWN)
EX. MH, GRATE ELEV 1046.61'
ex. 12" CLAY (NE) 1044.62

EX-8
STA 19+99.06, 0.61' RT
(BROWN)
EX. MH, GRATE ELEV 1046.60
ex. 12" CLAY (SE) 1035.13
ex. 12" CLAY (SW) 1035.13
ex. 8" CLAY (N) 1034.30





60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - BROWN STREET
STA. 19+50.00 TO STA. 20+00.00

SUM-76/77-11.27/12.12

319
652

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9/16/2014
9:37:43 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
0	
	2
2	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
12	0		
		7	0
14	0		
		7	0

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

EX R/W

1055
1050
1045
1040
1035
1030

ex. 6" gas
ex. 8" gas
ex. 12" gas
ex. fiber optic
ex. 10" water
ex. 16" water
ex. 54" s.b.

21+00.00
1047.71

END SEEDING
STA. 20+65.00

ex. 16" water (TO REMAIN)
ex. 10" water (TO REMAIN)

END EARTHWORK
STA. 20+65.00

AH
BK

MEET EXISTING
SAW CUT/ BUTT JOINT
END WORK
1047.17
20+65.00
1047.17

EX-10
STA 20+39.75, 22.38' LT
(BROWN)
EX. INLET
EX. GRATE ELEV 1047.25'
EX. 12" CLAY W 1043.95

EX-9
STA 20+38.11, 4.92' LT
(BROWN)
EX. MH, RIM ELEV 1046.76'
EX. 54" S.B. S 1033.16
EX. 60" S.B. NE 1033.16
EX. 12" CLAY E 1042.12
EX. 12"CLAY SW 1042.12

EX-11
STA 20+44.72, 20.21' RT
(BROWN)
EX CB, GRATE ELEV 1045.95'
EX. 12" CLAY NE 1043.55
EX. 8" CLAY W 1043.95

STA 20+44.07, 39.59' RT
EX. CB, GRATE ELEV 1046.06'
8" CLAY E 1044.17

10:1

8" clay (TO REMAIN)
ex. cb
(TO REMAIN)
ex. 12" gas
ex. 8" gas
12" clay (TO REMAIN)
ex. 10" water
(TO BE REMOVED)
8" WATER
W-32

ex. 6" gas
(TO REMAIN)
12" clay
16" WATER
W-1
ex. 16" water
(TO BE REMOVED)

1046.86
20+50.00
1046.86

ex. fiber optic
ex. fiber optic
ex. fiber optic

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - BROWN STREET
STA. 20+50.00 TO STA. 21+00.00

SUM-76/77-11.27/12.12

320
652

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9/16/2014
9:38:02 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	40
16	
	3
12	
	7
0	
	50

ITEM 202 - PAVEMENT REMOVED, ASPHALT

EX R/W — RADIAL TO CUL-DE-SAC — 15:1 — ex. 2" gas — EX R/W — TMP

ex. 6" water (TO REMAIN)

24" vcp (TO REMAIN)

1051.70
22+50.00
1051.55

EX R/W — RADIAL TO CUL-DE-SAC — 19:1 — ex. 2" gas — EX R/W — TMP

ex. 6" water (TO REMAIN)

24" vcp (TO REMAIN)

BEGIN SEEDING
STA. 22+38.05

1051.72
P.C. 22+48.05
1051.62
MEET EXISTING
BEGIN FULL DEPTH PVMT.
BEGIN WORK STA. 22+38.05

BEGIN EARTHWORK
STA. 22+38.05

EX R/W — ex. 2" gas — EX R/W

ex. 6" water (TO REMAIN)

24" vcp

22+25.00
1052.32

EX R/W — EX R/W

ex. 6" water

24" vcp

22+00.00
1052.99

1055 / 1050 / 1045 / 1040

60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		17	14
0	8		
		0	1
0	7		
		0	1
0	0		
		17	16

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - SOUTH STREET
STA. 22+00.00 TO STA. 22+50.00

SUM-76/77-11.27/12.12

321
652

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9/16/2014
9:39:02 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	12
	28
	69
	32
	63
	13
	144

END AREA	
CUT	FILL
117	48
79	45
53	31
36	23

VOLUME	
CUT	FILL
19	7
75	35
147	73

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

60 65 70 75 80

MATCHLINE - AA
LA-R/W
25:1
MATCHLINE E.B. I-76
1055
1050
1045
1060
1055
1050
1045
1040
ex. 16" water (TO BE ABAND.)
EX R/W
R/W
8:1
18" cpp (TO REMAIN)
MATCHLINE - AB
60:1
MATCHLINE E.B. I-76
ex. 12" gas
ex. 2" gas
ex. 6" gas
18" clay (TO REMAIN)
1051.09
P.C.C. 23+20.61
1049.99
8" WATER
W-37
SJ-4
STA 23+14.16, 43.20' RT (SOUTH)
MH RECONSTRUCTED TO GRADE, APP
PROP. RIM ELEV 1050.94
EX. MH, GRATE ELEV 1051.18'
ex. 24" CLAY (N) 1036.98
ex. 12" CLAY (SE) 1037.48
ex. 24" CLAY (S) 1037.38
24" (E) 1036.98
24" (NW) 1036.98
SJ-4
ex. 16" water (TO BE ABAND.)
16'-24" TYPE B @ 17.52%
P-100
60" TYPE B, 706.03, A.P.P.
P-6
MATCHLINE - AA
RADIAL TO CUL-DE-SAC
R/W
8:1
12" clay san
EX R/W
EX GEN
RADIAL TO CUL-DE-SAC
MATCHLINE - AB
60:1
ex. 2" gas
ex. 12" gas
ex. 6" gas
8" WATER
W-37
ex. 6" water (TO BE ABAND.)
18" cpp (TO REMAIN)
18" clay (TO REMAIN)
1051.32
23+00.00
1050.84
DJ-5
STA 22+67.35, 12.37' LT (SOUTH)
CB ADJUSTED TO GRADE
PROP. GRATE ELEV 1051.33
EX. CB, GRATE ELEV 1050.81'
ex. 24" VCP NW 1043.31
ex. 24" VCP SE 1043.31
ex. 4" CPP S 1048.51
ex. 12" CPP W 1046.11
R/W
RADIAL TO CUL-DE-SAC
EX R/W
DJ-5
RADIAL TO CUL-DE-SAC
EX R/W
TMP
48:1
ex. 2" gas
12" cpp (TO REMAIN)
1051.48
22+75.00
1051.28
60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS - SOUTH STREET
STA. 22+75.00 TO STA. 23+20.61

SUM-76/77-11.27/12.12

322
652

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9/16/2014
9:39:16 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	68
23	
	60
20	
128	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		66	28
99	34		
		98	32
113	36		
		164	60

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

SJ-5
STA 23+46.13, 23.12' RT
(SOUTH)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1050.25'
EX. MH, GRATE ELEV 1049.83'
ex. 8" CLAY (W) 1043.33
ex. 24" CLAY (N) 1036.93
ex. 18" CLAY (SE) 1038.93
ex. 18" CLAY (SW) 1038.83

STA 23+49.46, 65.68' LT
EX. CB, GRATE ELEV 1051.04'
18" CPP E 1047.44

TMP
R/W
RADIAL TO CUL-DE-SAC
EX R/W
RADIAL TO CUL-DE-SAC
EX. LA-R/W
MATCHLINE E.B. I-76
4:1
25:1
SJ-5
ex. cb (TO REMAIN)
ex. 6" gas
ex. 12" gas
8" WATER
W-37
ex. 16" water (TO BE ABAND.)
ex. 24" water (TO BE REMOVED)
18" clay (TO REMAIN)
8" clay san
24" clay (TO REMAIN)
60" seg. block (TO REMAIN)

AB-1
STA 19+37.75, 1.41' RT
(SPICER)
EX. SAN MH, GRATE ELEV 1049.32'
ex. 60" CLAY N 1029.72
ex. 48" CLAY SE 1029.72
ex. 60" CLAY SW 1029.72

1050.59
23+50.00
1049.41

MATCHLINE - BB
MATCHLINE E.B. I-76
AB-1
ex. 16" water (TO BE ABAND.)
ex. 24" water (TO BE REMOVED)
60" seg. block (TO BE FILLED AND PLUGGED)
PROP. BULKHEAD

D-6
STA 23+28.17, 56.68' RT
(SOUTH)
JUNCTION CHAMBER, APP, TYPE 1
JUNCTION CHAMBER #1
RIM ELEV 1051.17
EX. 60" SEG. BLOCK (W) 1030.29±
60" (E) 1029.63
24" (SE) 1034.13

R/W
RADIAL TO CUL-DE-SAC
EX R/W
RADIAL TO CUL-DE-SAC
LA-R/W
MATCHLINE - BB
D-6
8:1
18" cpp (TO REMAIN)
ex. 12" gas
ex. 6" gas
8" WATER
W-37
ex. 16" water (TO BE ABAND.)
18" clay (TO REMAIN)
24" clay san (TO BE REMOVED)

1051.03
23+25.00
1049.83

1055
1050
1045
1040
1035
1030

60 50 40 30 20 10 0 10 20 30 40 50 60
60 70 80 90 100

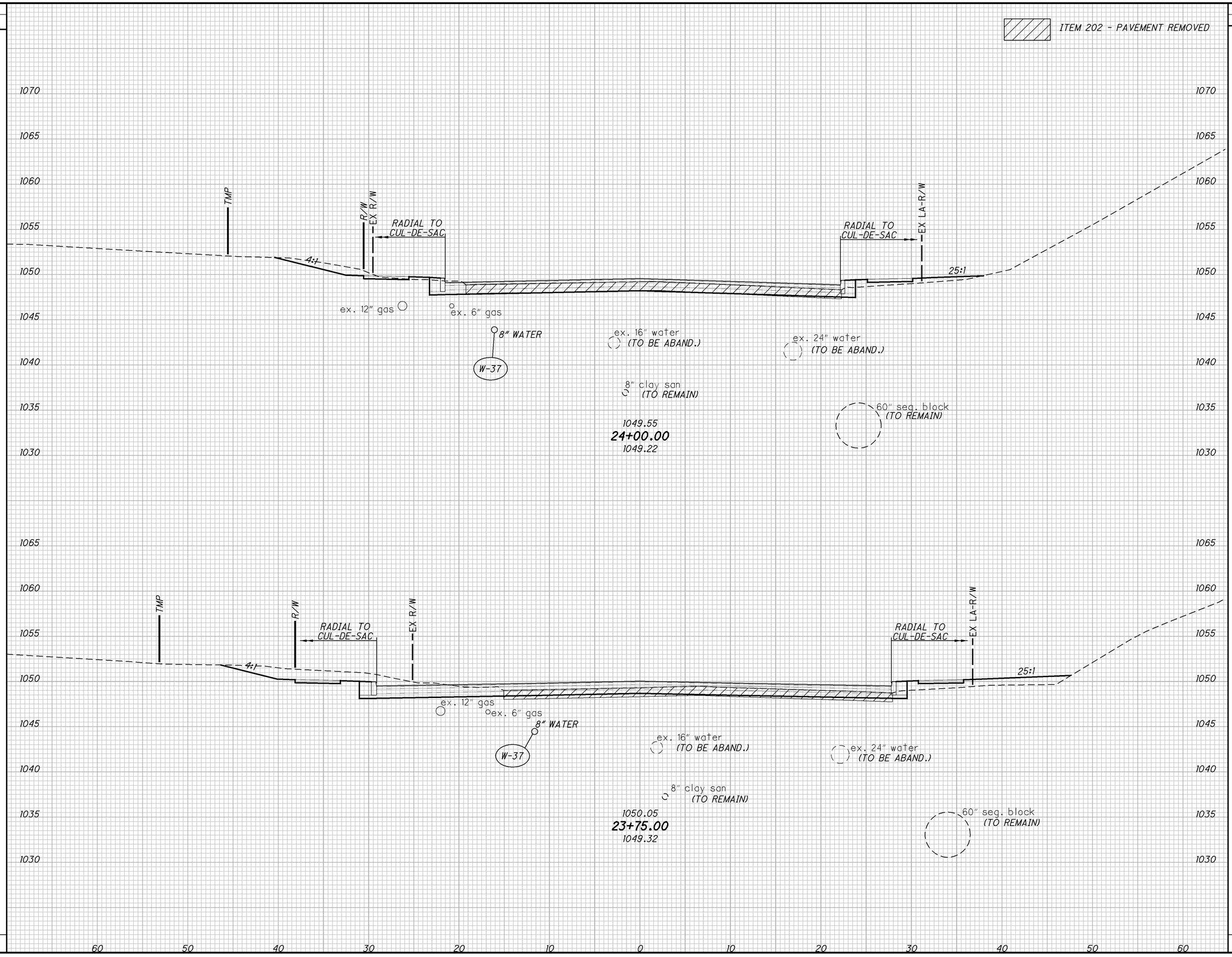
CROSS SECTIONS - SOUTH STREET
STA. 23+25.00 TO STA. 23+50.00

SUM-76/77-11.27/12.12

323
652

\\KRN03\DATA\2018\2018237\SUN\69779\ROADWAY\SHEETS\69779XS014.DGN
9/16/2014
9:39:32 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	41
24	
	69
26	
	110



END AREA	
CUT	FILL
16	8
44	26

VOLUME	
CUT	FILL
7	4
28	16
35	20

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - SOUTH STREET
STA. 23+75.00 TO STA. 24+00.00

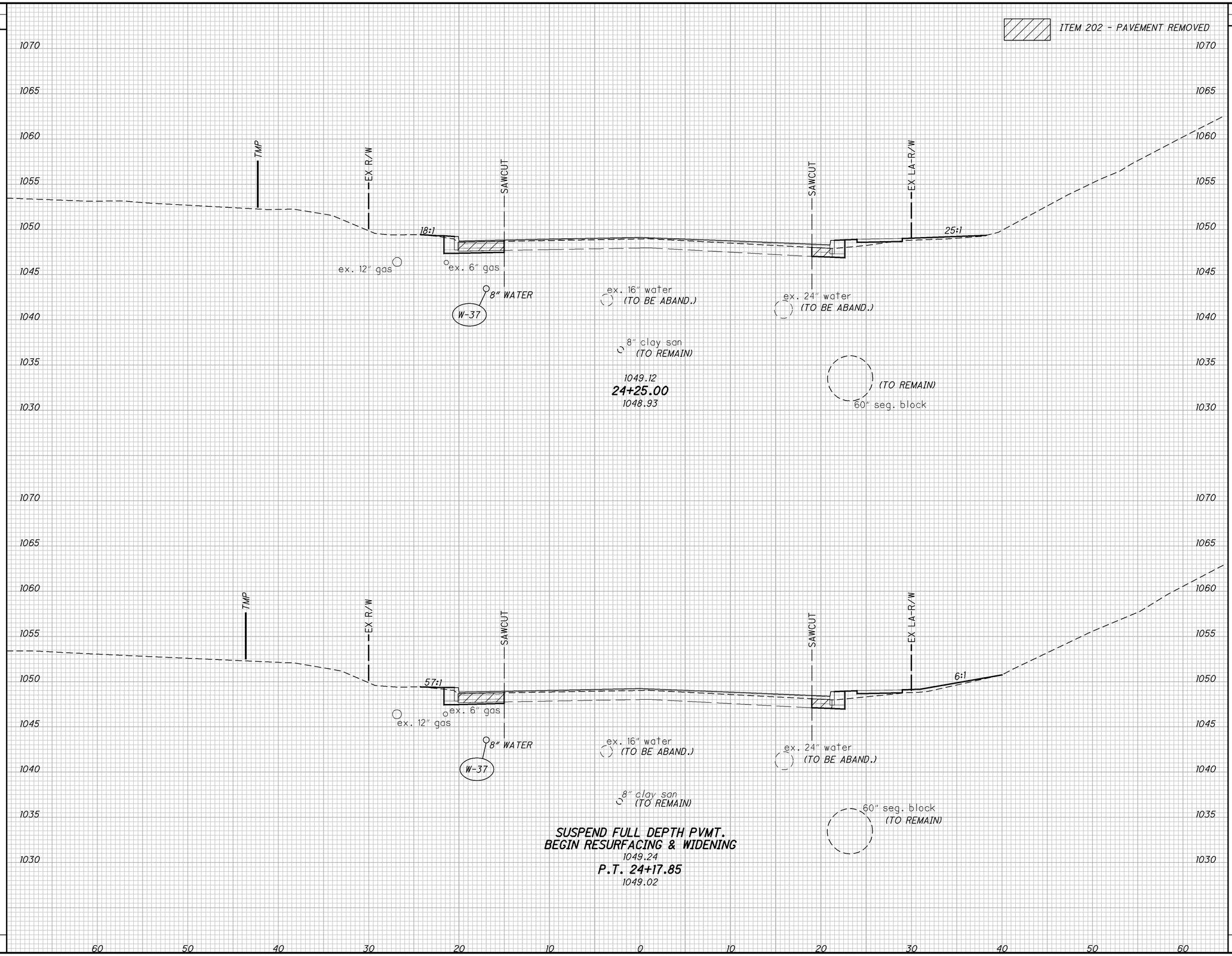
SUM-76/77-11.27/12.12

324
652

\\KRM03\DATA\2012\2012297\SUM\86979\ROADWAY\SHEETS\86979XS014.DGN
9/16/2014
9:39:46 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	46			5	2
16		5	4		
	13			1	1
17		5	5		
	59			6	3

CALCULATED AJE
CHECKED CWL

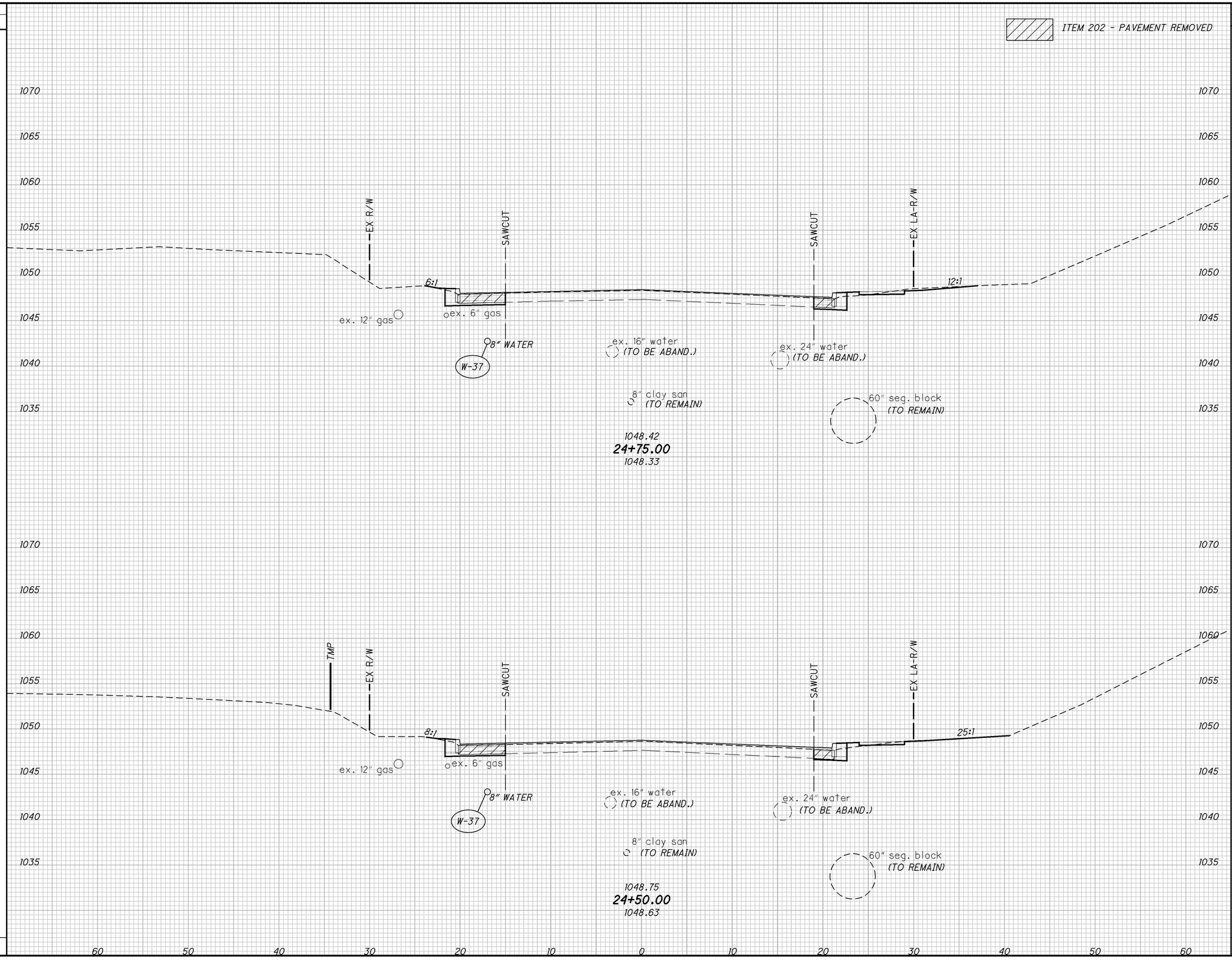


CROSS SECTIONS - SOUTH STREET
STA. 24+17.85 TO STA. 24+25.00

SUM-76/77-11.27/12.12

\\KRNB3\DATA\2010\2010297\SUM\86979\ROADWAY\SHEETS\86979XS014.DGN
9/16/2014
9:40:34 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	39
14	
	43
17	
	82



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		9	1
8	1		
		6	1
6	1		
		15	2

CALCULATED AJE
CHECKED CWL

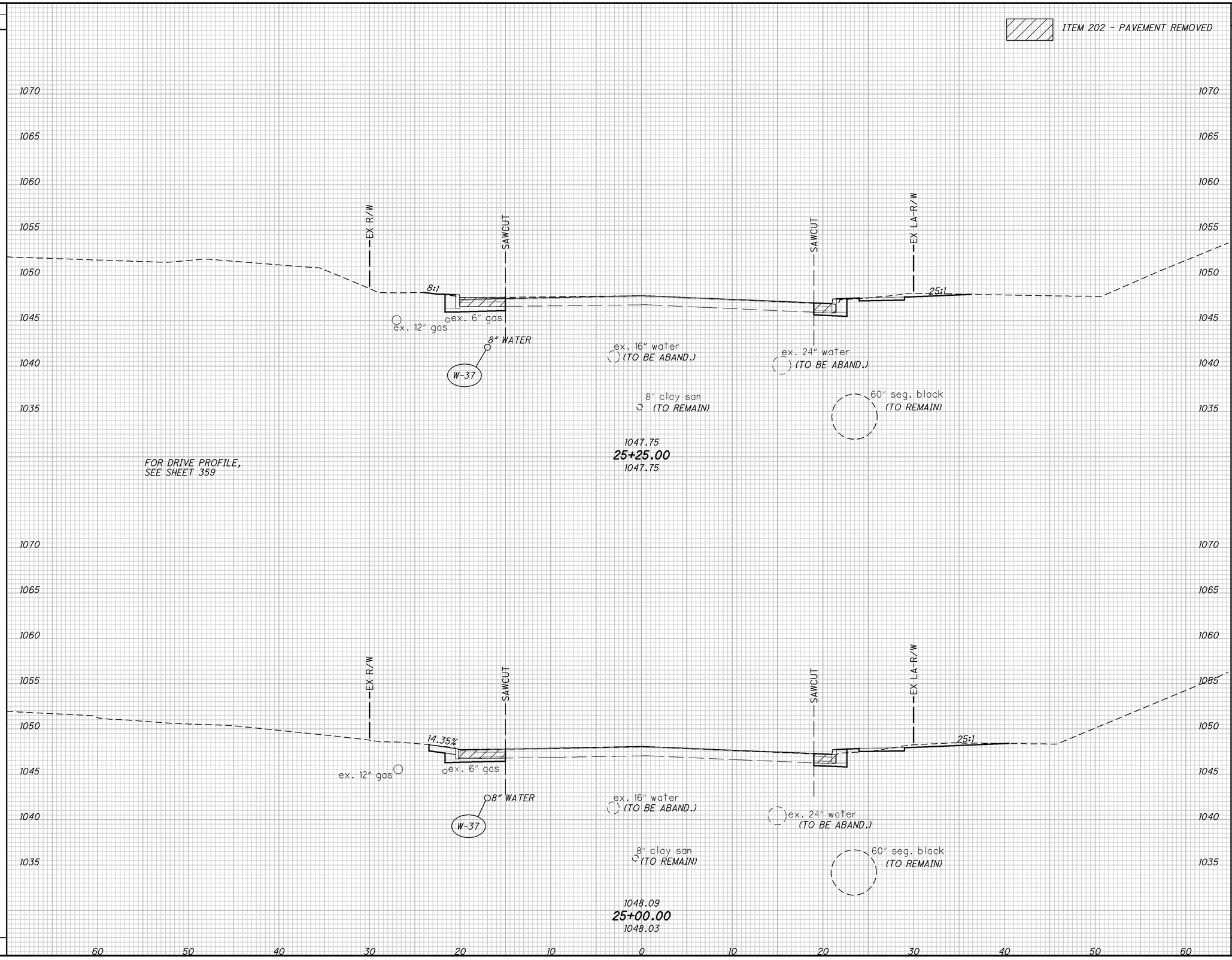
CROSS SECTIONS - SOUTH STREET
STA. 24+50.00 TO STA. 24+75.00

SUM-76/77-11.27/12.12

326
652

\\KRM03\DATA\2010\2012297\SUM\86979\ROADWAY\SHEETS\86979XS014.DGN
9/16/2014
9:48:52 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	29			13	0
13		12	0		
	38			11	0
14		12	1		
	67			24	0



CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - SOUTH STREET
STA. 25+00.00 TO STA. 25+25.00

SUM-76/77-11.27/12.12

\\KRM03\DATA\2010\2012297\SUM\86979\ROADWAY\SHEETS\86979XS014.DGN
9/16/2014
9:41:16 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	35
16	
	33
8	
	68

ITEM 202 - PAVEMENT REMOVED

SJ-6
STA 25+68.42, 0.63' RT
(SOUTH)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1047.17'
EX. MH, GRATE ELEV 1047.44'
ex. 8" CLAY (SE) 1034.64
ex. 8" CLAY (NW) 1034.64

EX R/W
SAWCUT
SJ-6
SAWCUT
EX LA-R/W
8:1
25:1
1055
1050
1045
1040
1035
ex. 12" gas
ex. 6" gas
8" WATER
W-37
ex. 16" water
(TO BE ABAND.)
ex. 24" water
(TO BE ABAND.)
8" clay
(TO REMAIN)
60" seg. block
(TO REMAIN)
1047.11
25+75.00
1047.12

EX R/W
SAWCUT
SAWCUT
EX LA-R/W
11.78%
12:1
1065
1060
1055
1050
1045
1040
1035
ex. 12" gas
ex. 6" gas
8" WATER
W-37
ex. 16" water
(TO BE ABAND.)
ex. 24" water
(TO BE ABAND.)
8" clay san
(TO REMAIN)
60" seg. block
(TO REMAIN)
1047.43
25+50.00
1047.45

FOR DRIVE PROFILE,
SEE SHEET 359

60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		17	0
13	0		
		13	0
15	0		
		30	0

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - SOUTH STREET
STA. 25+50.00 TO STA. 25+75.00

SUM-76/77-11.27/12.12

328
652

\\KRW03\DATA\2018\2018237\SUM\69779\ROADWAY\SHEETS\69779XS014.DGN
9/16/2014
9:41:31 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
0	
	0
0	

END AREA	
CUT	FILL
0	0
20	0
0	0
43	0
0	0
0	0
23	0
0	0

VOLUME	
CUT	FILL
23	0
23	0

CALCULATED AJE
CHECKED CWL

ITEM 202 - PAVEMENT REMOVED

EX R/W
TMP
END SEEDING STA. 26+94.91
END EARTHWORK STA. 26+94.91
ex. 12" gas
ex. 6" gas
ex. 16" water (TO REMAIN)
ex. 24" water (TO REMAIN)
MEET EXISTING END FULL DEPTH PVMT. END WORK
1045.57
26+94.91
1045.57

RADIAL TO INT. RETURN
RESUME SEEDING STA. 26+75.00
RESUME EARTHWORK STA. 26+75.00
ex. 8" gas
12" WATER
W-36
ex. 16" water (TO BE ABAND.)
1045.99
26+75.00
1045.99

EX-6
STA 26+09.55, 21.96' LT
(SOUTH)
EX. INLET
EX. GRATE ELEV 1046.57'
ex. 12" CLAY NW 1042.17

D-13
STA 26+04.87, 21.60' RT
(SOUTH)
CB-3A, GRATE ELEV 1045.65
12" (SE) 1041.65
6" UD (S) 1042.65
6" UD (E) 1042.65
6" UD (NE) 1042.65

DR-1
STA 26+05.26, 22.90' RT
(SOUTH)
EX. INLET, RIM ELEV 1046.47
12" CLAY (SW) 1043.32

SAWCUT
EX LA R/W
25:1
SUSPEND SEEDING STA. 26+00.00
SUSPEND EARTHWORK STA. 26+00.00
8" WATER
W-37
(TO BE ABAND.)
P-13
3'-12" TYPE B, 706.08 @ 57.56%
PROP. MASONRY COLLAR PER DM-1.1
END RESURFACING & WIDENING
RESUME FULL DEPTH PVMT.
1046.80
26+00.00
1046.80
60" seg. block (TO REMAIN)

1055
1050
1045
1040
1035
AH
BK

60 50 40 30 20 10 0 10 20 30 40 50 60

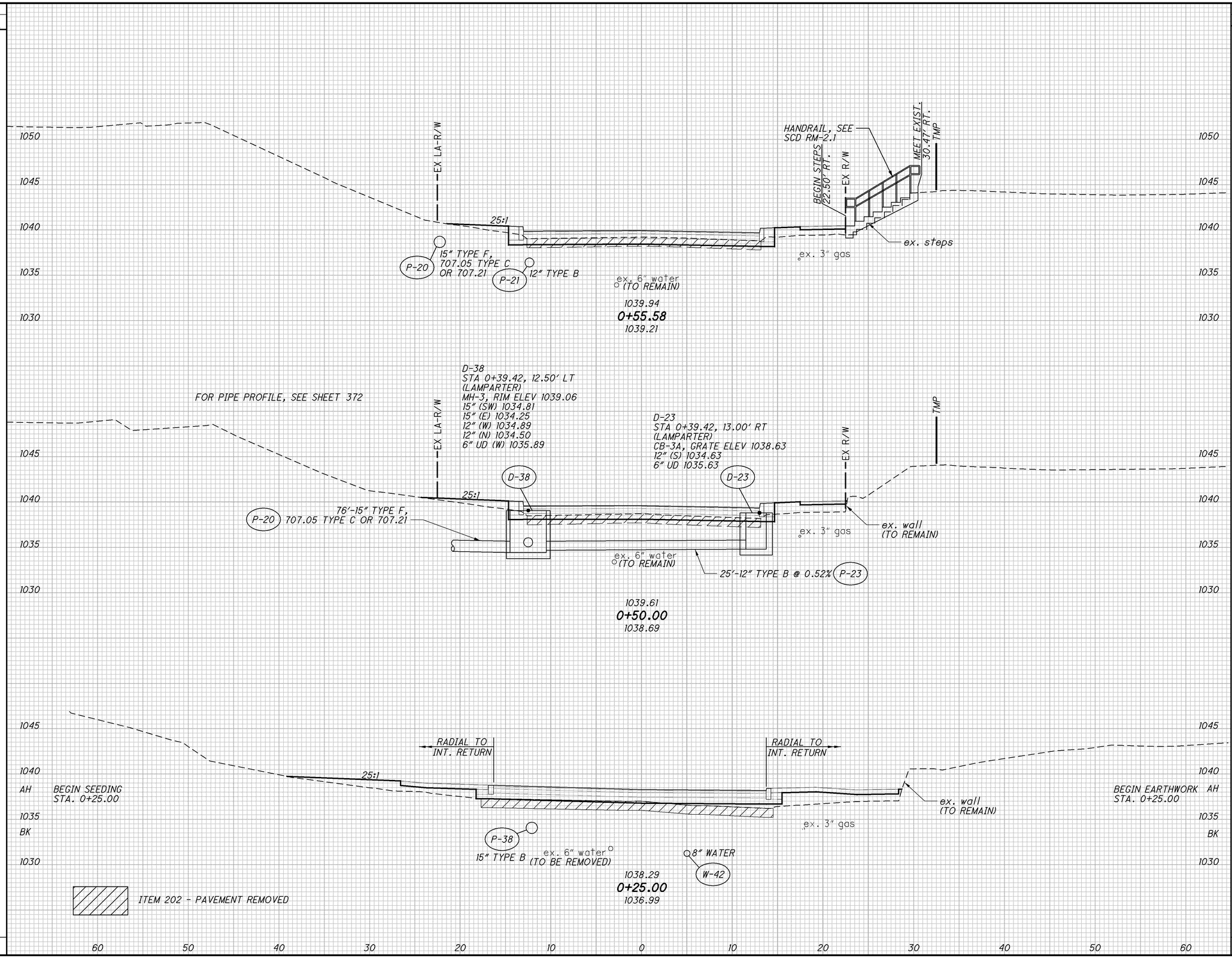
CROSS SECTIONS - SOUTH STREET
STA. 26+00.00 TO STA. 26+94.91

SUM-76/77-11.27/12.12

329
652

\\KFN03\DATA\2010\2010297\SUM\66979\ROADWAY\SHEETS\66979XS014.DGN
9/16/2014
9:41:49 PM
SSCHUSTER

SEEDING END WIDTH	SEEDING SQ. YDS.
	16
12	
	8
15	
	39
13	
0	
	63



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		7	6
4	16		
		1	4
3	26		
		1	40
0	61		
0	0		
		9	50

CALCULATED AJE
CHECKED CWL

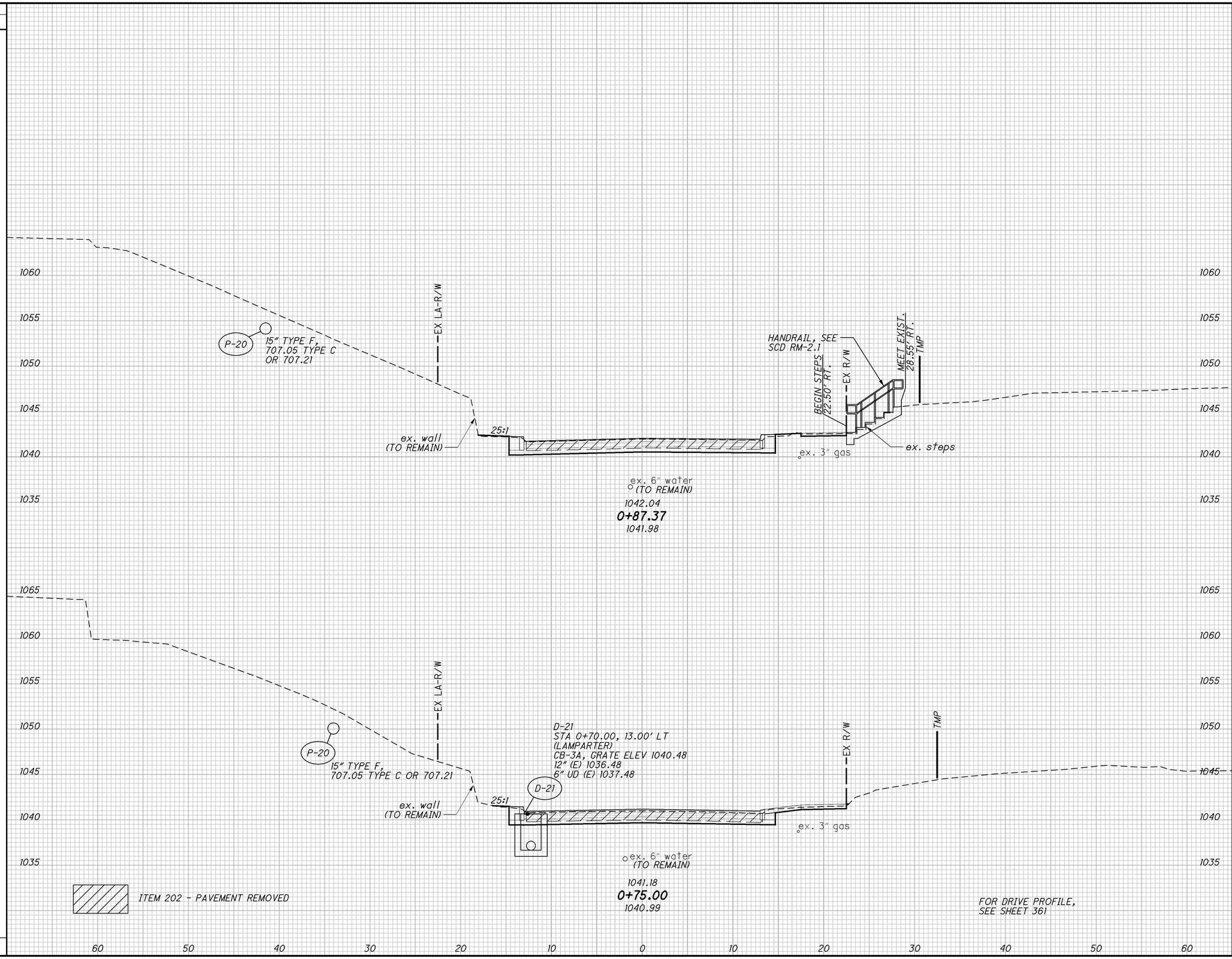
CROSS SECTIONS - LAMPARTER STREET
STA. 0+25.00 TO STA. 0+55.58

SUM-76/77-11.27/12.12

330
652

\\KRNB3\DATA\2018\2018297\SUM\86979\ROADWAY\SHEETS\86979XS016.DGN
9/16/2014
9:42:39 PM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
	8
9	
	8
3	
16	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		8	0
18	1		
		8	0
16	0		
		16	0

CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - LAMPARTER STREET
STA. 0+75.00 TO STA. 0+87.37

SUM-76/77-11.27/12.12

331
652

\\KRNB3\DATA\2018\2018297\SUM\86979\ROADWAY\SHEETS\86979XS016.DGN
9/16/2014
9:42:54 PM
SBCHUSTER

SEEDING	
END WIDTH	SQ. YDS.
0	
5	

D-20
STA 521+19.54, 7.76' LT
(W.B. I-76)
CB-3A, GRATE ELEV 1062.46
15" (S) 1056.49
15" (NE) 1056.49
6" UD (E) 1057.49

D-20
15'-15" TYPE C
P-20
P-20
76'-15" TYPE F,
707.05 TYPE C OR 707.21
MASONRY COLLAR
PER DM-1.1
72'-15" TYPE B @ 0.51%
P-19

FOR PIPE PROFILE, SEE SHEET 372

P-20
15" TYPE F,
707.05 TYPE C
OR 707.21

P-20
15" TYPE F,
707.05 TYPE C
OR 707.21

AH
BK
END SEEDING
STA. 0+98.00

ITEM 202 - PAVEMENT REMOVED

EX LA-R/W
EX R/W
TMP
ex. wall
(TO REMAIN)
ex. 3" gas
ex. 6" water

1+25.00
1044.41

1+00.00
1042.99

MEET EXISTING
END WORK
1042.83
0+98.00
1042.83
(TO REMAIN)

END EARTHWORK
STA. 0+98.00

1060
1055
1050
1045
1040
1035

60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA		VOLUME	
CUT	FILL	CUT	FILL
AH		0	0
BK		21	0

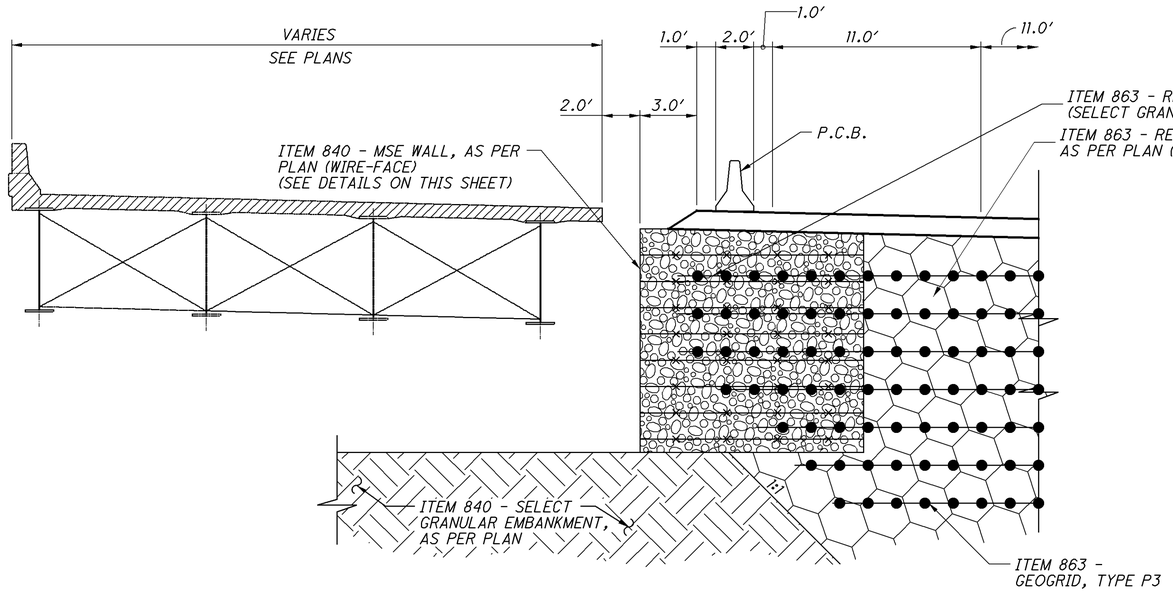
CALCULATED AJE
CHECKED CWL

CROSS SECTIONS - LAMPARTER STREET
STA. 0+98.00 TO STA. 1+25.00

SUM-76/77-11.27/12.12

332
652

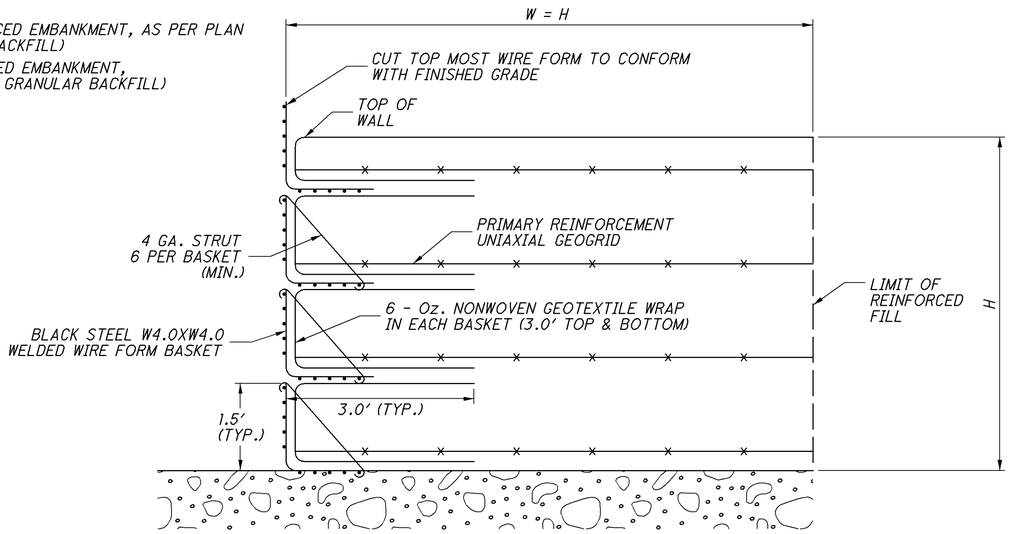
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9/15/2014
9:43:11 PM
SSCHUSTER



WIRE-FACE MSE WALL - PHASED EMBANKMENT CONSTRUCTION

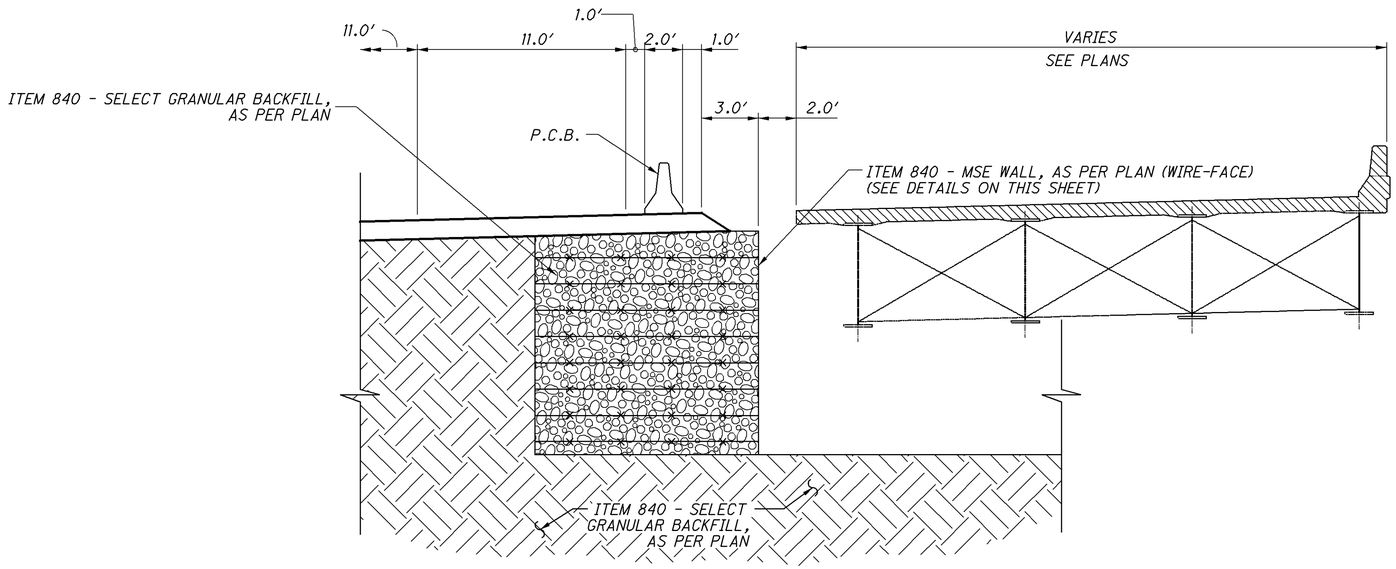
N.T.S.

✱ SEE E.B. I-76 ROADWAY CROSS SECTIONS FOR LOCATIONS



TYPICAL WWF TEMPORARY MSE WALL CROSS SECTION

N.T.S.



WIRE-FACE MSE WALL - PHASED EMBANKMENT CONSTRUCTION

N.T.S.

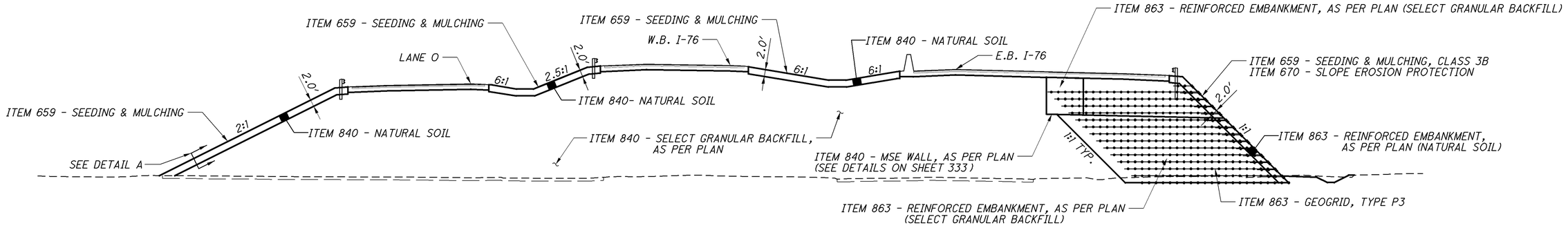
✱ SEE W.B I-76/LANE O ROADWAY CROSS SECTIONS FOR LOCATIONS

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

CONSTRUCTION PHASING - TYPICAL SECTION

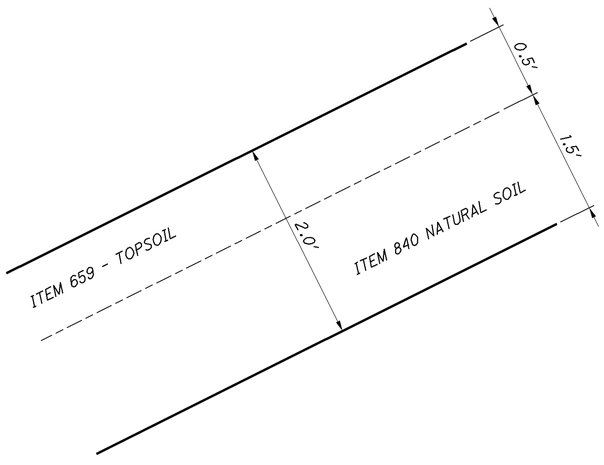
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\\AKRN03\DATA\2010\2010297\SUM\86979\ROADWAY\SHEETS\86979GT001.DGN
3/18/2015
11:44:37 AM
ARDLLAND



PHASED EMBANKMENT CONSTRUCTION MATERIAL COMPOSITION

N.T.S.



DETAIL A

STA. 5+00.00 TO STA. 9+00.00 (W.B. I-76)
APPLIES ONLY TO THE EMBANKMENT ON LEFT SIDE OF LANE O (PER TYPICAL SECTION ON THIS SHEET)
WHICH DRAINS TO THE DITCH ON RIGHT SIDE OF JOHNSTON ST.
STA. 3+75.00 TO STA. 9+00.00

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED AS PER PLAN NOTE	ATR	03-10-15

CONSTRUCTION PHASING - TYPICAL SECTION

SUM-76/77-11.27/12.12

\\KRNAS\DATA\2010\2012037\SUM\86979\ROADWAY\SHEETS\86979GN004.DGN
3/18/2015
11:43:32 AM
ARNOLLAND

ITEM 202 - PAVEMENT REMOVED

ITEM 202 - PAVEMENT REMOVED, ASPHALT

FOR ESTIMATED QUANTITIES, SEE SHEET 194-206
FOR PAVEMENT REMOVAL CALCULATIONS, SEE SHEET 207-209

℄ R/W & CONST. JOHNSTON COURT

℄ R/W & CONST. HEDDEN AVE.

NEW ℄ R/W & CONST. JOHNSTON ST.

℄ R/W & CONST. BROWN ST.

℄ R/W & CONST. SPICER ST.

℄ R/W & CONST. LAMPARTER ST.

℄ EX. RAMP Q

℄ CONST. RAMP P

℄ CONST. LANE O

℄ CONST. W.B. I-76

OLD ℄ R/W JOHNSTON ST.

℄ CONST. E.B. I-76

℄ CONST. LANE M

℄ CONST. SOUTH ST.

R-2, R-3, R-4, R-14, R-15, R-16, R-20, R-21, R-22, R-40, R-45, R-46, R-50, R-51, R-52, R-53, R-54

Ex R/W, Ex LA-R/W, R/W, LA-R/W, TMP, conc., U

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AJE
CHECKED CWL

REMOVAL PLAN

SUM-76/77-11.27/12.12

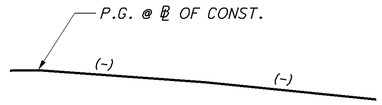
335
652

\\AKRNAS\DATA\2010\2012857\SUM-86979\ROADWAY\SHEETS\86979GM003.DGN
9/17/2014
7:52:53 AM
SSCHUSTER

CURVE 7 SUPERELEVATION TABLE

P.I. Sta. 524+09.00	Dc = 1° 28′ 00″

BASELINE CONTROL		RIGHT INSIDE					RIGHT OUTSIDE					REMARKS
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
520+85.00	1061.49	24.00	-0.0198	-0.48	222	1061.01	24.00	-0.0198	-0.48	222	1060.54	EXIST.
521+00.00	1062.06	24.00	-0.0212	-0.51	222	1061.55	24.00	-0.0212	-0.51	222	1061.04	
521+25.00	1063.02	24.00	-0.0236	-0.57	222	1062.45	24.00	-0.0236	-0.57	222	1061.89	
521+40.41	1063.60	24.00	-0.0250	-0.60	222	1063.00	24.00	-0.0250	-0.60	222	1062.40	F.S.
521+50.00	1063.97	24.00	-0.0250	-0.60		1063.37	24.00	-0.0250	-0.60		1062.77	
521+75.00	1064.94	24.00	-0.0250	-0.60		1064.34	24.00	-0.0250	-0.60		1063.74	
522+00.00	1065.93	24.00	-0.0250	-0.60		1065.33	24.00	-0.0250	-0.60		1064.73	
522+25.00	1066.92	24.00	-0.0250	-0.60		1066.32	24.00	-0.0250	-0.60		1065.72	
522+50.00	1067.91	24.00	-0.0250	-0.60		1067.31	24.00	-0.0250	-0.60		1066.71	
522+75.00	1068.90	24.00	-0.0250	-0.60		1068.30	24.00	-0.0250	-0.60		1067.70	
523+00.00	1069.90	24.00	-0.0250	-0.60		1069.30	24.00	-0.0250	-0.60		1068.70	
523+25.00	1070.89	24.00	-0.0250	-0.60		1070.29	24.00	-0.0250	-0.60		1069.69	
523+50.00	1071.89	24.00	-0.0250	-0.60		1071.29	24.00	-0.0250	-0.60		1070.69	
523+75.00	1072.90	24.00	-0.0250	-0.60		1072.30	24.00	-0.0250	-0.60		1071.70	
524+00.00	1073.90	24.00	-0.0250	-0.60		1073.30	24.00	-0.0250	-0.60		1072.70	
524+25.00	1074.90	24.00	-0.0250	-0.60		1074.30	24.00	-0.0250	-0.60		1073.70	
524+50.00	1075.85	24.00	-0.0250	-0.60		1075.25	24.00	-0.0250	-0.60		1074.65	
524+75.00	1076.77	24.00	-0.0250	-0.60		1076.17	24.00	-0.0250	-0.60		1075.57	
525+00.00	1077.65	24.00	-0.0250	-0.60		1077.05	24.00	-0.0250	-0.60		1076.45	
525+25.00	1078.48	24.00	-0.0250	-0.60		1077.88	24.00	-0.0250	-0.60		1077.28	
525+50.00	1079.28	24.00	-0.0250	-0.60		1078.68	24.00	-0.0250	-0.60		1078.08	
525+75.00	1080.03	24.00	-0.0250	-0.60		1079.43	24.00	-0.0250	-0.60		1078.83	
526+00.00	1080.74	24.00	-0.0250	-0.60		1080.14	24.00	-0.0250	-0.60		1079.54	
526+25.00	1081.41	24.00	-0.0250	-0.60		1080.81	24.00	-0.0250	-0.60		1080.21	
526+50.00	1082.04	24.00	-0.0250	-0.60		1081.44	24.00	-0.0250	-0.60		1080.84	
526+75.00	1082.63	24.00	-0.0250	-0.60		1082.03	24.00	-0.0250	-0.60		1081.43	
527+00.00	1083.18	24.00	-0.0250	-0.60		1082.58	24.00	-0.0250	-0.60		1081.98	
527+25.00	1083.69	24.00	-0.0250	-0.60		1083.09	24.00	-0.0250	-0.60		1082.49	
527+50.00	1084.15	24.00	-0.0250	-0.60		1083.55	24.00	-0.0250	-0.60		1082.95	
527+66.31	1084.44	24.00	-0.0250	-0.60	222	1083.84	24.00	-0.0250	-0.60		1083.24	F.S.
527+75.00	1084.58	24.00	-0.0234	-0.56	222	1084.02	24.00	-0.0250	-0.60		1083.42	
528+00.00	1084.96	24.00	-0.0187	-0.45	222	1084.51	24.00	-0.0250	-0.60		1083.91	
528+14.26	1085.16	24.00	-0.0160	-0.38	222	1084.78	24.00	-0.0250	-0.60		1084.18	P.T.
528+25.00	1085.30	24.00	-0.0160	-0.38		1084.92	24.00	-0.0250	-0.60		1084.32	
528+50.00	1085.61	24.00	-0.0160	-0.38		1085.23	24.04	-0.0250	-0.60		1084.63	
528+68.03	1085.80	24.00	-0.0160	-0.38	222	1085.42	24.13	-0.0250	-0.60		1084.81	
528+75.00	1085.87	24.00	-0.0147	-0.35	222	1085.52	24.19	-0.0250	-0.61		1084.91	
529+00.00	1086.09	24.00	-0.0100	-0.24	222	1085.85	24.53	-0.0250	-0.61		1085.24	EXIST.



PAVEMENT SLOPE DETAIL

NOTE: ALL CROSS SLOPES READ OUTWARDS FROM P.G. LOCATION

CALCULATED AJE
CHECKED CWL

SUPERELEVATION TABLE
E.B. I-76

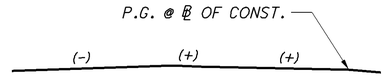
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9/17/2014
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SSCHUSTER

CURVE 5 SUPERELEVATION TABLE

P.I. Sta. 521+07.54	Dc = 1° 00′ 00″

LEFT OUTSIDE					PAVED GORE					LEFT INSIDE					BASELINE CONTROL		REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION	
1061.59		-0.38	-0.0160	24.00	1061.97	222	0.01	0.0160	0.67	1061.96	222	0.38	0.0160	24.00	1061.58	520+85.37	EXIST.
1062.05		-0.38	-0.0160	24.00	1062.43	222	0.01	0.0179	0.83	1062.42	222	0.43	0.0179	24.00	1061.99	520+95.49	F.S.
1062.24		-0.38	-0.0160	24.00	1062.62		0.02	0.0179	0.90	1062.60		0.43	0.0179	24.00	1062.17	521+00.00	
1063.24		-0.38	-0.0160	24.00	1063.62		0.02	0.0179	1.39	1063.60		0.43	0.0179	24.00	1063.17	521+25.00	
1064.26		-0.38	-0.0160	24.00	1064.64		0.03	0.0179	1.99	1064.61		0.43	0.0179	24.00	1064.18	521+50.00	
1065.26		-0.38	-0.0160	24.00	1065.64		0.05	0.0179	2.70	1065.59		0.43	0.0179	24.00	1065.16	521+75.00	
1066.26		-0.38	-0.0160	24.00	1066.64		0.06	0.0179	3.52	1066.58		0.43	0.0179	24.00	1066.15	522+00.00	
1066.84		-0.38	-0.0160	24.00	1067.22		0.07	0.0179	4.03	1067.15		0.43	0.0179	24.00	1066.72	522+14.27	P.T.
1067.27		-0.38	-0.0160	24.00	1067.65		0.08	0.0179	4.43	1067.57		0.43	0.0179	24.00	1067.14	522+25.00	
1068.27		-0.38	-0.0160	24.00	1068.65		0.09	0.0179	5.37	1068.56		0.43	0.0179	24.00	1068.13	522+50.00	
1069.28		-0.38	-0.0160	24.00	1069.66		0.11	0.0179	6.30	1069.55		0.43	0.0179	24.00	1069.12	522+75.00	
1070.29		-0.38	-0.0160	24.00	1070.67		0.13	0.0179	7.36	1070.54		0.43	0.0179	24.00	1070.11	523+00.00	
1071.29		-0.38	-0.0160	24.00	1071.67		0.15	0.0179	8.58	1071.52		0.43	0.0179	24.00	1071.09	523+25.00	
1071.60		-0.38	-0.0160	24.00	1071.98		0.16	0.0179	9.00	1071.82		0.43	0.0179	24.00	1071.39	523+32.72	
										1072.48		0.43	0.0179	24.00	1072.05	523+50.00	
										1072.67	222	0.43	0.0179	24.00	1072.24	523+55.00	F.S.
										1073.00	222	0.38	0.0160	24.00	1072.62	523+65.12	N.C.



PAVEMENT SLOPE DETAIL

NOTE: ALL CROSS SLOPES READ OUTWARDS FROM P.G. LOCATION

CALCULATED AJE
CHECKED CWL

SUPERELEVATION TABLE
W.B. I-76

SUM-76/77-11.27/12.12

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9/17/2014
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SSCHUSTER

SPIRAL / CURVE 1 - SUPERELEVATION TABLE

P.I. Sta. 20+78.63 | Dc = 8° 30′ 00″

PROFILE GRADE 24.00′ LT.		LEFT OUTSIDE FROM BASELINE					LEFT INSIDE FROM BASELINE					
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
22+39.17	1077.81	16.00	0.0763	1.22	190	1079.03						EXIST.
22+50.00	1077.91	15.76	0.0727	1.15	190	1079.06						
22+56.62	1077.97	15.62	0.0705	1.10	190	1079.07						C.S.
22+75.00	1078.14	15.22	0.0645	0.98	190	1079.12						
23+00.00	1078.34	14.67	0.0562	0.82	190	1079.16						
23+25.00	1078.48	14.12	0.0480	0.68	190	1079.16						
23+50.00	1078.55	13.58	0.0398	0.54	190	1079.09						
23+75.00	1078.56	13.03	0.0315	0.41	190	1078.97						
24+00.00	1078.50	12.48	0.0233	0.29	190	1078.79						
24+22.02	1078.40	14.00	0.0160	0.22	351	1078.62	12.00	-0.0160	-0.19		1078.43	
24+25.00	1078.39	13.87	0.0153	0.21	351	1078.60	12.00	-0.0160	-0.19		1078.41	
24+50.00	1078.32	12.99	0.0093	0.12	351	1078.44	12.00	-0.0160	-0.19		1078.25	
24+75.00	1078.29	12.45	0.0034	0.04	351	1078.33	12.00	-0.0160	-0.19		1078.14	
24+89.32	1078.30	12.25	0.0000	0.00	351	1078.30	12.00	-0.0160	-0.19		1078.11	
25+00.00	1078.31	12.15	-0.0025	-0.03	351	1078.28	12.00	-0.0160	-0.19		1078.09	
25+25.00	1078.38	12.03	-0.0085	-0.10	351	1078.28	12.00	-0.0160	-0.19		1078.09	
25+50.00	1078.50	12.00	-0.0144	-0.17	351	1078.33	12.00	-0.0160	-0.19		1078.14	
25+56.62	1078.54	12.00	-0.0160	-0.19	351	1078.35	12.00	-0.0160	-0.19		1078.16	N.C./S.T.
25+75.00	1078.66	12.00	-0.0160	-0.19		1078.47	12.00	-0.0160	-0.19		1078.28	
26+00.00	1078.85	12.00	-0.0160	-0.19		1078.66	12.00	-0.0160	-0.19		1078.47	
26+25.00	1079.05	12.00	-0.0160	-0.19		1078.86	12.00	-0.0160	-0.19		1078.67	

P.G. @ 24.00′ LT. FROM ℄ OF CONST.

(+) (-)

P.G. @ 24.00′ LT. FROM ℄ OF CONST.

(-) (-)

PAVEMENT SLOPE DETAIL

NOTE: ALL CROSS SLOPES READ OUTWARDS FROM P.G. LOCATION

CURVE 3 SUPERELEVATION TABLE

P.I. Sta. 29+29.23 | Dc = 1° 28′ 00″

PROFILE GRADE 24.00′ LT.		LEFT OUTSIDE FROM BASELINE					LEFT INSIDE FROM BASELINE					
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
26+50.00	1079.24	12.00	-0.0160	-0.19		1079.05	12.00	-0.0160	-0.19		1078.86	
26+75.00	1079.43	12.00	-0.0160	-0.19		1079.24	12.00	-0.0160	-0.19		1079.05	
26+95.87	1079.56	12.00	-0.0160	-0.19	200	1079.37	12.00	-0.0160	-0.19	200	1079.18	N.C./P.C.
27+00.00	1079.57	12.00	-0.0169	-0.20	200	1079.37	12.00	-0.0169	-0.20	200	1079.17	
27+25.00	1079.64	12.00	-0.0221	-0.27	200	1079.37	12.00	-0.0221	-0.26	200	1079.11	
27+50.00	1079.63	12.00	-0.0273	-0.33	200	1079.30	12.00	-0.0273	-0.33	200	1078.97	
27+51.07	1079.63	12.00	-0.0275	-0.33	200	1079.30	12.00	-0.0275	-0.33	200	1078.97	F.S.
27+75.00	1079.55	12.00	-0.0275	-0.33		1079.22	12.00	-0.0275	-0.33		1078.89	
28+00.00	1079.40	12.00	-0.0275	-0.33		1079.07	12.00	-0.0275	-0.33		1078.74	
28+25.00	1079.17	12.00	-0.0275	-0.33		1078.84	12.00	-0.0275	-0.33		1078.51	
28+50.00	1078.87	12.00	-0.0275	-0.33		1078.54	12.00	-0.0275	-0.33		1078.21	
28+75.00	1078.49	12.00	-0.0275	-0.33		1078.16	12.00	-0.0275	-0.33		1077.83	
29+00.00	1078.04	12.00	-0.0275	-0.33		1077.71	12.00	-0.0275	-0.33		1077.38	
29+25.00	1077.51	12.00	-0.0275	-0.33		1077.18	12.00	-0.0275	-0.33		1076.85	
29+50.00	1076.91	12.00	-0.0275	-0.33		1076.58	12.00	-0.0275	-0.33		1076.25	
29+75.00	1076.24	12.00	-0.0275	-0.33		1075.91	12.00	-0.0275	-0.33		1075.58	
30+00.00	1075.49	12.00	-0.0275	-0.33		1075.16	12.00	-0.0275	-0.33		1074.83	
30+19.80	1074.85	12.00	-0.0275	-0.33	200	1074.52	12.00	-0.0275	-0.33	200	1074.19	F.S.
30+25.00	1074.67	12.00	-0.0264	-0.32	200	1074.35	12.00	-0.0264	-0.32	200	1074.03	
30+50.00	1073.77	12.00	-0.0212	-0.25	200	1073.52	12.00	-0.0212	-0.25	200	1073.27	
30+75.00	1072.82	12.00	-0.0160	-0.19	200	1072.63	12.00	-0.0160	-0.19	200	1072.44	N.C.
30+96.84	1071.98	12.00	-0.0160	-0.19		1071.79	12.00	-0.0160	-0.19		1071.60	

CALCULATED AJE | CHECKED CWL

SUPERELEVATION TABLE LANE 0

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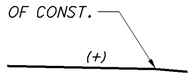
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CURVE 4 SUPERELEVATION TABLE

P.I. Sta. 4+11.19	Dc = 9° 40' 00"

LEFT SIDE					BASELINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
1079.99	351	0.63	0.0394	16.00	5+87.75	1079.36						EXIST.
1079.94	351	0.59	0.0372	15.73	6+00.00	1079.35						
1079.80	351	0.50	0.0328	15.18	6+25.00	1079.30						
1079.59	351	0.41	0.0283	14.63	6+50.00	1079.18						
1079.35	351	0.34	0.0238	14.08	6+75.00	1079.01						
1079.08	351	0.26	0.0194	13.53	7+00.00	1078.82						
1078.91	351	0.21	0.0160 *	13.11	7+18.98	1078.70						N.C. / P.T. *
1078.87		0.21	0.0160	12.98	7+25.00	1078.66						
1078.73		0.20	0.0160	12.43	7+50.00	1078.53						
1078.62		0.19	0.0160	12.00	7+69.29	1078.43						



PAVEMENT SLOPE DETAIL

NOTE: ALL CROSS SLOPES READ OUTWARDS FROM P.G. LOCATION

**NDC = 50%-70% FULL SUPER RATE*

CALCULATED AJE
CHECKED CWL

SUPERELEVATION TABLE
RAMP P

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SUPERELEVATION TABLE

P.I. Sta. 8+30.84 | Dc = 10° 45′ 00″

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTON	TRANSITION RATE	EDGE ELEVATION	
1044.49		-0.24	-0.0200	12.00	5+20.04	1044.73	12.00	-0.0200	-0.24	172	1044.49	N.C.
1044.76		-0.24	-0.0200	12.00	5+25.00	1045.00	12.00	-0.0176	-0.21	172	1044.79	
1046.16		-0.24	-0.0200	12.00	5+50.00	1046.40	12.00	-0.0055	-0.07	172	1046.33	
1046.83		-0.24	-0.0200	12.00	5+61.32	1047.07	12.00	0.0000	0.00	172	1047.07	H.F.
1047.65		-0.25	-0.0200	12.66	5+75.00	1047.90	12.00	0.0066	0.08	172	1047.98	
1049.21		-0.28	-0.0200	13.87	6+00.00	1049.49	12.00	0.0187	0.22	172	1049.71	
1049.39	172	-0.28	-0.0200	14.00	6+02.60	1049.67	12.00	0.0200	0.24	172	1049.91	R.C.
1050.20	172	-0.39	-0.0267	14.67	6+16.36	1050.59	12.00	0.0267	0.32	172	1050.91	P.C.
1050.72	172	-0.47	-0.0309	15.09	6+25.00	1051.19	12.00	0.0309	0.37	172	1051.56	
1051.89	172	-0.64	-0.0400	16.00	6+43.88	1052.53	12.00	0.0400	0.48	172	1053.01	F.S.
1052.33		-0.64	-0.0400	16.00	6+50.00	1052.97	12.00	0.0400	0.48		1053.45	
1054.13		-0.64	-0.0400	16.00	6+75.00	1054.77	12.00	0.0400	0.48		1055.25	
1055.92		-0.64	-0.0400	16.00	7+00.00	1056.56	12.00	0.0400	0.48		1057.04	
1057.72		-0.64	-0.0400	16.00	7+25.00	1058.36	12.00	0.0400	0.48		1058.84	
1059.52		-0.64	-0.0400	16.00	7+50.00	1060.16	12.00	0.0400	0.48		1060.64	
1061.32		-0.64	-0.0400	16.00	7+75.00	1061.96	12.00	0.0400	0.48		1062.44	
1063.10		-0.64	-0.0400	16.00	8+00.00	1063.74	12.00	0.0400	0.48		1064.22	
1064.79		-0.64	-0.0400	16.00	8+25.00	1065.43	12.00	0.0400	0.48		1065.91	
1066.38		-0.64	-0.0400	16.00	8+50.00	1067.02	12.00	0.0400	0.48		1067.50	
1067.85		-0.64	-0.0400	16.00	8+75.00	1068.49	12.00	0.0400	0.48		1068.97	
1069.21		-0.64	-0.0400	16.00	9+00.00	1069.85	12.00	0.0400	0.48		1070.33	
1070.47		-0.64	-0.0400	16.00	9+25.00	1071.11	12.00	0.0400	0.48		1071.59	
1071.61		-0.64	-0.0400	16.00	9+50.00	1072.25	12.00	0.0400	0.48		1072.73	
1072.66		-0.64	-0.0400	16.00	9+75.00	1073.30	12.00	0.0400	0.48		1073.78	
1072.99	172	-0.64	-0.0400	16.00	9+82.91	1073.63	12.00	0.0400	0.48	172	1074.11	F.S.
1073.83	172	-0.51	-0.0317	16.00	10+00.00	1074.34	12.00	0.0317	0.38	172	1074.72	
1075.02	172	-0.32	-0.0200	16.00	10+24.19	1075.34	12.79	0.0200	0.26	172	1075.60	P.T./R.C.
1075.06		-0.32	-0.0200	16.00	10+25.00	1075.38	12.83	0.0196	0.25	172	1075.63	
1076.10		-0.32	-0.0200	16.00	10+50.00	1076.42	13.96	0.0075	0.10	172	1076.52	
1076.69		-0.32	-0.0200	16.00	10+65.47	1077.01	14.66	0.0000	0.00	172	1077.01	H.F.
1077.02		-0.32	-0.0200	16.00	10+75.00	1077.34	15.09	-0.0046	-0.07	172	1077.27	
1077.92		-0.31	-0.0200	15.37	11+00.00	1078.23	16.23	-0.0167	-0.27	172	1077.96	
1078.17	222	-0.30	-0.0200	15.13	11+06.75	1078.47	16.53	-0.0200	-0.33	556	1078.14	N.C.
1078.95	222	-0.16	-0.0132	12.00	*11+25.00	1079.11	12.00	-0.0227	-0.27	556	1078.84	
1079.73	222	-0.06	-0.0050	12.00	*11+46.75	1079.79	12.00	-0.0260	-0.31	556	1079.48	EXIST.

* CROSS SLOPES SHALL VARY TO MEET EXISTING OUTSIDE OF 12′ LT./RT.

CALCULATED AJE | CHECKED CWL

SUPERELEVATION TABLE
JOHNSTON STREET

SUM-76/77-11.27/12.12

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PAVEMENT ELEVATION TABLE

JOHNSTON STREET @ BROWN STREET INTERSECTION

LEFT SIDE					CROWN		CENTERLINE CONTROL		CROWN		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	ELEVATION	WIDTH	STATION	PROFILE GRADE	WIDTH	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
1036.74	172	-0.10	-0.0073	13.25	1036.83	1.25	0+28.00	1036.85			12.00	0.0106	0.13	172	1036.98	
1036.41	172	-0.21	-0.0157	13.25	1036.62	1.25	0+45.32	1036.62			12.00	0.0022	0.03	172	1036.65	P.C.
1036.33	172	-0.24	-0.0179	13.25	1036.56	1.25	0+49.88	1036.56			12.00	0.0000	0.00	172	1036.56	H.F.
1036.32	172	-0.24	-0.0180	13.25	1036.56	1.25	0+50.00	1036.56			12.00	-0.0001	0.00	172	1036.56	
1036.25	172	-0.27	-0.0200	13.25	1036.51	1.25	0+54.21	1036.51			12.00	-0.0021	-0.03	172	1036.48	
1035.99		-0.27	-0.0200	13.25	1036.25	1.25	0+75.00	1036.24			12.00	-0.0122	-0.15	172	1036.09	
1035.79		-0.27	-0.0200	13.25	1036.05	1.25	0+91.16	1036.03			12.00	-0.0200	-0.24	172	1035.79	N.C.
1035.68		-0.27	-0.0200	13.25	1035.94	1.25	1+00.00	1035.92			12.00	-0.0200	-0.24		1035.68	
1035.44		-0.27	-0.0200	13.25	1035.71	1.25	1+25.00	1035.68			12.00	-0.0200	-0.24		1035.44	
1035.30		-0.27	-0.0200	13.25	1035.57	1.25	1+50.00	1035.54			12.00	-0.0200	-0.24		1035.30	
1035.26		-0.27	-0.0200	13.25	1035.52	1.25	1+69.61	1035.50			12.00	-0.0200	-0.24		1035.26	
1035.25		-0.27	-0.0200	13.25	1035.52	1.05	1+75.00	1035.50			12.20	-0.0200	-0.24		1035.26	
1035.28		-0.27	-0.0200	13.25	1035.55	0.11	2+00.00	1035.55			13.14	-0.0200	-0.26		1035.29	
1035.30		-0.27	-0.0200	13.25		0.00	2+02.95	1035.56	0.00		13.25	-0.0200	-0.27		1035.30	P.R.C.
1035.45		-0.25	-0.0200	12.42			2+25.00	1035.69	0.83	1035.71	13.25	-0.0200	-0.27		1035.45	
1035.55		-0.24	-0.0200	12.00			2+36.28	1035.79	1.25	1035.82	13.25	-0.0200	-0.27		1035.55	
1035.70		-0.24	-0.0200	12.00			2+50.00	1035.94	1.25	1035.96	13.25	-0.0200	-0.27		1035.70	
1036.04		-0.24	-0.0200	12.00			2+75.00	1036.28	1.25	1036.30	13.25	-0.0200	-0.27		1036.04	
1036.48		-0.24	-0.0200	12.00			3+00.00	1036.72	1.25	1036.74	13.25	-0.0200	-0.27		1036.48	
1037.01		-0.24	-0.0200	12.00			3+25.00	1037.25	1.25	1037.28	13.25	-0.0200	-0.27		1037.01	
1037.64		-0.24	-0.0200	12.00			3+50.00	1037.88	1.25	1037.91	13.25	-0.0200	-0.27		1037.64	
1038.37		-0.24	-0.0200	12.00			3+75.00	1038.61	1.25	1038.63	13.25	-0.0200	-0.27		1038.37	
1039.19		-0.24	-0.0200	12.00			4+00.00	1039.43	1.25	1039.46	13.25	-0.0200	-0.27		1039.19	
1039.56		-0.24	-0.0200	12.00			4+10.17	1039.80	1.25	1039.82	13.25	-0.0200	-0.27		1039.56	
1040.11		-0.24	-0.0200	12.00			4+25.00	1040.35	0.97	1040.37	12.97	-0.0200	-0.26		1040.11	
1040.86		-0.24	-0.0200	12.00			4+43.50	1041.10	0.63	1041.11	12.63	-0.0200	-0.25		1040.85	P.T.
1041.13		-0.24	-0.0200	12.00			4+50.00	1041.37	0.50	1041.38	12.50	-0.0200	-0.25		1041.13	
1042.24		-0.24	-0.0200	12.00			4+75.00	1042.48	0.03	1042.48	12.03	-0.0200	-0.24		1042.24	
1042.33		-0.24	-0.0200	12.00			4+76.84	1042.57	0.00		12.00	-0.0200	-0.24		1042.33	

CALCULATED AJE
CHECKED CWL

PAVEMENT ELEVATION TABLE
JOHNSTON STREET

SUM-76/77-11.27/12.12

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PAVEMENT ELEVATION TABLE

LAMPARTER STREET

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTON	TRANSITION RATE	EDGE ELEVATION	
1038.11		0.16	0.0117	13.00	0+18.00	1037.95	13.00	-0.0084	-0.10		1037.85	
1038.41		0.15	0.0117	13.00	0+24.38	1038.26	13.00	-0.0084	-0.11	143	1038.15	
1038.43	143	0.14	0.0113	13.00	0+25.00	1038.29	13.00	-0.0088	-0.12	143	1038.17	
1039.29	143	0.00	0.0001	13.00	0+44.29	1039.29	13.00	-0.0200	-0.26	143	1039.03	
1039.30	143	0.00	0.0000	13.00	0+44.46	1039.30	13.00	-0.0200	-0.26		1039.04	
1039.57	143	-0.04	-0.0032	13.00	0+50.00	1039.61	13.00	-0.0200	-0.26		1039.35	
1040.42	143	-0.16	-0.0125	13.00	0+65.91	1040.58	13.00	-0.0200	-0.26	143	1040.32	
1040.95	143	-0.23	-0.0178	13.00	0+75.00	1041.18	13.00	-0.0147	-0.19	143	1040.99	
1042.43	143	-0.40	-0.0312	12.77	0+98.00	1042.83	13.32	-0.0013	-0.02	143	1042.81	EXIST.

PAVEMENT ELEVATION TABLE

SPICER STREET

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTON	TRANSITION RATE	EDGE ELEVATION	
1034.39	61	-0.62	-0.0453	13.78	15+47.39	1035.01	14.19	-0.0419	-0.59	347	1034.42	EXIST.
1034.41	61	-0.62	-0.0447	13.80	15+47.85	1035.03	14.17	-0.0418	-0.59	347	1034.44	
1036.04	61	-0.14	-0.0104	14.00	15+72.85	1036.19	14.00	-0.0358	-0.50	347	1035.69	
1036.57	61	0.00	0.0000	14.00	15+80.39	1036.57	14.00	-0.0340	-0.48	347	1036.09	
1037.78	61	0.34	0.0204	14.00	15+97.85	1037.44	14.00	-0.0298	-0.42	347	1037.02	
1038.09	61	0.42	0.0302	14.00	16+02.39	1037.67	14.00	-0.0287	-0.40	347	1037.27	

PAVEMENT ELEVATION TABLE

HEDDEN AVENUE

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTON	TRANSITION RATE	EDGE ELEVATION	
1070.34	66	-0.01	-0.0009	11.04	19+06.59	1070.35	10.85	-0.0286	-0.31	110	1070.04	EXIST.
1070.31	66	0.00	0.0000	11.00	19+07.24	1070.31	11.00	-0.0291	-0.32	110	1069.99	
1069.47	66	0.37	0.0334	11.00	19+31.41	1069.10	11.00	-0.0491	-0.54	110	1068.56	
1068.81	66	0.75	0.0680	11.00	19+56.41	1068.06	11.00	-0.0698	-0.76	110	1067.30	
1068.81	66	0.75	0.0682	11.00	19+56.59	1068.06	11.00	-0.0699	-0.75	110	1067.29	

CALCULATED AJE | CHECKED CWL

PAVEMENT ELEVATION TABLE
LAMPARTER STREET, SPICER STREET & HEDDEN AVENUE

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PAVEMENT ELEVATION TABLE

BROWN STREET

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
1038.81		-0.60	-0.0400	15.00	15+00.00	1039.41	14.94	-0.0400	-0.60	152	1038.81	EXIST.
1038.03		-0.60	-0.0400	15.00	15+25.00	1038.63	15.00	-0.0250	-0.38	152	1038.26	
1037.81		-0.60	-0.0400	15.00	15+33.44	1038.41	15.00	-0.0200	-0.30	152	1038.11	N.C.
1037.42		-0.60	-0.0400	15.00	15+50.00	1038.02	15.00	-0.0200	-0.30		1037.72	
1037.07		-0.60	-0.0400	15.00	15+68.74	1037.67	15.00	-0.0200	-0.30	152	1037.37	N.C.
1036.97		-0.60	-0.0400	15.00	15+75.00	1037.57	15.00	-0.0163	-0.24	152	1037.33	
1036.70		-0.60	-0.0400	15.00	16+00.00	1037.30	15.00	-0.0013	-0.02	152	1037.28	
1036.68		-0.60	-0.0400	15.00	16+02.18	1037.28	15.00	0.0000	0.00	152	1037.28	H.F.
1036.61	152	-0.60	-0.0400	15.00	16+16.56	1037.21	15.00	0.0086	0.13	152	1037.34	
1036.67	152	-0.53	-0.0350	15.00	16+25.00	1037.19	15.00	0.0136	0.20	152	1037.39	
1036.94	152	-0.30	-0.0200	15.00	16+50.00	1037.24	15.00	0.0286	0.43	152	1037.67	F.S.
1037.01		-0.46	-0.0200	23.00	16+75.00	1037.47	15.00	0.0286	0.43		1037.90	
1037.40		-0.46	-0.0200	23.00	17+00.00	1037.86	15.00	0.0286	0.43	152	1038.29	F.S.
1037.96		-0.46	-0.0200	23.00	17+25.00	1038.42	15.00	0.0136	0.20	152	1038.62	
1038.10		-0.46	-0.0200	23.00	17+30.45	1038.56	15.00	0.0104	0.16	152	1038.72	
1038.61		-0.46	-0.0200	23.00	17+47.82	1039.07	17.78	0.0000	0.00	152	1039.07	H.F.
1038.68		-0.46	-0.0200	23.00	17+50.00	1039.14	18.13	-0.0013	-0.02	152	1039.12	
1039.57		-0.46	-0.0200	23.00	17+75.00	1040.03	22.13	-0.0163	-0.36	152	1039.67	
1039.78		-0.46	-0.0200	23.00	17+80.45	1040.24	23.00	-0.0195	-0.45	152	1039.79	
1039.81		-0.46	-0.0200	23.00	17+81.26	1040.27	23.00	-0.0200	-0.46	152	1039.81	N.C.
1040.51		-0.46	-0.0200	23.00	18+00.00	1040.97	23.00	-0.0200	-0.46		1040.51	
1043.71		-0.46	-0.0200	23.00	19+00.00	1044.17	23.00	-0.0200	-0.46		1043.71	
1044.20	152	-0.46	-0.0200	23.00	19+18.32	1044.66	23.00	-0.0200	-0.46		1044.20	N.C.
1044.43	152	-0.40	-0.0173	23.00	19+25.00	1044.83	23.00	-0.0200	-0.46		1044.37	
1045.25	152	-0.17	-0.0074	23.00	19+50.00	1045.42	23.00	-0.0200	-0.46		1044.96	
1045.75	152	-0.01	-0.0006	23.00	19+66.98	1045.76	23.00	-0.0200	-0.46	152	1045.30	
1045.79	152	0.00	0.0000	23.00	19+68.48	1045.79	23.00	-0.0194	-0.45	152	1045.34	H.F.
1045.94	152	0.05	0.0022	23.00	19+74.00	1045.89	23.00	-0.0172	-0.40	152	1045.50	

CALCULATED AJE
CHECKED CWL

PAVEMENT ELEVATION TABLE
BROWN STREET

SUM-76/77-11.27/12.12

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CURVE 19 - PAVEMENT ELEVATION TABLE

P.I. Sta. 22+87.50 | Dc = 76° 53′ 35″

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
1050.69		-0.79	-0.0200	39.35	22+75.00	1051.48	23.79	0.0100	0.24	152	1051.72	
1050.35		-0.97	-0.0200	48.50	23+00.00	1051.32	42.84	0.0010	0.04	152	1051.36	
1050.09		-1.00	-0.0200	50.00	23+20.61	1051.09	50.00	-0.0080	-0.40	152	1050.69	P.C.C.

CURVE 18 - PAVEMENT ELEVATION TABLE

P.I. Sta. 23+70.82 | Dc = 36° 16′ 44″

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
1050.09		-1.00	-0.0200	50.00	23+20.61	1051.09	50.00	-0.0080	-0.40	152	1050.69	P.C.C.
1050.03		-1.00	-0.0200	49.87	23+25.00	1051.03	49.75	-0.0097	-0.48	152	1050.55	
1049.72		-0.87	-0.0200	43.30	23+50.00	1050.59	38.88	-0.0196	-0.76	152	1049.83	
1049.71		-0.86	-0.0200	42.76	23+51.00	1050.57	38.32	-0.0200	-0.77	152	1049.80	
1049.47		-0.58	-0.0200	29.12	23+75.00	1050.05	27.79	-0.0200	-0.56		1049.49	
1049.66		-0.56	-0.0200	27.92	23+67.00	1050.22	30.69	-0.0200	-0.61	152	1049.60	
1049.12		-0.43	-0.0200	21.55	24+00.00	1049.55	22.15	-0.0310	-0.69	152	1048.86	
1048.84		-0.40	-0.0200	20.00	24+17.85	1049.24	21.00	-0.0400	-0.84	152	1048.40	PT.
1048.72		-0.40	-0.0200	20.00	24+25.00	1049.12	21.00	-0.0400	-0.84		1048.28	
1048.35		-0.40	-0.0200	20.00	24+50.00	1048.75	21.00	-0.0400	-0.84		1047.91	
1048.02		-0.40	-0.0200	20.00	24+75.00	1048.42	21.00	-0.0400	-0.84		1047.58	
1047.69		-0.40	-0.0200	20.00	25+00.00	1048.09	21.00	-0.0400	-0.84		1047.25	
1047.35		-0.40	-0.0200	20.00	25+25.00	1047.75	21.00	-0.0400	-0.84		1046.91	
1047.03		-0.40	-0.0200	20.00	25+50.00	1047.43	21.00	-0.0400	-0.84		1046.59	
1046.71		-0.40	-0.0200	20.00	25+75.00	1047.11	21.00	-0.0400	-0.84		1046.27	
1049.54	195	-0.40	-0.0200	20.00	25+89.00	1049.94	21.00	-0.0400	-0.84	154	1049.10	
1046.33	195	-0.47	-0.0234	20.00	26+00.00	1046.80	21.01	-0.0443	-0.93	154	1045.87	EXIST.

CALCULATED AJE
CHECKED CWL

PAVEMENT ELEVATION TABLE
SOUTH STREET

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℄ R/W & CONST. BROWN ST.

NEW ℄ R/W & CONST. JOHNSTON ST.

℄ R/W & CONST. SPICER ST.

℄ R/W & CONST. HEDDEN AVE.

℄ R/W & CONST. LAMPARTER ST.

℄ EX. RAMP Q

℄ CONST. RAMP P

℄ CONST. LANE O

℄ CONST. E.B. I-76

℄ CONST. W.B. I-76

OLD ℄ R/W JOHNSTON ST.

℄ CONST. LANE M

℄ CONST. SOUTH ST.

N

HORIZONTAL SCALE IN FEET
0 25 50 100

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CHECKED CWL

INTERCHANGE GRADING PLAN

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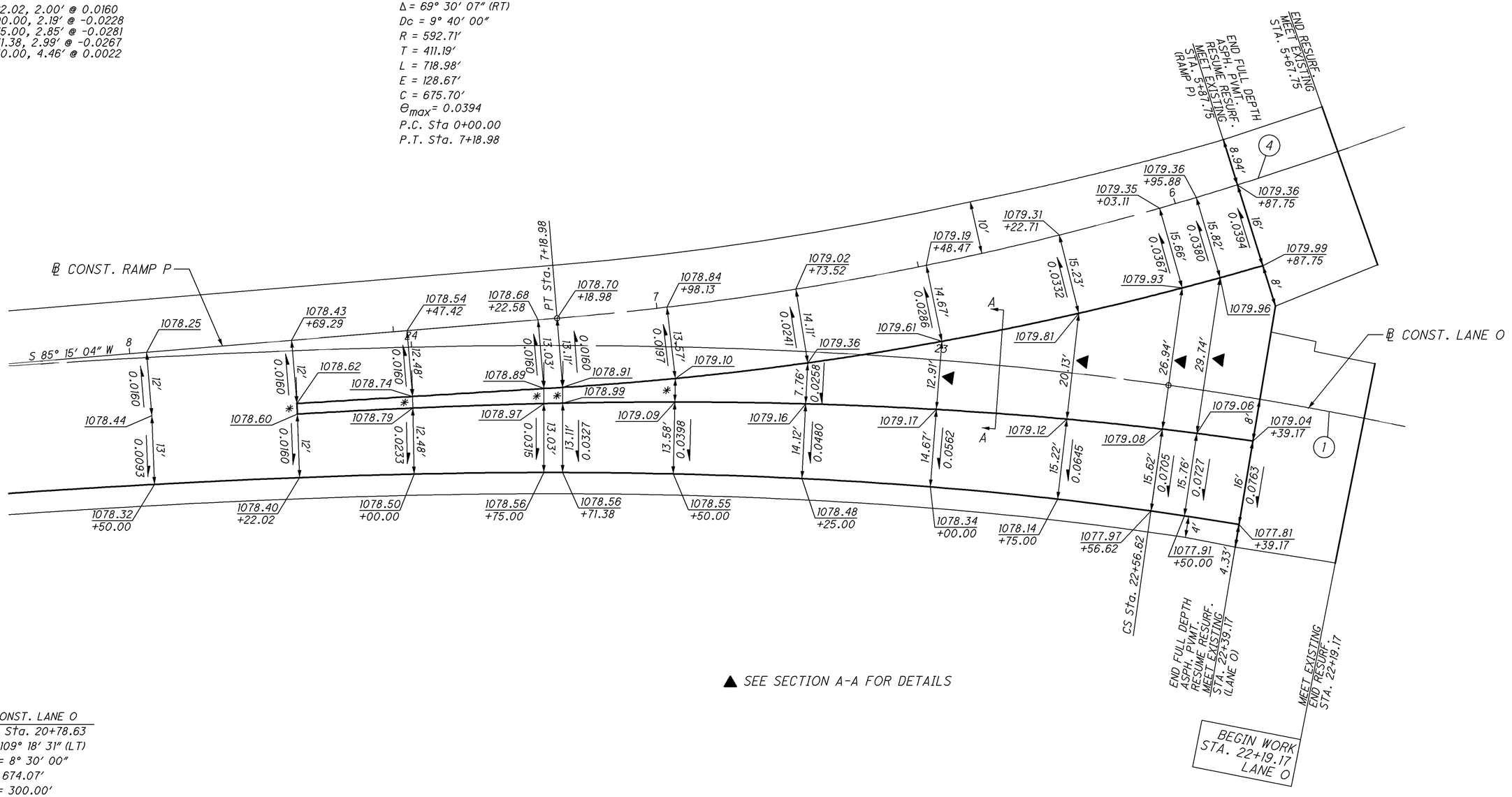
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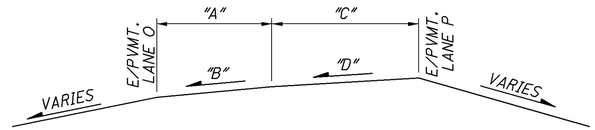
* GORE SLOPE INFORMATION
(READ FROM LANE O E/P TO LAMP P E/P)

STA. 24+22.02, 2.00′ @ 0.0160
STA. 24+00.00, 2.19′ @ -0.0228
STA. 23+75.00, 2.85′ @ -0.0281
STA. 23+71.38, 2.99′ @ -0.0267
STA. 23+50.00, 4.46′ @ 0.0022

(4) ℄ CONST. RAMP P
P.I. Sta. 4+11.19
Δ = 69° 30′ 07″ (RT)
Dc = 9° 40′ 00″
R = 592.71′
T = 411.19′
L = 718.98′
E = 128.67′
C = 675.70′
e_{max} = 0.0394
P.C. Sta 0+00.00
P.T. Sta. 7+18.98



(1) ℄ CONST. LANE O
P.I. Sta. 20+78.63
Δ = 109° 18′ 31″ (LT)
Dc = 8° 30′ 00″
R = 674.07′
Ls = 300.00′
θs = 12° 45′ 00″
LT = 200.52′
ST = 100.47′
x = 298.52′
y = 22.17′
k = 149.75′
p = 5.55′
Δc = 83° 48′ 31″ (LT)
Lc = 985.99′
Ts = 1,108.00′
E = 500.71′
C = 900.41′
e_{max} = 0.0763
T.S. Sta. 9+70.63
S.C. Sta. 12+70.63
C.S. Sta. 22+56.62
S.T. Sta. 25+56.62



SECTION A-A

GORE SLOPE INFORMATION				
STATION	"A"	"B"	"C"	"D"
23+00.00	6.91′	0.0362	6.00′	0.0314
22+75.00	14.13′	0.0375	6.00′	0.0268
22+56.62	20.94′	0.0339	6.00′	0.0233
22+50.00	23.74′	0.0324	6.00′	0.0220

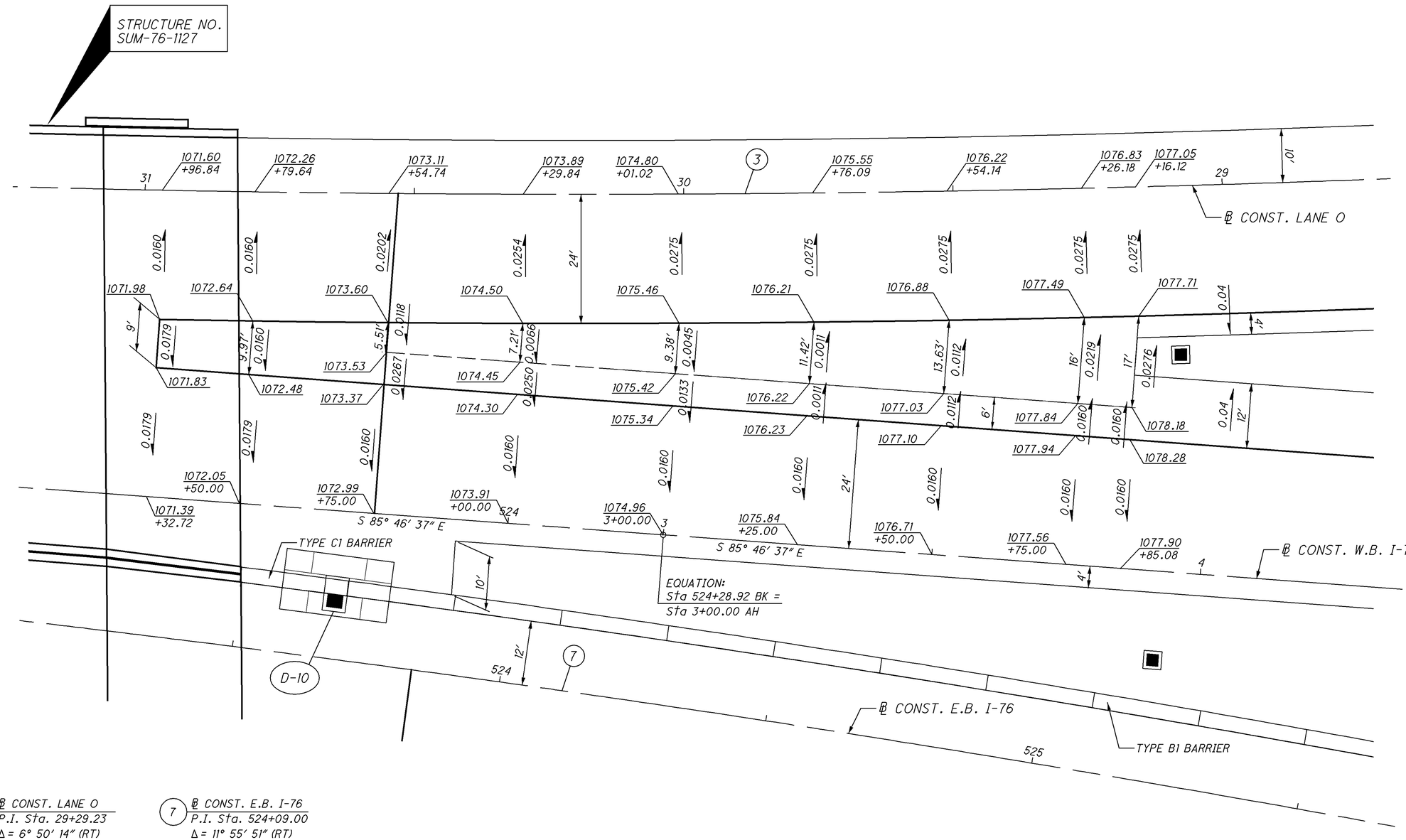
FOR SUPERELEVATION TABLES, SEE SHEETS 338, 339
FOR LANE O PROFILE, SEE SHEET 226
FOR RAMP P PROFILE, SEE SHEET 227

HORIZONTAL SCALE IN FEET
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CALCULATED AJE
CHECKED CWL

RAMP GORE DETAIL
RAMP P & LANE O

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3 ℄ CONST. LANE O
P.I. Sta. 29+29.23
Δ = 6° 50′ 14″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 233.36′
L = 466.17′
E = 6.96′
C = 465.90′
e_{max} = 0.0275
P.C. Sta. 26+95.87
P.T. Sta. 31+62.04

7 ℄ CONST. E.B. I-76
P.I. Sta. 524+09.00
Δ = 11° 55′ 51″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 408.21′
L = 813.47′
E = 21.27′
C = 812.00′
e_{max} = 0.025 (NDC = 0.0363)
P.C. Sta. 520+00.79
P.T. Sta. 528+14.26

FOR SUPERELEVATION TABLES, SEE SHEETS 337, 338
FOR LANE O PROFILE, SEE SHEET 224
FOR W.B. I-76 PROFILE, SEE SHEET 214, 216

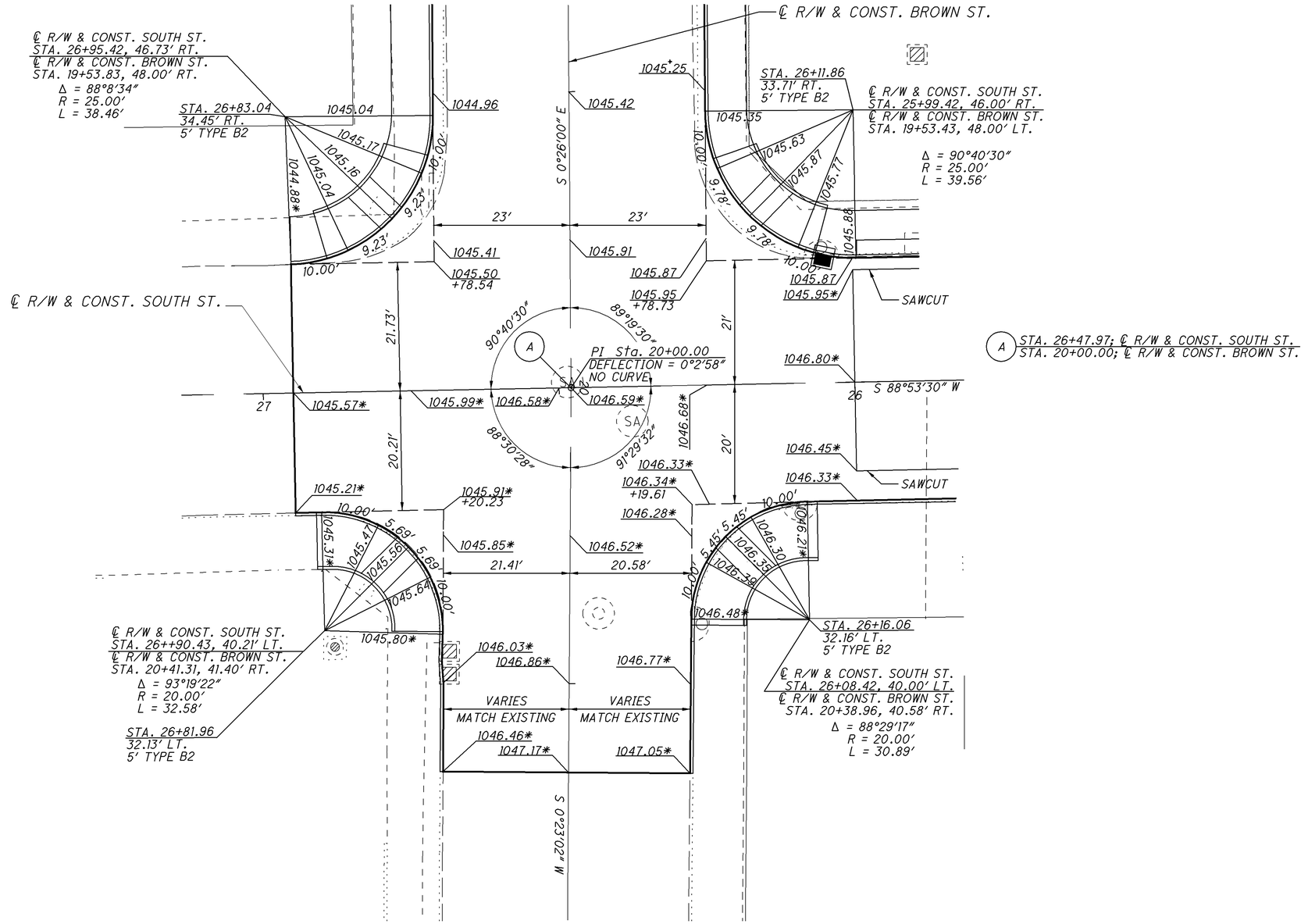
HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED AJE
CHECKED CWL

RAMP GORE DETAIL LANE O & W.B. I-76

SUM-76/77-11.27/12.12

\\AKRN03\DATA\2010\2010297\SUM\86979\ROADWAY\SHEETS\86979GM002.DGN
9/17/2014
8:04:33 AM
SSDHUSTER



NOTES:
1. ALL ELEVATIONS NOTED ARE ON PAVEMENT SURFACE OR BOTTOM FACE OF CURB.
2. TOP OF CURB IS TO MEET EXISTING WALK ON SW AND SE RETURNS.
3. RADII LISTED FOR CURVES ARE REFERENCED TO THE EDGE OF PAVEMENT.
4. FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 343-344

* CONSTRUCTED ELEVATIONS ARE TO MEET EXISTING ELEVATIONS AND ARE TO BE VERIFIED IN FIELD

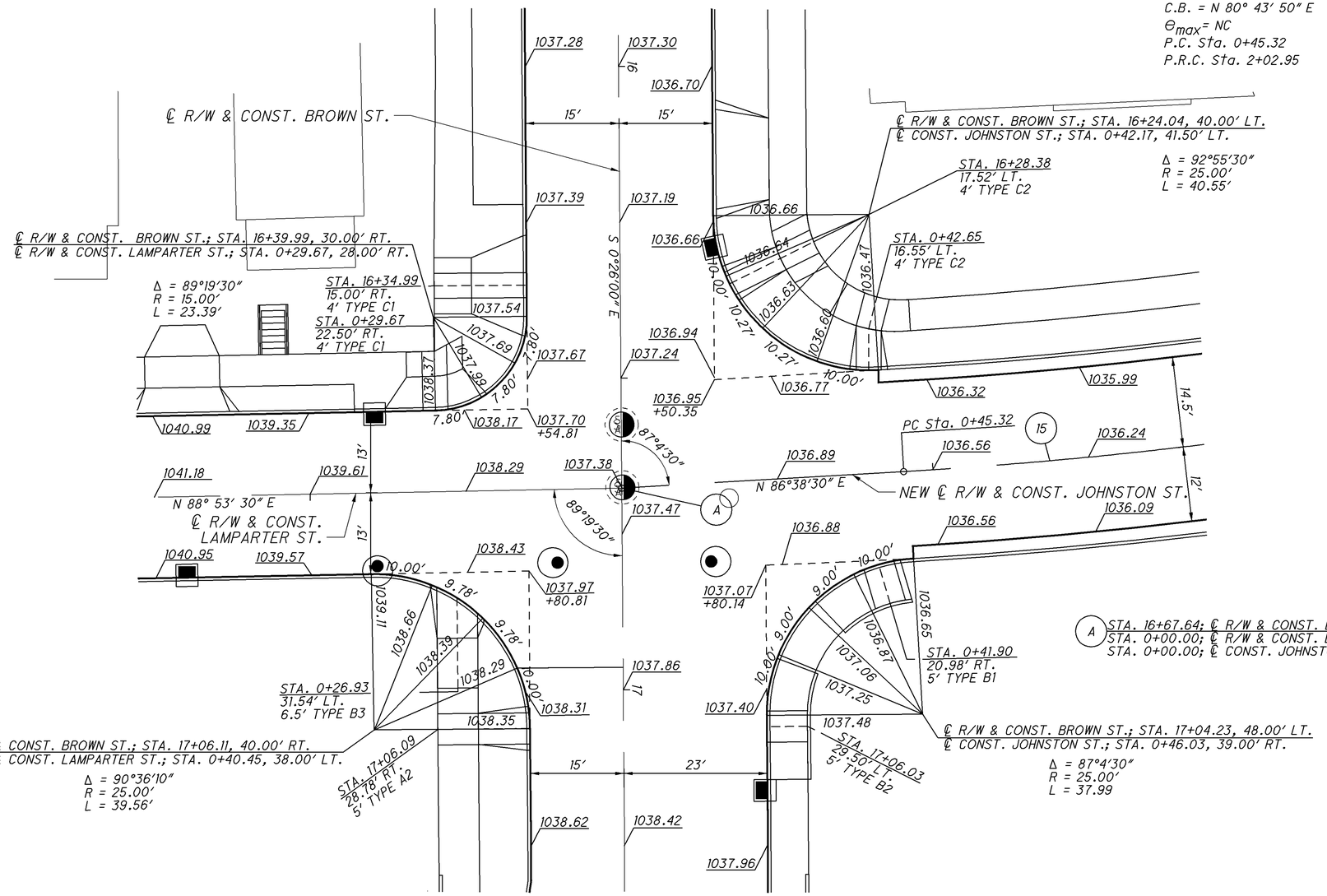
HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED AJE
CHECKED CWL

INTERSECTION DETAILS
BROWN ST./SOUTH ST.

SUM-76/77-11.27/12.12

\\KRNW3\DATA\2010\2012257\SUM\86979\ROADWAY\SHEETS\8697901001.DGN
9/17/2014
9:05:00 AM
SSCHUSTER



NOTES:
1. ALL ELEVATIONS NOTED ARE ON FACE OF GUTTER, PAVEMENT SURFACE OR BOTTOM FACE OF CURB.
2. RADII LISTED FOR CURVES ARE REFERENCED TO THE EDGE OF PAVEMENT.
3. FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 341 -343

HORIZONTAL SCALE IN FEET
0 5 10 20
CALCULATED AJE
CHECKED CWL

INTERSECTION DETAILS
JOHNSTON ST./BROWN ST./LAMPARTER ST.

SUM-76/77-11.27/12.12

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9/17/2014
8:05:25 AM
SSCHUSTER

NOTES:
1. ALL ELEVATIONS NOTED ARE ON FACE OF GUTTER, PAVMENT SURFACE OR BOTTOM FACE OF CURB.
2. RADII LISTED FOR CURVES ARE REFERENCED TO THE EDGE OF PAVEMENT.
3. FOR PAVEMENT ELEVATION & SUPERELEVATION TABLES, SEE SHEETS 340, 342

* 0.027 GUTTER CROSS SLOPE

▲ TRANSITION GUTTER CROSS SLOPE FROM 0.083 TO 0.027

MEET EXIST. WALK
STA. 15+31.46

5'
10'

15+40.38
24.77', RT

15+41.72
29.64', RT

SAW CUT

1034.52

L

1035.10

1034.52

M

15+50.00
29.64', RT

15+50.00
28.60', RT

℄ R/W & CONST. SPICER ST.

15+63.60
29.64', RT

15+63.60
26.90', RT

14'
14'

℄ CONST. JOHNSTON ST.; STA. 3+25.36, 39.00' LT.
℄ R/W & CONST. SPICER ST.; STA. 15+85.39, 39.00' RT.
Δ = 84°9'11"
R = 25.00'
L = 36.72'

1035.80

1036.19

℄ CONST. JOHNSTON ST.; STA. 3+99.71, 39.00' LT.
℄ R/W & CONST. SPICER ST.; STA. 15+81.22, 39.00' LT.
Δ = 90°16'15"
R = 25.00'
L = 38.39'

15+77.51
25.15', RT

15+76.88
20.19', RT

1036.30

S 0°9'12" E

1036.62

STA. 3+33.95
31.11' LT.
5' TYPE C2

1036.36

1037.31

10.00'

1037.98

STA. 3+98.45
22.50' LT.
5' TYPE B3

1036.87

9.69'

1037.92

1038.64

1039.14

5'

5.5'

1037.17

8.36'

1037.19

8.36'

1037.14

16

1037.55

9.69'

10.00'

5'

5.5'

1037.02

1038.37
+74.96

1040.11

10.00'

1037.57
+47.35

1037.01

SA

86°47'19"

1038.61

1039.43

4

12'

1036.48

1037.88

1037.25

1036.72

3

1038.17

1040.35

16

14.5'

14.5'

℄ R/W & CONST. HEDDEN AVE.

1068.94

1069.42

1069.69

11'

11'

1069.34

1069.20

1069.43

1069.82

1070.32

1070.82

5'

5.5'

10.00'

S 0°35'35" E

1068.21

1067.50

1068.86

7.71'

7.71'

10.00'

16'

12'

1068.81
+92.52

1069.21

1071.11

STA. 8+55.63
29.43' LT.
4' TYPE C1

1067.31

℄ CONST. JOHNSTON ST.; STA. 8+48.42, 43.00' LT.
℄ R/W & CONST. HEDDEN AVE.; STA. 19+55.71, 38.00' RT.
Δ = 68°30'27"
R = 27.00'
L = 32.28'

1067.18

1066.82

1066.28

12.28'

10.00'

1069.85

9'

5'

5.5'

1066.63

1067.42
+67.51

65°54'48"

1066.38

17

SA

1068.49

1068.35

1067.02

1064.79

16'

12'

1065.43

NEW ℄ R/W & CONST.
JOHNSTON ST.

STA. 3+60.50; ℄ CONST. JOHNSTON ST.
STA. 16+21.42; ℄ R/W & CONST. SPICER ST.

STA. 8+72.55; ℄ CONST. JOHNSTON ST.
STA. 19+86.38; ℄ R/W & CONST. HEDDEN AVE.

16 ℄ CONST. JOHNSTON ST.
P.I. Sta. 3+24.23
Δ = 18° 02' 28" (RT)
Dc = 7° 30' 00"
R = 763.94'
T = 121.28'
L = 240.55'
E = 9.57'
C = 239.56'
C.B. = N 83° 50' 23" E
e_{max} = NC
P.R.C. Sta. 2+02.95
P.T. Sta. 4+43.50

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50' 29" (LT)
Dc = 10° 45' 00"
R = 532.98'
T = 214.48'
L = 407.83'
E = 41.54'
C = 397.95'
C.B. = N 70° 56' 23" E
e_{max} = 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19

℄ CONST. JOHNSTON ST.
STA. 9+22.07, 33.00' LT.
℄ R/W & CONST. HEDDEN AVE.
STA. 19+35.35, 38.00' LT.
Δ = 119°24'36"
R = 17.00'
L = 35.43'

STA. 9+19.53
29.34' LT.
4' TYPE C1

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED AJE
CHECKED CWL

INTERSECTION DETAILS
SPICER ST./JOHNSTON ST. & HEDDEN AVE./JOHNSTON ST.

SUM-76/77-11.27/12.12

350
652

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9/17/2014
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SSCHUSTER

(18) ℄ CONST. SOUTH ST.
P.I. Sta. 23+70.82
Δ = 35° 16′ 35″ (LT)
Dc = 36° 16′ 44″
R = 157.93′
T = 50.21′
L = 97.24′
E = 7.79′
C = 95.71′
C.B. = N 73° 28′ 12″ W
e_{max}= NC
P.C.C. Sta. 23+20.61
P.T. Sta. 24+17.85

(19) ℄ CONST. SOUTH ST.
P.I. Sta. 22+87.50
Δ = 55° 47′ 36″ (LT)
Dc = 76° 53′ 35″
R = 74.51′
T = 39.45′
L = 72.56′
E = 9.80′
C = 69.73′
C.B. = N 27° 56′ 07″ W
e_{max}= NC
P.C. Sta. 22+48.05
P.C.C. Sta. 23+20.61

℄ EXIST. R/W SOUTH STREET
℄ CONST. SOUTH STREET
P.T. Sta. 23+43.40, 42.91′ RT.
Δ = 90°57′18″
R = 50.00′
L = 79.37′
P.C. Sta. 22+92.12, 36.18′ RT.
STA. 22+86.11
37.81′ RT.
5′ TYPE A2
P.T. Sta. 24+17.85, 20.0′ LT.
Δ = 65° 47′ 43″
R = 50.00′
L = 57.42′
P.R.C. Sta. 23+54.97, 40.30′ LT.
Δ = 57° 10′ 41″
R = 50.00′
L = 49.90′
P.C.C. Sta. 23+20.61
P.R.C. Sta. 22+72.56, 37.18′ LT.
STA. 22+61.77
41.85′ LT.
5′ TYPE A2
Δ = 53° 31′ 05″
R = 25.00′
L = 23.35′
PC Sta. 22+48.05
P.T. Sta. 22+65.41, 20.01′ RT
P.C. Sta. 22+47.46, 20.60′ LT.
S 0°21′ 09″ E
S 88°53′30″ W
SAWCUT
PT Sta. 24+17.85
5′ R
SA
TR
DV-1

NOTES:
1. ALL ELEVATIONS NOTED ARE ON PAVMENT SURFACE OR BOTTOM FACE OF CURB.
2. RADII LISTED FOR CURVES ARE REFERENCED TO THE EDGE OF PAVEMENT.
3. FOR PAVEMENT ELEVATION TABLES, SEE SHEETS 344

* CONSTRUCTED ELEVATIONS ARE TO MEET EXISTING ELEVATIONS AND ARE TO BE VERIFIED IN FIELD.

FOR DRIVE DETAILS, SEE SHEET 354

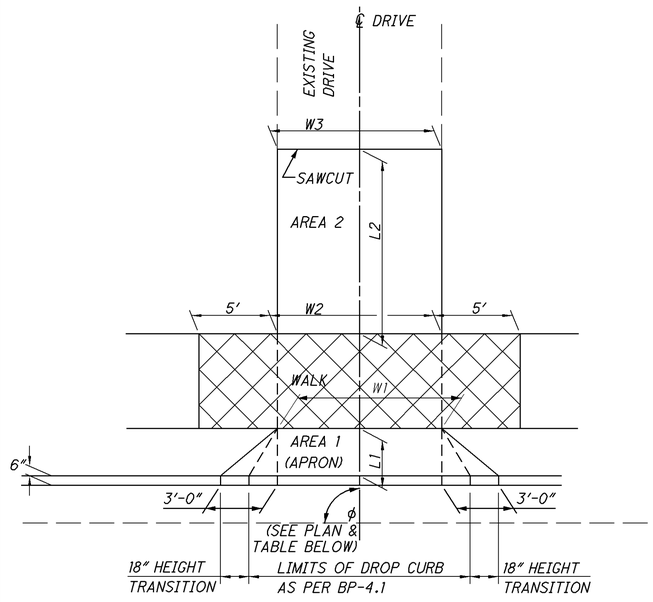
HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED AJE
CHECKED CWL

CUL-DE-SAC DETAILS
SOUTH STREET

SUM-76/77-11.27/12.12

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9/29/2014
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ARGILLAND



DRIVE DETAIL - TYPE 1
N.T.S.

EXISTING MATERIALS	USAGE	INSIDE LIMITS OF APRON (AREA 1)	OUTSIDE LIMITS OF APRON (AREA 2)
GRAVEL	RESIDENTIAL	6" ITEM 452 NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS 4" ITEM 304 AGGREGATE BASE, AS PER PLAN "B"	8" ITEM 304 AGGREGATE BASE, AS PER PLAN "B"
ASPHALT			2" ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS) ITEM 408 PRIME COAT (0.40 GAL/S.Y.) 6" ITEM 304 AGGREGATE BASE, AS PER PLAN "B"
CONCRETE			SAME COMPOSITION AS AREA 1
ASPHALT	COMM.	8" ITEM 452 NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS 4" ITEM 304 AGGREGATE BASE, AS PER PLAN "B"	1¼" ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS) ITEM 407 TACK COAT, TRACKLESS TACK, FOR INTERMEDIATE COURSE (0.04 GAL/S.Y.) 1¾" ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS) ITEM 408 PRIME COAT (0.40 GAL/S.Y.) 8" ITEM 304 AGGREGATE BASE, AS PER PLAN "B"

WALK THICKNESS SHALL BE 6" AT RESIDENTIAL APRONS.
WALK THICKNESS SHALL BE 8" AT COMMERCIAL APRONS.

NOTE: CONCRETE WALK SHALL BE QC MS WITHIN HATCHED DRIVE LIMITS AS SHOWN

SHEET NO.	REFERENCE NO.	STATION	SIDE	USAGE	TYPE	EXISTING MATERIAL	APRON LENGTH "L1"	DRIVEWAY LENGTH "L2"	WIDTH "W1"	WIDTH "W2"	WIDTH "W3"	INTERSECTING ANGLE WITH CENTERLINE
							FT.	FT.	FT.	FT.	FT.	
200	DV-1	(SOUTH)	C/L	COMM.		ASPH.	SEE SHEET		318	FOR DETAIL		
200	DV-2	25+02.25 (SOUTH)	LT	RES.	1	GRAVEL	2.93	-	17.09	-	-	90°00'00"
200	DV-3	25+45.48 (SOUTH)	LT	RES.	1	GRAVEL	3.35	-	12.00	-	-	90°00'00"
201	DV-4	0+70.63 (LAMPARTER)	RT	RES.	1	CONC.	4.00	5.01	12.00	12.00	7.14	88°29'11"
197	DV-5	15+64.55 (BROWN)	RT.	RES.	1	GRAVEL	8.00	-	12.00	-	-	89°59'56"
197	DV-6	15+21.37 (BROWN)	RT.	RES.	1	CONC.	7.93	-	12.00	-	-	89°56'48"
197	DV-7	15+22.71 (BROWN)	LT.	RES.	1	GRAVEL	8.63	-	12.00	-	-	89°32'52"
197	DV-8	15+51.18 (BROWN)	LT.	RES.	1	CONC.	8.58	-	12.00	-	-	88°39'54"
197	DV-9	15+78.63 (BROWN)	LT.	RES.	1	GRAVEL	8.61	-	12.00	-	-	89°59'13"
197	DV-10	16+15.95 (BROWN)	LT.	RES.	1	BRICK	8.51	-	13.02	-	-	87°41'56"
195	DV-11	15+05.69 (SPICER)	RT.	RES.	1	GRAVEL	10.21	-	12.00	-	-	90°00'00"
195	DV-12	15+57.96 (SPICER)	RT.	RES.	1	GRAVEL	10.00	-	12.00	-	-	90°00'00"
196	DV-13	19+12.59 (HEDDEN)	RT.	RES.	1	ASPH.	3.48	-	14.10	-	-	90°00'00"
196	DV-14	19+52.83 (HEDDEN)	RT.	RES.	1	CONC.	3.50	-	12.00	-	-	90°00'00"
194	DV-15	10+55.27 (JOHNSTON)	LT.	RES.	1	GRAVEL	5.85	5.64	10.64	10.64	10.00	70°00'00"
193	DV-16	7+25.00 (JOHNSTON)	LT.	COMM.	1	ASPH.	SEE SHEET		317	FOR DETAIL		

CALCULATED AJE
CHECKED CWL

DRIVE DETAILS

SUM-76 / 77-11.27 / 12.12

352
652

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9/17/2014
8:09:32 AM
SSCHUSTER

℄ CONST. JOHNSTON ST.

2 story
brick
565

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50′ 29″ (LT)
Dc = 10° 45′ 00″
R = 532.98′
T = 214.48′
L = 407.83′
E = 41.54′
C = 397.95′
C.B. = N 70° 56′ 23″ E
e_{max} = 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19

7+09.43
18.50′ LT

DV-16
90°

12.00′
16.00′

+25.00

1

2

12.00′
12.00′

POT Sta. 2+83.04

7+01.66
258.88′ LT

7+48.34
258.88′ LT

17

7+40.16
18.50′ LT

ex building

5.50′

5.00′

R/W

U

TMP

Ex R/W

LIMITS OF BUILDING DEMOLITION
APPROXIMATE GROUND ELEVATIONS

℄ CONST.
JOHNSTON ST.

0+34.00
EL. 1058.28

10.00′ ROUNDING

1+21.36
EL. 1060.02

10.00′ ROUNDING

2+02.81
EL. 1058.80

10.00′ ROUNDING

2+64.14
EL. 1060.21

2+69.14
MEET EXISTING

-4.00%
+10.06%
+2.00%
+2.00%
-1.50%
+2.29%
-7.29%
ex. -7.29%

1,080
1,070
1,060
1,050
1,040

0+10
1+00
2+00

HORIZONTAL
SCALE IN FEET
0 5 10 20

CALCULATED AJE
CHECKED CWL

DRIVE DETAIL & PROFILE
JOHNSTON STREET

SUM-76/77-11.27/12.12

353
652

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9/17/2014
9:09:08 AM
SSCHASTER

19 ℄ CONST. SOUTH ST.
P.I. Sta. 22+87.50
Δ = 55° 47′ 36″ (LT)
Dc = 76° 53′ 35″
R = 74.51′
T = 39.45′
L = 72.56′
E = 9.80′
C = 69.73′
C.B. = N 27° 56′ 07″ W
Θ_{max} = NC
P.C. Sta. 22+48.05
P.C.C. Sta. 23+20.61

Ex R/W
PCC Sta. 23+20.61
℄ CONST. SOUTH ST.
23
19
CURB TYPE 6
22+72.56
37.19′ LT
R/W
22+47.46
20.60′ LT
PC Sta. 22+48.05
25.00′ R
5.00′ R
22+40.05
39.21′ LT
CENTER POINT
22+45.05
24.98′ LT
CENTER POINT
22+35.41
42.50′ LT
MATCH EXISTING
22+38.05
39.21′ LT
22+40.05
24.98′ LT
39.21′
22+38.05
@ ℄
17.51′
22+38.05
17.51′ RT
TMP
DV-1
ex. asphalt parking lot
CURB TYPE 6
22+65.41
20.01′ RT
CENTER POINT
22+64.55
24.88′ RT
5.00′ R
22+58.74
43.47′ RT
MATCH EXISTING
22+57.49
43.20′ RT
22+60.85
23.92′ RT
ex. curb

NOTE:
DRIVE PAVEMENT COMPOSITION SHALL MATCH PAVEMENT COMPOSITION OF SOUTH STREET.

FOR CUL-DE-SAC DETAILS, SEE SHEET 351

1,065
1,060
1,055
1,050
1,045
SEE SHEET236
FOR SOUTH ST. PROFILE
22+69.62
EL. 1,051.50
-0.25 %
-1.04%
10.00′
ROUNDING
22+43.05
EL. 1061.78
-3.03%
22+38.05
MEET EXISTING
ex. -3.03%
23+00
22+50
22+00

HORIZONTAL SCALE IN FEET
0 2.5 5 10
CALCULATED AJE
CHECKED CWL

DRIVE DETAIL & PROFILE
SOUTH STREET

SUM-76/77-11.27/12.12

\\AKRNB3\DATA\2018\2018297\SUM\86979\ROADWAY\SHEETS\86979GD002.DGN
9/17/2014
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SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

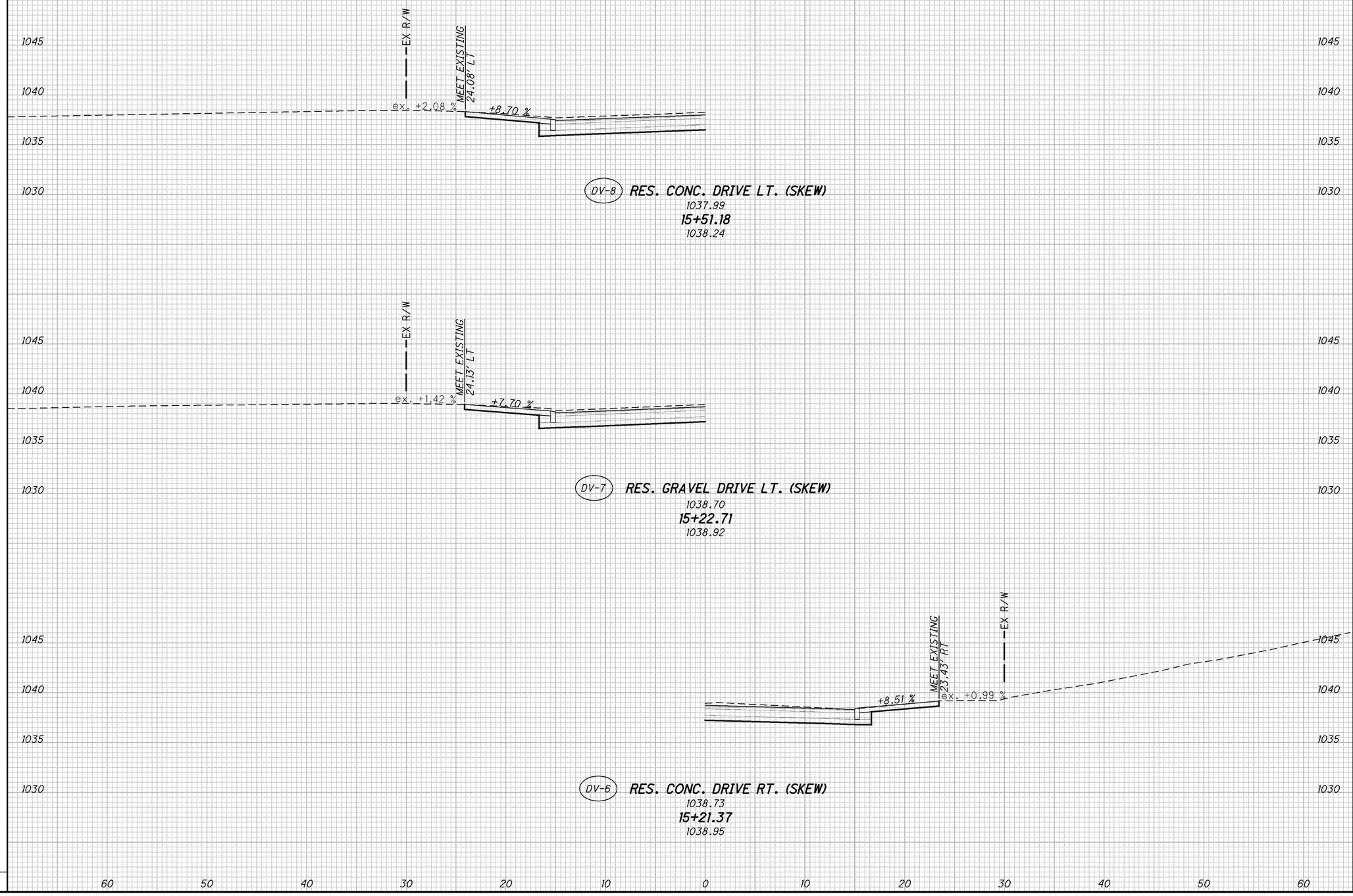
END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL

DRIVE PROFILES - BROWN STREET

SUM-76/77-11.27/12.12



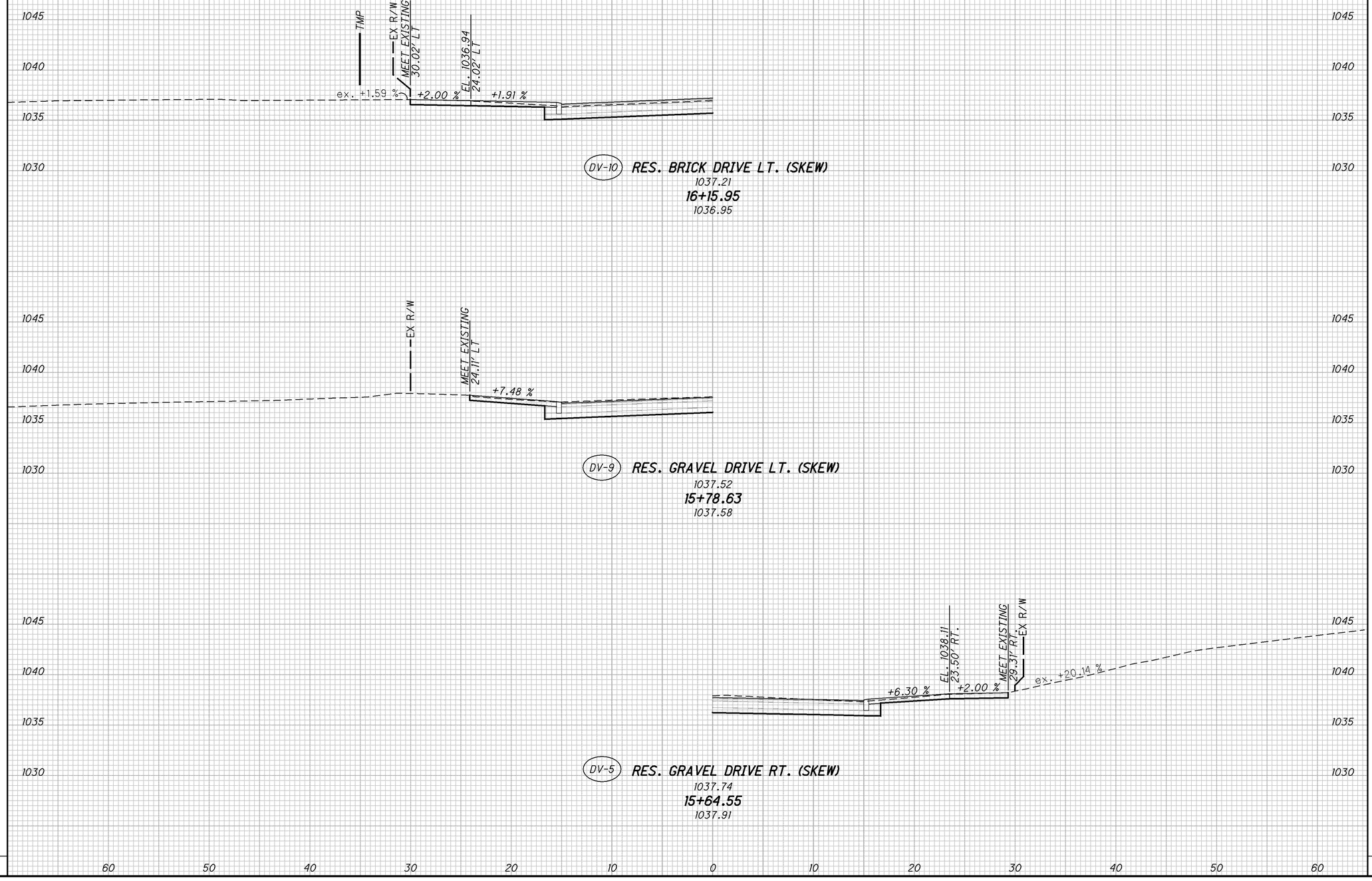
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9/17/2014
9:12:38 AM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE
CHECKED CWL



DRIVE PROFILES - BROWN STREET

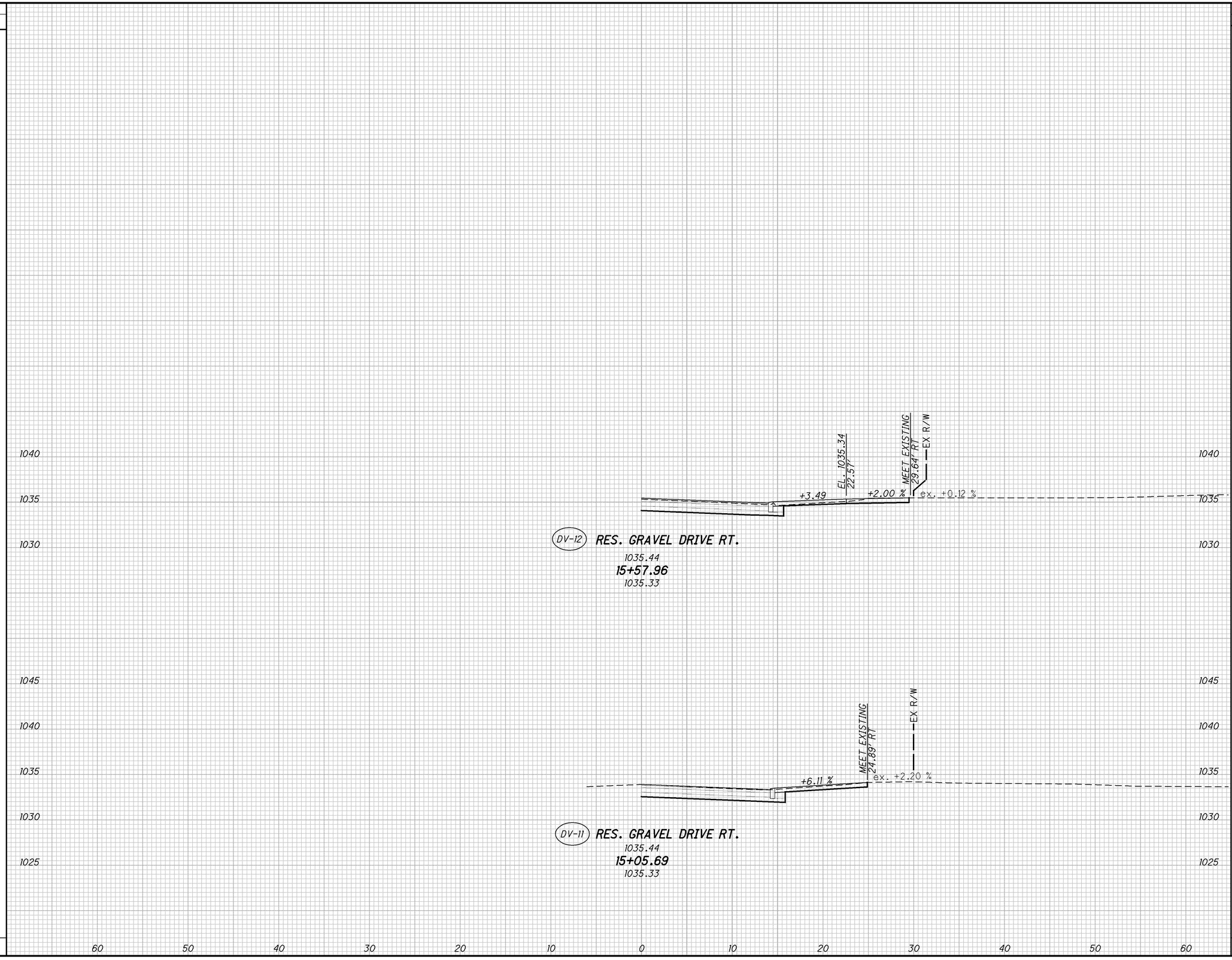
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9/17/2014
9:13:06 AM
SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE
CHECKED CWL



DRIVE PROFILES - SPICER STREET

SUM-76/77-11.27/12.12

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9/17/2014
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SSCHUSTER

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

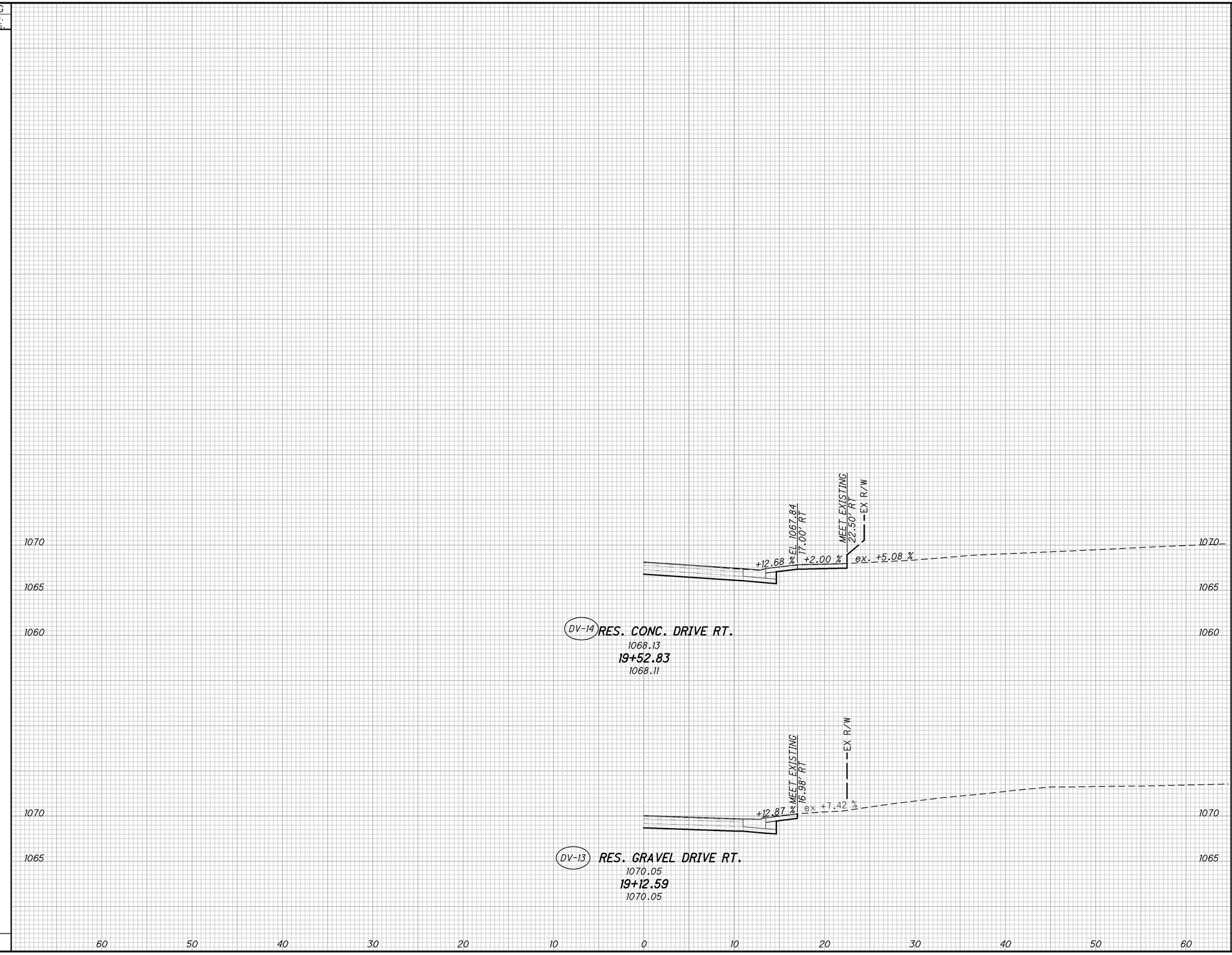
VOLUME	
CUT	FILL

CALCULATED AJE

CHECKED CWL

DRIVE PROFILES - HEDDEN STREET

SUM-76/77-11.27/12.12



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SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

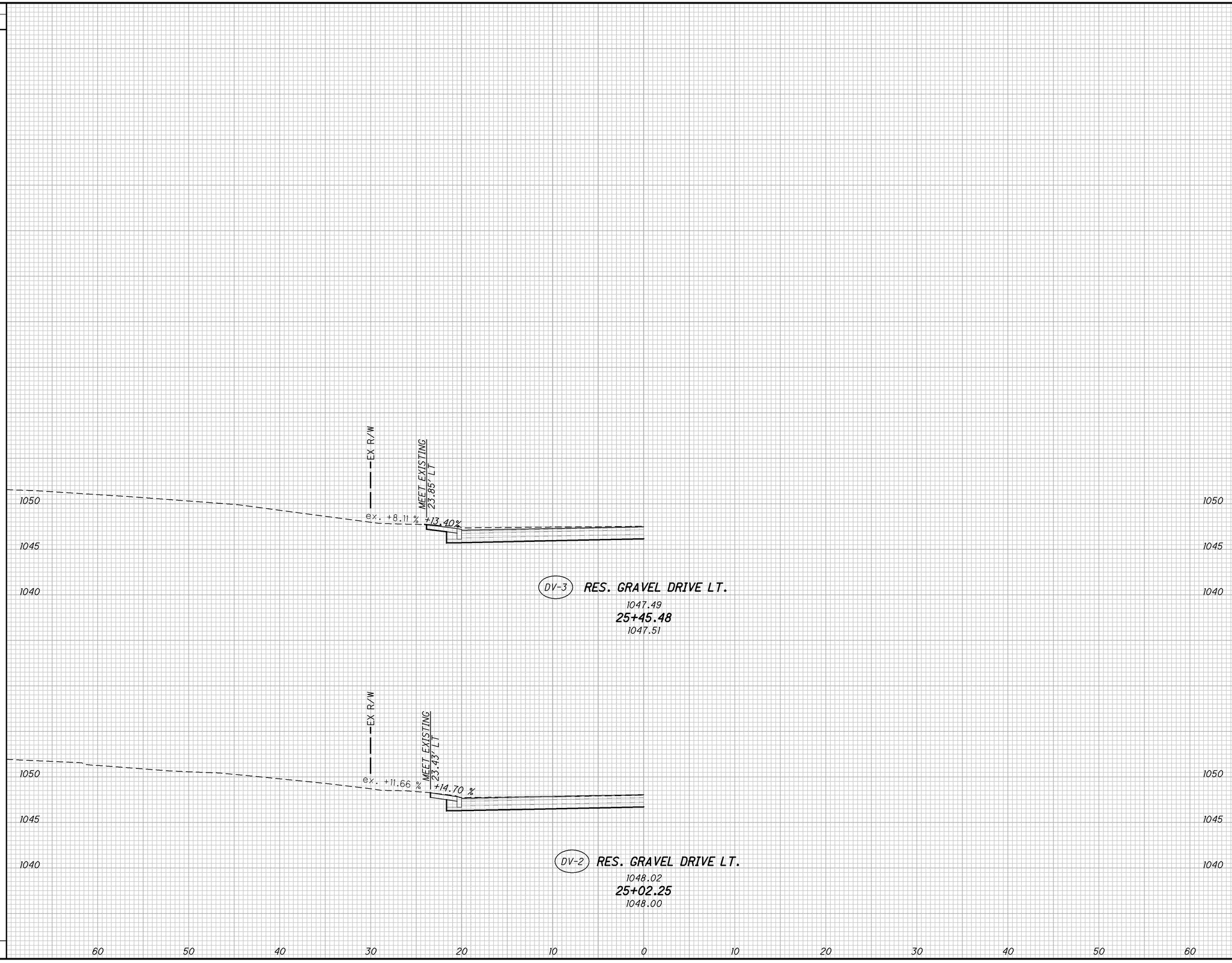
VOLUME	
CUT	FILL

CALCULATED AJE

CHECKED CWL

DRIVE PROFILES - SOUTH STREET

SUM-76/77-11.27/12.12



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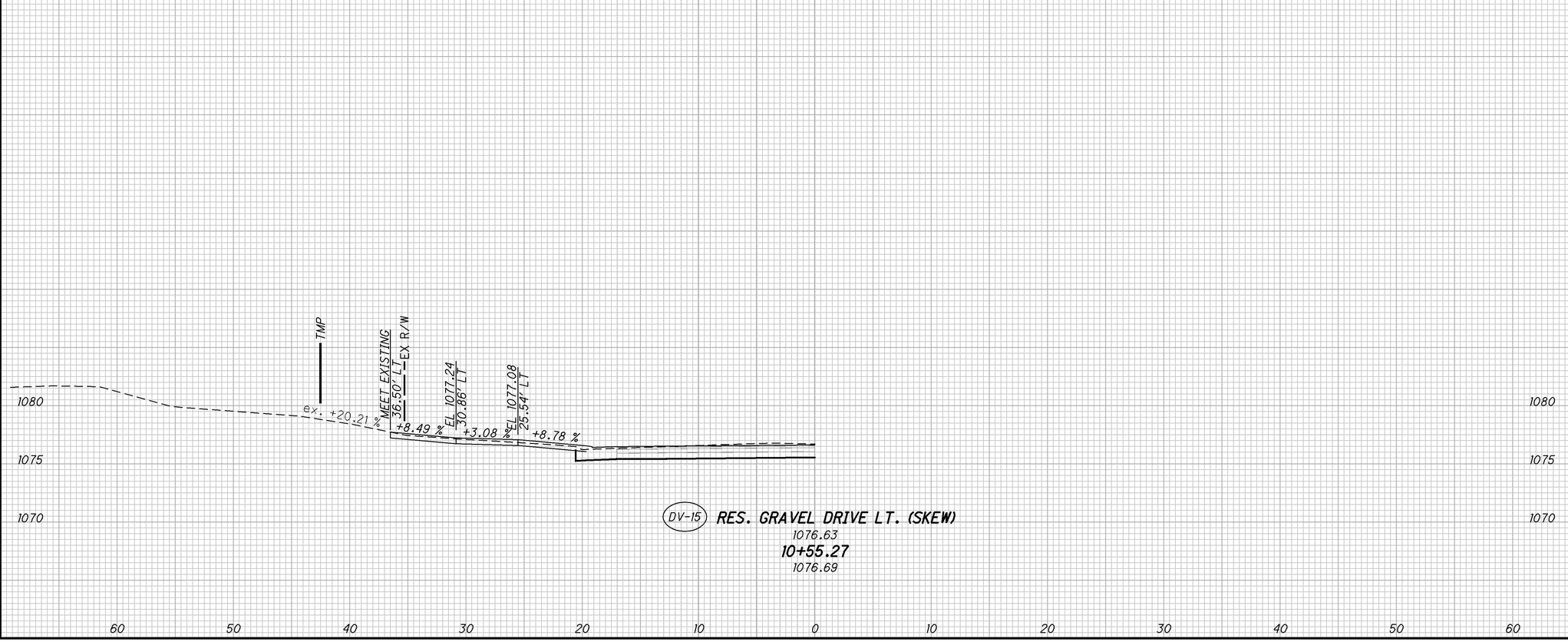
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED AJE

CHECKED CWL



DV-15 RES. GRAVEL DRIVE LT. (SKEW)

1076.63

10+55.27

1076.69

DRIVE PROFILES - JOHNSTON STREET

SUM-76/77-11.27/12.12

360
652

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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

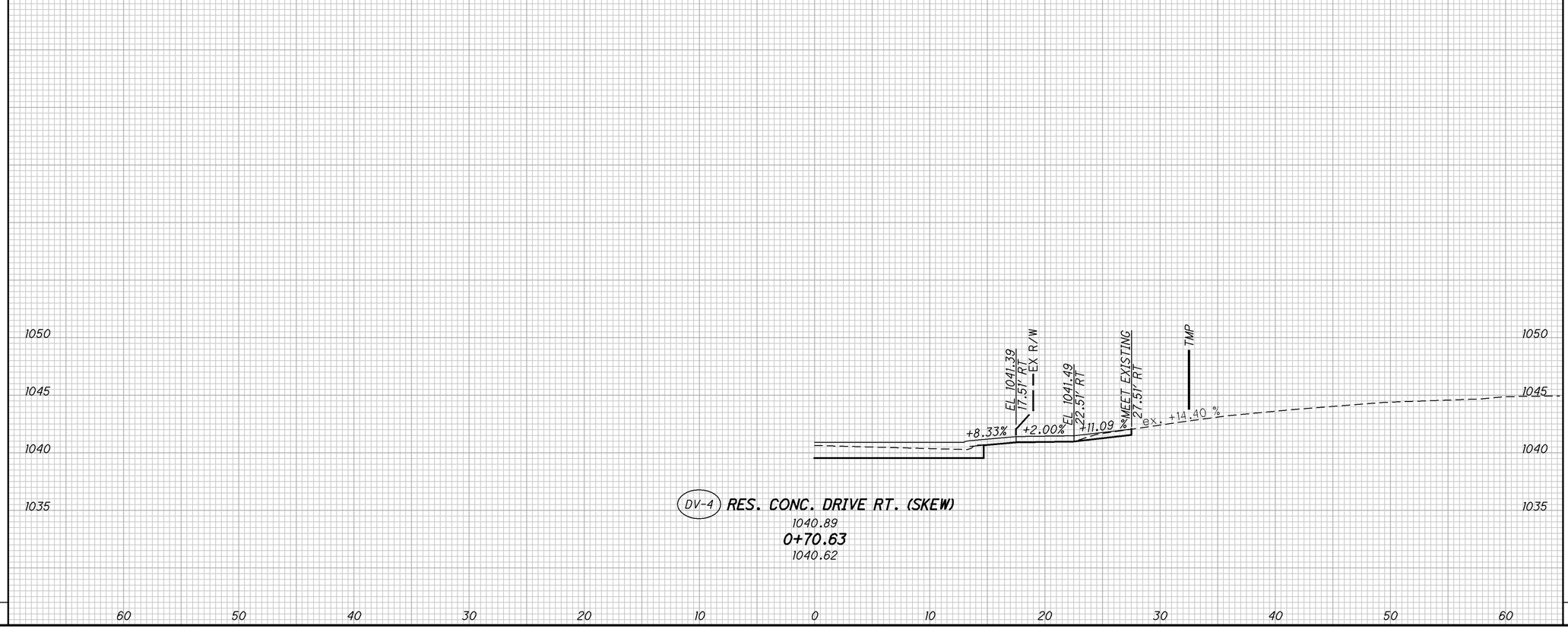
CALCULATED AJE

CHECKED CWL

DRIVE PROFILES - LAMPARTER STREET

SUM-76/77-11.27/12.12

361
652



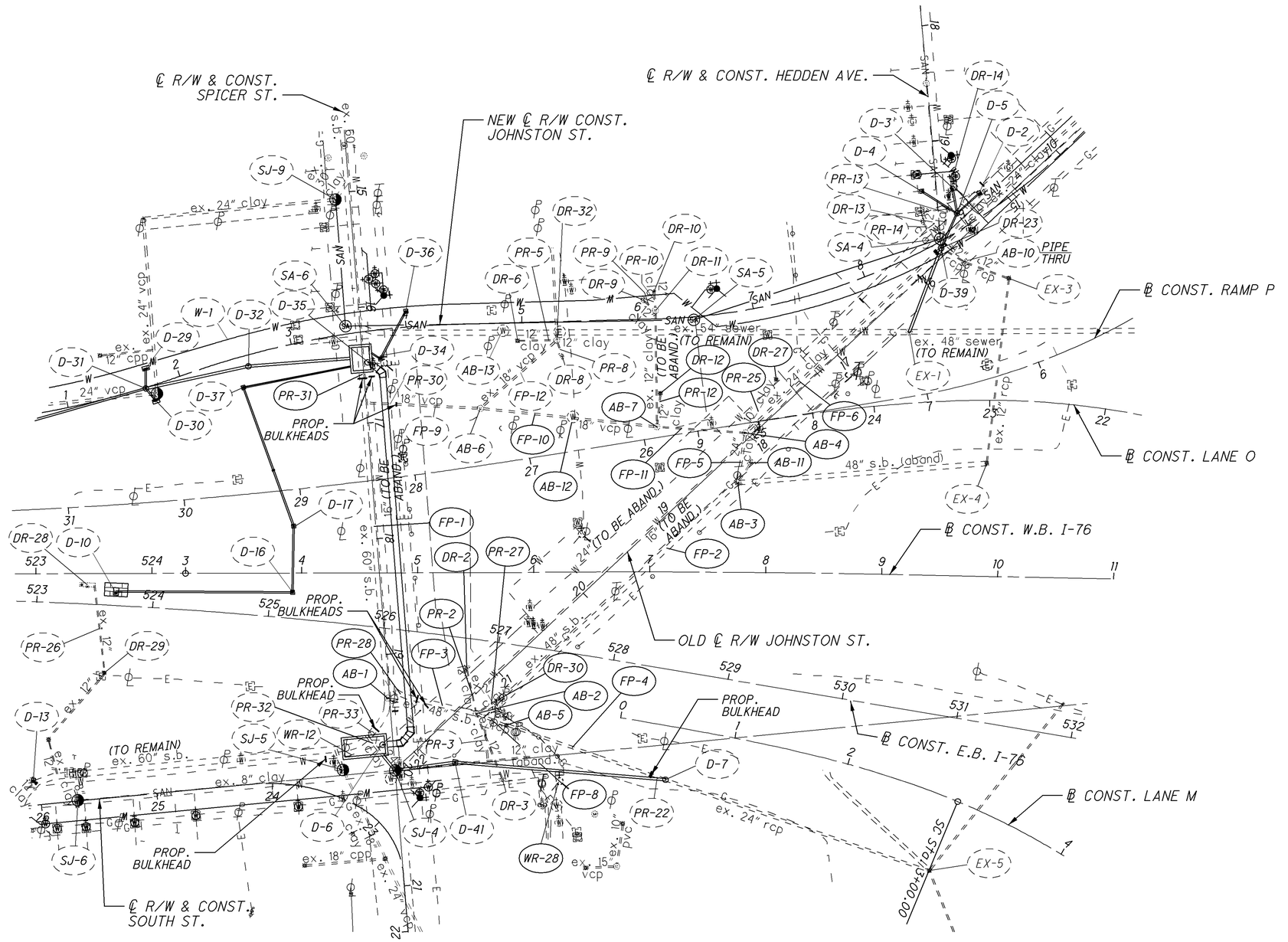
DV-4 **RES. CONC. DRIVE RT. (SKEW)**

1040.89

0+70.63

1040.62

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SSCHUSTER



FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AJE
CHECKED CWL

EXISTING DRAINAGE AND UTILITY SCHEMATIC
EXISTING JOHNSTON STREET AND SPICER STREET

SUM-76/77-11.27/12.12

362
652

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SSCHUSTER

STA. 0+00.00; 0.00' CTR. PROP. 60" COMB. SEWER
STA. 25+87.09; 23.00' RT. ℄ CONST. SOUTH ST.

STA. 8+28.79; 0.00' CTR. PROP. 60" COMB. SEWER
STA. 14+60.27; 1.16' RT. ℄ R/W CONST. SPICER ST.

℄ R/W & CONST. SPICER ST.

℄ CONST. W.B. I-76

℄ CONST. SOUTH ST.

℄ CONST. E.B. I-76

NEW ℄ R/W CONST. JOHNSTON ST.

OLD ℄ R/W JOHNSTON ST.

℄ CONST. LANE O

℄ PROP. 60" COMB. SEWER

conc. sidewalk
guardrail
brush
5' chainlink fence
N 88° 53' 33" E
60" s.b. (TO REMAIN)
bollard
PROP. BULKHEAD
D-6
PR-33
PT Sta. 24+17.85
6' chainlink fence
asphalt
conc.
PCC Sta. 23+20.61
PC Sta. 22+48.05
gate
grass
railroad
P-7
FP-1
P-100
SJ-4
AB-1
PI Sta. 3+13.52
PI Sta. 3+01.13
PR-28
PROP. BULKHEAD
45° BEND +13.52 (60" COMB. SEWER)
N 44° 52' 35" E
45° BEND +01.13 (60" COMB. SEWER)
P-41
D-41
FP-3
bridge
P-10
P-16
D-16
D-17
bridge pier *
525
526
527
60" s.b.
N 0° 07' 26" W
P-6
bridge pier(typ.)
conc. sidewalk
grass
P-17
PROP. BULKHEAD
PR-30
16" (TO BE ABAND.)
PI Sta. 6+48.43
P-37
PR-31
D-35
N 45° 07' 25" W
P-32
gravel
gravel drive
SAN
N 0° 11' 30" W
60" s.b. (TO REMAIN)
dense vegetation
grass
brush
P-36
P-34
D-36
D-34
PI Sta. 6+22.98
18" vcp
FP-9
45° BEND +23.98 (60" COMB. SEWER)
shed
brick
railroad
conc.
PC Sta. 26+96.87
stn. wall
grass
gravel
bollard(typ.)
wall

FOR PIPE PROFILE, SEE SHEET 364
FOR JUNCTION CHAMBER DETAILS, SEE SHEET 365 - 371
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MDG
CHECKED CWL

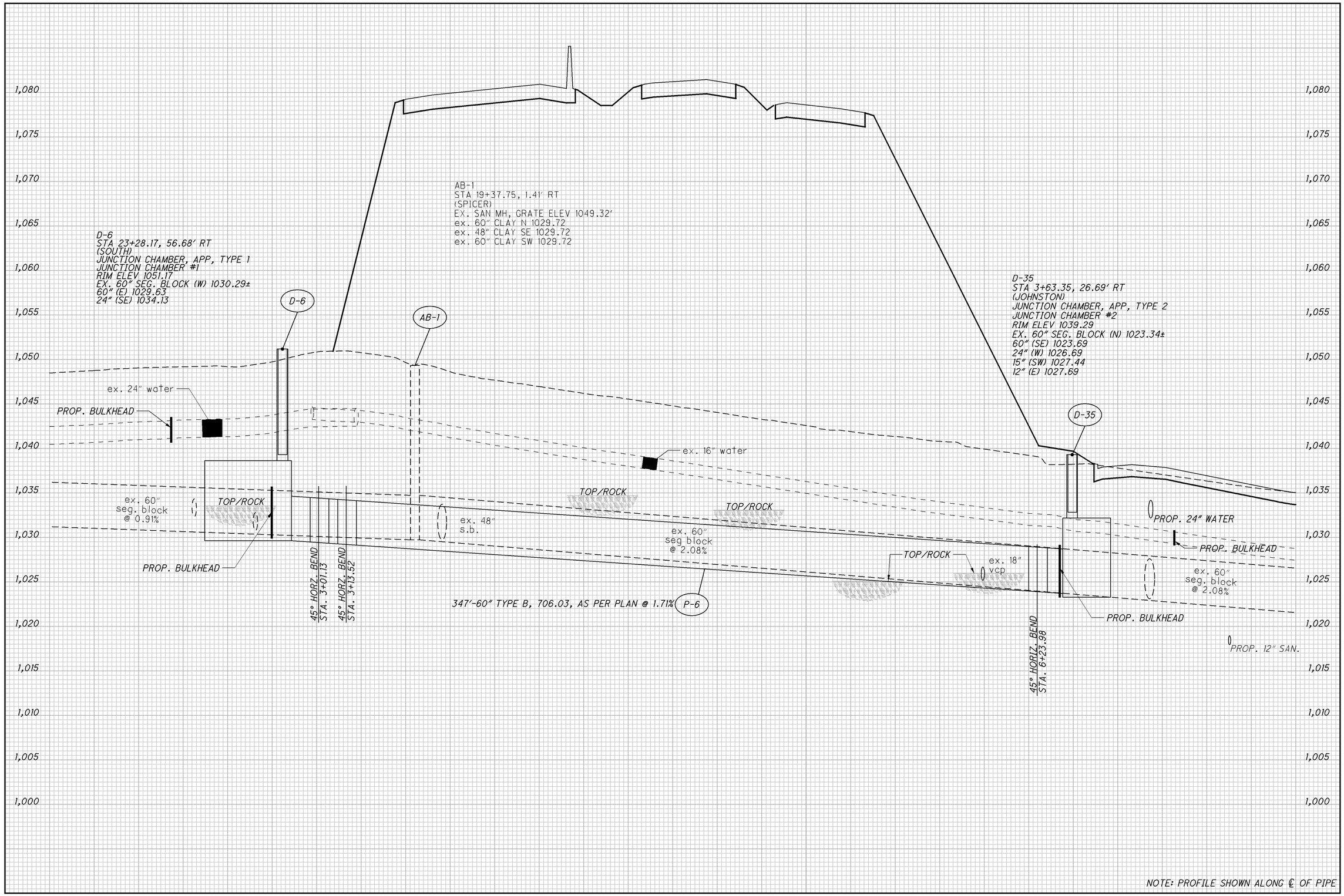
DRAINAGE DETAILS
PROPOSED 60" COMBINED SEWER PLAN

SUM-76/77-11.27/12.12

363
652

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SSCHUSTER

FOR PLAN, SEE SHEET 363



CALCULATED MDG
CHECKED CWL

DRAINAGE DETAILS

PROPOSED 60" COMBINED SEWER PROFILE

SUM-76 / 77-11.27 / 12.12

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DESIGN SPECIFICATIONS:

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2011 OHIO BUILDING CODE, ACI 301, AND ACI 350. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES AND THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS (CMS).

THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE JOB CONDITIONS AND RESTRICTIONS.

SHOP DRAWINGS FOR MATERIALS SHALL BE SUBMITTED TO THE ENGINEER AND CITY OF AKRON SEWER BUREAU FOR REVIEW PRIOR TO THE START OF FABRICATION OR COMMENCEMENT OF WORK. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR SUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP APPROVAL, WHICH SHALL CONSTITUTE CERTIFICATION THAT HE HAS VERIFIED ALL FIELD MEASUREMENTS, CONSTRUCTION CRITERIA, MATERIALS AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS. CHANGES TO SHOP DRAWINGS THAT ARE RE-SUBMITTED MUST BE CLOUDED OR SOMEHOW INDICATED THAT A CHANGE HAS BEEN MADE TO A PREVIOUSLY ISSUED AND REVIEWED DRAWING.

DESIGN STRESSES:

CONCRETE CLASS QC3 WITH QC/QA AND AS MODIFIED PER PLAN – COMPRESSIVE STRENGTH OF 4500 PSI

REINFORCING STEEL – ASTM A615 OR ASTM A996, MINIMUM YIELD STRENGTH 60,000 PSI EPOXY COATED

PROPOSED WORK:

INSTALL TWO (2) NEW BELOW GRADE CONCRETE JUNCTION CHAMBERS AROUND THE EXISTING 60" DIAMETER SEGMENTAL BLOCK SANITARY SEWER PIPE.

SEQUENCE:

1. EXCAVATE AROUND PIPE TO SPRING LINE IN ACCORDANCE WITH ITEMS 503 & 611.
2. SHORE EXISTING SEGMENTAL PIPE AS REQUIRED TO ENSURE ITS STRUCTURAL INTEGRITY AND KEEP WATERTIGHT IN ACCORDANCE WITH ITEM 503.
3. EXCAVATE BELOW PIPE IN ACCORDANCE WITH ITEMS 503 & 611.
4. UNDERPIN EXISTING PIPE BY INSTALLING CONCRETE BASE SLAB BELOW PIPE TO SPRING LINE IN ACCORDANCE WITH ITEMS 503, 508, 509, & 511.
5. INSTALL CONCRETE WALLS AND NEW RCP PIPE IN ACCORDANCE WITH ITEMS 503, 508, 509, 511 & 611.
6. INSTALL CONCRETE ROOF IN ACCORDANCE WITH ITEMS 503, 508, 509, & 511.
7. BACKFILL AROUND PERIMETER OF CONCRETE JUNCTION CHAMBER IN ACCORDANCE WITH ITEMS 503 & 611 AFTER CONCRETE HAS REACHED DESIGN STRENGTH.
8. REMOVE SECTION OF EXISTING SEGMENTAL PIPE INSIDE JUNCTION CHAMBER ABOVE THE SPRING LINE IN ACCORDANCE WITH ITEMS 202 & 611.
9. REMOVE SECTION OF EXISTING SEGMENTAL PIPE INSIDE JUNCTION CHAMBER AT NEW CONCRETE CHANNEL IN ACCORDANCE WITH ITEM 611 TO ALLOW FLOW TO NEW PIPE.
10. SEAL EXISTING PIPE BETWEEN JUNCTION CHAMBERS IN ACCORDANCE WITH ITEM SPECIAL-FILL AND PLUG EXISTING CONDUIT.

SPECIFICATION REQUIREMENTS/ALTERATIONS:

ITEM 509: REINFORCING STEEL

THE PROVISIONS OF ITEM 509 APPLY WITH THE FOLLOWING REVISIONS:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. PROVIDE REBAR SHOP DRAWINGS TO THE DESIGN ENGINEER FOR APPROVAL PRIOR TO REBAR FABRICATION.

ITEM 511: CLASS QC3 CONCRETE WITH QC/QA AND AS MODIFIED PER PLAN

THE PROVISIONS OF ITEM 511 APPLY WITH THE FOLLOWING REVISIONS:

1. SHOP DRAWINGS: PROVIDE MIX DESIGN UTILIZING ALL REQUIRED ADMIXTURES IN ACCORDANCE WITH ACI 301

SPECIFICATION REQUIREMENTS/ALTERATIONS (CONT'D):

ITEM 511: CLASS QC3 CONCRETE WITH QC/QA AND AS MODIFIED PER PLAN (CONT'D)

2. TRIAL BATCH TESTING
   - A. SHRINKAGE TESTING – THE CONTRACTOR SHALL PERFORM DRYING SHRINKAGE TESTS FOR THE TRIAL BATCHES. MAXIMUM SHRINKAGE OF 0.04% AT 28 DAYS PER ASTM C878 "STANDARD TEST METHOD FOR RESTRAINED EXPANSION OF SHRINKAGE COMPENSATING CONCRETE" OR USING EMBEDDED VIBRATING WIRE STRAIN GAUGES. RESULTS OF TESTING SHALL BE SUBMITTED TO ENGINEER.
   - B. PERMEABILITY TESTING – THE CONTRACTOR SHALL PERFORM CHLORIDE ION PENETRABILITY TESTS FOR THE TRIAL BATCHES IN ACCORDANCE WITH ASTM C1202. THE MAXIMUM CHLORIDE ION PENETRABILITY SHALL BE 1,500 COULOMBS. IF THE TRIAL BATCH SPECIMENS DO NOT MEET THE PENETRABILITY REQUIREMENTS, REVISE THE MIX DESIGN AND/OR MATERIALS AND RETEST.
3. MATERIALS
   - A. CEMENTITIOUS – USE ASTM C150 TYPE I/II PORTLAND CEMENT (TYPE III NOT PERMITTED) WITH 30% ASTM C989 GROUND GRANULATED BLAST FURNACE SLAG, (GRADE 100 OR BETTER). PROVIDE MINIMUM 610 LBS/CUBIC YARD CEMENTITIOUS CONTENT AND MAXIMUM 0.42 WATER/CEMENT RATIO.
   - B. CONCRETE ADMIXTURES:
     - a. MAINTAIN COMPRESSIVE STRENGTH AND MAXIMUM WATER-CEMENT RATIOS SPECIFIED IN ITEM 511 WHEN USING ADMIXTURES. INCLUDE ADMIXTURES IN SOLUTION FORM IN THE WATER-CEMENT RATIO CALCULATIONS.
     - b. DO NOT USE ANY ADMIXTURE THAT CONTAINS CHLORIDES OR OTHER CORROSIVE ELEMENTS IN ANY CONCRETE. ADMIXTURES SHALL BE NONTOXIC AFTER 30 DAYS.
     - c. USE ADMIXTURES IN COMPLIANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE MANUFACTURER SHALL CERTIFY THE COMPATIBILITY OF MULTIPLE ADMIXTURES USED IN THE SAME MIX.
     - d. DO NOT USE ADMIXTURES IN GREATER DOSAGES THAN RECOMMENDED BY MANUFACTURER.
     - e. ADMIXTURE MANUFACTURER SHALL HAVE ISO 9001 QUALITY CERTIFICATION
     - f. TO ENSURE COMPATIBILITY, ALL ADMIXTURES IN THE MIX SHALL BE FROM THE SAME MANUFACTURER.

B-1 WATER REDUCING:
- a. A WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C494, TYPE A. THE AMOUNT OF ADMIXTURE ADDED TO THE CONCRETE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- b. PRODUCTS:
  - 1) BASF CORPORATION; POLYHEED SERIES
  - 2) WR GRACE & COMPANY; DAREX II-AEA
  - 3) EUCLID CHEMICAL COMPANY; EUCON SERIES
  - 4) OR ACCEPTED EQUIVALENT PRODUCT.

B-2 WATER REDUCING AND RETARDING:
- a. A WATER-REDUCING AND RETARDING ADMIXTURE CONFORMING TO ASTM C494, TYPE D . THE AMOUNT OF ADMIXTURE ADDED TO THE CONCRETE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- b. PRODUCTS:
  - 1) BASF CORPORATION; POZZOLITH SERIES
  - 2) SIKA CORPORATION; PLASTIMENT
  - 3) EUCLID CHEMICAL COMPANY; EUCON SERIES
  - 4) OR ACCEPTED EQUIVALENT PRODUCT.

B-3 HIGH-RANGE WATER-REDUCING ADMIXTURE (SUPERPLASTICIZER):
- a. A HIGH-RANGE WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C494, TYPE F OR ASTM C1017, TYPE I.
- b. PRODUCTS:
  - 1) BASF CORPORATION; GLENIUM SERIES
  - 2) WR GRACE & CO.; DARACEM 100
  - 3) EUCLID CHEMICAL COMPANY; EUCON SERIES
  - 4) OR ACCEPTED EQUIVALENT PRODUCT.

B-4 NOT USED.

B-5 WATERPROOFING ADMIXTURE:
- a. INTEGRAL WATERPROOFING ADMIXTURE: INTEGRAL CRYSTALLINE ADMIXTURE SPECIFICALLY FORMULATED TO INTERACT WITH CONCRETE CAPILLARY PORE STRUCTURES TO PROVIDE A WATERPROOFING SYSTEM THAT IS A PERMANENT PART OF CONCRETE MATRIX.
- b. INTEGRAL WATERPROOFING SHALL BE USED AND DOSED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS.

SPECIFICATION REQUIREMENTS/ALTERATIONS (CONT'D):

ITEM 511: CLASS QC3 CONCRETE WITH QC/QA AND AS MODIFIED PER PLAN (CONT'D)

B-5 WATERPROOFING ADMIXTURE (CONT'D):
- c. ADMIXTURE SHALL BE RATED FOR ABOVE GROUND AND BELOW GROUND USE.
- d. PRODUCTS:
  - 1) EUCLID CHEMICAL COMPANY; EUCON VANDEX AM
  - 2) BASF CORPORATION; RHEOMAC 300D
  - 3) WR GRACE & CO; HYDRALITE WR
  - 4) OR ACCEPTED EQUIVALENT PRODUCT

B-6 AIR ENTRAINMENT:
- a. AN AIR-ENTRAINING ADMIXTURE CONFORMING TO ASTM C260.
- b. PRODUCTS:
  - 1) Euclid Chemical company; Eucon Series
  - 2) Sika Corporation, AER
  - 3) Grace Construction Products; Darex II aea
  - 4) BASF Corporation; MB-AE 90
  - 5) OR ACCEPTED EQUIVALENT PRODUCT
- c. ADJUST THE ADMIXTURE CONTENT TO ACCOMMODATE FLY ASH OR POZZOLAN REQUIREMENTS, AND OTHER ADMIXTURES WHEN USED, IN ORDER TO OBTAIN THE SPECIFIED AIR CONTENT..

C. FIBER REINFORCEMENT:
- a. SYNTHETIC MACRO FIBERS: MACRO-SYNTHETIC FIBER REINFORCEMENT SHALL BE USED FOR THE PURPOSE OF CONTROLLING TEMPERATURE AND DRYING SHRINKAGE CRACKING. FIBERS SHALL PROVIDE A MINIMUM POST-CRACK RESIDUAL STRENGTH CAPACITY OF 250 PSI AS MEASURED BY ASTM C1399 AND SHALL MEET THE REQUIREMENTS OF ASTM C 1116 FOR TYPE III SYNTHETIC FIBERS.
- b. MICRO FIBERS AND CELLULOSE FIBERS ARE PROHIBITED.
- c. FIBERS SHALL BE 100 PERCENT VIRGIN POLYPROPYLENE FIBRILLATED FIBERS CONTAINING NO REPROCESSED OLEFIN MATERIALS AND SPECIFICALLY MANUFACTURED TO AN OPTIMUM GRADATION FOR USE AS CONCRETE SECONDARY REINFORCEMENT
- d. VOLUME OF FIBERS SHALL BE AS RECOMMENDED BY THE FIBER MANUFACTURER AND ACCEPTED BY THE ENGINEER.
- e. PHYSICAL CHARACTERISTICS:
  1. SPECIFIC GRAVITY: 0.91
  2. TENSILE STRENGTH:70,000 PSI IN ACCORDANCE WITH ASTM D2256
  3. FIBER LENGTH:1-1/2 INCH MINIMUM
  4. ASPECT RATION: 0.7 MINIMUM
- f. FIBROUS CONCRETE REINFORCEMENT MATERIALS PROVIDED IN THIS SECTION SHALL PRODUCE CONCRETE CONFORMING TO THE REQUIREMENTS FOR STRENGTH OF CONCRETE SPECIFIED.
- g. MACRO SYNTHETIC FIBERS ARE NOT INTENDED, NOT SHALL BE PERMITTED, TO REPLACE STRUCTURAL REINFORCING STEEL.

D. PVC WATERSTOP:
- a. WATERSTOPS SHALL BE EXTRUDED FROM A PVC COMPOUND AND SHALL BE LOCK-RIB, CENTER-BULB, RETRO-FIT OR FLAT-STRIP TYPE. WATER STOP SHALL COMPLY WITH CORPS OF ENGINEERS SPECIFICATION CRD-C-572.
- b. PVC WATERSTOPS FOR CONSTRUCTION JOINTS: FLAT RIBBED TYPE, 6 INCHES WIDE UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS, WITH A MINIMUM THICKNESS OF 3/8-INCHES.
- c. PRODUCTS:
  1. GREENSTREAK; MODEL 679
  2. BOMETALS, INC.; MODEL FR-638
  3. VINYLEX; MODEL R638
  4. OR ACCEPTED EQUIVALENT PRODUCT.

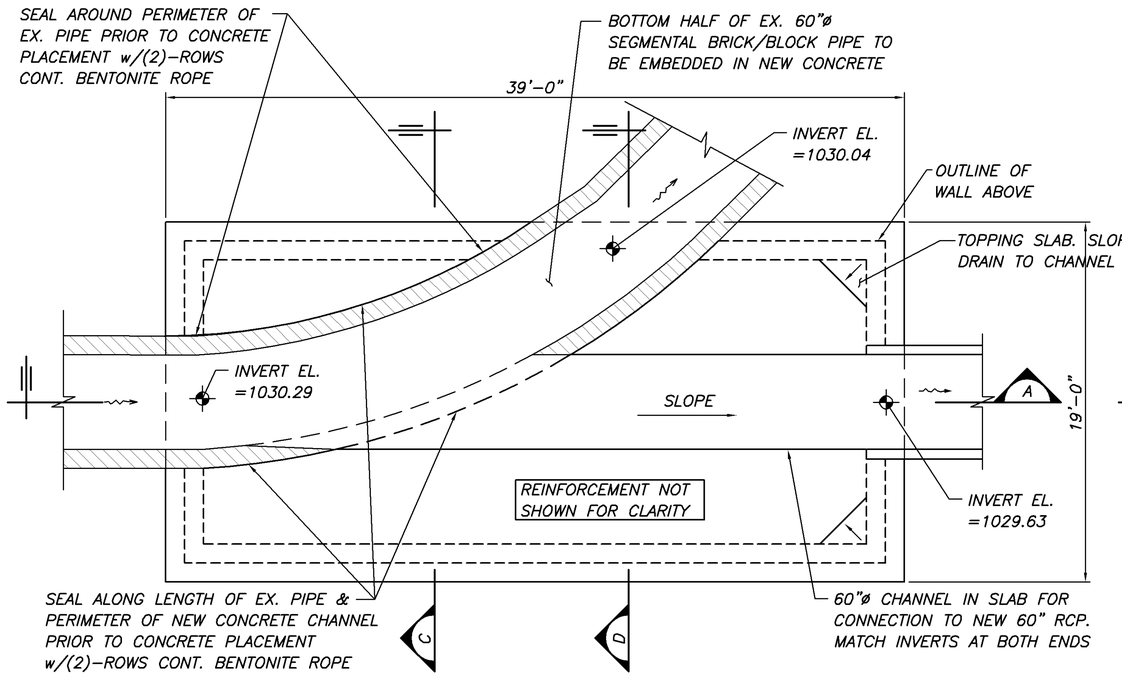
4. FIELD QUALITY CONTROL
   - A. BACKFILL AGAINST WALLS
     - a. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL THE CONCRETE HAS OBTAINED A COMPRESSIVE STRENGTH EQUAL TO THE SPECIFIED 28-DAY COMPRESSIVE STRENGTH. WHERE BACKFILL IS TO BE PLACED ON BOTH SIDES OF THE WALL, PLACE THE BACKFILL UNIFORMLY ON BOTH SIDES.
     - b. DO NOT BACKFILL THE WALLS OF STRUCTURES THAT WILL BE LATERALLY RESTRAINED OR SUPPORTED BY SUSPENDED SLABS OR SLABS ON GRADE UNTIL THE SLAB IS POURED AND THE CONCRETE HAS REACHED THE SPECIFIED COMPRESSIVE STRENGTH.

NO.	DESCRIPTION	REV. BY	DATE
1	REVISED CONCRETE SPEC.	ATR	03-10-15

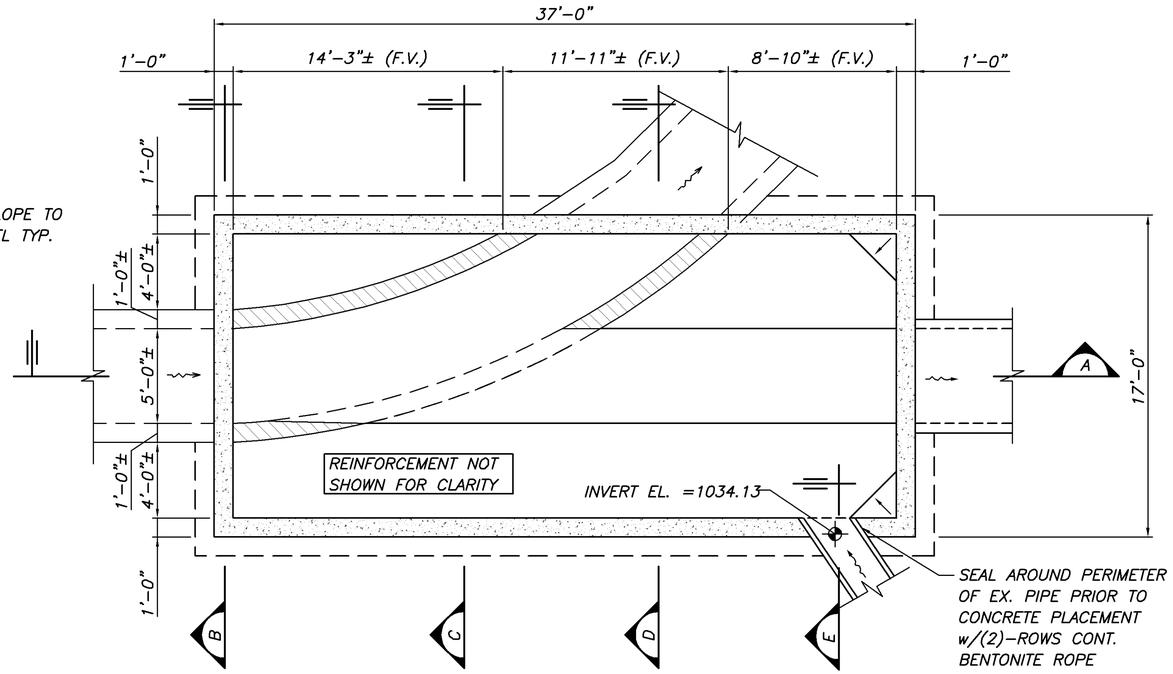
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DRAINAGE SPECIFICATIONS - JUNCTION CHAMBERS

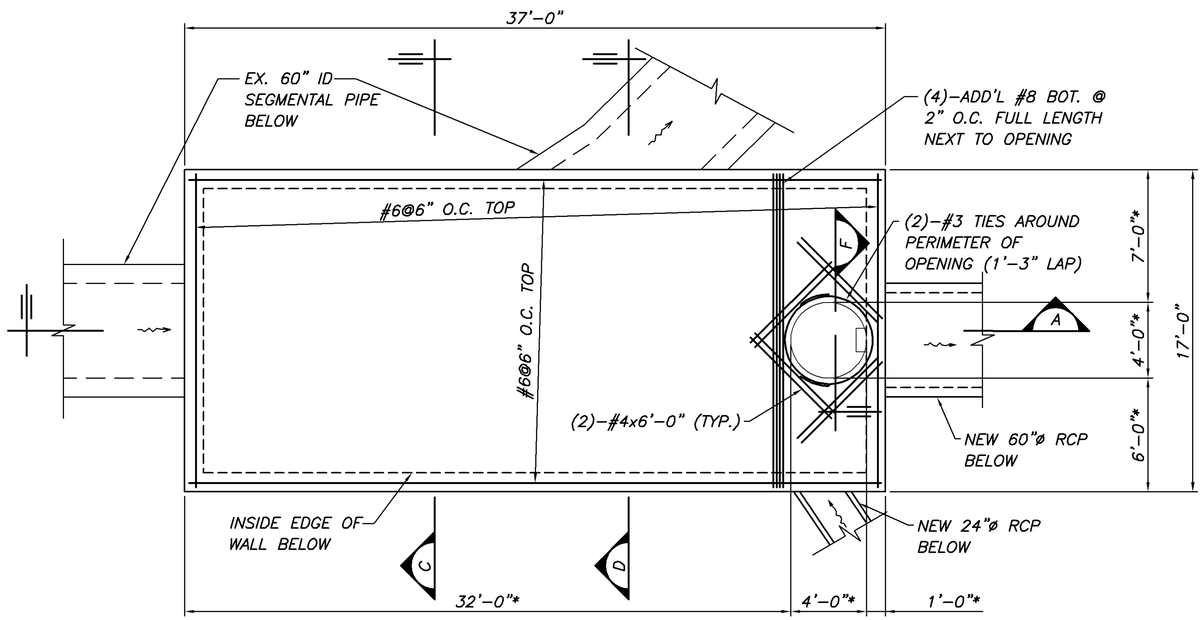
SUM-76/77-11.27/12.12



BASE SLAB PLAN
SCALE: 1/4"=1'–0"



JUNCTION CHAMBER #1 – WALL PLAN
SCALE: 1/4"=1'–0"



ROOF SLAB PLAN
SCALE: 1/4"=1'–0"

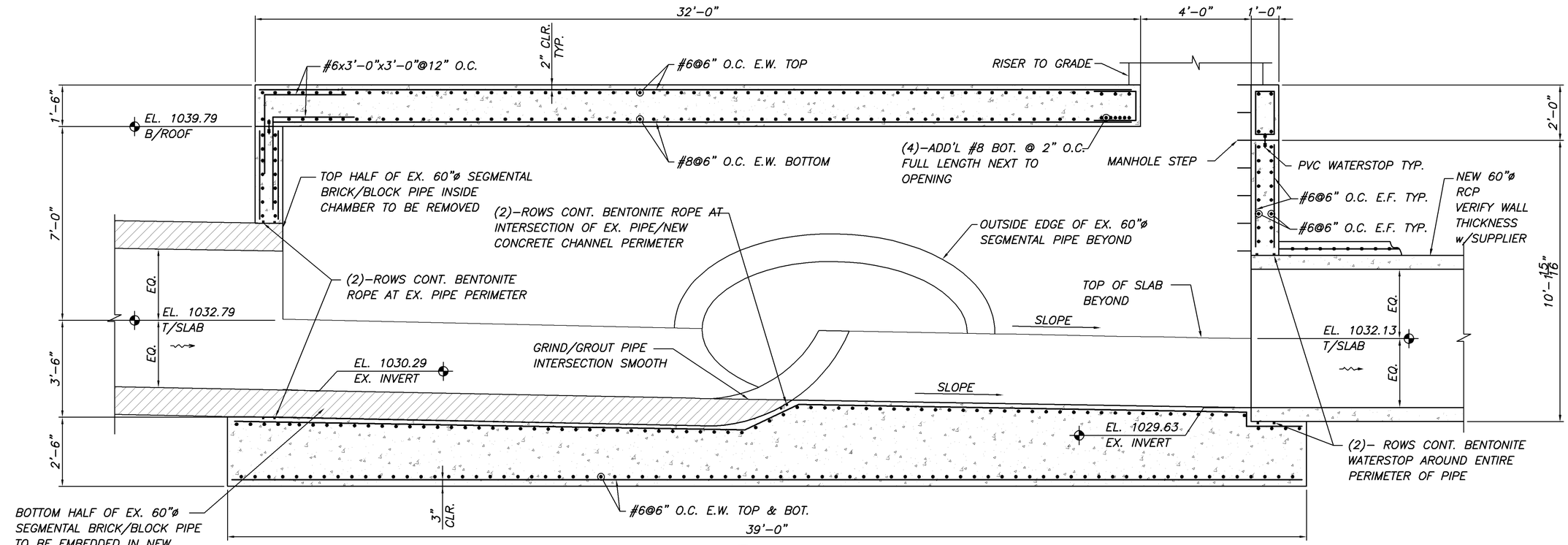
SHEET NOTES:

1. THE CONCRETE FOR THE JUNCTION CHAMBERS SHALL BE COMPOSED OF TYPE I/II CEMENT WITH 30% GROUND GRANULATED BLAST FURNACE SLAB AND THE FOLLOWING ADMIXTURES:
   - SHRINKAGE REDUCER
   - CRYSTALLINE WATERPROOFING
   - CORROSION INHIBITOR
2. TEMPORARY SHORING AND DEWATERING MAY BE REQUIRED DURING CONSTRUCTION. SHORING AND DEWATERING DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE PROPER DEWATERING PRIOR TO EXCAVATION. ALL STRUCTURE EXCAVATION AND EXCAVATION BRACING SHALL CONFORM TO ITEM 503. THE FULL COST OF THIS WORK SHALL BE INCIDENTAL TO THE JUNCTION CHAMBER.
3. CONSTRUCTION JOINTS MAY BE REQUIRED TO ENSURE PROPER CONSTRUCTION OF JUNCTION CHAMBER. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT CONCRETE PLACEMENT AT JUNCTION CHAMBER MEETS SPECIFICATIONS AND GUIDELINES IF CONSTRUCTION JOINTS ARE NOT USED.
4.
5. REFER TO SHEETS 363 & 364 FOR LOCATION OF JUNCTION CHAMBER.
6. DETAILS FOR JUNCTION CHAMBER ARE SHOWN AS CAST–IN–PLACE. IF PRECAST JUNCTION CHAMBER IS REQUESTED, CONTRACTOR SHALL HAVE PRECAST SUPPLIER SUBMIT SEALED SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. PRECAST SUPPLIER SHALL SPECIFY WATERSTOPS @ ALL JOINTS TO ENSURE BOTH SECTIONS OF JUNCTION CHAMBER REMAIN WATERTIGHT.
7. PROVIDE #6 x 3'–0" x 3'–0" CORNER BARS @ ALL LOCATIONS WHERE REINFORCEMENT CHANGES DIRECTION.
8. "*" DENOTES ASSUMED DIMENSIONS OF OPENINGS. GENERAL CONTRACTOR & PRECAST SUPPLIER SHALL COORDINATE DIMENSIONS WITH ACTUAL MANHOLE/FLANGE PURCHASED.
9. REFER TO SHEET 365 FOR GENERAL STRUCTURAL NOTES.
10. E.W. DENOTES REINFORCEMENT INSTALLED EACH WAY.
11. E.F. DENOTES REINFORCEMENT BEING INSTALLED ON BOTH FACES OF CONCRETE WALL.
12. T&B DENOTES REINFORCEMENT BEING INSTALLED AT THE TOP & BOTTOM OF CONCRETE SLAB.
13. MANHOLE RISER AND CONCENTRIC CONE SHALL BE PER STD. DWG. MH–1.2. STEPS, FRAME, AND COVER SHALL BE PER STD. DWG. MH–1.1.
14. DIMENSIONS OF EXISTING PIPE ARE ASSUMED. CONTRACTOR SHALL FIELD VERIFY ALL EX. PIPE DETAILS AFTER INITIAL EXCAVATION AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TOP PLACING CONCRETE.
15. REFER TO SHEETS 367 & 368 FOR SECTIONS & TYP. DETAILS.

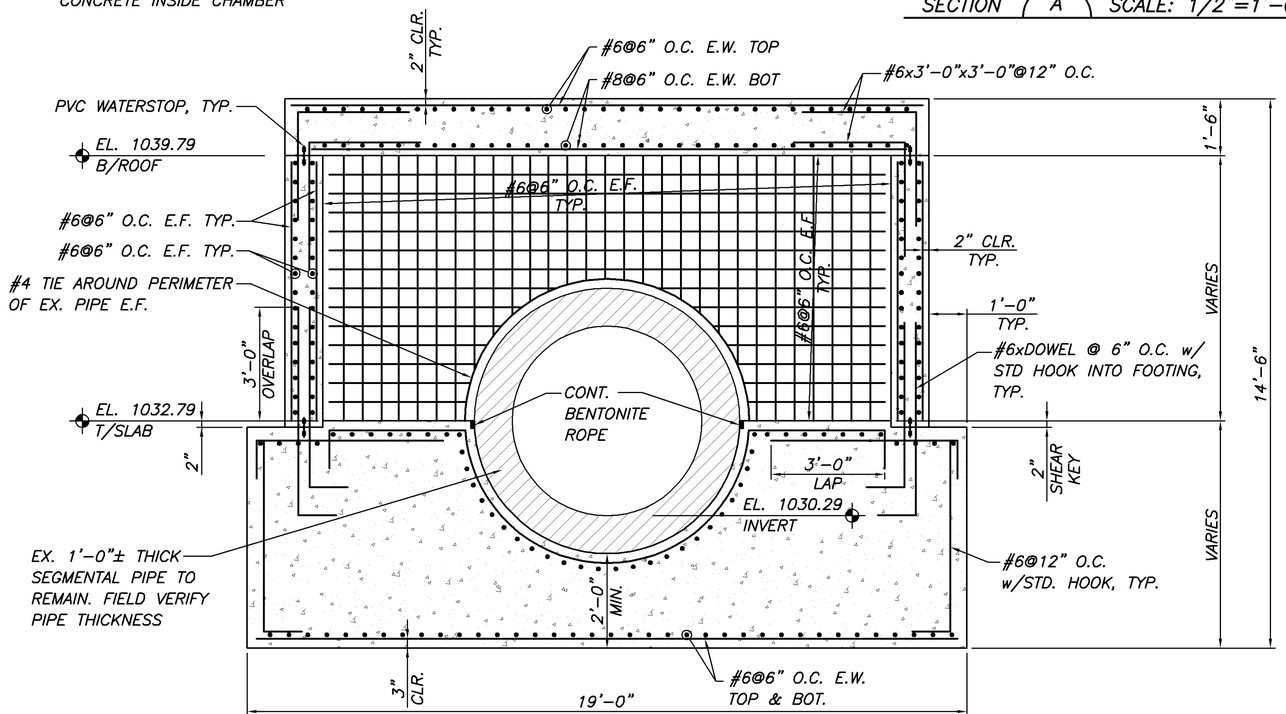
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CHECKED JRM

DRAINAGE PLAN – JUNCTION CHAMBER #1

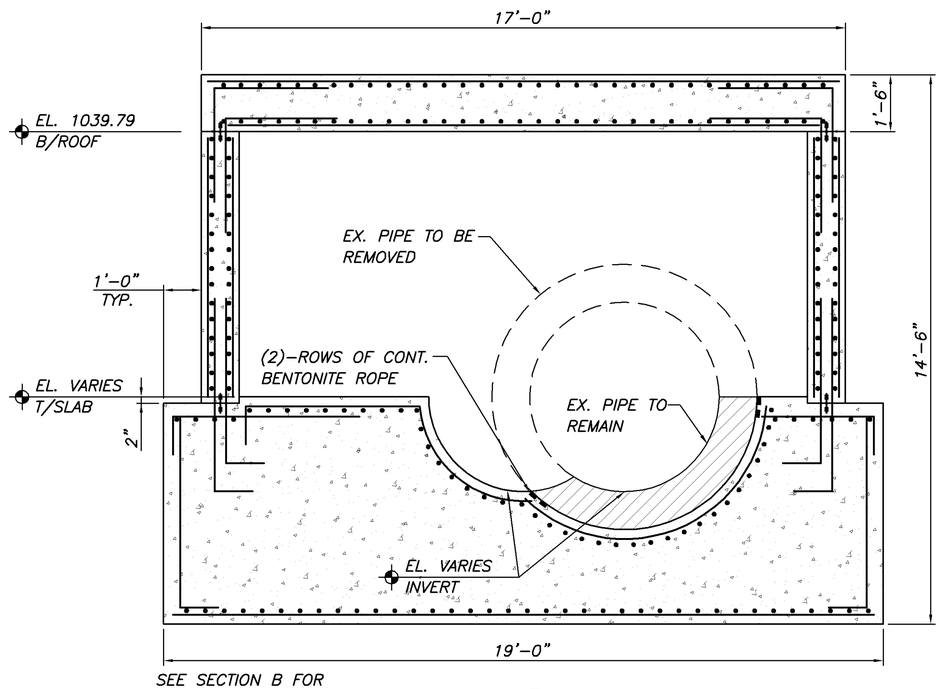
SUM–76/77–11.27/12.12



SECTION A SCALE: 1/2"=1'-0"



SECTION B SCALE: 1/2"=1'-0"



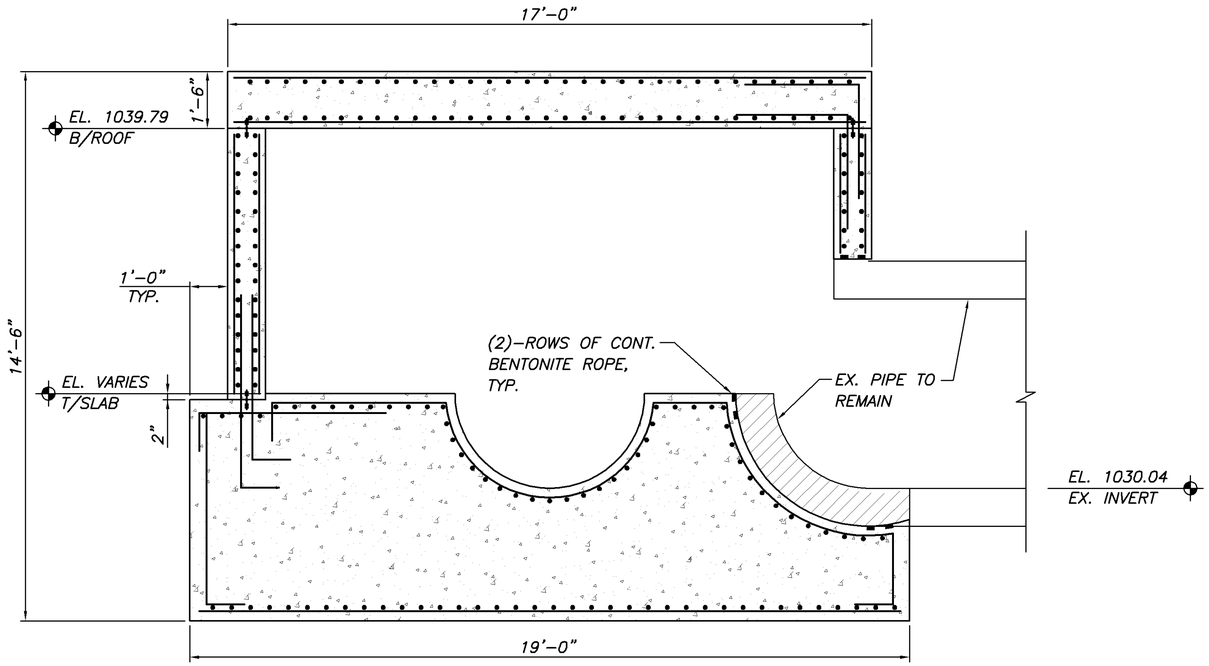
SEE SECTION B FOR ADDITIONAL INFORMATION

SECTION C SCALE: 1/2"=1'-0"

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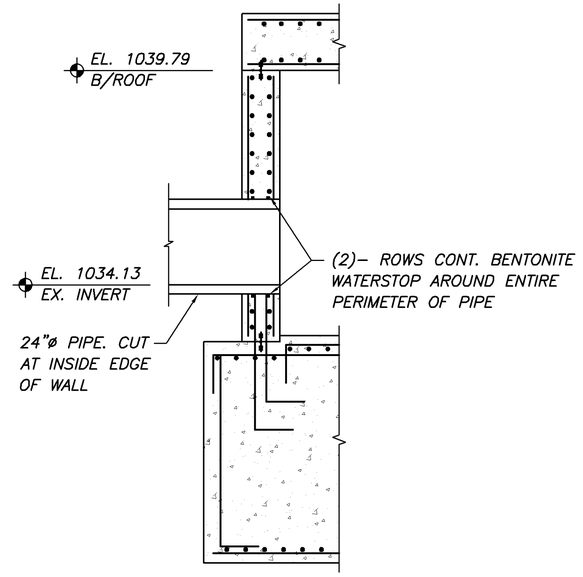
DRAINAGE DETAILS - JUNCTION CHAMBER #1

SUM-76/77-11.27/12.12



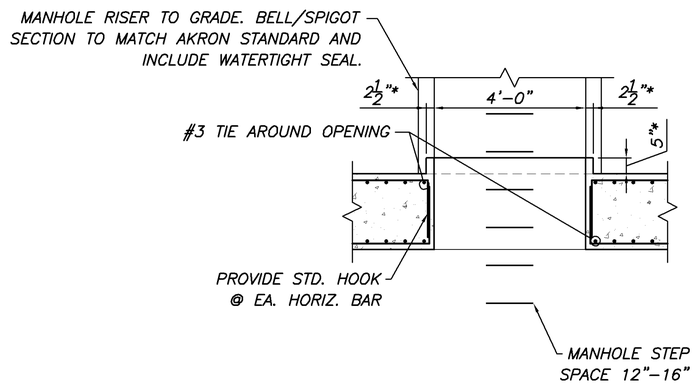
SEE SECTION B FOR
ADDITIONAL INFORMATION

SECTION D SCALE: 1/2"=1'-0"

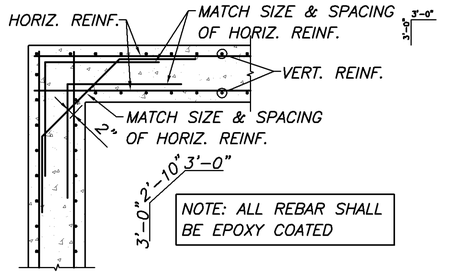


SEE SECTION B FOR
ADDITIONAL INFORMATION

SECTION E SCALE: 1/2"=1'-0"



SECTION F SCALE: 1/2"=1'-0"



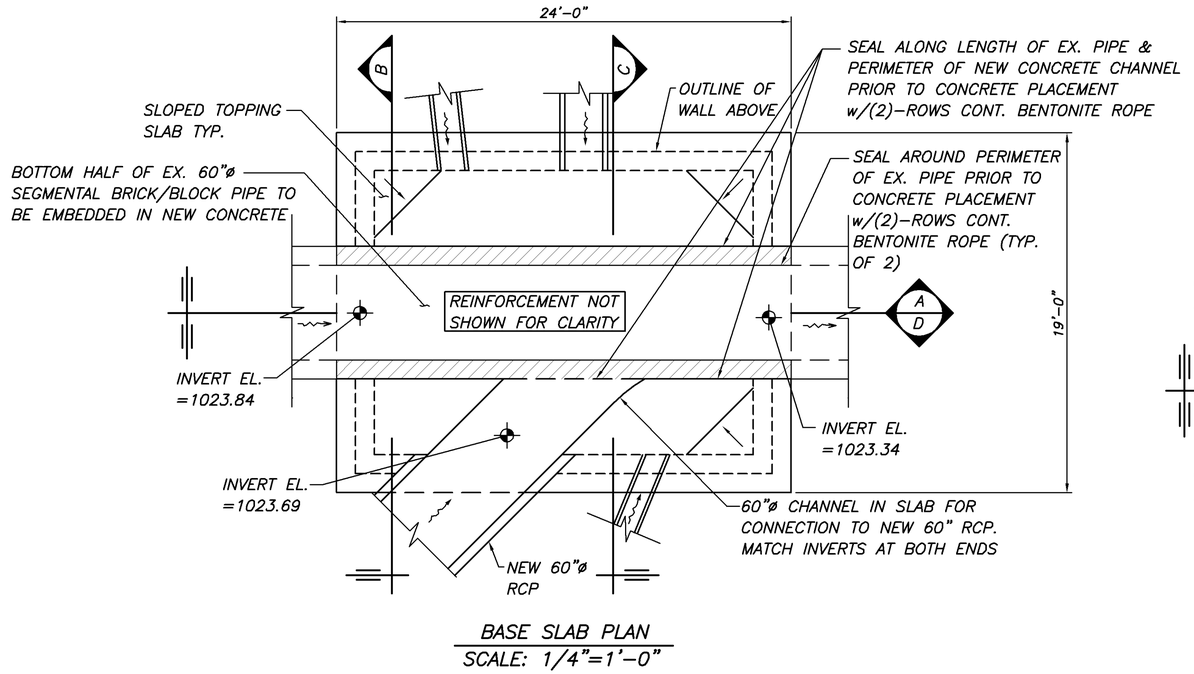
TYP. CORNER DETAIL SCALE: 1/2"=1'-0"

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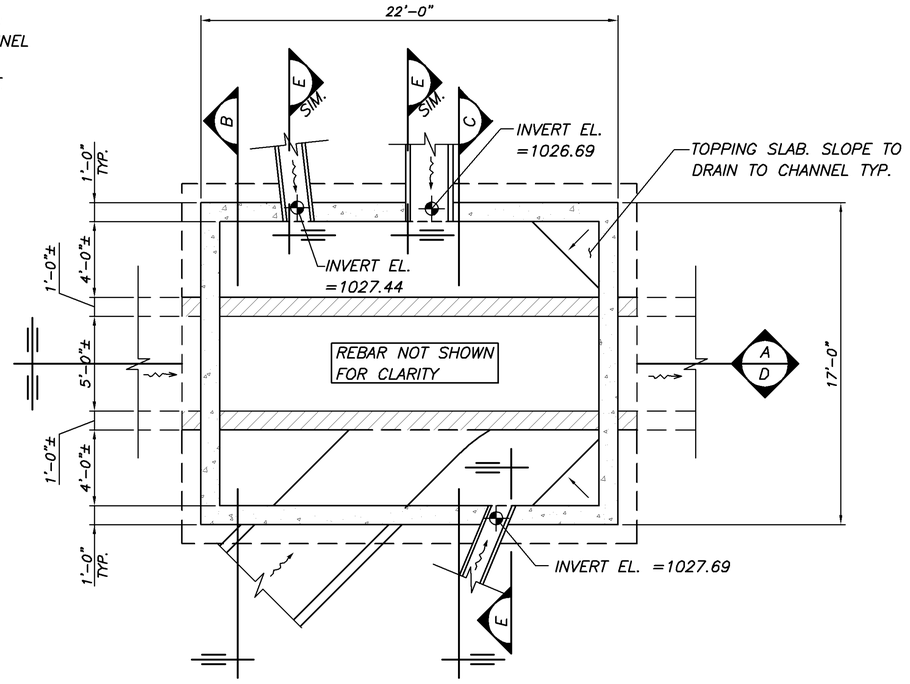
DRAINAGE DETAILS - JUNCTION CHAMBER #1

SUM-76/77-11.27/12.12

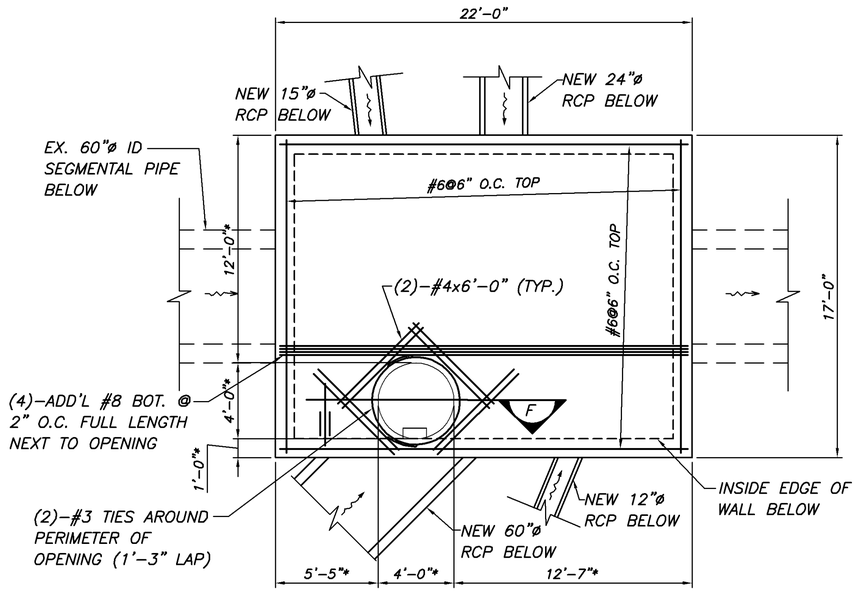
368
652



BASE SLAB PLAN
SCALE: 1/4"=1'-0"



JUNCTION CHAMBER #3 – WALL PLAN
SCALE: 1/4"=1'-0"



ROOF SLAB PLAN
SCALE: 1/4"=1'-0"

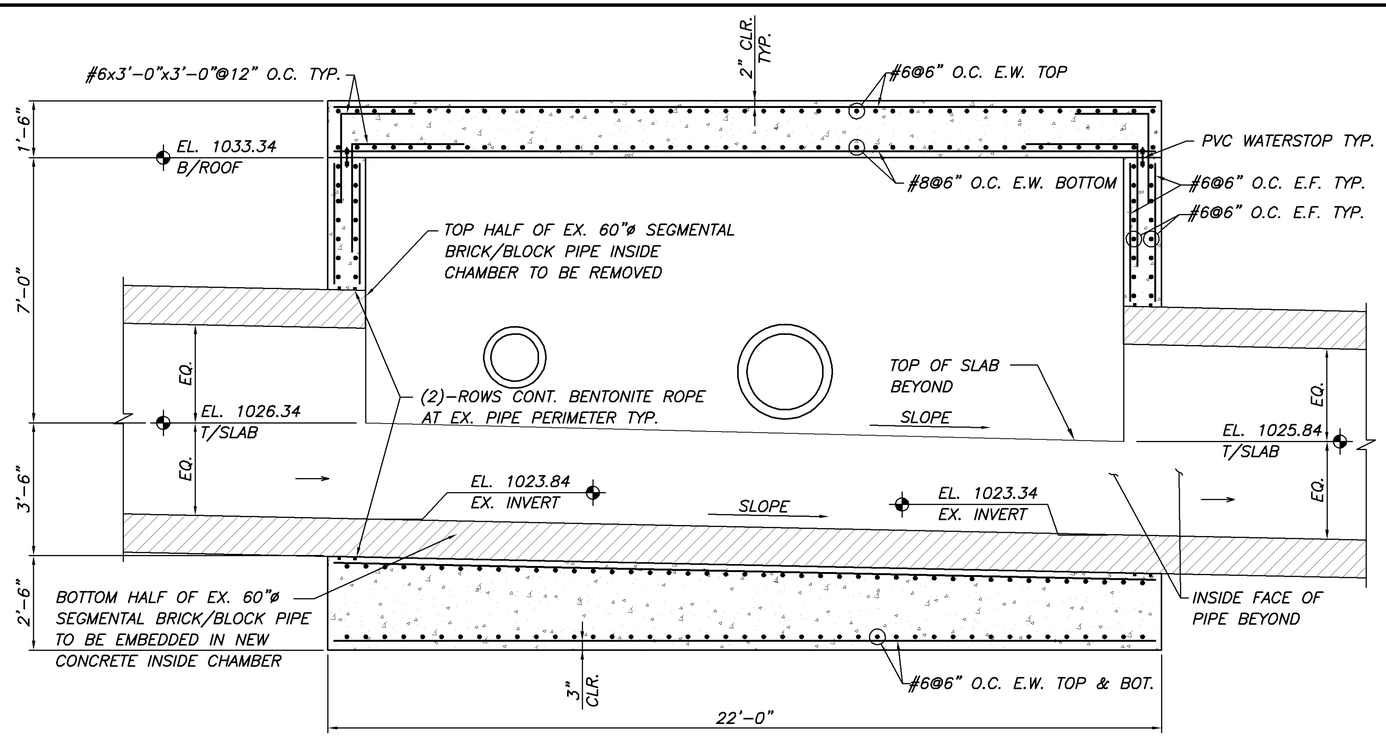
SHEET NOTES:

1. THE CONCRETE FOR THE JUNCTION CHAMBERS SHALL BE COMPOSED OF TYPE I/II CEMENT WITH 30% GROUND GRANULATED BLAST FURNACE SLAB AND THE FOLLOWING ADMIXTURES:
   - SHRINKAGE REDUCER
   - CRYSTALLINE WATERPROOFING
   - CORROSION INHIBITOR
2. TEMPORARY SHORING AND DEWATERING MAY BE REQUIRED DURING CONSTRUCTION. SHORING AND DEWATERING DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE PROPER DEWATERING PRIOR TO EXCAVATION. ALL STRUCTURE EXCAVATION AND EXCAVATION BRACING SHALL CONFORM TO ITEM 503. THE FULL COST OF THIS WORK SHALL BE INCIDENTAL TO THE JUNCTION CHAMBER.
3. CONSTRUCTION JOINTS MAY BE REQUIRED TO ENSURE PROPER CONSTRUCTION OF JUNCTION CHAMBER. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT CONCRETE PLACEMENT AT JUNCTION CHAMBER MEETS SPECIFICATIONS AND GUIDELINES IF CONSTRUCTION JOINTS ARE NOT USED.
4. REFER TO SHEETS 363 & 364 FOR LOCATION OF JUNCTION CHAMBER.
5. DETAILS FOR JUNCTION CHAMBER ARE SHOWN AS CAST-IN-PLACE. IF PRECAST JUNCTION CHAMBER IS REQUESTED, CONTRACTOR SHALL HAVE PRECAST SUPPLIER SUBMIT SEALED SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. PRECAST SUPPLIER SHALL SPECIFY WATERSTOPS @ ALL JOINTS TO ENSURE BOTH SECTIONS OF JUNCTION CHAMBER REMAIN WATERTIGHT.
6. PROVIDE #6 x 3'-0" x 3'-0" CORNER BARS @ ALL LOCATIONS WHERE REINFORCEMENT CHANGES DIRECTION.
7. "*" DENOTES ASSUMED DIMENSIONS OF OPENINGS. GENERAL CONTRACTOR & PRECAST SUPPLIER SHALL COORDINATE DIMENSIONS WITH ACTUAL MANHOLE/FLANGE PURCHASED.
8. REFER TO SHEET 365 FOR GENERAL STRUCTURAL NOTES.
9. E.W. DENOTES REINFORCEMENT INSTALLED EACH WAY.
10. E.F. DENOTES REINFORCEMENT BEING INSTALLED ON BOTH FACES OF CONCRETE WALL.
11. T&B DENOTES REINFORCEMENT BEING INSTALLED AT THE TOP & BOTTOM OF CONCRETE SLAB.
12. MANHOLE RISER AND CONCENTRIC CONE SHALL BE PER STD. DWG. MH-1.2. STEPS, FRAME, AND COVER SHALL BE PER STD. DWG. MH-1.1.
13. DIMENSIONS OF EXISTING PIPE ARE ASSUMED. CONTRACTOR SHALL FIELD VERIFY ALL EX. PIPE DETAILS AFTER INITIAL EXCAVATION AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TOP PLACING CONCRETE.
14. REFER TO SHEETS 370 & 371 FOR SECTIONS & TYP. DETAILS.

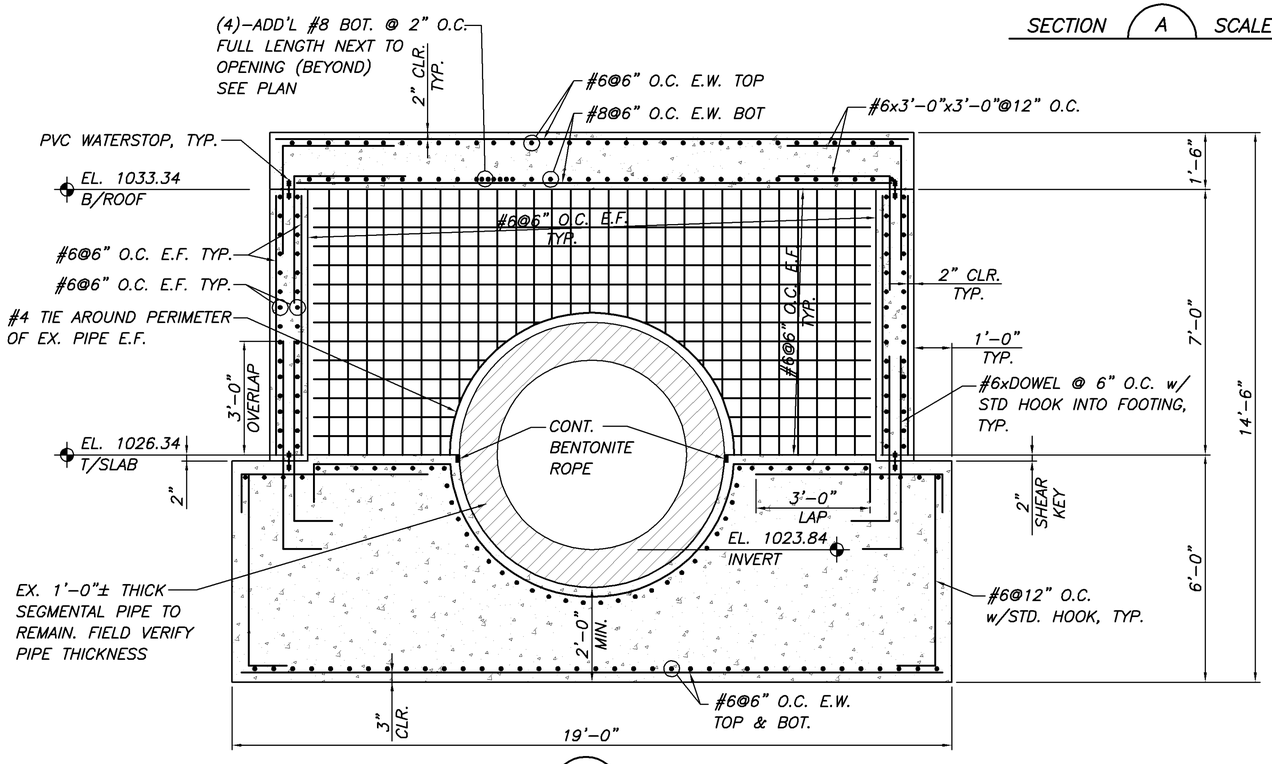
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DRAINAGE PLAN - JUNCTION CHAMBER #2

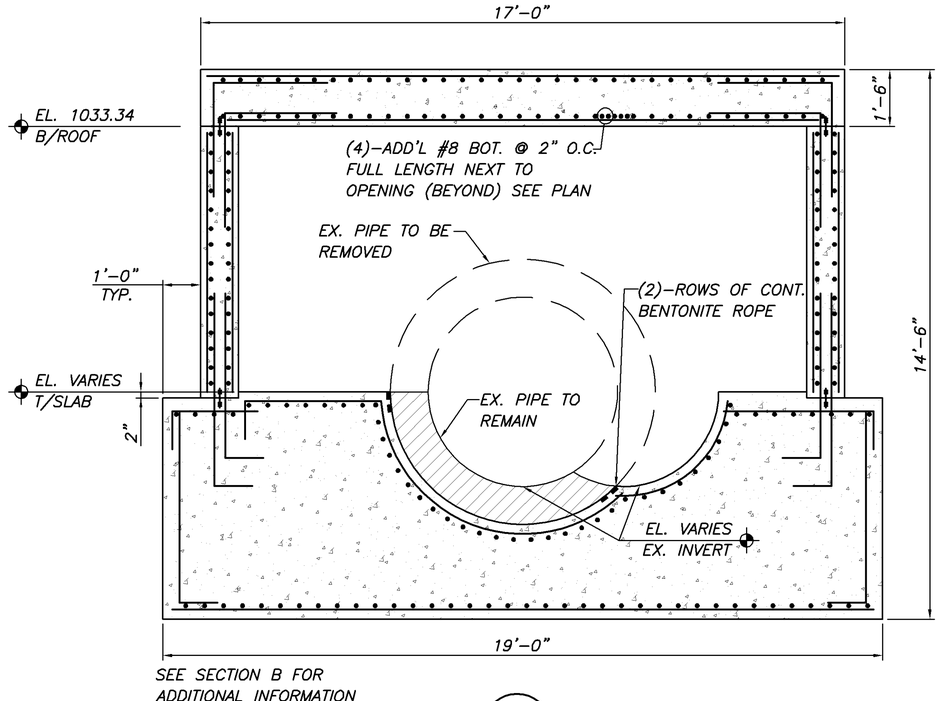
SUM-76/77-11.27/12.12



SECTION A SCALE: 1/2"=1'-0"



SECTION B SCALE: 1/2"=1'-0"



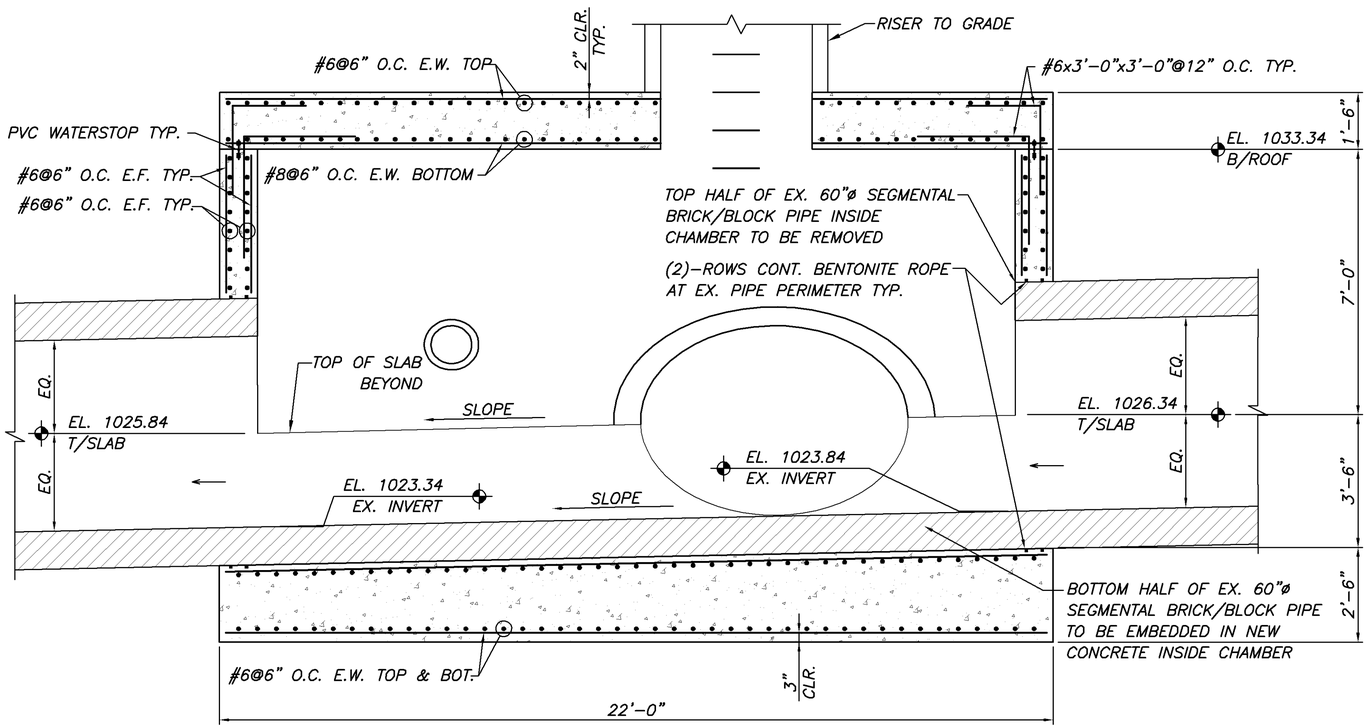
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CALCULATED JCG CHECKED JRM

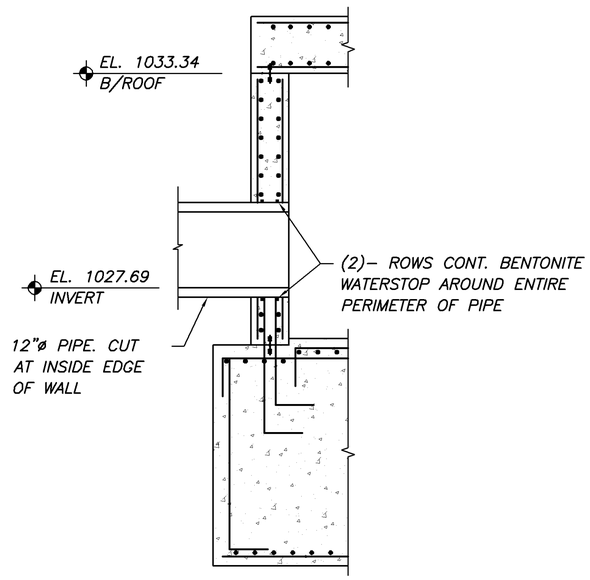
DRAINAGE DETAILS - JUNCTION CHAMBER #2

SUM-76/77-11.27/12.12

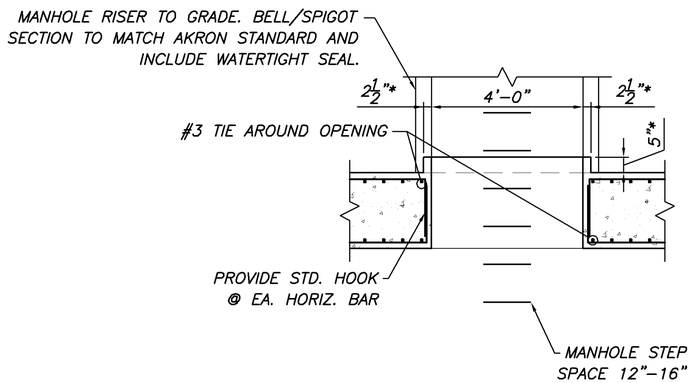
370
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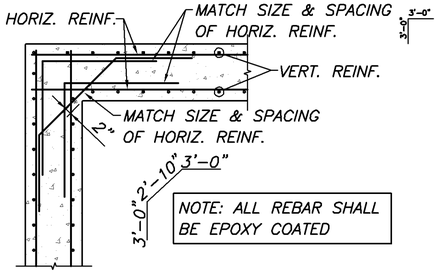
SECTION D SCALE: 1/2"=1'-0"



SECTION E SCALE: 1/2"=1'-0"



SECTION F SCALE: 1/2"=1'-0"



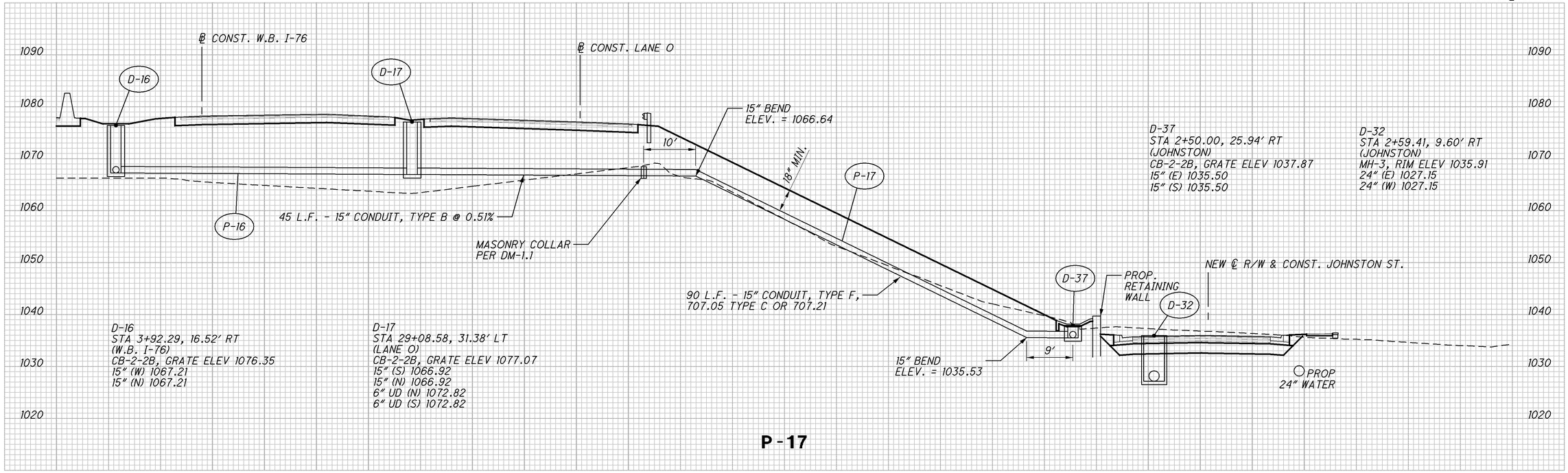
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CHECKED JRM

DRAINAGE DETAILS - JUNCTION CHAMBER #2

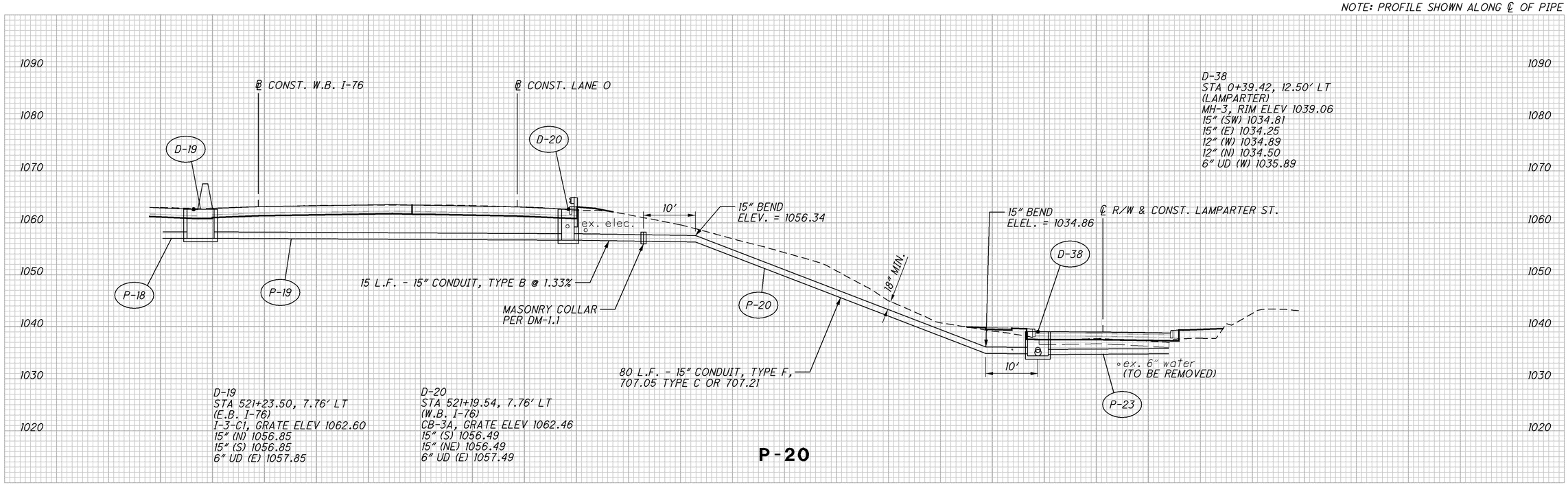
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NOTE: PROFILE SHOWN ALONG ℄ OF PIPE



P-17

NOTE: PROFILE SHOWN ALONG ℄ OF PIPE



P-20

CALCULATED ATR
CHECKED CWL

HORIZONTAL SCALE IN FEET
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STORM SEWER PROFILES

SUM-76 / 77-11.27 / 12.12

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FOR ESTIMATED QUANTITIES, SEE SHEET 194-206
* SEE TABLE FOR DATA ON THIS SHEET.

△ DENOTES ROCK CUT UNDERDRAIN, SEE DETAIL ON SHEET 27 .

U-# #" DENOTES UNDERDRAIN DEPTH BELOW AGGREGATE BASE, SEE TYPICAL SECTIONS FOR STANDARD DEPTHS.

UNDERDRAIN TABLE

UD CODE	FROM STA.	FROM ELEV.	LENGTH	OUTLET STRUCT. NO	OUTLET ELEV.	SLOPE
U-47	30+76.37 (LANE O)	1070.30	90.91'	D-10	1068.87	1.57%
U-49	29+16.52 (LANE O)	1074.45	8.00'	U-16	1074.37	1.00%
U-50	3+85.08 (WB I-76)	1074.70	8.30'	U-17	1074.57	1.00%
U-62	30+53.02 (LANE O)	1068.18	65.30'	OUTLET	1045.02	35.47%
U-64	24+76.47 (LANE O)	1075.03	53.43'	OUTLET	1072.37	4.98%
U-65	30+73.49 (LANE O)	1068.38	20.47'	U-62	1068.18	0.98%
U-66	30+73.41 (LANE O)	1068.98	20.99'	U-62	1064.64	20.68%
U-67	523+66.39 (EB I-76)	1066.79	129.09'	D-13	1042.65	18.70%
U-68	523+58.34 (WB I-76)	1069.12	10.66'	U-10	1068.87	2.35%
U-70	32+98.39 (LANE O)	1059.85	68.44'	U-5	1059.17	0.99%

D-1
STA 10+91.45, 17.22' RT
(JOHNSTON)
CB-3A, GRATE ELEV 1077.52
12" (N) 1074.36

D-2
STA 9+23.53, 18.00' LT
(JOHNSTON)
CB-3A, GRATE ELEV 1070.19
12" (SW) 1066.19

D-3
STA 9+06.08, 14.59' LT
(JOHNSTON)
CB-3A, GRATE ELEV 1069.18
15" (S) 1064.93

D-4
STA 19+42.08, 13.00' RT
(HEDDEN)
CB-3A, GRATE ELEV 1067.73
12" (SE) 1063.73

D-10
STA 523+67.74, 10.74' LT
(E.B. I-76)
I-3-C1, GRATE ELEV 1072.12
15" (E) 1068.12
6" UD (E) 1068.87
6" UD (NE) 1068.87
6" UD (W) 1068.87

D-13
STA 26+04.87, 21.60' RT
(SOUTH)
CB-3A, GRATE ELEV 1045.65
12" (SE) 1041.65
6" UD (S) 1042.65
6" UD (E) 1042.65
6" UD (NE) 1042.65

D-17
STA 29+08.58, 31.38' LT
(LANE O)
CB-2-2B, GRATE ELEV 1077.07
15" (S) 1066.92
15" (N) 1066.92
6" UD (N) 1072.82
6" UD (S) 1072.82

D-18
STA 521+28.50, 58.01' RT
(E.B. I-76)
CB-3A, GRATE ELEV 1061.44
15" (N) 1057.19
6" UD (E) 1058.19

D-19
STA 521+23.50, 7.76' LT
(E.B. I-76)
I-3-C1, GRATE ELEV 1062.60
15" (N) 1056.85
15" (S) 1056.85
6" UD (E) 1057.85

D-20
STA 521+19.54, 7.76' LT
(W.B. I-76)
CB-3A, GRATE ELEV 1062.46
15" (S) 1056.49
15" (NE) 1056.49
6" UD (E) 1057.49

D-21
STA 0+70.00, 13.00' LT
(LAMPARTER)
CB-3A, GRATE ELEV 1040.48
12" (E) 1036.48
6" UD (E) 1037.48

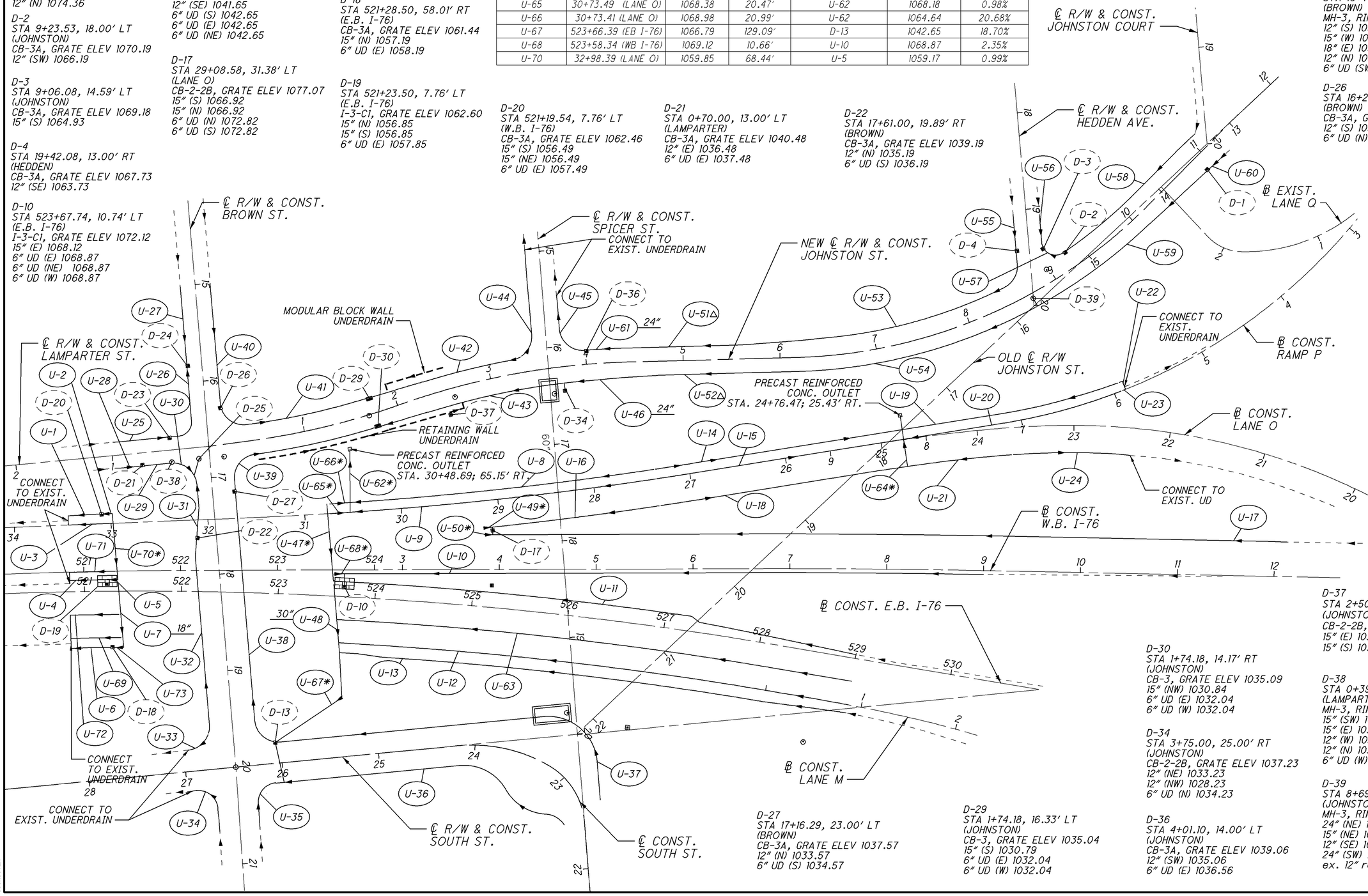
D-22
STA 17+61.00, 19.89' RT
(BROWN)
CB-3A, GRATE ELEV 1039.19
12" (N) 1035.19
6" UD (S) 1036.19

D-23
STA 0+39.42, 13.00' RT
(LAMPARTER)
CB-3A, GRATE ELEV 1038.63
12" (S) 1034.63
6" UD 1035.63

D-24
STA 15+83.00, 15.00' RT
(BROWN)
CB-3A, GRATE ELEV 1037.13
12" (S) 1033.13
6" UD (N) 1034.13
6" UD (S) 1034.13

D-25
STA 16+79.51, 11.14' RT
(BROWN)
MH-3, RIM ELEV 1037.84
12" (S) 1033.67
15" (W) 1032.36
18" (E) 1032.11
12" (N) 1032.61
6" UD (SW) 1034.67

D-26
STA 16+29.01, 15.50' LT
(BROWN)
CB-3A, GRATE ELEV 1036.48
12" (S) 1032.48
6" UD (N) 1033.48



D-27
STA 17+16.29, 23.00' LT
(BROWN)
CB-3A, GRATE ELEV 1037.57
12" (N) 1033.57
6" UD (S) 1034.57

D-29
STA 1+74.18, 16.33' LT
(JOHNSTON)
CB-3, GRATE ELEV 1035.04
15" (S) 1030.79
6" UD (E) 1032.04
6" UD (W) 1032.04

D-30
STA 1+74.18, 14.17' RT
(JOHNSTON)
CB-3, GRATE ELEV 1035.09
15" (NW) 1030.84
6" UD (E) 1032.04
6" UD (W) 1032.04

D-34
STA 3+75.00, 25.00' RT
(JOHNSTON)
CB-2-2B, GRATE ELEV 1037.23
12" (NE) 1033.23
12" (NW) 1028.23
6" UD (N) 1034.23

D-36
STA 4+01.10, 14.00' LT
(JOHNSTON)
CB-3A, GRATE ELEV 1039.06
12" (SW) 1035.06
6" UD (E) 1036.56

D-37
STA 2+50.00, 25.94' RT
(JOHNSTON)
CB-2-2B, GRATE ELEV 1037.87
15" (E) 1035.50
15" (S) 1035.50

D-38
STA 0+39.42, 12.50' LT
(LAMPARTER)
MH-3, RIM ELEV 1039.06
15" (SW) 1034.81
15" (E) 1034.25
12" (W) 1034.89
12" (N) 1034.50
6" UD (W) 1035.89

D-39
STA 8+69.99, 5.31' RT
(JOHNSTON)
MH-3, RIM ELEV 1068.41
24" (NE) 1055.33
15" (NE) 1062.87
12" (SE) 1059.43
24" (SW) 1055.33
ex. 12" rcp (SE) 1059.43

HORIZONTAL SCALE IN FEET
0 25 50 100

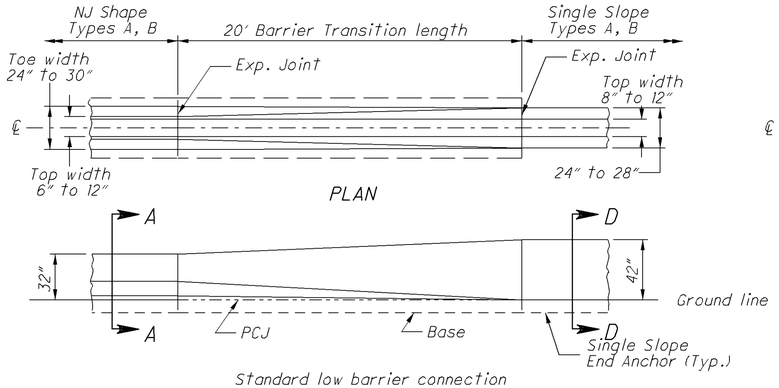
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UNDERDRAIN DETAILS

SUM-76 / 77-11.27 / 12.12

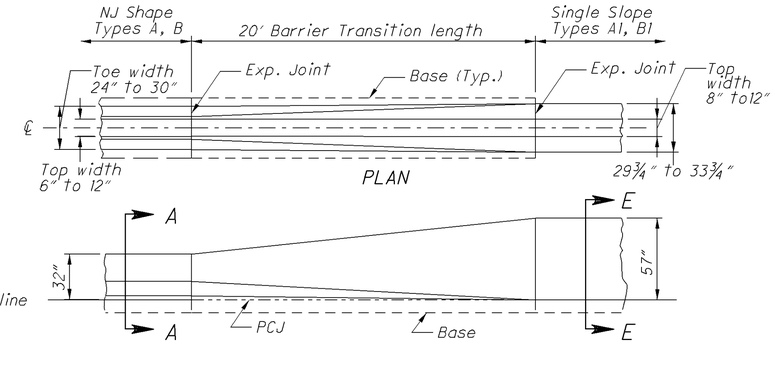
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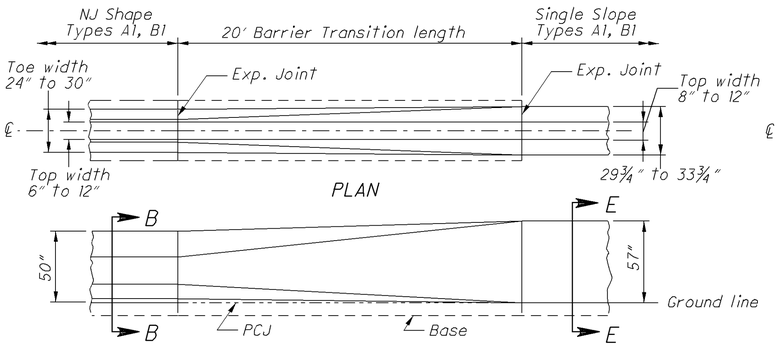
Standard low barrier connection

ELEVATION



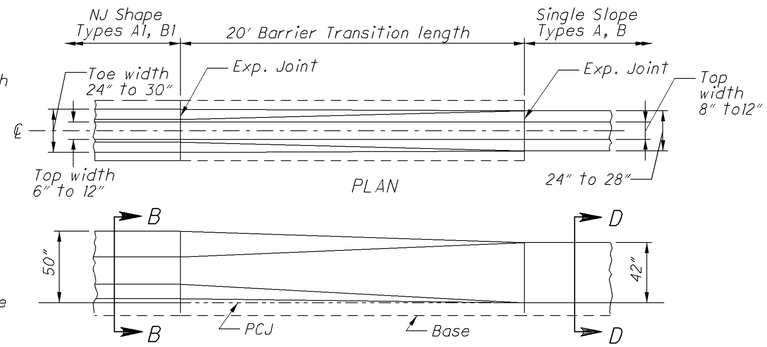
Atypical use

ELEVATION



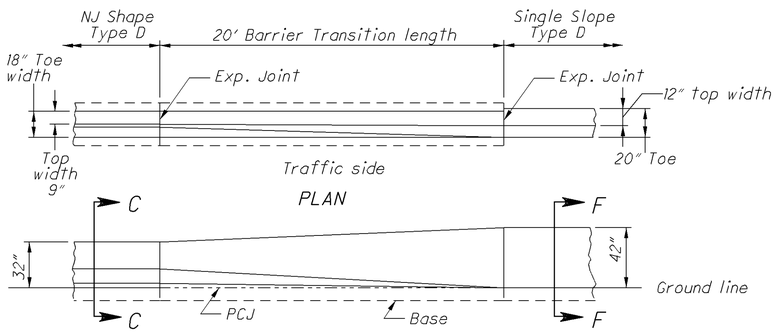
Standard tall barrier connection

ELEVATION



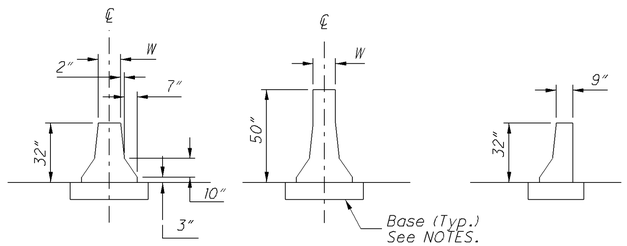
Atypical use

ELEVATION



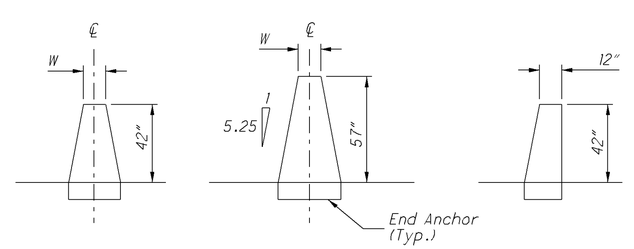
Standard Roadside barrier connection

ELEVATION



NJ SHAPE SECTIONS

See Plan Insert sheets for specific NJ Shape Concrete barrier details.



SINGLE SLOPE SECTIONS

See SCD RM-4.3 and RM-4.5 for specific Single Slope concrete barrier details.

NOTES

GENERAL: This insert details the Barrier Transition, to connect existing NJ Concrete Barrier (safety shape) to a new run of Single Slope Concrete Barrier at locations shown on the plans. For NJ barrier shape and other details see the respective plan insert sheets. For Single Slope barrier details, see SCD RM-4.3 (RM-4.5 for Type D).

ADJACENT CONCRETE BARRIER RUNS: Remove any tapered end sections, Impact attenuators, or other guardrail hardware from existing barrier end. The barrier to barrier transition is not intended to be used at transition sections (those shown on SCD RM-4.4), Inlets, or on Type C or C1 Barrier. If proposed adjacent single slope barrier is Type A or A1, the Barrier Transiton should contain horizontal reinforcing steel similiar to that required in the respective single slope barrier. Reinforcement is not shown and should be detailed separately. The adjacent single slope end should be terminated with a reinforced End Anchor as detailed on the SCDs.

BARRIER FACE TRANSITION: To prevent vehicle snagging, a smooth transition from the safety shape face to the single slope face is made over a 20' length. The actual shape of the Transition is dependent on both the adjacent NJ barrier and the single slope barrier Types, as detailed on the plans. The contractor and Engineer will agree on a construction method to ensure a smooth barrier face.

MATERIALS: Materials are same for those shown on RM-4.3 and RM-4.5, except that cast-in-place is the only acceptable method. Edges may be chamfered or radiused as shown on those drawings.

CONCRETE BASE: Construct base as shown on the NJ shape insert sheets, including the methods detailing the footing joint, Permissible Construction Joint (PCJ), and Dowelling requirements. The width of the base matches the existing NJ barrier.

JOINTS: Construct joints as shown on respective barrier drawings.

RACEWAYS: When specified, place raceway(s) to match raceway elevation in adjoining segments. Place to obtain maximum concrete cover.

METRIC UNITS: Refer to respective barrier drawings or inserts for metric dimensions.

PAYMENT: This Barrier Transiton shall include all material and labor needed to construct this 20' section, including any raceways, reinforcing steel, dowels and other necessary incidentals. Payment shall be made at the unit price for Item 622 - Barrier Transition, Each.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 10-20-06 | CHECKED

NJ SHAPE TO SINGLE SLOPE BARRIER TRANSITION

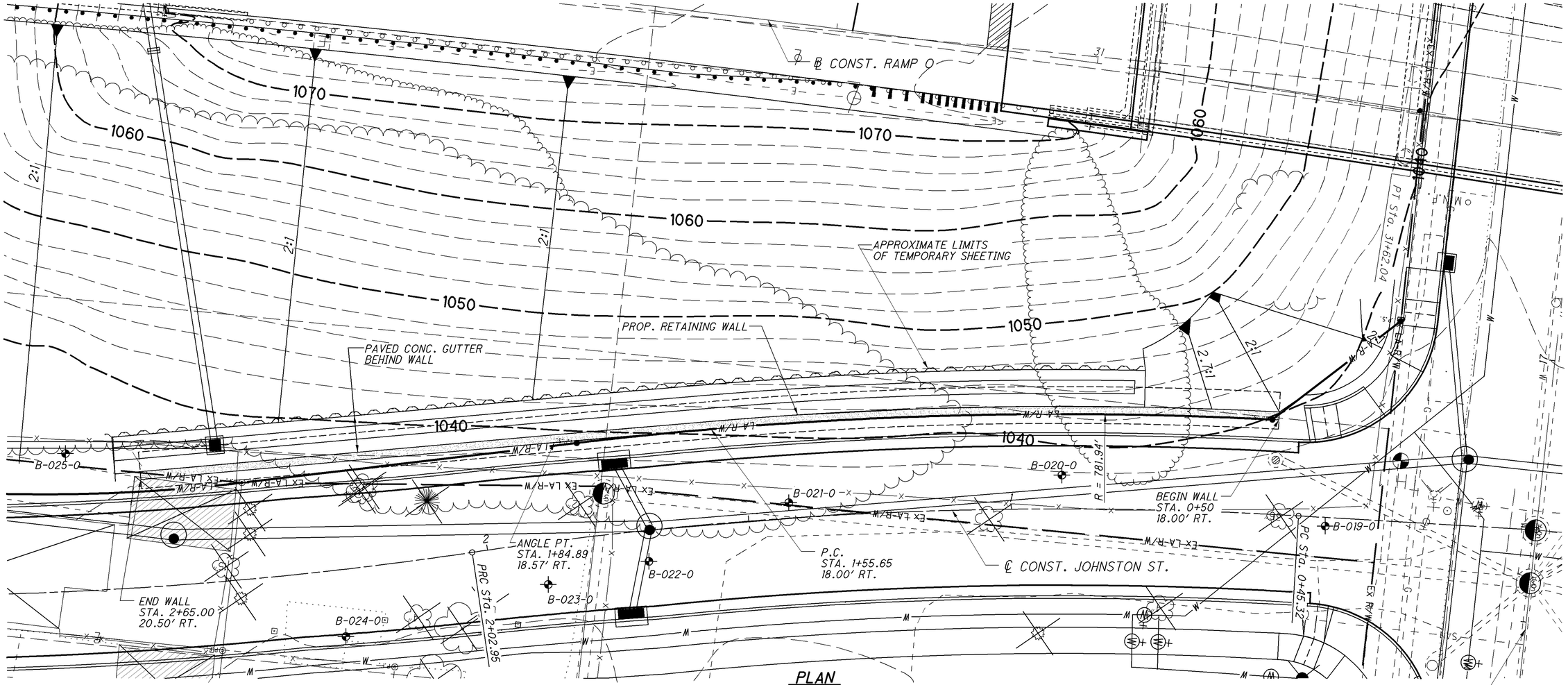
PLAN INSERT SHEET

SUM-76/77-11.27/12.12

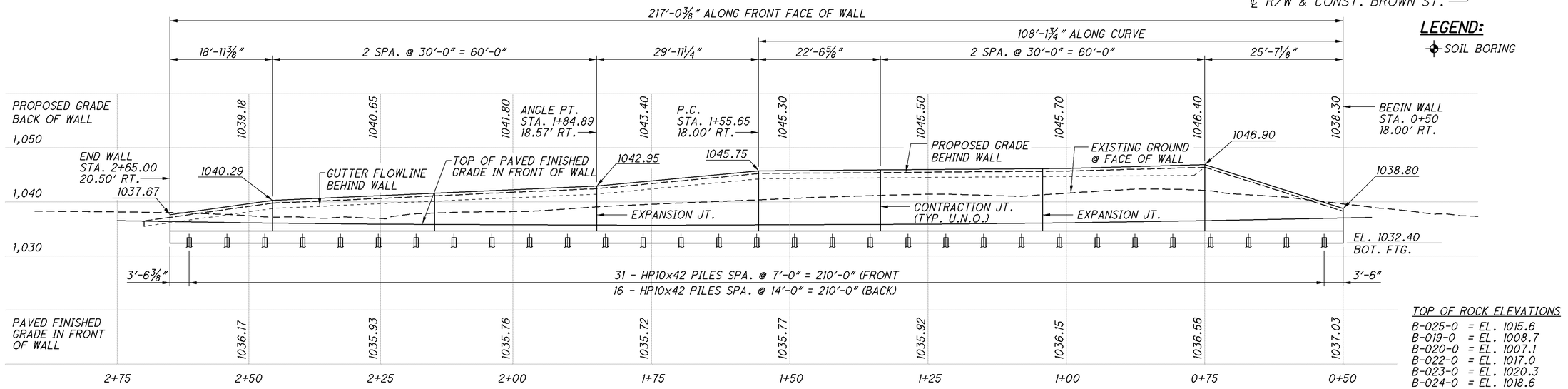
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PLAN



DEVELOPED ELEVATION

LEGEND:

SOIL BORING

TOP OF ROCK ELEVATIONS

B-025-0	= EL. 1015.6
B-019-0	= EL. 1008.7
B-020-0	= EL. 1007.1
B-022-0	= EL. 1017.0
B-023-0	= EL. 1020.3
B-024-0	= EL. 1018.6

AVERAGE ESTIMATED PILE LENGTH = 25'-0"

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DGN
CHECKED DJC

PLAN - JOHNSTON ST. RETAINING WALL

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CALCULATED: DJC DATE: 11-18-13
CHECKED: RFV DATE: 11-20-13

ESTIMATED QUANTITIES

ITEM	EXT.	TOTAL	PARTICIPATION 01 / IMS / OT	UNITS	DESCRIPTION	SEE SHEET NUMBER
503	11100	LS	LS		COFFERDAMS AND EXCAVATION BRACING	
503	21100	715	715	CY	UNCLASSIFIED EXCAVATION	
505	11100	LS	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
507	00100	1410	1410	FT	STEEL PILES HP10x42, FURNISHED	
507	00150	1175	1175	FT	STEEL PILES HP10x42, DRIVEN	
507	93301	12	12	EACH	STEEL POINTS OR SHOES, AS PER PLAN	376
509	10000	16264	16264	LB	EPOXY COATED REINFORCING STEEL	
511	46010	111	111	CY	CLASS QC1 CONCRETE	
511	46510	118	118	CY	CLASS QC1 CONCRETE, FOOTING	
512	10001	143	143	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	376
512	10101	143	143	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	376
512	33000	24	24	SY	TYPE 2 WATERPROOFING	
516	13600	31	31	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	21200	132	132	CY	POROUS BACKFILL WITH FILTER FABRIC	
518	40000	220	220	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
518	40010	10	10	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	

ABBREVIATIONS

ADD'L	ADDITIONAL
BOT.	BOTTOM
BTWN.	BETWEEN
CLR.	CLEAR
CONC.	CONCRETE
CONST.	CONSTRUCTION
E.F.	EACH FACE
EL.	ELEVATION
EQ.	EQUAL
F.F.	FAR FACE
FTG.	FOOTING
INV.	INVERT
JT.	JOINT
N.F.	NEAR FACE
NO.	NUMBER
N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
RT.	RIGHT
SPA.	SPACES
STA.	STATION
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2012, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN STRESSES

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60 KSI

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

THE COLOR OF THE SEALER SHALL BE FEDERAL STANDARD NO. 595B-13522, BUFF.

ITEM 507 - STEEL POINTS OR SHOES, AS PER PLAN

THIS ITEM SHALL CONSIST OF A CONTINGENCY QUANTITY 12 EACH, WHICH COVERS A WALL LENGTH OF APPROXIMATELY 50 FEET IN THE VICINITY OF BORING B-021-0, WHERE POSSIBLE OBSTRUCTION MAY BE ENCOUNTERED DURING PILE DRIVING OPERATIONS. IF OBSTRUCTION IS ENCOUNTERED, THE USE OF STEEL POINTS OR SHOES MAY BE USED ONLY AT THE APPROVAL OF THE ENGINEER.

PILES DRIVEN TO BEDROCK:

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING WEAK BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING STRONG BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL. INSTEAD OF DRIVING TO REFUSAL, THE CONTRACTOR MAY PERFORM DYNAMIC LOAD TESTING ACCORDING TO C&MS 533 TO ESTABLISH A DRIVING CRITERIA FOR EACH PILE TYPE AND CAPACITY. ESTABLISH THE DRIVING CRITERIA TO ACHIEVE AN ULTIMATE BEARING VALUE THAT IS 1.5 TIMES THE TOTAL FACTORED LOAD GIVEN BELOW FOR THE PILES. PAYMENT FOR DYNAMIC LOAD TESTING PERFORMED AT THE CONTRACTOR'S OPTION IS INCLUDED IN THE UNIT PRICE PAY ITEM FOR PILES DRIVEN.

THE TOTAL FACTORED LOAD IS 96 KIPS PER PILE FOR THE RETAINING WALL.

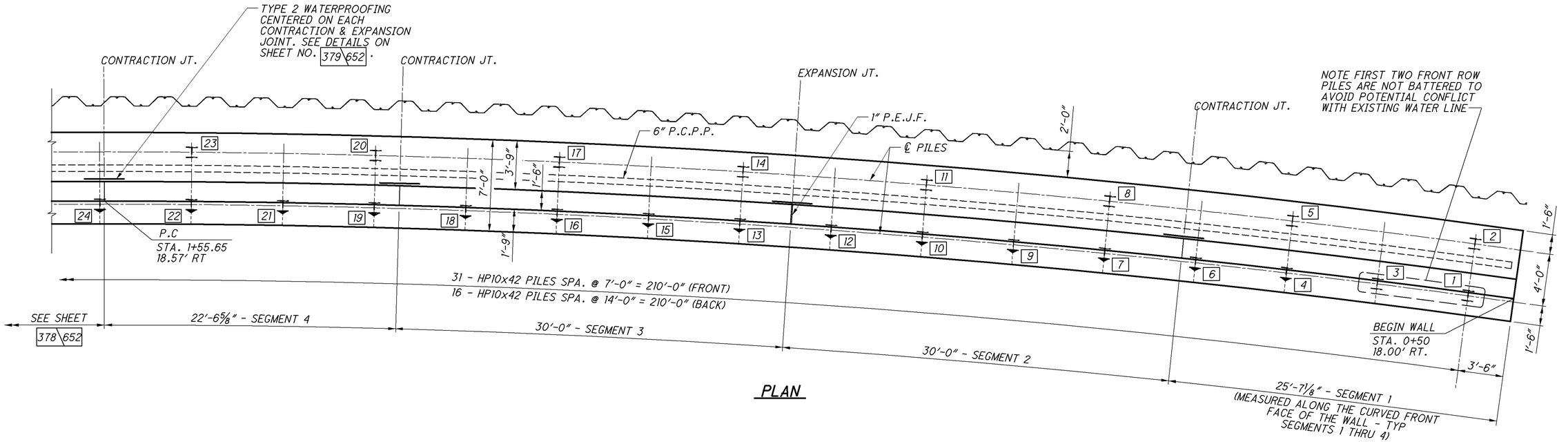
WALL PILES:
47 PILES 30 FEET LONG, ORDER LENGTH

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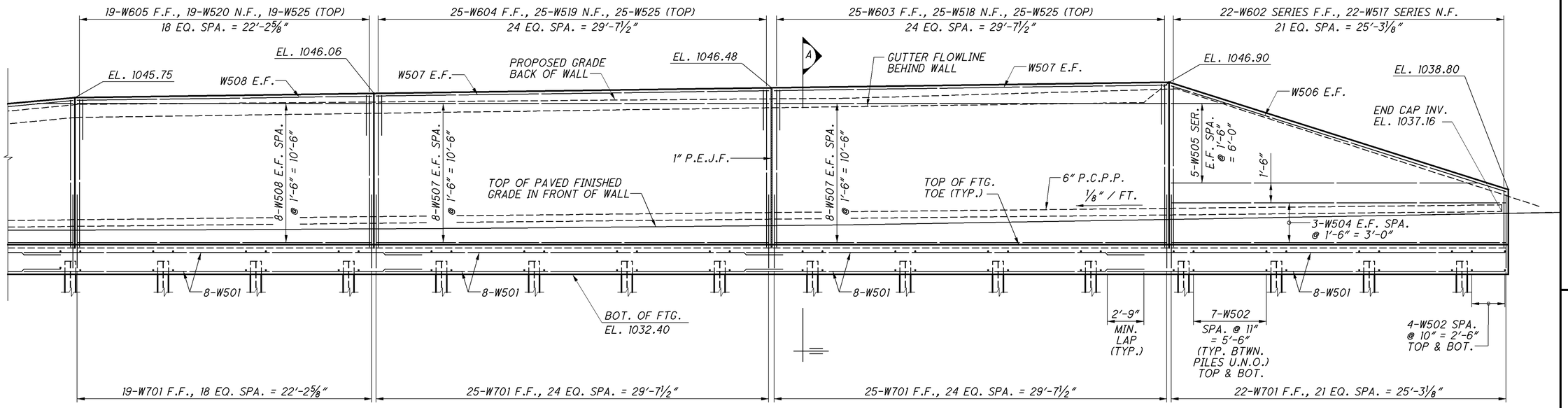
JOHNSTON ST. - RETAINING WALL
GENERAL NOTES & ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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PLAN



ELEVATION

LEGEND:

[1] PILE NUMBER

NOTES:

1. ALL WALL SEGMENT LENGTHS AND PILE SPACINGS ARE MEASURED ALONG THE FRONT VERTICAL FACE OF THE WALL, UNLESS NOTED OTHERWISE.
2. ALL STATIONS AND OFFSETS OF CRITICAL WALL POINTS ARE BASED ON THE ℄ CONSTRUCTION JOHNSTON ST.
3. ALL INVERTS OF 6" P.C.P.P. SHALL BE SET AT A MINIMUM OF 6 INCHES ABOVE THE TOP OF THE FOOTING HEEL AT THE END OF EACH WALL SEGMENT, UNLESS NOTED OTHERWISE.
4. FOR SECTION A, SEE SHT. NO. 379\652.

SCALE IN FEET
0 1/4" 1/2" 1" 2"

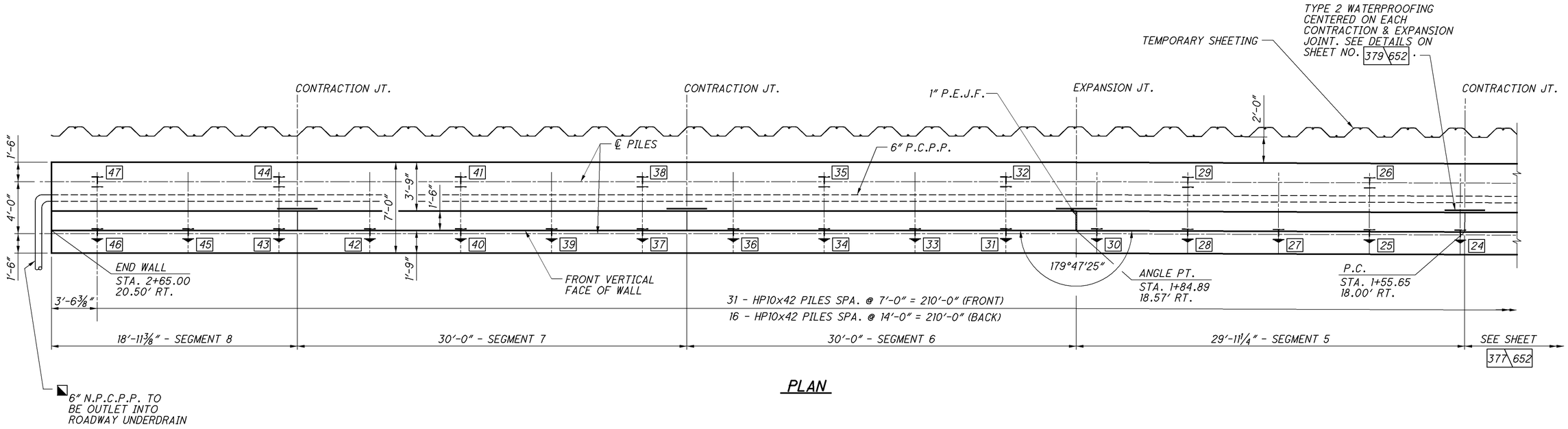
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PLAN AND ELEVATION - SEGMENTS 1 THRU 4

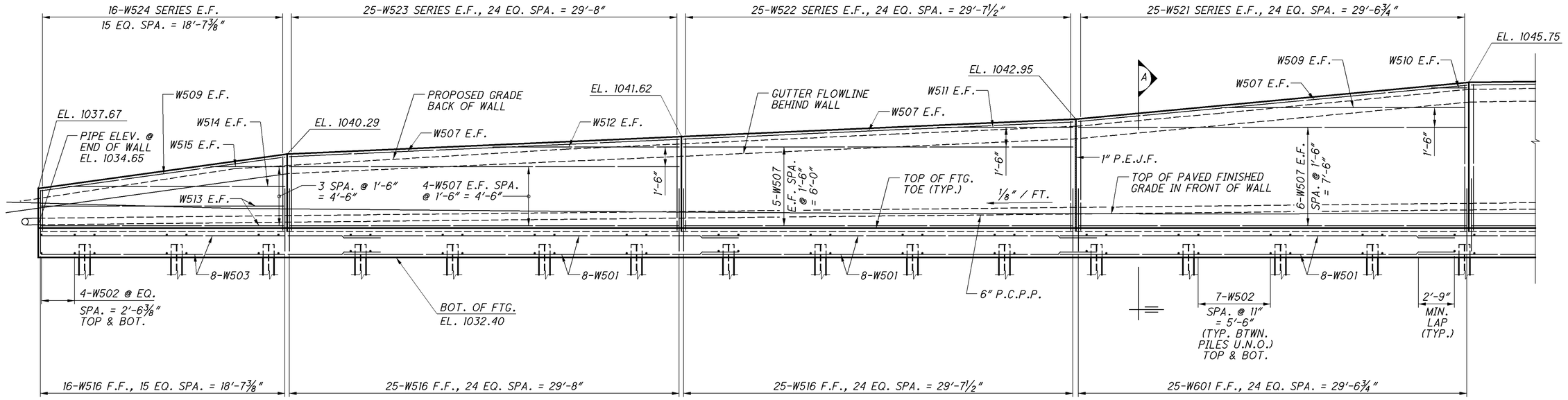
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PLAN



ELEVATION

LEGEND:

25 PILE NUMBER

◥ THE N.P.C.P.P. SHALL BE OUTLET INTO ROADWAY UNDERDRAIN THAT RUNS PARALLEL TO THE FACE OF THE WALL, SEE THE ROADWAY TYPICAL SECTIONS.

NOTE: FOR NOTES, SEE SHT. NO. 377\652.

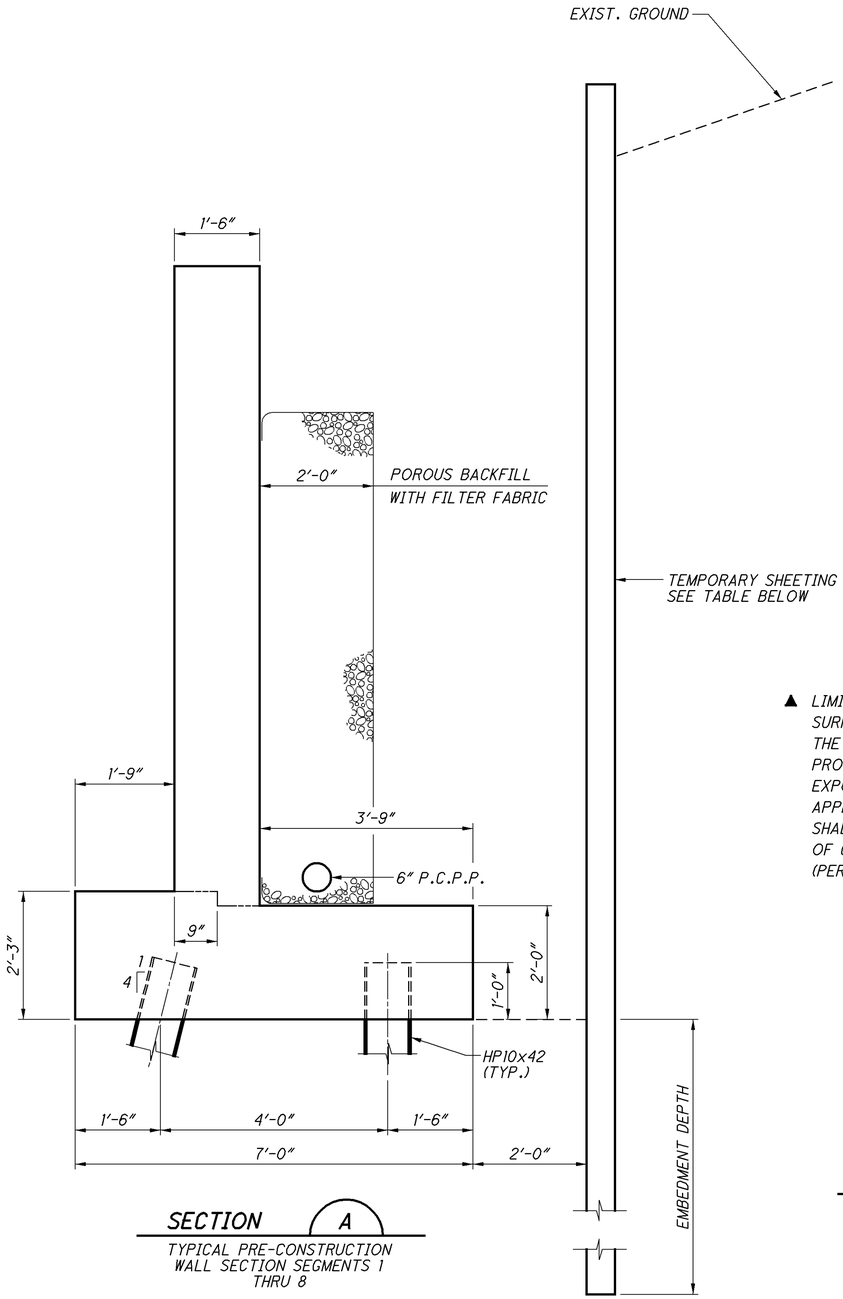
SCALE IN FEET 0 1/4" 1/2" 1" 2"

CALCULATED DJC CHECKED DGN

PLAN AND ELEVATION - SEGMENTS 5 THRU 8

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SECTION A

TYPICAL PRE-CONSTRUCTION WALL SECTION SEGMENTS 1 THRU 8

LOCATION	SHEETING SIZE	EMBEDMENT DEPTH (FT)
SEGEMENT 1	PZ-27	12
SEGMENTS 2-4	PZ-35	26
SEGMENT 5	PZ-35	23
SEGMENT 6	PZ-27	19
SEGMENT 7	PZ-27	16
SEGMENT 8	PZ-27	12

LEGEND:

[A] W701 - SEGMENTS 1 THRU 4
W601 - SEGMENT 5
W516 - SEGMENT 6 THRU 8

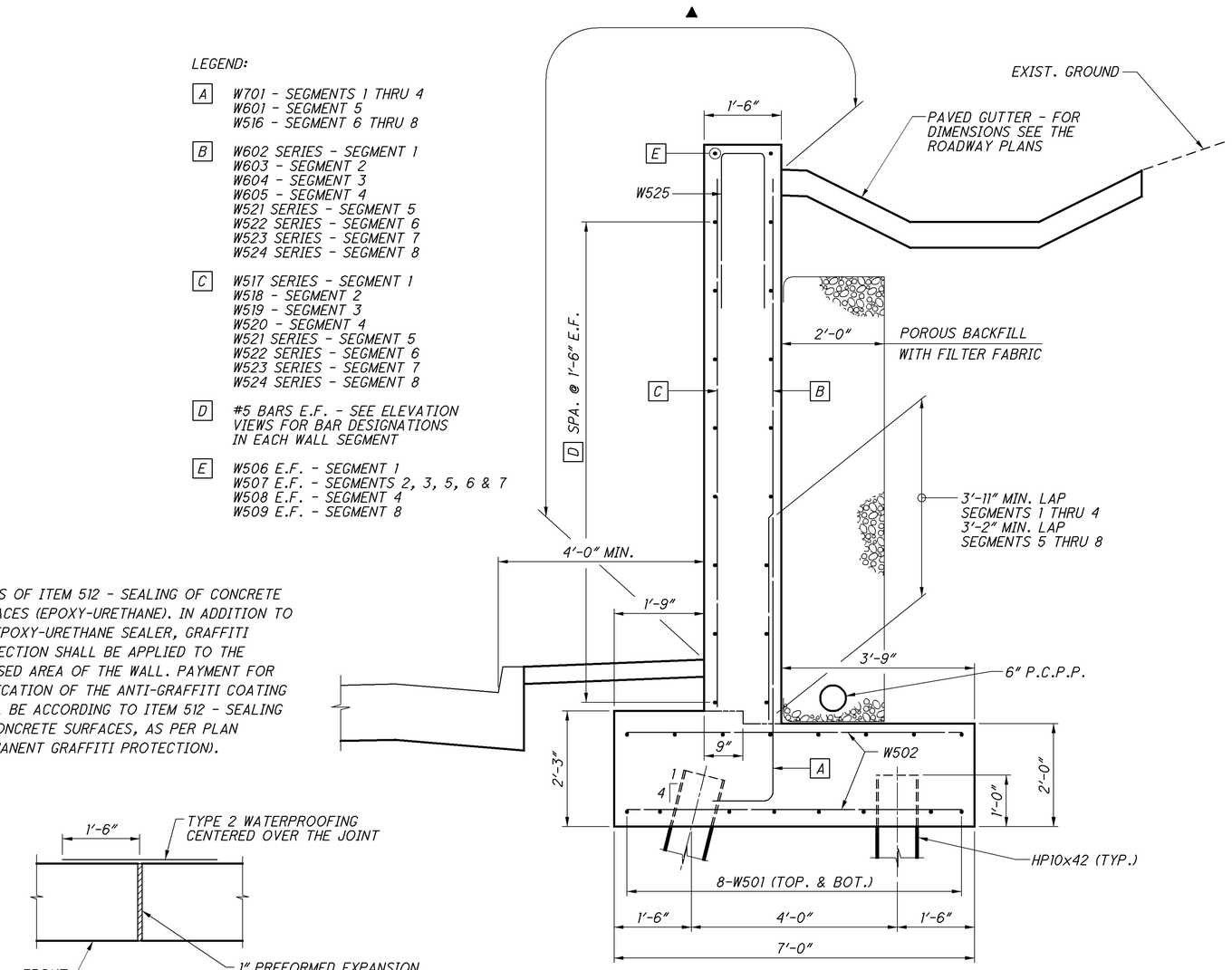
[B] W602 SERIES - SEGMENT 1
W603 - SEGMENT 2
W604 - SEGMENT 3
W605 - SEGMENT 4
W521 SERIES - SEGMENT 5
W522 SERIES - SEGMENT 6
W523 SERIES - SEGMENT 7
W524 SERIES - SEGMENT 8

[C] W517 SERIES - SEGMENT 1
W518 - SEGMENT 2
W519 - SEGMENT 3
W520 - SEGMENT 4
W521 SERIES - SEGMENT 5
W522 SERIES - SEGMENT 6
W523 SERIES - SEGMENT 7
W524 SERIES - SEGMENT 8

[D] #5 BARS E.F. - SEE ELEVATION VIEWS FOR BAR DESIGNATIONS IN EACH WALL SEGMENT

[E] W506 E.F. - SEGMENT 1
W507 E.F. - SEGMENTS 2, 3, 5, 6 & 7
W508 E.F. - SEGMENT 4
W509 E.F. - SEGMENT 8

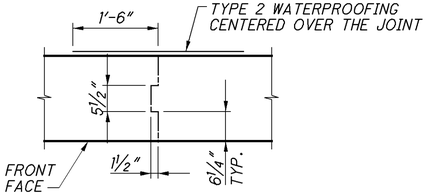
▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). IN ADDITION TO THE EPOXY-URETHANE SEALER, GRAFFITI PROTECTION SHALL BE APPLIED TO THE EXPOSED AREA OF THE WALL. PAYMENT FOR APPLICATION OF THE ANTI-GRAFFITI COATING SHALL BE ACCORDING TO ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION).



SECTION A

TYPICAL WALL SECTION SEGMENTS 1 THRU 8

TYPICAL EXPANSION JOINT DETAIL



TYPICAL CONTRACTION JOINT DETAIL

NOTE: THE SHORING DETAIL AND INFORMATION FROM THE TABLE ARE NOT A CONTRACTURAL DOCUMENT; IT IS SIMPLY A CONCEPTUAL IDEA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING FINAL SHORING PLANS IN ACCORDANCE WITH ODOT CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION, INCLUDING PLAN PREPARATION AT THE CONTRACT LUMP PRICE FOR ITEM 503 - COFFERDAMS AND EXCAVATION BRACING.

CALCULATED DJC
CHECKED DGN

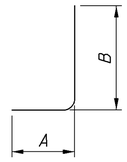
TYPICAL JOHNSTON ST. RETAINING WALL SECTION

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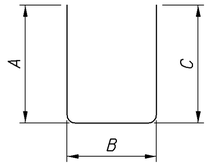
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MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
WALL											
W501	112	30'-0"	3504	STR							
W502	436	6'-6"	2956	STR							
W503	16	26'-0"	434	STR							
W504	6	25'-3"	158	STR							
W505	2 SR OF 5	4'-3" TO 23'-3"	143	STR							4'-9"
W506	2	26'-6"	55	STR							
W507	72	29'-7"	2222	STR							
W508	18	22'-3"	418	STR							
W509	4	18'-9"	78	STR							
W510	2	2'-8"	6	STR							
W511	2	10'-4"	22	STR							
W512	2	14'-2"	30	STR							
W513	4	18'-7"	78	STR							
W514	2	16'-6"	34	STR							
W515	2	5'-8"	12	STR							
W516	66	5'-10"	402	1	1'-2"	4'-10"					
W517	1 SR OF 22	4'-0" TO 11'-11"	183	STR							
W518	25	11'-6"	300	STR							
W519	25	11'-1"	289	STR							
W520	19	10'-10"	215	STR							
W521	2 SR OF 25	8'-1" TO 10'-10"	493	STR							0'-1 3/8"
W522	2 SR OF 25	6'-9" TO 8'-0"	385	STR							0'-0 5/8"
W523	2 SR OF 25	5'-5" TO 6'-8"	315	STR							0'-0 5/8"
W524	2 SR OF 16	2'-10" TO 5'-4"	136	STR							0'-2"
W525	69	6'-11"	498	2	3'-0"	1'-2"	3'-0"				
W601	25	5'-10"	219	1	1'-2"	4'-10"					
W602	1 SR OF 22	4'-3" TO 12'-2"	271	STR							0'-4 1/2"
W603	25	11'-9"	441	STR							
W604	25	11'-4"	426	STR							
W605	19	11'-1"	316	STR							
W701	91	6'-7"	1225	1	1'-2"	5'-7"					
WALL TOTAL =			16264	LBS							

BAR BENDING DIAGRAMS



TYPE-1



TYPE-2

NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
2. ALL BARS ARE EPOXY COATED.
3. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND.
4. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST ALPHABETICAL LETTER INDICATES LOCATION. THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

EXAMPLES: W 501

- NO. 5 SIZE BAR
- WALL

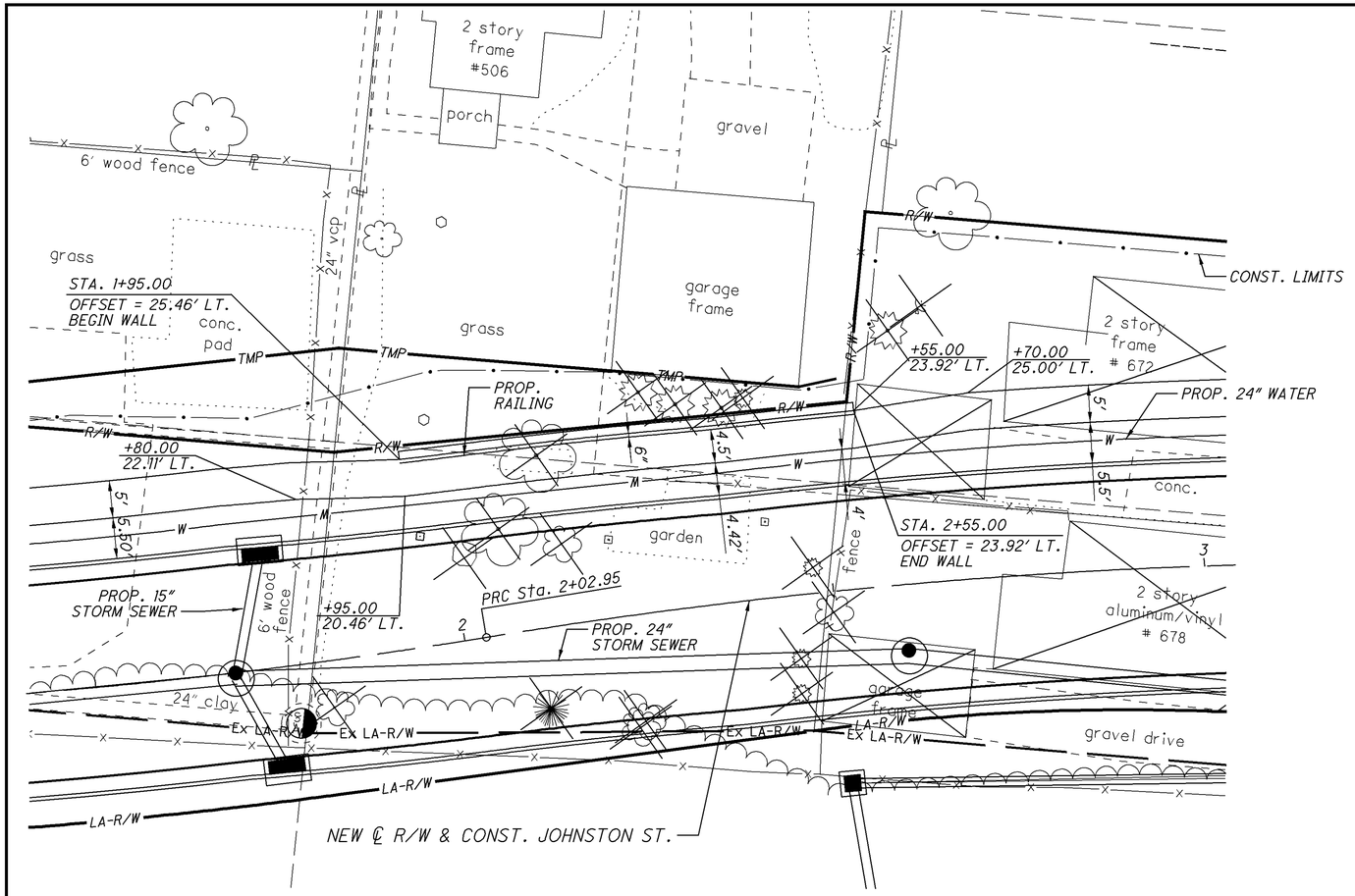
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JOHNSTON ST. RETAINING WALL - REINFORCING LIST

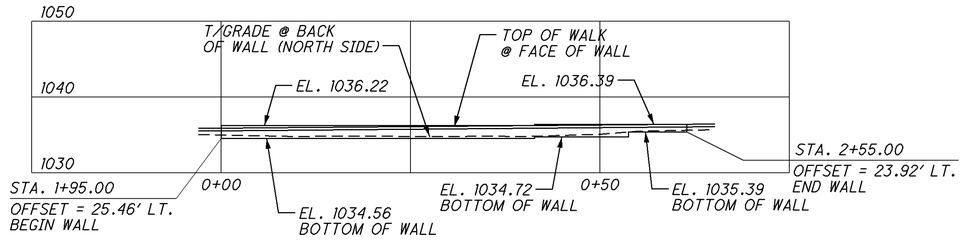
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PLAN



WALL ELEVATION

ITEM SPECIAL - RETAINING WALL, MISC.: MODULAR BLOCK WALL

THIS ITEM SHALL CONSIST OF CONSTRUCTING MODULAR BLOCK RETAINING WALLS AT THE LOCATIONS SHOWN IN THE PLANS AND PER THE DETAILS ON THIS SHEET. THE WALL SHALL BE "AB CLASSIC", AS MANUFACTURED BY THE ALLAN BLOCK CORPORATION, 5300 INDUSTRIAL BLVD., #100, EDINA, MN 55421, OR "STANDARD WITH WEATHERED OPTION" AS MANUFACTURED BY THE VERSA-LOK RETAINING WALL SYSTEMS, 6348 HWY. 36 BLVD., SUITE 1, OAKDALE, MN 55128, OR "ESTATE WALL" AS MANUFACTURED BY UNILOCK OHIO, INC., 12560 SHEETS ROAD, RITTMAN, OH 44270, OR APPROVED EQUAL. COLORED BLOCK UNITS SHALL BE "GRAY".

BEDDING SHALL BE CRUSHED STONE AGGREGATE AS PER ODOT CMS ITEM 304, BACKFILL SHALL BE NO. 57 CRUSHED STONE AGGREGATE ACCORDING TO ODOT CMS ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC.

GEOGRID REINFORCEMENT SHALL BE REQUIRED FOR WALL SECTIONS 3.5' AND TALLER. GEOGRID REINFORCEMENT SHALL BE "TENSAR BX-1100" AS MANUFACTURED BY TENSAR EARTH TECHNOLOGIES, INC., 5883 GLENRIDGE DRIVE, SUITE 200, ATLANTA, GA 30328-5363, OR "MICROGRID" AS MANUFACTURED BY STRATA SYSTEMS, INC., 380 DAHLONEGA ROAD, SUITE 200, CUMMING, GA 30040, OR "3 SERIES" AS MANUFACTURED BY SRW PRODUCTS, P.O. BOX 70, 32020 126TH STREET, PRINCETON, MN 55371, OR APPROVED EQUAL. THE LENGTH OF THE GEOGRID REINFORCEMENT SHALL BE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

A FOUNDATION UNDERDRAIN SHALL ALSO BE PROVIDED ALONG EACH WALL. THE WALL UNDERDRAIN SHALL BE CONNECTED TO THE PROPOSED ROADWAY UNDERDRAIN USING 4" NON-PERFORATED CONDUIT, TYPE F AS PER ODOT CMS ITEM 611.

THE METHOD OF MEASUREMENT SHALL BE THE NUMBER OF SQUARE FEET OF WALL FACE FROM TOP OF CAP TO BOTTOM OF WALL.

ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK, INCLUDING BUT NOT LIMITED TO BEDDING, BACKFILL, EXCAVATION, GEOGRID, FOUNDATION UNDERDRAIN AND TYPE F CONNECTION, SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM SPECIAL - RETAINING WALL, MISC.: MODULAR BLOCK WALL (SQ. FT.).

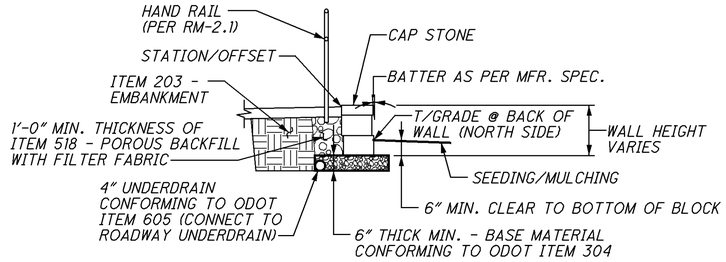
ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

ITEM 517 - RAILING, PIPE, AS PER PLAN

THE HANDRAIL THAT IS TO BE PROVIDED IS TO BE OF THE TYPE AND SPECIFICATIONS AS DESCRIBED IN ODOT STANDARD DRAWING RM-2.1. ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY FOR FABRICATION, DELIVERY, AND INSTALLATION OF THE HANDRAIL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 517-RAILING, PIPE, AS PER PLAN.

PARTICIPATION	ESTIMATED QUANTITIES - MODULAR BLOCK WALL				
01/IMS/OT	ITEM	EXT.	TOTAL	UNITS	DESCRIPTION
11	512	10001	11	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)
61	517	73501	61	FT	RAILING, PIPE, AS PER PLAN
97	SPECIAL	61050010	97	SF	RETAINING WALL, MISC.: MODULAR BLOCK WALL



MODULAR BLOCK WALL

N.T.S.

HORIZONTAL SCALE IN FEET
0 5 10 20

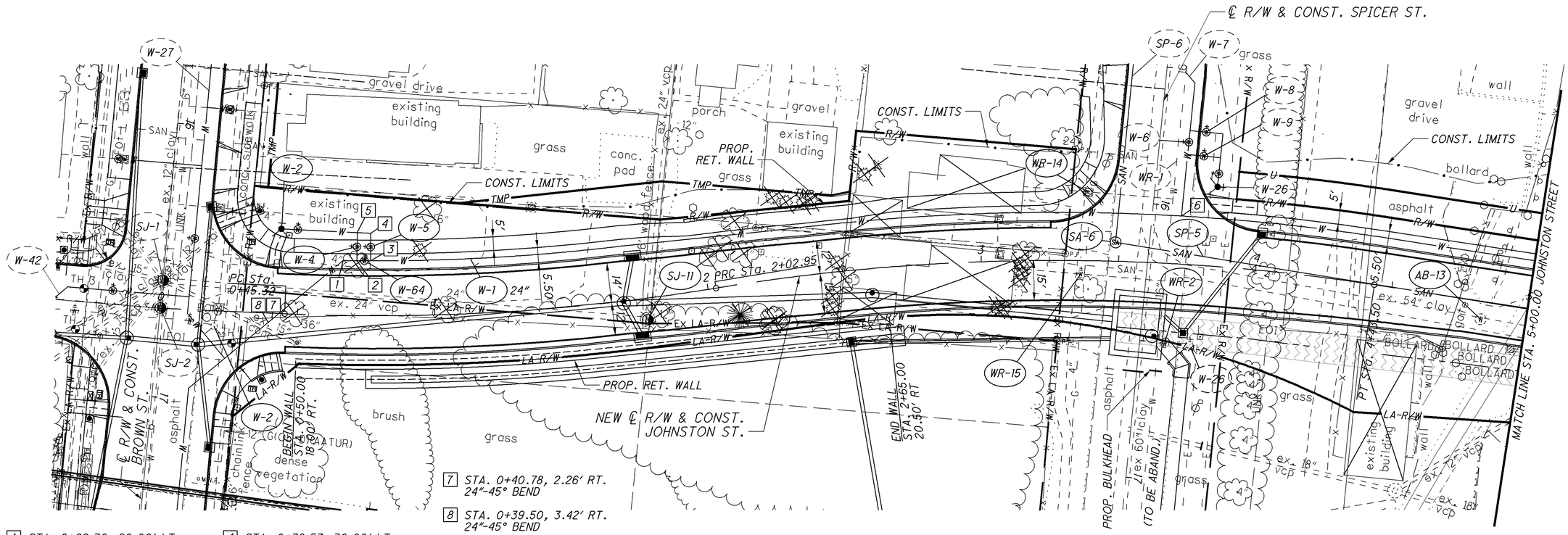
CALCULATED ATR
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MODULAR BLOCK WALL PLAN & ELEVATION
ON JOHNSTON STREET

SUM-76/77-11.27/12.12

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[1] STA. 0+66.30, 20.00' LT.
24"-45° BEND

[2] STA. 0+71.43, 20.00' LT.
24" x 6" TEE

[3] STA. 0+76.57, 20.00' LT.
24" x 6" TEE

[4] STA. 0+76.57, 30.00' LT.
6"-90° BEND

[5] STA. 0+71.43, 30.22' LT.
6" x 6" TEE

[6] STA. 3+71.87, 17.50' LT.
24" x 16" TEE

[7] STA. 0+40.78, 2.26' RT.
24"-45° BEND

[8] STA. 0+39.50, 3.42' RT.
24"-45° BEND

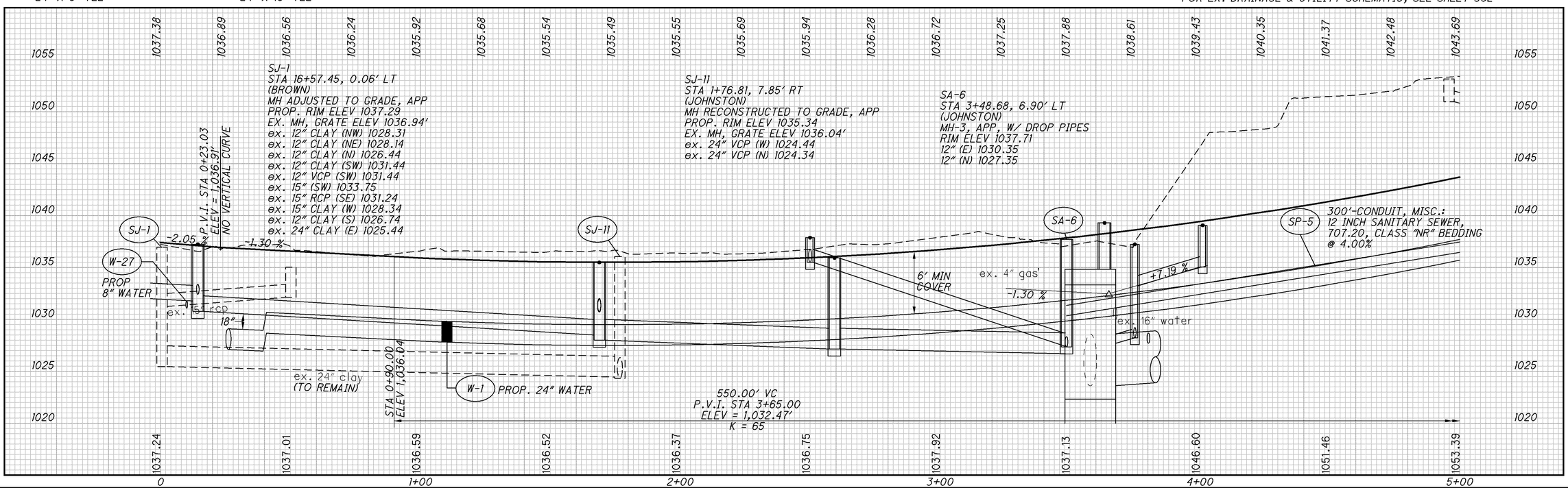
W-2
STA 0+42.80, 30.84' LT (JOHNSTON)
WATER WORK, MISC.: FIRE HYDRANT REMOVED AND RESET
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-4
STA 0+71.43, 25.07' LT (JOHNSTON)
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-5
STA 0+76.57, 25.05' LT (JOHNSTON)
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-64
STA 0+74.23, 20.00' LT (JOHNSTON)
SPECIAL: 24 INCH BUTTERFLY VALVE WITH VALVE BOX, COMPLETE

FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206
FOR PIPE PROFILES, SEE SHEET 290, 291, 385 ,387,391
FOR PROPOSED COMBINED SEWER TRUNK DETAILS, SEE SHEET 363 - 371
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362



WATER WORK AND SANITARY SEWER PLAN AND PROFILE
STA. 0+00.00 TO STA. 5+00.00 (JOHNSTON STREET)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED MDG

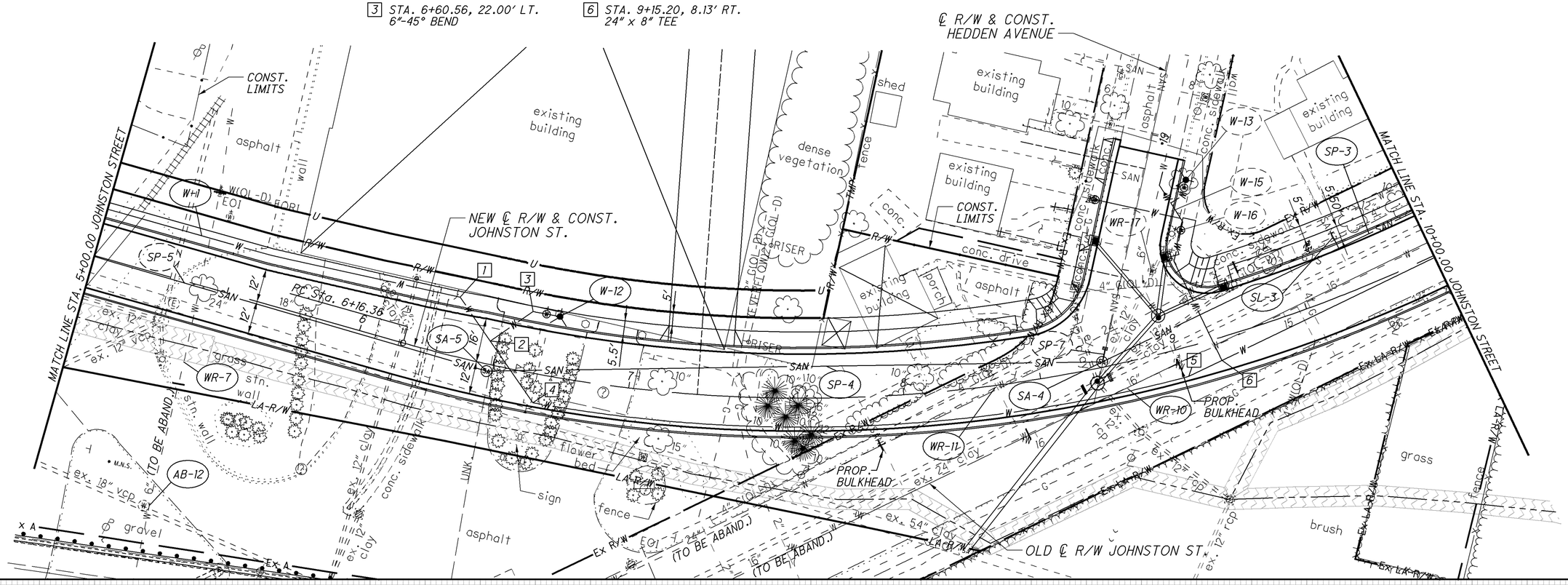
SUM-76/77-11.27/12.12

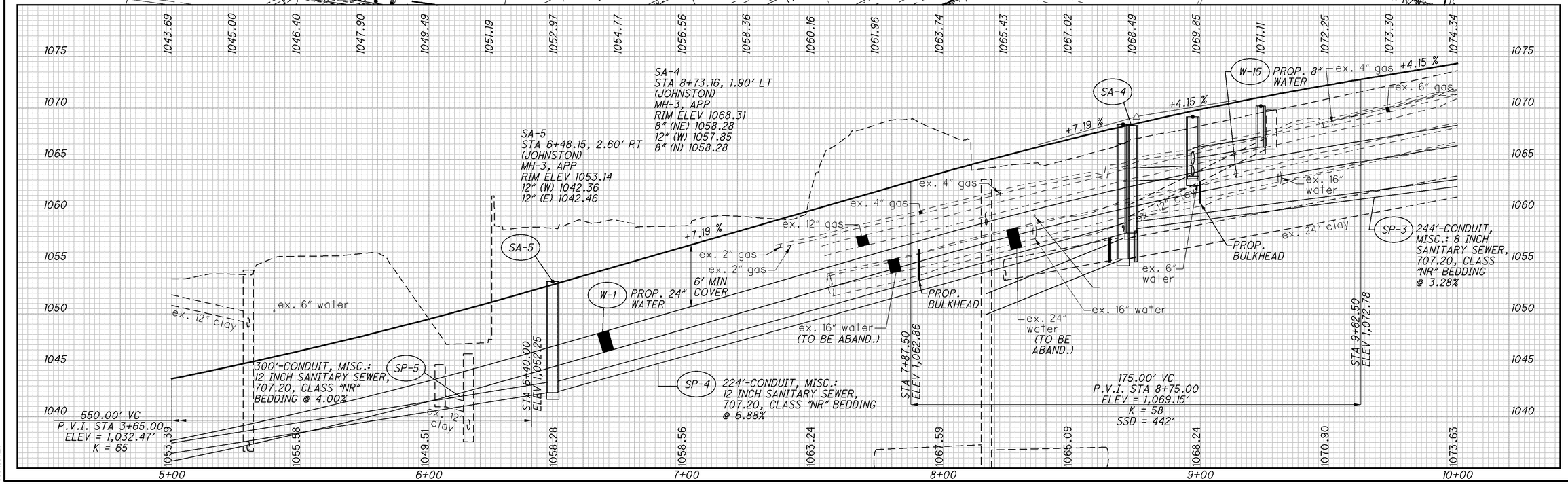
\\KRM03\DATA\2010\2012297\SUM\86979\UTILITIES\SHEETS\86979WP006.DGN
9/17/2014
9:22:28 AM
SSCHUSTER

FOR PIPE PROFILES, SEE SHEETS 301, 302, 386
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

1 STA. 6+32.46, 21.32' LT. 24"-45° BEND
2 STA. 6+47.17, 8.37' LT. 24" x 6" TEE
3 STA. 6+60.56, 22.00' LT. 6"-45° BEND
4 STA. 6+66.68, 10.50' RT. 24"-45° BEND
5 STA. 9+02.23, 10.50' RT. 24"-22.5° BEND
6 STA. 9+15.20, 8.13' RT. 24" x 8" TEE

W-12
STA 6+70.99, 22.00' LT (JOHNSTON)
SPECIAL: FURNISHING AND SETTING 6 INCH HYDRANT, COMPLETE
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE





HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED ATR
CHECKED MDG

WATER WORK AND SANITARY SEWER PLAN AND PROFILE
STA. 5+00.00 TO STA. 10+00.00 (JOHNSTON STREET)

SUM-76/77-11.27/12.12

383
652

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9/17/2014
9:22:56 AM
SSCHUSTER

FOR PIPE PROFILES, SEE SHEET 306
FOR ESTIMATED QUANTITIES, SEE SHEET 194-206

1 STA. 11+51.76, 6.00' RT.
24" x 8" TEE

2 STA. 11+51.76, 36.20' LT.
8" x 6" TEE

3 STA. 11+51.76, 45.47' LT.
6"-45° BEND

4 STA. 13+52.38, 6.00' RT.
24"-45° BEND

5 STA. 13+54.94, 8.62' RT.
24" x 8" CROSS

6 STA. 13+62.16, 16.00' RT.
30"-45° BEND

7 STA. 13+52.26, 11.23' RT.
6"-45° BEND

8 STA. 13+57.62, 6.00' RT.
8"- 45° BEND

9 STA. 14+32.85, 6.00' RT.
8"-45° BEND

10 STA. 14+65.87, 27.02' LT.
6"-22.5° BEND

1 30" x 24" REDUCER
STA. 13+59.71 (JOHNSTON)

2 8" x 6" REDUCER
STA. 13+53.60 (JOHNSTON)

3 8" x 6" REDUCER
STA. 14+62.62 (JOHNSTON)

4 8" x 6" REDUCER
STA. 19+41.19 (JOHNSTON CT.)

W-18
STA 11+68.23, 36.20' LT (JOHNSTON)
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE
SPECIAL: FURNISHING AND SETTING 6 INCH HYDRANT, COMPLETE

W-20
STA 19+43.88, 8.83' LT (JOHNSTON CT)
SPECIAL: 8 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-21
STA 13+57.27, 11.00' RT (JOHNSTON)
SPECIAL: 24 INCH BUTTERFLY VALVE WITH VALVE BOX, COMPLETE

W-23
STA 13+51.86, 29.00' RT (JOHNSTON)
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE
SPECIAL: FURNISHING AND SETTING 6 INCH HYDRANT, COMPLETE

W-25
STA 14+59.36, 20.52' LT (JOHNSTON)
SPECIAL: 8 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-50
STA 19+49.54, 10.17' RT. (JOHNSTON CT)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-51
STA 11+55.90, 24.30' RT. (JOHNSTON)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-52
STA 11+96.27, 25.86' RT. (JOHNSTON)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-53
STA 12+32.30, 22.86' RT. (JOHNSTON)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-54
STA 12+85.03, 22.67' RT. (JOHNSTON)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-55
STA 13+01.15, 31.35' LT. (JOHNSTON)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-56
STA 13+84.09, 23.14' LT. (JOHNSTON)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

SJ-3
STA 11+14.92, 7.42' LT (JOHNSTON)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1078.69
EX. MH, GRATE ELEV 1078.69'
ex. 24" CLAY (SW) 1066.69
ex. 24" CLAY (NE) 1066.69
ex. 8" CLAY (N) 1066.00
ex. 12" CLAY (NE) 1076.35
ex. 12" CLAY (SW) 1074.02

SA-3
STA 11+19.75, 12.90' LT (JOHNSTON)
MH-3, APP
RIM ELEV 1078.85
8" (N) 1066.40
8" (NE) 1066.40
8" (SW) 1064.30

5'-CONDUIT, MISC.:
8 INCH SANITARY SEWER,
707.20, CLASS "NR" BEDDING
@ 4.59%

244'-CONDUIT, MISC.:
8 INCH SANITARY SEWER,
707.20, CLASS "NR" BEDDING
@ 3.28%

P.V.I. STA 10+56.75
ELEV = 1,076.70'

1,078.47

+4.15 %

+3.54 %

6' MIN COVER

PROP. 24" WATER

PROP. 8" WATER

PROP. 6" WATER

WATER WORK AND SANITARY SEWER PLAN AND PROFILE
STA. 10+00.00 TO END (JOHNSTON STREET)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED MDG

SUM-76/77-11.27/12.12

384
652

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9/17/2014
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W-6
STA 15+76.37, 10.62' LT (SPICER)
SPECIAL: 16 INCH BUTTERFLY VALVE WITH VALVE BOX, COMPLETE

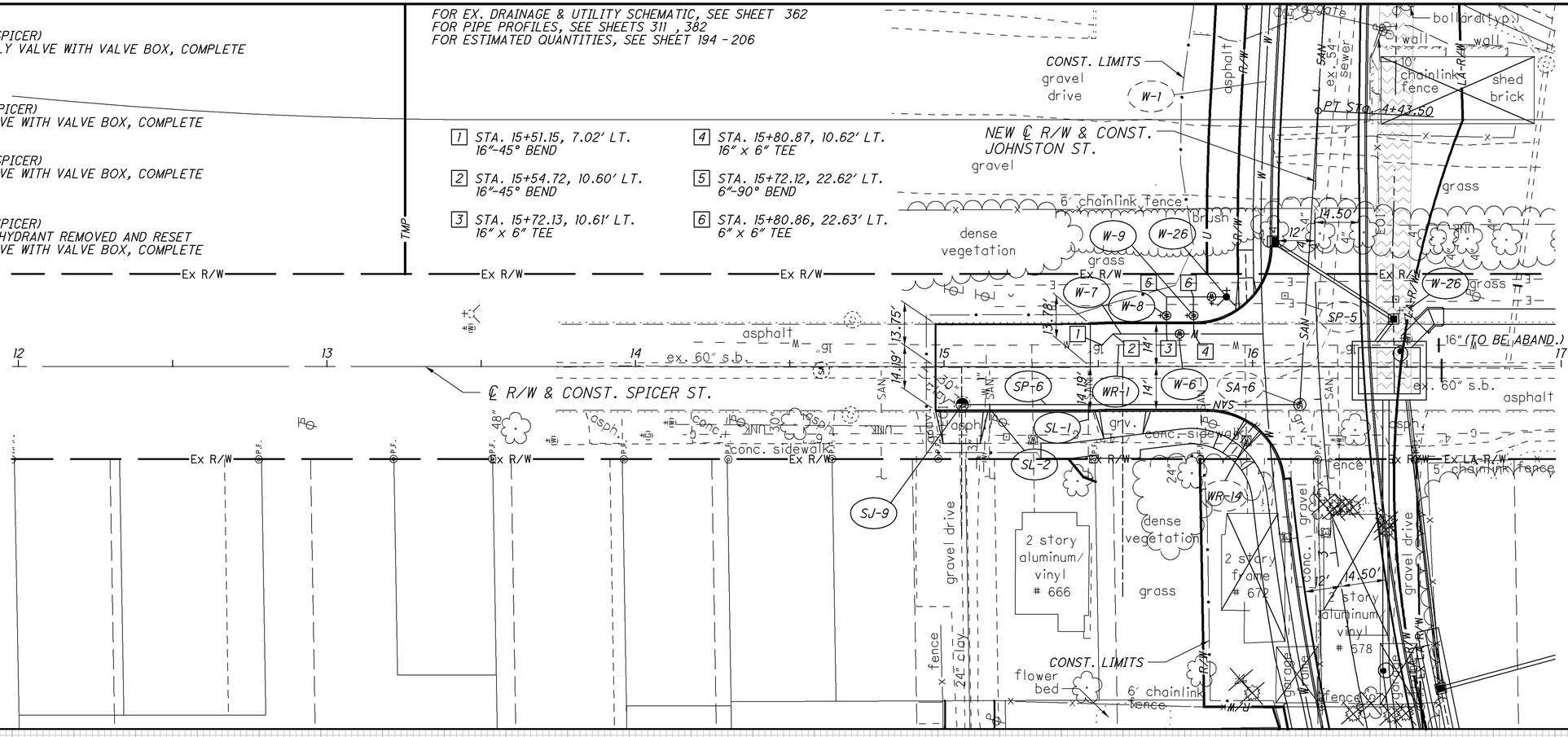
W-8
STA 15+72.12, 16.57' LT (SPICER)
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

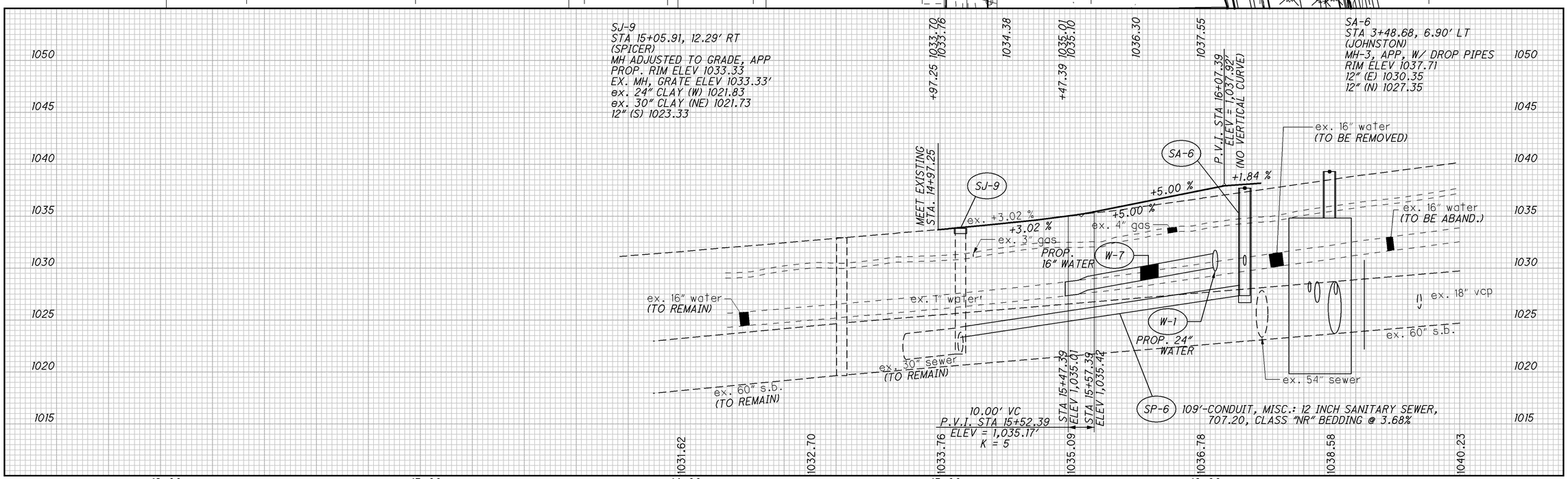
W-9
STA 15+80.86, 16.54' LT (SPICER)
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-26
STA 15+91.53, 22.63' LT (SPICER)
WATER WORK, MISC.: FIRE HYDRANT REMOVED AND RESET
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR PIPE PROFILES, SEE SHEETS 311 , 382
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

1 STA. 15+51.15, 7.02' LT. 16"-45° BEND
2 STA. 15+54.72, 10.60' LT. 16"-45° BEND
3 STA. 15+72.13, 10.61' LT. 16" x 6" TEE
4 STA. 15+80.87, 10.62' LT. 16" x 6" TEE
5 STA. 15+72.12, 22.62' LT. 6"-90° BEND
6 STA. 15+80.86, 22.63' LT. 6" x 6" TEE





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED MDG

WATER WORK AND SANITARY SEWER PLAN AND PROFILE SPICER STREET

SUM-76/77-11.27/12.12

385
652

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9/17/2014
8:24:05 AM
SSCHUSTER

1 8" x 6" REDUCER
STA. 19+20.08 (HEDDEN)

1 STA. 19+17.37, 6.38' LT.
6"-45° BEND

2 STA. 19+22.79, 11.78' LT.
8" x 6" TEE

3 STA. 19+19.27, 15.32' LT.
6"-45° BEND

4 STA. 19+28.53, 17.49' LT.
8"-45° BEND

5 STA. 19+43.17, 17.45' LT.
8"-45° BEND

W-13
STA 19+13.40, 15.34' LT (HEDDEN)
WATER WORK, MISC.: FIRE HYDRANT REMOVED AND RESET
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-16
STA 19+31.62, 17.48' LT (HEDDEN)
SPECIAL: 8 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-49
STA 19+27.45, 15.24' RT. (HEDDEN)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

FOR ESTIMATED QUANTITIES, SEE SHEETS 194 - 206
FOR PIPE PROFILES, SEE SHEETS 301, 302, 383
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362

SA-4
STA 8+73.16, 1.90' LT
(JOHNSTON)
MH-3, APP
RIM ELEV 1068.31
8" (NE) 1058.28
12" (W) 1057.85
8" (N) 1058.28

SP-7 5'-CONDUIT, MISC.: 8 INCH SANITARY SEWER, 706.08, CLASS "B" BEDDING

20.00' VC
P.V.I. STA 19+55.17
ELEV = 1,067.92'
K = 3

HORIZONTAL SCALE IN FEET

CALCULATED ATR
CHECKED MDG

WATER WORK AND SANITARY SEWER PLAN AND PROFILE
HEDDEN AVENUE

SUM-76/77-11.27/12.12

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9/17/2014
8:24:34 AM
SSCHAFER

FOR PIPE PROFILES, SEE SHEETS 382, 391
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

1 STA. 15+05.00, 3.45' LT.
6"-45° BEND

2 STA. 15+11.65, 10.10' LT.
8"-45° BEND

3 STA. 16+62.52, 10.10' LT.
8" x 8" TEE

4 STA. 16+68.58, 10.10' LT.
8"-45° BEND

5 STA. 16+83.56, 25.09' LT.
24" x 8" TEE

6 STA. 16+95.60, 13.06' LT.
24"-45° BEND

7 STA. 17+05.60, 13.06' LT.
24"-45° BEND

8 STA. 17+13.17, 13.06' LT.
24"-45° BEND

1 8" x 6" REDUCER
STA. 15+08.33 (BROWN)

W-28
STA 16+41.16, 10.10' LT (BROWN)
SPECIAL: 8 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-57
STA 16+14.94, 20.26' RT. (BROWN)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-58
STA 15+51.01, 18.98' RT. (BROWN)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-59
STA 15+12.15, 20.44' RT. (BROWN)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-60
STA 15+93.18, 18.59' LT. (BROWN)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-61
STA 15+63.87, 18.31' LT. (BROWN)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-62
STA 15+35.17, 18.26' LT. (BROWN)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-63
STA 15+05.36, 18.04' LT. (BROWN)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

SJ-1
STA 16+57.45, 0.06' LT
(BROWN)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1037.29
EX. MH, GRATE ELEV 1036.94'
ex. 12" CLAY (NW) 1028.31
ex. 12" CLAY (NE) 1028.14
ex. 12" CLAY (N) 1026.44
ex. 12" CLAY (SW) 1031.44
ex. 12" VCP (SW) 1031.44
ex. 15" (SW) 1033.75
ex. 15" RCP (SE) 1031.24
ex. 15" CLAY (W) 1028.34
ex. 12" CLAY (S) 1026.74
ex. 24" CLAY (E) 1025.44

SJ-2
STA 16+67.53, 0.11' LT
(BROWN)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1037.38
EX. MH, GRATE ELEV 1037.17'
ex. 8" CLAY (S) 1030.37
ex. 8" CLAY (W) 1030.27
ex. 12" CLAY (N) 1030.27

MATCHLINE STA. 18+00 ℄ R/W & CONST. BROWN ST.

℄ R/W & CONST. BROWN ST.

℄ R/W & CONST. JOHNSTON ST.

℄ R/W & CONST. LAMPARTER ST.

STRUCTURE NO. SUM-76-1127

PROP. RET. WALL (TYP.)

℄ CONST. LANE O

℄ CONST. W.B. I-76

CONST. LIMITS

MEET EXISTING STA. 15+00.00

STA 15+00.00
ELEV 1,039.41

STA 17+70.00
ELEV 1,039.84

270.00' VC
P.V.I. STA 16+35.00
ELEV = 1,034.75'
K = 37

13+00 14+00 15+00 16+00 17+00 18+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED MDG

WATER WORK AND SANITARY SEWER PLAN AND PROFILE
BEGIN TO STA. 18+00.00 (BROWN STREET)

SUM-76/77-11.27/12.12

387
652

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9/17/2014
8:25:09 AM
SSCHUSTER

FOR PIPE PROFILES, SEE SHEET 390
FOR ENLARGED PLAN DETAIL AT INTERSECTION, SEE SHEET 389
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

℄ CONST. W.B. I-76
℄ CONST. E.B. I-76
STRUCTURE NO. SUM-76-1127
MATCHLINE STA. 18+00 ℄ R/W & CONST. BROWN ST.
℄ R/W & CONST. SOUTH ST.
℄ R/W & CONST. BROWN ST.
2 story frame # 496
2 story frame # 490
1 story brick # 481
1 story brick # 474
gravel drive
asphalt
conc. sidewalk
5' chainlink fence
bridge pier(typ.)
bench
dense vegetation
brush
ex. mh (records)
ex. cb (records)
ex. 12" (records)
ex. 15" clay
ex. 60" clay (TO REMAIN)
ex. 16" W
ex. 10"
ex. 8"
ex. 12" clay
ex. 12" W
ex. 8" gas
ex. 12" gas
ex. 6" gas
ex. 10" water
ex. 6" water
ex. 16" water
ex. 8" san. (TO REMAIN)
ex. 54" san.
ex. 60" san.
PROP. 24" WATER
PROP. 16" WATER
PROP. 10" WATER
PROP. 8" WATER
MEET EXISTING STA. 20+65.00
MEETING EXISTING STA. 19+79.00
GRAPHIC GRADE
90.00' VC
P.V.I. STA 19+31.00
ELEV = 1,045.12'
K = 73
SSD = 916'
P.V.I. STA 18+23.00
ELEV = 1,041.84'
(NO VERTICAL CURVE)
STA 18+86.00
ELEV 1,043.75
STA 19+76.00
ELEV 1,045.93
22.5° VERT. BEND
STA. 20+19.93
22.5° VERT. BEND
STA. 20+42.84
89' RT
EV 1039.19
+3.77 %
+3.04 %
+3.04 %
+1.80 %
S 0° 26' 00" E
S 0° 23' 02" W
20.53'
21.21'
Ex R/W
SAN
W-1
W-32
W-34
W-35
W-37
W-38
EX-1
EX-7
EX-8
WR-3
WR-22
SJ-10

EX-8
STA 19+99.06, 0.61' RT
(BROWN)
EX. MH, GRATE ELEV 1046.60
ex. 12" CLAY (SE) 1035.13
ex. 12" CLAY (SW) 1035.13
ex. 8" CLAY (N) 1034.30

EX-7
STA 20+05.60, 10.42' LT
(BROWN)
EX. MH, GRATE ELEV 1046.61'
ex. 12" CLAY (NE) 1044.62

SJ-10
STA 18+69.15, 0.92' LT
(BROWN)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1043.22'
EX. MH, GRATE ELEV 1043.07'
ex. 8" CLAY (N) 1033.60
ex. 8" CLAY (S) 1033.60

1040.97 1041.90 1042.66 1043.42 1044.17 1044.83 1045.42 1045.91 1046.59 1046.52 1046.86 1047.17
1041.01 1042.56 1044.16 1045.48 1046.59 1046.86
1065 1060 1055 1050 1045 1040 1035 1030
18+00 19+00 20+00 21+00 22+00 23+00

WATER WORK AND SANITARY SEWER PLAN AND PROFILE
STA. 18+00.00 TO END (BROWN STREET)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED MDG

SUM-76/77-11.27/12.12

388
652

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9/17/2014
9:25:41 AM
SSCHUSTER

FOR PIPE PROFILES, SEE SHEET 388,390
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

W-29
STA 19+75.66, 13.06' LT (BROWN)
SPECIAL: 24 INCH BUTTERFLY VALVE WITH VALVE BOX, COMPLETE

W-30
STA 20+17.10, 13.30' LT (BROWN)
SPECIAL: 16 INCH BUTTERFLY VALVE WITH VALVE BOX, COMPLETE

W-31
STA 20+52.34, 15.75' RT (BROWN)
SPECIAL: 8 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-34
STA 20+34.64, 29.80' RT (BROWN)
WATER WORK, MISC.: FIRE HYDRANT REMOVED AND RESET
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-36
STA 20+10.99, 27.68' RT (BROWN)
SPECIAL: 12 INCH GATE VALVE WITH VALVE BOX, COMPLETE

1 STA. 19+79.69, 13.06' LT. 24" x 24" TEE
2 STA. 19+79.63, 7.04' LT. 24"-45° BEND
3 STA. 19+85.04, 1.53' LT. 24"-45° BEND
4 STA. 20+09.92, 13.20' LT. 16" x 12" CROSS
5 STA. 20+10.70, 16.84' RT. 12" x 8" TEE
6 STA. 20+11.12, 32.72' RT. 12"-45° BEND
7 STA. 20+03.13, 41.14' RT. 16"-45° BEND
8 STA. 20+34.28, 16.22' RT. 8" x 6" TEE
9 STA. 20+55.02, 15.68' RT. 8"-45° BEND
10 STA. 20+60.93, 9.45' RT. 10"-45° BEND
11 STA. 20+60.00, 7.49' LT. 16"-45° BEND
12 STA. 20+53.49, 13.82' LT. 16"-45° BEND

1 10" x 8" REDUCER STA. 20+57.98 (BROWN)
2 24" x 16" REDUCER STA. 19+84.14 (BROWN)

HORIZONTAL SCALE IN FEET
0 5 10 20
CALCULATED ATR
CHECKED MDG

ENLARGED PLAN DETAIL
SOUTH ST./ BROWN ST

SUM-76/77-11.27/12.12

389
652

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9/17/2014
8:26:14 AM
SSCHUSTER

1 16" X 12" REDUCER STA. 26+85.07 (SOUTH)
2 12" X 8" REDUCER STA. 26+32.52 (SOUTH)
3 8" X 6" REDUCER STA. 22+96.66 (SOUTH)

FOR ESTIMATED QUANITITIES, SEE SHEETS 194 - 206
FOR PIPE PROFILES, SEE SHEETS 329, 388
FOR EX. DRAINAGE & UTILITY SCHEMATIC, SEE SHEET 362
FOR ENLARGED PLAN DETAIL AT INTERSECTION, SEE SHEET 389

℄ R/W & CONST. BROWN ST.
℄ R/W & CONST. SPICER ST.
℄ R/W & CONST. SOUTH ST.
OLD ℄ R/W JOHNSTON ST.

1 STA. 26+09.46, 10.26' LT. 8"-45° BEND
2 STA. 26+02.72, 17.00' LT. 8"-45° BEND
3 STA. 22+98.14, 45.27' RT. 8" x 6" TEE
4 STA. 22+94.61, 53.33' RT. 6"-45° BEND
5 STA. 22+95.28, 59.83' RT. 6"-45° BEND

W-46
STA 25+21.36, 22.92' LT. (SOUTH)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-45
STA 25+63.36, 22.72' LT. (SOUTH)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-37
STA 25+98.04, 17.00' LT (SOUTH)
SPECIAL: 8 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-40
STA 22+93.72, 40.26' RT (SOUTH)
SPECIAL: FURNISHING AND SETTING 6 INCH HYDRANT, COMPLETE
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-44
STA 25+88.34, 22.00' LT. (SOUTH)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-41
STA 22+95.25, 51.76' RT (SOUTH)
SPECIAL: 6 INCH GATE VALVE WITH VALVE BOX, COMPLETE

W-47
STA 24+68.33, 22.42' LT. (SOUTH)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

W-48
STA 23+74.26, 17.69' LT. (SOUTH)
WATER WORK; MISC.: TRENCHES FOR WATER SERVICES IN EARTH
WATER WORK; MISC.: TAPPING WATER MAINS AND INSTALLING SERVICES (1 INCH)

EX-8
STA 19+99.06, 0.61' RT (BROWN)
EX. MH, GRATE ELEV 1046.60
ex. 12" CLAY (SE) 1035.13
ex. 12" CLAY (SW) 1035.13
ex. 8" CLAY (N) 1034.30

EX-7
STA 20+05.60, 10.42' LT (BROWN)
EX. MH, GRATE ELEV 1046.61'
ex. 12" CLAY (NE) 1044.62

SJ-6
STA 25+68.42, 0.63' RT (SOUTH)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1047.17'
EX. MH, GRATE ELEV 1047.44'
ex. 8" CLAY (SE) 1034.64
ex. 8" CLAY (NW) 1034.64

SJ-5
STA 23+46.13, 23.12' RT (SOUTH)
MH ADJUSTED TO GRADE, APP
PROP. RIM ELEV 1050.25'
EX. MH, GRATE ELEV 1049.83'
ex. 8" CLAY (W) 1043.33
ex. 24" CLAY (N) 1036.93
ex. 18" CLAY (SE) 1038.93
ex. 18" CLAY (SW) 1038.83

SJ-4
STA 23+14.16, 43.20' RT (SOUTH)
MH RECONSTRUCTED TO GRADE, APP
PROP. RIM ELEV 1050.94
EX. MH, GRATE ELEV 1051.18'
ex. 24" CLAY (N) 1036.98
ex. 24" CLAY (SE) 1037.48
ex. 24" CLAY (S) 1037.38
24" (E) 1036.98
24" (NW) 1036.98

90.00' VC
SSD = 582'
P.V.I. STA 23+15.00
ELEV = 1,051.39'
K = 45

90.00' VC
P.V.I. STA 24+05.00
ELEV = 1,049.36'
K = 98

P.V.I. STA. 25+25.00
ELEV = 1,047.75'
(NO VERTICAL CURVE)

GRAPHIC GRADE
MEET EXISTING STA. 26+94.91
MEET EXISTING STA. 26+00.00
STA 23+60.00 ELEV 1,050.37
STA 22+70.00 ELEV 1,051.50
PC Sta. 22+48.05
PT Sta. 23+27.85
PC Sta. 23+20.60

-1.27 %
-1.34 %
-1.34 %
-2.26 %
-2.26 %
-0.25 %
ex. -1.80%

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED ATR
CHECKED MDG

WATER WORK AND SANITARY SEWER PLAN AND PROFILE
SOUTH STREET

SUM-76/77-11.27/12.12

390
652

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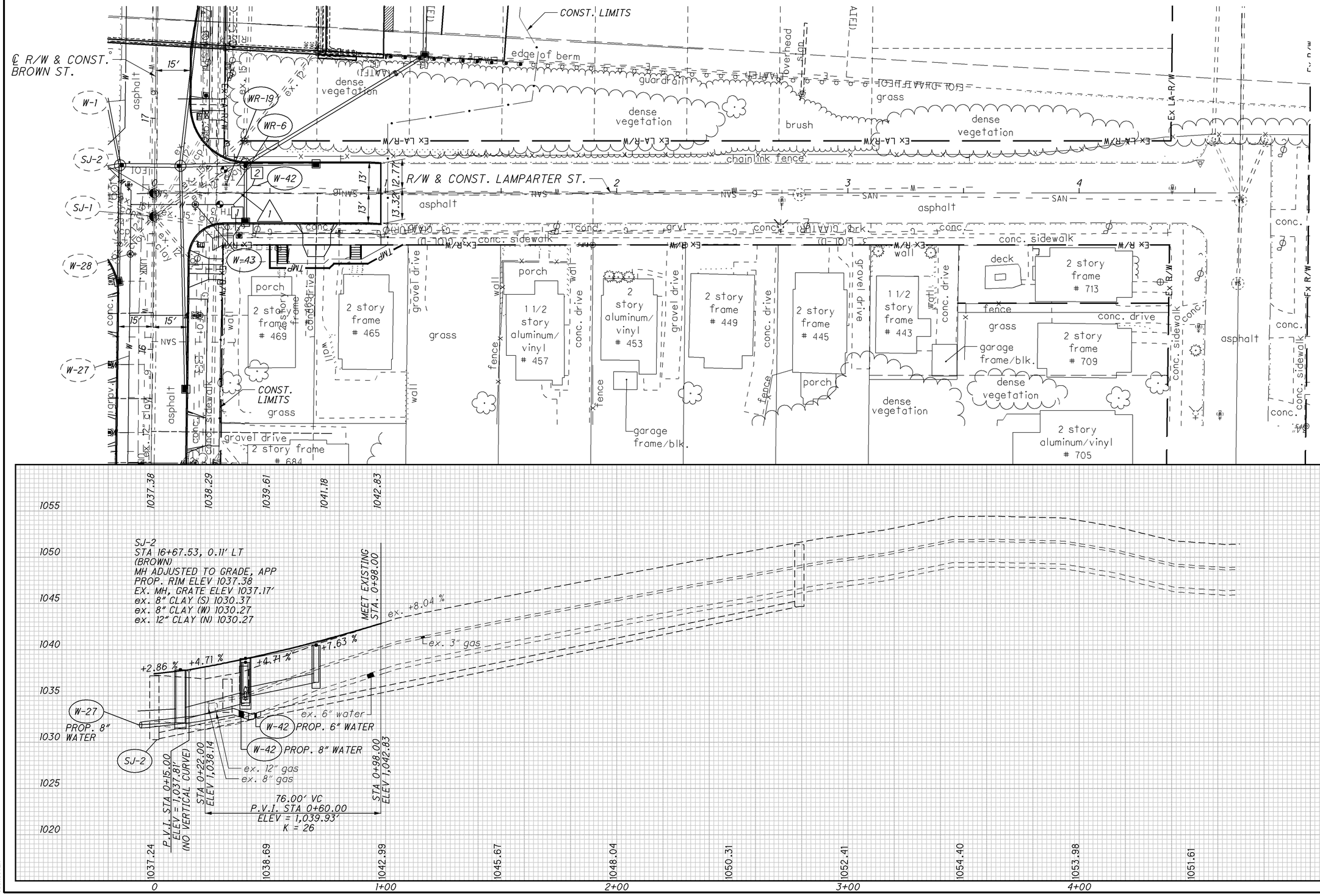
1 STA. 0+34.19, 5.00' RT.
8"-45° BEND

2 STA. 0+42.46, 3.27' LT.
6"-45° BEND

W-43
STA 0+17.74, 5.00' RT (LAMPARTER)
SPECIAL: 8 INCH GATE VALVE WITH VALVE BOX, COMPLETE

FOR PIPE PROFILES, SEE SHEETS 382, 387
FOR ESTIMATED QUANTITIES, SEE SHEET 194 - 206

1 8" x 6" REDUCER
STA. 0+38.32 (LAMPARTER)



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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED ATR
CHECKED MDG

WATER WORK AND SANITARY SEWER PLAN AND PROFILE
LAMPARTER STREET

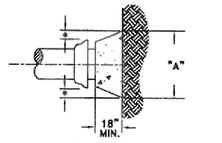
SUM-76/77-11.27/12.12

TYPICAL CONCRETE THRUST BLOCKING

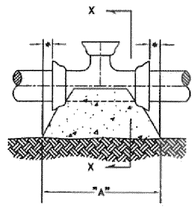
REVISED BY AK 3/07

The City of Akron, Ohio
Department of Public Services Public Utilities Bureau
Michael L. McGlinchy – Manager

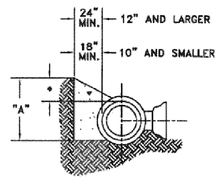
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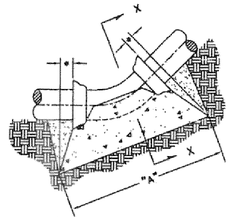
PLUG



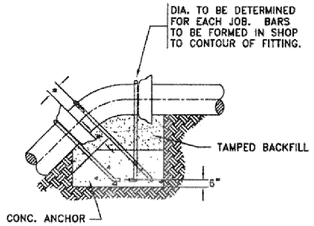
PLAN VIEW OF TEE



SECTION VIEW X-X



HORIZONTAL BEND
VERTICAL BEND (UPWARD)



VERTICAL BEND
(DOWNWARD)

MINIMUM VOLUME OF CONCRETE FOR TOP VERTICAL BENDS

6"	4 C.F.
8"	11 C.F.
10"	22 C.F.
12"	37 C.F.
16"	71 C.F.

"A"
HORIZONTAL BENDS

	90°	45°	22 1/2°	TEE	PLUG
6"	17"	13"	9"	13"	14"
8"	23"	17"	12"	17"	19"
10"	28"	21"	15"	21"	24"
12"	34"	25"	18"	25"	29"
16"	45"	33"	24"	28"	38"

* 6" MINIMUM

NOTE: IN AREAS OVER 100PSI PLEASE CALL 375-2690 FOR THRUST BLOCK SIZING

COPIED FROM Acc. C – 9015 AND REVISED

APPROVED Terry Leslie P.E. 4-9-07
UTILITIES ENGINEER DATE

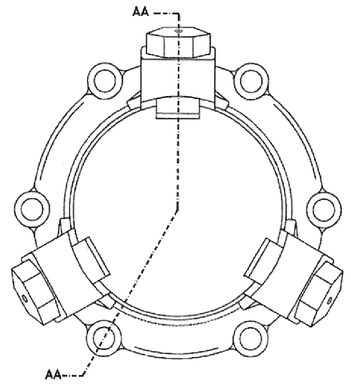
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MECHANICAL JOINT DUCTILE IRON RESTRAINING GLANDS

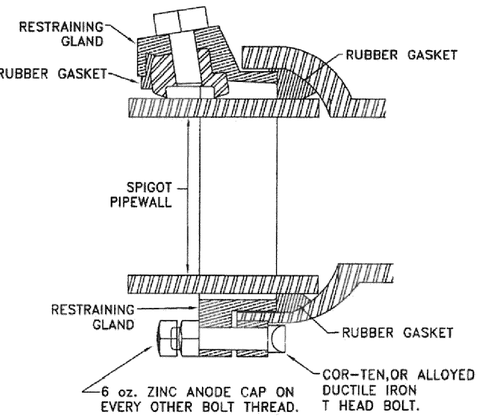
REVISED BY AK 3/07

The City of Akron, Ohio
Department of Public Service Public Utilities Bureau
Michael L McGlinchy – Manager

NOT TO SCALE



MECHANICAL JOINT DUCTILE IRON
RESTRAINING GLAND



MECHANICAL JOINT
SECTION AA

NOTE: D.I.P. RESTRAINED GLAND TO BE USED ON ALL FITTINGS.

PIPE SIZE	WEIGHT (lbs.)
4"	7
6"	12
8"	16
10"	24
12"	33
16"	58

APPROVED Terry Leslie P.E. 4-9-07
UTILITIES ENGINEER DATE

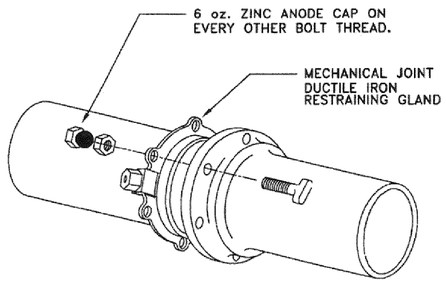
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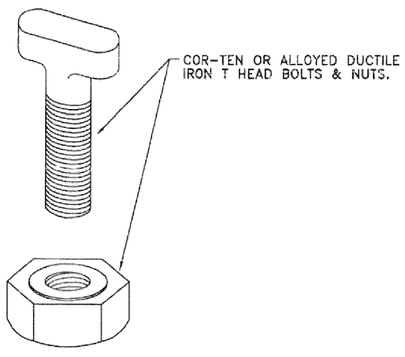
T-BOLT AND NUT

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Department of Public Service Public Utilities Bureau
Michael L. McGlinchy – Manager

NOT TO SCALE





BOLT LENGTH

PIPE	BOLT
4"	4"
6"	4"
8"	4½"
12"	4½"
16"	5"
20"	5"
24"	5½"

APPROVED Terry Leslie P.E. 4-9-07
UTILITIES ENGINEER DATE

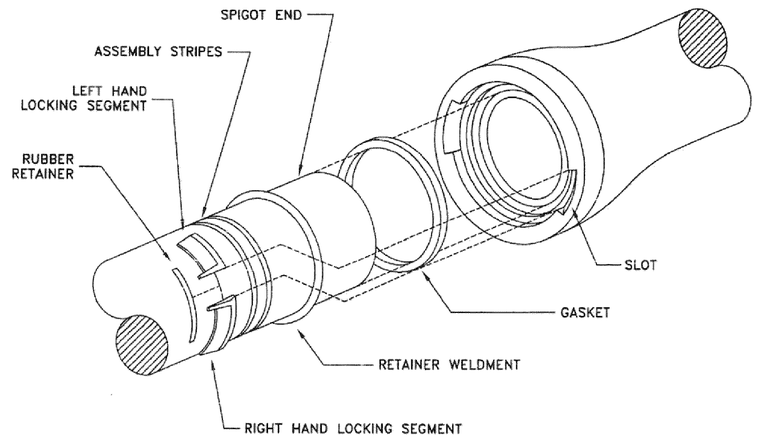
PAGE #22
Acc. F – 1279

RESTRAINED JOINT PIPE

REVISED BY AK 3/07

The City of Akron, Ohio
Department of Public Service Public Utilities Bureau
Michael L McGlinchy – Manager

NOT TO SCALE



APPROVED Terry Leslie P.E. 4-9-07
UTILITIES ENGINEER DATE

PAGE #23
Acc. F – 16771

WATER WORK DETAILS

SUM-76/77-11.27/12.12

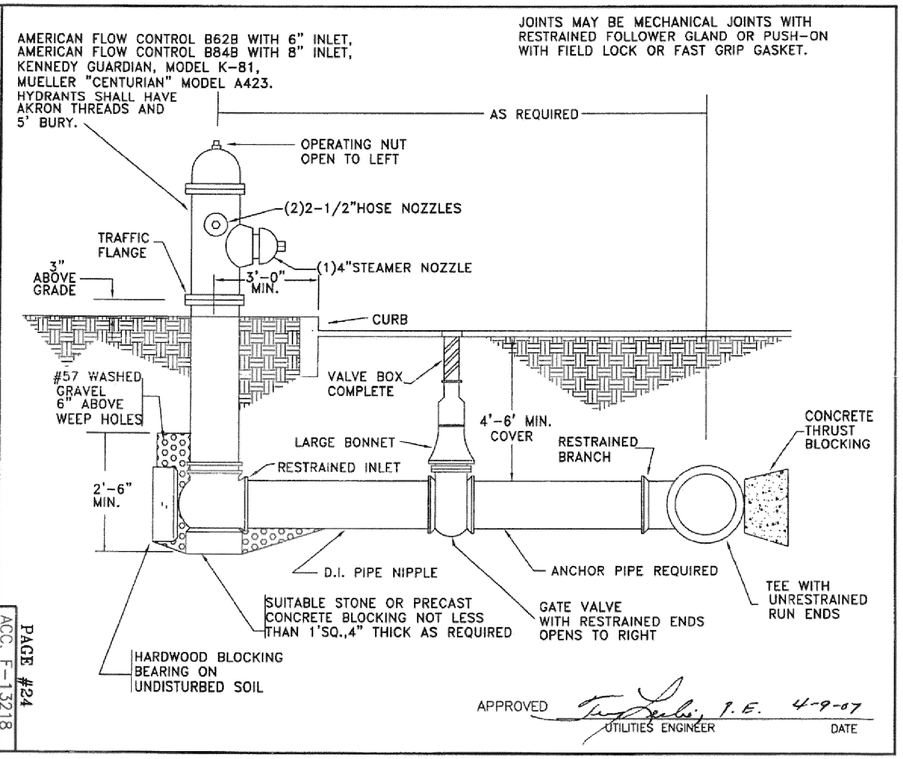
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Department of Public Service Public Utilities Bureau
Michael L. McGlinchy – Manager

REVISED BY AK 3/07

HYDRANT RUN & INSTALLATION

NOT TO SCALE



APPROVED Thomas Sidi, P.E. 4-9-07
UTILITIES ENGINEER DATE

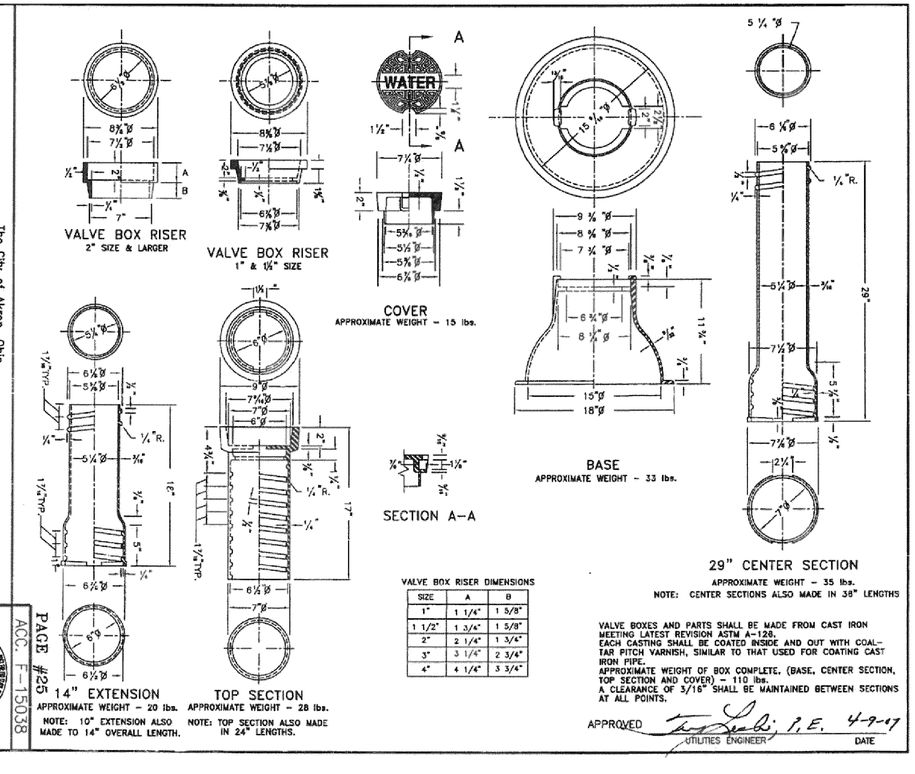
ACC. F-13218 PAGE #24

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Department of Public Service Public Utilities Bureau
Michael L. McGlinchy – Manager

DRAWN FROM ORIGINAL ACC. A-3207 REVISED BY AK 3/07

STANDARD VALVE BOX

NOT TO SCALE



VALVE BOX RISER DIMENSIONS

SIZE	A	B
1"	1 1/4"	1 5/8"
1 1/2"	1 3/4"	1 5/8"
2"	2 1/4"	1 3/4"
3"	3 1/4"	2 3/4"
4"	4 1/4"	3 3/4"

VALVE BOXES AND PARTS SHALL BE MADE FROM CAST IRON MEETING LATEST REVISION ASTM A-126.
EACH CASTING SHALL BE COATED INSIDE AND OUT WITH COAL-TAR PITCH VARNISH, SIMILAR TO THAT USED FOR COATING CAST IRON PIPE.
APPROXIMATE WEIGHT OF BOX COMPLETE. (BASE, CENTER SECTION, TOP SECTION AND COVER) – 110 lbs.
A CLEARANCE OF 3/16" SHALL BE MAINTAINED BETWEEN SECTIONS AT ALL POINTS.

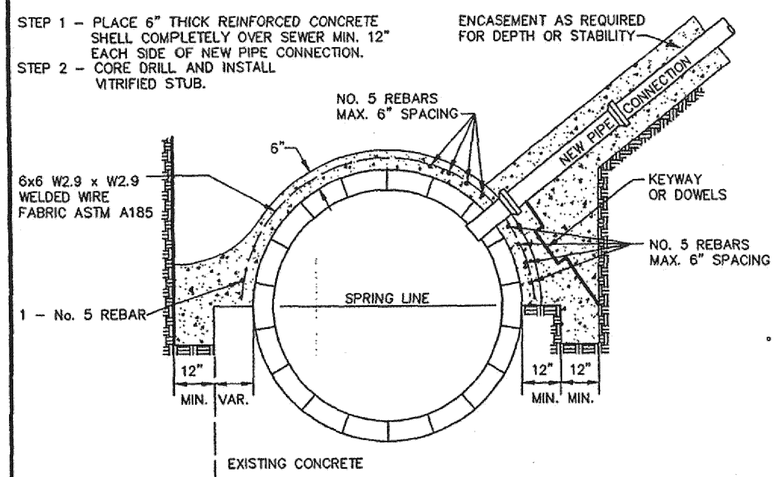
APPROVED Thomas Sidi, P.E. 4-9-07
UTILITIES ENGINEER DATE

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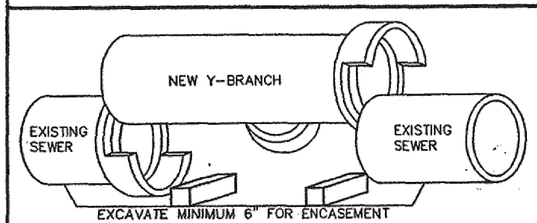
TYPICAL CONNECTION TO EXISTING SEGMENTAL BLOCK SEWER. TYPICAL OF CONNECTION TO EXISTING BRICK SEWER, EXCEPT CONCRETE SHELL IS NOT REQUIRED IF SEWER IS IN GOOD CONDITION. ONLY ENCASEMENT OF STUB AND CONNECTION IS REQUIRED.

STEP 1 – PLACE 6" THICK REINFORCED CONCRETE SHELL COMPLETELY OVER SEWER MIN. 12" EACH SIDE OF NEW PIPE CONNECTION.
STEP 2 – CORE DRILL AND INSTALL VITRIFIED STUB.



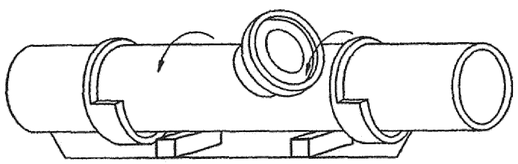
WHERE A CONCRETE HAUNCH DOES EXIST, THICKEN REINFORCED CONCRETE SHELL TO UNDISTURBED GROUND. DO NOT DISTURB CONCRETE HAUNCH.

WHERE NO CONCRETE HAUNCH EXISTS, THICKEN REINFORCED CONCRETE SHELL TO UNDISTURBED GROUND. DO NOT DISTURB GROUND BELOW SPRING LINE.



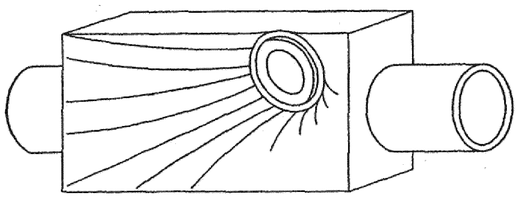
SAWCUT AND REMOVE THE UPPER HALF OF THE BELL OF THE NEW Y-BRANCH. SAWCUT AND REMOVE THE UPPER HALF OF THE BELL OF THE EXISTING SEWER PIPE OR NEW SHORT.

PLACE THE NEW Y-BRANCH ON SUITABLE BLOCKING WITH THE "Y" ON THE OPPOSITE SIDE OF THE SEWER FROM THE PROPOSED LATERAL.



ROTATE THE Y-BRANCH 180°, BRINGING THE "Y" INTO THE CORRECT POSITION FOR THE PROPOSED LATERAL, WITH THE STUB TURNED SLIGHTLY UPWARDS. THE GOOD PORTION OF THE BELL OF EACH PIPE WILL NOW BE AT THE BOTTOM OF EACH JOINT.

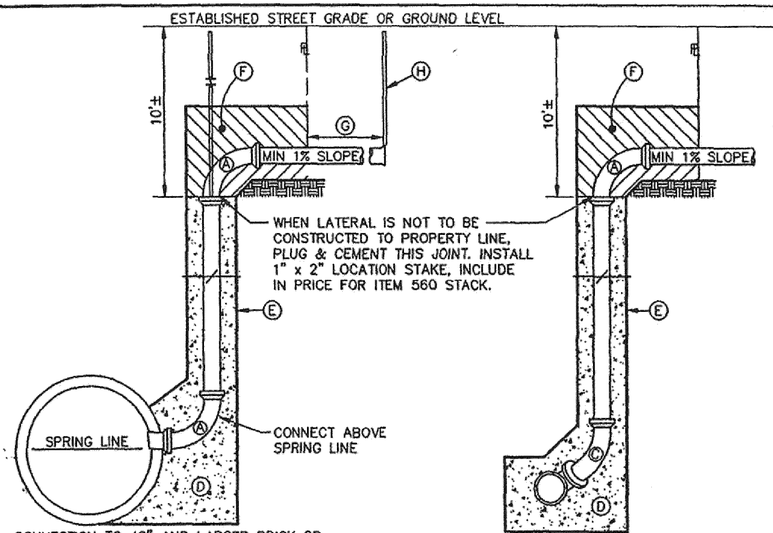
ALIGN INVERTS OF ALL PIPE AND PLACE JUTE PACKING INTO VOID AREAS IN THE BELLS.



FULLY ENCASE THE NEW Y-BRANCH WITH CLASS "C" CONCRETE 6" THICK, COMPLETEY COVERING BOTH BELLS OF THE SEWER AND THE BARREL AND BELL OF THE STUB.

STANDARD FOR INSTALLING Y-BRANCH IN VITRIFIED PIPE FOR SANITARY OR STORM LATERAL. AN ACCEPTABLE ALTERNATE IS TO USE MANUFACTURED RUBBER COUPLINGS AS SUPPLIED BY LOGAN CLAY PIPE CO., OR EQUAL

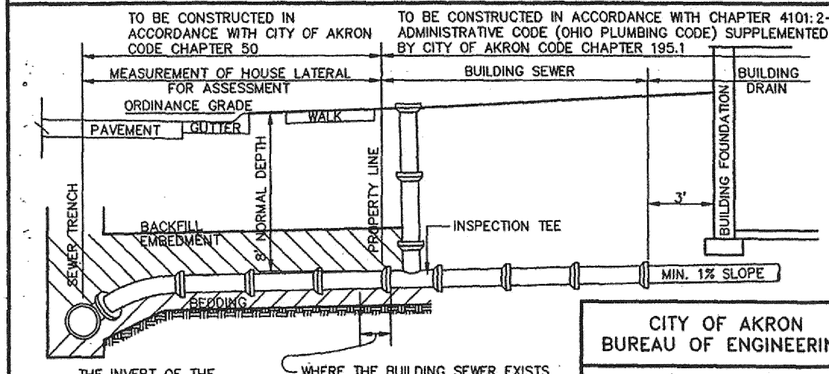
TYPICAL Y-BRANCH INSTALLATION OR SEWER RECONSTRUCTION REPAIR METHOD.



	VCP	PVC OR ABS
A	90° LONG RADIUS BEND	90° LONG RADIUS BEND OR AS PER DETAIL A
B	45° LONG RADIUS	45° LONG OR SHORT RADIUS BEND
C	LONG RADIUS BEND	LONG RADIUS BEND OR SHORT RADIUS BENDS NOT TO EXCEED 45°
D	CONCRETE ENCASEMENT (MIN. 6" THICKNESS)	#57 STONE ENCASEMENT MINIMUM 6" THICKNESS
E	SONOTUBE (OPTIONAL) INCLUDE IN COST OF 560	SONOTUBE (REQUIRED) INCLUDE IN COST OF 560 STACK
F	BEDDING IN ACCORDANCE WITH 551.05, INCLUDED IN COST OF 560 STACK.	
G	MINIMUM 3' LENGTH BEHIND PROPERTY LINE	
H	WHEN LATERAL IS NOT TO BE CONNECTED TO AN EXISTING LATERAL, FINISH WITH A BELL END, USE A REMOVABLE PLUG IN THE END, AND INSTALL A 1" x 2" LOCATION STAKE, INCLUDE IN THE COST OF ITEM 560 STACK.	

NOTE:
SONOTUBES MAY BE USED TO FORM CONCRETE ENCASEMENT PROVIDED THE MINIMUM 6" THICKNESSS IS MAINTAINED. CONCRETE ENCASEMENT SHOULD BE STOPPED ONLY AT BELLS. STACKS SHALL BE CONSTRUCTED TO WITHIN 10'± OF ESTABLISHED STREET GRADE OR GROUND LEVEL. ENCASEMENT SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 560 STACK, WHEN NOT CONSTRUCTED TO PROPERTY LINE OR ITEM 560 HOUSE LATERAL, WHEN CONSTRUCTED TO PROPERTY LINE.

METHODS OF CONSTRUCTING SANITARY LATERALS WHEN DEPTH OF SEWER IS 14' OR GREATER



ALL CONCRETE SHALL BE CLASS "C"

ALL REINFORCING STEEL SHALL HAVE A MINIMUM 2" COVER.

ALL BEDDING SHALL BE CLASS 'B' MEETING THE REQUIREMENTS OF 703.04, AS PER 551.05.

ALL EMBEDMENT SHALL MEET THE REQUIREMENTS OF 604.02 FOR VITRIFIED PIPE, AND 703.04 FOR PVC AND ABS PIPE.

ALL BACKFILL SHALL MEET THE REQUIREMENTS OF 551.09.

WHERE THE SAME PIPE MATERIAL IS NOT USED FOR THE ENTIRE LATERAL LENGTH, MANUFACTURED FITTINGS MUST BE USED TO CONNECT DIFFERENT MATERIALS.

DO NOT SCALE – USE DIMENSIONS ONLY

CITY OF AKRON
BUREAU OF ENGINEERING

CONSTRUCTION STANDARD DWG. No. S-1.1

Daniel Hild 3-4-99
MANAGER, DESIGN DIVISION

Pawan K. Khaitan 3-4-99
MANAGER, CONSTRUCTION DIVISION

CITY ENGINEER 3-4-99

Y-BRANCH LATERAL STACK

REVISIONS:

WATER WORK DETAILS

SUM-76/77-11.27/12.12

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SO-DEEP US, P.C.

The Subsurface Utility Engineering Company

449 Munroe Falls Road
Tallmadge, OH 44278
(330) 794-4455

Test Hole Certification Form
Utility Quality Level A Data

ASCE C/I 38-02

Corporate Headquarters
8397 Euclid Avenue
Manassas Park, VA 20111
(703) 361-6005

Control # **EZLD953**
Test Hole # **1**
Plan Scale **1" = 20'**
Sheet # **2**
Proposed **STORM PIPE**
Date **APRIL 22, 2013**

City, County, State **CITY OF AKRON, OHIO**
Gen. Loc. **E. SIDE OF BROWN ST. AT LAMPARTER ST.**
Recorded Size/Material/Type **12" PLASTIC GAS LINE**
Foreman/Truck#/Form By **S. ERICKSON / 219 / T. BARRETT**

Condition of paving prior to work **GOOD**

B.M. 1 Elev. = **1038.98'** is **CALCULATED**
Description: **(TBM #1) GALVANIZED SPIKE SET IN GRASS R/W, 19.8'± LT OF CL STA 17+28.2±, BROWN ST.**

B.M. 2 Elev. = **1038.36'** is **CALCULATED**
Description: **(TBM #2) GALVANIZED SPIKE SET IN GRASS R/W, 19.4'± LT OF CL STA 15+65.7±, BROWN ST.**

So-Deep will attempt to use the BM/HI most applicable to your design. If however, BMs differ by more than .05', resulting differences could cause design conflicts.

Benchmarks Check **BY 0.01'**
Elevations are referenced to **B.M.#1**

Recorded Size/Type of utility **WAS FOUND**
There **WERE NOT** additional utilities in the test hole
The utility **WAS** in good condition
Paving Thickness and type **4" CONCRETE**
Color of ribbon installed **YELLOW**
Soil Type **SANDY BROWN**
Truck Location **ASPHALT SHOULDER**
T.H. tied to **CHIS "X"**

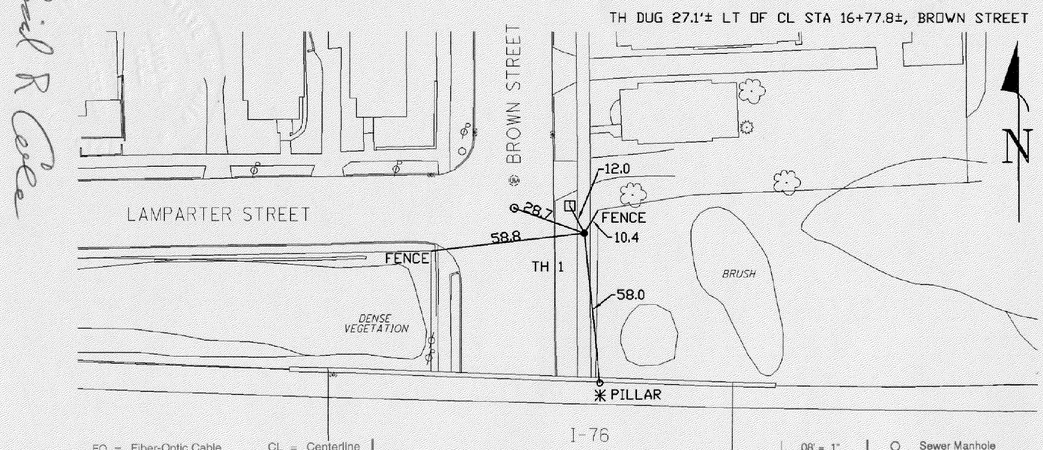
12 1/2" PLASTIC GAS LINE
Size/Material/Type
Portion of pipe exposed for O.D. measurement: **FULL**

Remarks: NONE

Facing **NORTH**

Width ±

Existing Grade of **CONC. WALK**
Survey Mark **CHIS "X"** (set by So-Deep) Elev. **1037.38'**
3.09' Actual field measurement by ruler (not calculated)
Surveyed Elev. Top Util/Struc. **1034.28'**
Surveyed Elev. Bott. Util/Struc. (if required)



FO = Fiber-Optic Cable
MTD = Multi Tile Duct
R/W = Rights of Way
N.T.S. = Not to Scale
* = Not Shown on Plan
PCC = Precast Concrete
COND. = Conduit
CONC. = Concrete
O.D. = Outside Diameter
C.I. = Cast Iron
D.I. = Ductile Iron
RPC = Rough Pour Concrete

CL = Centerline
T.C. = Tera Cotta
PLAS. = Plastic
BL = Base Line
ELEC. = Electric
TELE = Telephone
T.H. = Test Hole
SW = Sidewalk
DW = Driveway
BM = Benchmark
C.B. = Catch Basin
GV = Gas Valve

.08' = 1"
.16' = 2"
.25' = 3"
.33' = 4"
.42' = 5"
.50' = 6"
.58' = 7"
.67' = 8"
.75' = 9"
.83' = 10"
.92' = 11"

Sewer Manhole
Test Hole
Fire Hydrant
Pole
Fence Line
Electric Manhole
= T.S. = Traverse Station
Valve
Water Meter
Telephone Manhole
Telephone Pedestal

Performing out-of-sight work...with vision!™

Note: To Eliminate mistakes and check this work, So-Deep suggests you scale and plot all dimensions onto the plans and review all elevations carefully. So-Deep is responsible only for information shown on our forms.

SO-DEEP US, P.C.

The Subsurface Utility Engineering Company

449 Munroe Falls Road
Tallmadge, OH 44278
(330) 794-4455

Test Hole Certification Form
Utility Quality Level A Data

ASCE C/I 38-02

Corporate Headquarters
8397 Euclid Avenue
Manassas Park, VA 20111
(703) 361-6005

Control # **EZLD953**
Test Hole # **2**
Plan Scale **1" = 20'**
Sheet # **2**
Proposed **STORM PIPE**
Date **APRIL 22, 2013**

City, County, State **CITY OF AKRON, OHIO**
Gen. Loc. **W. SIDE OF BROWN ST. AT LAMPARTER ST.**
Recorded Size/Material/Type **8" PLASTIC GAS LINE**
Foreman/Truck#/Form By **S. ERICKSON / 219 / T. BARRETT**

Condition of paving prior to work **GOOD**

B.M. 1 Elev. = **1038.98'** is **CALCULATED**
Description: **(TBM #1) GALVANIZED SPIKE SET IN GRASS R/W, 19.8'± LT OF CL STA 17+28.2±, BROWN ST.**

B.M. 2 Elev. = **1038.36'** is **CALCULATED**
Description: **(TBM #2) GALVANIZED SPIKE SET IN GRASS R/W, 19.4'± LT OF CL STA 15+65.7±, BROWN ST.**

So-Deep will attempt to use the BM/HI most applicable to your design. If however, BMs differ by more than .05', resulting differences could cause design conflicts.

Benchmarks Check **BY 0.01'**
Elevations are referenced to **B.M.#1**

Recorded Size/Type of utility **WAS FOUND**
There **WERE NOT** additional utilities in the test hole
The utility **WAS** in good condition
Paving Thickness and type **2" ASP. / 4" CONC.**
Color of ribbon installed **YELLOW**
Soil Type **SANDY BROWN**
Truck Location **ASPHALT ROADWAY**
T.H. tied to **P.K. NAIL**

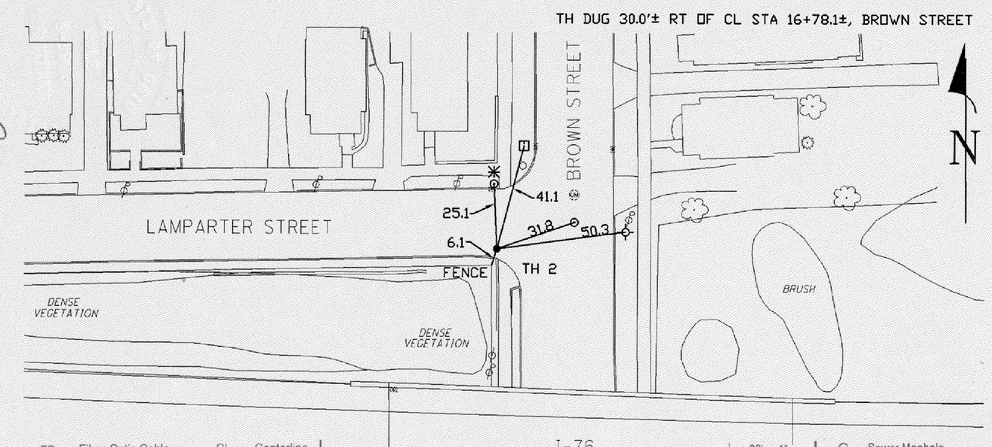
8 1/2" PLASTIC GAS LINE
Size/Material/Type
Portion of pipe exposed for O.D. measurement: **FULL**

Remarks: NONE

Facing **NORTH**

Width ±

Existing Grade of **ASP. RDWY.**
Survey Mark **P.K. NAIL** (set by So-Deep) Elev. **1037.36'**
4.07' Actual field measurement by ruler (not calculated)
Surveyed Elev. Top Util/Struc. **1033.30'**
Surveyed Elev. Bott. Util/Struc. (if required)



FO = Fiber-Optic Cable
MTD = Multi Tile Duct
R/W = Rights of Way
N.T.S. = Not to Scale
* = Not Shown on Plan
PCC = Precast Concrete
COND. = Conduit
CONC. = Concrete
O.D. = Outside Diameter
C.I. = Cast Iron
D.I. = Ductile Iron
RPC = Rough Pour Concrete

CL = Centerline
T.C. = Tera Cotta
PLAS. = Plastic
BL = Base Line
ELEC. = Electric
TELE = Telephone
T.H. = Test Hole
SW = Sidewalk
DW = Driveway
BM = Benchmark
C.B. = Catch Basin
GV = Gas Valve

.08' = 1"
.16' = 2"
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.75' = 9"
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Sewer Manhole
Test Hole
Fire Hydrant
Pole
Fence Line
Electric Manhole
= T.S. = Traverse Station
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Water Meter
Telephone Manhole
Telephone Pedestal

Performing out-of-sight work...with vision!™

Note: To Eliminate mistakes and check this work, So-Deep suggests you scale and plot all dimensions onto the plans and review all elevations carefully. So-Deep is responsible only for information shown on our forms.

CALCULATED AJE
CHECKED CWL

TEST HOLE DATA

SUM-76/77-11.27/12.12

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SO-DEEP US, P.C.

The Subsurface Utility Engineering Company

449 Munroe Falls Road
Tallmadge, OH 44278
(330) 794-4455

Test Hole Certification Form
Utility Quality Level A Data

ASCE C/I 38-02

Corporate Headquarters
8397 Euclid Avenue
Manassas Park, VA 20111
(703) 361-6005

Control # **EZLD953**
Test Hole # **3**
Plan Scale **1" = 20'**
Sheet # **2**
Proposed **WATER LINE**
Date **APRIL 22, 2013**

City, County, State **CITY OF AKRON, OHIO**
Gen. Loc. **W. SIDE OF BROWN ST. AT LAMPARTER ST.**
Recorded Size/Material/Type **8" PLASTIC GAS LINE**
Foreman/Truck#/Form By **S. ERICKSON / 219 / T. BARRETT**

Condition of paving prior to work **GOOD**

B.M. 1 Elev. = **1038.98'** is **CALCULATED**
Description: **(TBM #1) GALVANIZED SPIKE SET IN GRASS R/W, 19.8'± LT OF CL STA 17+28.2±, BROWN ST.**

B.M. 2 Elev. = **1038.36'** is **CALCULATED**
Description: **(TBM #2) GALVANIZED SPIKE SET IN GRASS R/W, 19.4'± LT OF CL STA 15+65.7±, BROWN ST.**

Benchmarks Check **BY 0.01'**
Elevations are referenced to **B.M.#1**

So-Deep will attempt to use the BM/HI most applicable to your design. If however, BMs differ by more than .05', resulting differences could cause design conflicts.

Recorded Size/Type of utility **WAS FOUND**

There **WERE NOT** additional utilities in the test hole

The utility **WAS** in good condition

Paving Thickness and type **2" ASP. / 4" CONC.**

Color of ribbon installed **YELLOW**

Soil Type **SANDY BROWN**

Truck Location **ASPHALT ROADWAY**

T.H. tied to **P.K. NAIL**

8 1/2" PLASTIC GAS LINE
Size/Material/Type
Portion of pipe exposed for O.D. measurement:
FULL

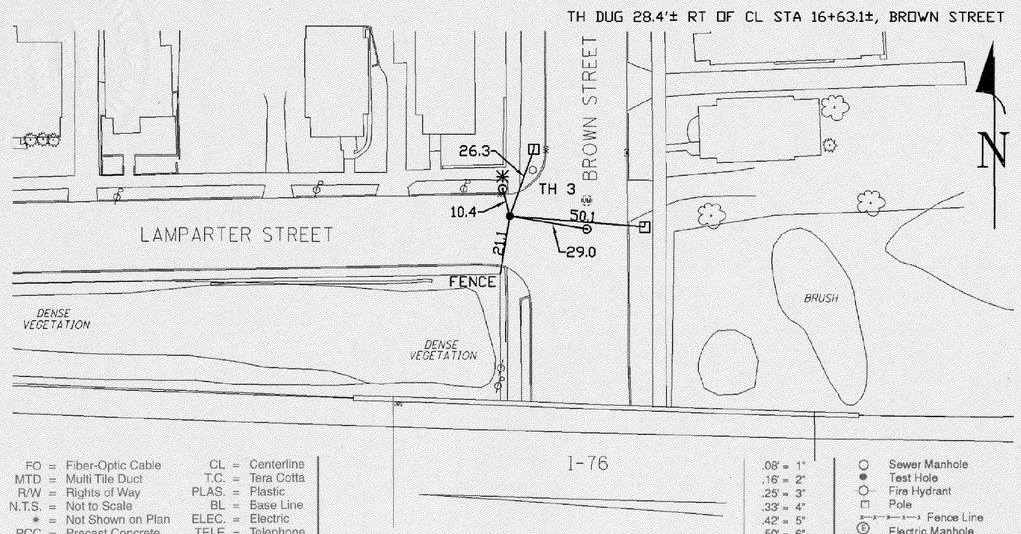
Remarks: NONE

Facing **NORTH**

Width ±

Existing Grade of **ASP. RDWY.**
Survey Mark **P.K. NAIL** (set by So-Deep)
Elev. **1036.94'**
2.62' Actual field measurement by ruler (not calculated)
Surveyed Elev. Top Util/Struc. **1034.32'**
Surveyed Elev. Bott. Util/Struc. (if required)

Paul R Cole



FO = Fiber-Optic Cable
MTD = Multi Tile Duct
R/W = Rights of Way
N.T.S. = Not to Scale
* = Not Shown on Plan
PCC = Precast Concrete
COND. = Conduit
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Sewer Manhole
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Note: To Eliminate mistakes and check this work, So-Deep suggests you scale and plot all dimensions onto the plans and review all elevations carefully. So-Deep is responsible only for information shown on our forms.

CALCULATED AJE
CHECKED CWL

TEST HOLE DATA

SUM-76/77-11.27/12.12

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NO PARKING SIGN INSTALLATION

THE CONTRACTOR SHALL INSTALL ALL NO PARKING SIGNS AT A 45 DEGREE ANGLE TO THE ROADWAY AND AS APPROVED BY THE ENGINEER. THE SIGN SHALL BE VISIBLE TO ONCOMING VEHICLES AT ALL TIME.

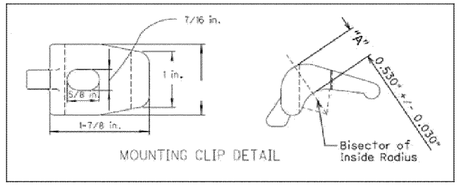
MOUNTING CLIPS

AS A PART OF THIS PROJECT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE MOUNTING CLIPS FOR SIGNS AS OUTLINED BELOW:

EFFECTIVE IMMEDIATELY, ALL ACTIVE CONSTRUCTION PROJECTS CONTAINING STANDARD CONSTRUCTION DRAWING TC-51.11 AND/OR STANDARD CONSTRUCTION DRAWING TC-51.12 SHALL USE THE FOLLOWING MOUNTING CLIPS FOR OVERHEAD EXTRUSHEET SIGNS:

MANUFACTURED BY THE NEW LONDON FOUNDRY. DISTRICT PROJECT PERSONNEL MUST VERIFY THE MOUNTING CLIPS ARE MANUFACTURED BY THE NEW LONDON FOUNDRY.

DETAIL OF THE NEW LONDON FOUNDRY MOUNTING CLIP:



MOUNTING CLIP DETAIL

THE COST ASSOCIATED WITH PROVIDING THE SPECIFIED CLIPS SHALL BE INCLUDED IN THE UNIT COSTS FOR SIGNS REQUIRING THE CLIPS.

OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS

OBJECT MARKERS WILL BE PLACED ON EACH APPROACH OFF THE LEFT AND RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. ONE OM-3L AND ONE OM-3R WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL BE MOUNTED ON NEW NO.2 POSTS AND SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 10.5' IN LENGTH.

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

SEE SHEET 425 FOR LOCATION OF SIGNS ON SUM-76-11.27.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH FOR INFORMATION ONLY:

ITEM 630-SIGN, FLAT SHEET	6 SF
ITEM 630-SIGN, FLAT SHEET, 730.20	1 SF
ITEM 630-GROUND MOUNTED SUPPORT, NO. 2 POST	21 FT
ITEM 630-REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	3 EACH
ITEM 630-REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	2 EACH

SIGN PLACEMENT

THE ELEVATIONS SHOWN IN THE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY. THE EXACT LOCATIONS OF SIGNS ARE TO BE STAKED. THE ENGINEER WILL REVIEW THE LOCATIONS PRIOR TO POST FABRICATION TO INSURE CLEARANCE OF DRIVES, ROADWAYS AND OTHER OBSTACLES. IF THERE ARE ANY CONFLICTS, THEY WILL BE ADJUSTED AS DIRECTED BY THE ENGINEER. UPON ACCEPTANCE OF THE LOCATIONS BY THE ENGINEER AND PRIOR TO POST FABRICATION, THE CONTRACTOR WILL VERIFY THE REQUIRED LENGTH OF THE SIGN POSTS. PAYMENT FOR THIS IS INCIDENTAL TO ALL 630 ITEMS.

CALCULATED AKF
CHECKED AKF

TRAFFIC CONTROL NOTES

SUM-76/77-11.27/12.12

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190		413		414	415	416	417		421				PARTICIPATION 01/IMS/OT	PARTICIPATION 02/BRO/BR	PARTICIPATION 03/NFA/OT/AKRN	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
		1941											1,941			621	00100	1,941	EACH	RPM	
		1941											1,941			621	54000	1,941	EACH	RAISED PAVEMENT MARKER REMOVED	
									3				3			625	32000	3	EACH	GROUND ROD	
61													61			626	00100	61	EACH	BARRIER REFLECTOR	
				71.0	197.9	41.2							310.1			630	02100	310.1	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
				73.4	146.0	27.6	32.4						279.4			630	03100	279.4	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
									33.7				33.7			630	06500	33.7	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	
									49.4				49.4			630	07500	49.4	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22	
									98.3				98.3			630	07600	98.3	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
					25.2								25.2			630	08520	25.2	FT	STREET NAME SIGN SUPPORT, NO. 3 POST	
					3								3			630	08600	3	EACH	SIGN POST REFLECTOR	
									8				8			630	09000	8	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
									1				1			630	21000	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10	
									1				1			630	45500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	
									168				168			630	75000	168	EACH	SIGN ATTACHMENT ASSEMBLY	
				4	5								9			630	79100	9	EACH	SIGN HANGER ASSEMBLY, MAST ARM	
				3									3			630	79610	3	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED	
				163.0	166.9	24.5	16.0						370.4			630	80100	370.4	SF	SIGN, FLAT SHEET	
				2.0									2.0			630	80100	2.0	SF	SIGN, FLAT SHEET, 730.20	
									412.0				412.0			630	80200	412.0	SF	SIGN, GROUND MOUNTED EXTRUSHEET	
									10264.0				10264.0			630	80224	10,264.0	SF	SIGN, OVERHEAD EXTRUSHEET	
					8								8			630	80510	8	EACH	SIGN, STREET NAME	
									8				8			630	84500	8	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
									3				3			630	84510	3	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
				24		26			1				51			630	84900	51	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
				16		17							33			630	86002	33	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
									2				2			630	86102	2	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
						3							3			630	86310	3	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	
									14				14			630	87100	14	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	
				2		1			75				78			630	87400	78	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
				5	10	13							28			630	87500	28	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
						1							1			630	87520	1	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION	
				1									1			630	89702	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
		0.39											0.39			644	00300	0.39	MILE	CENTER LINE	
		633											633			644	00400	633	FT	CHANNELIZING LINE, 8"	
		196											196			644	00500	196	FT	STOP LINE	
		1020											1,020			644	00600	1,020	FT	CROSSWALK LINE	
		12											12			644	01300	12	EACH	LANE ARROW	
		29.54											29.54			646	10010	29.54	MILE	EDGE LINE, 6"	
		28.27											28.27			646	10110	28.27	MILE	LANE LINE, 6"	
		29658											29,658			646	10310	29,658	FT	CHANNELIZING LINE, 12"	
		42											42			646	10620	42	FT	CHEVRON MARKING	
		8106											8,106			646	20506	8,106	FT	DOTTED LINE, 8"	

CALCULATED CJD
CHECKED AKF

TRAFFIC CONTROL GENERAL SUMMARY

SUM-76/77-11.27/12.12

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE	644 CHANNELIZING LINE, 8"	644 STOP LINE	644 CROSSWALK LINE	644 LANE ARROW	646 EDGE LINE, 6" (WHITE)	646 EDGE LINE, 6" (YELLOW)	646 LANE LINE, 6"	646 CHANNELIZING LINE, 12"	646 CHEVRON MARKING	646 DOTTED LINE, 8"	622 PORTABLE BARRIER, 32", AS PER PLAN	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN	614 BARRIER REFLECTOR	614 OBJECT MARKER, ONE WAY	621 RPM, ONE WAY (WHITE)	621 RPM, TWO WAY (WHITE/RED)	621 RPM, TWO WAY (YELLOW/RED)	621 RAISED PAVEMENT MARKER REMOVED
			FROM	TO		FT	FT	FT	FT	EACH	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
422	ELY-1	I-76	487+00	490+00	RT							300.00												
422	LL-1	I-76	487+00	490+00	RT								300.00											
423	ELW-1	I-76	493+00	503+00	RT						1000.00													
423	LL-2	I-76	493+00	503+00	RT								1000.00											
423	LL-3	I-76	493+00	503+00	RT								1000.00											
423	LL-4	I-76	490+00	503+00	RT								1300.00											
423	ELY-2	I-76	490+00	503+00	RT							1300.00												
424	ELW-2	I-76	503+00	504+73	RT						173.00													
424	ELW-3	I-76	508+80	516+00	RT						720.00													
424	ELW-4	I-76	511+00	516+00	LT						500.00													
424	ELY-3	I-76	503+00	516+00	RT							1300.00												
424	ELY-4	I-76	507+00	516+00	LT							900.00												
424	LL-5	I-76	503+00	516+00	RT								1300.00											
424	LL-6	I-76	503+00	516+00	RT								1300.00											
424	LL-7	I-76	503+00	516+00	RT								1300.00											
424	LL-8	I-76	507+00	516+00	LT								900.00											
424	LL-9	I-76	507+00	516+00	LT								900.00											
424	LL-10	I-76	507+00	516+00	LT								900.00											
424	CL-1	I-76	504+73	506+59	RT									186.00										
424	DL-1	I-76	507+00	511+00	LT											400.00								
424	DL-2	I-76	506+59	514+82	RT											823.00								
425	ELW-5	I-76	516+00	529+00	RT						1300.00													
425	ELW-6	I-76	516+00	520+01	LT						401.00													
425	ELW-7	LANE O	24+88	34+29	CEN						941.00													
425	ELW-8	I-76 WB	3+79	7+87	LT						408.00													
425	ELY-5	I-76	516+00	529+00	RT							1300.00												
425	ELY-6	I-76	516+00	524+29	LT							829.00												
425	ELY-7	LANE O	24+96	29+24	LT							428.00												
425	ELY-8	I-76 WB	3+00	7+83	CEN							483.00												
425	LL-11	I-76	516+00	516+77	RT								77.00											
425	LL-12	I-76	516+00	518+25	RT								225.00											
425	LL-13	I-76	516+00	529+00	RT								1300.00											
425	LL-14	I-76	516+00	520+01	LT								401.00											
425	LL-15	I-76	516+00	520+01	LT								401.00											
425	LL-16	I-76	516+00	524+29	LT								829.00											
425	LL-17	LANE O	25+57	34+29	LT								872.00											
425	LL-17A	I-76 WB	3+00	7+85	RT								485.00											
425	CL-2	I-76 WB	520+00	524+29	LT									429.00										
425	CL-3	LANE O	29+24	34+29	LT									505.00										
425	CL-4	I-76	518+25	529+00	RT									1075.00										
425	CL-5	I-76 WB	3+00	3+79	LT									79.00										
425	CL-6	I-76 EB	0+64	0+85	RT									21.00										
425	CL-7	LANE O	24+22	25+57	LT									135.00										
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											5,443	6,840	14,790	2,430		1,223								
MILE											2.33		2.81											

CALCULATED CJD
CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 1 OF 15

SUM-76/77-11.27/12.12

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE	644 CHANNELIZING LINE, 8"	644 STOP LINE	644 CROSSWALK LINE	644 LANE ARROW	646 EDGE LINE, 6" (WHITE)	646 EDGE LINE, 6" (YELLOW)	646 LANE LINE, 6"	646 CHANNELIZING LINE, 12"	646 CHEVRON MARKING	646 DOTTED LINE, 8"	622 PORTABLE BARRIER, 32", AS PER PLAN	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN	614 BARRIER REFLECTOR	614 OBJECT MARKER, ONE WAY	621 RPM, ONE WAY (WHITE)	621 RPM, TWO WAY (WHITE/RED)	621 RPM, TWO WAY (YELLOW/RED)	621 RAISED PAVEMENT MARKER REMOVED
						FT	FT	FT	FT	EACH	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
426	ELW-9	I-76 WB	5+88	8+35	LT						247.00													
426	ELW-10	LANE M	0+86	3+50	LT						264.00													
426	ELW-11	I-76 EB	531+22	534+90	RT						368.00													
426	ELW-12	I-76 WB	7+87	20+22	LT						1235.00													
426	ELY-9	LANE M	3+04	3+50	LT							46.00												
426	ELY-10	I-76 WB	7+83	12+33	CEN							450.00												
426	ELY-11	LANE O	22+39	24+96	LT							257.00												
426	ELY-12	I-76 EB	529+00	534+90	CEN/LT							590.00												
426	ELY-13	I-76 WB	13+83	19+87	RT							604.00												
426	LL-18	I-76 EB	529+00	534+90	RT								590.00											
426	LL-19	I-76 WB	7+85	20+24	LT								1239.00											
426	CL-8	LANE O	22+39	24+22	LT									183.00										
426	CL-9	I-76 EB	529+00	531+22	RT									222.00										
426	CL-10	LANE M	0+85	3+04	LT									219.00										
426	CL-11	RAMP P	5+82	8+39	LT									257.00										
426	CL-12	I-76 WB	12+33	15+23	CEN									290.00										
426	CHV-1	I-76 EB	529+00	531+22	RT										21.00									
426	CHV-2	I-76 WB	12+40	13+61	RT										21.00									
426	DL-3	I-76 EB	532+64	534+90	LT											226.00								
426	DL-4	I-76 WB	15+23	19+75	CEN											452.00								
427	ELY-14	I-76 WB	20+26	24+10	CEN							384.00												
427	LL-20	I-76 WB	20+24	24+10	LT								386.00											
427	ELW-13	I-76 WB	20+22	24+10	LT						388.00													
428	CDS-1	LAMPARTER ST	0+38	0+98	CEN	60.00																		
428	CDS-2	BROWN ST	17+16	17+50	CEN	34.00																		
428	CDS-3	BROWN ST	15+50	16+25	CEN	75.00																		
428	CDS-4	JOHNSTON ST	0+51	1+00	CEN	49.00																		
428	CL-13	BROWN ST	17+16	17+50	LT		34.00																	
428	SL-1	LAMPARTER ST	0+36		LT			13.00																
428	SL-2	BROWN ST	16+27		RT			15.00																
428	SL-3	BROWN ST	17+14		LT			23.00																
428	SL-4	JOHNSTON ST	0+49		LT			14.50																
428	CWL-1	BROWN ST	17+01		LT/RT				77.00															
428	CWL-2	LAMPARTER ST	0+23		LT/RT				63.00															
428	CWL-3	BROWN ST	16+40		LT/RT				68.00															
428	CWL-4	JOHNSTON ST	0+36		LT/RT				62.00															
428	LA-1	BROWN ST	17+24		LT					1														
429	CDS-5	JOHNSTON ST	1+00	5+00	CEN	400.00																		
429	CDS-6	SPICER ST	14+97	15+89	CEN	92.00																		
429	SL-5	SPICER ST	15+91		LT			15.00																
429	CWL-5	SPICER ST	16+04		LT/RT				84.00															
430	CDS-7	JOHNSTON ST	5+00	10+00	CEN	500.00																		
430	CDS-8	HEDDEN AVE	19+07	19+50	CEN	43.00																		
430	SL-6	HEDDEN AVE	19+52		LT			11.00																
430	CLW-6	HEDDEN AVE	19+67		LT/RT				100.00															
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652						1,253	34	92	454	1	2,502	2,331	2,215	1,171	42	678								
MILE						0.24					0.92		0.42											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 2 OF 15

SUM-76/77-11.27/12.12

400/652

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE	644 CHANNELIZING LINE, 8"	644 STOP LINE	644 CROSSWALK LINE	644 LANE ARROW	646 EDGE LINE, 6" (WHITE)	646 EDGE LINE, 6" (YELLOW)	646 LANE LINE, 6"	646 CHANNELIZING LINE, 12"	646 CHEVRON MARKING	646 DOTTED LINE, 8"	622 PORTABLE BARRIER, 32", AS PER PLAN	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN	614 BARRIER REFLECTOR	614 OBJECT MARKER, ONE WAY	621 RPM, ONE WAY (WHITE)	621 RPM, TWO WAY (WHITE/RED)	621 RPM, TWO WAY (YELLOW/RED)	621 RAISED PAVEMENT MARKER REMOVED
						FT	FT	FT	FT	EACH	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
431	CDS-9	JOHNSTON ST	10+00	10+95	CEN	95.00																		
431	CWL-7	JOHNSTON ST	11+05		LT/RT				64.00															
432	CDS-10	BROWN ST	15+00	15+50	CEN	50.00																		
433	CDS-11	BROWN ST	20+70	20+98	RT	28.00																		
433	CDS-12	SOUTH ST	25+50	25+71	LT	21.00																		
433	CDS-13	SOUTH ST	27+20	27+50	RT	30.00																		
433	CDS-14	BROWN ST	17+50	19+53	CEN	203.00																		
433	CL-14	BROWN ST	20+41	20+98	LT		57.00																	
433	CL-15	SOUTH ST	26+92	27+50	LT		58.00																	
433	CL-16	SOUTH ST	25+50	25+98	RT		48.00																	
433	CL-17	BROWN ST	17+90	19+53	RT		163.00																	
433	CL-18	BROWN ST	17+50	19+53	LT		203.00																	
433	SL-7	BROWN ST	20+68		LT/RT			14.00																
433	SL-8	BROWN ST	20+39		RT			13.00																
433	SL-9	SOUTH ST	25+73		LT/RT			13.00																
433	SL-10	SOUTH ST	26+00		RT			14.00																
433	SL-11	BROWN ST	19+55		RT			23.00																
433	SL-12	SOUTH ST	27+18		LT/RT			13.00																
433	SL-13	SOUTH ST	26+90		LT			14.00																
433	CWL-8	BROWN ST	20+20		LT/RT				98.00															
433	CWL-9	SOUTH ST	26+24		LT/RT				94.00															
433	CWL-10	BROWN ST	19+76		LT/RT				106.00															
433	CWL-11	SOUTH ST	26+72		LT/RT				98.00															
433	LA-2	BROWN ST	20+78		CEN					1														
433	LA-3	SOUTH ST	25+63		CEN					1														
433	LA-4	BROWN ST	19+45		RT					1														
433	LA-5	SOUTH ST	27+28		CEN					1														
433	LA-6	BROWN ST	18+56		LT					1														
433	LA-7	BROWN ST	19+22		LT					1														
433	LA-8	BROWN ST	18+79		RT					1														
433	LA-9	BROWN ST	18+13		RT					1														
433	LA-10	BROWN ST	17+90		LT					1														
434	CDS-15	BROWN ST	27+50	28+67	LT/RT	117.00																		
434	LA-11	BROWN ST	27+73		CEN					1														
434	CL-19	BROWN ST	27+50	27+80	LT		30.00																	
435	CDS-16	SOUTH ST	23+25	25+50	RT/LT	225.00																		
435	CL-20	SOUTH ST	25+10	25+50	RT		40.00																	
435	CWL-12	SOUTH ST	22+74		LT/RT				106.00															
435	LA-12	SOUTH ST	25+18		CEN					1														
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652						769	599	104	566	11														
MILE						0.15																		

CALCULATED CJD
CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 3 OF 15

SUM-76/77-11.27/12.12

401
652

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AFORD

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
440	ELW-14	NB I.R. 77	1021+42	1022+00	LT.						58.00													
440	LL-21	NB I.R. 77	1021+42	1022+00	LT.								58.00								1			1
440	ELY-15	NB I.R. 77	1021+42	1022+00	LT.							58.00												
440	LL-22	NB I.R. 77	1021+42	1022+00	LT.								58.00								1			1
441	ELW-15	NB I.R. 77	1022+00	1024+29	LT.						229.00													
441	CL-21	NB I.R. 77	1024+29	1030+50	LT.									621.00								15		15
441	CL-22	NB I.R. 77	1024+29	1034+50	LT.									1021.00								26		26
441	ELW-16	NB I.R. 77	1024+32	1034+50	LT.						1018.00													
441	LL-24	NB I.R. 77	1022+00	1034+50	LT.								1250.00								10			10
441	LL-25	NB I.R. 77	1022+00	1034+50	LT.								1250.00								10			10
441	ELY-16	NB I.R. 77	1022+00	1034+50	LT.							1250.00												
441		NB I.R. 77	1023+00	1034+50	LT.														24	24				
442	ELW-17	NB I.R. 77	1034+50	1047+00	LT.						1250.00													
442	LL-26	NB I.R. 77	1040+50	1047+00	LT.								650.00								5			5
442	LL-27	NB I.R. 77	1034+50	1047+00	LT.								1250.00								11			11
442	LL-28	NB I.R. 77	1034+50	1047+00	LT.								1250.00								11			11
442	ELY-17	NB I.R. 77	1034+50	1047+00	LT.							1250.00												
442	CL-22A	NB I.R. 77	1034+50	1040+50	LT.									600.00								15		15
442		NB I.R. 77	1034+50	1047+00	LT.														25	25				
442		NB I.R. 77	1034+50	1036+50	LT.														5	5				
443	ELW-18	NB I.R. 77	1047+00	1059+50	LT.						1250.00													
443	LL-29	NB I.R. 77	1047+00	1059+50	LT.								1250.00								10			10
443	LL-30	NB I.R. 77	1047+00	1059+50	LT.								1250.00								10			10
443	LL-31	NB I.R. 77	1047+00	1059+50	LT.								1250.00								10			10
443	ELY-18	NB I.R. 77	1047+00	1059+50	LT.							1250.00												
443		NB I.R. 77	1048+24	1049+95	LT.														4	4				
443		NB I.R. 77	1047+00	1059+50	LT.														25	25				
444	ELW-19	NB I.R. 77	1059+50	1072+00	LT.						1250.00													
444	DL-5	NB I.R. 77	1062+05	1072+00	LT.											995.00								
444	LL-32	NB I.R. 77	1059+50	1072+00	LT.								1250.00								11			11
444	LL-33	NB I.R. 77	1059+50	1072+00	LT.								1250.00								11			11
444	LL-34	NB I.R. 77	1059+50	1072+00	LT.								1250.00								11			11
444	ELY-19	NB I.R. 77	1059+50	1072+00	LT.							1250.00												
444		NB I.R. 77	1059+50	1072+00	LT.														25	25				
445	ELW-20	NB I.R. 77	1072+00	1080+07	LT.						807.00													
445	DL-6	NB I.R. 77	1072+00	1077+66	LT.											566.00								
445	LL-35	NB I.R. 77	1072+00	1084+50	LT.								1250.00								10			10
445	LL-36	NB I.R. 77	1072+00	1084+50	LT.								1250.00								10			10
445	LL-37	NB I.R. 77	1072+00	1084+50	LT.								1250.00								10			10
445	ELY-20	NB I.R. 77	1072+00	1084+50	LT.							1250.00												
445	CL-23	NB I.R. 77	1077+66	1080+07	LT.									241.00								7		7
445	CL-24	NB I.R. 77	1077+66	1080+07	LT.									241.00								6		6
445	ELW-21	NB I.R. 77	1080+07	1084+50	LT.						443.00													
445		NB I.R. 77	1072+00	1084+50	LT.														25	25				
		NOT USED: LL-23																						
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											6,305	6,308	17,016	2,724		1,561			133	133	211			211
MILE											2.39		3.23											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 4 OF 15

SUM-76/77-11.27/12.12

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652

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
446	ELW-22	NB I.R. 77	1084+50	1088+66	LT.						416.00													
446	LL-38	NB I.R. 77	1084+50	1097+00	LT.								1250.00								11			11
446	LL-39	NB I.R. 77	1084+50	1097+00	LT.								1250.00								11			11
446	LL-40	NB I.R. 77	1084+50	1097+00	LT.								1250.00								11			11
446	ELY-21	NB I.R. 77	1084+50	1097+00	LT.							1250.00												
446	ELY-21A	NB I.R. 77	1087+00	1088+67	LT.							167.00											2	2
446	CL-25	NB I.R. 77	1088+67	1091+02	LT.									235.00								6		6
446	CL-26	NB I.R. 77	1088+67	1091+02	LT.									235.00								6		6
446	DL-7	NB I.R. 77	1091+02	1096+79	LT.											577.00								
446	ELW-23	NB I.R. 77	1087+00	1097+00	LT.						1000.00													
446		NB I.R. 77	1091+50	1097+00	LT.														12	12				
446		NB I.R. 77	1084+50	1097+00	LT.														25	25				
447	ELW-24	NB I.R. 77	1097+00	1109+50	LT.						1250.00													
447	LL-41	NB I.R. 77	1097+00	1109+50	LT.								1250.00								10			10
447	LL-42	NB I.R. 77	1097+00	1109+50	LT.								1250.00								10			10
447	LL-43	NB I.R. 77	1097+00	1109+50	LT.								1250.00								10			10
447	ELY-22	NB I.R. 77	1097+00	1109+50	LT.							1250.00												
447	ELY-23	SB I.R. 77	1101+90	1109+50	RT.							760.00												
447	CL-27	SB I.R. 77	1106+38	1108+17	RT.									179.00								6		6
447	ELW-25	SB I.R. 77	1108+17	1109+50	RT.						133.00													
447	ELY-24	RAMP TO WB I.R. 76	404+46	406+00	LT.							154.00												
447	CL-28	RAMP TO WB I.R. 76	402+63	404+46	LT.									183.00								7		7
447	LL-44	RAMP TO WB I.R. 76	400+00	406+00	LT.								600.00								5			5
447	ELW-26	RAMP TO WB I.R. 76	400+00	406+00	CEN./RT.						600.00										6			6
447	LL-45	SB I.R. 77	1101+90	1109+50	RT.								760.00								2			2
447	LL-46	SB I.R. 77	1101+90	1103+77	RT.								187.00											
447	ELW-27	SB I.R. 77	1101+90	1103+77	RT.						187.00													
447	DL-7A	NB I.R. 77	1097+00	1100+31	LT.											331.00								
447		NB I.R. 77	1097+00	1109+50	LT.														25	25				
447		NB I.R. 77	1097+00	1109+50	LT.														25	25				
447		RAMP TO WB I.R. 76	405+00	406+00	RT.														3	3				
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											3,586	3,581	9,047	832		908			90	90	103			103
MILE											1.36		1.72											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 5 OF 15

SUM-76/77-11.27/12.12

403
652

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
448	ELY-25	SB I.R. 77	1109+50	1110+10	RT.							60.00												
448	LL-47	SB I.R. 77	1109+50	1110+10	RT.								60.00								1			1
448	ELW-28	SB I.R. 77	1109+50	1110+10	RT.						60.00													
448	ELY-26	NB I.R. 77	1109+50	1121+25	LT.						1175.00													
448	LL-48	NB I.R. 77	1109+50	1116+40	LT.								690.00								6			6
448	LL-49	NB I.R. 77	1109+50	1115+00	LT.								550.00								4			4
448	LL-50	NB I.R. 77	1109+50	1121+25	LT.								1175.00								10			10
448	ELW-29	NB I.R. 77	1109+50	1116+40	LT.							690.00												
448	CL-29	NB I.R. 77	1115+00	1118+50	LT.									350.00								10		10
448	CL-30	NB I.R. 77	1115+00	1118+50	LT.									350.00								9		9
448	ELW-30	RAMP TO NB I.R. 77	602+00	621+02	LT.						1902.00													
448	LL-51	RAMP TO NB I.R. 77	602+00	621+02	LT.								1902.00								16			16
448	ELY-27	RAMP TO NB I.R. 77	602+00	619+02	RT.							1702.00											21	21
448	CL-31	RAMP TO SB I.R. 77	512+41	513+58	LT.									117.00								3		3
448	ELY-30A	NB I.R. 77	1118+50	1121+25	LT.						275.00													
448	CL-32	I.R. 76 EB	1120+83	1122+00	LT.									117.00								3		3
448	LL-52	SB I.R. 77	1119+97	1122+00	RT.								203.00								2			2
448	ELY-29	SB I.R. 77	1119+97	1122+00	RT.							203.00												
448	ELW-31	SB I.R. 77	1119+97	1120+83	RT.						86.00													
448	ELY-30	RAMP TO SB I.R. 77	508+00	512+41	LT.							441.00											5	5
448	LL-53	RAMP TO SB I.R. 77	508+00	513+57	LT.								557.00								5			5
448	ELW-32	RAMP TO SB I.R. 77	508+00	513+57	RT.						557.00													
448	ELW-33	RAMP TO NB I.R. 77	406+00	409+00	CEN.						300.00													
448	LL-54	RAMP TO NB I.R. 77	406+00	409+00	LT.								300.00								2			2
448	ELY-31	RAMP TO NB I.R. 77	406+00	409+00	LT.							300.00									2		4	4
448		SB I.R. 77	1109+50	1122+00	LT.														25	25				
448		SB I.R. 77	1109+50	1114+53	LT.														10	10				
448		RAMP TO NB I.R. 77	406+00	409+00	RT.														6	6				
448		NB I.R. 77	1119+50	1122+00	RT.														6	6				
449	ELY-32	SB I.R. 77	1122+00	1134+50	RT.							1250.00												
449	LL-55	SB I.R. 77	1127+51	1134+50	RT.								699.00								5			5
449	LL-56	SB I.R. 77	1122+00	1134+50	RT.								1250.00								10			10
449	CL-33	SB I.R. 77	1122+00	1127+51	RT.									551.00								14		14
449	CL-34	SB I.R. 77	1123+01	1127+51	RT.									450.00								10		10
449	LL-57	SB I.R. 77	1123+01	1134+50	RT.								1149.00								9			9
449	ELW-34	SB I.R. 77	1123+01	1134+50	RT.						1149.00													
449	LL-58	EB I.R. 76	513+37	514+60	LT.								123.00								1			1
449	CL-35	EB I.R. 76	513+37	514+60	LT.									123.00								3		3
449	ELW-35	EB I.R. 76	513+37	514+60	CEN.						123.00													
449		SB I.R. 77	1122+00	1134+50	RT.														25	25				
450	CL-36	EB I.R. 76	1144+00	1147+00	RT.									300.00								9		9
450	CL-37	EB I.R. 76	1144+00	1147+00	RT.									300.00								9		9
450	ELW-36	EB I.R. 76	1134+50	1147+00	RT.						1250.00													
450	LL-59	EB I.R. 76	1134+50	1139+00	RT.								450.00								4			4
450	LL-60	EB I.R. 76	1134+50	1144+00	RT.								950.00								9			9
450	LL-61	EB I.R. 76	1134+50	1144+00	RT.								950.00								9			9
450	ELY-33	EB I.R. 76	1134+50	1147+00	RT.							1250.00												
450	DL-7C	EB I.R. 76	1139+00	1143+98	RT.											498.00								
450		EB I.R. 76	1134+50	1147+00	RT.														25	25				
		NOT USED: ELY-28																						
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											6,877	5,896	11,008	2,658		498			97	97	193			193
MILE											2.42		2.09											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 6 OF 15

SUM-76/77-11.27/12.12

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
451	ELY-34	WB I.R. 76	2004+00	2007+00	LT.							300.00											4	4
451	LL-62	WB I.R. 76	2004+00	2007+00	LT.								300.00								3			3
451	ELW-37	WB I.R. 76	2004+00	2007+00	LT.						300.00													
451	ELW-38	WB I.R. 76	203+29	207+00	LT.						371.00													
451	LL-63	WB I.R. 76	203+26	207+00	RT.								374.00								3			3
451	ELY-35	WB I.R. 76	203+24	207+00	RT.							376.00											5	5
451	ELW-39	EB I.R. 76	309+00	312+07	RT.						307.00													
451	LL-64	EB I.R. 76	309+00	312+07	LT.								307.00								3			3
451	CL-38	EB I.R. 76	310+31	312+08	LT.									177.00								5		5
451	CL-39	EB I.R. 76	2005+20	2007+00	RT.									180.00								5		5
451	PB-1	EB I.R. 76	2004+00	2005+26	RT.												126.00		3	3				
451	ELW-40	EB I.R. 76	2004+00	2005+20	RT.						120.00													
451	ELY-36	EB I.R. 76	309+00	310+31	LT.							131.00											2	2
451	PB-2	EB I.R. 76	2004+00	2006+84	RT.												284.00		6	6				
451	ELY-37	EB I.R. 76	2004+00	2007+00	LT.							300.00											4	4
451		EB I.R. 76	2006+84	2007+00	RT.														1	1				
451		WB I.R. 76	2004+00	2007+00	LT.														7	7				
452	ELW-41	WB I.R. 76	200+00	203+29	LT.						329.00													
452	LL-65	WB I.R. 76	200+00	203+26	RT.								326.00								3			3
452	ELY-38	WB I.R. 76	201+76	203+24	RT.							148.00											1	1
452	ELW-42	WB I.R. 76	2010+26	2019+50	LT.						924.00													
452	LL-66	WB I.R. 76	2010+26	2019+50	LT.								924.00								7			7
452	LL-67	WB I.R. 76	2007+00	2019+50	LT.								1250.00								10			10
452	ELY-39	WB I.R. 76	2007+00	2019+50	LT.							1250.00												
452	ELW-43	EB I.R. 76	2008+15	2019+50	RT.						1135.00													
452	LL-68	EB I.R. 76	2009+55	2019+50	RT.								995.00								8			8
452	LL-69	EB I.R. 76	2008+15	2019+50	RT.								1135.00								9			9
452	ELY-40	EB I.R. 76	2007+00	2019+50	RT.							1250.00												
452	CL-40	EB I.R. 76	2008+15	2009+55	RT.									140.00								7		7
452	ELW-44	EB I.R. 76	312+07	313+22	RT.						115.00													
452	LL-70	EB I.R. 76	312+07	313+22	LT.								115.00								1			1
452	CL-41	EB I.R. 76	312+08	313+22	LT.									114.00								3		3
452	CL-42	EB I.R. 76	2007+00	2009+55	RT.									255.00								3		3
452		WB I.R. 76	2007+00	2019+50	LT.														25	25				
452		EB I.R. 76	2007+00	2019+50	RT.														25	25				
453	ELW-45	WB I.R. 76	2019+50	2032+00	LT.						1250.00													
453	LL-71	WB I.R. 76	2019+50	2032+00	LT.								1250.00								11			11
453	LL-72	WB I.R. 76	2019+50	2032+00	LT.								1250.00								11			11
453	ELY-41	WB I.R. 76	2019+50	2032+00	LT.							1250.00												
453	PB-3	EB I.R. 76	2020+70	2026+00	RT.												530.00	1	12	12				
453	ELW-46	EB I.R. 76	2019+50	2032+00	RT.						1250.00													
453	LL-73	EB I.R. 76	2019+50	2032+00	RT.								1250.00								11			11
453	LL-74	EB I.R. 76	2019+50	2032+00	RT.								1250.00								11			11
453	ELY-42	EB I.R. 76	2019+50	2032+00	RT.							1250.00												
453		WB I.R. 76	2019+50	2032+00	LT.														26	26				
453		EB I.R. 76	2019+50	2032+00	RT.														26	26				
453		WB I.R. 76	2017+00	2031+00	LT.														29	29				
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											6,101	6,255	10,726	866			940	1	159	159	130			130
MILE											2.35		2.04											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 7 OF 15

SUM-76/77-11.27/12.12

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PAVEMENT MARKING SUBSUMMARY - SHEET 8 OF 15

CALCULATED CJD | CHECKED AKF

SUM-76/77-11.27/12.12

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
454	ELY-43	WB I.R. 76	2032+00	2044+50	LT.							1250.00												
454	LL-75	WB I.R. 76	2032+00	2044+50	LT.								1250.00								10			10
454	LL-76	WB I.R. 76	2032+00	2044+50	LT.								1250.00								10			10
454	ELW-47	WB I.R. 76	2032+00	2044+50	LT.						1250.00													
454	ELW-48	EB I.R. 76	2032+00	2044+50	RT.						1250.00													
454	LL-77	EB I.R. 76	2032+00	2044+50	RT.								1250.00								10			10
454	LL-78	EB I.R. 76	2032+00	2044+50	RT.								1250.00								10			10
454	ELY-44	EB I.R. 76	2032+00	2044+50	RT.							1250.00												
454		WB I.R. 76	2032+00	2044+50	LT.														25	25				
454		EB I.R. 76	2032+00	2044+50	RT.														25	25				
454		WB I.R. 76	2032+00	2044+50	LT.														26	26				
455	ELY-49	WB I.R. 76	2044+50	2057+00	LT.							1250.00												
455	LL-79	WB I.R. 76	2044+50	2057+00	LT.								1250.00								10			10
455	LL-80	WB I.R. 76	2044+50	2057+00	LT.								1250.00								10			10
455	ELW-45	WB I.R. 76	2044+50	2049+90	LT.						540.00													
455	CL-43	WB I.R. 76	2049+90	2051+35	LT.									145.00								3		3
455	CL-44	WB I.R. 76	2049+91	2050+78	LT.									87.00								1		1
455	ELW-50	WB I.R. 76	2050+66	2057+00	LT.						634.00													
455	DL-8	WB I.R. 76	2051+35	2056+47	LT.											512.00								
455	ELW-51	EB I.R. 76	2044+50	2057+00	RT.						1250.00													
455	LL-81	EB I.R. 76	2044+50	2057+00	RT.								1250.00								10			10
455	LL-82	EB I.R. 76	2044+50	2057+00	RT.								1250.00								10			10
455	ELY-46	EB I.R. 76	2044+50	2057+00	RT.							1250.00												
455		WB I.R. 76	2044+50	2057+00	LT.														25	25				
455		WB I.R. 76	2044+50	2048+00	LT.														8	8				
455		EB I.R. 76	2044+50	2057+00	RT.														25	25				
455		WB I.R. 76	2053+00	2055+00	LT.														5	5				
456	ELY-47	WB I.R. 76	2057+00	2069+50	LT.							1250.00												
456	LL-83	WB I.R. 76	2057+00	2069+50	LT.								1250.00								11			11
456	LL-84	WB I.R. 76	2057+00	2069+50	LT.								1250.00								11			11
456	ELW-52	WB I.R. 76	2057+00	2069+50	LT.						1250.00													
456	ELW-53	EB I.R. 76	2057+00	2069+50	RT.						1250.00													
456	LL-85	EB I.R. 76	2057+00	2069+50	RT.								1250.00								11			11
456	LL-86	EB I.R. 76	2057+00	2069+50	RT.								1250.00								11			11
456	ELY-48	EB I.R. 76	2057+00	2069+50	RT.							1250.00												
456		WB I.R. 76	2057+00	2069+50	LT.														25	25				
456		EB I.R. 76	2057+00	2069+50	RT.														25	25				
457	ELW-54	WB I.R. 76	2069+50	2082+00	LT.						1250.00													
457	LL-87	WB I.R. 76	2069+50	2082+00	LT.								1250.00								10			10
457	LL-88	WB I.R. 76	2069+50	2082+00	LT.								1250.00								10			10
457	ELY-49	WB I.R. 76	2069+50	2082+00	LT.							1250.00												
457	ELW-55	EB I.R. 76	2069+50	2082+00	RT.						1250.00													
457	LL-89	EB I.R. 76	2069+50	2082+00	RT.								1250.00								10			10
457	LL-90	EB I.R. 76	2069+50	2082+00	RT.								1250.00								10			10
457	ELY-50	EB I.R. 76	2069+50	2082+00	RT.							1250.00												
457		WB I.R. 76	2069+50	2082+00	LT.														25	25				
457		WB I.R. 76	2072+00	2082+00	LT.														21	21				
457		EB I.R. 76	2069+50	2082+00	RT.														25	25				
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											9,924	10,000	20,000	232		512			260	260	168			168
MILE											3.78		3.79											

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
458	LL-91	EB I.R. 76	2082+00	2082+31	RT.								31.00								1			1
458	LL-92	WB I.R. 76	2082+00	2083+25	LT.								125.00								1			1
458	ELY-51	WB I.R. 76	2082+00	2087+74	LT.							574.00												
458	CL-45	EB I.R. 76	2084+79	2085+34	RT.									55.00								3		3
458	ELW-56	WB I.R. 76	2082+00	2088+51	LT.						651.00													
458	LL-93	WB I.R. 76	2082+00	2088+51	LT.								651.00								5			5
458	CL-46	WB I.R. 76	2083+25	2087+74	LT.									449.00								12		12
458	CL-47	WB I.R. 76	2085+14	2087+74	LT.									260.00								5		5
458	ELW-57	WB I.R. 76	409+00	413+38	CEN.						438.00													
458	LL-94	WB I.R. 76	409+00	413+38	LT.								438.00								3			3
458	ELY-52	WB I.R. 76	409+00	411+01	RT.							201.00											2	2
458	ELW-58	EB I.R. 76	600+31	602+00	RT.						169.00													
458	LL-95	EB I.R. 76	600+31	602+00	RT.								169.00								2			2
458	ELY-53	EB I.R. 76	600+31	602+00	RT.							169.00											3	3
458	ELW-59	EB I.R. 76	2085+34	2090+33	RT.						499.00													
458	LL-96	EB I.R. 76	2082+00	2090+33	RT.								833.00								7			7
458	ELY-54	EB I.R. 76	2082+00	2090+33	RT.							833.00											6	6
458	ELW-60	EB I.R. 76	500+00	508+00	RT.						800.00													
458	LL-97	EB I.R. 76	500+00	508+00	LT.								800.00								7			7
458	ELY-55	EB I.R. 76	502+98	508+00	LT.							502.00											6	6
458	CL-49	EB I.R. 76	502+45	502+98	LT.									53.00								2		2
458	ELW-61	EB I.R. 76	2082+00	2082+31	RT.						31.00													
458		EB I.R. 76	2082+00	2090+00	RT.														16	16				
458		EB I.R. 76	2085+00	2090+00	RT.														11	11				
458		EB I.R. 76	2085+00	2086+50	RT.														4	4				
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											2,588	2,279	3,047	817					31	31	65			65
MILE											0.93		0.58											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 9 OF 15

SUM-76/77-11.27/12.12

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
459	ELW-62	WB I-277	3063+66	3072+18	LT.						852.00													
459	LL-98	WB I-277	3063+66	3072+18	LT.								852.00								8			8
459	LL-99	WB I-277	3063+66	3067+76	LT.								410.00								5			5
459	CL-50	WB I-277	3067+76	3072+18	LT.									442.00								12		12
459	CL-51	WB I-277	3067+76	3075+00	LT.									724.00								18		18
459	PB-4	WB I-277	3072+00	3075+00	LT.												300.00		7	7				
459	ELW-63	RAMP FROM I.R. 76	213+82	216+44	CEN.						262.00													
459	LL-100	RAMP FROM I.R. 76	213+82	216+44	LT.								262.00								2			2
459	CL-52	RAMP FROM I.R. 76	213+82	216+44	LT.									262.00								6		6
459	PB-5	WB I-277	3074+50	3075+00	RT.												50.00	1	2	2				
459	CL-53	WB I-277	3073+00	3074+79	RT.									179.00								5		5
459	CL-54	WB I-277	3073+00	3074+79	RT.									179.00								6		6
459	ELY-57B	RAMP FROM I.R. 76	3074+79	3075+00	RT.							21.00												
460	ELW-64	RAMP FROM I.R. 76	207+00	213+82	RT./CEN.						682.00													
460	CL-56A	RAMP FROM I.R. 76	212+84	213+82	LT.									98.00								3		3
460	LL-101	RAMP FROM I.R. 76	207+00	213+82	LT.								682.00								6			6
460	ELY-56	RAMP FROM I.R. 76	207+00	212+84	RT.							584.00											8	8
460	PB-6	WB I-277	3075+00	3087+50	LT.												1250.00		25	25				
460	ELW-65	WB I-277	3075+00	3087+50	LT.						1250.00													
460	ELY-57	WB I-277	3075+00	3087+50	LT.							1250.00												
460	CL-55	WB I-277	3082+18	3083+58	RT.									140.00								4		4
460	CL-56	WB I-277	3080+66	3083+58	RT.									292.00								7		7
460	ELW-66	RAMP TO I-277	2000+00	2004+00	LT.						400.00													
460	LL-102	RAMP TO I-277	2000+00	2004+00	LT.								400.00								3			3
460	ELY-58	RAMP TO I-277	2000+00	2004+00	RT.							400.00											5	5
460	PB-7	RAMP TO I.R. 76	2000+26	2004+00	RT.												374.00	1	8	8				
460	ELW-67	RAMP TO I.R. 76	2000+26	2004+00	RT.						374.00													
460	ELY-59	RAMP TO I.R. 76	2000+00	2004+00	RT.							400.00											5	5
460	PB-8	RAMP TO I.R. 76	2000+00	2004+00	RT.												400.00		8	8				
460	ELY-60	RAMP TO I.R. 76	307+00	309+00	LT.							200.00											2	2
460	LL-103	RAMP TO I.R. 76	307+00	309+00	LT.								200.00								2			2
460	ELW-68	RAMP TO I.R. 76	307+00	309+00	RT.						200.00													
460	LL-104	EB I-277	3083+58	3087+50	RT.								392.00								3			3
460	LL-105	EB I-277	3082+18	3087+50	RT.								532.00								4			4
460	ELW-69	EB I-277	3082+18	3087+50	RT.						532.00													
460	ELW-70	RAMP TO I-277	100+00	115+02	RT.						1502.00													
460	LL-106	RAMP TO I-277	100+00	115+02	RT.								1502.00								13			13
460	ELY-61	RAMP TO I-277	100+00	113+54	LT.							1354.00											18	18
460	CL-57	RAMP TO I-277	113+54	115+02	LT.									148.00								4		4
460	ELW-71	EB I-277	3077+72	3080+66	RT.						294.00													
460	LL-107	EB I-277	3077+72	3087+50	RT.								978.00								8			8
460	ELY-62	EB I-277	3077+72	3087+50	RT.							978.00												
460	PB-9	RAMP TO I.R. 76	3075+00	3083+84	RT./LT.												1476.00		30	30				
460	ELY-63	EB I-277	3075+00	3083+84	RT./LT.							1480.00											17	17
460		EB I-277	3075+00	3087+50	RT.														26	26				
460		RAMP FROM I.R. 76	207+00	210+00	LT.														7	7				
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											6,348	6,667	6,210	2,464			3,850	2	113	113	174			174
MILE											2.47		1.18											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 10 OF 15

SUM-76/77-11.27/12.12

408/652

\\AKRN03\DATA\2010\2010297\SUM\86979\TRAFFIC\SHEETS\86979TSB56.DGN
9/16/2014
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AFORD

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
461	ELY-64	RAMP TO I.R. 76	302+97	307+00	LT.							403.00											5	5
461	PB-10	WB I- 277	3087+50	3090+69	LT.												319.00	1	7	7				
461	ELW-72	WB I- 277	3087+50	3091+00	LT.						350.00													
461	ELW-73	RAMP TO I.R. 76	300+00	307+00	CEN.						700.00													
461	LL-108	RAMP TO I.R. 76	300+00	307+00	LT.								700.00								5			5
461	CL-58	RAMP TO I.R. 76	300+00	302+97	LT.									297.00								7		7
461	CL-59	WB I- 277	3091+00	3096+81	LT.									581.00								15		15
461	ELY-65	WB I- 277	3087+50	3096+81	CEN.							931.00												
461	LL-110	WB I- 277	3094+02	3096+81	LT.								279.00								3			3
461	ELW-74	WB I- 277	3094+02	3096+81	LT.						279.00													
461	ELW-75	EB I-277	3087+50	3100+00	RT.						1250.00													
461	LL-111	EB I-277	3087+50	3100+00	RT.								1250.00								11			11
461	LL-112	EB I-277	3087+50	3100+00	RT.								1250.00								11			11
461	LL-113	EB I-277	3087+50	3100+00	RT.								1250.00								11			11
461	ELY-66	EB I-277	3087+50	3100+00	RT.							1250.00												
462	ELW-76	EB I-277	3100+00	3112+50	RT.						1250.00													
462	LL-114	EB I-277	3100+00	3112+50	RT.								1250.00								10			10
462	LL-115	EB I-277	3100+00	3112+50	RT.								1250.00								10			10
462	LL-116	EB I-277	3100+00	3112+50	RT.								1250.00								10			10
462	ELY-67	EB I-277	3100+00	3112+50	RT.							1250.00												
463	ELW-77	EB I-277	3112+50	3118+25	RT.						575.00													
463	LL-117	EB I-277	3112+50	3117+25	RT.								475.00								4			4
463	LL-118	EB I-277	3112+50	3122+00	RT.								950.00								8			8
463	LL-119	EB I-277	3112+50	3122+00	RT.								950.00								8			8
463	ELY-68	EB I-277	3112+50	3122+00	RT.							950.00												
463	ELY-59A	EB I-277	3117+25	3124+27	RT.									702.00								18		18
473	ELY-69	WB I-277	3247+45	3250+00	LT.							255.00												
473	LL-120	WB I-277	3247+45	3250+00	LT.								255.00								3			3
473	LL-121	WB I-277	3247+45	3250+00	LT.								255.00								3			3
473	ELW-78	WB I-277	3247+45	3250+00	LT.						255.00													
474	LL-122	WB I-277	3250+00	3250+62	LT.								62.00											
474	ELY-67	WB I-277	3250+00	3253+28	LT.							328.00												
474	ELW-79	WB I-277	3250+00	3255+12	LT.						512.00													
474	LL-123	WB I-277	3250+00	3255+12	LT.								512.00								4			4
474	CL-60	WB I-277	3250+62	3255+12	LT.									450.00								12		12
474	CL-61	WB I-277	3250+62	3257+40	LT.									678.00								17		17
474	ELW-80	RAMP	819+00	823+48	LT.						448.00													
474	LL-124	RAMP	819+00	823+48	LT.								448.00								4			4
474	CL-62	RAMP	821+16	823+48	LT.									232.00								6		6
474	ELY-68	RAMP	819+00	821+16	LT.							216.00												
474	DL-9	RAMP	819+00	821+58	LT.											258.00								
474	PB-11	WB I-277	3256+00	3262+50	LT.												650.00		14	14				
474	ELW-81	WB I-277	3257+40	3262+50	LT.						510.00													
474	CL-63	EB I-277	3261+94	3262+50	LT.									56.00								1		1
474	CL-64	EB I-277	3261+94	3262+50	LT.									56.00								1		1
474	ELW-82	EB I-277	3258+71	3262+50	LT.						379.00													
474	LL-125	EB I-277	3258+71	3261+94	LT.								323.00								3			3
474	LL-126	EB I-277	3258+71	3261+94	LT.								323.00								3			3
474	ELY-69	EB I-277	3258+71	3262+50	LT.							379.00												
		NOT USED: LL-109																						
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											6,508	5,962	13,032	3,052		258	969	1	21	21	193			193
MILE											2.37		2.47											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 11 OF 15

SUM-76/77-11.27/12.12

409
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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
475	LL-126A	RAMP TO I-277	814+14	819+00	LT.								486.00								4			4
475	ELW-82A	RAMP TO I-277	809+00	819+00	CEN.						1000.00													
475	DL-10A	RAMP TO I-277	815+75	819+00	LT.											325.00								
475	ELY-69A	RAMP TO I-277	814+14	819+00	LT.							486.00												
475	CL-64A	RAMP TO I-277	814+14	815+75	LT.									161.00								5		5
475	CL-64B	RAMP TO I-277	814+14	815+75	LT.									161.00								4		4
475	ELY-69B	RAMP TO I-277	809+00	814+14	LT.							514.00											6	6
475	LL-126B	RAMP TO I-277	912+00	916+96	RT.								496.00								4			4
475	ELW-82B	RAMP TO I-277	912+00	916+96	RT.						496.00													
475	ELY-69B	RAMP TO I-277	912+00	916+96	LT.							496.00												
476	PB-12	WB I-277	3262+50	3271+00	LT.												850.00	1	17	17				
476	ELW-83	WB I-277	3262+50	3268+26	LT.						576.00													
476	PB-13	EB I-277	3266+00	3275+00	RT.												900.00	1	19	19				
476	ELW-84	EB I-277	3267+49	3275+00	RT.						751.00													
476	DL-12	EB I-277	3268+00	3275+00	RT.											700.00								
476	ELY-70	EB I-277	3262+50	3275+00	RT.							1250.00												
476	CL-65	EB I-277	3262+50	3267+49	RT.									499.00								13		13
476	CL-66	RAMP TO I.R. 77	700+50	705+50	LT.									500.00								12		12
476	LL-127	RAMP TO I.R. 77	700+50	709+00	LT.								850.00								7			7
476	ELW-85	RAMP TO I.R. 77	700+50	709+00	CEN.						850.00													
476	ELY-70A	RAMP TO I.R. 78	705+50	709+00	LT.							350.00												
476	CL-66B	RAMP TO I.R. 79	3271+36	3275+00	LT.									364.00								9		9
476	ELW-83A	RAMP TO I.R. 80	3272+26	3275+00	LT.						274.00													
476	PB-12A	RAMP TO I.R. 81	3272+30	3275+00	LT.												270.00		6	6				
476	CL-66A	RAMP TO I.R. 82	3268+26	3275+00	LT.							674.00										17		17
477	CL-67	EB I-277	3277+50	3281+58	RT.									408.00								10		10
477	ELW-86	EB I-277	3281+58	3282+50	RT.						92.00													
477	ELY-71	EB I-277	3281+58	3282+16	RT.							58.00												
477	PB-14	EB I-277	3279+60	3282+00	RT.												240.00	1	6	6				
477	CL-69	EB I-277	3277+50	3281+58	RT.									408.00								11		11
477	PB-15	EB I-277	3275+00	3281+61	RT.												661.00		13	13				
477	ELY-72	EB I-277	3275+00	3282+50	RT.							750.00												
477	DL-13	EB I-277	3275+00	3277+50	RT.											250.00								
477	ELW-87	EB I-277	3275+00	3281+61	RT.						661.00													
477	CL-69A	WB I-277	3275+00	3279+30	LT.									430.00								10		10
477	CL-69B	WB I-277	3275+00	3282+48	LT.									748.00								19		19
477	CL-69C	WB I-277	3284+62	3287+50	LT.									288.00								8		8
477	ELW-86A	WB I-277	3275+00	3284+62	LT.						962.00													
477	PB-14A	WB I-277	3275+00	3287+50	LT.												1250.00		25	25				
478	PB-14B	WB I-277	3287+50	3288+00	LT.												50.00	1	1	1				
478	CL-69D	WB I-277	3287+50	3298+65	LT.									1115.00								28		28
478	CL-69E	WB I-277	3287+50	3295+19	LT.									769.00								18		18
		NOT USED: CL-68, DL-11																						
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											5,662	4,578	1,832	5,851		1,275	4,221	4	87	87	185			185
MILE												1.94	0.35											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 12 OF 15

SUM-76/77-11.27/12.12

410/652

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
483	ELW-88	SB I.R. 77	4064+33	4075+00	LT.						1067.00													
483	LL-128	SB I.R. 77	4064+33	4075+00	LT.								1067.00								9			9
483	LL-129	SB I.R. 77	4064+33	4075+00	LT.								1067.00								9			9
483	LL-130	SB I.R. 77	4064+33	4075+00	LT.								1067.00								9			9
483	ELY-73	SB I.R. 77	4064+33	4075+00	LT.							1067.00												
484	ELW-89	SB I.R. 77	4075+00	4087+50	LT.						1250.00													
484	ELY-74	SB I.R. 77	4075+00	4087+50	LT.							1250.00												
484	LL-131	SB I.R. 77	4075+00	4087+50	LT.								1250.00								10			10
484	LL-132	SB I.R. 77	4075+00	4087+50	LT.								1250.00								10			10
484	LL-133	SB I.R. 77	4075+00	4087+50	LT.								1250.00								10			10
485	ELW-90	SB I.R. 77	4087+50	4100+00	LT.						1250.00													
485	LL-134	SB I.R. 77	4087+50	4100+00	LT.								1250.00								11			11
485	LL-135	SB I.R. 77	4087+50	4100+00	LT.								1250.00								11			11
485	LL-136	SB I.R. 77	4087+50	4100+00	LT.								1250.00								11			11
485	ELY-75	SB I.R. 77	4087+50	4100+00	LT.							1250.00												
486	ELW-91	SB I.R. 77	4100+00	4112+50	LT.						1250.00													
486	LL-137	SB I.R. 77	4100+00	4112+50	LT.								1250.00								10			10
486	LL-138	SB I.R. 77	4100+00	4112+50	LT.								1250.00								10			10
486	LL-139	SB I.R. 77	4100+00	4112+50	LT.								1250.00								10			10
486	ELY-76	SB I.R. 77	4100+00	4112+50	LT.							1250.00												
486		SB I.R. 77	4100+00	4112+50	LT.														26	26				
487	ELW-92	SB I.R. 77	4112+50	4125+00	LT.						1250.00													
487	LL-140	SB I.R. 77	4112+50	4125+00	LT.								1250.00								10			10
487	LL-141	SB I.R. 77	4112+50	4125+00	LT.								1250.00								10			10
487	LL-142	SB I.R. 77	4112+50	4125+00	LT.								1250.00								10			10
487	ELY-77	SB I.R. 77	4112+50	4125+00	LT.							1250.00												
487		SB I.R. 77	4112+50	4122+00	LT.														20	20				
487		SB I.R. 77	4113+00	4115+50	LT.														6	6				
487		SB I.R. 77	4123+00	4125+00	LT.														5	5				
488	ELW-93	SB I.R. 77	4125+00	4137+50	LT.						1250.00													
488	LL-143	SB I.R. 77	4125+00	4137+50	LT.								1250.00								11			11
488	LL-144	SB I.R. 77	4125+00	4137+50	LT.								1250.00								11			11
488	LL-145	SB I.R. 77	4125+00	4137+50	LT.								1250.00								11			11
488	ELY-78	SB I.R. 77	4125+00	4137+50	LT.							1250.00												
488		SB I.R. 77	4125+00	4130+00	LT.														10	10				
489	ELW-94	SB I.R. 77	4137+50	4150+00	LT.						1250.00													
489	LL-146	SB I.R. 77	4137+50	4150+00	LT.								1250.00								10			10
489	LL-147	SB I.R. 77	4137+50	4150+00	LT.								1250.00								10			10
489	LL-148	SB I.R. 77	4137+50	4150+00	LT.								1250.00								10			10
489	ELY-79	SB I.R. 77	4137+50	4150+00	LT.							1250.00												
490	ELW-95	SB I.R. 77	4150+00	4162+50	LT.						1250.00													
490	LL-149	SB I.R. 77	4150+00	4162+50	LT.								1250.00								10			10
490	LL-150	SB I.R. 77	4150+00	4162+50	LT.								1250.00								10			10
490	LL-151	SB I.R. 77	4150+00	4162+50	LT.								1250.00								10			10
490	ELY-80	SB I.R. 77	4150+00	4162+50	LT.							1250.00												
490		SB I.R. 77	4151+00	4156+00	LT.														11	11				
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											9,817	9,817	29,451						78	78	243			243
MILE													3.72											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 13 OF 15

SUM-76/77-11.27/12.12

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE FT	644 CHANNELIZING LINE, 8" FT	644 STOP LINE FT	644 CROSSWALK LINE FT	644 LANE ARROW EACH	646 EDGE LINE, 6" (WHITE) FT	646 EDGE LINE, 6" (YELLOW) FT	646 LANE LINE, 6" FT	646 CHANNELIZING LINE, 12" FT	646 CHEVRON MARKING FT	646 DOTTED LINE, 8" FT	622 PORTABLE BARRIER, 32", AS PER PLAN FT	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN EACH	614 BARRIER REFLECTOR EACH	614 OBJECT MARKER, ONE WAY EACH	621 RPM, ONE WAY (WHITE) EACH	621 RPM, TWO WAY (WHITE/RED) EACH	621 RPM, TWO WAY (YELLOW/RED) EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
491	LL-152	SB I.R. 77	4162+50	4164+06	LT.								156.00								2			2
491	ELW-96	SB I.R. 77	4162+50	4172+08	LT.						958.00													
491	LL-153	SB I.R. 77	4162+50	4172+08	LT.								958.00								8			8
491	CL-70	SB I.R. 77	4164+06	4172+08	LT.									802.00								21		21
491	CL-71	SB I.R. 77	4164+06	4175+00	LT.									1094.00								25		25
491	LL-154	SB I.R. 77	4162+50	4175+00	LT.								1250.00								11			11
491	ELY-81	SB I.R. 77	4162+50	4175+00	LT.							1250.00												
491	ELW-97	RAMP FROM I-277	718+54	721+35	RT.						281.00													
491	LL-155	RAMP FROM I-277	718+54	721+35	RT.								281.00								3			3
491	CL-71A	RAMP FROM I-277	718+54	721+35	RT.									281.00								7		7
491		SB I.R. 77	4164+00	4167+00	LT.														7	7				
492	CL-72	SB I.R. 77	4175+00	4177+65	LT.									265.00								7		7
492	ELW-98	SB I.R. 77	4177+65	4184+74	LT.						709.00													
492	LL-156	SB I.R. 77	4175+00	4187+50	LT.								1250.00								10			10
492	ELY-83	SB I.R. 77	4175+00	4179+61	LT.							461.00												
492	CL-73	SB I.R. 77	4179+61	4182+66	LT.									305.00								9		9
492	CL-74	SB I.R. 77	4179+61	4182+66	LT.									305.00								8		8
492	CL-75	RAMP FROM I-277	715+94	718+54	RT.									260.00								6		6
492	LL-157	RAMP FROM I-277	709+00	718+54	RT.								954.00								8			8
492	ELW-99	RAMP FROM I-277	709+00	718+54	RT.						954.00													
492	CL-76	SB I.R. 77	4184+74	4187+50	LT.									276.00							8			8
492	ELY-84	NB I.R. 77	4187+10	4187+50	RT.							40.00												
492	ELW-100	RAMP TO I-277	905+58	906+04	RT.						46.00													
492	LL-158	NB I.R. 77	4180+68	4187+50	RT.								682.00								6			6
492	CL-77	NB I.R. 77	4184+53	4187+10	RT.									257.00								8		8
492	CL-78	RAMP TO I-277	903+03	905+58	RT.									255.00								7		7
492	LL-159	RAMP TO I-277	900+00	906+04	RT.								604.00								5			5
492	ELY-85	RAMP TO I-277	900+00	906+04	CEN.							604.00												
492	CL-79	SB I.R. 77	4184+74	4187+50	LT.									276.00							8			8
492	DL-14	SB I.R. 77	4182+66	4187+50	LT.											484.00								
492	ELW-101	NB I.R. 77	4177+83	4180+68	RT.						285.00													
492	LL-160	NB I.R. 77	4177+83	4187+50	RT.								967.00								8			8
492	LL-161	NB I.R. 77	4177+83	4181+48	RT.								365.00								3			3
492	ELY-86	NB I.R. 77	4177+83	4181+48	RT.							365.00												
492		RAMP FROM I-277	709+00	713+00	LT.														9	9				
492	ELY-83A	RAMP FROM I-277	709+00	715+94	RT.							694.00												
492	DL-14A	SB I.R. 77	4177+65	4184+74	LT.											709.00								
492	ELY-86A	SB I.R. 77	4179+61	4187+50	LT.							789.00												
		NOT USED: ELY-82																						
TOTALS CARRIED TO SUBSUMMARY SHEET 413 OF 652											3,233	4,203	7,467	4,376		1,193			16	16	178			178
MILE											1.41		1.42											

CALCULATED CJD CHECKED AKF

PAVEMENT MARKING SUBSUMMARY - SHEET 14 OF 15

SUM-76/77-11.27/12.12

412/652

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 CENTER LINE	644 CHANNELIZING LINE, 8"	644 STOP LINE	644 CROSSWALK LINE	644 LANE ARROW	646 EDGE LINE, 6" (WHITE)	646 EDGE LINE, 6" (YELLOW)	646 LANE LINE, 6"	646 CHANNELIZING LINE, 12"	646 CHEVRON MARKING	646 DOTTED LINE, 8"	622 PORTABLE BARRIER, 32", AS PER PLAN	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN	614 BARRIER REFLECTOR	614 OBJECT MARKER, ONE WAY	621 RPM, ONE WAY (WHITE)	621 RPM, TWO WAY (WHITE/RED)	621 RPM, TWO WAY (YELLOW/RED)	621 RAISED PAVEMENT MARKER REMOVED
			FROM	TO		FT	FT	FT	FT	EACH	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
493	CL-80	SB I.R. 77	4187+50	4188+48	LT.									98.00								3		3
493	CL-81	SB I.R. 77	4187+50	4188+46	LT.									96.00								1		1
493	ELW-102	SB I.R. 77	4188+48	4196+93	LT.						845.00													
493	PB-16	SB I.R. 77	4188+80	4197+00	LT.												820.00	1	17	17				
493	LL-162	SB I.R. 77	4187+50	4200+00	LT.								1250.00								11			11
493	ELY-87	SB I.R. 77	4187+50	4200+00	LT.							1250.00												
493	ELW-103	RAMP TO I-277	802+62	809+00	CEN.						638.00													
493	ELY-88	RAMP TO I-277	805+62	809+00	LT.							338.00											4	4
493	CL-82	SB I.R. 77	4196+93	4200+00	LT.									307.00								8		8
493	CL-83	RAMP TO I-277	802+62	805+62	RT.									300.00								8		8
493	ELW-104	RAMP TO I-277	906+04	912+00	RT.						596.00													
493	LL-163	RAMP TO I-277	906+04	912+00	RT.								596.00								5			5
493	CL-84	NB I.R. 77	4190+68	4191+97	RT.									129.00								3		3
493	ELY-89	RAMP TO I-277	906+04	912+00	LT.							596.00											8	8
493	ELW-105	NB I.R. 77	4187+50	4190+68	RT.						318.00													
493	LL-164	NB I.R. 77	4187+50	4191+97	RT.								447.00								4			4
493	LL-165	NB I.R. 77	4187+50	4191+97	RT.								447.00								4			4
493	ELY-90	NB I.R. 77	4187+50	4191+97	RT.							447.00												
494	CL-85	SB I.R. 77	4200+00	4201+05	LT.									105.00								4		4
494	CL-86	SB I.R. 77	4200+00	4211+50	LT.									1150.00								30		30
494	ELW-106	SB I.R. 77	4200+00	4206+43	LT.						643.00													
494	LL-167	SB I.R. 77	4200+00	4206+43	LT.								643.00								5			5
494	ELY-91	SB I.R. 77	4200+00	4206+43	LT.							643.00												
		NOT USED: LL-166																						
TOTALS CARRIED FROM THIS SHEET											3040.00	3274.00	3383.00	2185.00			820.00	1	18	18	98			98
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 399 OF 652											5443.00	6840.00	14790.00	2430.00		1223.00								
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 400 OF 652			1253.00	34.00	92.00	454.00	1	2502.00	2331.00	2215.00	1171.00	42.00	678.00											
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 401 OF 652			769.00	599.00	104.00	566.00	11																	
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 402 OF 652								6305.00	6308.00	17016.00	2724.00		1561.00						133	133	211			211
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 403 OF 652								3586.00	3581.00	9047.00	832.00		908.00						90	90	103			103
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 404 OF 652								6877.00	5896.00	11008.00	2658.00		498.00						97	97	193			193
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 405 OF 652								6101.00	6255.00	10726.00	866.00			940.00	1	159	159	130			130			130
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 406 OF 652								9924.00	10000.00	20000.00	232.00		512.00			260	260	168			168			168
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 407 OF 652								2588.00	2279.00	3047.00	817.00					31	31	65			65			65
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 408 OF 652								6348.00	6667.00	6210.00	2464.00			3850.00	2	113	113	174			174			174
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 409 OF 652								6508.00	5962.00	13032.00	3052.00		258.00	969.00	1	21	21	193			193			193
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 410 OF 652								5662.00	4578.00	1832.00	5851.00		1275.00	4221.00	4	87	87	185			185			185
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 411 OF 652								9817.00	9817.00	29451.00						78	78	243			243			243
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY 412 OF 652								3233.00	4203.00	7467.00	4376.00		1193.00			16	16	178			178			178
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY			2,022	633	196	1,020	12	77,934	77,991	149,224	29,658	42	8,106								1,941			1,941
MILE			0.39					29.54		28.27														
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY																	10,800	9	1,103	1,103				

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PAVEMENT MARKING SUBSUMMARY - SHEET 15 OF 15

SUM-76/77-11.27/12.12

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 STREET NAME SIGN SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR (RED) EACH	630 SIGN HANGER ASSEMBLY, MAST ARM EACH	630 SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN, STREET NAME EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	630 SIGN, FLAT SHEET, 730.20 SF		
425	S-1	I-76 EB	521+00	RT	OM-3L-12	12" X 36"						1	3.00											
425	S-2	I-76 EB	521+00	RT	OM-3R-12	12" X 36"	10.50						3.00											
					I-H25a-12	12" X 12"																1.00		
425	S-3	I-76 EB	523+56	LT	OM-3L-12	12" X 36"						1	3.00											
425	S-4	I-76 EB	528+00	RT	D10-5-18	18" X 60"	12.50						7.50											
425	S-5	I-76 WB	523+62	RT	OM-3L-12	12" X 36"						1	3.00											
425	S-6	I-76 WB	523+62	LT	OM-3R-12	12" X 36"	10.50						3.00											
					I-H25a-12	12" X 12"																1.00		
425	R-1	I-76 EB		LT	OM-H3L										1	1								
425	R-2	I-76 EB		RT	OM-H3R										1	1								
					I-H25a										1									
425	R-3	I-76 EB		LT	OM-H3L										1	1								
425	R-4	I-76 EB		LT	E1-H5													1			1			
					E1-H1													1						
425	R-5	I-76 EB		RT	OM-H3R										1	1								
					I-H25a										1									
425	R-6	I-76 EB		RT	I-H25a														1					
					I-H25a														1					
425	R-7	I-76 EB		RT	D10-5										1	1								
425	R-8	I-76 WB		RT	OM-H3L										1	1								
425	R-9	I-76 WB		LT	OM-H3R										1	1								
					I-H25a										1									
425	R-10	I-76 WB		RT	OM-H3L										1	1								
				LT	OM-H3R										1	1								
425	R-11	I-76 WB			I-H25a										1									
426	S-7	I-76 WB	10+00	LT	M3-1-36	36" X 18"		15.08/15.08					4.50											
					M1-1-36-2	36" X 36"							9.00											
426	S-8	I-76 WB	10+00	LT	M3-4-36	36" X 18"		15.08/15.08					4.50											
					M1-1-36-2	36" X 36"							9.00											
426	S-9	LANE O	22+76	RT	D10-5-18	18" X 60"	12.50						7.50											
426	S-10	I-76 WB	8+50	RT	D10-5-18	18" X 60"	12.50						7.50											
426	R-12	I-76 WB		LT	M3-1										1	1								
					M1-1-2										1									
426	R-13	I-76 WB		LT	M3-4										1	1								
					M1-1-2										1									
426	R-14	LANE O		RT	SPECIAL										1	1								
426	R-15	I-76 WB		RT	D10-5										1	1								
426	R-16	I-76 WB		LT	OM-H3L										1	1								
					I-H25a										1									
426	R-17	I-76 WB		LT	OM-H3R										1	1								
					I-H25a										1									
428	S-11	BROWN ST	17+14	LT	R3-H8bj-36	36" X 30"		13.00					7.50											
428	S-12	BROWN ST	16+00	LT	R7-203-18	18" X 24"	12.50						3.00											
428	S-13	SIGNAL SUPPORT #1			SPECIAL	84" X 24"					1		14.00											
428	S-14	SIGNAL SUPPORT #3			SPECIAL	84" X 24"					1		14.00											
428	S-15	SIGNAL SUPPORT #2			SPECIAL	120" X 36"					1		30.00											
428	S-16	SIGNAL SUPPORT #4			SPECIAL	120" X 36"					1		30.00											
428	R-18	LAMPARTER ST		LT	R1-1										1	1								
428	R-19	LAMPARTER ST		RT	D3-1														1					
					D3-1														1					
428	R-20	BROWN ST		LT	R7-203														1					
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY SHEET 398 OF 652							71.0	73.4			4	3	163.0		24	16		2	5		1	2.0		

CALCULATED CJD
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SIGNING SUBSUMMARY - SHEET 1 OF 4

SUM-76/77-11.27/12.12

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 STREET NAME SIGN SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR (RED) EACH	630 SIGN HANGER ASSEMBLY, MAST ARM EACH	630 SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN, STREET NAME EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	630 SIGN, FLAT SHEET, 730.20 SF		
429	S-17	JOHNSTON ST	1+50	RT	R2-1-24	24" X 30"		13.00					5.00											
429	S-18	JOHNSTON ST	2+50	RT	R7-1R-12	12" X 18"	12.00						1.50											
429	S-19	SPICER ST	15+87	RT	R1-1-30	30" X 30"		13.00		1			6.25											
429	S-20	JOHNSTON ST	4+00	LT	M1-5-24-2	24" X 24"		14.92					4.00											
					M6-1R-21	21" X 15"							2.19											
					M4-5-24	24" X 12"							2.00											
429	S-21	SPICER ST	15+50	LT	R2-1-24	24" X 30"		13.00					5.00											
430	S-22	JOHNSTON ST	5+50	RT	R7-1-12	12" X 18"	12.00						1.50											
430	S-23	JOHNSTON ST	8+00	RT	R7-1-12	12" X 18"	12.00						1.50											
430	S-24	JOHNSTON ST	9+25	LT	D3-1-54	54" X 12"			12.58					1										
					D3-1-54	54" X 12"								1										
					D3-1-60	60" X 12"								1										
					D3-1-60	60" X 12"								1										
430	S-25	HEDDEN AVE	19+00	RT	SPECIAL	12" X 18"	12.00						1.50											
430	S-26	HEDDEN AVE	19+52	RT	R1-1-30	30" X 30"		13.00		1			6.25											
430	S-27	JOHNSTON ST	8+00	LT	R7-1-12	12" X 18"	12.00						1.50											
430	S-28	JOHNSTON ST	5+50	LT	R7-1-12	12" X 18"	12.00						1.50											
431	S-29	JOHNSTON ST	10+50	RT	R7-1-12	12" X 18"	12.00						1.50											
431	S-30	JOHNSTON CT	19+60	RT	R1-1-30	30" X 30"		13.00		1			6.25											
431	S-31	JOHNSTON CT	19+75	RT	D3-1-54	60" X 12"			12.58					1										
					D3-1-54	60" X 12"								1										
					D3-1-60	60" X 12"								1										
					D3-1-60	60" X 12"								1										
431	S-32	JOHNSTON ST	10+25	LT	R7-1-12	12" X 18"	12.00						1.50											
433	S-33	BROWN ST	21+00	LT	R3-H8bh-36	36" X 30"		13.00					7.50											
433	S-34	SOUTH ST	26+00	LT	W14-2-30	30" X 30"		14.03					6.25											
					R7-1-12	12" X 18"							1.50											
433	S-35	SOUTH ST	25+60	LT	R7-1-12	12" X 18"	12.00						1.50											
433	S-36	SOUTH ST	26+75	RT	R7-1-12	12" X 18"	12.00						1.50											
433	S-37	BROWN ST	19+53	LT	R3-H8bj-36	36" X 30"		13.00					7.50											
433	S-38	BROWN ST	17+60	RT	R7-1-12	12" X 18"	12.00						1.50											
433	S-39	BROWN ST	17+90	RT	R3-H8bj-36	36" X 30"		13.00					7.50											
433	S-40	BROWN ST	19+25	RT	M4-5-24	24" X 12"	17.00/17.00						2.00											
					M1-1-24-2	24" X 24"							4.00											
					M1-1-24-2	24" X 24"							4.00											
					M6-1R-21	21" X 15"	15.92/15.92						2.19											
433	S-41	BROWN ST	19+55	RT	R3-H8bj-36	36" X 30"		13.00					7.50											
433	S-42	SIGNAL SUPPORT #1			SPECIAL	84" X 24"					1		14.00											
433	S-43	SIGNAL SUPPORT #3			SPECIAL	84" X 24"					1		14.00											
433	S-44	SIGNAL SUPPORT #2			SPECIAL	84" X 24"					1		14.00											
433	S-45	SIGNAL SUPPORT #4			SPECIAL	84" X 24"					1		14.00											
433	S-46	SIGNAL SUPPORT #3			R10-11a-30	30" X 36"					1		7.50											
433	R-21	SOUTH ST		LT	SPECIAL														1					
					R10-11a														1					
433	R-22	SOUTH ST		LT	R7-1														1					
433	R-23	SOUTH ST		RT	D3-1														1					
					SPECIAL														1					
433	R-24	BROWN ST		RT	R7-1														1					
433	R-25	BROWN ST		RT	SPECIAL														1					
433	R-26	SOUTH ST		RT	R10-11a														1					
433	R-27	BROWN ST		RT	D3-1														1					
					D3-1														1					
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY SHEET 398 OF 652							197.9	146.0	25.2	3	5		166.9	8					10					

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SUM-76/77-11.27/12.12

SIGNING SUBSUMMARY - SHEET 2 OF 4

415
652

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 STREET NAME SIGN SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR (RED) EACH	630 SIGN HANGER ASSEMBLY, MAST ARM EACH	630 SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN, STREET NAME EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	630 SIGN, FLAT SHEET, 730.20 SF		
434	S-47	SOUTH ST	27+80	LT	R3-H8bh-36	36" X 30"		13.00					7.50											
434	S-48	SOUTH ST	27+70	RT	SPECIAL		12.00																	
434	R-28	SOUTH ST		LT	R3-H8bh														1					
434	R-29	SOUTH ST		RT	SPECIAL															1				
435	S-49	SOUTH ST	24+25	RT	R2-1-24	24" X 30"		14.58					5.00											
					R7-1-12	12" X 18"							1.50											
435	S-50	SOUTH ST	25+50	RT	R3-H8bh-36	36" X 30"	14.58/14.58						7.50											
					R7-203-18	18" X 24"							3.00											
435	R-30	SOUTH ST		RT	R2-1										1	1								
					R7-1										1									
435	R-31	SOUTH ST		RT	R3-H8bh														1					
					R7-203														1					
435	R-31A	SOUTH ST		LT	D3-1														1					
					R3-5L														1					
436	R-32	SPICER ST		LT	W1-8L										1	1								
					OM-3L										1									
436	R-33	SPICER ST		LT	W1-8L										1	1								
					OM-3L										1									
436	R-34	SPICER ST		LT	D3-1														1					
					D3-1														1					
436	R-35	JOHNSTON ST		LT	R7-1										1	1								
436	R-36	JOHNSTON ST		RT	M1-4												1							
					M6-1R												1							
436	R-37	SPICER ST		LT	R7-1												1							
436	R-38	SPICER ST		LT	SPECIAL														1					
					R2-1														1					
436	R-39	SPICER ST		RT	R7-5										1	1								
436	R-40	SPICER ST		RT	D3-1														1					
					D3-1														1					
436	R-41	SPICER ST		RT	R3-5L													1						
436	R-42	SPICER ST		RT	SPECIAL										1	1								
437	R-43	JOHNSTON ST		LT	R2-1														1					
437	R-44	JOHNSTON ST		LT	R7-1														1					
437	R-45	JOHNSTON ST		RT	SPECIAL										1	1								
					R7-1										1									
437	R-46	JOHNSTON ST		RT	R1-1										1	1								
					SPECIAL										1									
437	R-47	JOHNSTON ST		RT	SPECIAL										1	1								
					R10-7										1									
437	R-48	JOHNSTON ST		RT	R1-1										1	1								
438	R-49	JOHNSTON ST		LT	R7-1										1	1								
438	R-50	JOHNSTON ST		RT	D3-1										1	1								
					D3-1										1									
					R1-1										1									
438	R-51	JOHNSTON ST		RT	R7-1										1	1								
438	R-52	JOHNSTON ST		RT	D3-1										1	1								
					D3-1										1									
438	R-53	JOHNSTON ST		RT	SPECIAL										1	1								
438	R-54	JOHNSTON ST		RT	R1-1										1	1								
438	R-55	JOHNSTON ST		RT	R7-1										1	1								
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY SHEET 398 OF 652							41.2	27.6					24.5		26	17	3	1	13	1				

CALCULATED CJD
CHECKED AKF

SIGNING SUBSUMMARY - SHEET 3 OF 4

SUM-76/77-11.27/12.12

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HFORD

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 STREET NAME SIGN SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR (RED) EACH	630 SIGN HANGER ASSEMBLY, MAST ARM EACH	630 SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN, STREET NAME EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	630 SIGN, FLAT SHEET, 730.20 SF		
474	S-103A	US-224 WB	3257+00	LT	W4-3-48	48" X 48"		16.16/16.16					16.00											
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY SHEET 398 OF 652								32.4					16.0											

CALCULATED CJD
CHECKED AKF

SIGNING SUBSUMMARY - SHEET 4 OF 4

SUM-76/77-11.27/12.12

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9/16/2014
7:26:58 PM
AFORD

SHEET NO.	REFERENCE NO.	LOCATION	SIDE	DETAIL PAGE	STATION	625 GROUND ROD EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22 FT	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10 EACH	630 SIGN ATTACHMENT ASSEMBLY EACH	630 SIGN, GROUND MOUNTED EXTRUSHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION EACH				
425	OSS-1	I-76 EB	RT	509	525+75	1					1			154.00		1										
														45.00												
TOTALS CARRIED TO SUBSUMMARY SHEET 421 OF 652						1					1			199.0		1										

CALCULATED CJD
CHECKED AKF

BEAMS & OVERHEAD SIGNS SUBSUMMARY - SHEET 1 OF 4

SUM-76/77-11.27/12.12

418
652

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9/16/2014
7:27:23 PM
AFORD

SHEET NO.	REFERENCE NO.	LOCATION	SIDE	DETAIL PAGE	STATION	625 GROUND ROD EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22 FT	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10 EACH	630 SIGN ATTACHMENT ASSEMBLY EACH	630 SIGN, GROUND MOUNTED EXTRUSHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION EACH
441	OSS-2	I-77 NB	LT	510	1026+75							3		20.00								
														165.00								
441	R-100	I-77 NB	LT															2				
443	OSS-3	I-77 NB	LT	511	1048+48							3		20.00								
														165.00								
443	R-101	I-77 NB	LT															2				
445	OSS-4	I-77 SB	RT	512	1081+59							5		156.00								
												5		247.00								
														20.00								
445	R-102	I-77 SB	RT															2				
446	OSS-5	I-77 NB	LT	513	1090+50							3		126.00								
												3		165.00								
														20.00								
446	R-103	I-77 NB	LT															2				2
447	OSS-6	I-77 SB	LT/RT	514	401+61							3		221.00								
														20.00								
447	R-104	I-77 SB	LT/RT															2				
449	S-100	I-77 SB	RT	540	1127+00		16.56/17.09			2			48.00		2							
449	R-104A	I-77 SB	RT														1				2	
450	OSS-21	I-76 EB	RT	541	1139+50							3		80.00								
452	OSS-7	I-76 EB	RT	515	2013+62							3		140.00								
														40.50								
												3		130.00								
452	OSS-8	I-76 WB	LT	516	2019+17							3		209.00								
														40.50								
												3		160.00								
452	OSS-9	I-76 WB	LT	517	2008+42							3		187.00								
														40.50								
												3		160.00								
452	R-105	I-76 EB	RT															1				2
452	R-106	I-76 WB	LT															3				
452	R-107	I-76 WB	LT															3				
453	OSS-10	I-76 EB	RT	518	2024+87							3		140.00								
														40.50								
												3		130.00								
453	R-108	I-76 EB	RT															2				2
454	S-102	I-76 WB	LT	542	2037+50				23.35/26.00	2			98.00		2							
455	OSS-11	I-76 WB	LT	519	2053+83							3		209.00								
														40.50								
												3		160.00								
455	R-109	I-76 WB	LT															2				2.00
456	OSS-12	I-76 EB	RT	520	2060+25							3		209.00								
														40.50								
												3		130.00								
456	R-110	I-76 EB	RT															3				
TOTALS CARRIED TO SUBSUMMARY SHEET 421 OF 652							33.7		49.4	4		64	146.0	3,632.0	4		1	24		2	8	

CALCULATED CJD CHECKED AKF

BEAMS & OVERHEAD SIGNS SUBSUMMARY - SHEET 2 OF 4

SUM-76/77-11.27/12.12

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9/16/2014
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AFORD

SHEET NO.	REFERENCE NO.	LOCATION	SIDE	DETAIL PAGE	STATION	625 GROUND ROD EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22 FT	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10 EACH	630 SIGN ATTACHMENT ASSEMBLY EACH	630 SIGN, GROUND MOUNTED EXTRUSHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION EACH				
457	OSS-13	I-76 EB	RT	521	2078+58							3		209.00													
														40.50													
												3		130.00													
457	R-111	I-76 EB	RT															3									
458	OSS-14	I-76 NB	RT	522	2084+49							3		187.00													
														40.50													
												3		160.00													
458	R-112	I-76 NB	RT															3									
461	OSS-15	I-277 WB	LT	523	3093+23							3		160.00													
														15.00													
												3		170.00													
461	R-113	I-277 WB	LT															5									
463	OSS-16	I-277 EB	RT	524	3117+23							4		260.00													
														15.00													
463	OSS-17	I-277 EB	RT	525	3124+83							5		120.00													
												5		150.00													
														15.00													
												7		260.00													
463	OSS-18	I-277 WB	LT	526	3118+71							3		160.00													
														15.00													
												3		221.00													
463	R-114	I-277 EB	RT															2									
463	R-115	I-277 EB	RT															4					2				
463	R-116	I-277 WB	LT															3									
466	OSS-19	I-277 WB	LT	527	3157+20							3		160.00													
														15.00													
												3		234.00													
466	R-116A	I-277 WB	LT															3									
469	OSS-20	I-277 EB	RT	528	3193+64							3		216.00													
												3		165.00													
469	R-117	I-277 EB	RT															3									
471	S-103	I-277 EB	RT	543	3222+00			25.84/25.53		2			154.00		2												
473	OSS-22	I-277 EB	RT	529	3249+44							3		196.00													
														20.00													
												3		187.00													
473	R-118	I-277 EB	RT		3249+44													3									
474	OSS-23	I-277 EB	RT	530	3258+77							3		120.00													
														20.00													
474	R-119	I-277 EB	RT															2									
476	OSS-24	I-277 EB	RT	531	3264+93							3		108.00													
														20.00													
												3		187.00													
														20.00													
476	S-104	I-277 EB	RT	544	3272+00			21.93/24.95		2			112.00		2												
476	R-120	I-277 EB	RT															4									
TOTALS CARRIED TO SUBSUMMARY SHEET 421 OF 652								98.3		4		72	266.0	3,996.0	4			35				2					

CALCULATED CJD CHECKED AKF

BEAMS & OVERHEAD SIGNS SUBSUMMARY - SHEET 3 OF 4

SUM-76/77-11.27/12.12

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AFORD

SHEET NO.	REFERENCE NO.	LOCATION	SIDE	DETAIL PAGE	STATION	625 GROUND ROD EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22 FT	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10 EACH	630 SIGN ATTACHMENT ASSEMBLY EACH	630 SIGN, GROUND MOUNTED EXTRUSHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION EACH				
480	OSS-25	I-77 NB	RT	532	4026+60							3		192.00												
														55.00												
												3		126.00												
														25.00												
480	R-121	I-77 NB	RT		4026+60													2								
483	OSS-26	I-77 SB	LT	533	4072+30							3		170.00												
														20.00												
483	R-122	I-77 SB	LT		4072+37													2								
486	OSS-27	I-77 NB	RT	534	4107+09							3		192.00												
														55.00												
486	OSS-28	I-77 SB	LT	535	4100+13							3		153.00												
														20.00												
486	R-123	I-77 NB	RT															2								
486	R-124	I-77 SB	LT															2								
488	OSS-29	I-77 NB	RT	536	4133+97							3		247.00												
														55.00												
488	R-125	I-77 NB	RT															2					2			
490	OSS-30	I-77 NB	RT	537	4162+18							3		247.00												
														55.00												
490	R-126	I-77 NB	RT															2					2			
492	OSS-32	I-77 NB	RT	538	4184+53	2						3		221.00		2				1						
														55.00												
												5		348.00												
492	R-128	I-77 NB	RT															2								
494	OSS-34	I-77 SB	LT	539	4200+63							3		176.00												
														25.00												
494	R-130	I-77 SB	LT															2								
TOTALS CARRIED FROM THIS SHEET						2						32		2,437.0		2		16	1		4					
TOTALS CARRIED FROM SUBSUMMARY SHEET 418 OF 652						1					1			199.0		1										
TOTALS CARRIED FROM SUBSUMMARY SHEET 419 OF 652							33.7		49.4	4		64	146.0	3632.0	4		1	24		2	8					
TOTALS CARRIED FROM SUBSUMMARY SHEET 420 OF 652								98.3		4		72	266.0	3996.0	4			35			2					
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY						3	33.7	98.3	49.4	8	1	168	412.0	10264.0	8	3	1	75	1	2	14					

CALCULATED CJD
CHECKED AKF

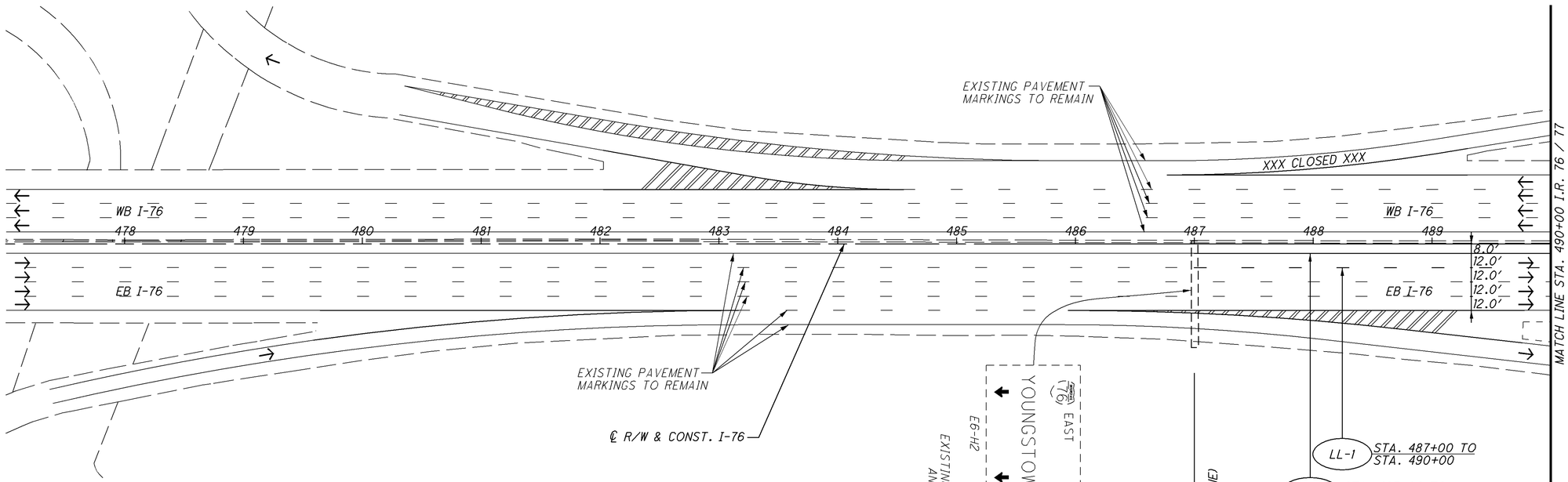
BEAMS & OVERHEAD SIGNS SUBSUMMARY - SHEET 4 OF 4

SUM-76/77-11.27/12.12

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AFORD

LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				



N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AKF
CHECKED ---

PAVEMENT MARKING AND SIGNAGE PLANS
I.R. 76/77 BEGIN TO STA. 490+00

SUM-76/77-11.27/12.12

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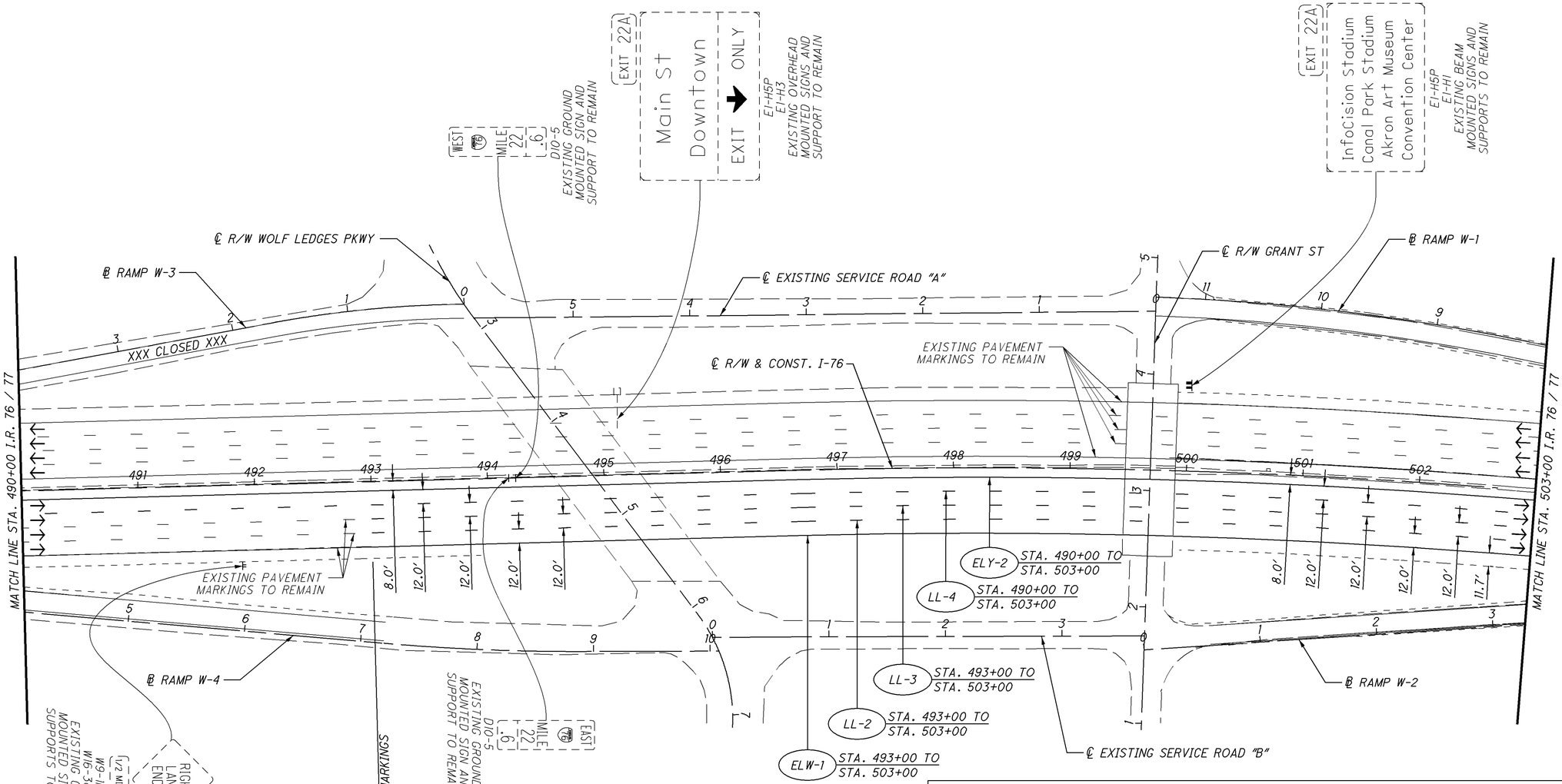
PAVEMENT MARKING AND SIGNAGE PLANS
I.R. 76 / 77 STA. 490+00 TO STA. 503+00

SUM-76/77-11.27/12.12

423
652

CALCULATED SGM
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100



LEGEND

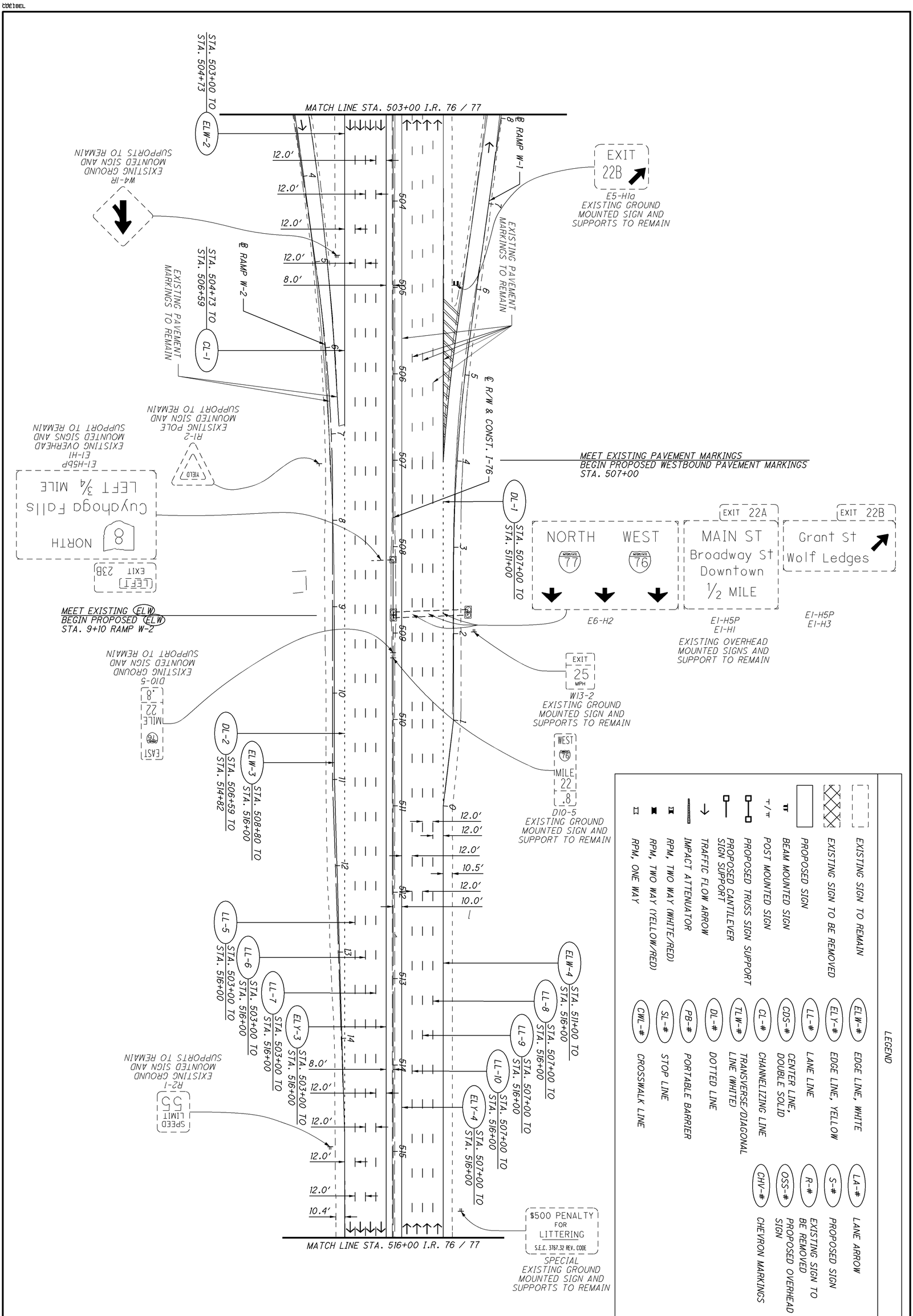
- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY

- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE

- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

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PAVEMENT MARKING AND SIGNAGE PLANS
I.R. 76 / 77 STA. 503+00 TO STA. 516+00

CALCULATED SGM
CHECKED AKF
0 50
25 100
HORIZONTAL SCALE IN FEET

PAVEMENT MARKING AND SIGNAGE PLANS
I.R. 76 / 77 STA. 516+00 TO STA. 529+00

SUM-76/77-11.27/12.12

425
652

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SGM
CHECKED AKF

N

LEGEND

ELW-#	EDGE LINE, WHITE	SL-#	STOP LINE
ELY-#	EDGE LINE, YELLOW	CWL-#	CROSSWALK LINE
LL-#	LANE LINE	LA-#	LANE ARROW
CDS-#	CENTER LINE, DOUBLE SOLID	S-#	PROPOSED SIGN
CL-#	CHANNELIZING LINE	R-#	EXISTING SIGN TO BE REMOVED
TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)	OSS-#	PROPOSED OVERHEAD SIGN
DL-#	DOTTED LINE	CHV-#	CHEVERON MARKINGS

EXISTING SIGN TO REMAIN
EXISTING SIGN TO BE REMOVED
PROPOSED SIGN
BEAM MOUNTED SIGN
POST MOUNTED SIGN
PROPOSED TRUSS SIGN SUPPORT
PROPOSED CANTILEVER SIGN SUPPORT
TRAFFIC FLOW ARROW
RPM, TWO WAY (WHITE/RED)
RPM, TWO WAY (YELLOW/RED)
RPM, ONE WAY

WEST 76 MILE 23 — D10-4 EXISTING GROUND MOUNTED SIGN AND SUPPORT TO REMAIN

SPEED LIMIT 55 — R2-1 EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

NO DIRECT REENTRY — Univ of Akron, Grant St, Wolf Ledges — ¼ MILE — SPECIAL E1-HI EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN

OM-H3R I-H25a — EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO BE REMOVED — R-11

OM-H3L — EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED — R-10

12" X 36" — OM-3L-12 STA. 523+62, RT. — S-5

12" X 36" — 12" X 12" SIGN MAST — OM-3R-12 I-H25a-12 STA. 523+62, LT. — S-6

OM-H3R I-H25a — EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO BE REMOVED — R-9

OM-H3L — EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED — R-8

℄ EXIST. LANE O

CL-5 STA. 3+00 TO STA. 3+79
ELW-7 STA. 24+88 TO STA. 34+29
ELW-8 STA. 3+79 TO STA. 7+87
ELY-7 STA. 24+96 TO STA. 29+24
CL-7 STA. 24+22 TO STA. 25+57
CL-3 STA. 29+24 TO STA. 34+29
CL-2 STA. 520+01 TO STA. 524+29
LL-17 STA. 25+57 TO STA. 34+29
LL-15 STA. 516+00 TO STA. 520+01
LL-16 STA. 516+00 TO STA. 524+29
ELY-6 STA. 516+00 TO STA. 524+29
LL-14 STA. 516+00 TO STA. 520+01
ELW-6 STA. 516+00 TO STA. 520+01

℄ R/W & CONST. I-76
℄ CONST. W.B. I-76
℄ CONST. E.B. I-76

MATCH LINE STA. 516+00 I.R. 76 / 77
MATCH LINE STA. 529+00 I.R. 76 / 77

LL-17A STA. 3+00 TO STA. 7+85
CL-4 STA. 518+25 TO STA. 529+00
ELY-5 STA. 516+00 TO STA. 529+00
ELW-5 STA. 516+00 TO STA. 529+00
CL-6 STA. 0+64 TO STA. 0+85
ELY-8 STA. 3+00 TO STA. 7+83
LL-11 STA. 516+00 TO STA. 516+77
LL-12 STA. 516+00 TO STA. 518+25
LL-13 STA. 516+00 TO STA. 529+00

RIGHT LANE ENDS — SPECIAL EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

E6-H2 — EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN

I-5 E1-H5P E1-H2

76 EAST Youngstown
77 SOUTH Canton
EXIT ONLY
EXIT 23A

12" X 36" — OM-3L-12 STA. 521+00, LT. — S-1 — OM-H3L EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED — R-1

12" X 36" — OM-3R-12 I-H25a-12 STA. 521+00, RT. — S-2 — 12" X 12" SIGN MAST — OM-H3R I-H25a EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO BE REMOVED — R-2

12" X 36" — OM-3L-12 STA. 523+56, LT. — S-3 — OM-H3L EXISTING GROUND MOUNTED SIGN TO BE REMOVED — R-3

OSS-1 — E1-H5bP-120 E1-HI-168 STA. 525+75 — University of Akron NEXT LEFT — 120" X 54" LEFT EXIT 23 B 168" X 132" — E1-H5 E1-HI EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO BE REMOVED — R-4

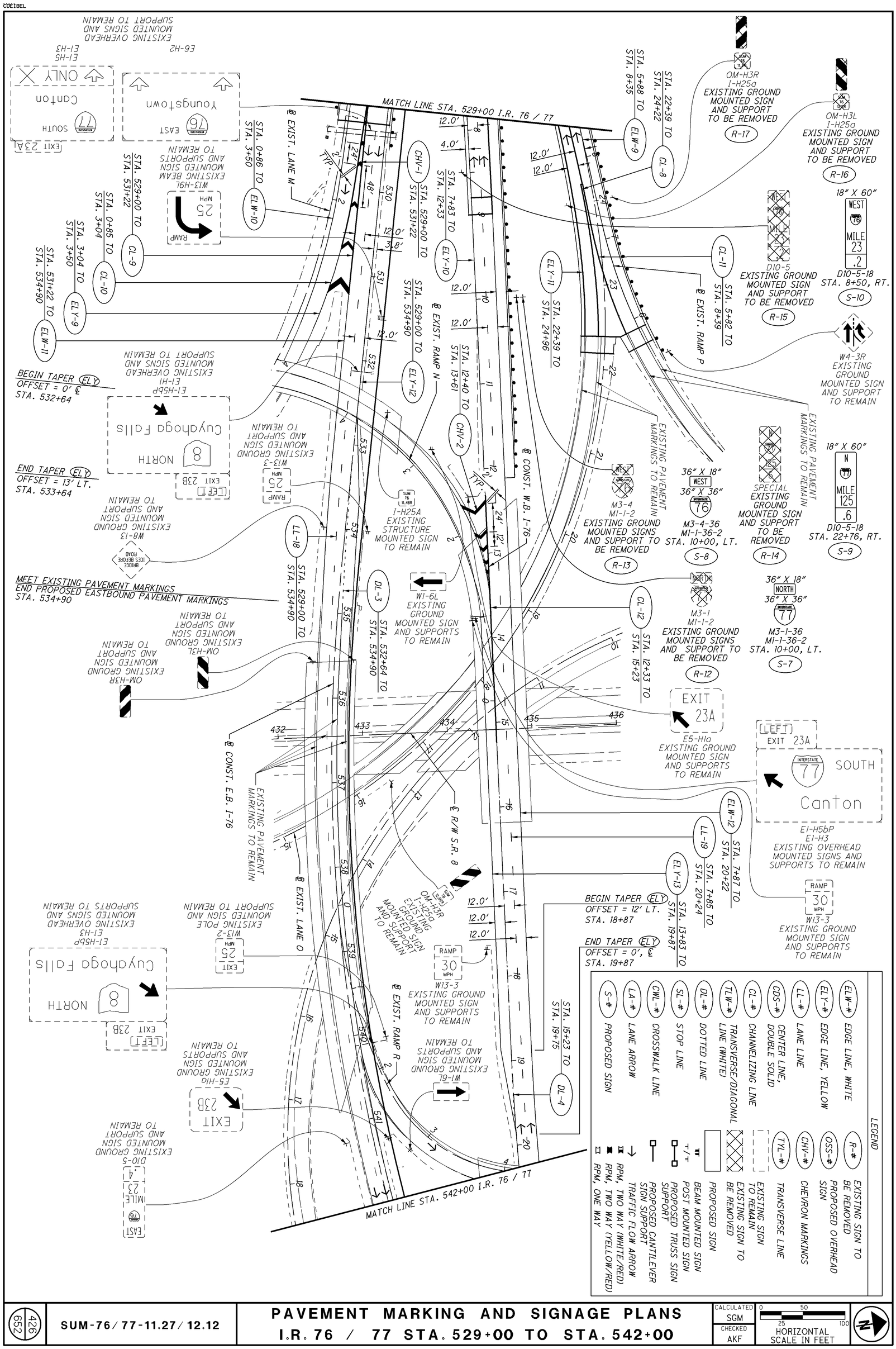
R-6 — OM-H3R I-H25a I-H25a EXISTING POLE MOUNTED SIGN AND SUPPORTS TO BE REMOVED

S-4 — D10-5-18 STA. 528+00, RT. — MILE 23 .2 — 18" X 60" EAST — D10-5 EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED — R-7

R-5 — OM-H3R I-H25a EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO BE REMOVED

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MATCH LINE STA. 529+00 I.R. 76 / 77
MATCH LINE STA. 542+00 I.R. 76 / 77
℄ EXIST. LANE M
℄ EXIST. RAMP N
℄ CONST. W.B. I-76
℄ EXIST. RAMP P
℄ CONST. E.B. I-76
℄ R/W S.R. 8
℄ EXIST. LANE O
℄ EXIST. RAMP R
BEGIN TAPER ELY
OFFSET = 0' ℄
STA. 532+64
END TAPER ELY
OFFSET = 13' LT.
STA. 533+64
MEET EXISTING PAVEMENT MARKINGS
END PROPOSED EASTBOUND PAVEMENT MARKINGS
STA. 534+90
BEGIN TAPER ELY
OFFSET = 12' LT.
STA. 18+87
END TAPER ELY
OFFSET = 0', ℄
STA. 19+87
STA. 0+86 TO STA. 3+50 ELW-10
STA. 529+00 TO STA. 531+22 CL-9
STA. 0+85 TO STA. 3+04 CL-10
STA. 3+04 TO STA. 3+50 ELY-9
STA. 531+22 TO STA. 534+90 ELW-11
STA. 529+00 TO STA. 534+90 ELY-12
STA. 532+64 TO STA. 534+90 DL-3
STA. 529+00 TO STA. 534+90 LL-18
STA. 5+88 TO STA. 8+35 ELW-9
STA. 22+39 TO STA. 24+22 CL-8
STA. 7+83 TO STA. 12+33 ELY-10
STA. 529+00 TO STA. 531+22 CHV-1
STA. 12+40 TO STA. 13+61 CHV-2
STA. 22+39 TO STA. 24+96 ELY-11
STA. 5+82 TO STA. 8+39 CL-11
STA. 12+33 TO STA. 15+23 CL-12
STA. 15+23 TO STA. 19+75 DL-4
STA. 7+87 TO STA. 20+22 ELW-12
STA. 7+85 TO STA. 20+24 LL-19
STA. 13+83 TO STA. 19+87 ELY-13
OM-H3R I-H25a EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED R-17
OM-H3L I-H25a EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED R-16
D10-5 EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED R-15
D10-5-18 STA. 8+50, RT. S-10
W4-3R EXISTING GROUND MOUNTED SIGN AND SUPPORT TO REMAIN
EXISTING PAVEMENT MARKINGS TO REMAIN
M3-4 M1-1-2 EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO BE REMOVED R-13
36" X 18" WEST 36" X 36" M3-4-36 M1-1-36-2 STA. 10+00, LT. S-8
SPECIAL EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED R-14
18" X 60" D10-5-18 STA. 22+76, RT. S-9
M3-1 M1-1-2 EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO BE REMOVED R-12
36" X 18" NORTH 36" X 36" M3-1-36 M1-1-36-2 STA. 10+00, LT. S-7
EXIT 23A E5-H1a EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN
LEFT EXIT 23A INTERSTATE 77 SOUTH Canton E1-H5bP E1-H3 EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORTS TO REMAIN
RAMP 30 MPH W13-3 EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN
I-H25A EXISTING STRUCTURE MOUNTED SIGN TO REMAIN
W1-6L EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN
OM-H3L I-H25a EXISTING GROUND MOUNTED SIGN AND SUPPORT TO REMAIN
W1-6L EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN
EXISTING GROUND MOUNTED SIGN AND SUPPORT TO REMAIN
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EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN
EXISTING GROUND MOUNTED SIGN AND SUPPORT TO REMAIN
EXISTING GROUND SIGN MOUNTED AND SUPPORT TO REMAIN
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN
EXISTING GROUND SIGN MOUNTED AND SUPPORTS

PAVEMENT MARKING AND SIGNAGE PLANS

I.R. 76 / 77 STA. 542+00 TO END

SUM-76/77-11.27/12.12

427
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CALCULATED SGM
CHECKED AKF

HORIZONTAL SCALE IN FEET
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N

WEST MILE 23.4
DIO-5
EXISTING GROUND MOUNTED SIGN AND SUPPORT TO REMAIN

ELY-14 STA. 20+26 TO STA. 24+10
LL-20 STA. 20+24 TO STA. 24+10
ELW-13 STA. 20+22 TO STA. 24+10

BRIDGE ICES BEFORE ROAD
W8-13
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

MEET EXISTING PAVEMENT MARKINGS
END PROPOSED WESTBOUND PAVEMENT MARKINGS
STA. 24+10

EXIT 23B
E5-H1a
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

EXIT 23A
NORTH 8 Cuyahoga Falls
EXIT ONLY
E1-H5P
E1-H3

WEST 76
NORTH 77
LEFT 2 LANES
E1-H1
EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN

LEFT EXIT 23A
SOUTH 77 Canton
LEFT 1/4 MILE
I-5 E1-H5bP
E1-H1

EXIT 24
Arlington St
Kelly Ave
1/2 MILE
E1-H5P
E1-H1
EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORTS TO REMAIN

W1-H16L
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

MATCH LINE STA. 542+00 I.R. 76 / 77

℄ CONST. E.B. I-76
℄ CONST. W.B. I-76
℄ EXIST. LANE S
EXISTING PAVEMENT MARKINGS TO REMAIN

RIP-RAP

12.0'
12.0'

EAST INTERSTATE 76
M3-2
M1-1
EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO REMAIN

W4-2R
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

W4-3R
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

W9-1
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

RIGHT LANE ENDS

W4-2R
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

EAST INTERSTATE 76
M3-2
M1-1
EXISTING POLE MOUNTED SIGNS AND SUPPORT TO REMAIN

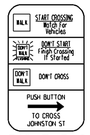
W4-2R
EXISTING GROUND MOUNTED SIGN AND SUPPORTS TO REMAIN

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

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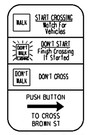
PROPOSED POLE MOUNTED SIGNAGE



R10-3gR-9 TO BE MOUNTED ABOVE PEDESTRIAN PUSHBUTTON ON PEDESTAL #2



R10-3gL-9 TO BE MOUNTED ABOVE PEDESTRIAN PUSHBUTTON ON SIGNAL SUPPORT #3



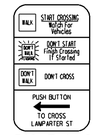
R10-3gR-9 TO BE MOUNTED ABOVE PEDESTRIAN PUSHBUTTON ON PEDESTAL #1 AND SIGNAL SUPPORT #3



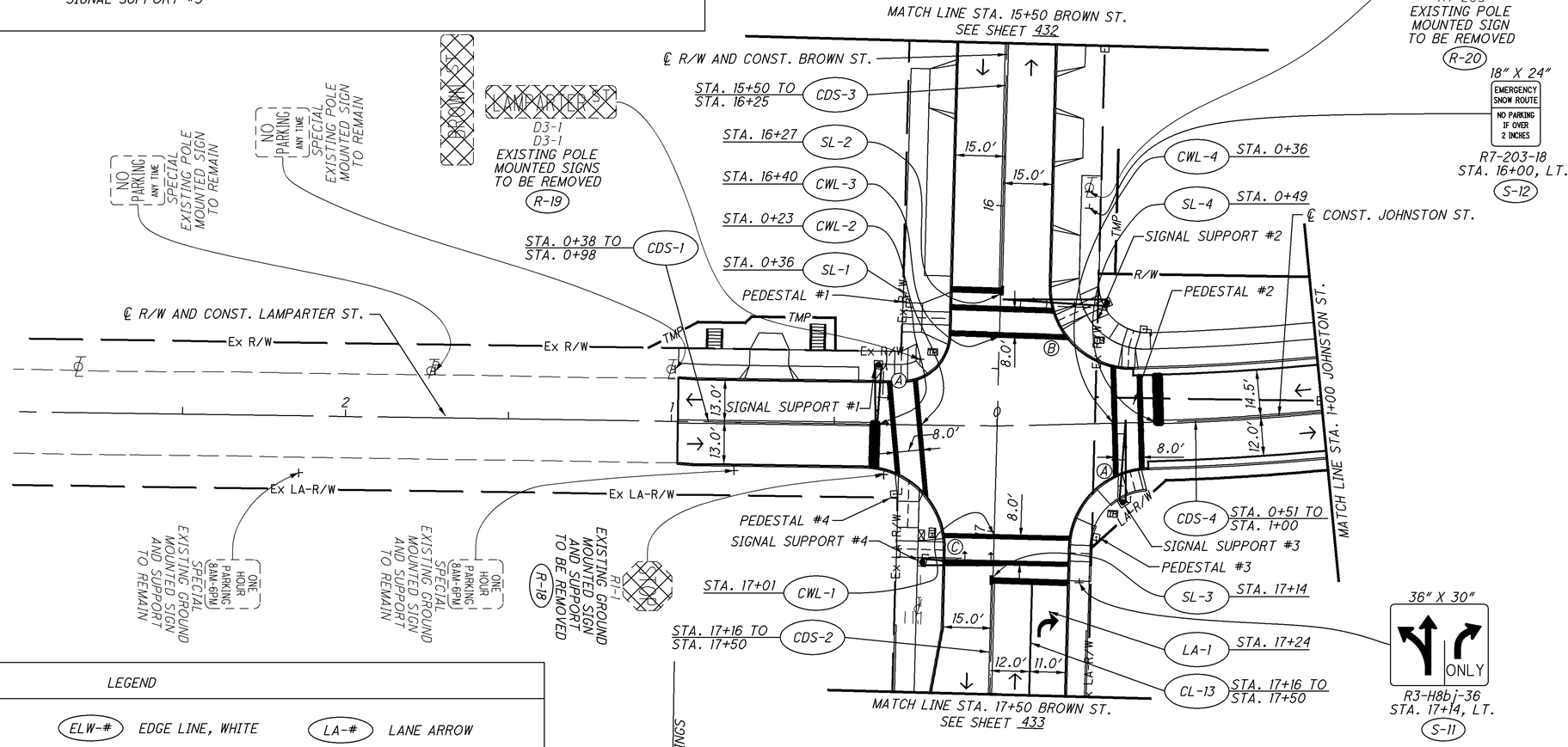
R10-3gL-9 TO BE MOUNTED ABOVE PEDESTRIAN PUSHBUTTON ON SIGNAL SUPPORT #2 & #4



R10-3gR-9 TO BE MOUNTED ABOVE PEDESTRIAN PUSHBUTTON ON PEDESTAL #4



R10-3gL-9 TO BE MOUNTED ABOVE PEDESTRIAN PUSHBUTTON ON SIGNAL SUPPORT #1



LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY

- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE

- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

MAST ARM SIGNAGE

84″ X 24″	120″ X 36″	120″ X 36″
Brown St	← Lamparter St Johnston St →	← Johnston St Lamparter St →
SPECIAL	SPECIAL	SPECIAL
S-13 , S-14	S-15	S-16
Ⓐ	Ⓑ	Ⓒ

FOR SIGNING REMOVAL PLANS FOR JOHNSTON ST., SEE SHEETS 436-438.

HORIZONTAL SCALE IN FEET
0 10 20 40

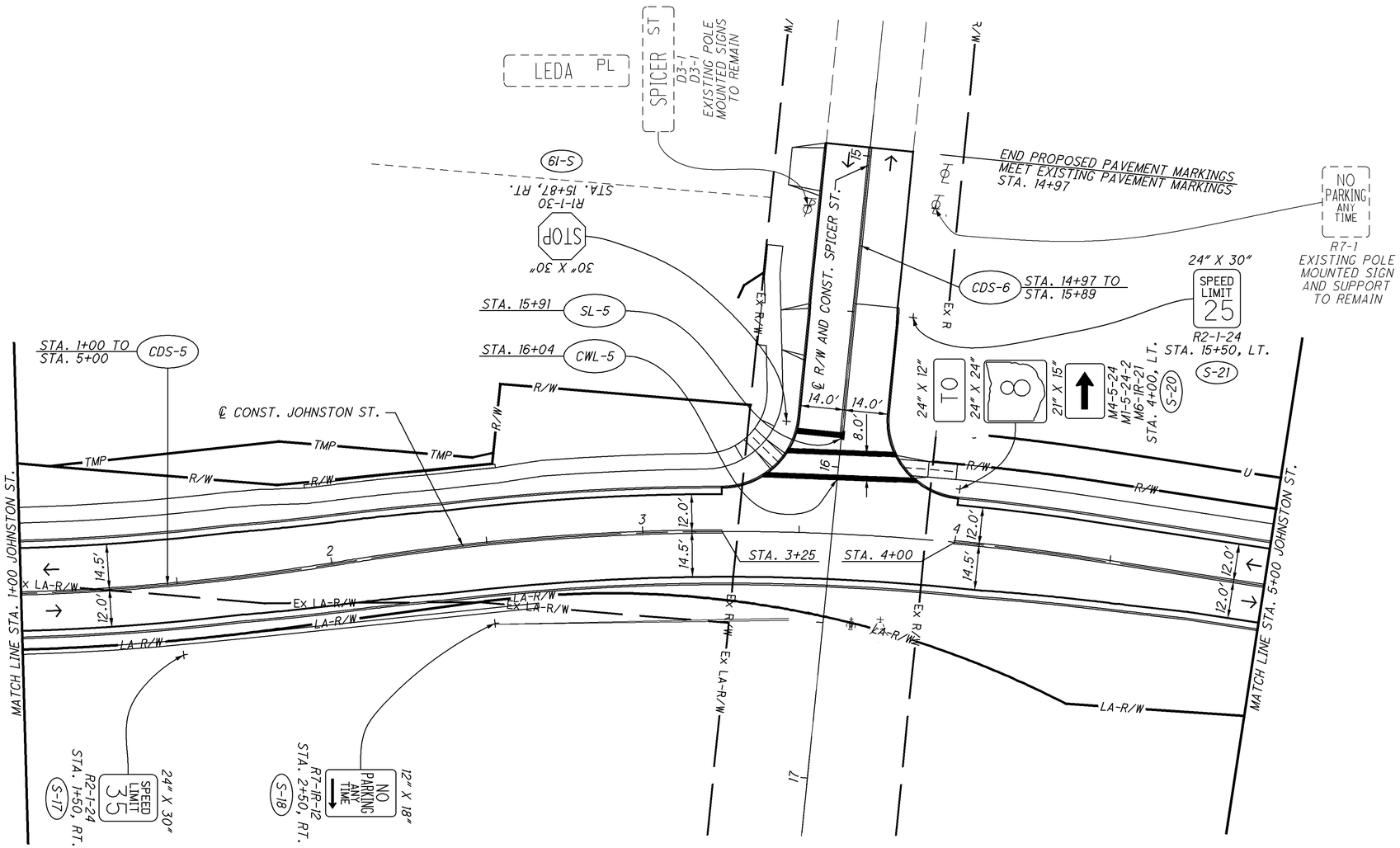
CALCULATED KRM CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN JOHNSTON ST. BEGIN TO STA. 1+00

SUM-76/77-11.27/12.12

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

FOR SIGNING REMOVAL PLANS FOR JOHNSTON ST. AND SPICER ST., SEE SHEETS 436-438.

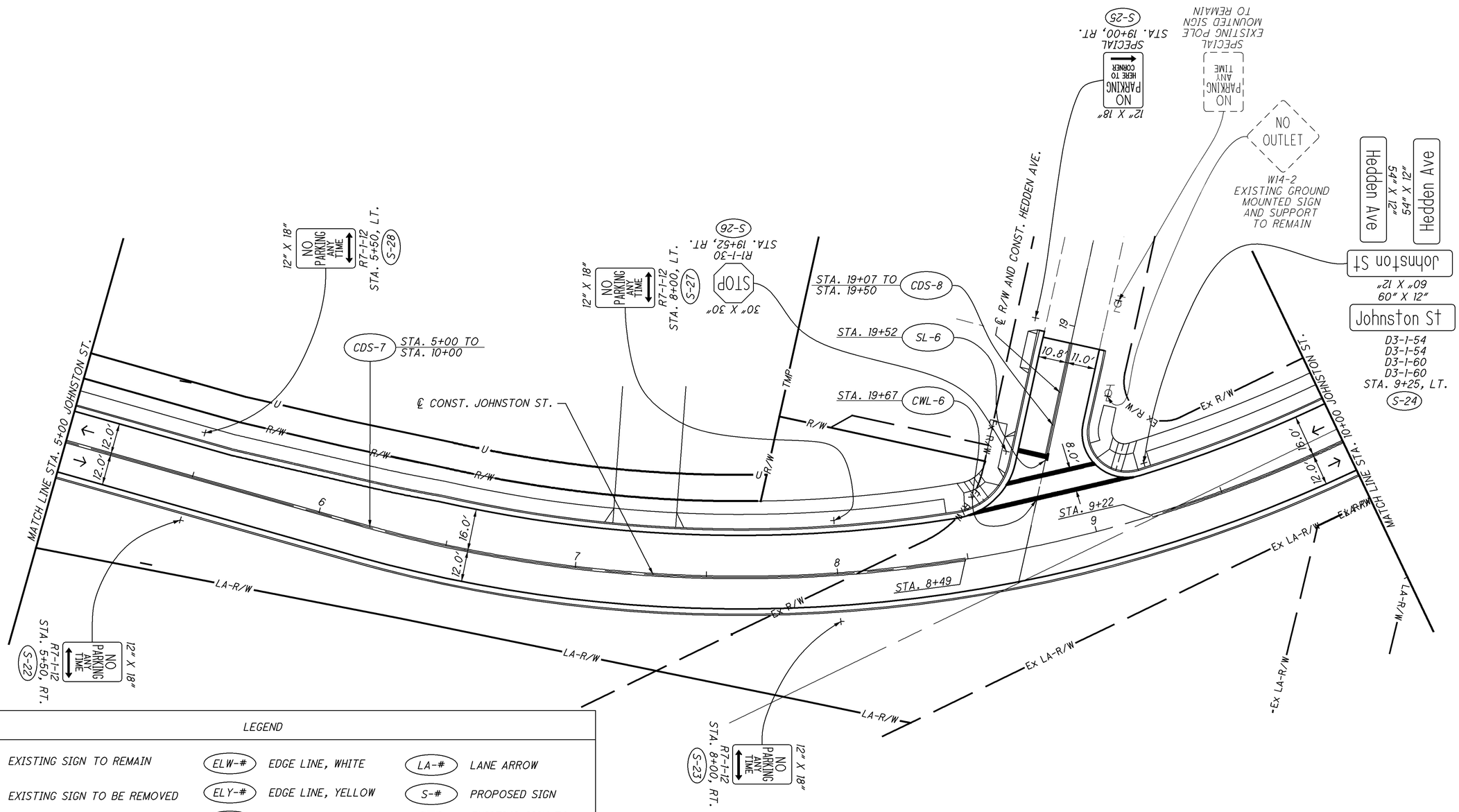
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KRM
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN
JOHNSTON ST. STA. 1+00 TO STA. 5+00

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

FOR SIGNING REMOVAL PLANS FOR JOHNSTON ST. AND HEDDEN AVE., SEE SHEETS 436-438.

HORIZONTAL SCALE IN FEET
0 10 20 40

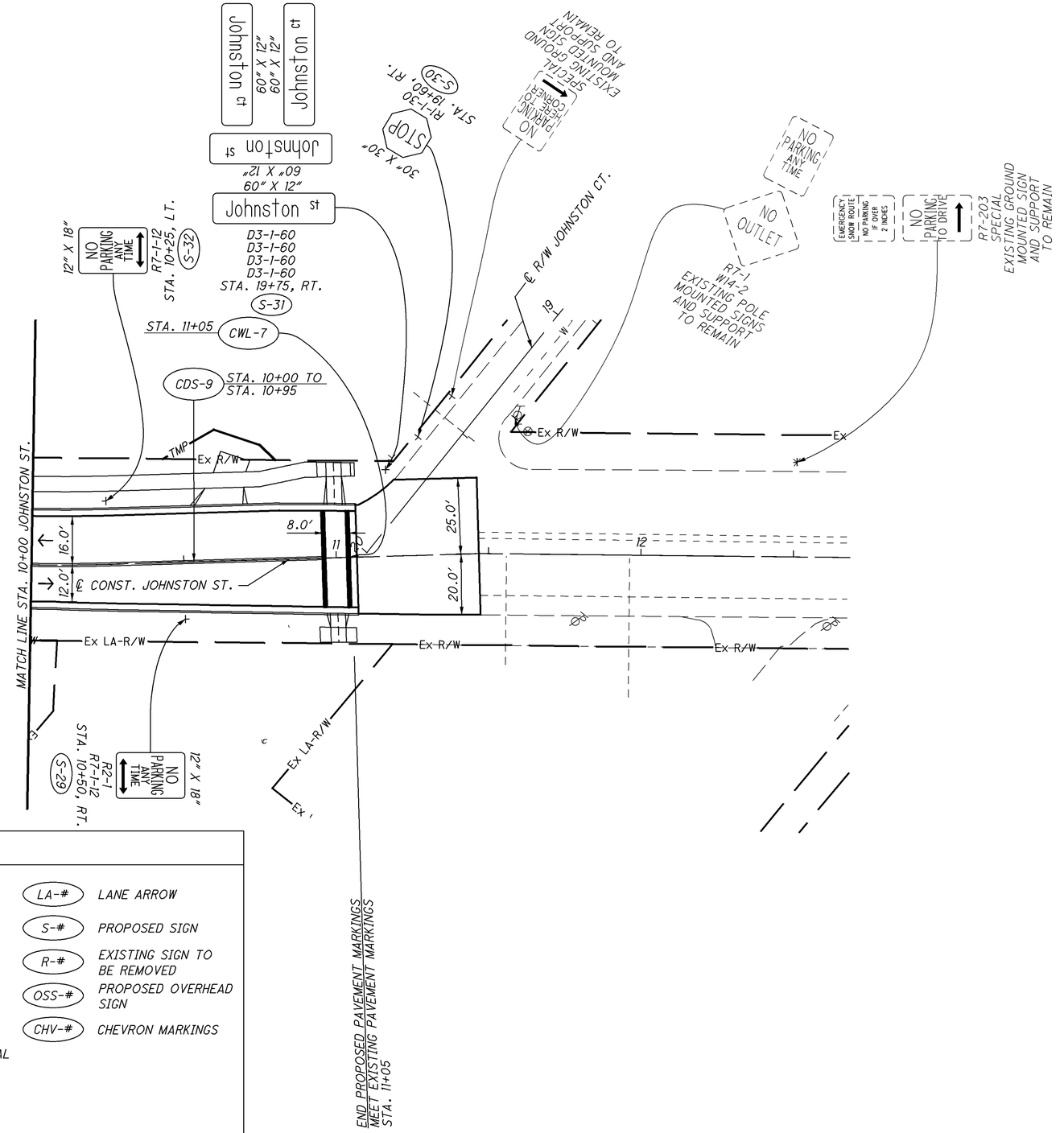
CALCULATED KRM
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PAVEMENT MARKING AND SIGNAGE PLAN
JOHNSTON ST. - STA. 5+00 TO STA. 10+00

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

FOR SIGNING REMOVAL PLANS FOR JOHNSTON ST. AND JOHNSTON CT., SEE SHEETS 436-438.

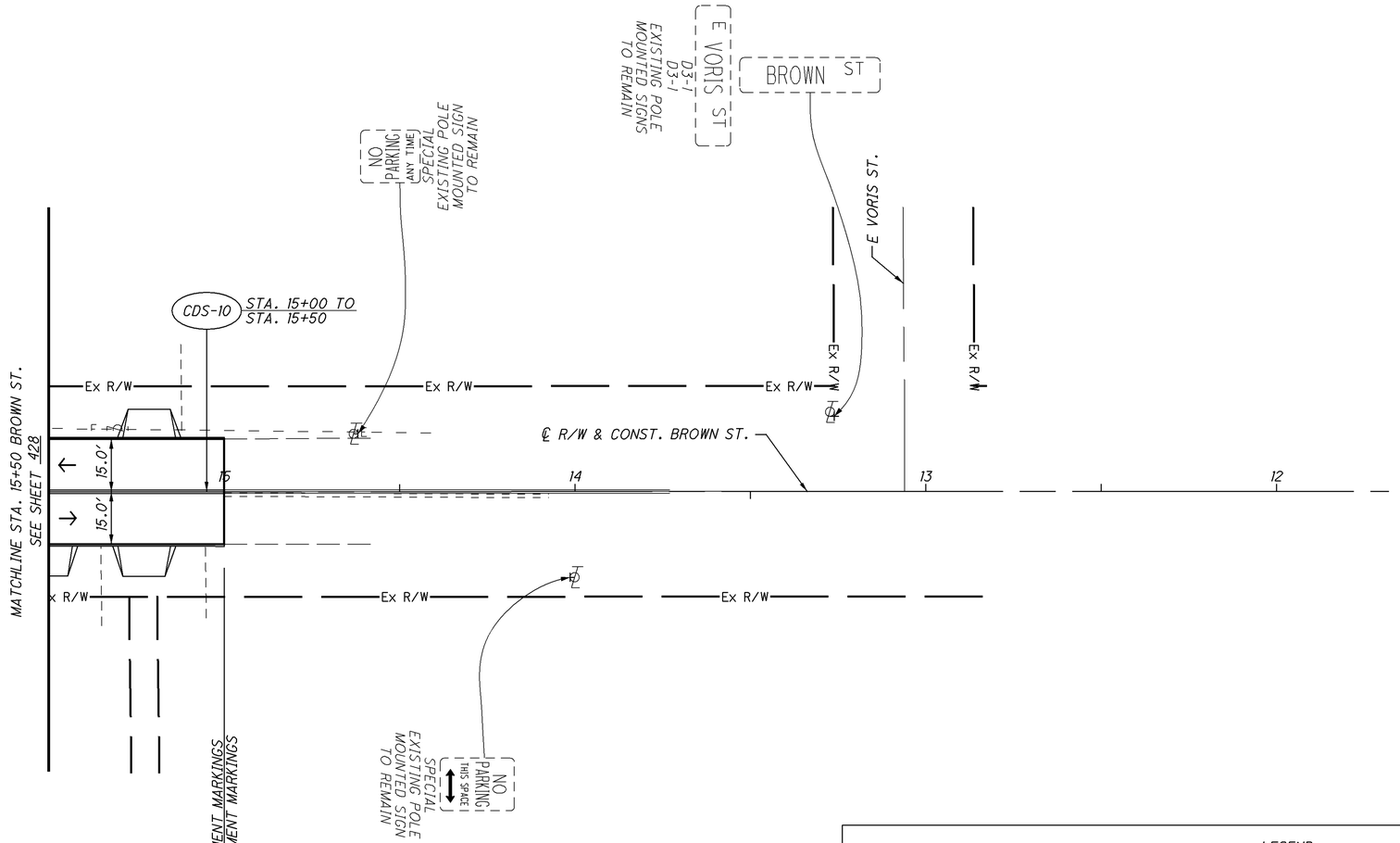
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KRM
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN
JOHNSTON ST. - STA. 10+00 TO END

SUM-76/77-11.27/12.12

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LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

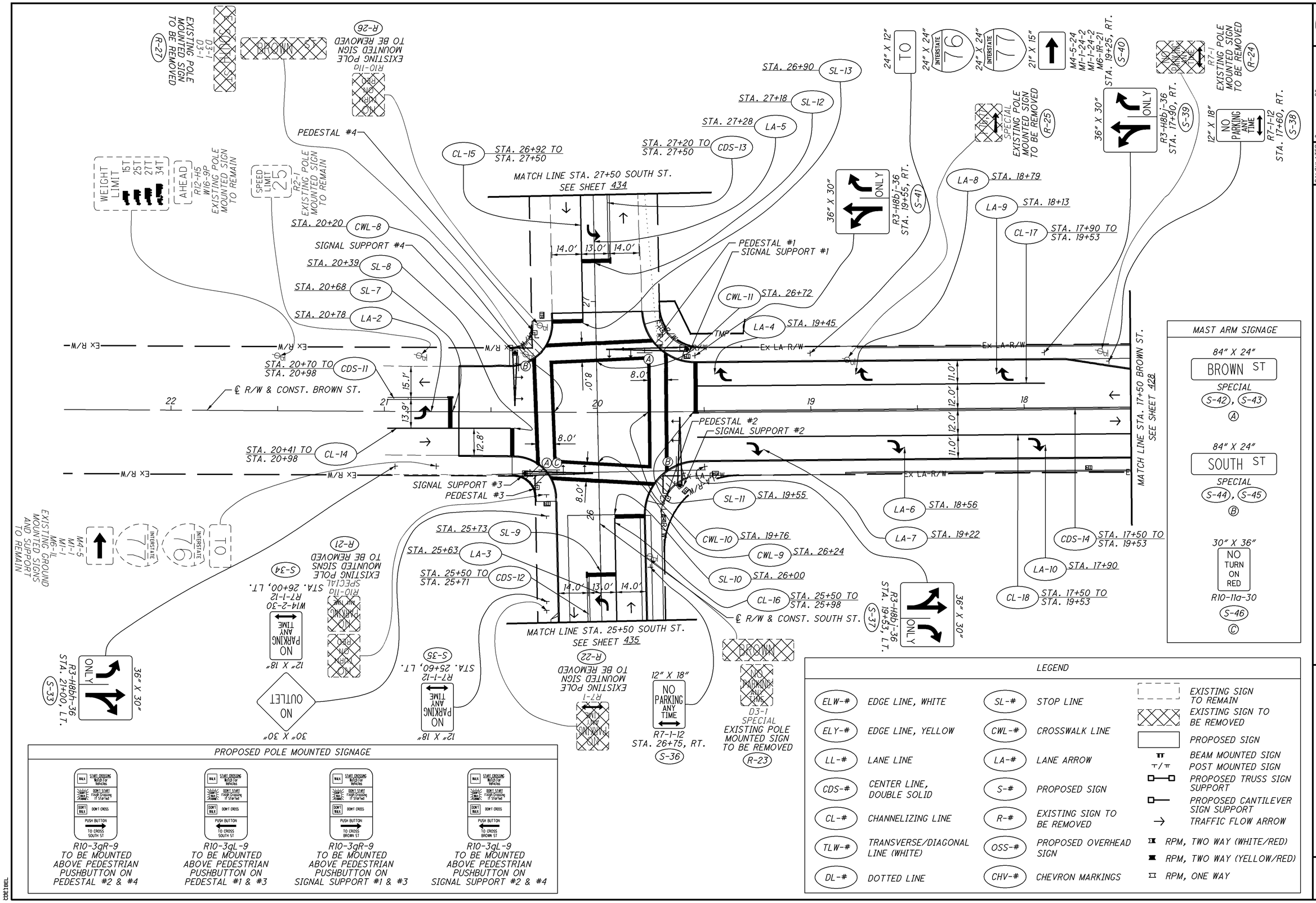
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CALCULATED KRM
CHECKED AKF

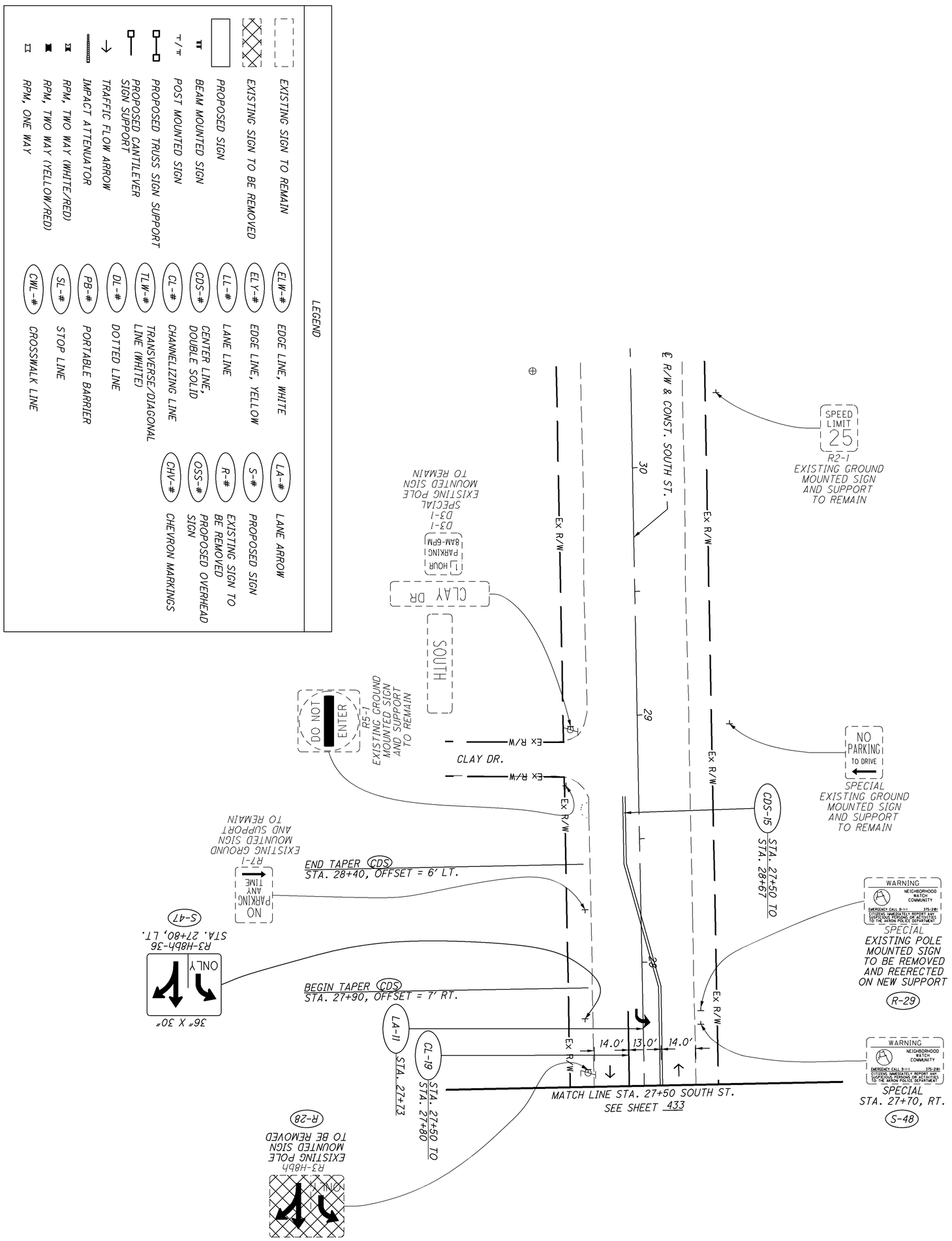
PAVEMENT MARKING AND SIGNAGE PLAN
BROWN ST. - STA. 15+50 TO END

SUM-76/77-11.27/12.12

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EXISTING POLE MOUNTED SIGN TO BE REMOVED (R-27)
D3-1
BROWN ST
EXISTING POLE MOUNTED SIGN TO BE REMOVED (R-26)
R10-11d
PEDESTAL #4
WEIGHT LIMIT 15T 25T 27T 34T
AHEAD
R12-H5
W16-9P
EXISTING POLE MOUNTED SIGN TO REMAIN
SPEED LIMIT 25
R2-1
EXISTING POLE MOUNTED SIGN TO REMAIN
STA. 20+20 CWL-8
SIGNAL SUPPORT #4
STA. 20+39 SL-8
STA. 20+68 SL-7
STA. 20+78 LA-2
STA. 20+70 TO STA. 20+98 CDS-11
℄ R/W & CONST. BROWN ST.
STA. 20+41 TO STA. 20+98 CL-14
SIGNAL SUPPORT #3
PEDESTAL #3
EX R/W
MATCH LINE STA. 27+50 SOUTH ST. SEE SHEET 434
CL-15 STA. 26+92 TO STA. 27+50
STA. 27+20 TO STA. 27+50 CDS-13
STA. 27+28 LA-5
STA. 27+18 SL-12
STA. 26+90 SL-13
14.0' 13.0' 14.0'
PEDESTAL #1
SIGNAL SUPPORT #1
CWL-11 STA. 26+72
LA-4 STA. 19+45
TMP
Ex LA R/W
PEDESTAL #2
SIGNAL SUPPORT #2
SL-11 STA. 19+55
CWL-10 STA. 19+76
CWL-9 STA. 26+24
SL-10 STA. 26+00
CL-16 STA. 25+50 TO STA. 25+98
℄ R/W & CONST. SOUTH ST.
MATCH LINE STA. 25+50 SOUTH ST. SEE SHEET 435
STA. 25+73 SL-9
STA. 25+63 LA-3
STA. 25+50 TO STA. 25+71 CDS-12
LA-6 STA. 18+56
LA-7 STA. 19+22
LA-8 STA. 18+79
LA-9 STA. 18+13
CL-17 STA. 17+90 TO STA. 19+53
CDS-14 STA. 17+50 TO STA. 19+53
LA-10 STA. 17+90
CL-18 STA. 17+50 TO STA. 19+53
MATCH LINE STA. 17+50 BROWN ST. SEE SHEET 428
24" X 12" TO
24" X 24" INTERSTATE 76
24" X 24" INTERSTATE 77
21" X 15"
M4-5-24
M1-1-24-2
M1-1-24-2
M6-1R-21
STA. 19+25, RT. S-40
SPECIAL EXISTING POLE MOUNTED SIGN TO BE REMOVED (R-25)
36" X 30" ONLY
R3-H8bj-36
STA. 17+90, RT. S-39
R7-1
EXISTING POLE MOUNTED SIGN TO BE REMOVED (R-24)
12" X 18" NO PARKING ANY TIME
R7-1-12
STA. 17+60, RT. S-38
36" X 30" ONLY
R3-H8bj-36
STA. 19+55, RT. S-41
36" X 30" ONLY
R3-H8bj-36
STA. 19+53, LT. S-37
EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO REMAIN
M6-1L
M1-1
M1-1
M4-5
INTERSTATE 77
INTERSTATE 76
TO
36" X 30" ONLY
R3-H8bj-36
STA. 2+00, LT. S-33
30" X 30" NO OUTLET
12" X 18" NO PARKING ANY TIME
W14-2-30
R7-1-12
STA. 26+00, LT. S-34
EXISTING POLE MOUNTED SIGNS TO BE REMOVED (R-21)
R10-11d
SPECIAL
NO PARKING ANY TIME
12" X 18" NO PARKING ANY TIME
R7-1-12
STA. 25+60, LT. S-35
EXISTING POLE MOUNTED SIGN TO BE REMOVED (R-22)
12" X 18" NO PARKING ANY TIME
R7-1-12
STA. 26+75, RT. S-36
BROWN ST
NO PARKING ANY TIME
D3-1
SPECIAL
EXISTING POLE MOUNTED SIGN TO BE REMOVED (R-23)
MAST ARM SIGNAGE
84" X 24" BROWN ST
SPECIAL (S-42), (S-43) Ⓐ
84" X 24" SOUTH ST
SPECIAL (S-44), (S-45) Ⓑ
30" X 36" NO TURN ON RED
R10-11a-30 (S-46) Ⓒ
22
21'
15.1'
13.9'
20
19
18
12.8'
8.0'
26
11.0'
12.0'
14.0'
13.0'
14.0'
8.0'
8.0'
8

\\AKRN03\DATA\2010\2010297\SUM\86979\TRAFFIC\SHEETS\86979TP007.DGN
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SUM-76/77-11.27/12.12

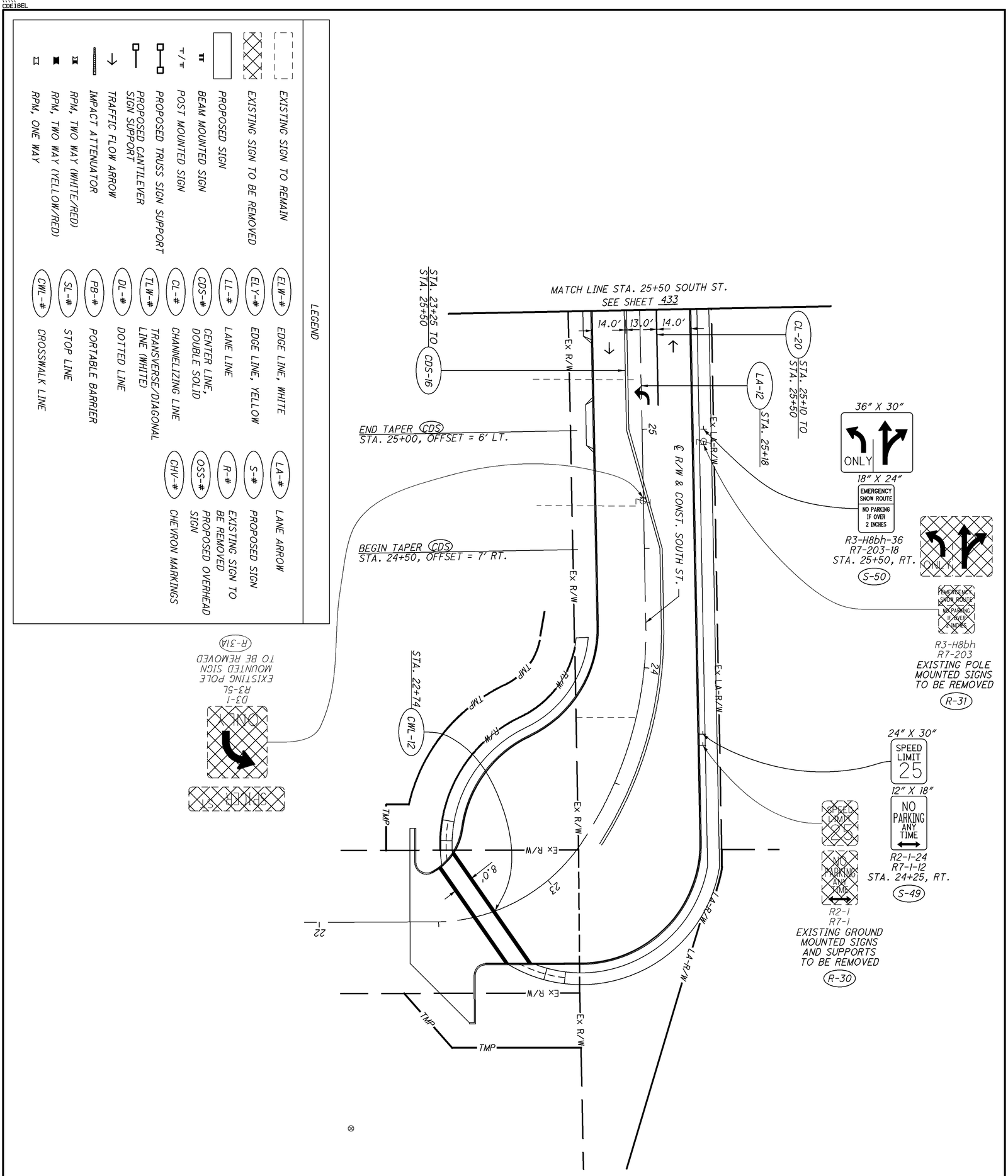
PAVEMENT MARKING AND SIGNAGE PLAN
SOUTH ST. - BEGIN TO STA. 27+50

CALCULATED KRM
CHECKED AKF

0 10 20 40
HORIZONTAL SCALE IN FEET

N

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435 / 652	SUM-76/77-11.27/12.12	PAVEMENT MARKING AND SIGNAGE PLAN SOUTH ST. - STA. 25+50 TO END	CALCULATED KRM CHECKED AKF	0 20 10 40 HORIZONTAL SCALE IN FEET

SIGN REMOVAL PLAN - SPICER ST.
STA. 17+00 TO END

SUM-76/77-11.27/12.12

436
652

CALCULATED KRM
CHECKED AKF

0 10 20 40
HORIZONTAL SCALE IN FEET

N

EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED
R7-5
R-39

OLD ℄ R/W & CONST. SPICER ST.
OLD ℄ R/W & CONST. JOHNSTON ST.
MATCH LINE STA. 21+00 EX. JOHNSTON ST.

EXISTING POLE MOUNTED SIGNS TO BE REMOVED
D3-1
D3-1
R-40

EXISTING OVERHEAD MOUNTED SIGN TO BE REMOVED
R3-5L
R-41

EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED
SPECIAL
R-42

EXISTING STRUCTURE MOUNTED SIGNS TO BE REMOVED
M1-4
M6-1R
R-36

EXISTING STRUCTURE MOUNTED SIGN TO BE REMOVED
R7-1
R-37

EXISTING POLE MOUNTED SIGNS TO BE REMOVED
SPECIAL
R2-1
R-38

EXISTING GROUND MOUNTED SIGN AND SUPPORT TO BE REMOVED
R7-1
R-35

EXISTING POLE MOUNTED SIGNS TO BE REMOVED
D3-1
D3-1
R-34

EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO BE REMOVED
W1-8L
OM-3L
R-33

EXISTING GROUND MOUNTED SIGNS AND SUPPORT TO BE REMOVED
W1-8L
OM-3L
R-32

Ex R/W
Ex LA-R/W
TMP
EX A
EX L
21
23
20
19
18

LEGEND

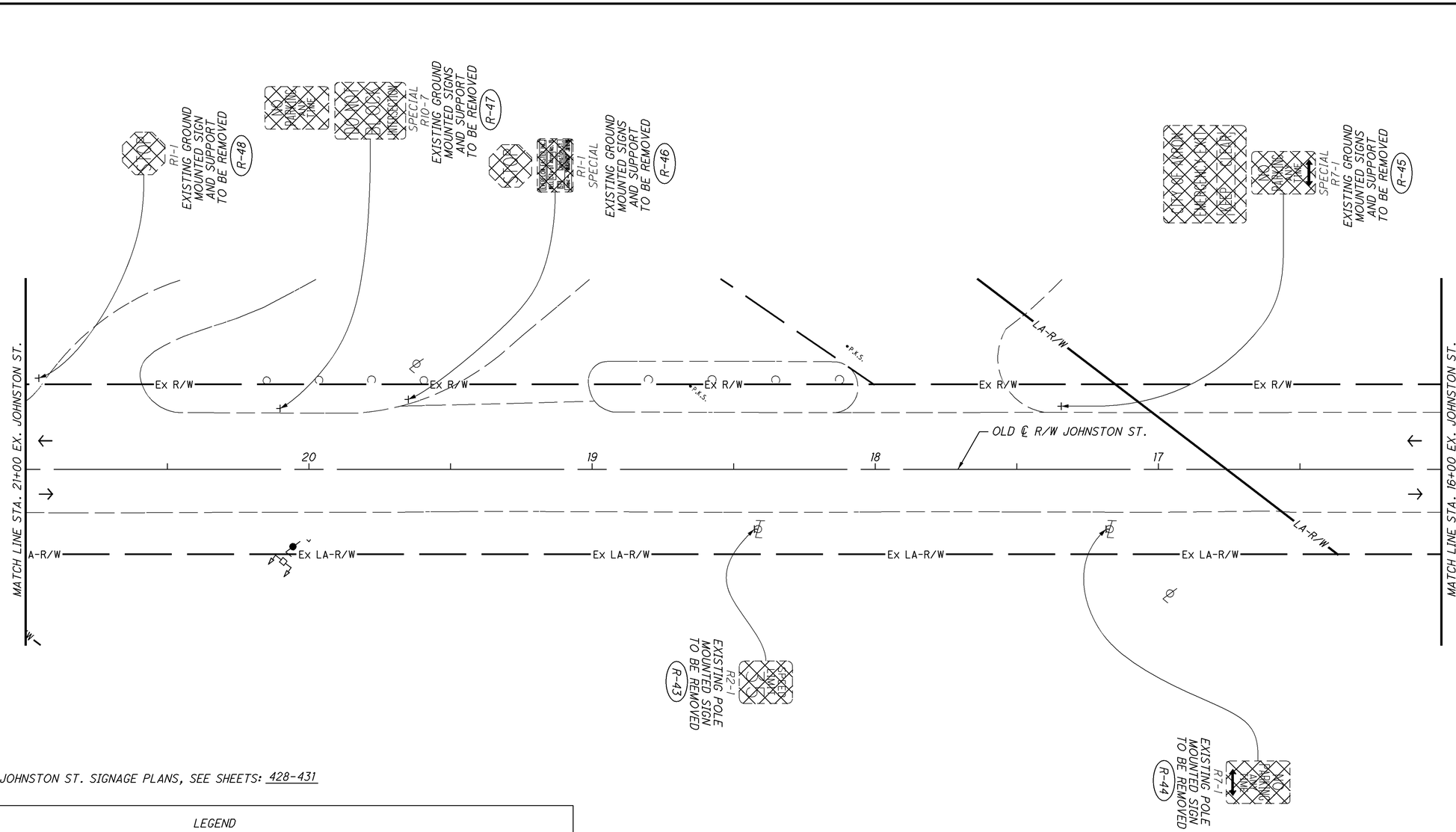
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN
	BEAM MOUNTED SIGN
	POST MOUNTED SIGN
	PROPOSED TRUSS SIGN SUPPORT
	PROPOSED CANTILEVER SIGN SUPPORT
	TRAFFIC FLOW ARROW
	IMPACT ATTENUATOR
	RPM, TWO WAY (WHITE/RED)
	RPM, TWO WAY (YELLOW/RED)
	RPM, ONE WAY

ELW-#	EDGE LINE, WHITE
ELY-#	EDGE LINE, YELLOW
LL-#	LANE LINE
CDS-#	CENTER LINE, DOUBLE SOLID
CL-#	CHANNELIZING LINE
TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)
DL-#	DOTTED LINE
PB-#	PORTABLE BARRIER
SL-#	STOP LINE
CWL-#	CROSSWALK LINE

LA-#	LANE ARROW
S-#	PROPOSED SIGN
R-#	EXISTING SIGN TO BE REMOVED
OSS-#	PROPOSED OVERHEAD SIGN
CHV-#	CHEVRON MARKINGS

NOTE: FOR PROPOSED SIGNAGE PLANS, SEE SHEETS 429 - 431

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NOTE: FOR PROPOSED JOHNSTON ST. SIGNAGE PLANS, SEE SHEETS: 428-431

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 10 20 40

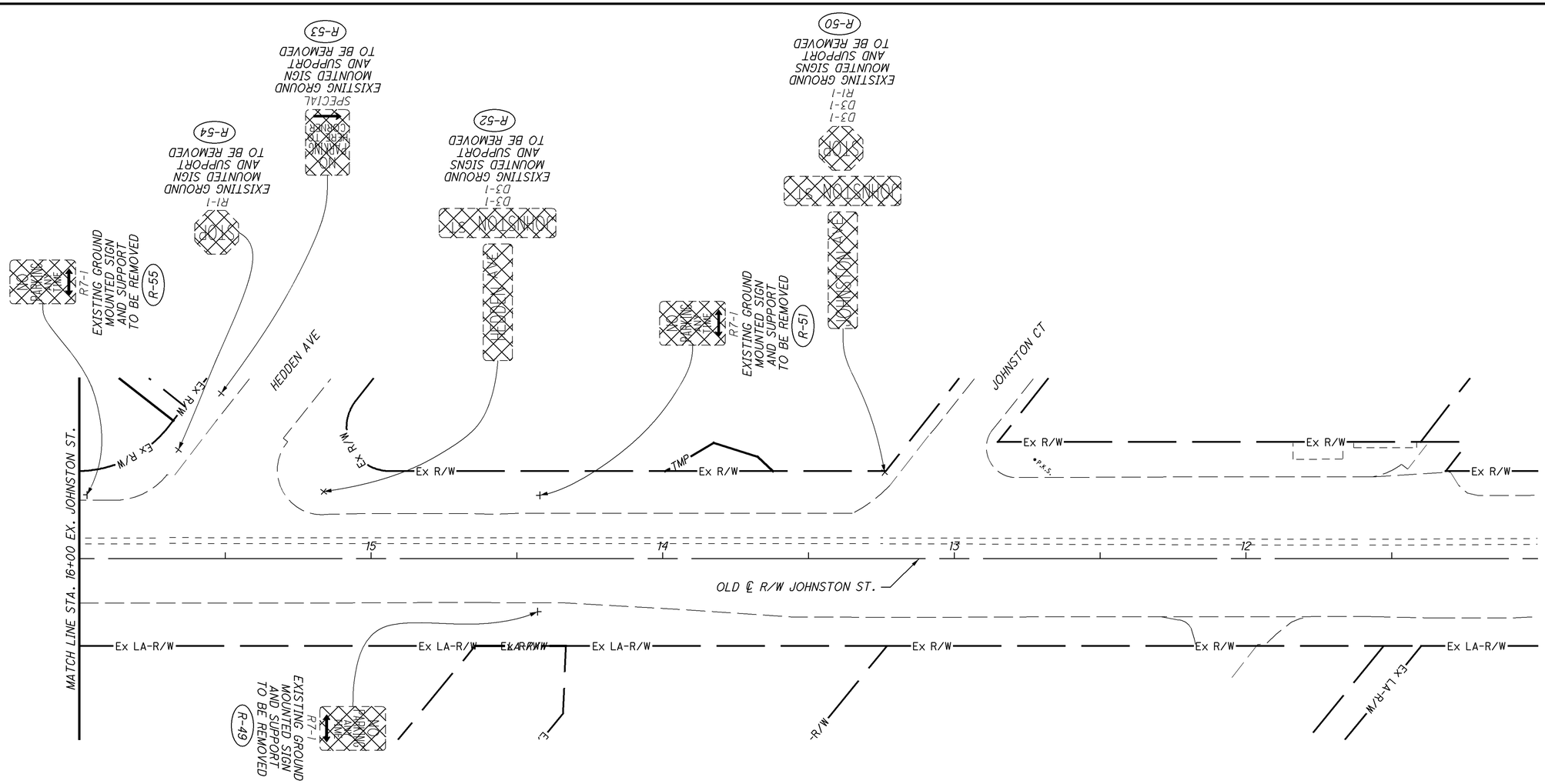
CALCULATED KRM
CHECKED AKF

SIGN REMOVAL PLAN - JOHNSTON ST. STA. 16+00 TO STA. 21+00

SUM-76/77-11.27/12.12

437
652

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9/16/2014
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NOTE: FOR PROPOSED JOHNSTON ST. SIGNAGE PLANS, SEE SHEETS 429-431

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

FOR PROPOSED SIGNING PLANS FOR JOHNSTON ST., JOHNSTON CT. AND HEDDEN AVE. SEE SHEETS 428-431

HORIZONTAL SCALE IN FEET
0 10 20 40

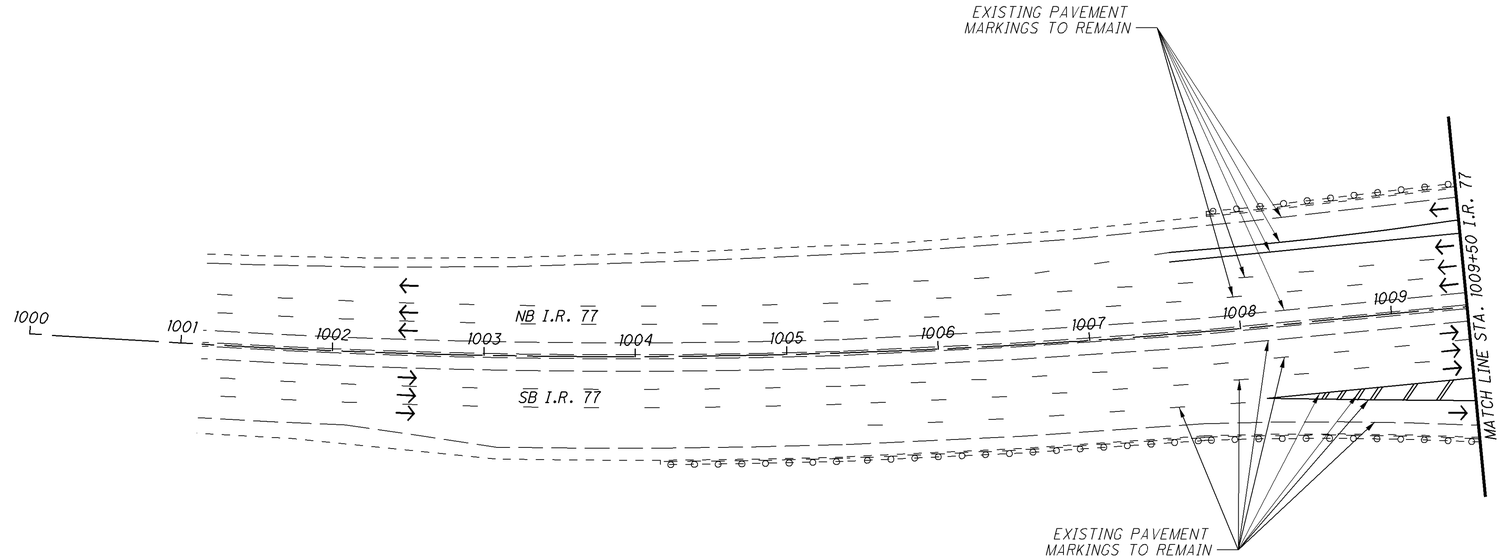
CALCULATED KRM
CHECKED AKF

SIGN REMOVAL PLAN - JOHNSTON ST. STA. 16+00 TO END

SUM-76/77-11.27/12.12

438
652

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

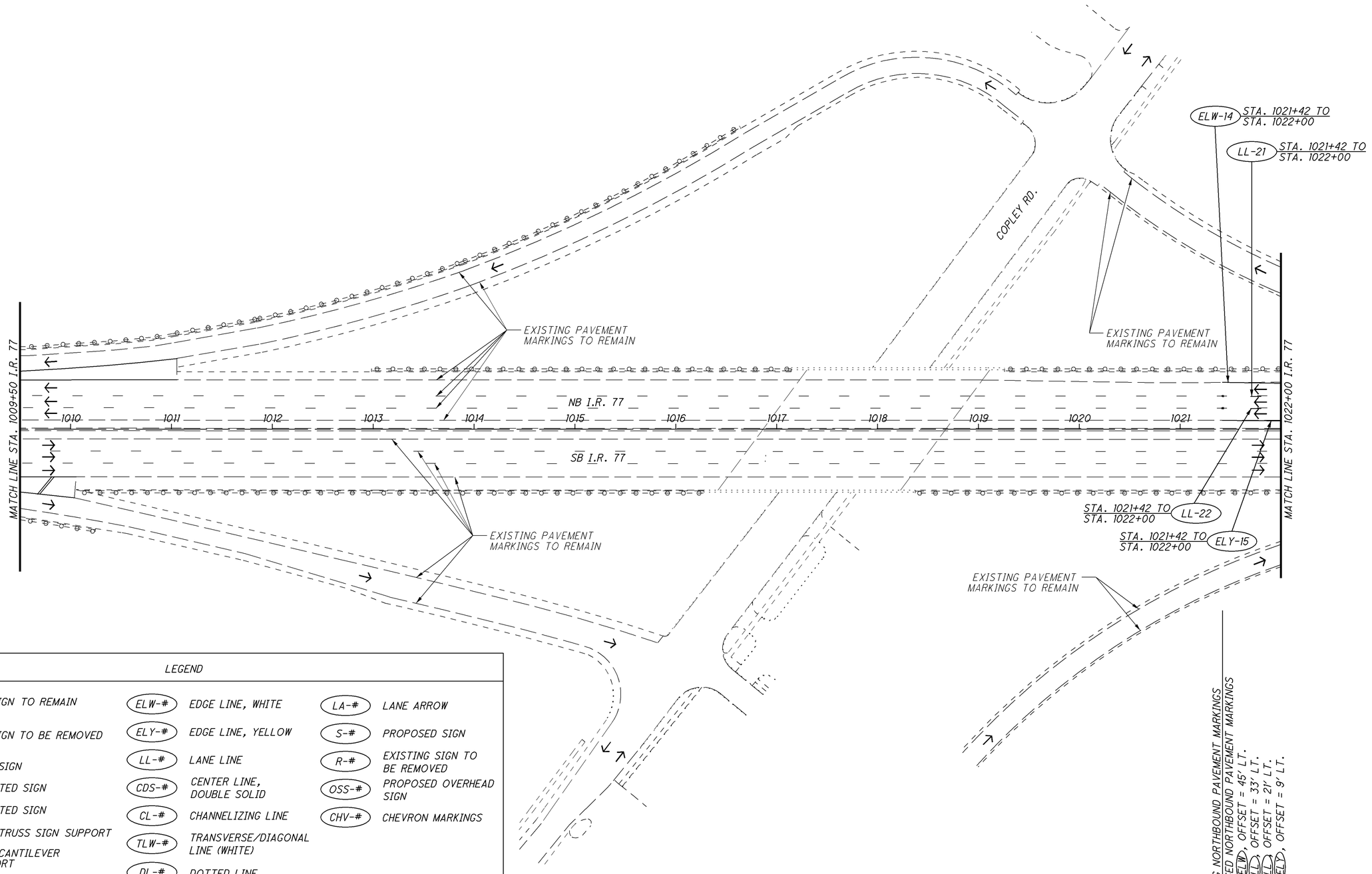
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0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
BEGIN TO STA. 1009+50

SUM-76/77-11.27/12.12



LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

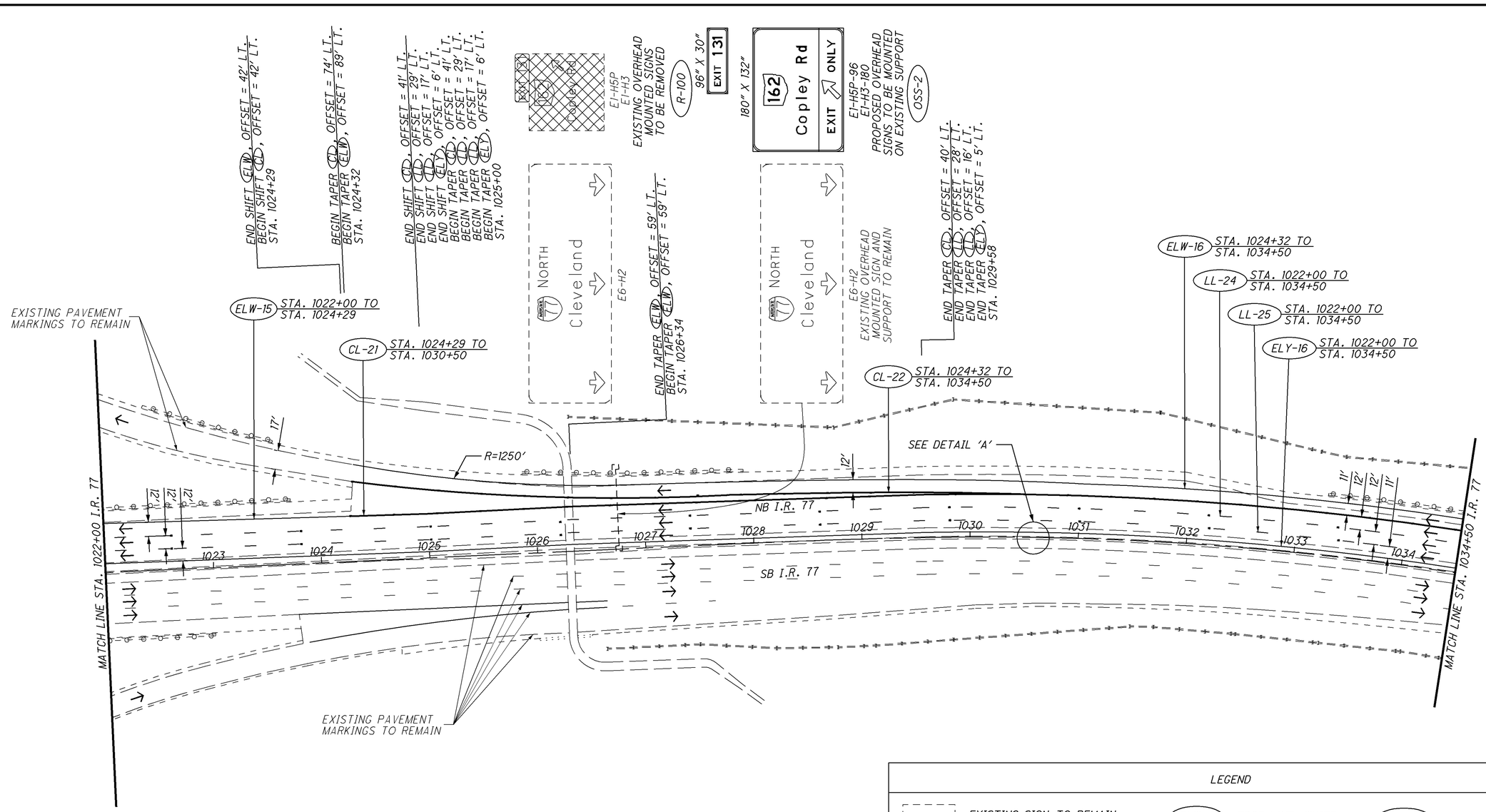
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CHECKED AKF

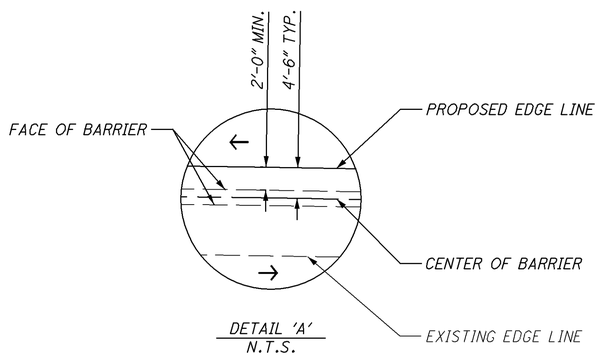
PAVEMENT MARKING AND SIGNAGE PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1009+50 TO STA. 1022+00

SUM-76/77-11.27/12.12

440
652

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DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

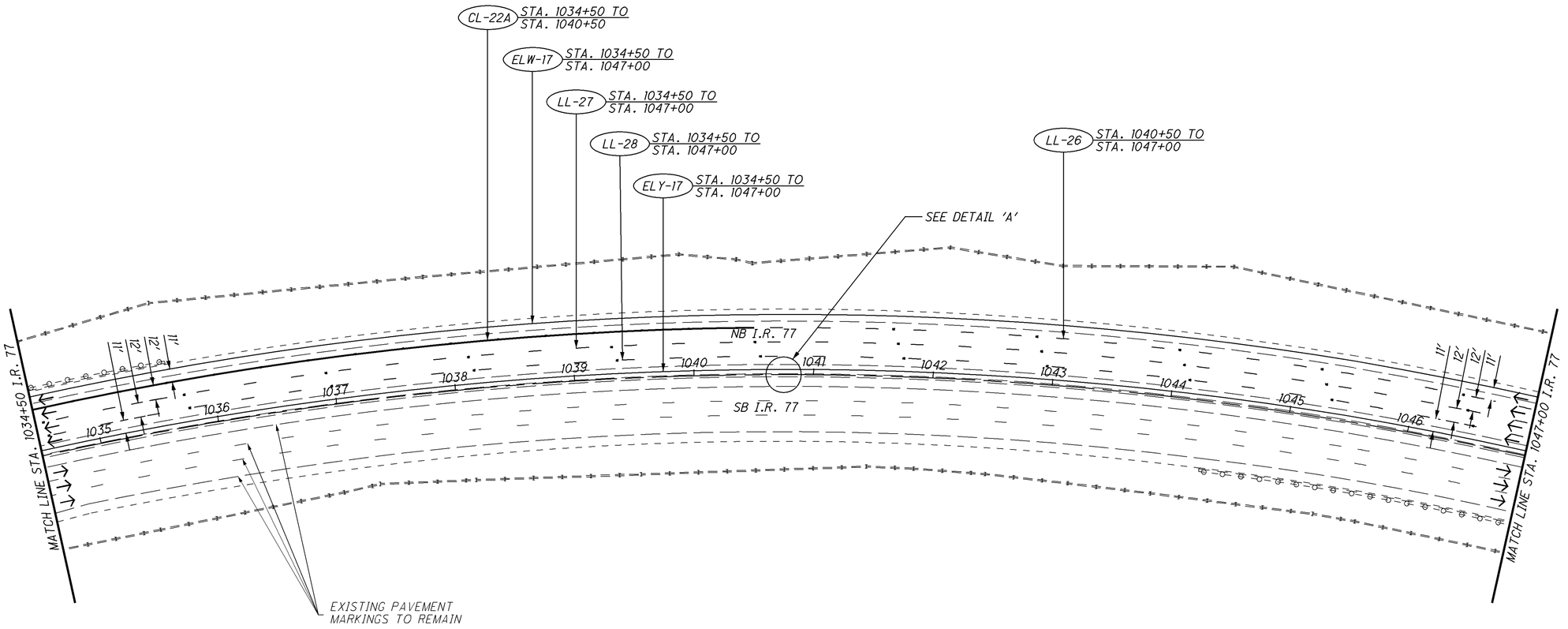
CALCULATED CRW
CHECKED AKF

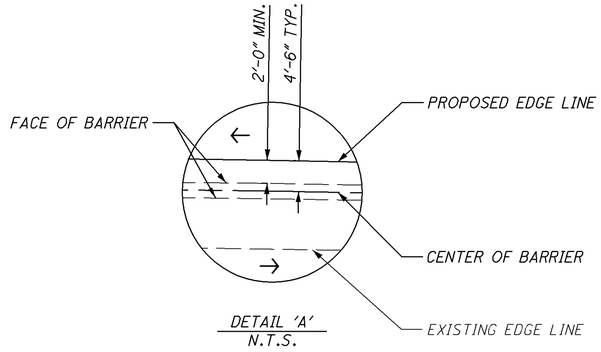
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1022+00 TO STA. 1034+50

SUM-76/77-11.27/12.12

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652

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9/16/2014
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DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1034+50 TO STA. 1047+00

SUM-76/77-11.27/12.12

442
652

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

96" X 30"
EXIT 131
180" X 132"
162
Copley Rd
EXIT ONLY
E1-H5P-96
E1-HI-180
PROPOSED OVERHEAD SIGNS TO BE MOUNTED ON EXISTING SUPPORT
OSS-3

EXIT 132
162
COPLEY RD
¼ MILE
E1-H5P
E1-HI
EXISTING OVERHEAD MOUNTED SIGNS TO BE REMOVED
R-101

ELW-18 STA. 1047+00 TO STA. 1059+50
LL-29 STA. 1047+00 TO STA. 1059+50
LL-30 STA. 1047+00 TO STA. 1059+50
LL-31 STA. 1047+00 TO STA. 1059+50
ELY-18 STA. 1047+00 TO STA. 1059+50

STONER ST.

MATCH LINE STA. 1047+00 I.R. 77

MATCH LINE STA. 1059+50 I.R. 77

SEE DETAIL 'A'

NB I.R. 77

SB I.R. 77

1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059

11' 12' 12' 11'

EXISTING PAVEMENT MARKINGS TO REMAIN

EXISTING GROUND MOUNTED SIGNS AND SUPPORTS TO REMAIN

Kenmore Blvd
Barberton
SECOND RIGHT
E1-H5P
E1-HI
EXIT 129

WEST TO
76 277
Canton
1 MILE
E1-H5P
E1-HI
EXIT 129

EXISTING BRIDGE MOUNTED OVERHEAD SIGNS TO REMAIN

261
Vernon Odom Blvd
¾ MILE
E1-H5P
E1-HI
EXIT 130

2'-0" MIN.
4'-6" TYP.
FACE OF BARRIER
PROPOSED EDGE LINE
CENTER OF BARRIER
EXISTING EDGE LINE

DETAIL 'A'
N.T.S.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1047+00 TO STA. 1059+50

SUM-76/77-11.27/12.12

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DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

N

0 25 50 100 HORIZONTAL SCALE IN FEET

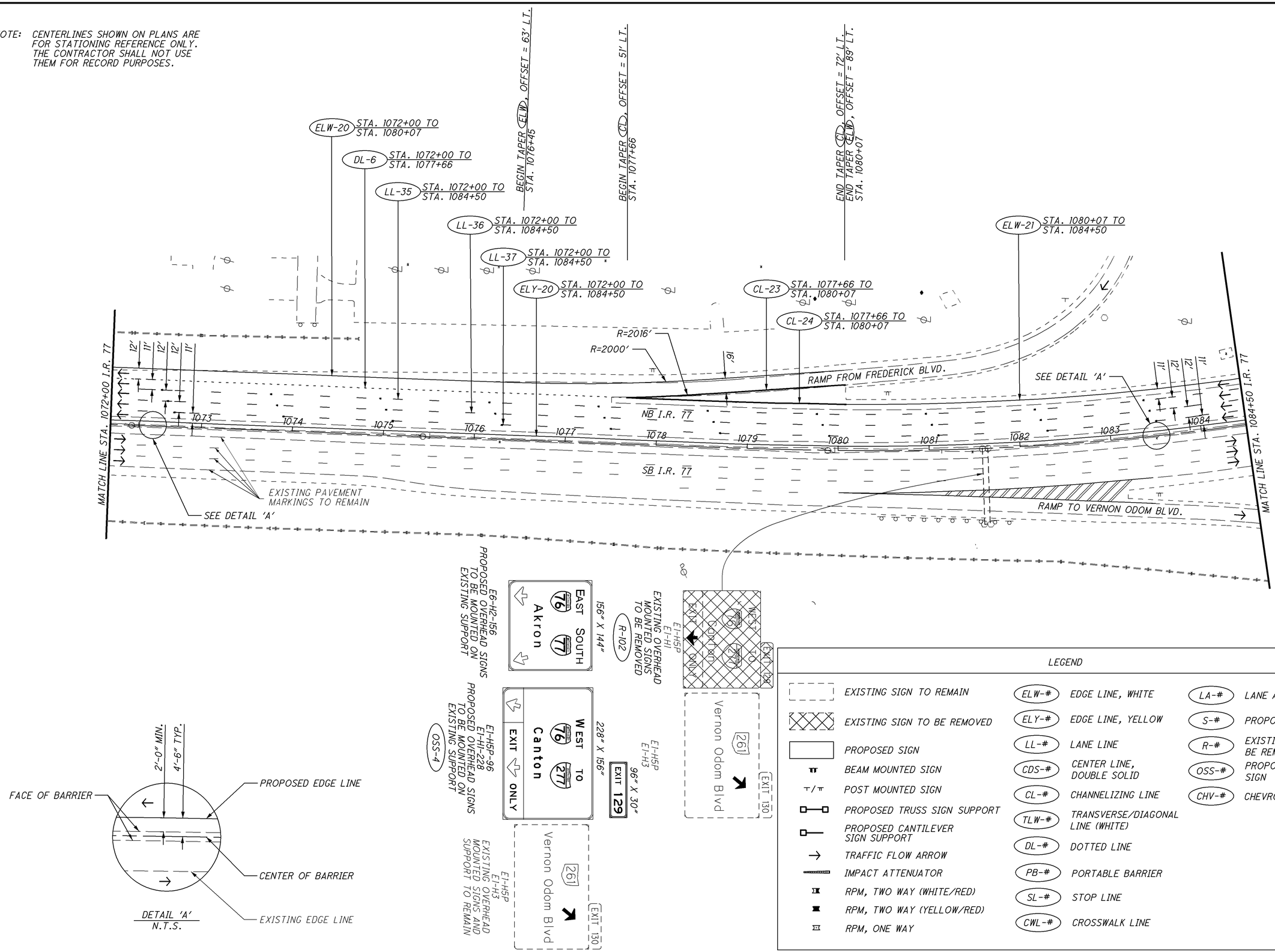
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1059+50 TO STA. 1072+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



DETAIL 'A'
N.T.S.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

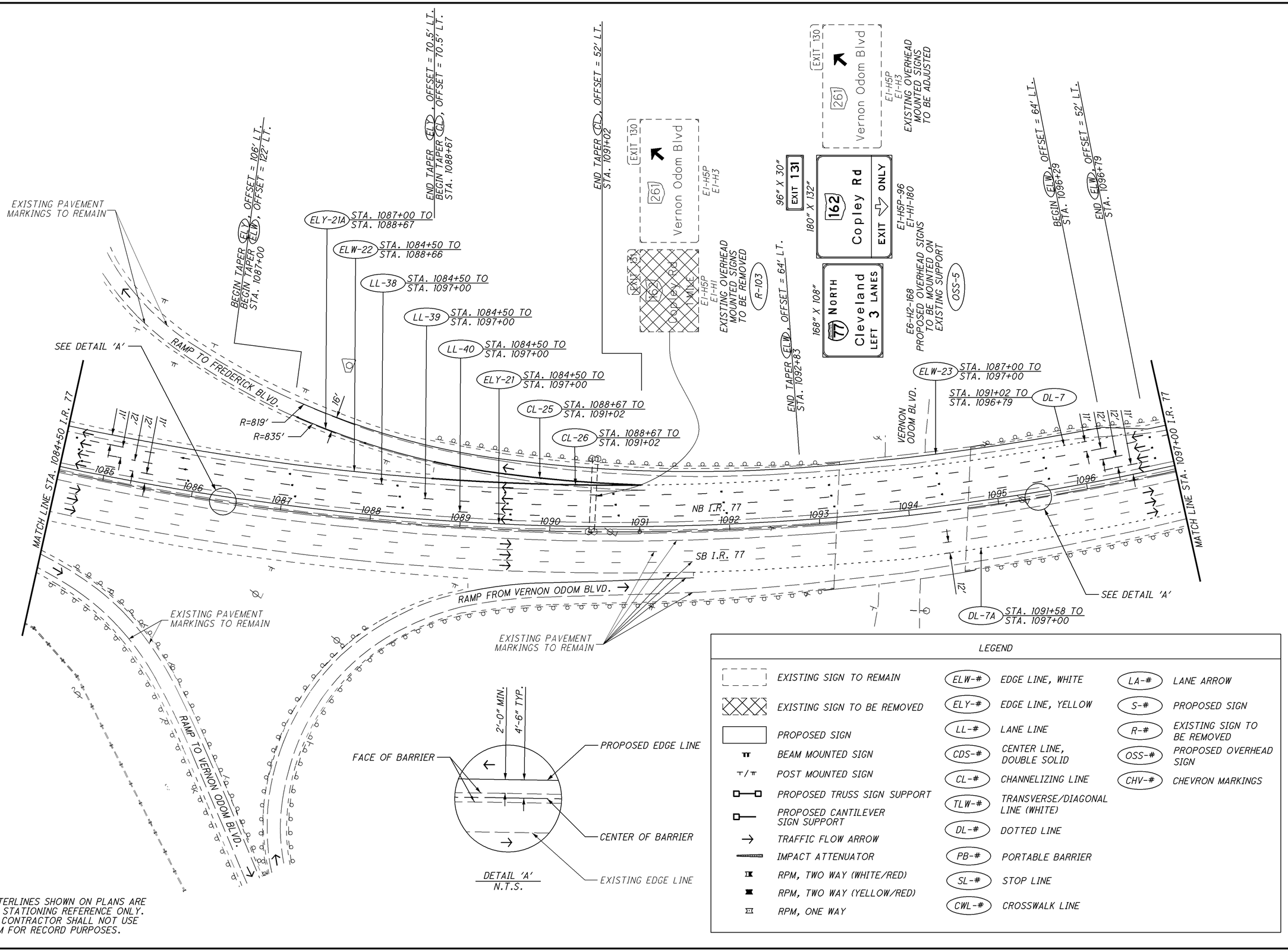
CALCULATED CRW
CHECKED AKF

PAVEMENT MAKRING AND SIGNAGE PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1072+00 TO STA. 1084+50

SUM-76/77-11.27/12.12

445
652

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CDEIBEL



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

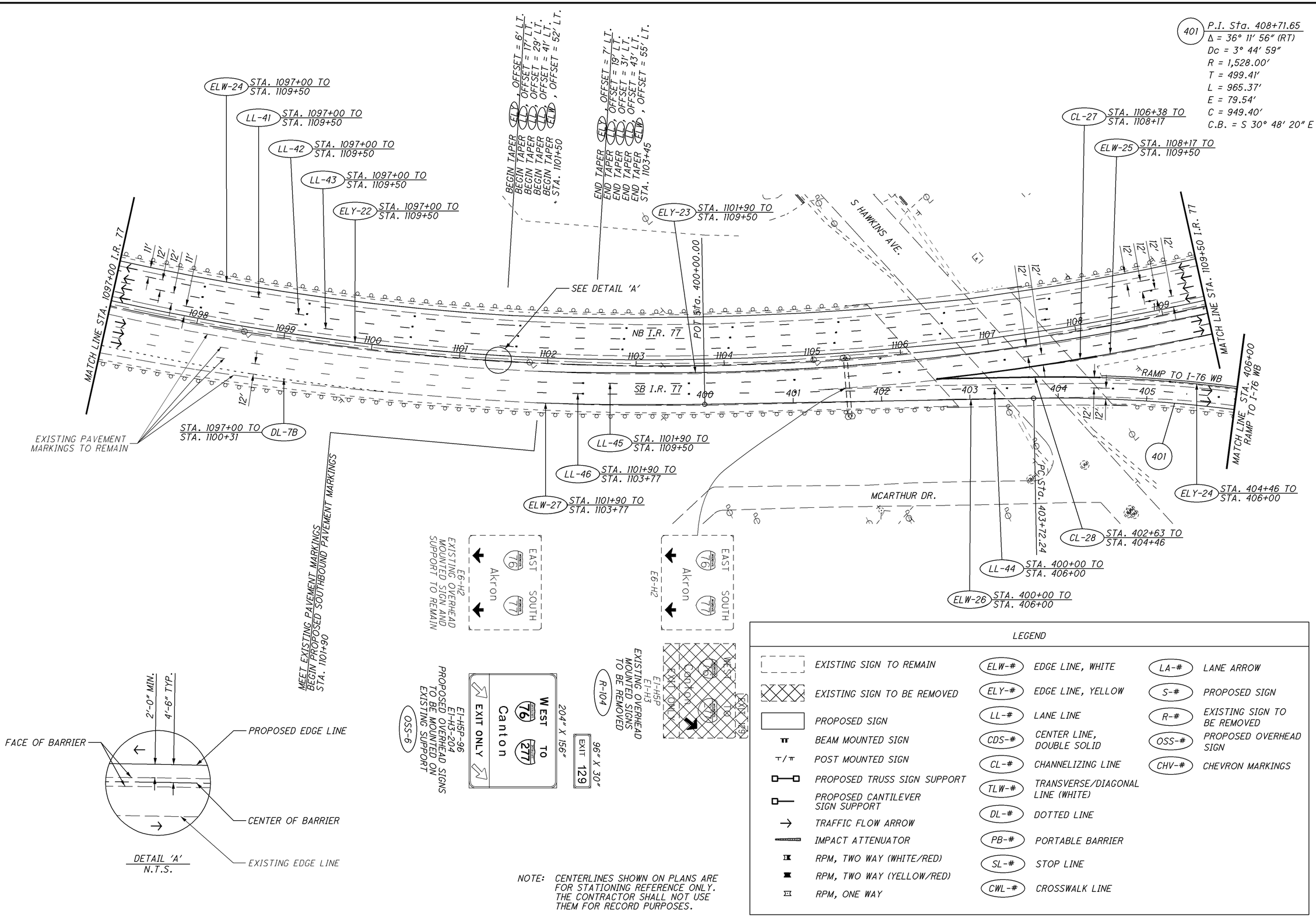
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1084+50 TO STA. 1097+00

SUM-76/77-11.27/12.12

446
652

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HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1097+00 TO STA. 1109+50

SUM-76/77-11.27/12.12

447
652

NOTE: 1. CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

2. SEE PREVIOUS SHEET FOR TRAFFIC CONTROL LEGEND.

602 P.I. Sta. 609+38.03
Δ = 96° 55′ 03″ (RT)
Dc = 10° 59′ 50″
R = 521.00′
T = 588.03′
L = 881.29′
E = 264.63′
C = 779.92′
C.B. = N 54° 59′ 52″ E

EXISTING PAVEMENT MARKINGS TO REMAIN

STA. 602+00 TO STA. 619+02 ELY-27

END CURVE WIDENING (LL) OFFSET = 9′ LT.
END CURVE WIDENING (ELW), OFFSET = 6′ RT.
STA. 612+86

603 P.I. Sta. 613+63.70
Δ = 56° 46′ 47″ (RT)
Dc = 23° 23′ 10″
R = 245.00′
T = 132.41′
L = 242.79′
E = 33.49′
C = 232.98′
C.B. = S 48° 09′ 13″ E

604 P.I. Sta. 617+70.78
Δ = 101° 49′ 43″ (RT)
Dc = 23° 46′ 27″
R = 241.00′
T = 296.70′
L = 428.32′
E = 141.25′
C = 374.13′
C.B. = S 31° 09′ 02″ W

605 P.I. STA. 619+70.18
Ls = 200.00′
f s = 23° 46′ 27″
LT = 134.56′
ST = 67.78′
x = 196.58′
y = 27.32′
k = 99.43′
p = 6.87′

I.R. 76 WB

STA. 602+00 TO STA. 621+02 ELW-30

STA. 602+00 TO STA. 621+02 LL-51

PC Sta. 612+31.29, 28.00′ RT.
ST Sta. 612+31.29

OFFSET = 6′ RT. TO 9′ LT.

PCC Sta. 614+74.08

BEGIN CURVE WIDENING (ELW), OFFSET = 6′ RT.
BEGIN CURVE WIDENING (LL), OFFSET = 9′ LT.
STA. 619+02

CS Sta. 619+02.40

END PROPOSED PAVEMENT MARKINGS
MEET EXISTING PAVEMENT MARKINGS
STA. 1110+10

EXIT 130
261
Vernon Odom Blvd
½ MILE
E1-H5P
E1-HI
EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN

BEGIN TAPER (ELW), OFFSET = 54′ LT.
BEGIN TAPER (LL), OFFSET = 42′ LT.
BEGIN TAPER (CL), OFFSET = 30′ LT.
STA. 115+00

END TAPER (ELW), OFFSET = 58′ LT.
END TAPER (LL), OFFSET = 46′ LT.
END TAPER (CL), OFFSET = 34′ LT.
STA. 1116+40

END CURVE WIDENING (ELW), OFFSET = 8′
END CURVE WIDENING (LL), OFFSET = 12′ LT.
END CURVE WIDENING (CL), OFFSET = 24′ LT.
ST Sta. 621+02.40

MEET EXISTING PAVEMENT MARKINGS
BEGIN PROPOSED PAVEMENT (ELW), OFFSET = 10′ RT.
BEGIN TAPER (LL), OFFSET = 22′ RT.
BEGIN TAPER (CL), OFFSET= 34′ RT.
BEGIN TAPER (ELY), OFFSET = 46′ RT.
STA. 1120+25

CL-31 STA. 512+41 TO STA. 513+58

ELW-29 STA. 1109+50 TO STA. 1116+40

LL-48 STA. 1109+50 TO STA. 1116+40

LL-49 STA. 1109+50 TO STA. 1115+00

LL-50 STA. 1109+50 TO STA. 1121+25

ELY-26 STA. 1109+50 TO STA. 1121+25

CL-29 STA. 1115+00 TO STA. 1118+50

CL-30 STA. 1115+00 TO STA. 1118+50

EXISTING PAVEMENT MARKINGS TO REMAIN

ELW-30A STA. 1118+50 TO STA. 1121+25

MATCH LINE STA. 1122+00 I.R. 77

SC Sta. 603+50.00

SEE DETAIL 'A'

MATCH LINE STA. 602+00
SEE SHEET 458.

EXISTING PAVEMENT MARKINGS TO REMAIN

I.R. 76 EB

CL-32 STA. 1120+83 TO STA. 1122+00

ELY-29 STA. 1119+97 TO STA. 1122+00

LL-52 STA. 1119+97 TO STA. 1122+00

ELW-31 STA. 1119+97 TO STA. 1120+83

ELY-30 STA. 508+00 TO STA. 512+41

LL-53 STA. 508+00 TO STA. 513+57

ELW-32 STA. 508+00 TO STA. 513+57

503 P.I. STA. 510+78.20
Ls = 500.00′
f s = 27° 29′ 35″
LT = 337.44′
ST = 170.41′
x = 488.61′
y = 78.67′
k = 248.09′
p = 19.83′

BEGIN CURVE WIDENING (LL), OFFSET = 10′ LT.
BEGIN CURVE WIDENING (ELW), OFFSET = 4′ RT.
STA. 509+08

CS Sta. 509+07.79

SEE DETAIL 'C'

MATCH LINE
STA. 508+00
SEE SHEET 458.

502 P.I. Sta. 506+76.11
Δ = 55° 50′ 36″ (RT)
Dc = 10° 59′ 50″
R = 521.00′
T = 276.11′
L = 507.79′
E = 68.64′
C = 487.93′
C.B. = N 37° 12′ 36″ E

DETAIL 'C'
N.T.S.

601 P.I. STA. 602+34.73
Ls = 350.00′
f s = 19° 14′ 43″
LT = 234.73′
ST = 117.94′
x = 346.07′
y = 38.87′
k = 174.34′
p = 9.76′

401 P.I. Sta. 408+71.65
Δ = 36° 11′ 56″ (RT)
Dc = 3° 44′ 59″
R = 1,528.00′
T = 499.41′
L = 965.37′
E = 79.54′
C = 949.40′
C.B. = S 30° 48′ 20″ E

ELY-25 STA. 1109+50 TO STA. 1110+10

LL-47 STA. 1109+50 TO STA. 1110+10

ELW-28 STA. 1109+50 TO STA. 1110+10

MATCH LINE STA. 1109+50 I.R. 77

MATCH LINE STA. 406+00
RAMP FROM I-77 SB

ELY-31 STA. 406+00 TO STA. 409+00

RAMP TO I-76 WB

STA. 406+00 TO STA. 409+00 LL-54

STA. 406+00 TO STA. 409+00 ELW-33

SEE DETAIL 'B'

MATCH LINE STA. 409+00
RAMP TO I-76 WB
SEE SHEET 458.

DETAIL 'A'
N.T.S.

DETAIL 'B'
N.T.S.

2′-0″ MIN.
4′-6″ TYP.
PROPOSED EDGE LINE
CENTER OF BARRIER
EXISTING EDGE LINE
FACE OF BARRIER

2′-0″ MIN.
12′-0″
EXISTING EDGE PAVEMENT
PROPOSED EDGE LINE
EXISTING SHOULDER

2′-0″ MIN.
14′-0″
EXISTING SHOULDER
PROPOSED EDGE LINE
EXISTING EDGE PAVEMENT

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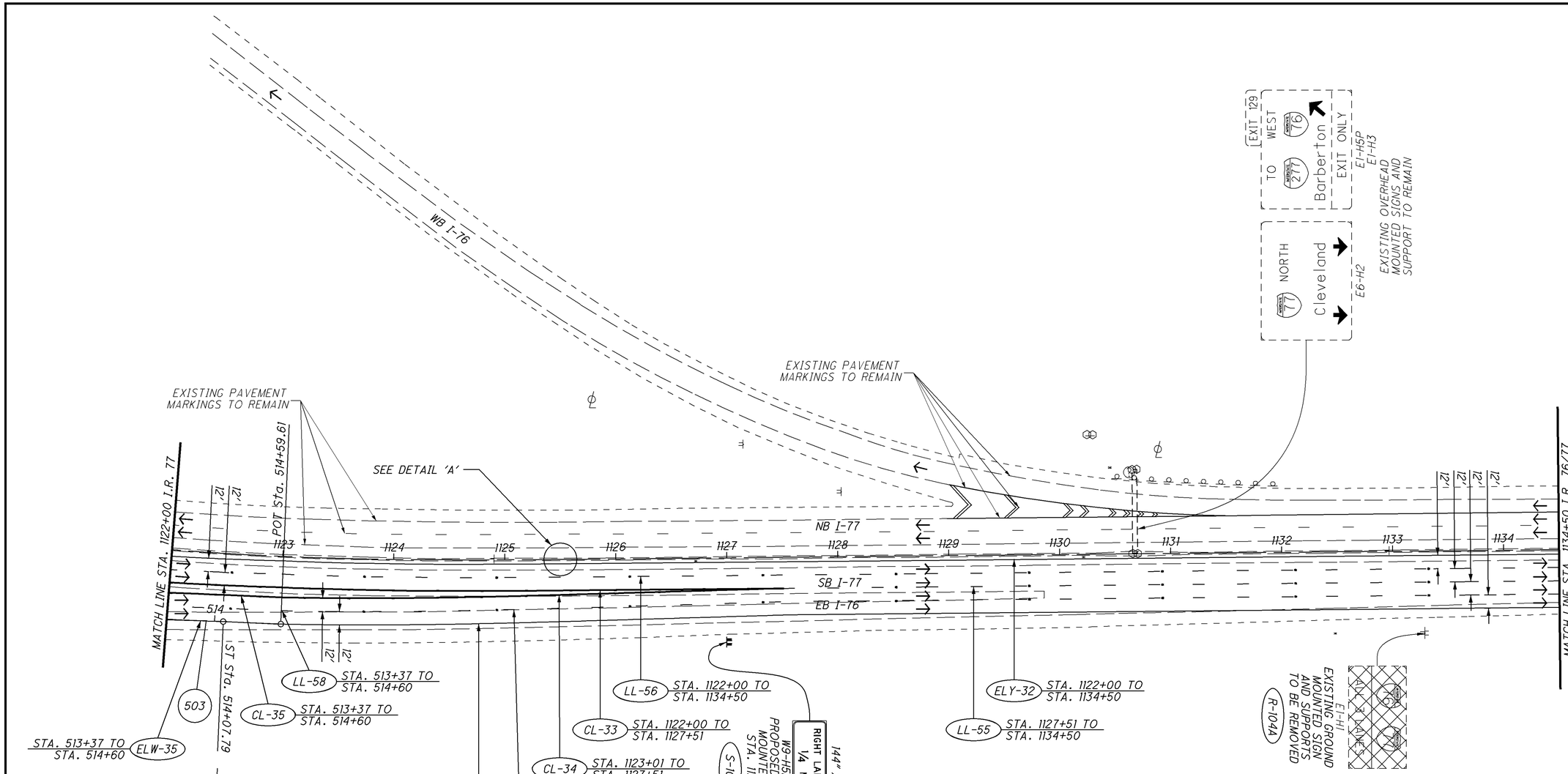
PAVEMENT MARKING AND SIGNAGE PLAN - I-R. 77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1109+50 TO STA. 1122+00

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

SUM-76/77-11.27/12.12

448
652



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1122+00 TO STA. 1134+50

SUM-76/77-11.27/12.12

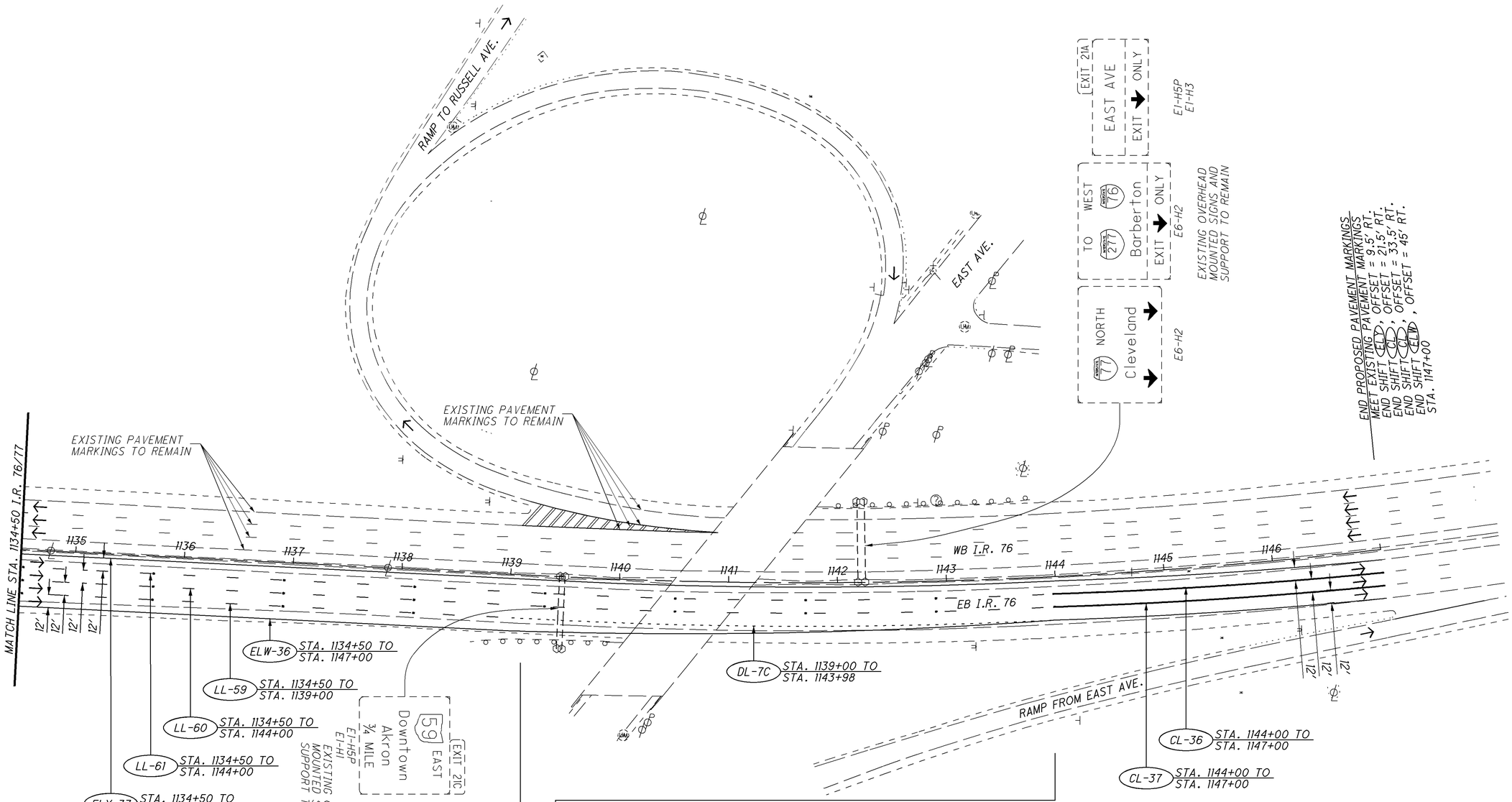
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PAVEMENT MARKING AND SIGNAGE PLAN - I.R. 77 DETOUR
I-77 NORTH AND WEST LEG
STA. 1134+50 TO STA. 1147+00

SUM-76/77-11.27/12.12

CALCULATED CRW
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100



LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

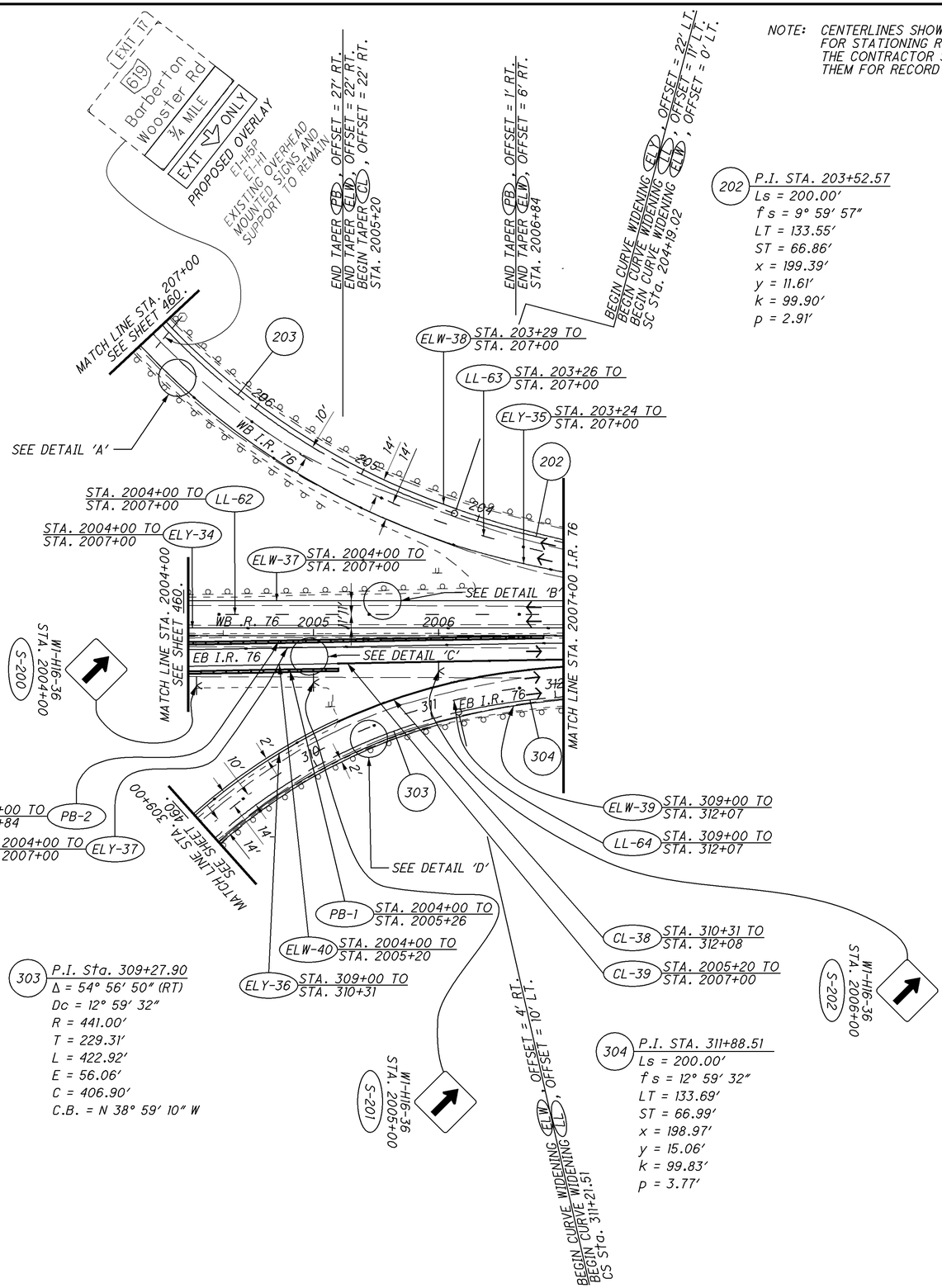
NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

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LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

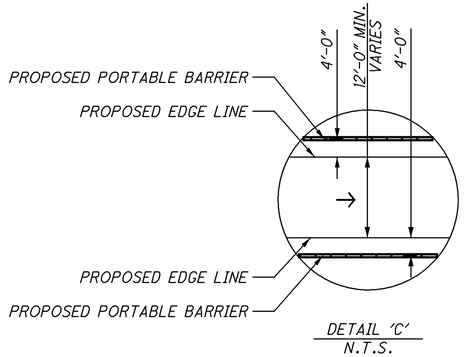


202 P.I. STA. 203+52.57
Ls = 200.00'
f s = 9° 59' 57"
LT = 133.55'
ST = 66.86'
x = 199.39'
y = 11.61'
k = 99.90'
p = 2.91'

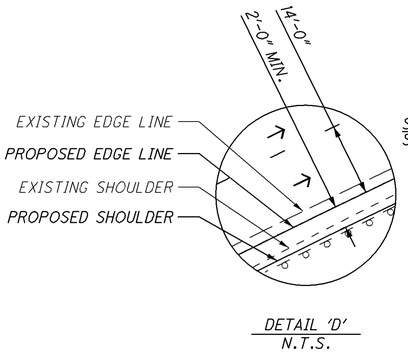
203 P.I. Sta. 207+02.33
Δ = 52° 37' 04" (RT)
Dc = 9° 59' 57"
R = 573.00'
T = 283.31'
L = 526.22'
E = 66.21'
C = 507.92'
C.B. = S 46° 33' 04" W

303 P.I. Sta. 309+27.90
Δ = 54° 56' 50" (RT)
Dc = 12° 59' 32"
R = 441.00'
T = 229.31'
L = 422.92'
E = 56.06'
C = 406.90'
C.B. = N 38° 59' 10" W

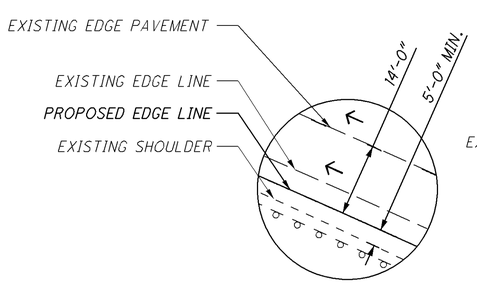
304 P.I. STA. 311+88.51
Ls = 200.00'
f s = 12° 59' 32"
LT = 133.69'
ST = 66.99'
x = 198.97'
y = 15.06'
k = 99.83'
p = 3.77'



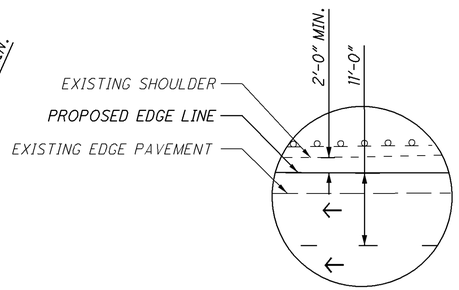
DETAIL 'C'
N.T.S.



DETAIL 'D'
N.T.S.



DETAIL 'A'
N.T.S.



DETAIL 'B'
N.T.S.

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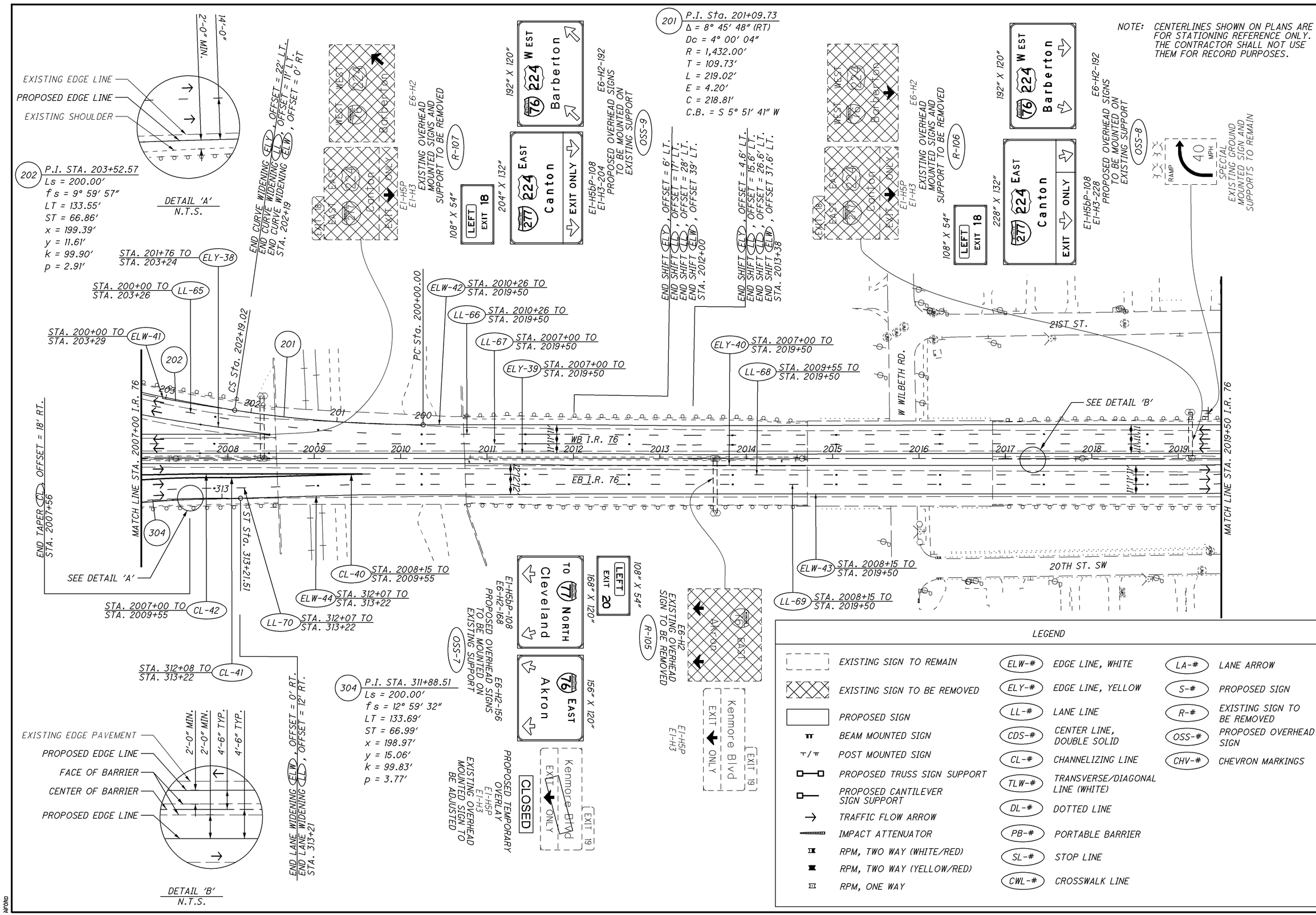
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
KENMORE LEG
BEGIN TO STA. 2007+00

SUM-76/77-11.27/12.12

451
652

CALCULATED CRW
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100



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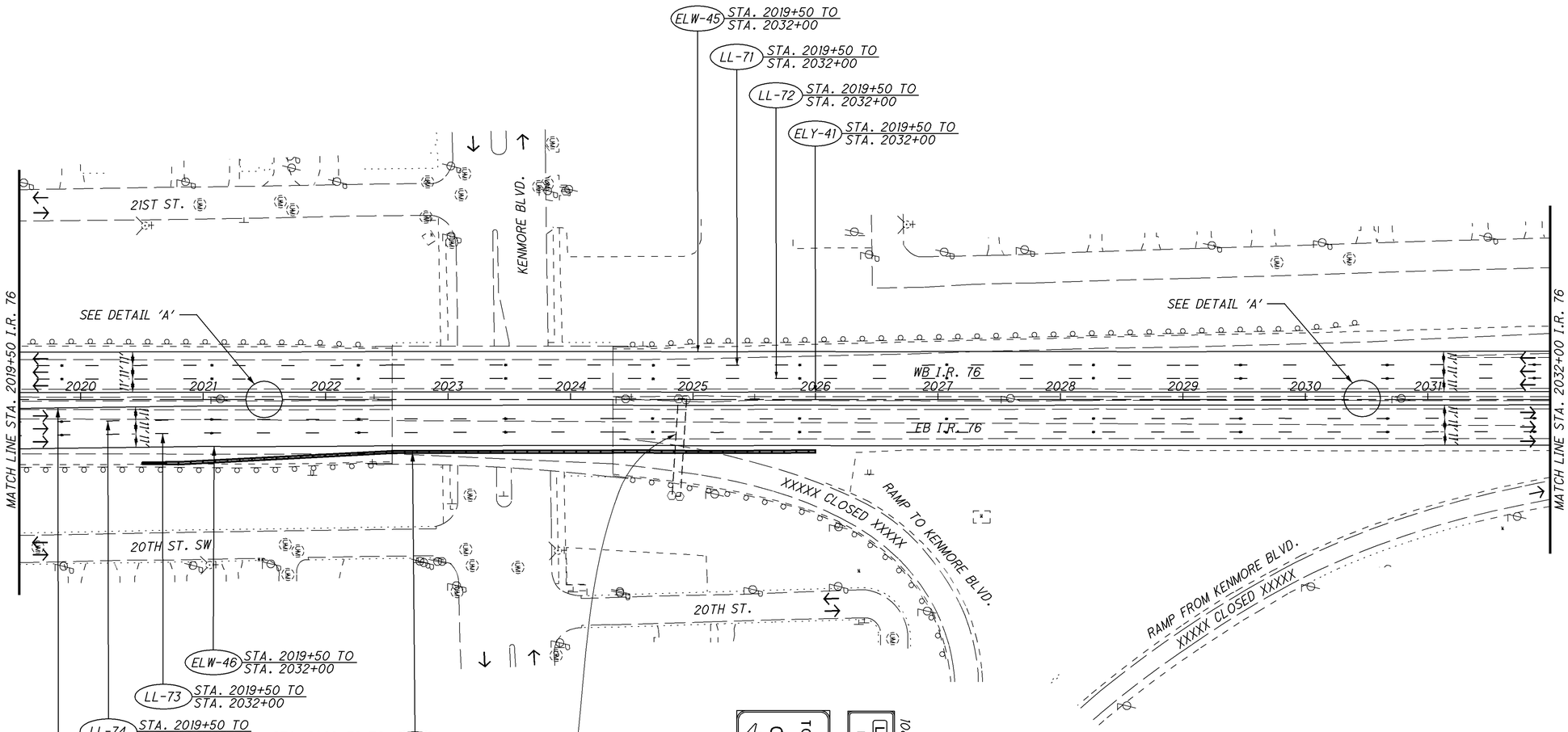
0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
KENMORE LEG
STA. 2007+00 TO STA. 2019+50

SUM-76/77-11.27/12.12

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



DETAIL 'A'
N.T.S.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

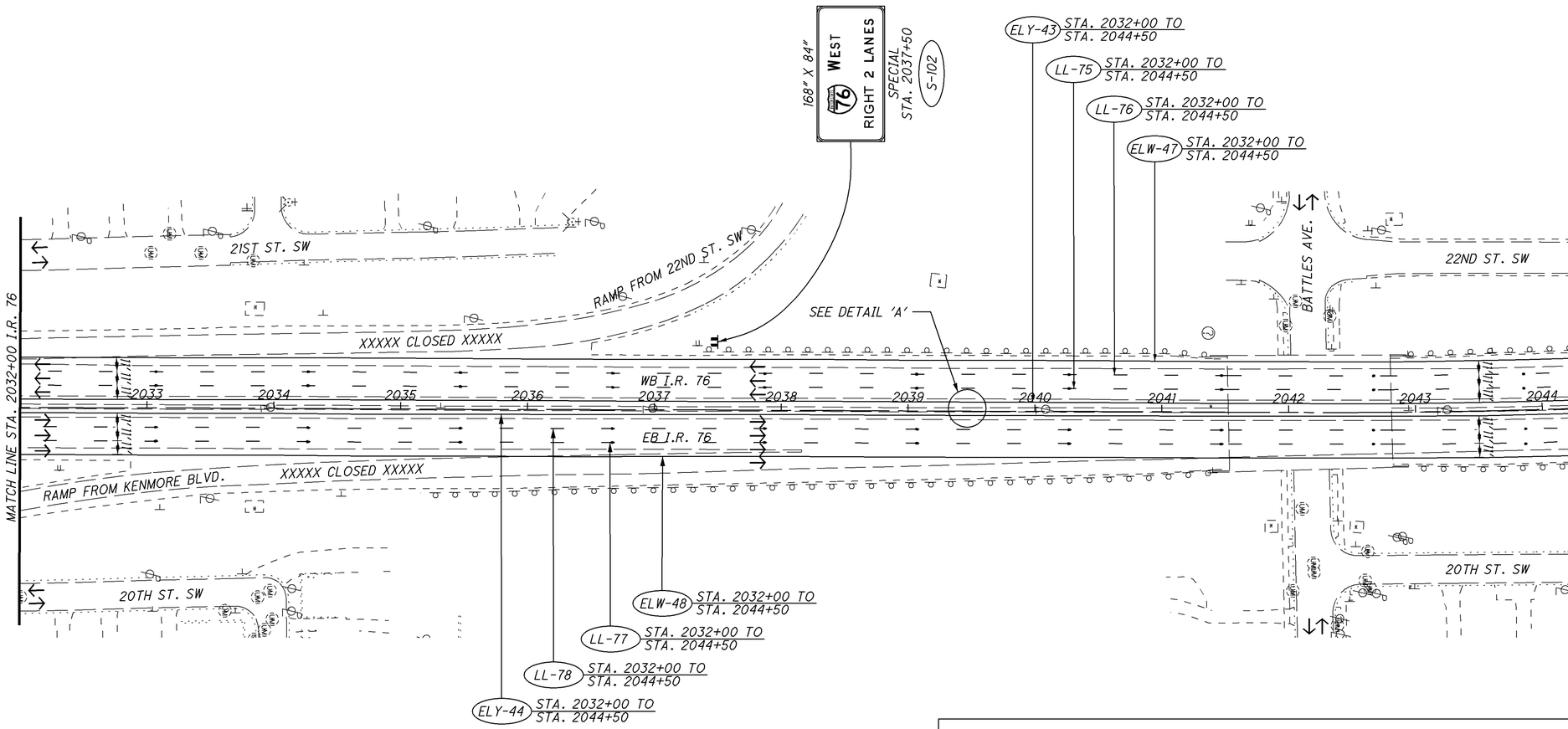
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
KENMORE LEG
STA. 2019+50 TO STA. 2032+00

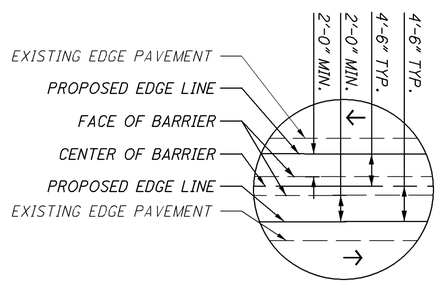
SUM-76/77-11.27/12.12

453
652

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

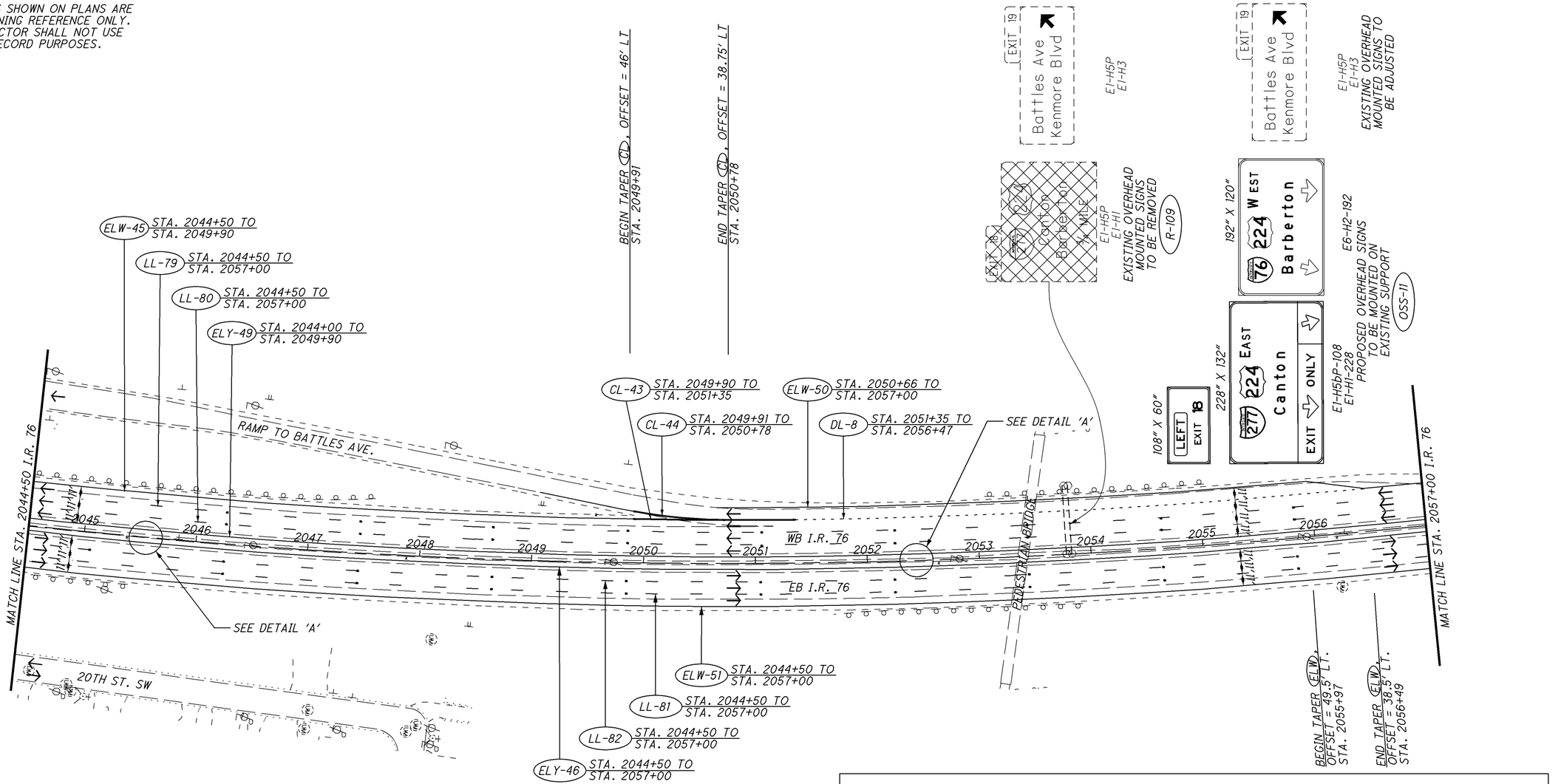
CALCULATED CRW
CHECKED AKF

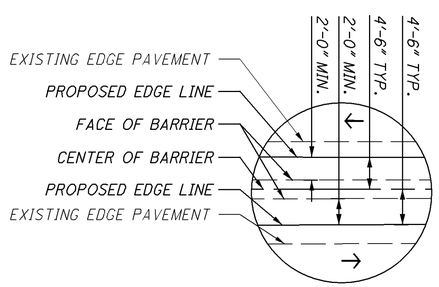
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
KENMORE LEG
STA. 2032+00 TO STA. 2044+50

SUM-76/77-11.27/12.12

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CDEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

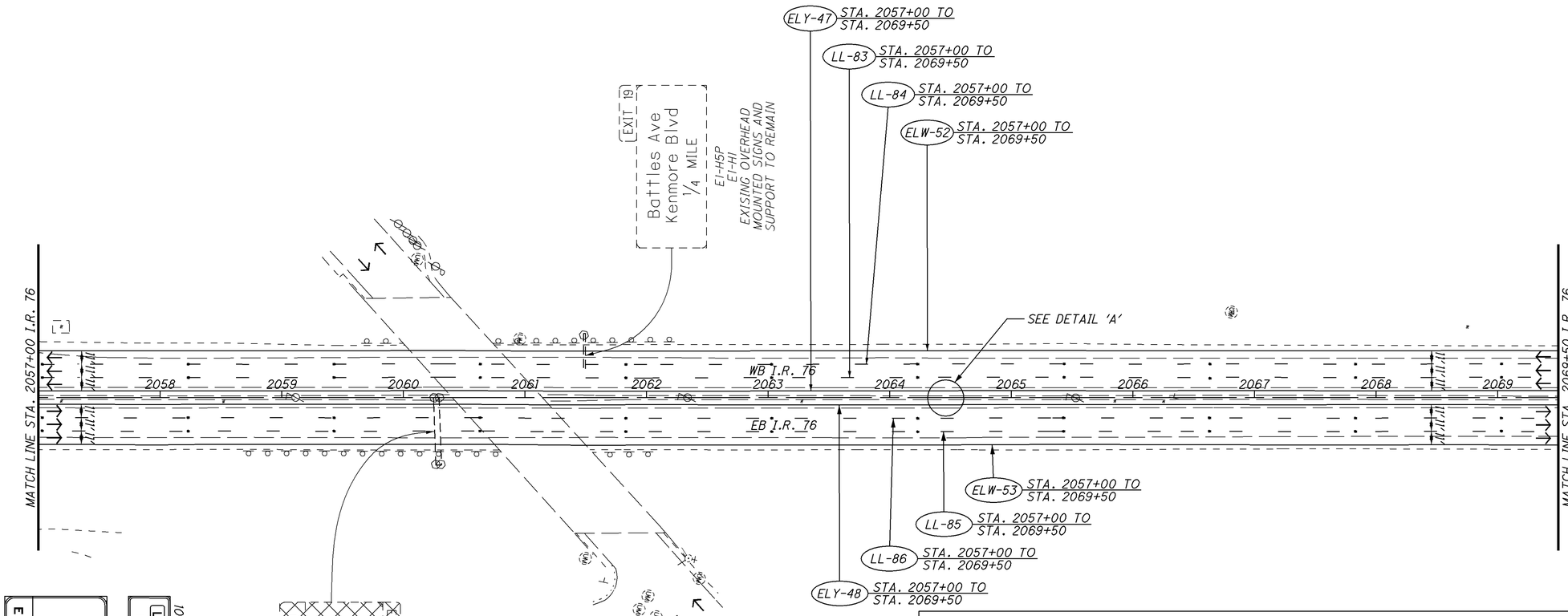
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
KENMORE LEG
STA. 2044+50 TO STA. 2057+00

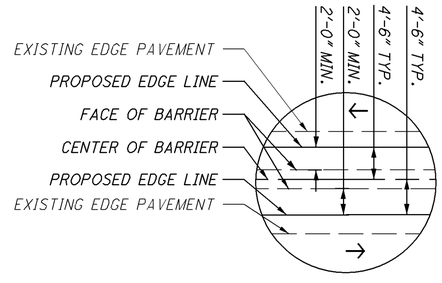
SUM-76/77-11.27/12.12

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CDEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

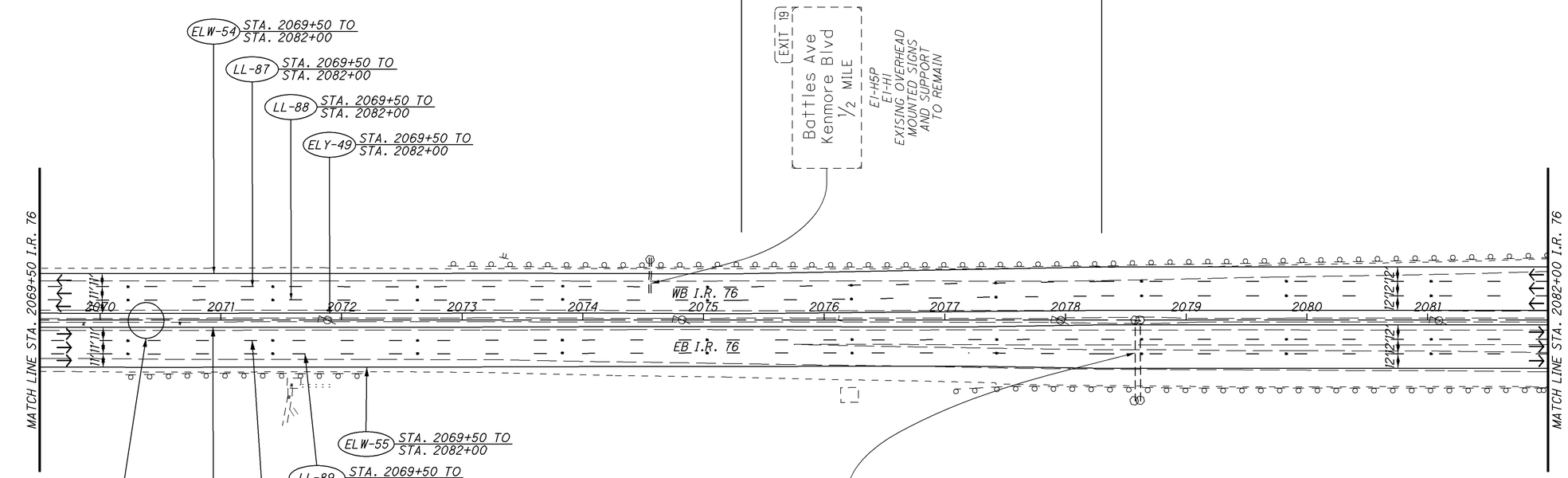
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
KENMORE LEG
STA. 2057+00 TO STA. 2069+50

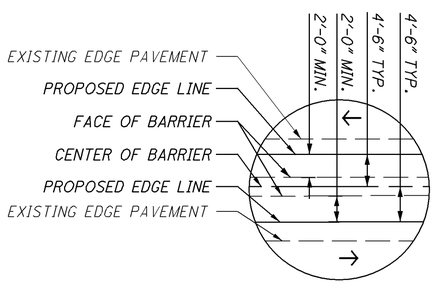
SUM-76/77-11.27/12.12

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CDEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR KENMORE LEG STA. 2069+50 TO STA. 2082+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

401 P.I. Sta. 408+71.65
Δ = 36° 11′ 56″ (RT)
Dc = 3° 44′ 59″
R = 1,528.00′
T = 499.41′
L = 965.37′
E = 79.54′
C = 949.40′
C.B. = S 30° 48′ 20″ E

LL-91 STA. 2082+00 TO STA. 2082+31
LL-92 STA. 2082+00 TO STA. 2083+25
ELY-51 STA. 2082+00 TO STA. 2087+74
ELW-56 STA. 2082+00 TO STA. 2088+51
LL-93 STA. 2082+00 TO STA. 2088+51
CL-46 STA. 2083+25 TO STA. 2087+74
CL-47 STA. 2085+14 TO STA. 2087+74
ELW-57 STA. 409+00 TO STA. 413+38
LL-94 STA. 409+00 TO STA. 413+38
CL-48 STA. 411+01 TO STA. 413+38
ELY-52 STA. 409+00 TO STA. 411+01

PT Sta. 413+37.61

MATCH LINE STA. 2082+00 I.R. 76

WB I.R. 76

EB I.R. 76

1ST Sta. 500+00.00

SEE DETAIL 'A'

SEE DETAIL 'B'

EXISTING PAVEMENT MARKINGS TO REMAIN

SEE DETAIL 'C'

MATCH LINE STA. 602+00 SEE SHEET 448.

MATCH LINE STA. 409+00 SEE SHEET 448.

MATCH LINE STA. 508+00 SEE SHEET 448.

STA. 2085+34 TO STA. 2090+33 ELW-59
STA. 2082+00 TO STA. 2090+33 LL-96
STA. 2082+00 TO STA. 2090+33 ELY-54
STA. 2084+79 TO STA. 2085+34 CL-45
STA. 502+45 TO STA. 502+98 CL-49
STA. 2082+00 TO STA. 2082+31 ELW-61
STA. 600+31 TO STA. 602+00 ELY-53
STA. 600+31 TO STA. 602+00 LL-95
STA. 600+31 TO STA. 602+00 ELW-58
STA. 502+98 TO STA. 508+00 ELY-55
STA. 500+00 TO STA. 508+00 LL-97
STA. 500+00 TO STA. 508+00 ELW-60

BEGIN CURVE WIDENING (ELW), OFFSET = 28′ LT.
BEGIN CURVE WIDENING (LL), OFFSET = 16′ LT.
ST Sta. 600+00.00

BEGIN CURVE WIDENING (ELW), OFFSET = 8′
BEGIN CURVE WIDENING (LL), OFFSET = 12′ LT.
STA. 500+00

END CURVE WIDENING (ELW), OFFSET = 4′ RT.
END CURVE WIDENING (LL), OFFSET = 10′ LT.
SC Sta. 504+00.00

R-112 E1-H5P E1-H3 EXISTING OVERHEAD SIGNS AND MOUNTED SUPPORT TO BE REMOVED E6-H6

OSS-14 E1-H5SP-108 E1-H3-204 PROPOSED OVERHEAD SIGNS TO BE MOUNTED ON EXISTING SUPPORT E6-H2-192

204" X 132"
108" X 54"
182" X 120"

FACE OF BARRIER
EXISTING EDGE OF PAVEMENT
CENTER OF BARRIER
PROPOSED EDGE LINE
2'-0" MIN.
4'-6" TYP.

DETAIL 'A'
N.T.S.

EXISTING EDGE PAVEMENT
PROPOSED EDGE LINE
EXISTING SHOULDER
2'-0" MIN.
12'-0"

DETAIL 'B'
N.T.S.

EXISTING SHOULDER
PROPOSED EDGE LINE
EXISTING EDGE PAVEMENT
12'-0"
2'-0" MIN.

601 P.I. STA. 602+34.73
Ls = 350.00′
f s = 19° 14′ 43″
LT = 234.73′
ST = 117.94′
x = 346.07′
y = 38.87′
k = 174.34′
p = 9.76′

DETAIL 'C'
N.T.S.

501 P.I. STA. 502+68.75
Ls = 400.00′
f s = 21° 59′ 40″
LT = 268.75′
ST = 135.23′
x = 394.15′
y = 50.65′
k = 199.02′
p = 12.73′

502 P.I. Sta. 506+76.11
Δ = 55° 50′ 36″ (RT)
Dc = 10° 59′ 50″
R = 521.00′
T = 276.11′
L = 507.79′
E = 68.64′
C = 487.93′
C.B. = N 37° 12′ 36″ E

LEGEND

EXISTING SIGN TO REMAIN	RPM, TWO WAY (WHITE/RED)		TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)	R-#	EXISTING SIGN TO BE REMOVED
EXISTING SIGN TO BE REMOVED	RPM, TWO WAY (YELLOW/RED)		DL-#	DOTTED LINE	OSS-#	PROPOSED OVERHEAD SIGN
PROPOSED SIGN	RPM, ONE WAY		PB-#	PORTABLE BARRIER	CHV-#	CHEVRON MARKINGS
BEAM MOUNTED SIGN	ELW-#	EDGE LINE, WHITE	SL-#	STOP LINE		
POST MOUNTED SIGN	ELY-#	EDGE LINE, YELLOW	CWL-#	CROSSWALK LINE		
PROPOSED TRUSS SIGN SUPPORT	LL-#	LANE LINE	LA-#	LANE ARROW		
PROPOSED CANTILEVER SIGN SUPPORT	CDS-#	CENTER LINE, DOUBLE SOLID	S-#	PROPOSED SIGN		
TRAFFIC FLOW ARROW	CL-#	CHANNELIZING LINE				
IMPACT ATTENUATOR	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)				

HORIZONTAL SCALE IN FEET 0 25 50 100

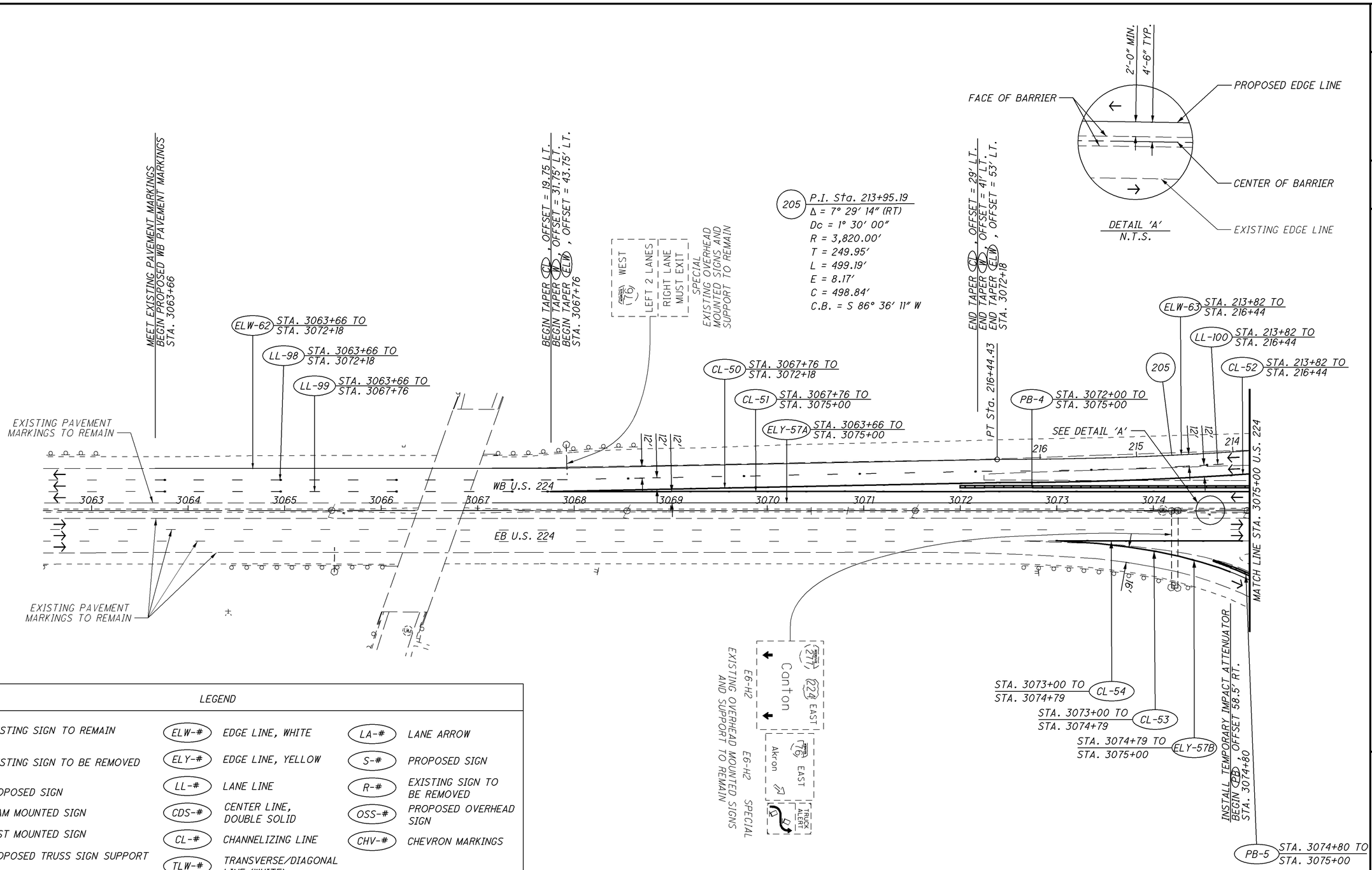
CALCULATED CRW CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
KENMORE LEG
STA. 2082+00 TO STA. 2090+33

SUM-76/77-11.27/12.12

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR U.S. 224/I-277 STA. 3062+50 TO STA. 3075+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

DETAIL 'A' N.T.S.

EXISTING EDGE PAVEMENT
PROPOSED EDGE LINE
FACE OF BARRIER
CENTER OF BARRIER
PROPOSED EDGE LINE
EXISTING EDGE PAVEMENT
2'-0" MIN.
2'-0" MIN.
4'-6" TYP.
4'-6" TYP.

205 P.I. Sta. 213+95.19
Δ = 7° 29' 14" (RT)
Dc = 1° 30' 00"
R = 3,820.00'
T = 249.95'
L = 499.19'
E = 8.17'
C = 498.84'
C.B. = S 86° 36' 11" W

204 P.I. STA. 210+12.10
Ls = 200.00'
f s = 9° 59' 57"
LT = 133.55'
ST = 66.86'
x = 199.39'
y = 11.61'
k = 99.90'
p = 2.91'

203 P.I. Sta. 207+02.33
Δ = 52° 37' 04" (RT)
Dc = 9° 59' 57"
R = 573.00'
T = 283.31'
L = 526.22'
E = 66.21'
C = 507.92'
C.B. = S 46° 33' 04" W

105 P.I. STA. 113+06.52
Ls = 300.00'
f s = 37° 31' 48"
LT = 204.69'
ST = 104.28'
x = 287.38'
y = 63.52'
k = 147.88'
p = 16.13'

104 P.I. Sta. 109+09.41
Δ = 129° 16' 00" (RT)
Dc = 23° 31' 10"
R = 243.61'
T = 513.81'
L = 549.62'
E = 325.03'
C = 440.24'
C.B. = N 68° 01' 27" W

103 P.I. Sta. 111+17.19
Δ = 45° 01' 50" (RT)
Dc = 25° 01' 12"
R = 229.00'
T = 94.93'
L = 179.98'
E = 18.90'
C = 175.38'
C.B. = N 30° 18' 05" E

101 P.I. STA. 102+74.89
Ls = 390.00'
f s = 45° 51' 47"
LT = 269.30'
ST = 138.49'
x = 365.74'
y = 99.39'
k = 190.91'
p = 25.43'

102 P.I. Sta. 109+83.86
Δ = 11° 10' 37" (RT)
Dc = 14° 30' 19"
R = 395.00'
T = 38.65'
L = 77.05'
E = 1.89'
C = 76.93'
C.B. = N 2° 11' 52" E

303 P.I. Sta. 309+27.90
Δ = 54° 56' 50" (RT)
Dc = 12° 59' 32"
R = 441.00'
T = 229.31'
L = 422.92'
E = 56.06'
C = 406.90'
C.B. = N 38° 59' 10" W

DETAIL 'B' N.T.S.

EXISTING EDGE LINE
PROPOSED EDGE LINE
CENTER OF BARRIER
FACE OF BARRIER
12'-0"
2'-0" MIN.
16'

DETAIL 'C' N.T.S.

16'-0"
4'-0" MIN.
EXISTING EDGE LINE
PROPOSED PORTABLE BARRIER
FACE OF BARRIER
PROPOSED EDGE LINE
EXISTING EDGE LINE

MATCH LINE STA. 3075+00 U.S. 224
MATCH LINE STA. 3087+50 U.S. 224
MATCH LINE STA. 2004+00 SEE SHEET 451.
MATCH LINE STA. 207+00 RAMP FROM I.R. 76 SEE SHEET 451.
MATCH LINE STA. 309+00 RAMP FROM I.R. 76 SEE SHEET 451.
MATCH LINE STA. 307+00 RAMP TO I.R. 76

RAMP FROM I.R. 76
RAMP TO I.R. 76
EB I-277
WB I-277

STA. 207+00 TO STA. 212+84 ELY-56
STA. 207+00 TO STA. 213+82 LL-101
ELW-64 STA. 207+00 TO STA. 213+82
CL-56A STA. 213+82 TO STA. 212+84
PB-6 STA. 3075+00 TO STA. 3087+50
ELW-65 STA. 3075+00 TO STA. 3087+50
ELY-57 STA. 3075+00 TO STA. 3087+50
CL-56 STA. 3080+66 TO STA. 3083+58
CL-55 STA. 3082+18 TO STA. 3083+58
STA. 2000+00 TO STA. 2004+00 ELY-58
STA. 2000+00 TO STA. 2004+00 LL-102
STA. 2000+00 TO STA. 2004+00 ELW-66
PB-7 STA. 2000+26 TO STA. 2004+00
ELW-67 STA. 2000+26 TO STA. 2004+00
ELY-59 STA. 2000+00 TO STA. 2004+00
PB-8 STA. 2000+00 TO STA. 2004+00
ELY-60 STA. 307+00 TO STA. 309+00
LL-103 STA. 307+00 TO STA. 309+00
ELW-68 STA. 307+00 TO STA. 309+00
ELW-69 STA. 3082+18 TO STA. 3087+50
LL-105 STA. 3082+18 TO STA. 3087+50
LL-104 STA. 3083+58 TO STA. 3087+50
PB-9 STA. 3075+00 TO STA. 3083+84
ELY-63 STA. 3075+00 TO STA. 3083+84
ELY-62 STA. 3077+72 TO STA. 3087+50
ELY-61 STA. 100+00 TO STA. 113+54
CL-57 STA. 113+54 TO STA. 115+02
ELW-71 STA. 3077+72 TO STA. 3080+66
LL-107 STA. 3077+72 TO STA. 3087+50
STA. 100+00 TO STA. 115+02 ELW-70
STA. 100+00 TO STA. 115+02 LL-106

ST Sta. 115+02.24
POT Sta. 100+00.00
PCC Sta. 110+22.27
PCC Sta. 109+45.21

BEGIN CURVE WIDENING (ELW), OFFSET = 8'
BEGIN CURVE WIDENING (LL), OFFSET = 12' LT.
TS Sta. 100+05.60
END CURVE WIDENING (ELW), OFFSET = 7' RT.
END CURVE WIDENING (LL), OFFSET = 8' LT.
SC Sta. 103+95.60
BEGIN CURVE WIDENING (ELW), OFFSET = 7' RT.
BEGIN CURVE WIDENING (LL), OFFSET = 8' LT.
CS Sta. 112+02.24
END CURVE WIDENING (ELW), OFFSET = 6' RT.
END CURVE WIDENING (LL), OFFSET = 17' RT.
END SHIFT (ELW), OFFSET = 28' RT.
END SHIFT (LL), OFFSET = 30' RT.
STA. 3080+00
END CURVE WIDENING (ELW), OFFSET = 8'
END CURVE WIDENING (LL), OFFSET = 4' RT.
END CURVE WIDENING (LL), OFFSET = 10' LT.
SC Sta. 211+45.24
BEGIN CURVE WIDENING (LL), OFFSET = 12' LT.
CS Sta. 209+45.24
MEET EXISTING EASTBOUND PAVEMENT MARKINGS
BEGIN PROPOSED EASTBOUND PAVEMENT MARKINGS
BEGIN SHIFT (LL), OFFSET = 8' RT.
BEGIN SHIFT (ELW), OFFSET = 19' RT.
BEGIN SHIFT (LL), OFFSET = 30' RT.
STA. 3077+72

EXISTING PAVEMENT MARKINGS TO REMAIN

BEGIN TAPER (ELW), OFFSET = 15' RT.
BEGIN TAPER (PB), OFFSET = 18' RT.
STA. 2002+00

BEGIN SHIFT (PB), OFFSET = 10' RT.
BEGIN SHIFT (ELY), OFFSET = 15' RT.
BEGIN SHIFT (ELW), OFFSET = 31' RT.
BEGIN SHIFT (PB), OFFSET = 36' RT.
INSTALL TEMPORARY IMPACT ATTENUATOR
STA. 2000+26

SEE DETAIL 'A'
SEE DETAIL 'B'
SEE DETAIL 'C'

W1-HI6-36 STA. 2003+00 S-204
W1-HI6-36 STA. 2002+00 S-203
W1-4I-48 STA. 105+00 S-205

EXIT 19
Kenmore Blvd
½ MILE
CLOSED
PROPOSED TEMPORARY OVERLAY
E1-H5P
E1-H1
EXISTING OVERHEAD MOUNTED SIGN AND SUPPORT TO REMAIN

EXIT 17B
619
Barberton
¾ MILE
E1-H5P
E1-H1
EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN

LEGEND

EXISTING SIGN TO REMAIN	RPM, TWO WAY (WHITE/RED)
EXISTING SIGN TO BE REMOVED	RPM, TWO WAY (YELLOW/RED)
PROPOSED SIGN	RPM, ONE WAY
BEAM MOUNTED SIGN	ELW-# EDGE LINE, WHITE
POST MOUNTED SIGN	ELY-# EDGE LINE, YELLOW
PROPOSED TRUSS SIGN SUPPORT	LL-# LANE LINE
PROPOSED CANTILEVER SIGN SUPPORT	CDS-# CENTER LINE, DOUBLE SOLID
TRAFFIC FLOW ARROW	CL-# CHANNELIZING LINE
IMPACT ATTENUATOR	TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
SL-# STOP LINE	DL-# DOTTED LINE
CWL-# CROSSWALK LINE	PB-# PORTABLE BARRIER
LA-# LANE ARROW	R-# EXISTING SIGN TO BE REMOVED
S-# PROPOSED SIGN	OSS-# PROPOSED OVERHEAD SIGN
	CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3075+00 TO STA. 3087+50

SUM-76/77-11.27/12.12

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DETBEL

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

301 P.I. Sta. 301+27.82
Δ = 10° 12′ 05″ (RT)
Dc = 4° 00′ 04″
R = 1,432.00′
T = 127.82′
L = 254.96′
E = 5.69′
C = 254.63′
C.B. = N 84° 33′ 10″ W

302 P.I. STA. 306+32.28
Ls = 200.00′
f s = 12° 59′ 32″
LT = 133.69′
ST = 66.99′
x = 198.97′
y = 15.06′
k = 99.83′
p = 3.77′

MATCH LINE STA. 307+00 RAMP TO I.R. 76
SC Sta. 306+98.59
TS Sta. 304+98.59
BEGIN CURVE WIDENING (LL) OFFSET = 12′ LT. BEGIN CURVE WIDENING (ELW) OFFSET = 0
STA. 304+99
END (PB) OFFSET = 24.5′ LT. INSTALL TEMPORARY IMPACT ATTENUATOR STA. 3090+69
PT Sta. 302+54.96
PC Sta. 300+00.00
SEE DETAIL 'B'
SEE DETAIL 'A'
RAMP TO I.R. 76
2′
2′
302
306
305
304
303
302
301
300

ELY-64 STA. 302+97 TO STA. 307+00
ELW-73 STA. 300+00 TO STA. 307+00
LL-108 STA. 300+00 TO STA. 307+00
CL-58 STA. 300+00 TO STA. 302+97
CL-59 STA. 3091+00 TO STA. 3096+81
ELW-72 STA. 3087+50 TO STA. 3091+00
ELY-65 STA. 3087+50 TO STA. 3096+81
LL-110 STA. 3094+02 TO STA. 3096+81
ELW-74 STA. 3094+02 TO STA. 3096+81

EXIT 76 EAST NORTH Cleveland EXIT ONLY
EXIT 76 EAST TO Cleveland EXIT ONLY
EXIT 76 Border of Ohio WEST RIGHT
EXIT 76 WEST TRUCK TRAFFIC KEEP LEFT
SPECIAL
E1-H5P E1-H3
E1-H5P E1-H1
72″ X 30″ EXIT 1
204″ X 156″ EAST TO 76 NORTH 77 Cleveland EXIT ONLY
192″ X 120″ WEST 76 224 Barberton
E1-H5bP-72 E1-H3-204
E6-H2-192 PROPOSED OVERHEAD SIGNS TO BE MOUNTED ON EXISTING SUPPORT
OSS-15
EXISTING OVERHEAD MOUNTED SIGNS TO BE REMOVED
R-113
END PROPOSED PAVEMENT MARKINGS MEET EXISTING PAVEMENT MARKINGS STA. 3096+81
EXISTING PAVEMENT MARKINGS TO REMAIN

MATCH LINE STA. 3087+50 U.S. 224
MATCH LINE STA. 3100+00 U.S. 224
3088 3089 3090 3091 3092 3093 3094 3095 3096 3097 3098 3099
WB I-277
EB I-277
11′ 11′ 11′ 11′

PB-10 STA. 3087+50 TO STA. 3090+69
ELY-66 STA. 3087+50 TO STA. 3100+00
LL-113 STA. 3087+50 TO STA. 3100+00
LL-112 STA. 3087+50 TO STA. 3100+00
LL-111 STA. 3087+50 TO STA. 3100+00
ELW-75 STA. 3087+50 TO STA. 3100+00

EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN E1-H1 E1-H5P
PROPOSED TEMPORARY OVERLAY
EXIT ONLY
½ MILE Manchester Rd
Waterloo Rd 93
EXIT 2

DETAIL 'A' N.T.S.
2′-0″ MIN. 4′-6″ TYP.
FACE OF BARRIER
EXISTING EDGE LINE
CENTER OF BARRIER
PROPOSED EDGE LINE

DETAIL 'B' N.T.S.
2′-0″ MIN. 12′-0″
EXISTING SHOULDER
PROPOSED EDGE LINE
EXISTING EDGE PAVEMENT
EXISTING EDGE PAVEMEMT
PROPOSED EDGE LINE
EXISTING SHOULDER

LEGEND

EXISTING SIGN TO REMAIN	ELW-# EDGE LINE, WHITE	LA-# LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-# EDGE LINE, YELLOW	S-# PROPOSED SIGN
PROPOSED SIGN	LL-# LANE LINE	R-# EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-# CENTER LINE, DOUBLE SOLID	OSS-# PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-# CHANNELIZING LINE	CHV-# CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)	
PROPOSED CANTILEVER SIGN SUPPORT	DL-# DOTTED LINE	
TRAFFIC FLOW ARROW	PB-# PORTABLE BARRIER	
IMPACT ATTENUATOR	SL-# STOP LINE	
RPM, TWO WAY (WHITE/RED)	CWL-# CROSSWALK LINE	
RPM, TWO WAY (YELLOW/RED)		
RPM, ONE WAY		

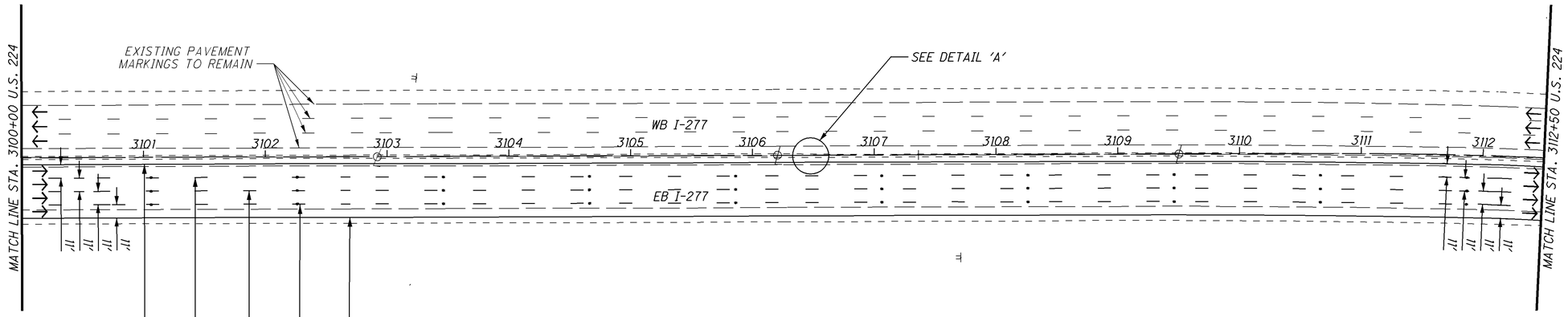
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3087+50 TO STA. 3100+00

SUM-76/77-11.27/12.12

461
652

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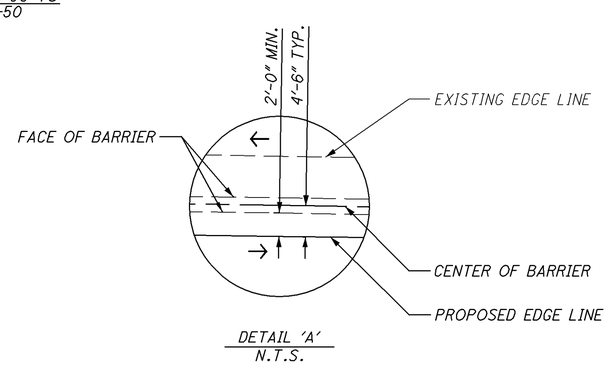
ELW-76 STA. 3100+00 TO STA. 3112+50

LL-114 STA. 3100+00 TO STA. 3112+50

LL-115 STA. 3100+00 TO STA. 3112+50

LL-116 STA. 3100+00 TO STA. 3112+50

ELY-67 STA. 3100+00 TO STA. 3112+50



DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

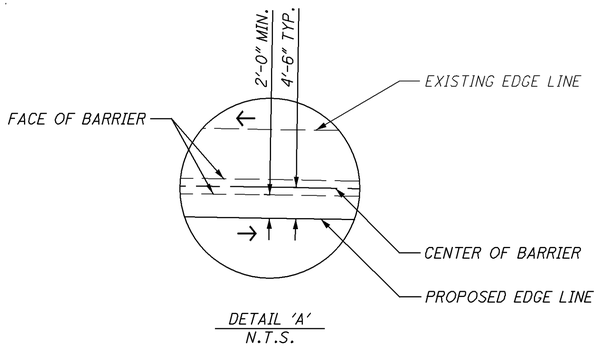
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR

U.S. 224/I-277

STA. 3100+00 TO STA. 3112+50

SUM-76/77-11.27/12.12

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DETAIL 'A'
N.T.S.

ELW-77 STA. 3112+50 TO STA. 3118+25
LL-117 STA. 3112+50 TO STA. 3117+25
LL-118 STA. 3112+50 TO STA. 3122+00
LL-119 STA. 3112+50 TO STA. 3122+00
ELY-68 STA. 3112+50 TO STA. 3122+00
CL-59A STA. 3117+25 TO STA. 3124+27

SEE DETAIL 'A'

WB I-277
EB I-277

3113 3114 3115 3116 3117 3118 3119 3120 3121 3122 3123 3124

MATCH LINE STA. 3112+50 U.S. 224

MATCH LINE STA. 3125+00 U.S. 224

EXISTING PAVEMENT MARKINGS TO REMAIN

EXISTING PAVEMENT MARKINGS TO REMAIN

EXISTING PAVEMENT MARKINGS TO REMAIN

EXIT 2A NORTH
EAST TO 76 Cleveland
EXIT ONLY
E1-H5P
E1-H1
SPECIAL EXISTING OVERHEAD MOUNTED SIGNS TO BE REMOVED
R-116
72" X 30"
EXIT 1
204" X 156"
EAST TO 76 NORTH 77 Cleveland EXIT ONLY
E1-H5bP-72
E1-H1-204
PROPOSED OVERHEAD SIGNS TO BE MOUNTED ON EXISTING SUPPORT
OSS-18
192" X 120"
76 224 WEST Barberton
E6-H2-192
144" X 120"
E6-H2-144
76 AKRON 2 MILES NORTH 77
180" X 120"
E6-H2-180
76 Canton 2 MILES SOUTH 77
240" X 156"
93 Waterloo Rd Manchester Rd EXIT ONLY
E1-H5P-72
E1-H1-240
PROPOSED OVERHEAD SIGNS TO BE MOUNTED ON EXISTING SUPPORT
OSS-16
72" X 30"
EXIT 2
R-114
EXISTING OVERHEAD SIGN MOUNTED TO BE REMOVED
E1-H5P
E1-H1
Waterloo Rd (93) Manchester Rd EXIT ONLY
OSS-17
PROPOSED OVERHEAD SIGNS TO BE MOUNTED ON EXISTING SUPPORT
EXISTING OVERHEAD SIGN MOUNTED TO REMAIN
E1-H5P
E1-H1
S Main St 1 MILE EXIT 3
R-115
EXISTING OVERHEAD MOUNTED SIGNS TO BE REMOVED
E1-H5P
E1-H1
S Main St 1 MILE EXIT 3
E1-H5P-72
E1-H3-240
93 Waterloo Rd Manchester Rd EXIT ONLY
240" X 156"
72" X 30"
EXIT 2
E1-H5P
E1-H3
Waterloo Rd (93) Manchester Rd
CWL-2

BEGIN TAPER (ELY), OFFSET = 6' RT.
BEGIN TAPER (ELY), OFFSET = 17' RT.
BEGIN TAPER (ELY), OFFSET = 28' RT.
BEGIN TAPER (ELY), OFFSET = 39' RT.
STA. 3119+52

END PROPOSED EB PAVEMENT MARKINGS
MEET EXISTING PAVEMENT MARKINGS
END TAPER (ELY), OFFSET = 1.75' RT.
END TAPER (ELY), OFFSET = 19.75' RT.
END TAPER (ELY), OFFSET = 31.75' RT.
END TAPER (ELY), OFFSET = 43.75' RT.
STA. 3122+00

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

0 25 50 100 HORIZONTAL SCALE IN FEET

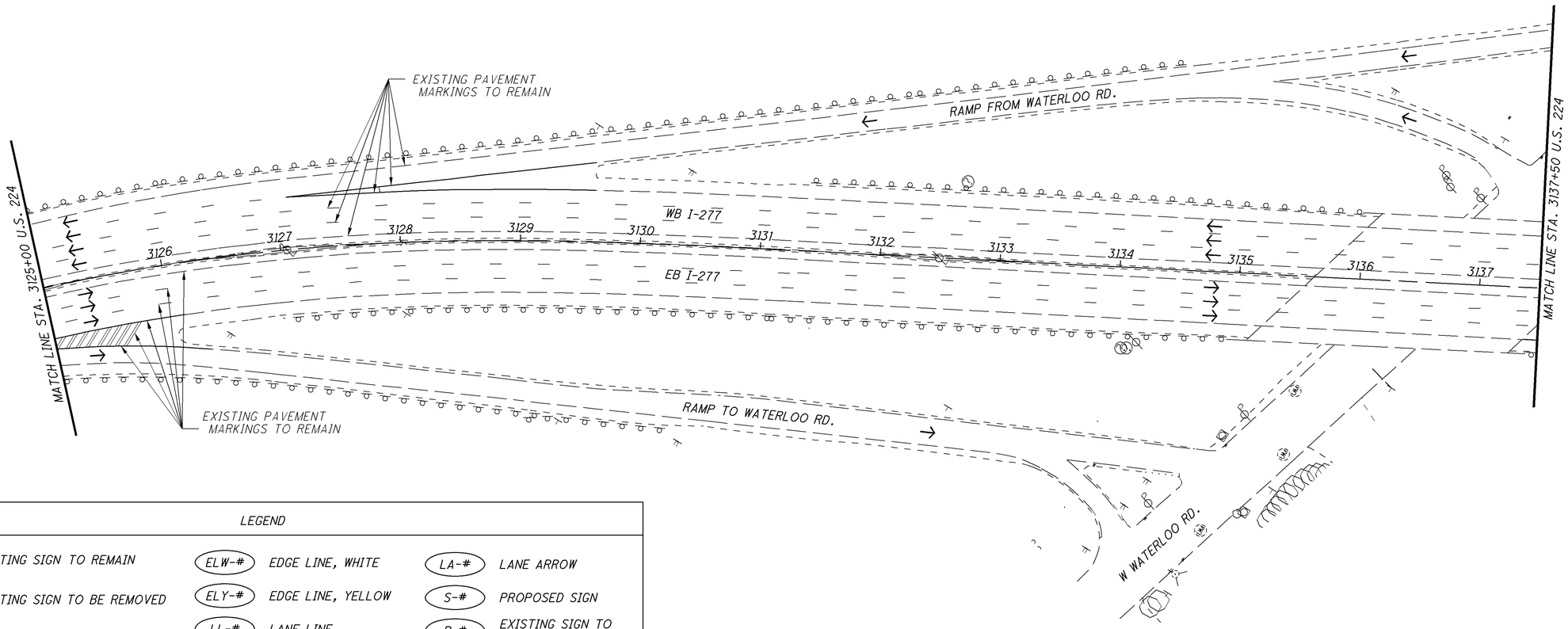
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3112+50 TO STA. 3125+00

SUM-76/77-11.27/12.12

463
652

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

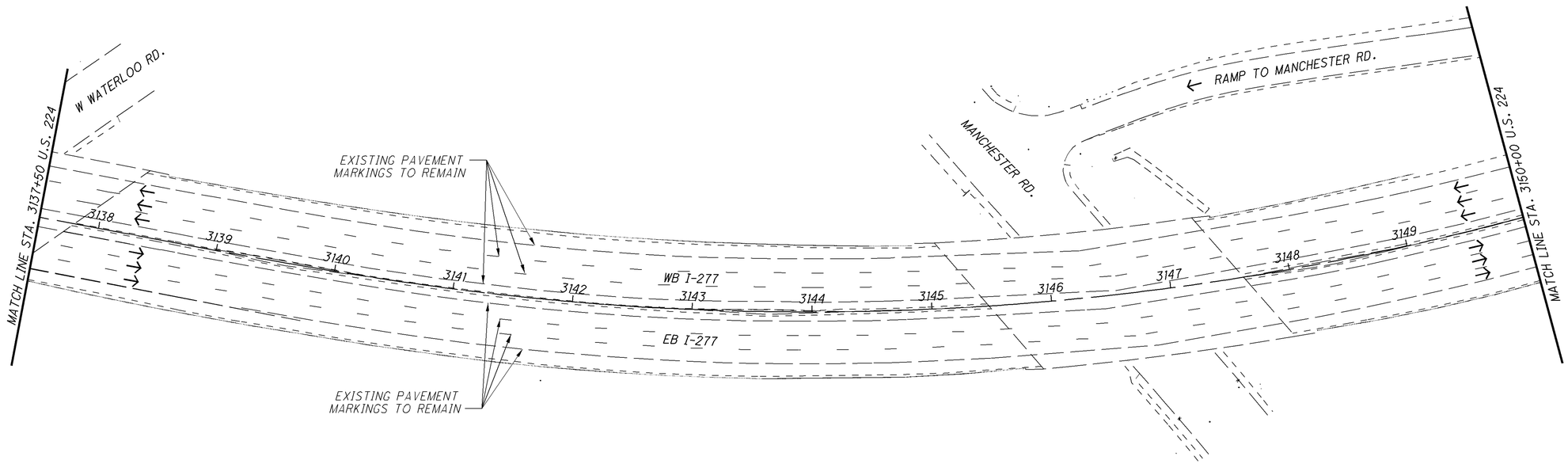
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3125+00 TO STA. 3137+50

SUM-76/77-11.27/12.12

464
652

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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

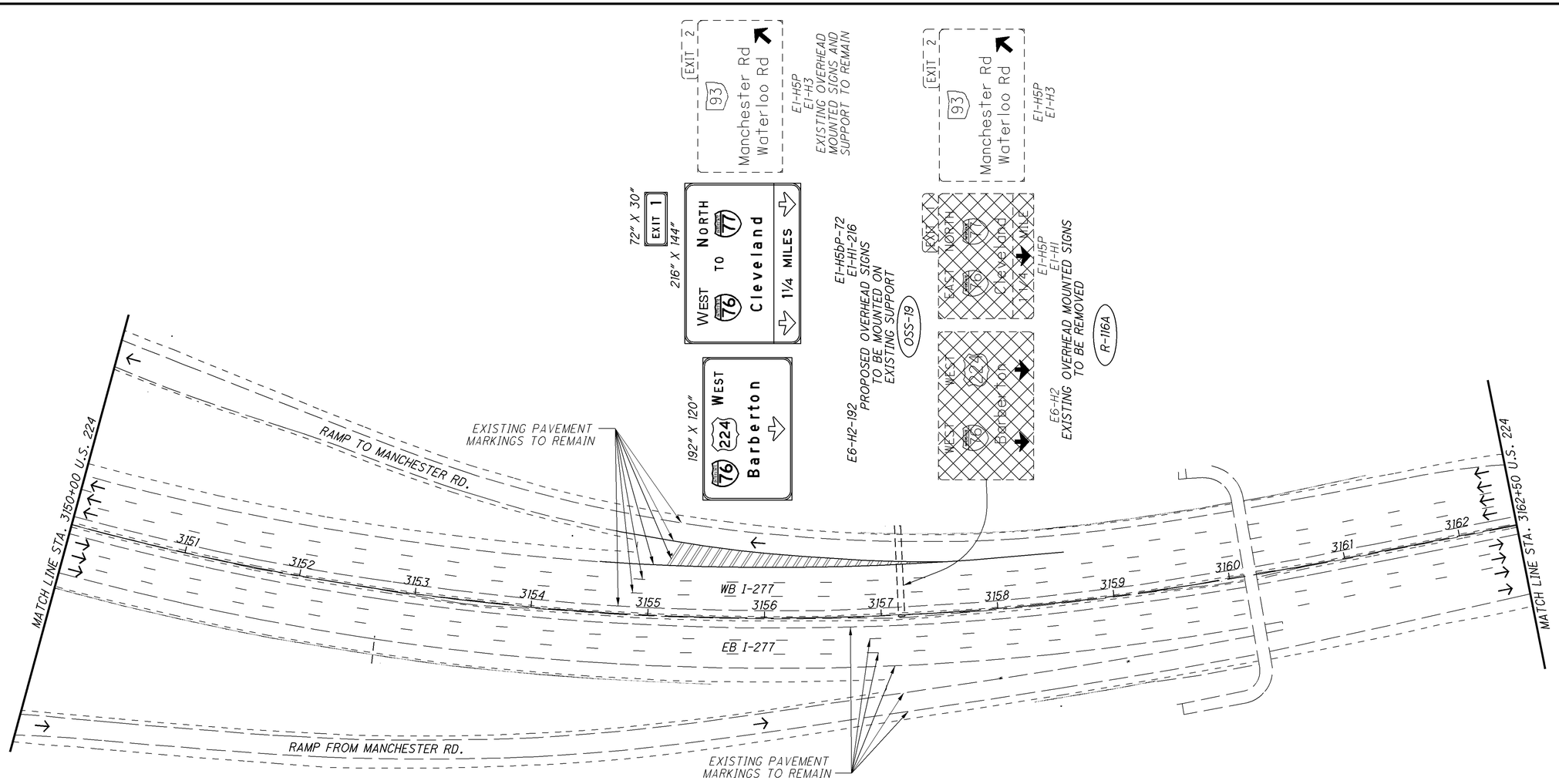
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR U.S. 224/I-277 STA. 3137+50 TO STA. 3150+00

SUM-76/77-11.27/12.12

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

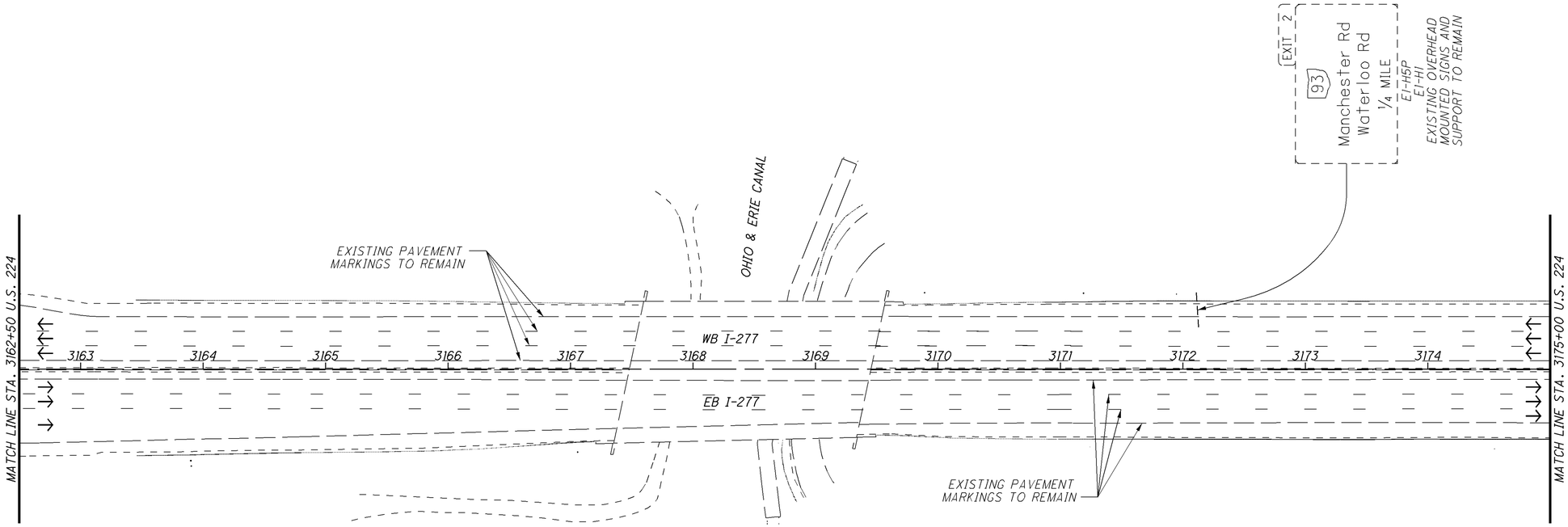
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3150+00 TO STA. 3162+50

SUM-76/77-11.27/12.12

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652

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR

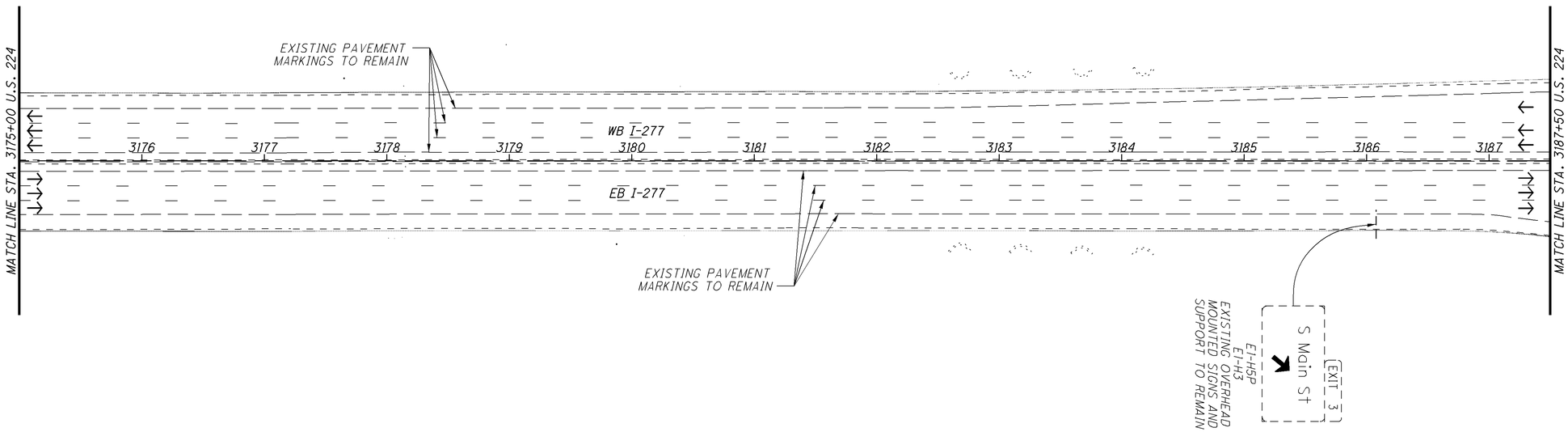
U.S. 224/I-277

STA. 3162+50 TO STA. 3175+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3175+00 TO STA. 3187+50

SUM-76/77-11.27/12.12

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR

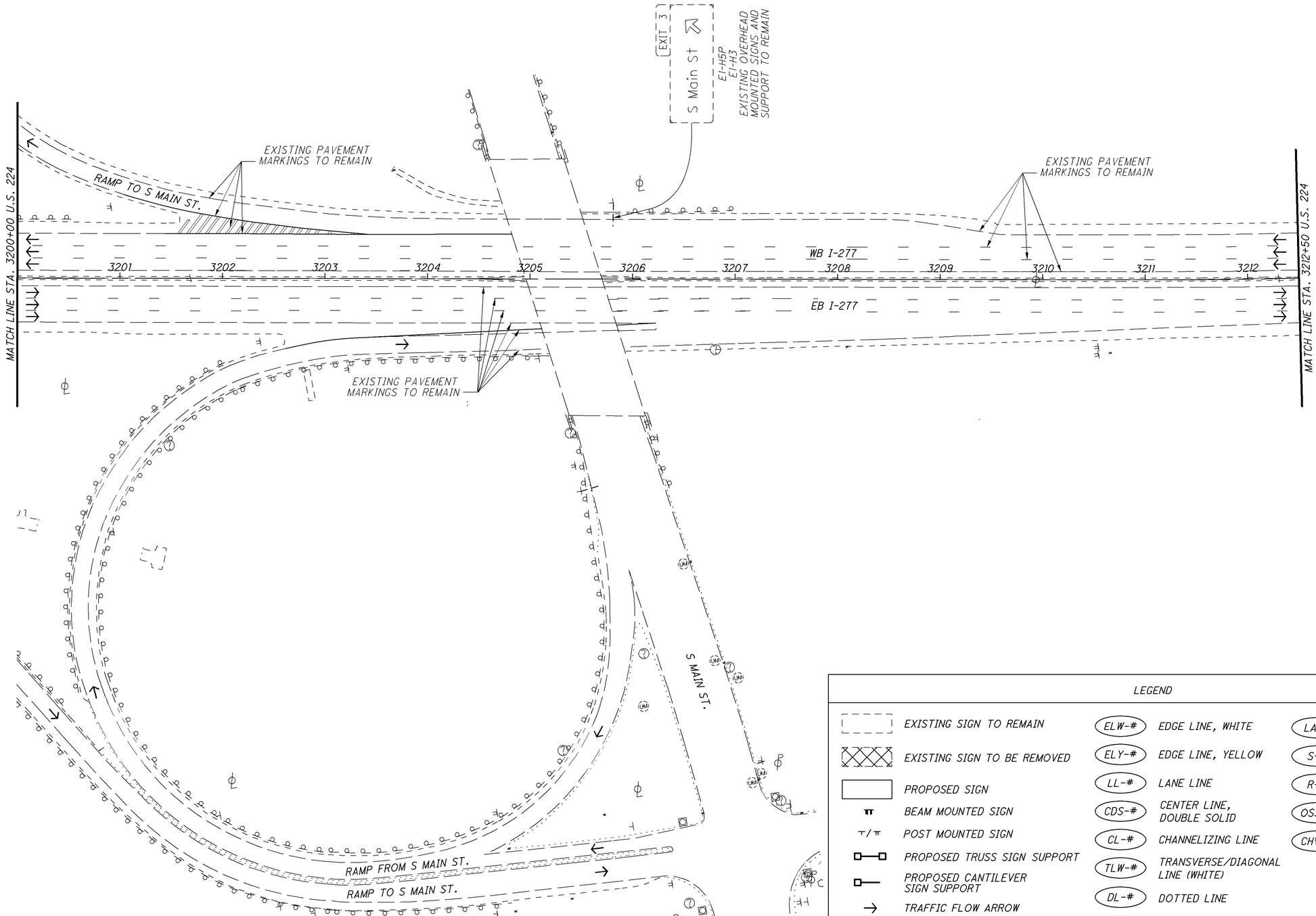
U.S. 224/I-277

STA. 3187+50 TO STA. 3200+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3200+00 TO STA. 3212+50

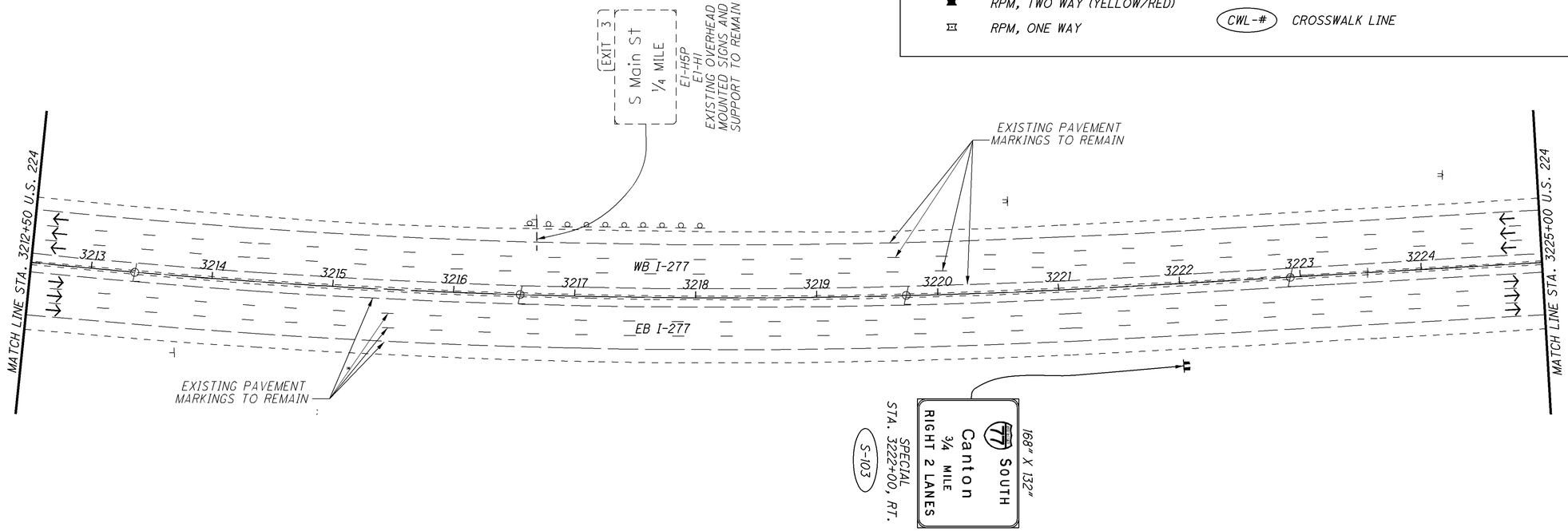
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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				



NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

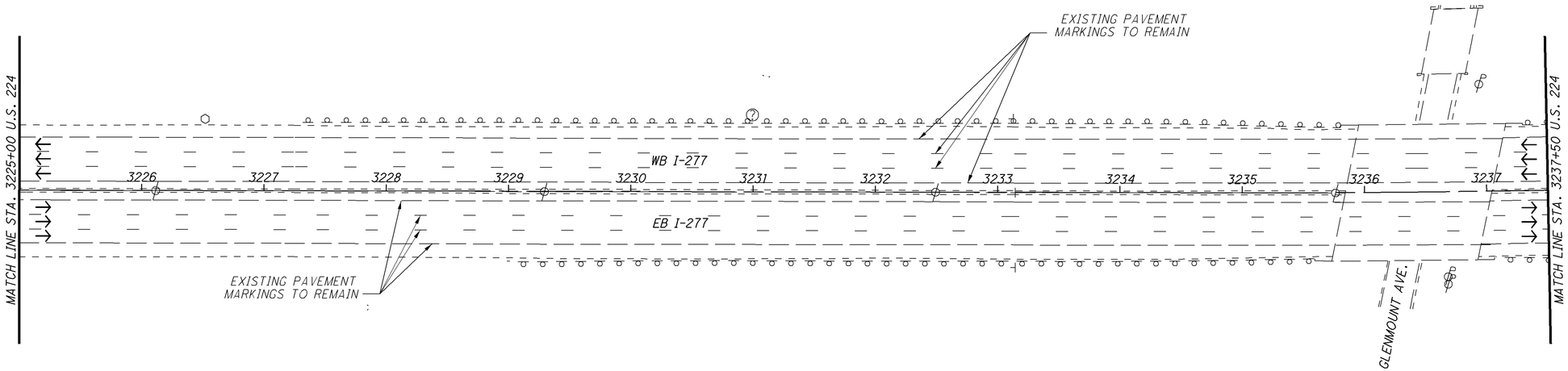
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3212+50 TO STA. 3225+00

SUM-76/77-11.27/12.12

471
652

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3225+00 TO STA. 3237+50

SUM-76/77-11.27/12.12

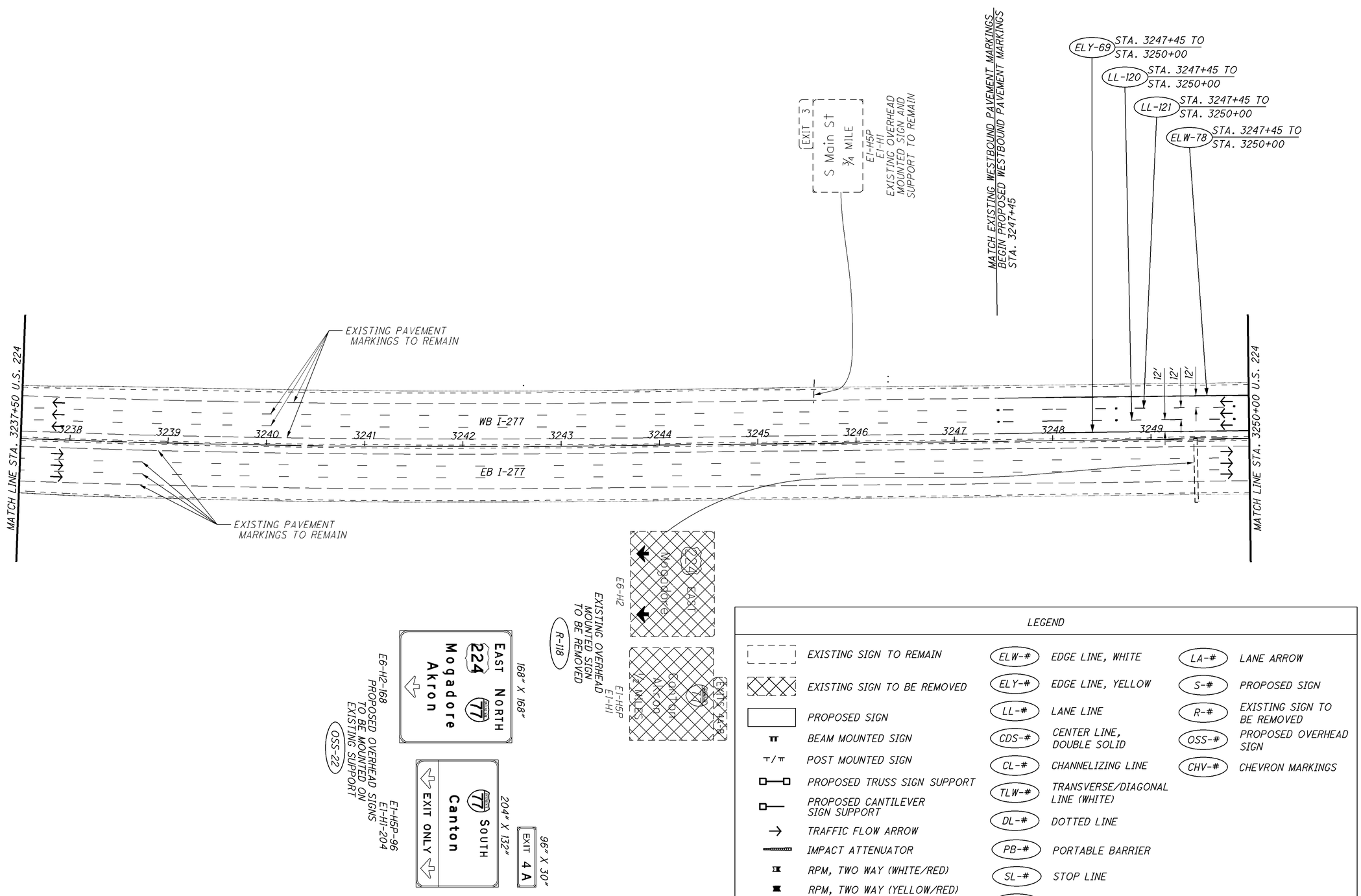
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PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3237+50 TO STA. 3250+00

SUM-76/77-11.27/12.12

CALCULATED CRW
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100

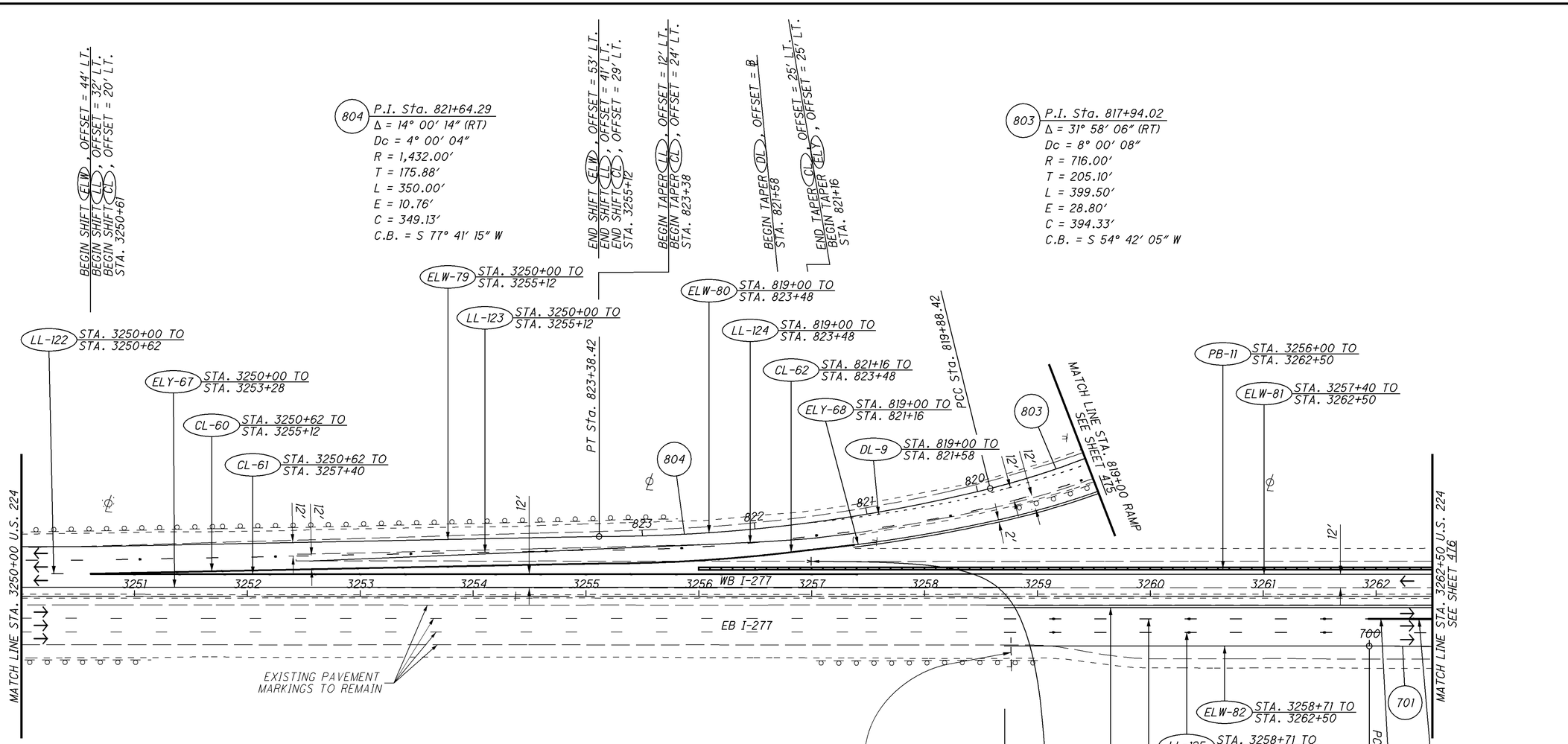


LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

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LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

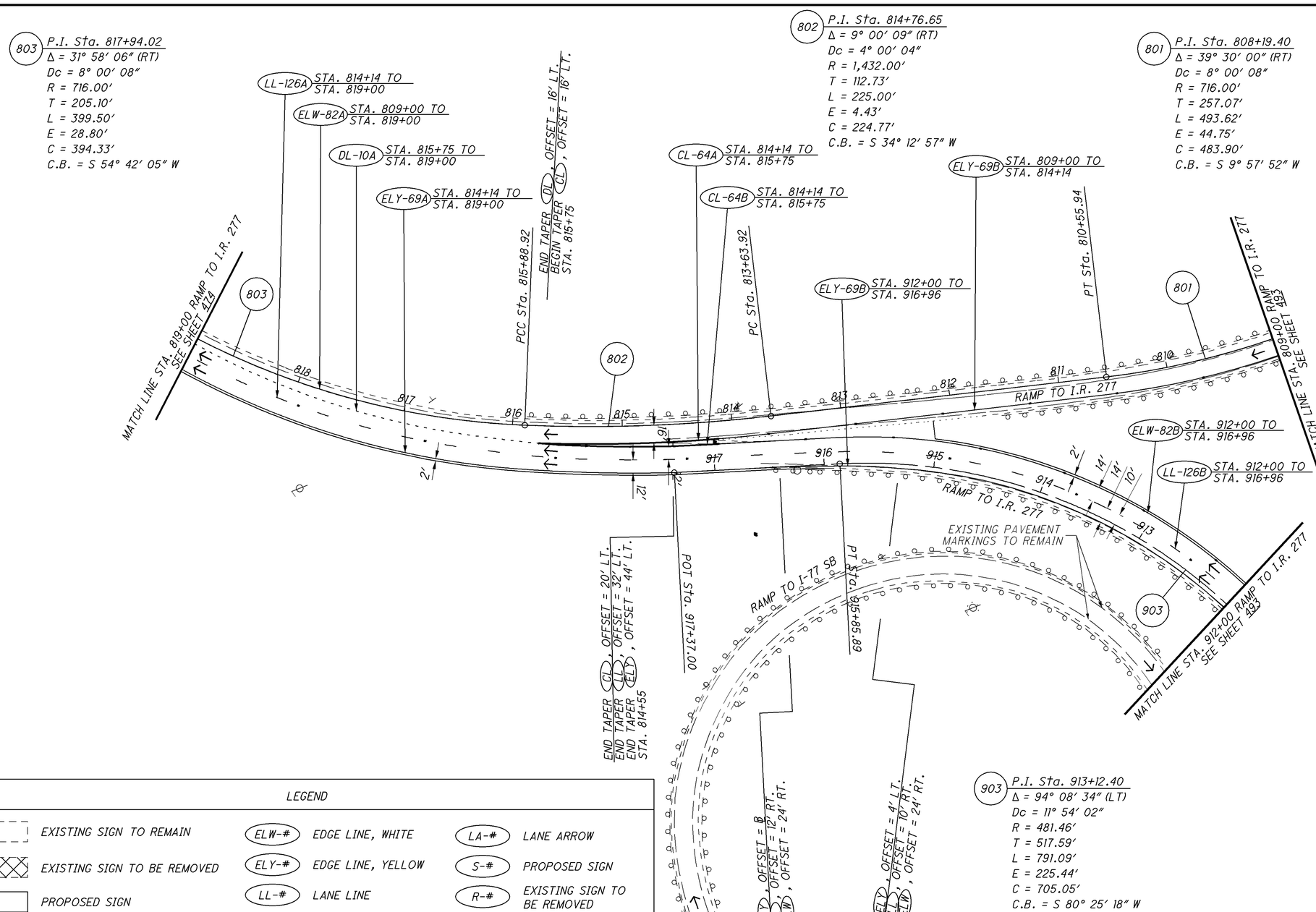
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3250+00 TO STA. 3262+50

SUM-76/77-11.27/12.12

474
652

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LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR

U.S. 224/I-277

STA. 809+00 TO STA. 819+00

SUM-76/77-11.27/12.12

475
652

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PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3262+50 TO STA. 3275+00

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

SUM-76/77-11.27/12.12

476
652

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

PROPOSED TEMPORARY OVERLAY
EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN
EXIT 4A
SOUTH 77 Canton
EXIT ONLY
E1-H5P
E1-H3
WEST 224 Barberton
E6-H2

PB-12 STA. 3262+50 TO STA. 3271+00
ELW-83 STA. 3262+50 TO STA. 3268+26
EXISTING PAVEMENT MARKINGS TO REMAIN
RAMP TO I.R. 77 SB
WB I-277
EXISTING PAVEMENT MARKINGS TO REMAIN
END PB, OFFSET = 25' LT.
INSTALL TEMPORARY IMPACT ATTENUATOR
STA. 3271+00
BEGIN SHIFT CL, OFFSET = 32.5' LT.
STA. 3271+63
BEGIN SHIFT ELW, OFFSET = 43.5' LT.
STA. 3272+26
BEGIN SHIFT PB, OFFSET = 48.5' LT.
STA. 3272+30
STA. 3268+26 TO STA. 3275+00 CL-66A
STA. 3272+30 TO STA. 3275+00 PB-12A
STA. 3272+26 TO STA. 3275+00 ELW-83A
STA. 3271+36 TO STA. 3275+00 CL-66B
12'
3263 3264 3265 3266 3267 3268 3269 3270 3271 3272 3273 3274
MATCH LINE STA. 3262+50 U.S. 224 SEE SHEET 474
MATCH LINE STA. 3275+00 U.S. 224
EB I-277
701 702 703 704 705 706 707 708
RAMP TO I.R. 77 SB
MATCH LINE STA. 709+00 RAMP SEE SHEET 492.
2'
12'

701 P.I. Sta. 702+18.23
Δ = 6° 32' 21" (RT)
Dc = 1° 30' 00"
R = 3,820.00'
T = 218.23'
L = 435.99'
E = 6.23'
C = 435.75'
C.B. = N 87° 57' 32" E

ELW-85 STA. 700+50 TO STA. 709+00
CL-66 STA. 700+50 TO STA. 705+50
LL-127 STA. 700+50 TO STA. 709+00
CL-65 STA. 3262+50 TO STA. 3267+49
CS Sta. 704+35.99
SC Sta. 707+35.99
ELY-70A STA. 705+50 TO STA. 709+00
PB-13 STA. 3266+00 TO STA. 3275+00
ELW-84 STA. 3267+49 TO STA. 3275+00
DL-12 STA. 3268+00 TO STA. 3275+00
ELY-70 STA. 3262+50 TO STA. 3275+00

PROPOSED TEMPORARY OVERLAY
36" X 36"
E6-H2
EXISTING OVERHEAD MOUNTED SIGN AND SUPPORT TO REMAIN
EAST 224 Mogadore

BEGIN PORTABLE BARRIER, OFFSET = 23' RT.
INSTALL TEMPORARY IMPACT ATTENUATOR
STA. 3266+00

702 P.I. STA. 706+36.09
Ls = 300.00'
f s = 5° 37' 29"
LT = 200.10'
ST = 100.09'
x = 299.71'
y = 9.81'
k = 149.95'
p = 2.45'

BEGIN TAPER PB, OFFSET = 25' RT.
BEGIN TAPER ELW, OFFSET = 20' RT.
STA. 3268+00
END TAPER PB, OFFSET = 37' RT.
END TAPER ELW, OFFSET = 32' RT.
STA. 3268+50

703 P.I. Sta. 713+10.32
Δ = 41° 11' 58" (RT)
Dc = 3° 44' 59"
R = 1,528.00'
T = 574.33'
L = 1,098.74'
E = 104.37'
C = 1,075.22'
C.B. = S 62° 32' 49" E

S-104 E1-H3-168
PROPOSED GROUND MOUNTED SIGN
STA. 3272+00

77 NORTH Akron NEXT RIGHT
144" X 108"
E1-H5P-96
E1-H1-144
PROPOSED OVERHEAD SIGNS TO BE MOUNTED ON EXISTING SUPPORT
OSS-24
EXIT 4B
96" X 30"

77 SOUTH Canton EXIT ONLY
204" X 132"
E1-H5P-96
E1-H1-204
E1-H3-204
EXIT 4A
96" X 30"

EAST 224 Mogadore
EXIT 4B NORTH 77 Akron
EXIT 4A SOUTH 77 Canton EXIT ONLY
R-120
E1-H5P
E1-H1
E1-H3
EXISTING OVERHEAD MOUNTED SIGNS TO BE REMOVED

77 NORTH Akron
168" X 96"

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

END TAPER (CL), OFFSET = 20' LT.
END TAPER (ELW), OFFSET = 32' LT.
END TAPER (PB), OFFSET = 37' LT.
STA. 3279+30

BEGIN TAPER (ELW), OFFSET = 19.5' RT.
END SHIFT (ELW), OFFSET = 19.5' RT.
STA. 3282+00

END TAPER (ELW), OFFSET = 31' RT.
END SHIFT (ELY), OFFSET = 9' RT.
END PROPOSED PAVEMENT MARKINGS
MEET EXISTING PAVEMENT MARKINGS
STA. 3282+50

RAMP TO I.R. 77 NB

STA. 3275+00 TO STA. 3282+48 — CL-69B
STA. 3275+00 TO STA. 3279+30 — CL-69A
ELW-86A STA. 3275+00 TO STA. 3284+62
CL-69C STA. 3284+62 TO STA. 3287+50
PB-14A STA. 3275+00 TO STA. 3287+50
CL-67 STA. 3277+50 TO STA. 3281+58
STA. 3281+58 TO STA. 3282+50 — ELW-86
EXISTING PAVEMENT MARKINGS TO REMAIN

MATCH LINE STA. 3275+00 U.S. 224

12' 12' 12' 12' 12' 12' 12' 12'

3276 3277 3278 3279 3280 3281 3282 3283 3284 3285 3286 3287

WB U.S. 224

EB U.S. 224

MATCH LINE STA. 3287+50 U.S. 224

STA. 3275+00 TO STA. 3281+61 — PB-15
ELY-71 STA. 32181+58 TO STA. 3282+16
EXISTING PAVEMENT MARKINGS TO REMAIN

16'

RAMP TO I.R. 77 SB

EXISTING OVERHEAD MOUNTED SIGN AND SUPPORT TO REMAIN
E1-H1
EXIT ½ MILE
Kelly Ave
Arlington St

STA. 3275+00 TO STA. 3281+61 — ELW-87
STA. 3275+00 TO STA. 3277+50 — DL-13
STA. 3275+00 TO STA. 3282+50 — ELY-72

BEGIN SHIFT (PB), OFFSET = 34.5' RT.
BEGIN SHIFT (ELW), OFFSET = 29.5' RT.
STA. 3277+30

BEGIN SHIFT (CL), OFFSET = 17.5' RT.
STA. 3277+50

PROPOSED TEMPORARY OVERLAY EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN

INSTALL TEMPORARY IMPACT ATTENUATOR
BEGIN TAPER (PB), OFFSET = 24.5' LT.
STA. 3279+60

PB-14 STA. 3279+60 TO STA. 3282+00

CL-69 STA. 3277+50 TO STA. 3281+58

END SHIFT (CL), OFFSET = 54.5' RT.
BEGIN SHIFT (ELY), OFFSET = 59.5' RT.
STA. 3281+58

END SHIFT (PB), OFFSET = 81.5' RT.
END SHIFT (ELW), OFFSET = 76.5' RT.
STA. 3281+61

END SHIFT (ELY), OFFSET = 71' RT.
STA. 3282+16

E9-H2
Mogadore
22 EAST
Akron
77 NORTH
EXIT 4B
EXIT ONLY
E1-H5P
E1-H3

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY

- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE

- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

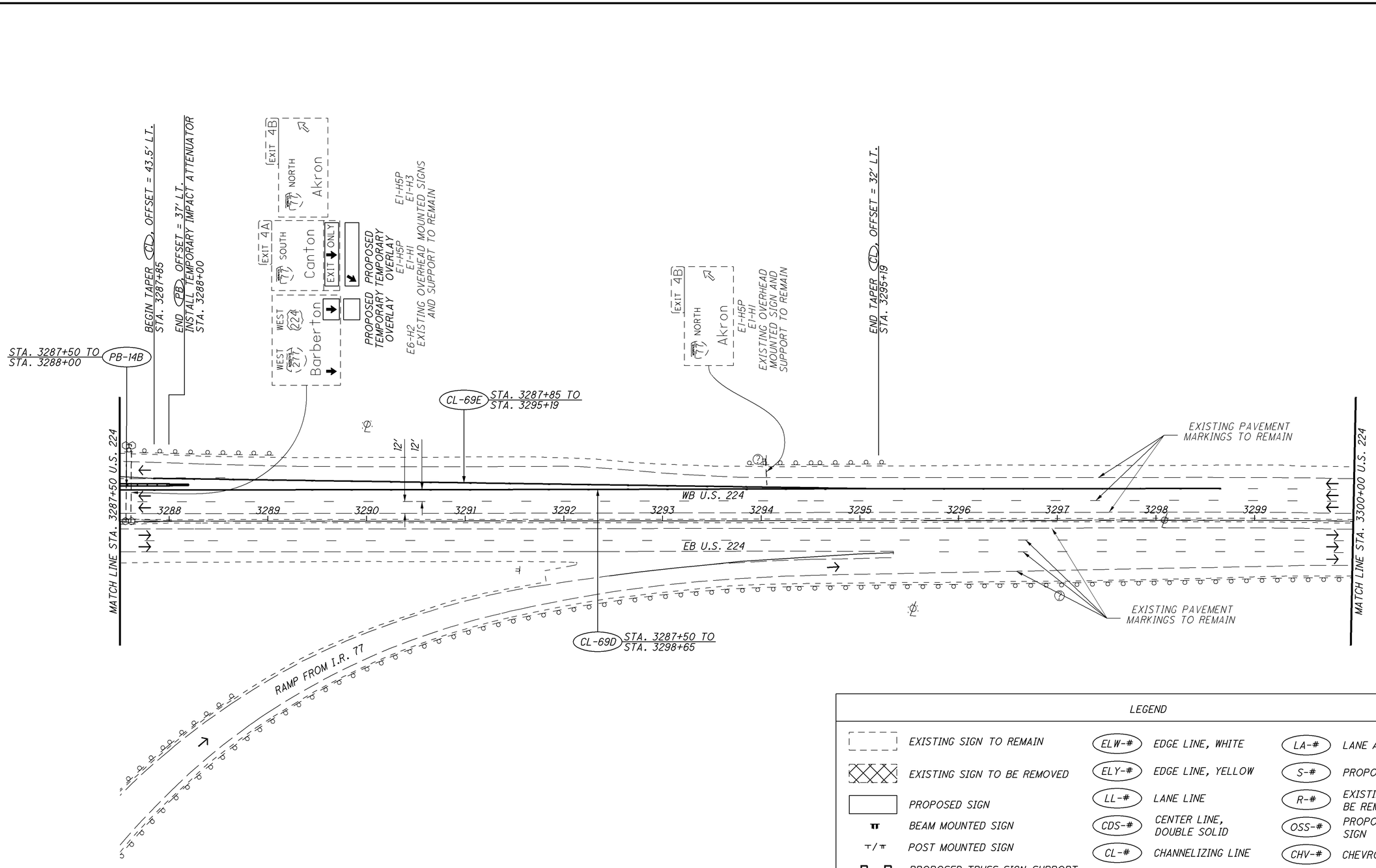
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3275+00 TO STA. 3287+50

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

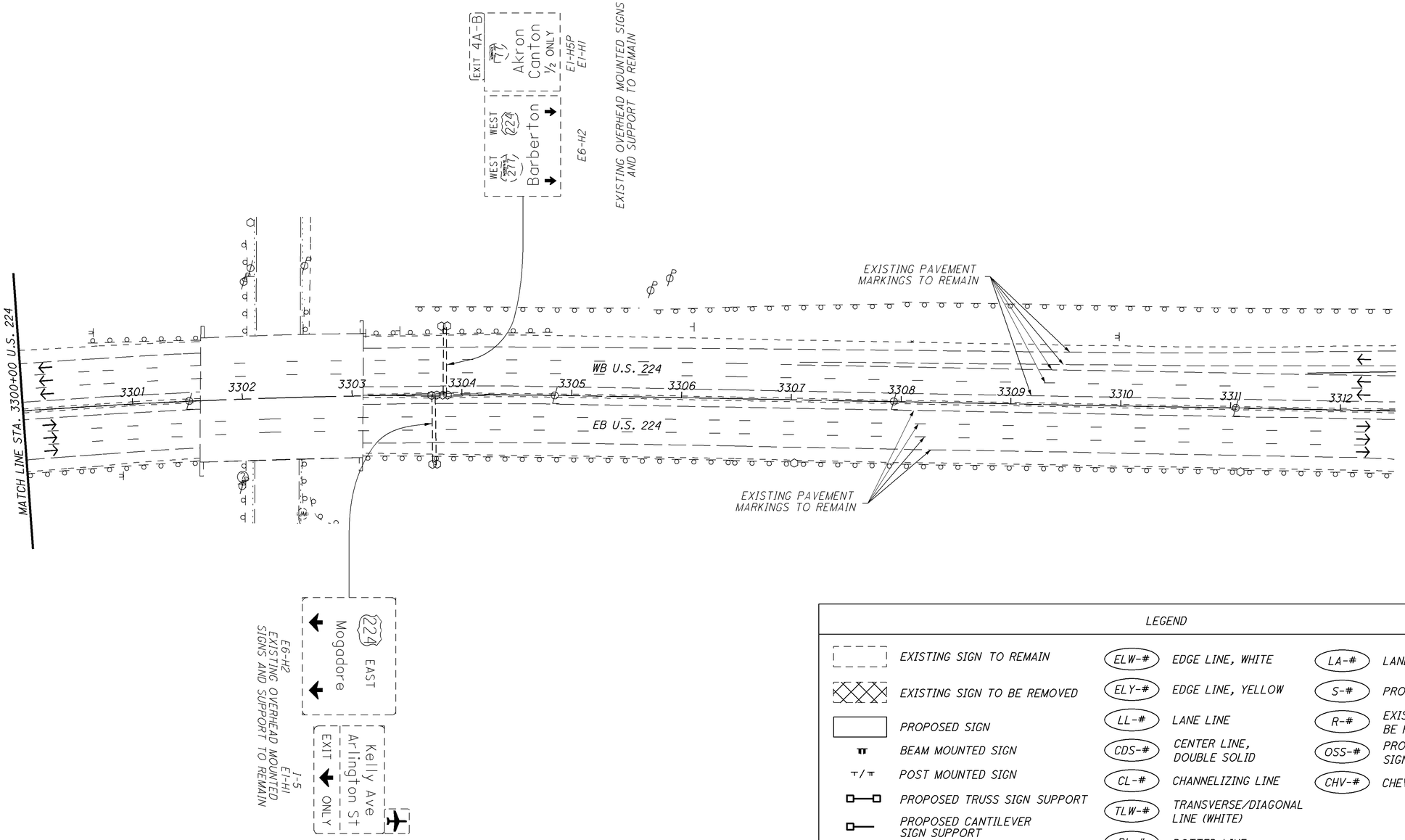
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3287+50 TO STA. 3300+00

SUM-76/77-11.27/12.12

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652

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NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

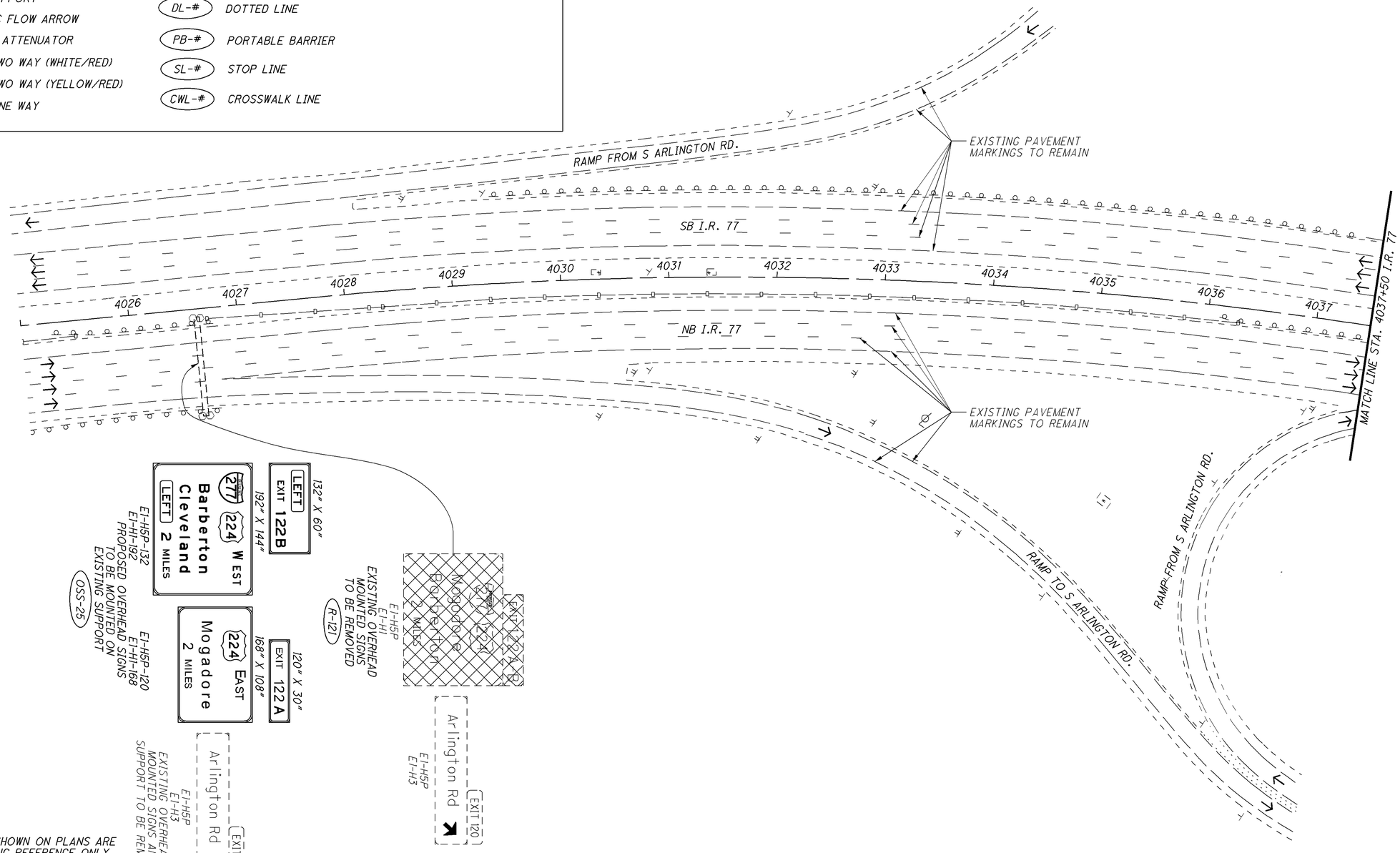
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
U.S. 224/I-277
STA. 3300+00 TO END

SUM-76/77-11.27/12.12

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LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

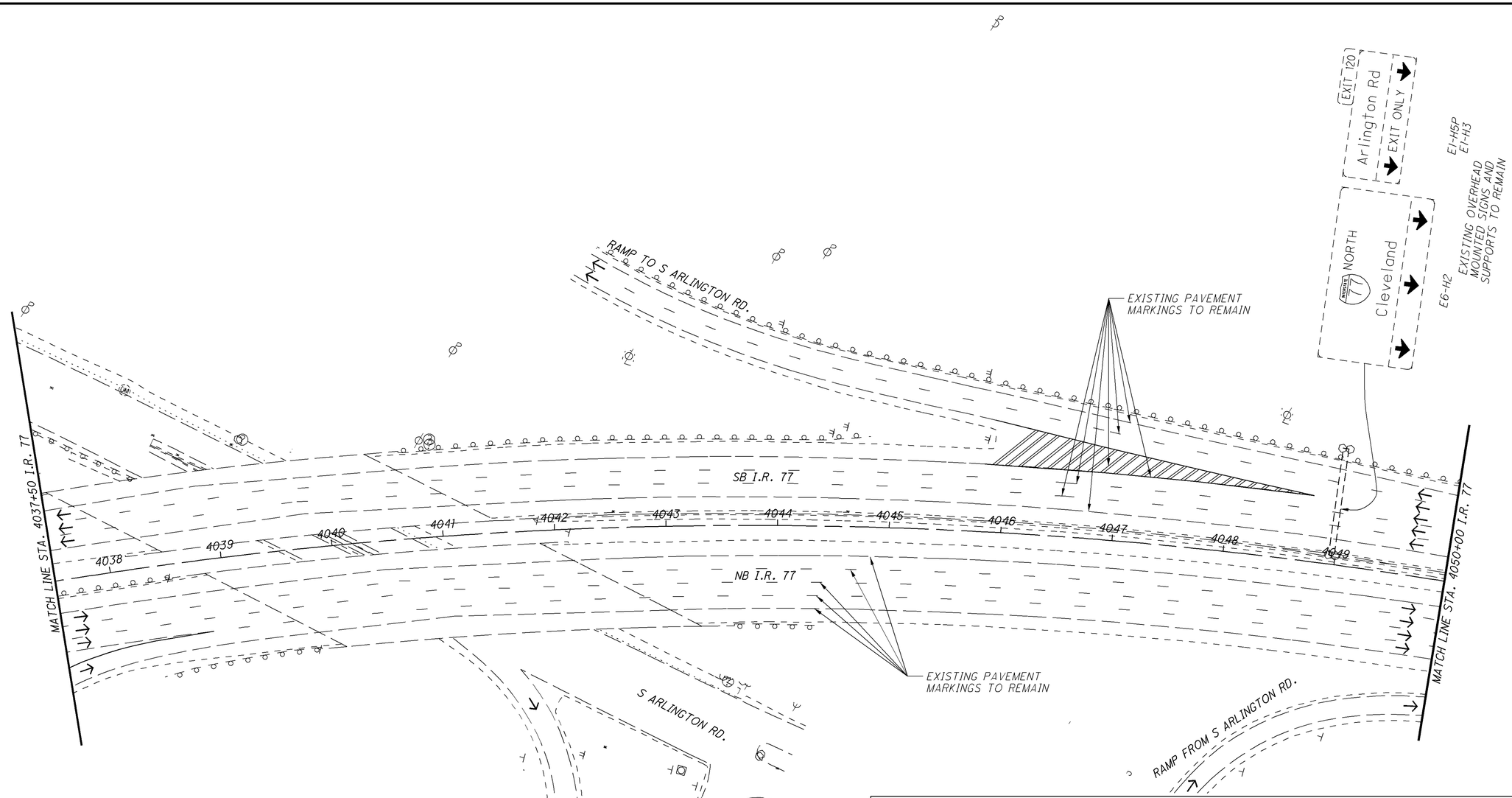
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4025+00 TO STA. 4037+50

SUM-76/77-11.27/12.12

480
652

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CDEIBEL



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

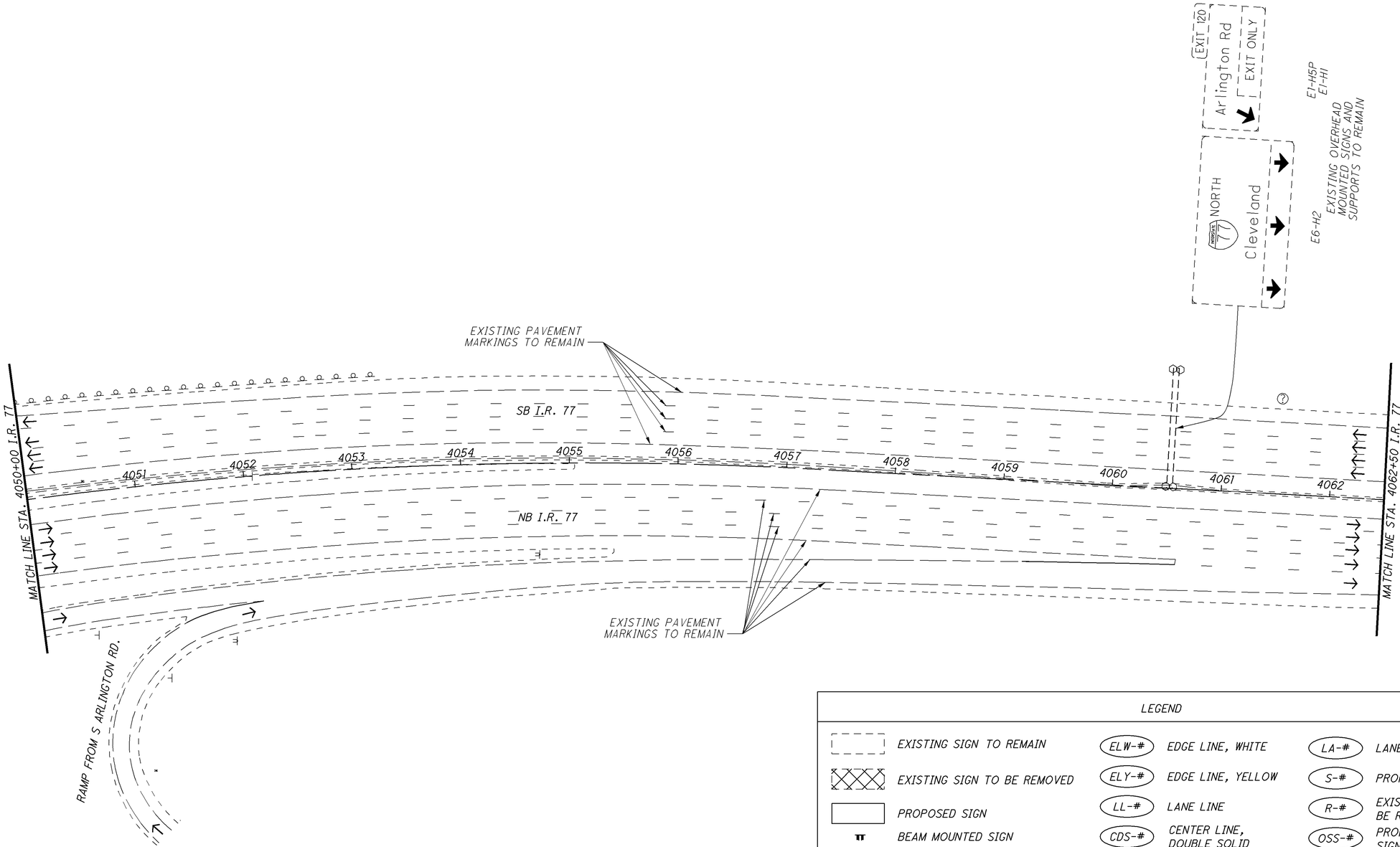
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4037+50 TO STA. 4050+00

SUM-76/77-11.27/12.12

481
652

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DEIBEL



NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

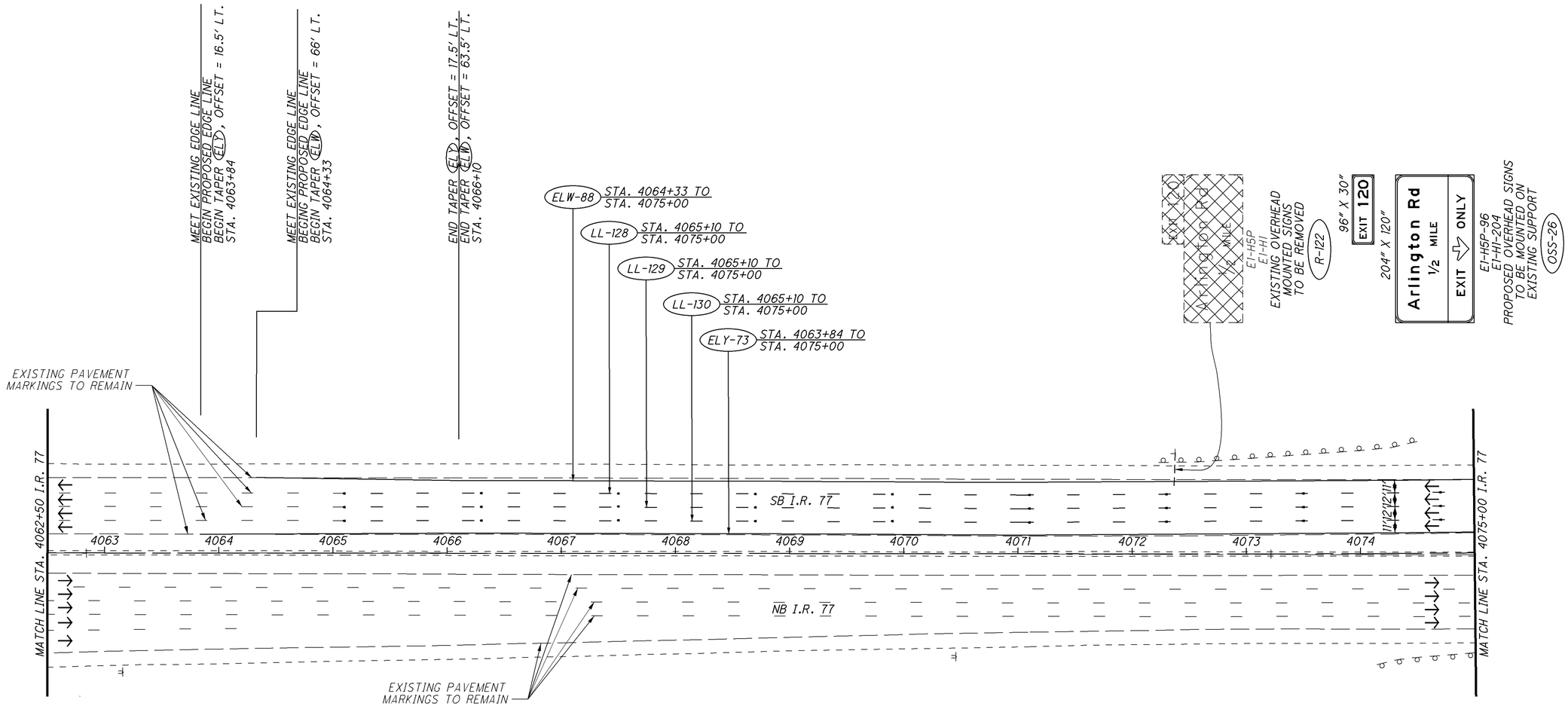
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4050+00 TO STA. 4062+50

SUM-76/77-11.27/12.12

482
652

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9/15/2014
3:28:07 PM
DBIBEL



LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

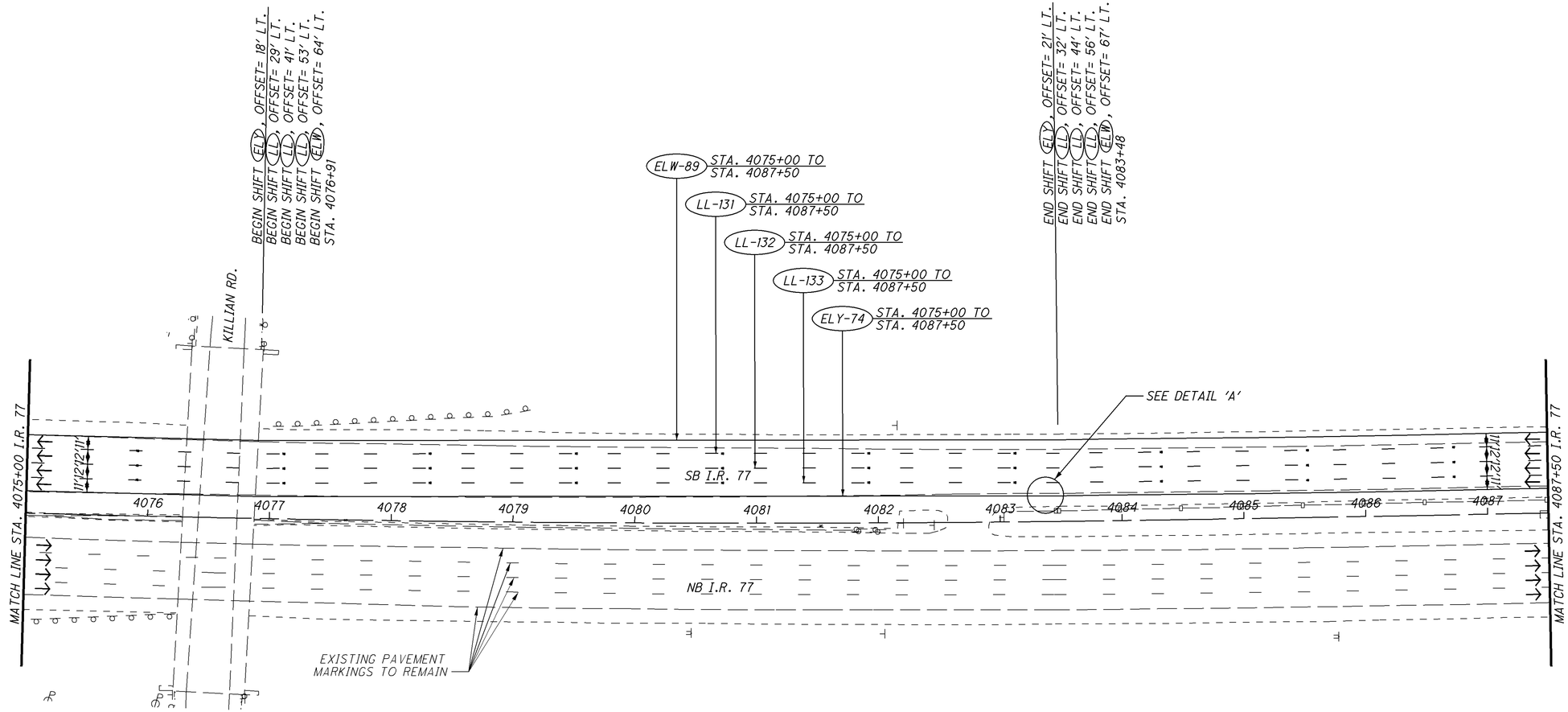
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4062+50 TO STA. 4075+00

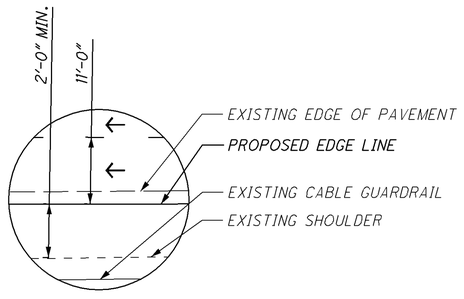
SUM-76/77-11.27/12.12

483
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CDEIBEL

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

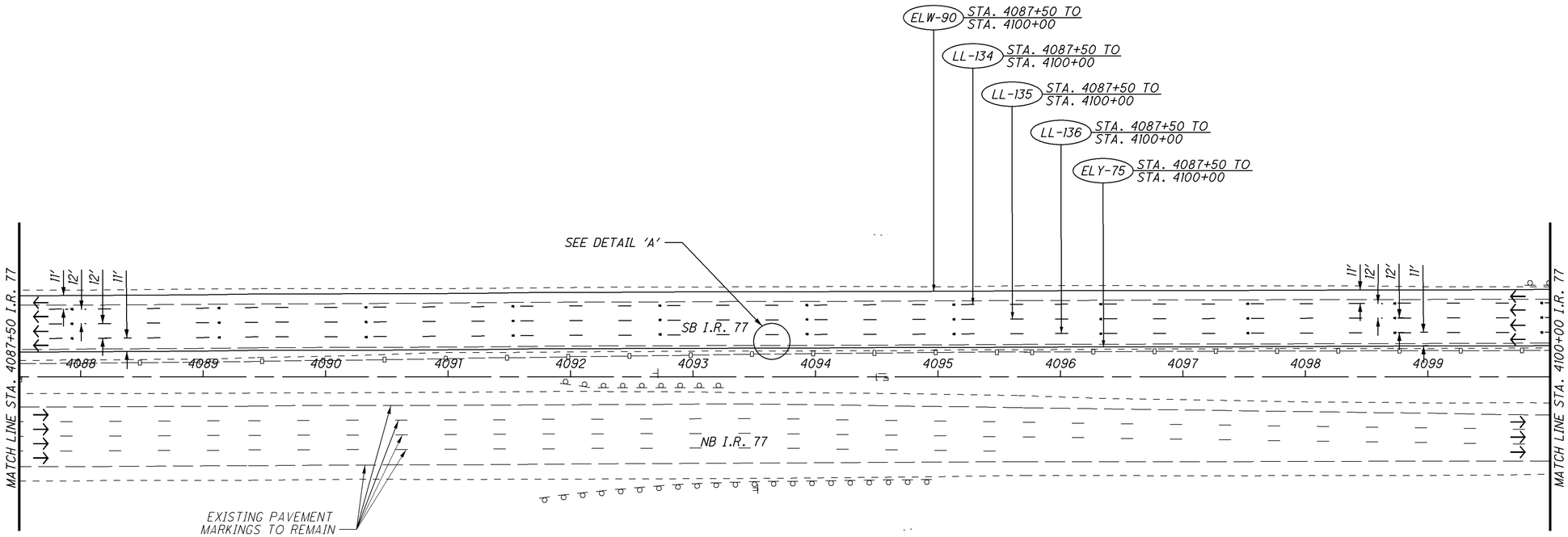
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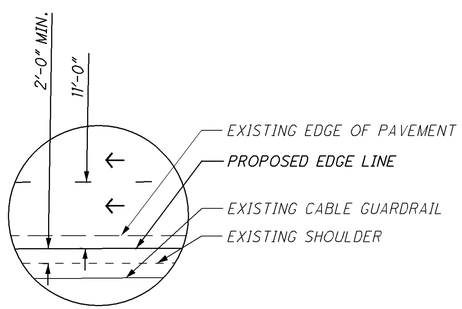
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4075+00 TO STA. 4087+50

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

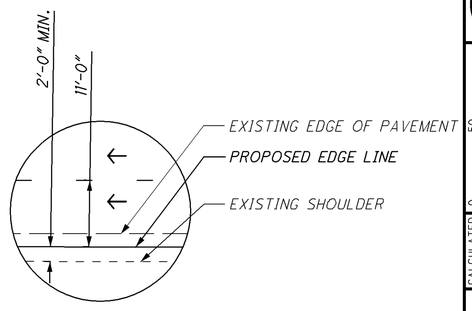
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PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4087+50 TO STA. 4100+00

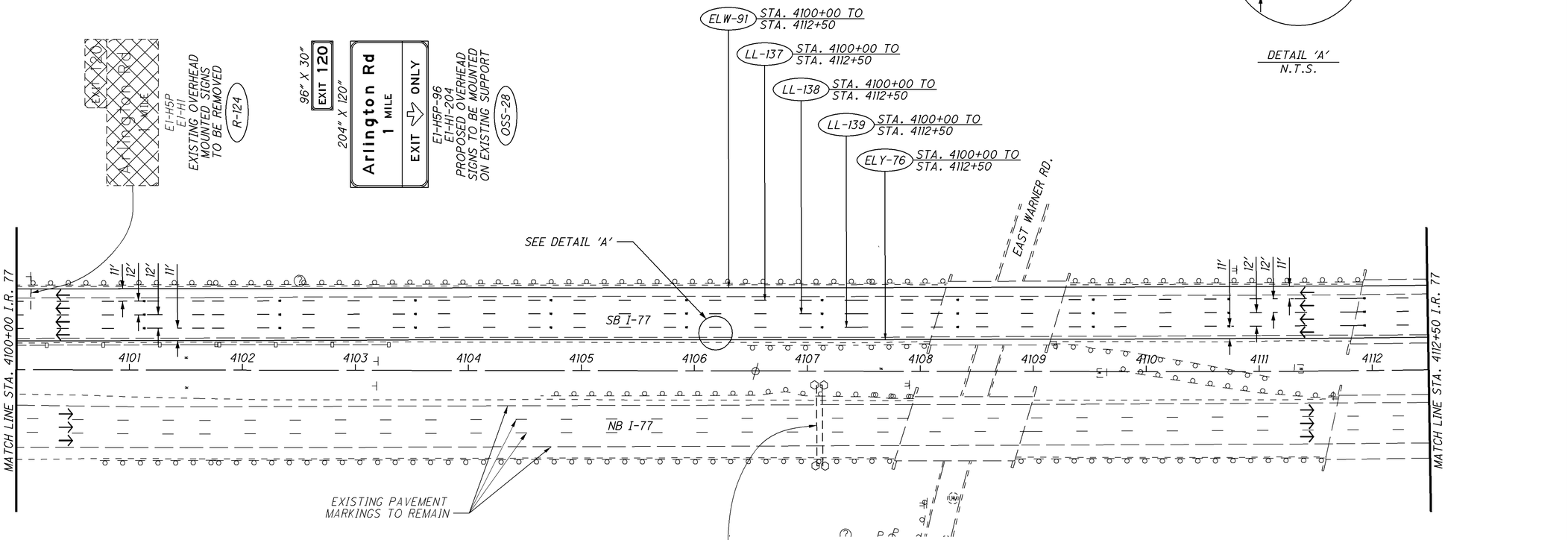
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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



DETAIL 'A'
N.T.S.



LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

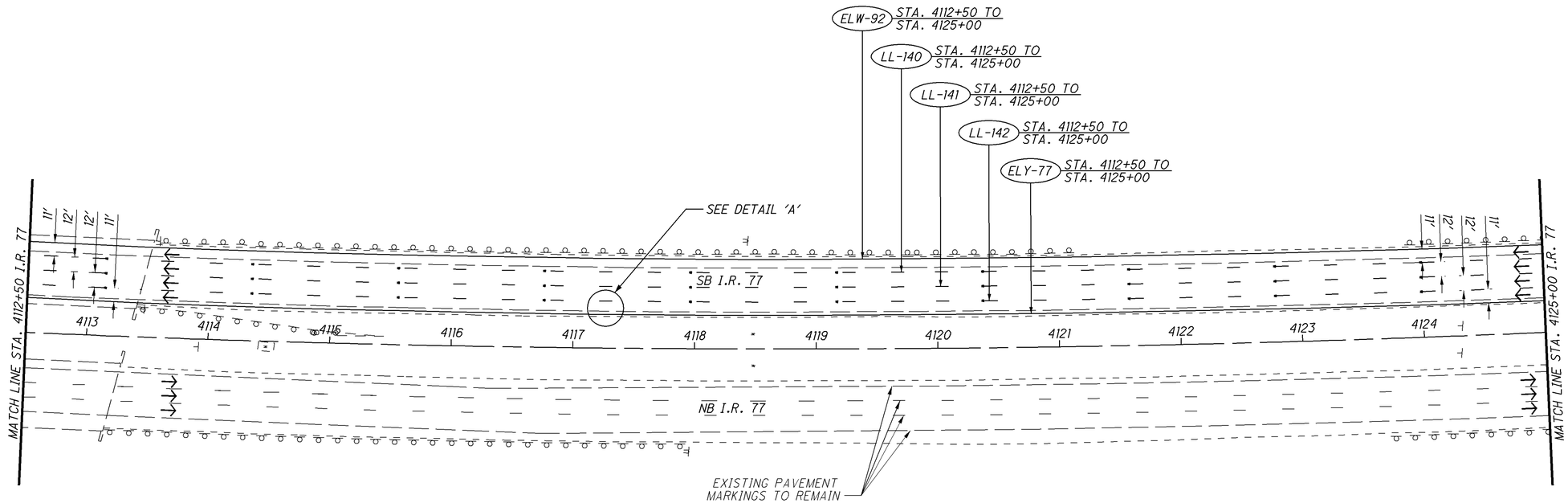
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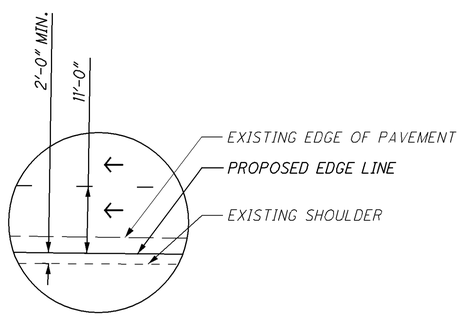
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4100+00 TO STA. 4112+50

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.





DETAIL 'A'
N.T.S.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY
- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE
- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

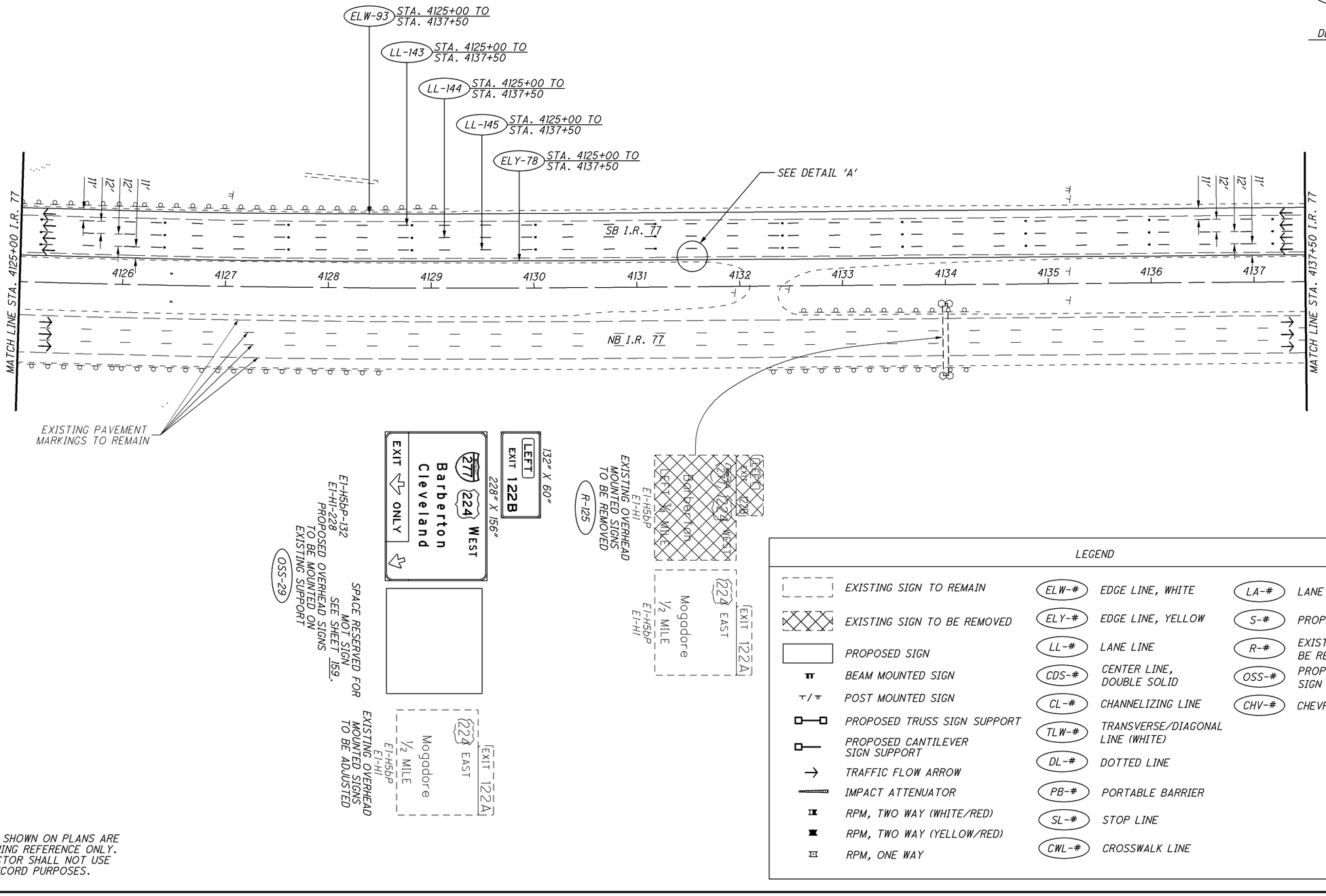
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4112+50 TO STA. 4125+00

SUM-76/77-11.27/12.12

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

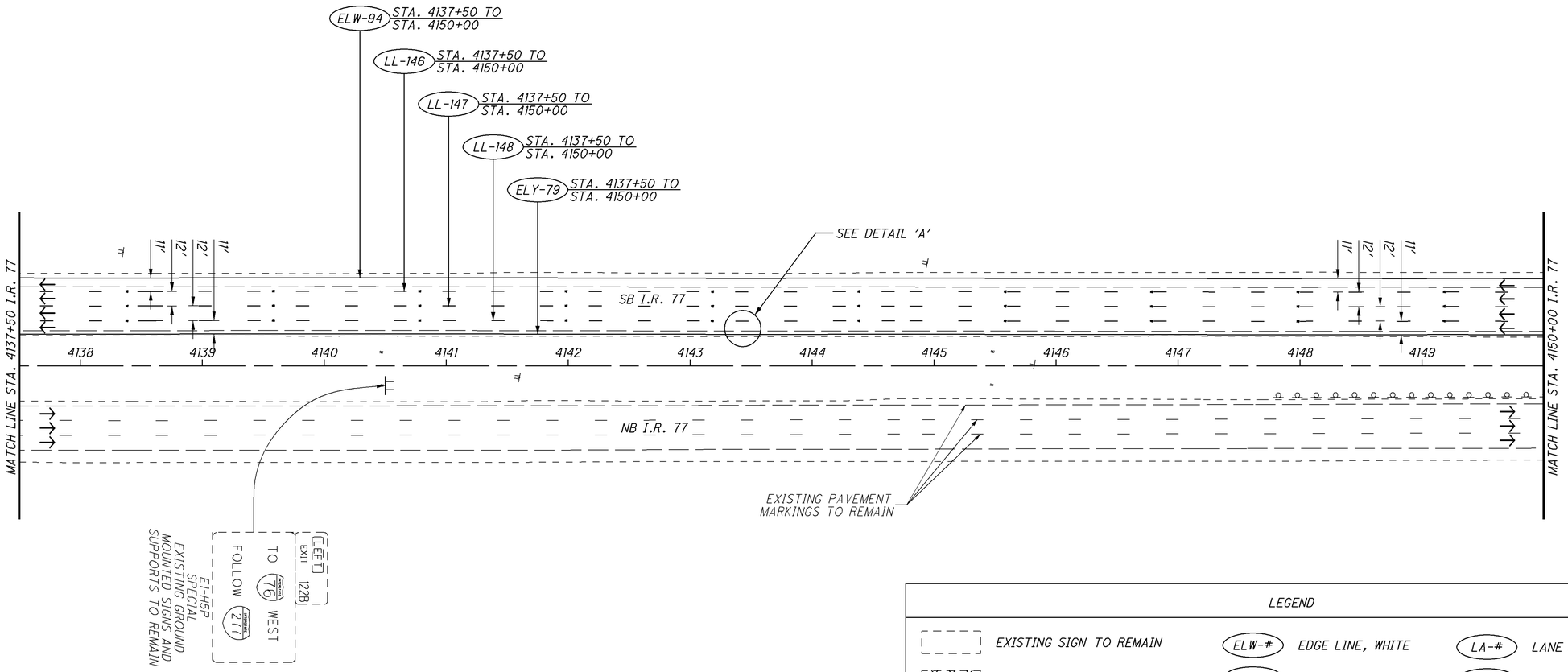
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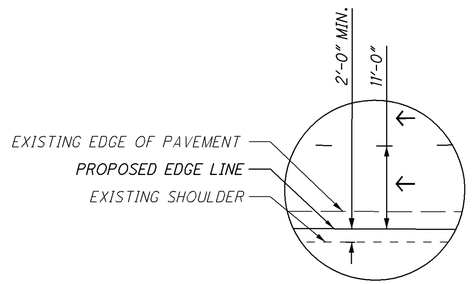
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4125+00 TO STA. 4137+50

SUM-76/77-11.27/12.12

488
652

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DBEIBEL





DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

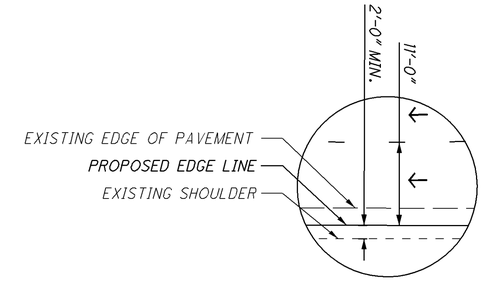
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PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4137+50 TO STA. 4150+00

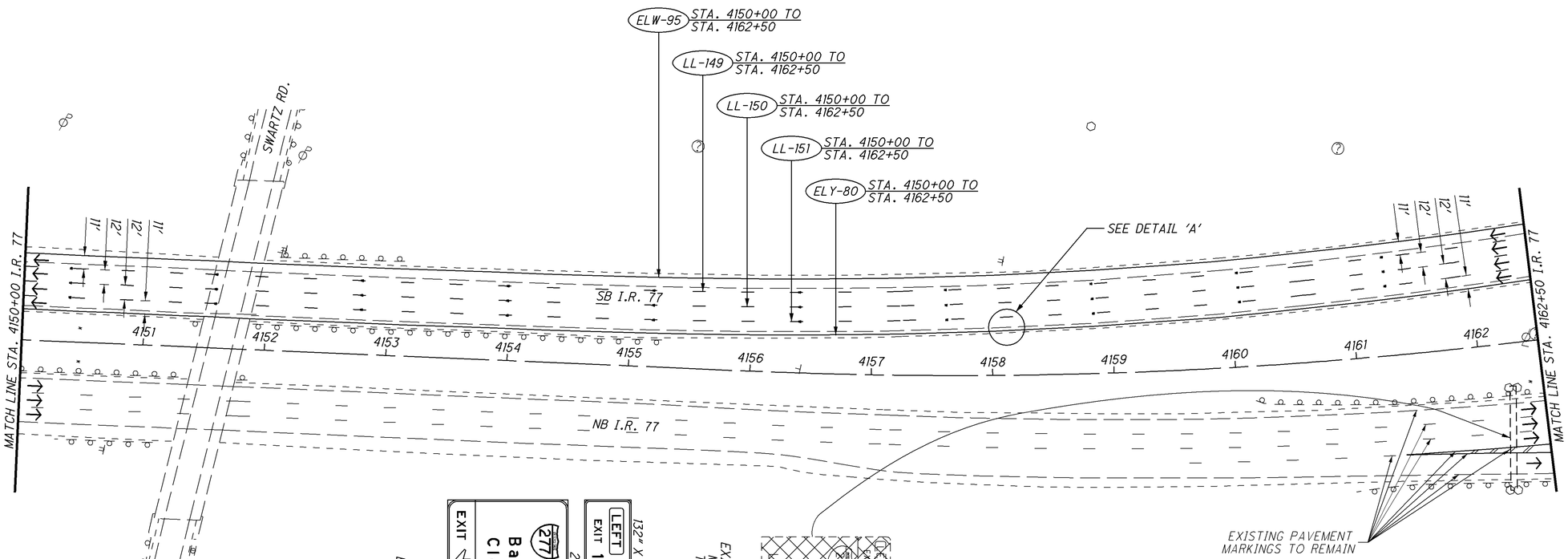
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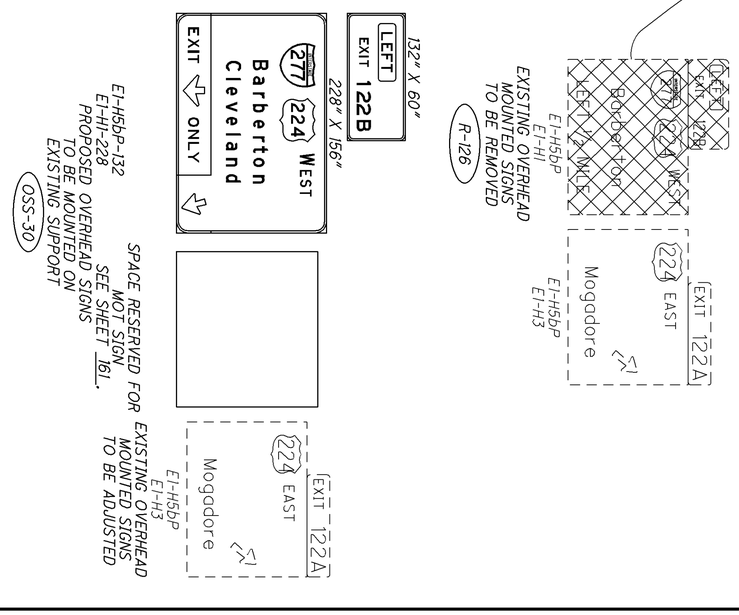
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CBEIBEL



DETAIL 'A'
N.T.S.





NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

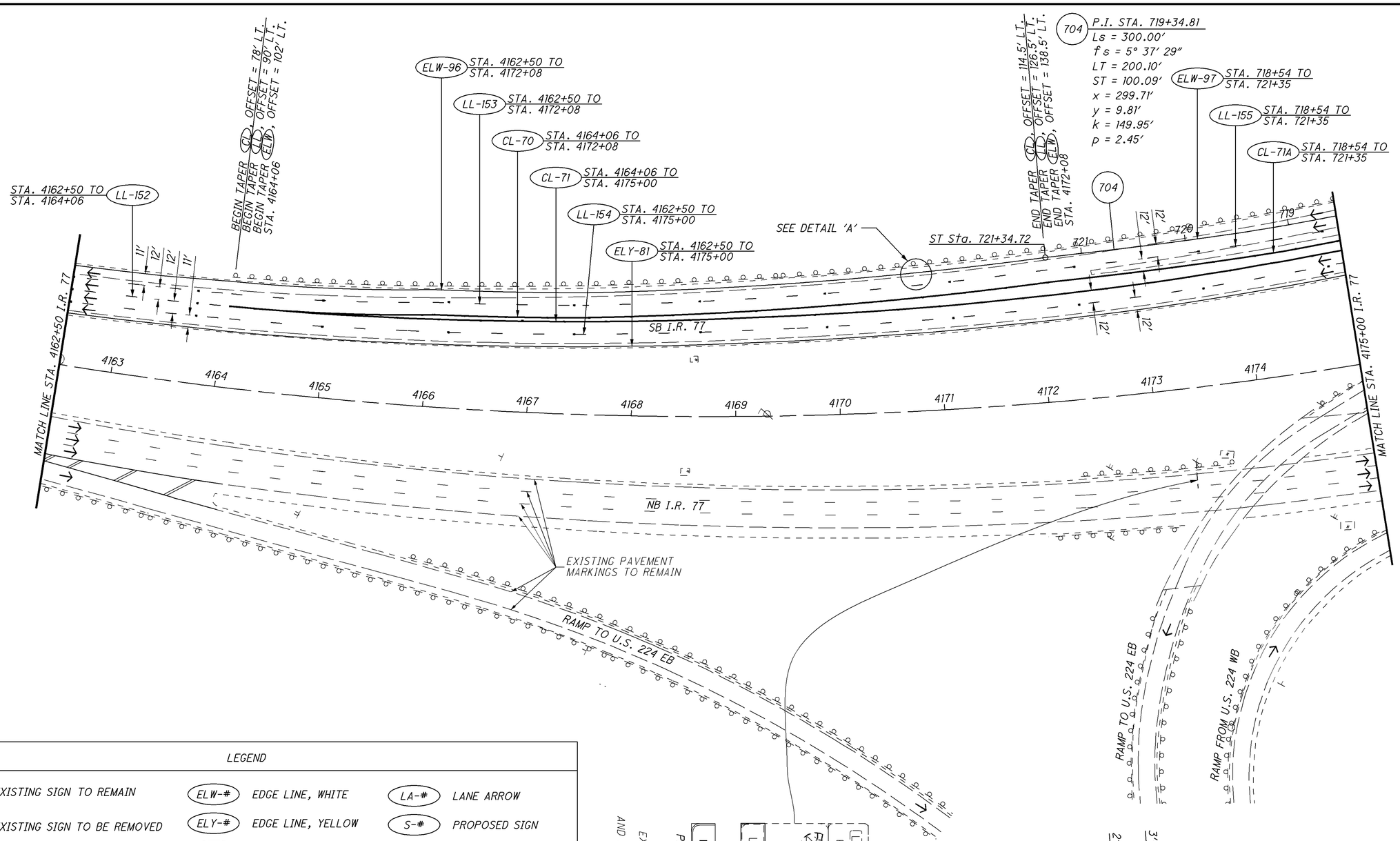
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4150+00 TO STA. 4162+50

SUM-76/77-11.27/12.12

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9/16/2014
3:30:06 PM
CDEIBEL



DETAIL 'A'
N.T.S.

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4162+50 TO STA. 4175+00

SUM-76/77-11.27/12.12

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PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4175+00 TO STA. 4187+50

SUM-76/77-11.27/12.12

492
652

CALCULATED CRW
CHECKED AKF

0 25 50 100
HORIZONTAL SCALE IN FEET

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

703 P.I. Sta. 713+10.32
Δ = 41° 11′ 58″ (RT)
Dc = 3° 44′ 59″
R = 1,528.00′
T = 574.33′
L = 1,098.74′
E = 104.37′
C = 1,075.22′
C.B. = S 62° 32′ 49″ E

901 P.I. Sta. 903+23.17
Δ = 9° 40′ 17″ (LT)
Dc = 1° 30′ 00″
R = 3,820.00′
T = 323.17′
L = 644.80′
E = 13.65′
C = 644.04′
C.B. = N 46° 32′ 47″ W

BEGIN TAPER (ELY), OFFSET = 80.5′ LT.
BEGIN TAPER (LL), OFFSET = 98.5′ LT.
BEGIN TAPER (CL), OFFSET = 110.5′ LT.
STA. 4175+00

END TAPER (ELY), OFFSET = 92.5′ LT.
END TAPER (LL), OFFSET = 104.5′ LT.
END TAPER (CL), OFFSET = 116.5′ LT.
STA. 4176+95

BEGIN (ELW), OFFSET = 116.5′ LT.
STA. 4177+65

CS Sta. 718+34.72

MATCH LINE STA. 709+00 I.R. 277 SEE SHEET 4L6

END TAPER (ELW), OFFSET = 101′ LT.
BEGIN TAPER (CL), OFFSET = 127′ LT.
STA. 4184+74

END TAPER (CL), OFFSET = 133′ LT.
STA. 4185+37

BEGIN TAPER (ELW), OFFSET = 79′ LT.
STA. 4187+00

END TAPER (ELW), OFFSET = 90′ LT.
STA. 4187+50

EXIT 122A
224 EAST
Mogadore
E1-H5P
E1-H3
EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO REMAIN

ELW-99 STA. 709+00 TO STA. 718+54
LL-157 STA. 709+00 TO STA. 718+54
ELY-83A STA. 709+00 TO STA. 715+94
ELW-98 STA. 4177+65 TO STA. 4184+74
LL-156 STA. 4175+00 TO STA. 4187+50
ELY-83 STA. 4175+00 TO STA. 4179+61
CL-75 STA. 715+94 TO STA. 718+54
CL-72 STA. 4175+00 TO STA. 4177+65
CL-73 STA. 4179+61 TO STA. 4182+66
CL-74 STA. 4179+61 TO STA. 4182+66
DL-14A STA. 4177+65 TO STA. 4184+74
CL-76 STA. 4184+74 TO STA. 4187+50
CL-79 STA. 4184+74 TO STA. 4187+50
DL-14 STA. 4182+66 TO STA. 4187+50

RAMP FROM U.S. 224 EB
RAMP TO U.S. 224 EB
SB I.R. 77
NB I.R. 77
RAMP TO I.R. 277
RAMP FROM U.S. 224 WB

MATCH LINE STA. 4175+00 I.R. 77
MATCH LINE STA. 4187+50 I.R. 77

ELY-86A STA. 4179+61 TO STA. 4187+50
ELY-86 STA. 4177+83 TO STA. 4181+48
LL-161 STA. 4177+83 TO STA. 4181+46
LL-160 STA. 4177+83 TO STA. 4187+50
ELW-101 STA. 4177+83 TO STA. 4180+68
ELY-85 STA. 900+00 TO STA. 906+04
LL-159 STA. 900+00 TO STA. 906+04
CL-78 STA. 903+03 TO STA. 905+58
LL-158 STA. 4180+68 TO STA. 4187+50
CL-77 STA. 4184+53 TO STA. 4187+10
ELW-100 STA. 905+58 TO STA. 906+04
ELY-84 STA. 4187+10 TO STA. 4187+50

PC Sta. 900+00.00

MEET EXISTING NORTHBOUND PAVEMENT MARKINGS
BEGIN PROPOSED PAVEMENT MARKINGS
STA. 4177+83

BEGIN TAPER (CD), OFFSET = 66′ LT.
BEGIN TAPER (ELY), OFFSET = 50.5′ LT.
STA. 4179+61

END TAPER (CD), OFFSET = 92.5′ LT.
STA. 4182+66

END TAPER (ELY), OFFSET = 80.5′ LT.
STA. 4183+41

PROPOSED OVERHEAD SIGNS AND SUPPORT
OSS-32

277 EXIT ONLY
224 W EST
Barberton
Cleveland
E1-H5P-132
E1-H3-204
204″ X 156″

LEFT EXIT 122B
132″ X 60″

77 NORTH 76
Cleveland
Youngstown
E6-H2-348
348″ X 144″

EXISTING OVERHEAD MOUNTED SIGNS AND SUPPORT TO BE REMOVED
R-128

EXIT ONLY R3-5
E1-H5bP
E1-H3

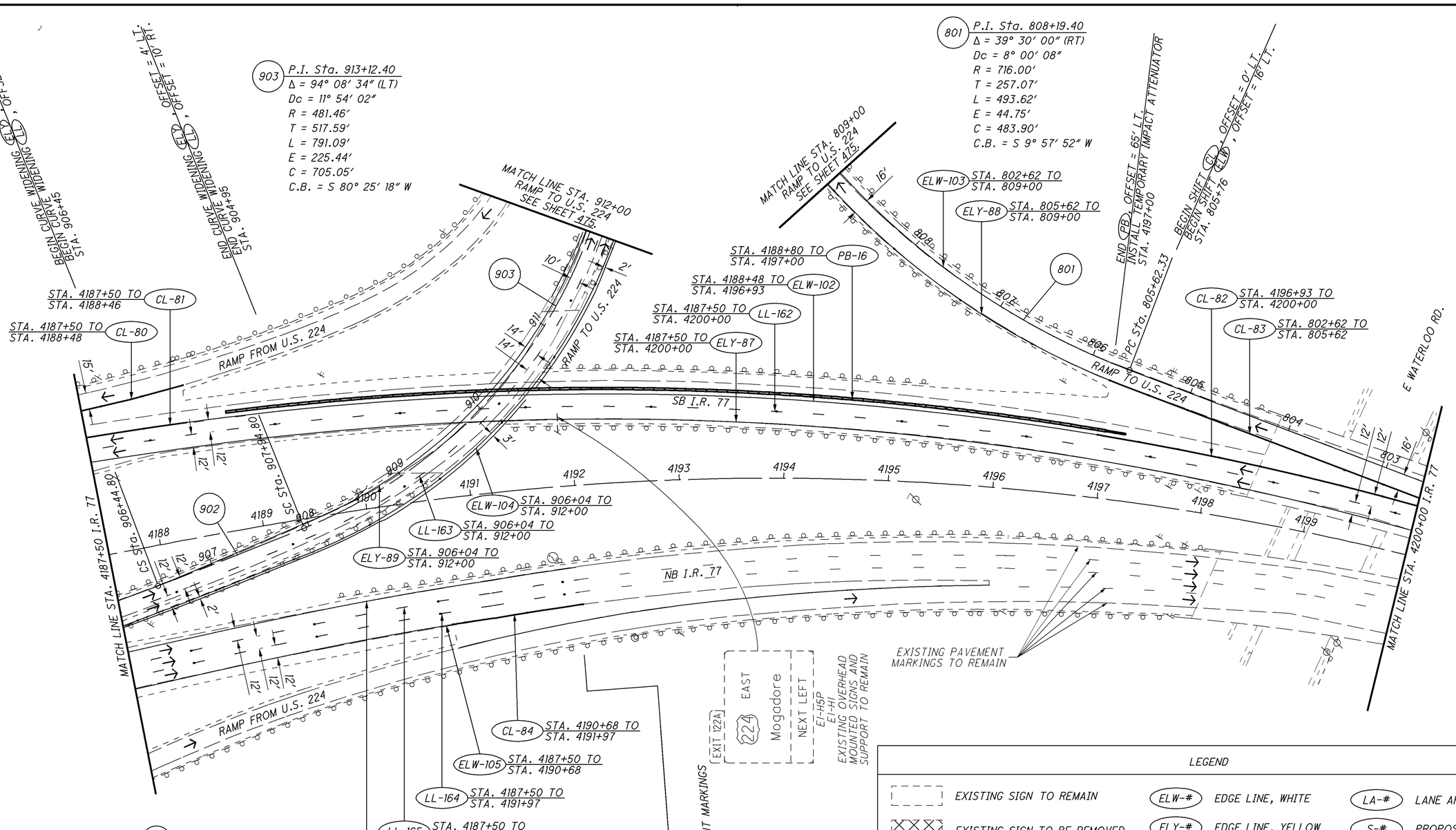
BEGIN SHIFT (ELW), OFFSET = 140.5′ RT.
BEGIN SHIFT (LL), OFFSET = 128.5′ RT.
BEGIN SHIFT (CL), OFFSET = 116.5′ RT.
BEGIN SHIFT (CL), OFFSET = 105′ RT.
STA. 4184+50

END SHIFT (CL), OFFSET = 96′ RT.
BEGIN SHIFT (ELY), OFFSET = 96′ RT.
STA. 4187+10

LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- BEAM MOUNTED SIGN
- POST MOUNTED SIGN
- PROPOSED TRUSS SIGN SUPPORT
- PROPOSED CANTILEVER SIGN SUPPORT
- TRAFFIC FLOW ARROW
- IMPACT ATTENUATOR
- RPM, TWO WAY (WHITE/RED)
- RPM, TWO WAY (YELLOW/RED)
- RPM, ONE WAY

- ELW-# EDGE LINE, WHITE
- ELY-# EDGE LINE, YELLOW
- LL-# LANE LINE
- CDS-# CENTER LINE, DOUBLE SOLID
- CL-# CHANNELIZING LINE
- TLW-# TRANSVERSE/DIAGONAL LINE (WHITE)
- DL-# DOTTED LINE
- PB-# PORTABLE BARRIER
- SL-# STOP LINE
- CWL-# CROSSWALK LINE

- LA-# LANE ARROW
- S-# PROPOSED SIGN
- R-# EXISTING SIGN TO BE REMOVED
- OSS-# PROPOSED OVERHEAD SIGN
- CHV-# CHEVRON MARKINGS

HORIZONTAL SCALE IN FEET
0 25 50 100

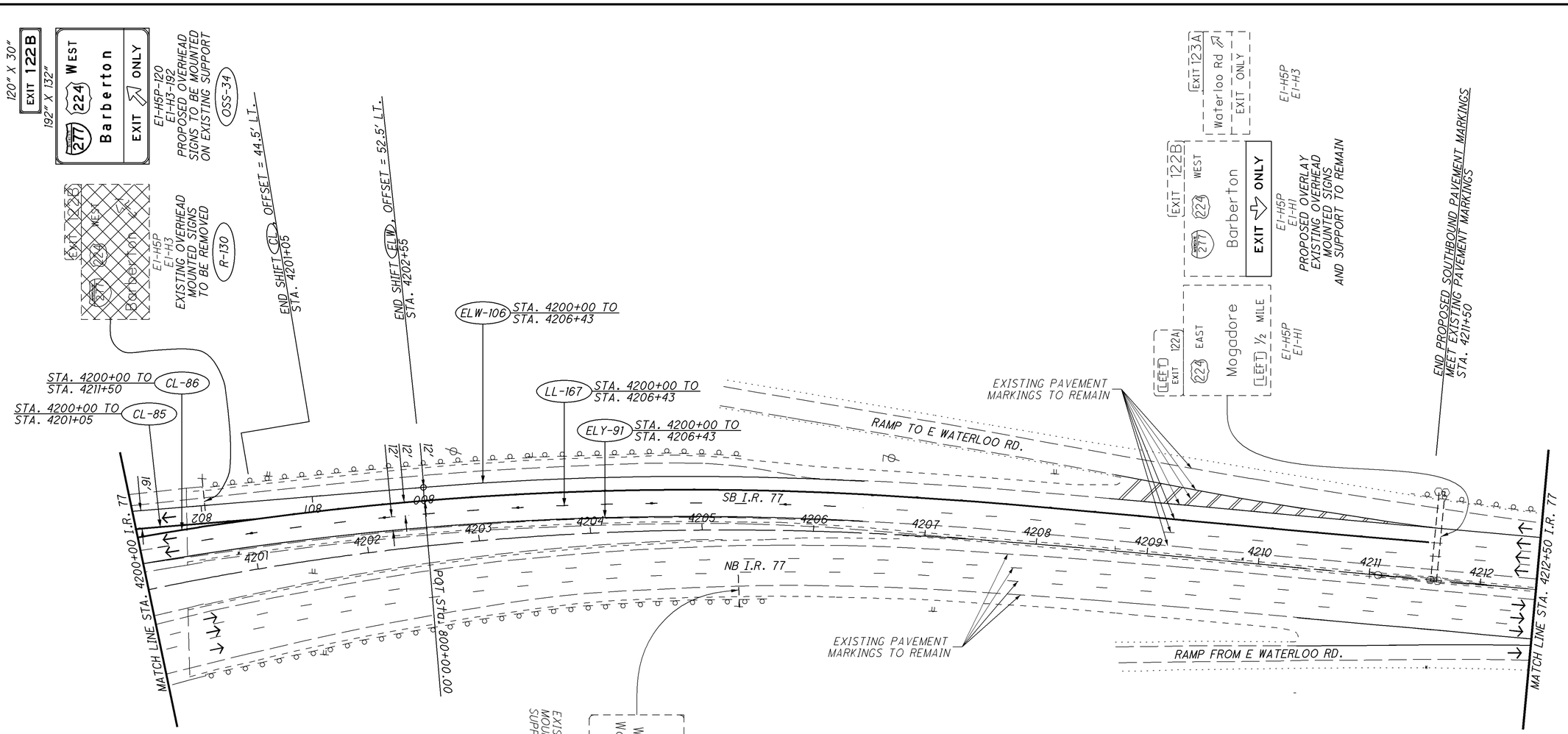
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4187+50 TO STA. 4200+00

SUM-76/77-11.27/12.12

493
652

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

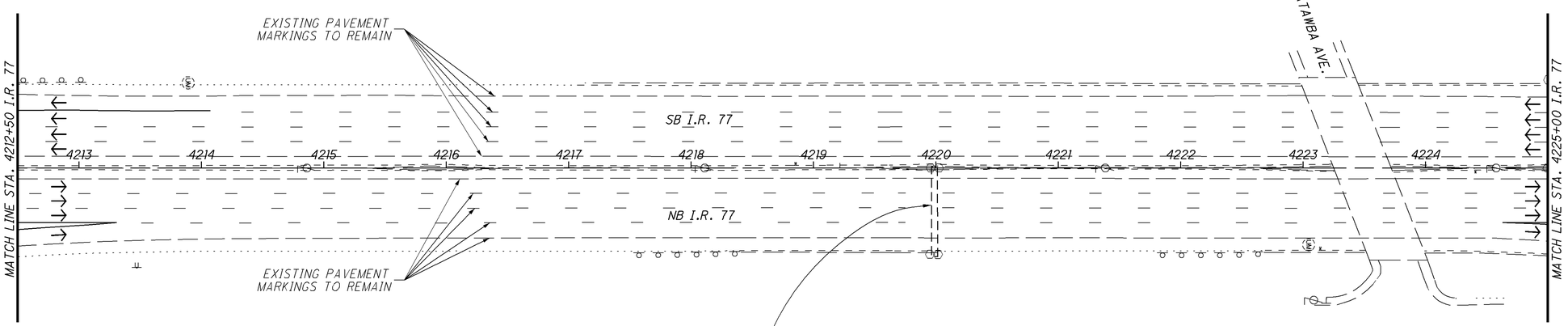
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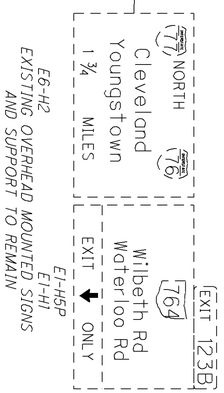
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4200+00 TO STA. 4212+50

SUM-76/77-11.27/12.12





NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

N

0 25 50 100
HORIZONTAL SCALE IN FEET

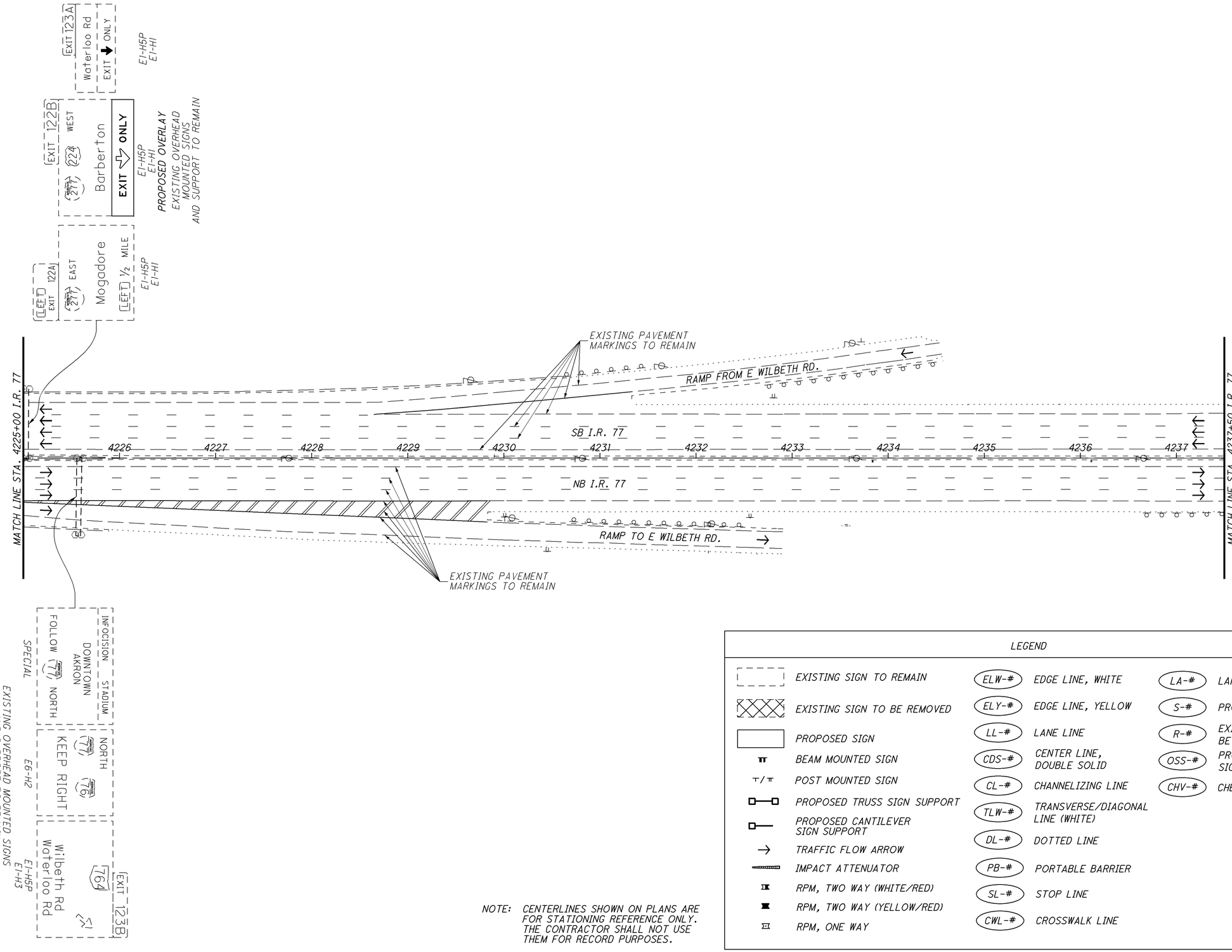
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4212+50 TO STA. 4225+00

SUM-76/77-11.27/12.12

495
652

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NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

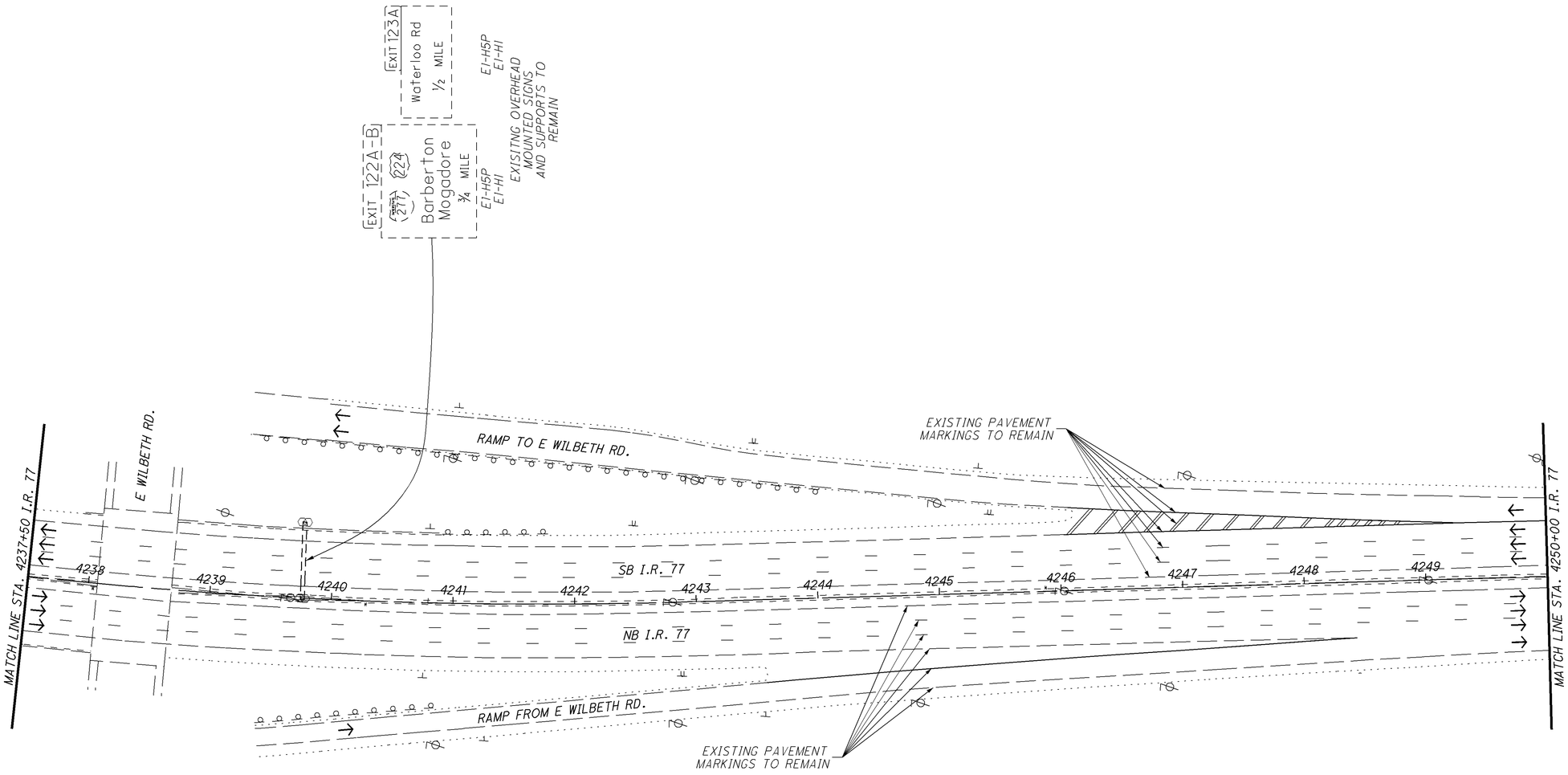
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4225+00 TO STA. 4237+50

CALCULATED CRW
CHECKED AKF

HORIZONTAL SCALE IN FEET
0 25 50 100

SUM-76/77-11.27/12.12

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

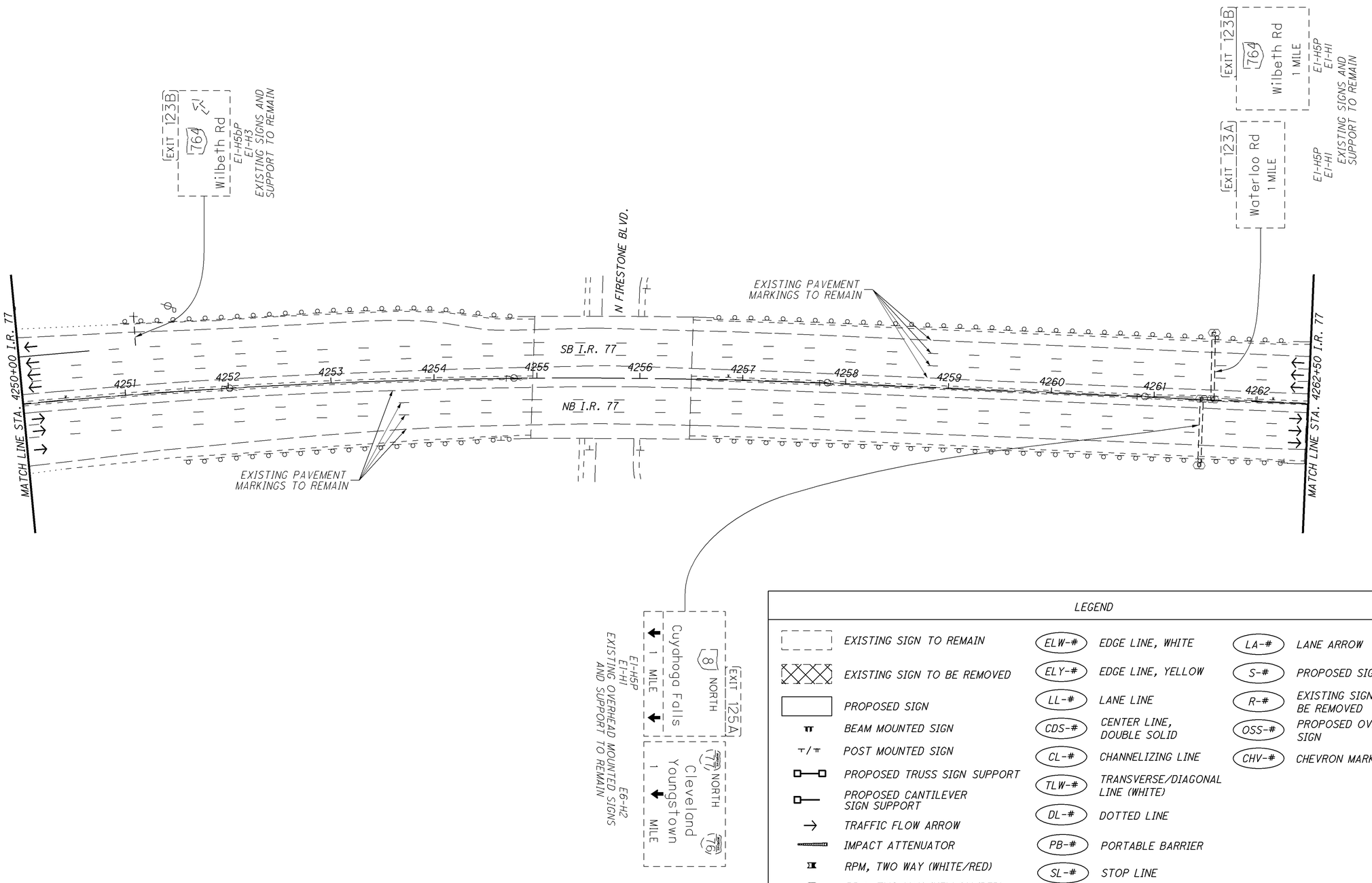
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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4237+50 TO STA. 4250+00

SUM-76/77-11.27/12.12



LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

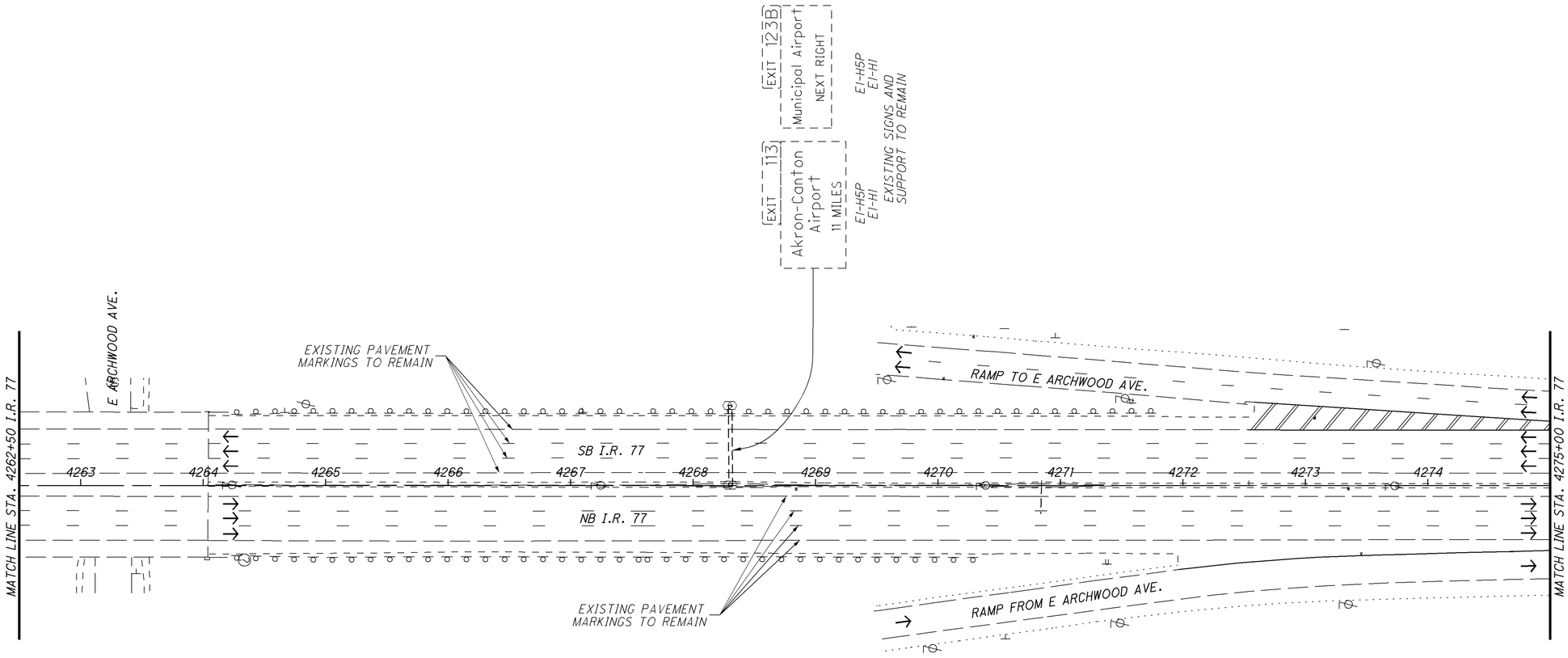
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4250+00 TO STA. 4262+50

SUM-76/77-11.27/12.12

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LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ON PLANS ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

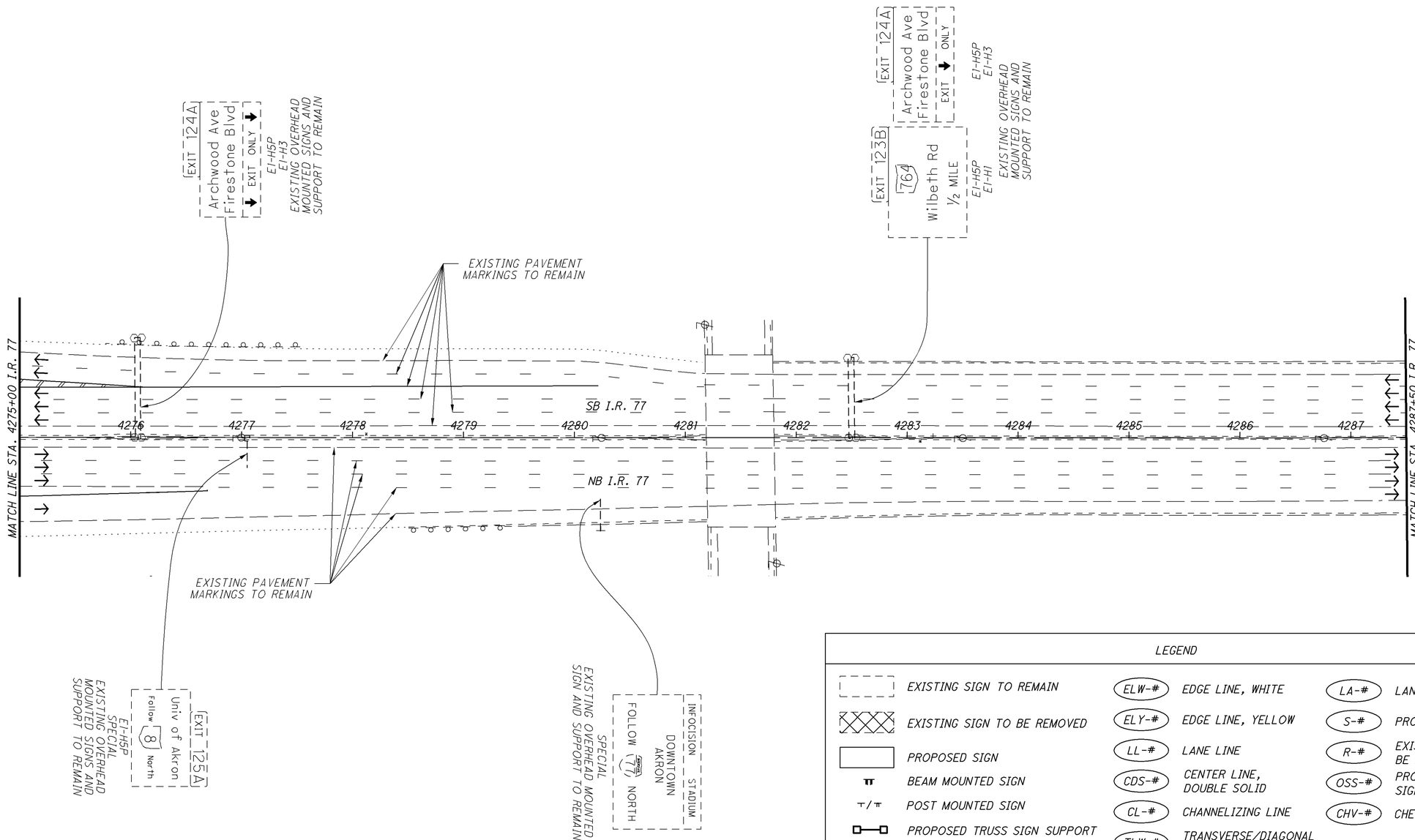
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4262+50 TO STA. 4275+00

SUM-76/77-11.27/12.12

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

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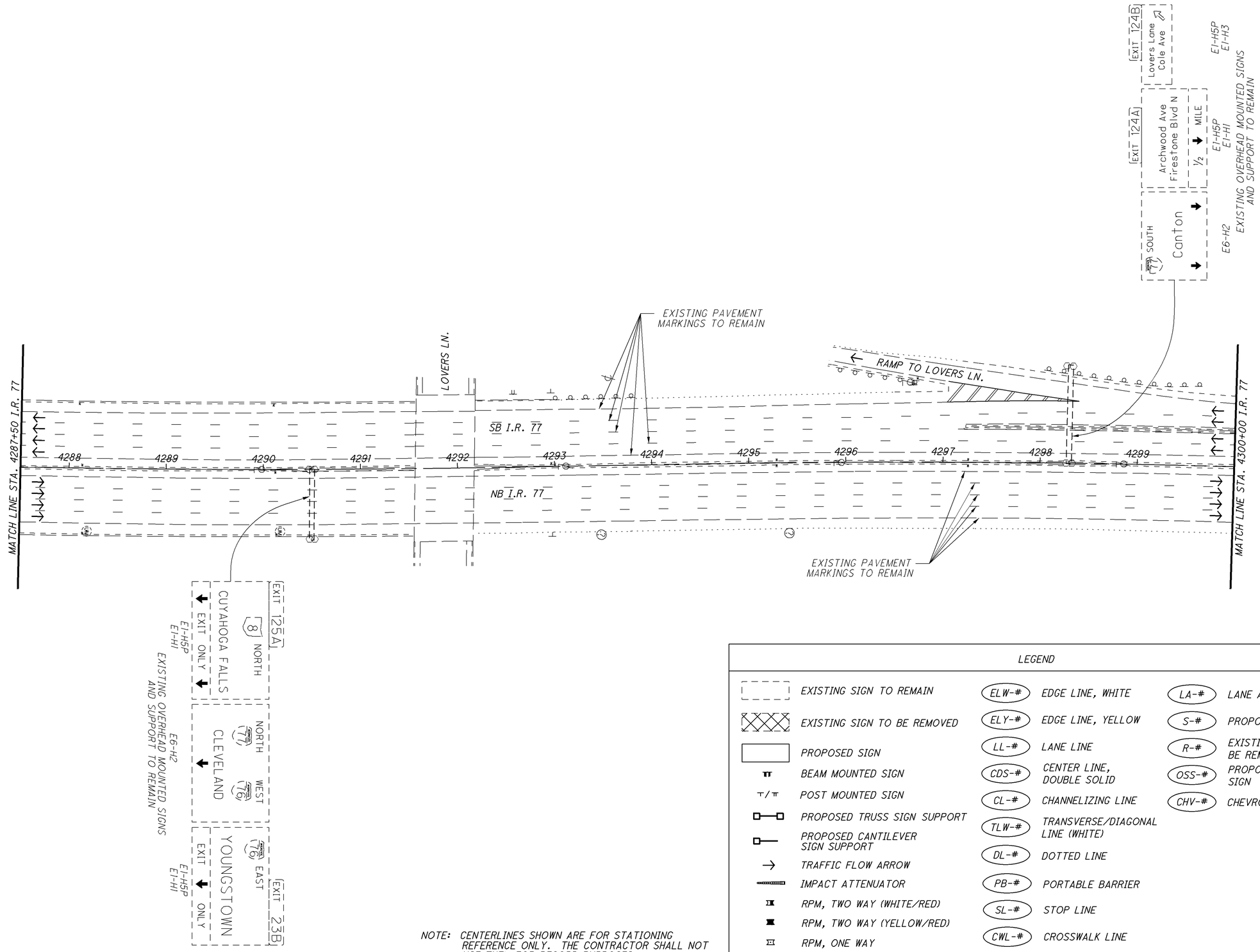
CALCULATED CRW
CHECKED AKF

0 25 50 100
HORIZONTAL SCALE IN FEET

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4275+00 TO STA. 4287+50

SUM-76/77-11.27/12.12

500
652



NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
T/T	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
→	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4287+50 TO STA. 4300+00

SUM-76/77-11.27/12.12

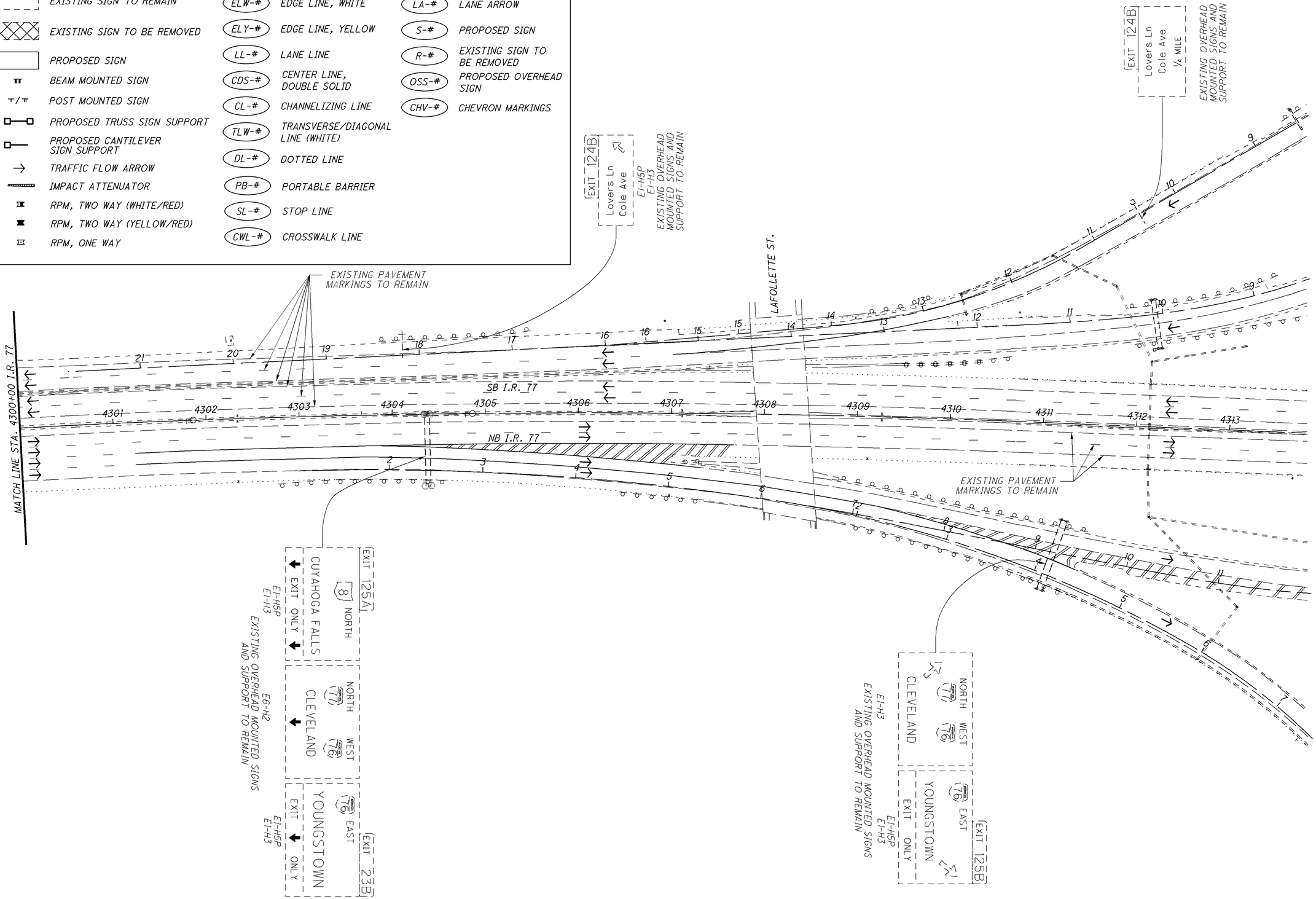
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CBEIBEL

LEGEND

EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
IMPACT ATTENUATOR	SL-#	STOP LINE		
RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
RPM, TWO WAY (YELLOW/RED)				
RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.



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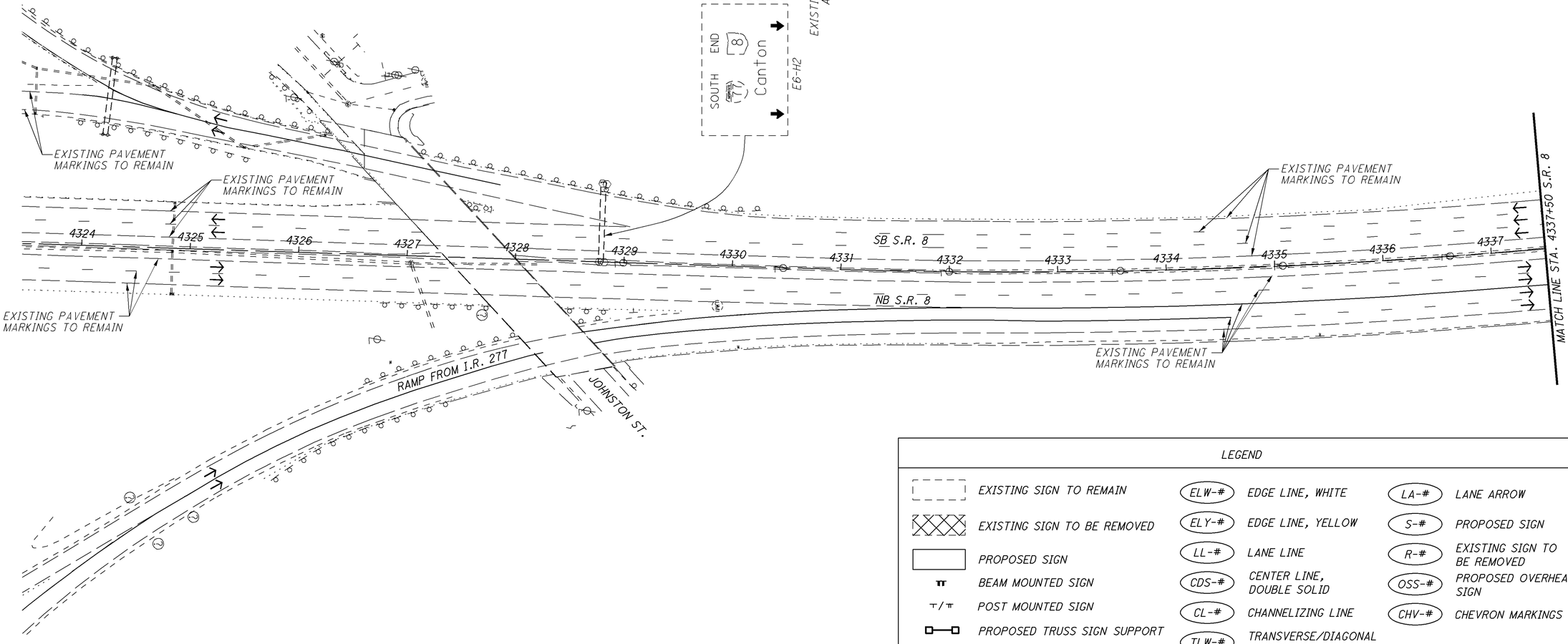
PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
I-77 NORTH AND SOUTH LEG
STA. 4300+00 TO STA. 4312+50

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

SUM-76/77-11.27/12.12

502
652



NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

N

0 25 50 100
HORIZONTAL SCALE IN FEET

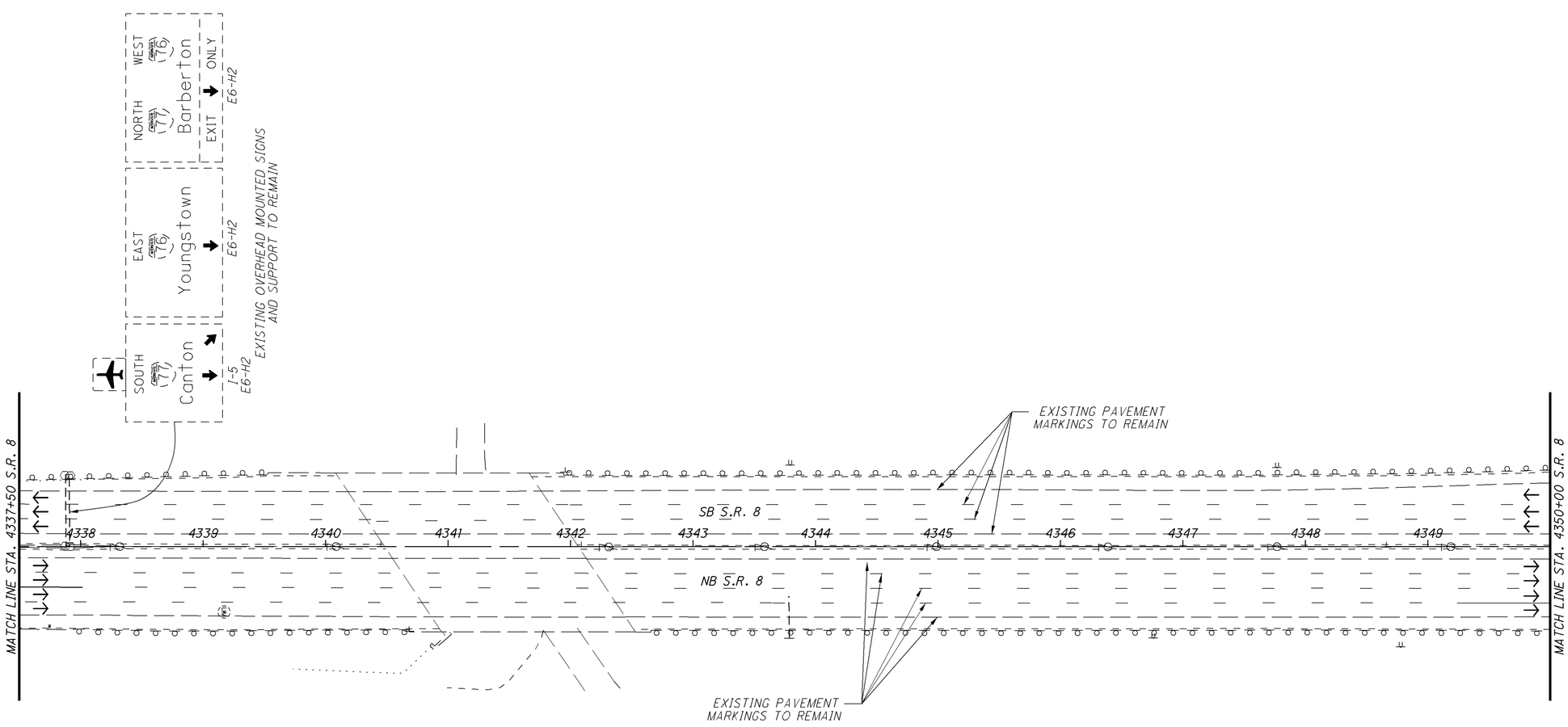
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
S.R. 8
BEGIN TO STA. 4337+50

SUM-76/77-11.27/12.12

503
652

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CDEIBEL



NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

HORIZONTAL SCALE IN FEET
0 25 50 100

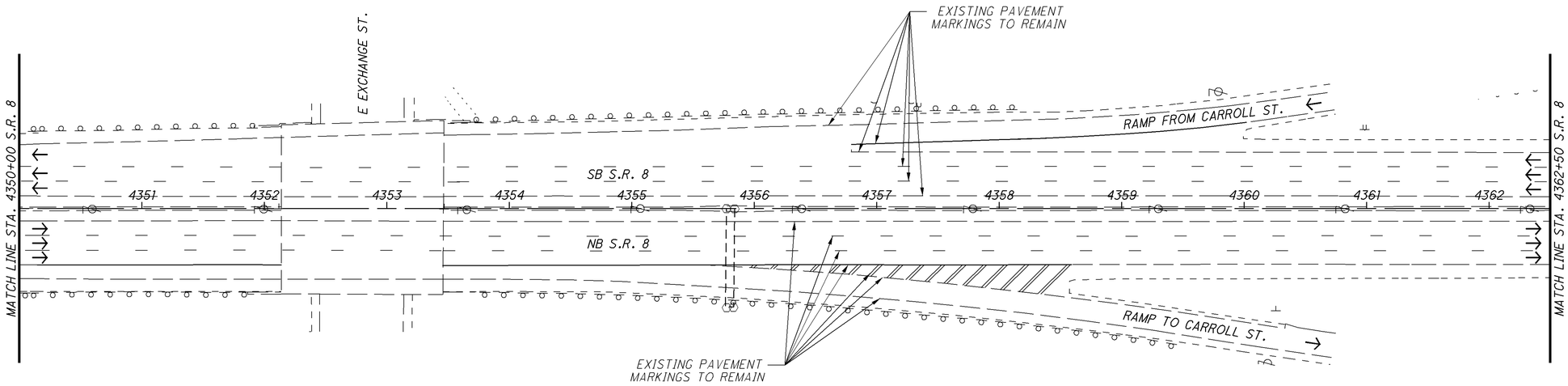
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
S.R. 8
STA. 4337+50 TO STA. 4350+00

SUM-76/77-11.27/12.12

504
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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

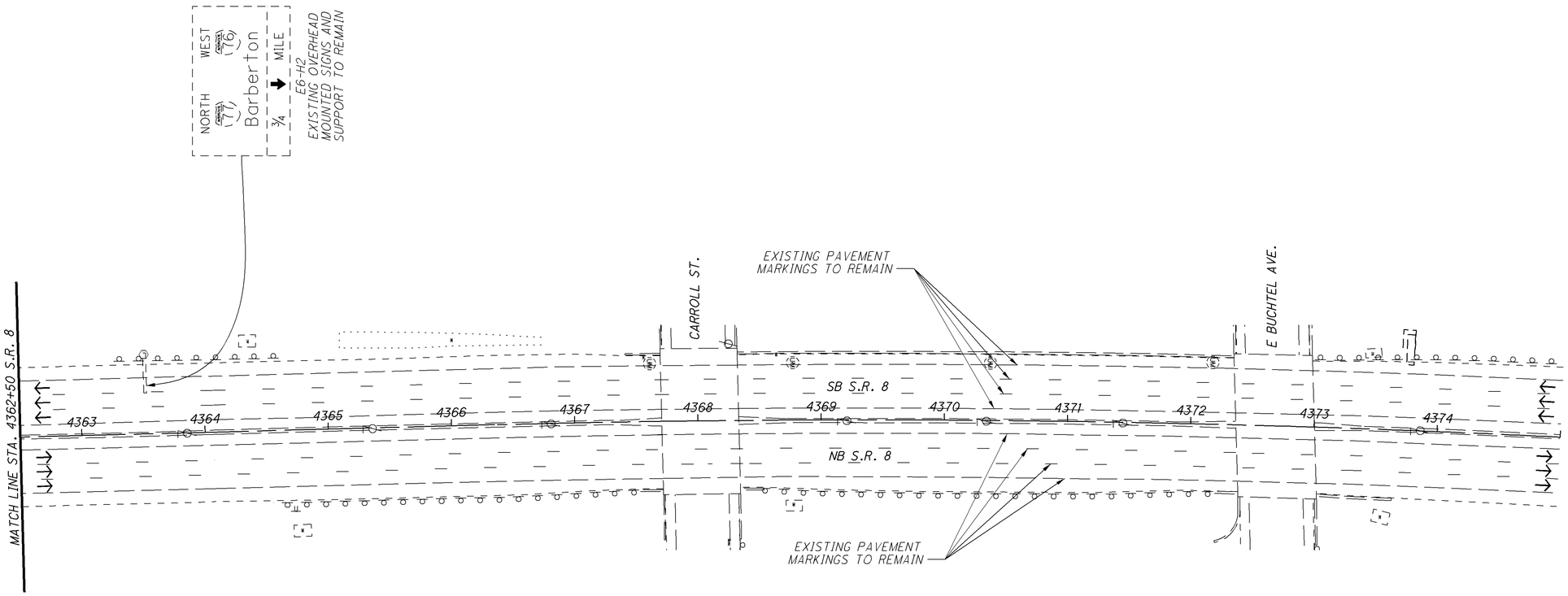
CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
S.R. 8
STA. 4350+00 TO STA. 4362+50

SUM-76/77-11.27/12.12

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LEGEND

	EXISTING SIGN TO REMAIN	ELW-#	EDGE LINE, WHITE	LA-#	LANE ARROW
	EXISTING SIGN TO BE REMOVED	ELY-#	EDGE LINE, YELLOW	S-#	PROPOSED SIGN
	PROPOSED SIGN	LL-#	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
	BEAM MOUNTED SIGN	CDS-#	CENTER LINE, DOUBLE SOLID	OSS-#	PROPOSED OVERHEAD SIGN
	POST MOUNTED SIGN	CL-#	CHANNELIZING LINE	CHV-#	CHEVRON MARKINGS
	PROPOSED TRUSS SIGN SUPPORT	TLW-#	TRANSVERSE/DIAGONAL LINE (WHITE)		
	PROPOSED CANTILEVER SIGN SUPPORT	DL-#	DOTTED LINE		
	TRAFFIC FLOW ARROW	PB-#	PORTABLE BARRIER		
	IMPACT ATTENUATOR	SL-#	STOP LINE		
	RPM, TWO WAY (WHITE/RED)	CWL-#	CROSSWALK LINE		
	RPM, TWO WAY (YELLOW/RED)				
	RPM, ONE WAY				

NOTE: CENTERLINES SHOWN ARE FOR STATIONING REFERENCE ONLY. THE CONTRACTOR SHALL NOT USE THEM FOR RECORD PURPOSES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED CRW
CHECKED AKF

PAVEMENT MARKING AND SIGNAGE PLAN - I-77 DETOUR
S.R. 8
STA. 4362+50 TO END

SUM-76/77-11.27/12.12

506
652

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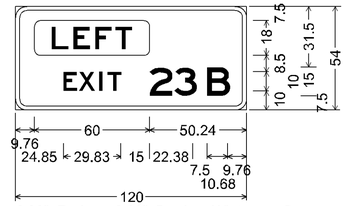


12.00" Radius, 2.00" Border, White on Green;
[University] ClearviewHwy-5-W;
[of] ClearviewHwy-5-W;
[Akron] ClearviewHwy-5-W; [NEXT] E;
Rectangle Yellow;
Table of letter and object lefts.

U 17.60	n 36.32	i 53.13	v 60.63	e 76.45	r 93.63	s 104.38	i 119.39	t 127.25	y 137.92	
o 71.89	f 88.34									
A 46.35	k 65.79	r 81.33	o 92.72	n 110.53						
N 28.72	E 41.38	X 52.66	T 64.62	▭ 85.43						

LEVEL 1

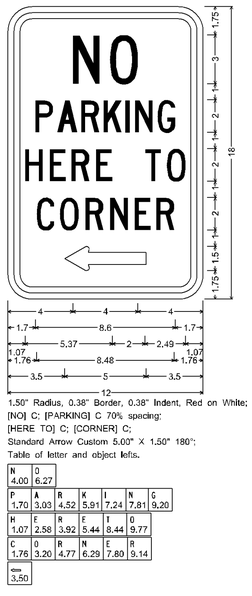
ALL DIMENSIONS IN INCHES.



6.00" Radius, 2.00" Border, White on Green;
Rounded Rectangle 3.00" Radius Yellow;
[EXIT] ClearviewHwy-4-W;
[23] ClearviewHwy-4-W;
[B] ClearviewHwy-4-W;
Table of letter and object lefts.

▭ 9.76			
E 24.85	X 32.82	I 43.44	T 47.90
2 69.68	3 82.40	B 99.56	

ALL DIMENSIONS IN INCHES.



1.50" Radius, 0.38" Border, 0.38" Indent, Red on White;
[NO] C; [PARKING] C 70% spacing;
[HERE TO] C; [CORNER] C;
Standard Arrow Custom 5.00" X 1.50" 180°;
Table of letter and object lefts.

N 4.00	O 6.27						
P 1.70	A 3.03	R 4.52	K 5.91	I 7.24	N 7.81	G 9.20	
H 1.07	E 2.58	R 3.92	E 5.44	I 8.44	O 9.77		
C 1.76	O 3.20	R 4.77	N 6.29	E 7.80	R 9.14		
⇦ 3.50							

ALL DIMENSIONS IN INCHES.

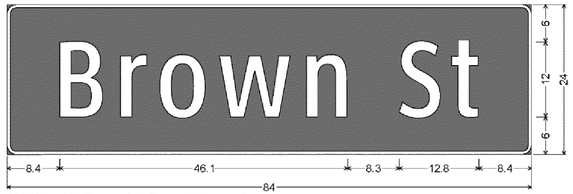
CALCULATED KRM
CHECKED AKF

TRAFFIC CONTROL SIGN DETAILS

SUM-76/77-11.27/12.12

507
652

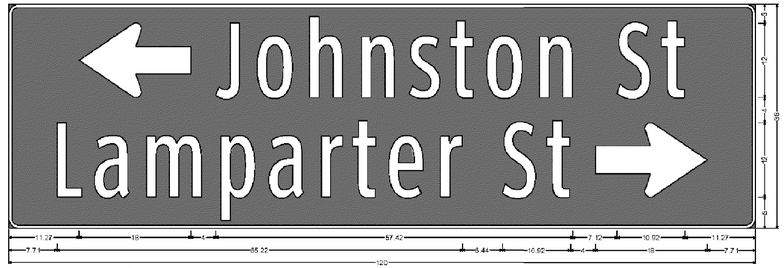
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SPECIAL; 1.5" Radius, 0.5" Border, White on Green;
"Brown St" ClearviewHwy-2-W;
Table of letter and object lefts.

B	**r**	**o**	**w**	**n**	**S**	**t**
8.4	16.2	24.5	34.1	48.0	62.8	71.2

ALL DIMENSIONS IN INCHES.

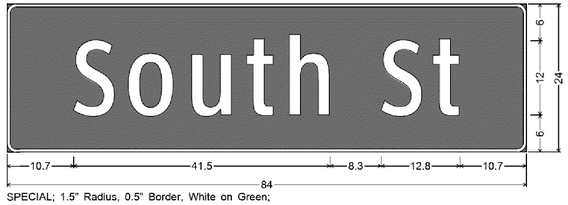


SPECIAL; 1.50" Radius, 0.50" Border, White on Green;
Standard Arrow Custom 18.00" X 12.00" 180°, "Johnston St" ClearviewHwy-1-W, "Lamparter St" ClearviewHwy-1-W, Standard Arrow Custom 18.00" X 12.00" 0°;
Table of letter and object lefts.

⇦	**J**	**o**	**h**	**n**	**S**	**t**	**o**	**n**	**S**	**t**	**L**	**a**
11.27	30.27	39.92	48.39	56.73	64.29	70.97	76.68	85.24	97.81	104.92		

m	**p**	**a**	**r**	**t**	**e**	**r**	**S**	**t**	**⇨**			
7.71	13.61	22.22	34.15	41.68	50.22	55.26	61.14	69.41	76.32	86.48	94.25	

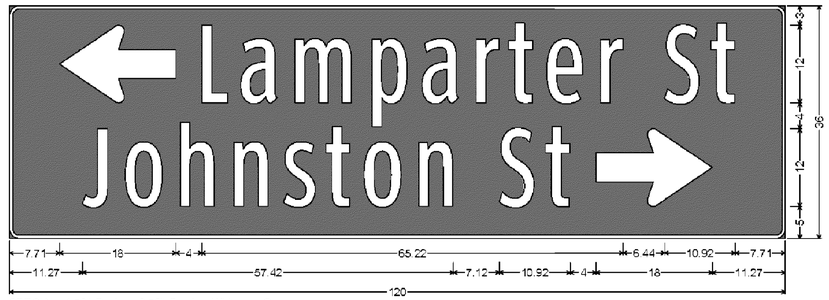
ALL DIMENSIONS IN INCHES.



SPECIAL; 1.5" Radius, 0.5" Border, White on Green;
"South St" ClearviewHwy-2-W;
Table of letter and object lefts.

S	**o**	**u**	**t**	**h**	**S**	**t**
10.7	19.6	29.9	38.8	45.7	60.5	68.9

ALL DIMENSIONS IN INCHES.



SPECIAL; 1.50" Radius, 0.50" Border, White on Green;
Standard Arrow Custom 18.00" X 12.00" 180°, "Lamparter St" ClearviewHwy-1-W, "Johnston St" ClearviewHwy-1-W,
Standard Arrow Custom 18.00" X 12.00" 0°;
Table of letter and object lefts.

⇦	**L**	**a**	**m**	**p**	**a**	**r**	**t**	**e**	**r**	**S**	**t**	
7.71	29.71	36.81	44.22	56.16	63.88	72.22	77.24	83.14	91.41	101.37	108.49	

J	**o**	**h**	**n**	**S**	**t**	**o**	**n**	**S**	**t**	**⇨**	
11.27	17.92	26.39	34.73	42.39	48.97	54.86	63.34	75.81	82.93	90.73	

ALL DIMENSIONS IN INCHES.

CALCULATED RMG
CHECKED AKF

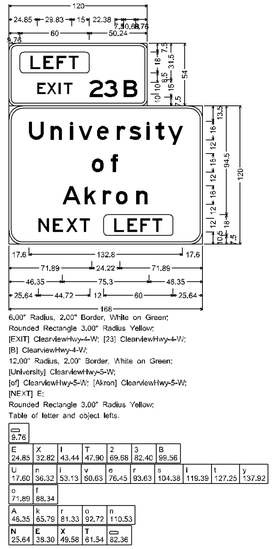
TRAFFIC CONTROL SIGN DETAILS

SUM-76/77-11.27/12.12

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PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	14′ X 10′
NUMBER OF BRACKETS:	3
EXIT PANEL SIZE:	10′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	185 SQ. FT.
TOTAL ℄ TO ℄ LENGTH:	23 FT.
DESIGN TYPE:	TC-12.30, DESIGN 10
SUPPORT FOUNDATION INFORMATION	

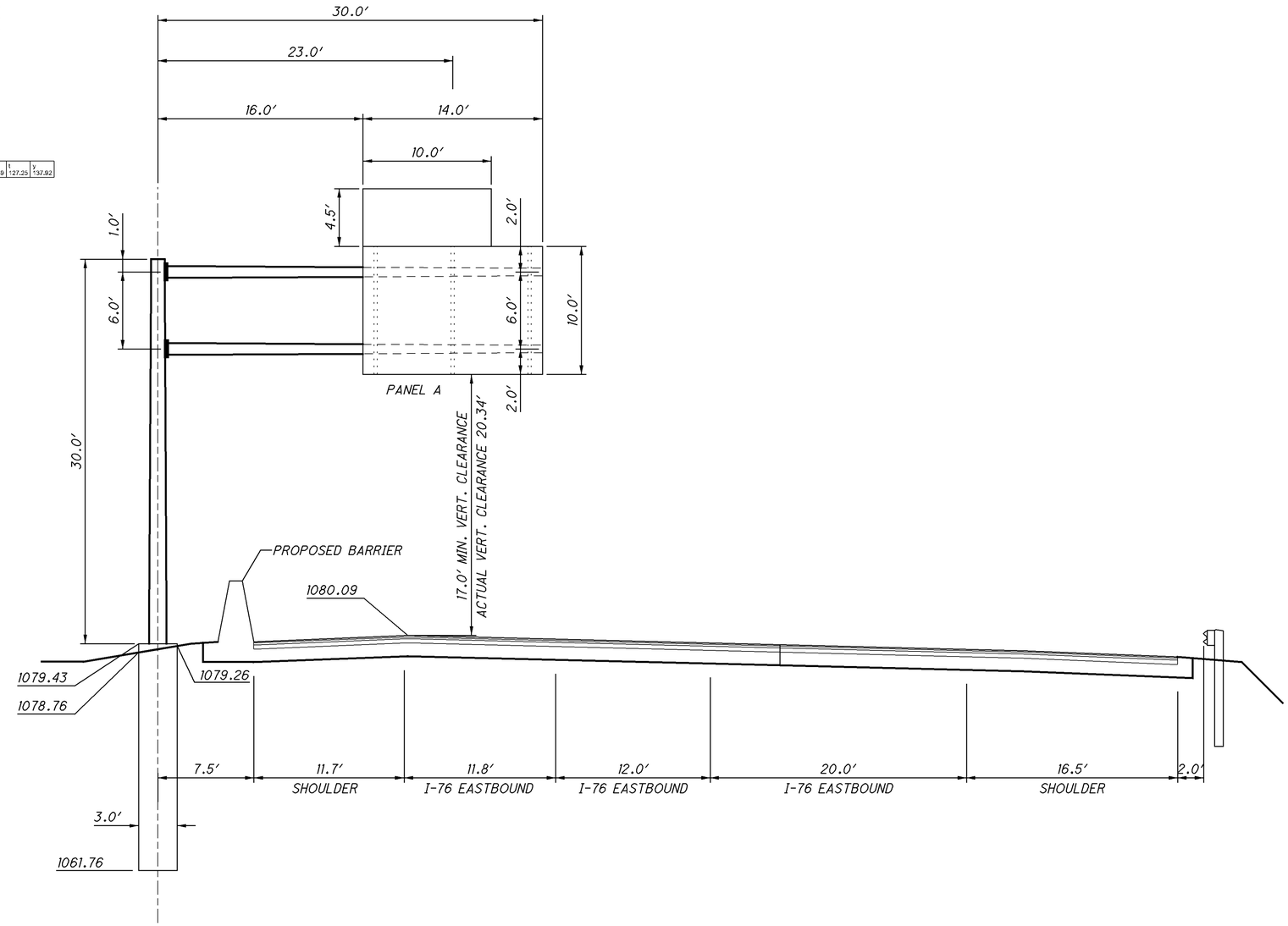
SUPPORT TYPE	DESIGN NUMBER	FOUNDATION DEPTH	FOUNDATION DIAMETER
TC-12.30	10	17.0′	36″



6.00" Radius, 2.00" Border, White on Green:
Rounded Rectangle 3.00" Radius Yellow:
[EXIT] ClearviewHwy-4-W; [23] ClearviewHwy-4-W;
[B] ClearviewHwy-4-W;
12.00" Radius, 2.00" Border, White on Green:
[University] ClearviewHwy-5-W;
[of] ClearviewHwy-5-A; [Akron] ClearviewHwy-5-W;
[NEXT] E;
Rounded Rectangle 3.00" Radius Yellow;
Table of letter and object lefts.

LID 9.76							
C 24.85	r 32.82	l 43.44	T 47.90	2 69.58	0 82.40	B 99.56	
U 17.60	n 36.32	i 53.13	v 60.63	e 76.43	r 93.63	s 104.38	l 119.39	t 127.25	y 137.92
2 71.89	4 88.34						
A 46.35	k 65.79	r 81.33	o 92.72	h 110.53			
N 25.64	E 38.30	X 49.58	T 61.54	▭ 82.36			

PANEL A
N.T.S.



OSS-1 OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN 10
STA. 525+75, I-76 EASTBOUND

NOTES: 1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.

2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED SLB
CHECKED RMG

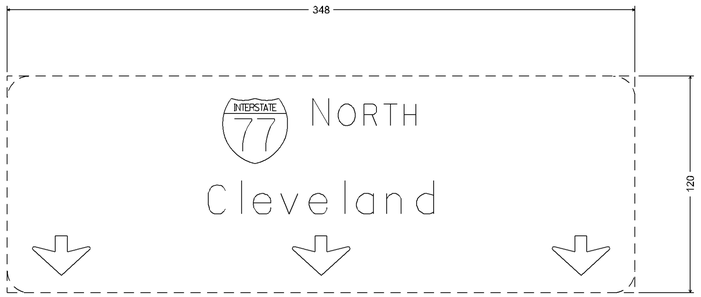
OVERHEAD SIGN SUPPORT DETAILS
OSS-1 - STA. 525+50, I-76 EASTBOUND

SUM-76/77-11.27/12.12

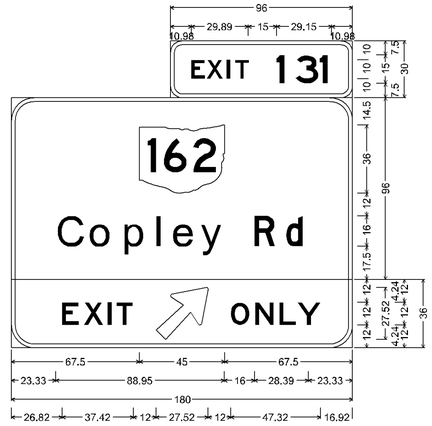
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DETBEL

SIGN INFORMATION	
PANEL A	
PANEL SIZE:	29′ X 10′
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	15′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL SIZE:	15′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	475 SQ. FT.
TOTAL SPAN LENGTH:	76 FT.

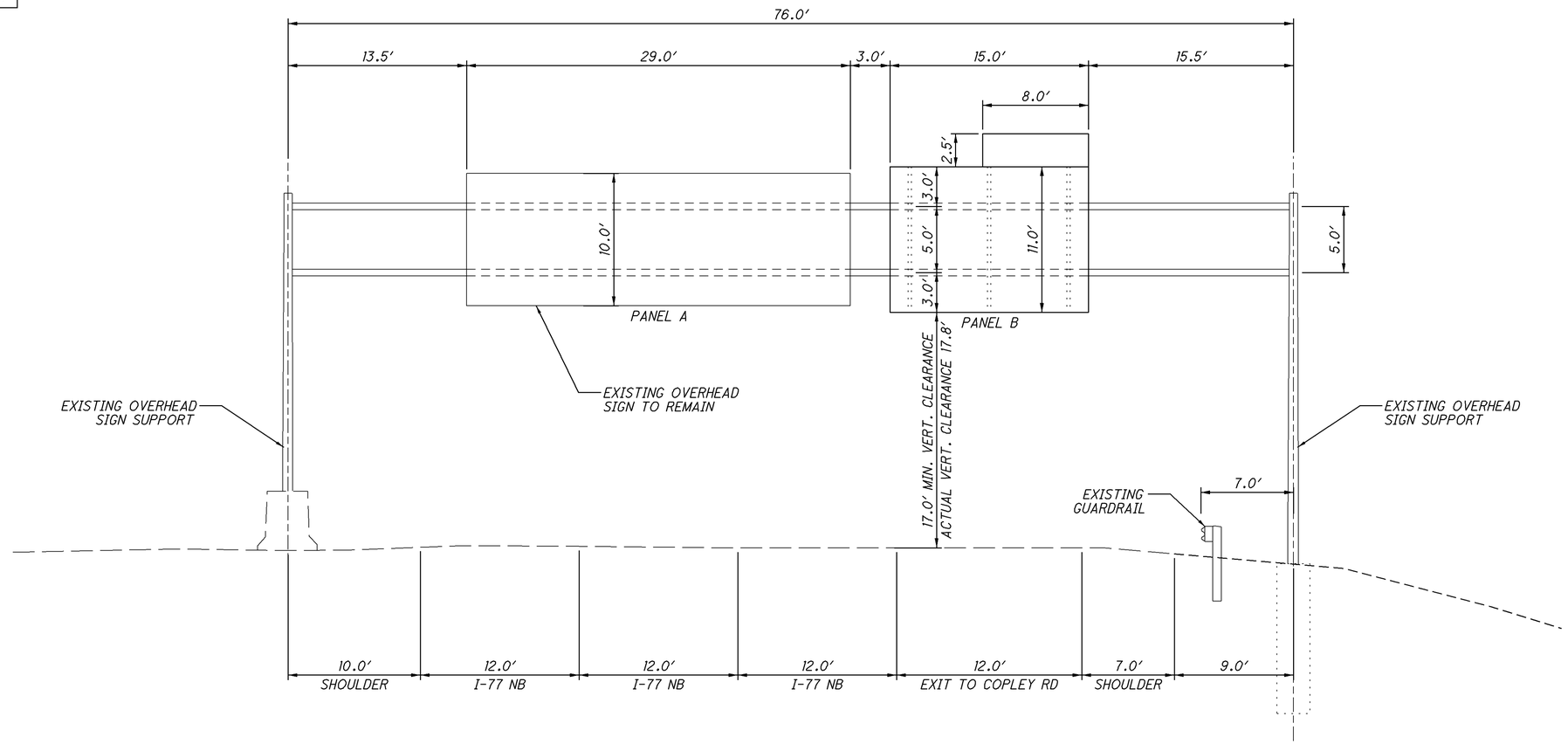


PANEL A
N.T.S.



PANEL B
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-2 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 1026+75, LT. I-77 NORTHBOUND

SEE SHEET 441 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED SLB
CHECKED RMG

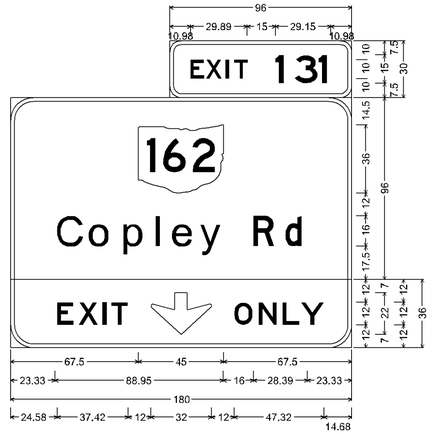
OVERHEAD SIGN SUPPORT DETAILS
OSS-2 - STA. 1026+75, I-77 NORTHBOUND

SUM-76/77-11.27/12.12

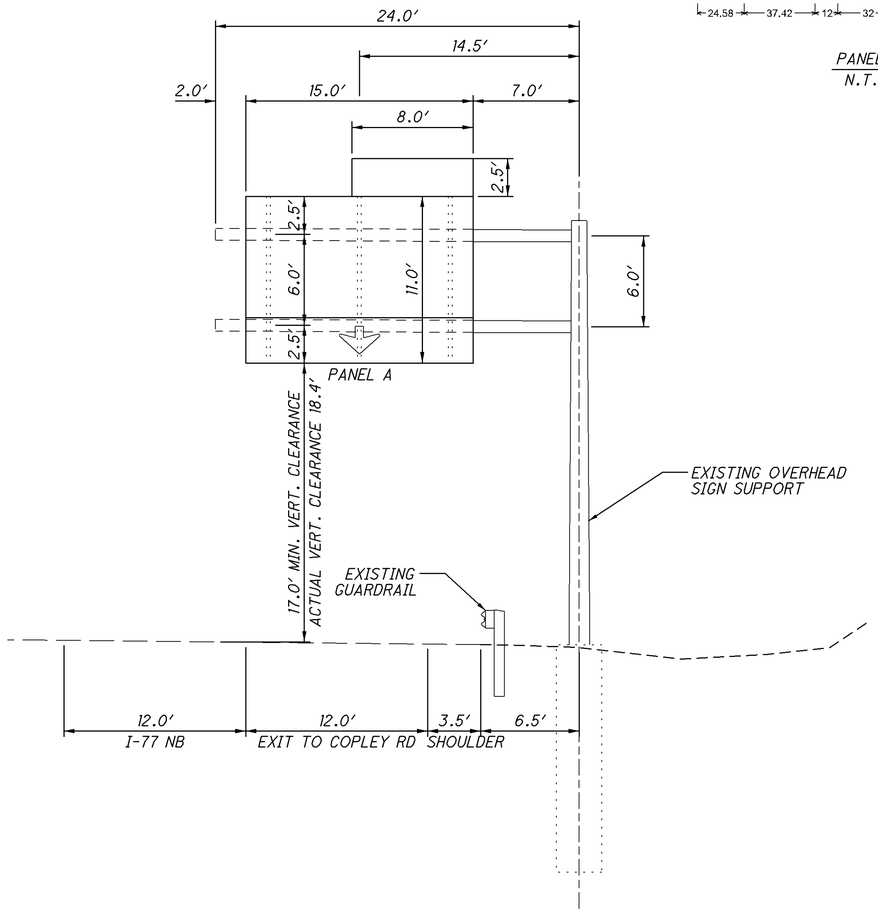
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CBEIBEL

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	15′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL SIZE:	15′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	185 SQ. FT.
TOTAL ℄ TO ℄ LENGTH:	14.5 FT.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



PANEL A
N.T.S.



OSS-3 OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN 7
STA. 1048+48, LT. I-77 NORTHBOUND

SEE SHEET 443 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

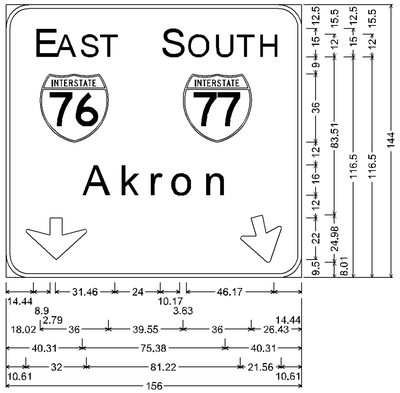
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-3 - STA. 1048+48, RT. I-77 NORTHBOUND

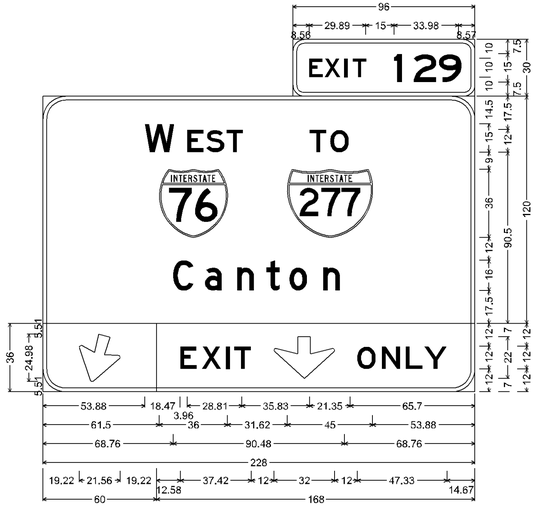
SUM-76/77-11.27/12.12

511
652

\\AKRNAS\DATA\2018\2018237\SUM\86979\TRAFFIC\SHEETS\86979TE811.DGN
9/16/2014
3:36:13 PM
CDEIBEL



PANEL A
N.T.S.



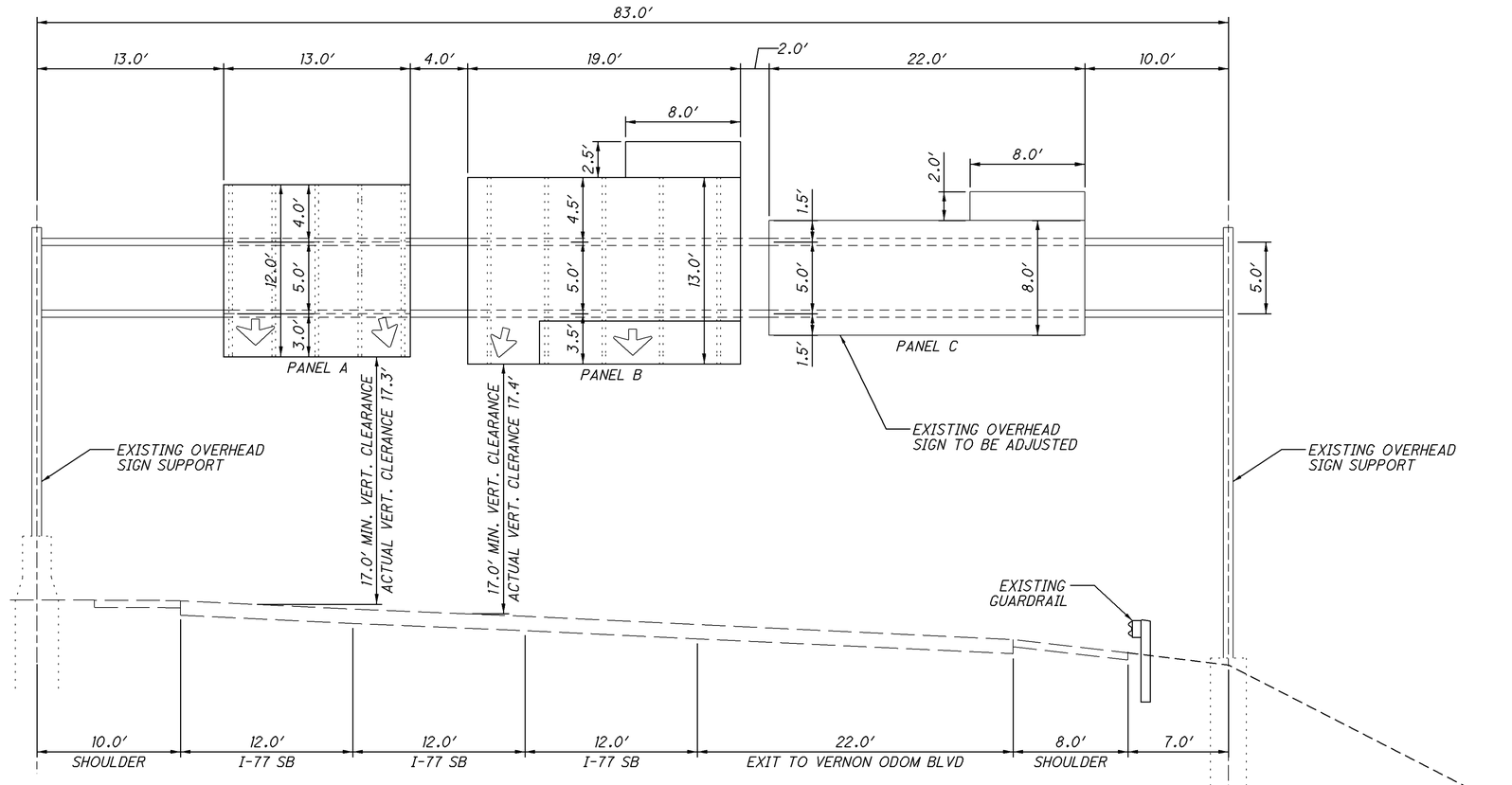
PANEL B
N.T.S.



PANEL C
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.
5. PANEL A TO BE RAISED 0.5′ FROM CENTER OF TRUSS CHORDS TO ACHIEVE A MINIMUM CLEARANCE OF 17.0′.
6. PANEL B TO BE RAISED 0.5′ FROM CENTER OF TRUSS CHORDS TO ACHIEVE A MINIMUM CLEARANCE OF 17.0′.

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	13′ x 12′
NUMBER OF BRACKETS:	5
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	19′ X 10′
NUMBER OF BRACKETS:	5
EXIT ONLY PANEL SIZE:	13′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL C	
PANEL SIZE:	22′ X 8′
EXIT PANEL SIZE:	8′ X 2′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	615 SQ. FT.
TOTAL SPAN LENGTH:	83 FT.



OSS-4 OVERHEAD SIGN SUPPORT - EXISTING TO REMAIN
STA. 1081+59, RT. I-77 SOUTHBOUND

SEE SHEET 445 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

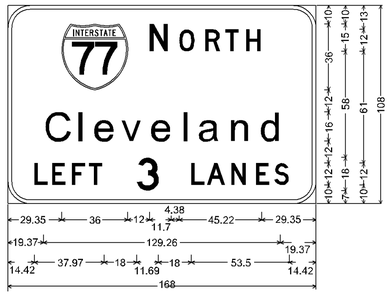
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-4 - STA. 1081+59, RT. I-77 SOUTHBOUND

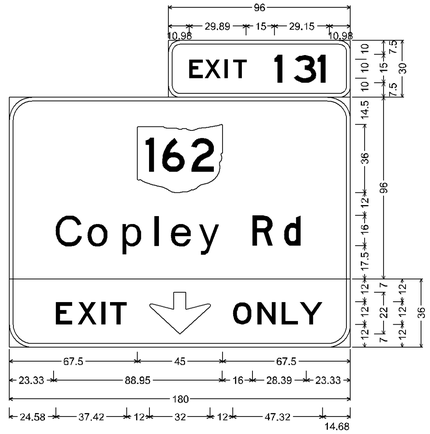
SUM-76/77-11.27/12.12

\\AKRNAS3\DATA\2010\2012597\SUM\86979\TRAFFIC\SHEETS\86979TE012.DGN
9/16/2014
3:36:23 PM
CBEIBEL

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



PANEL A
N.T.S.

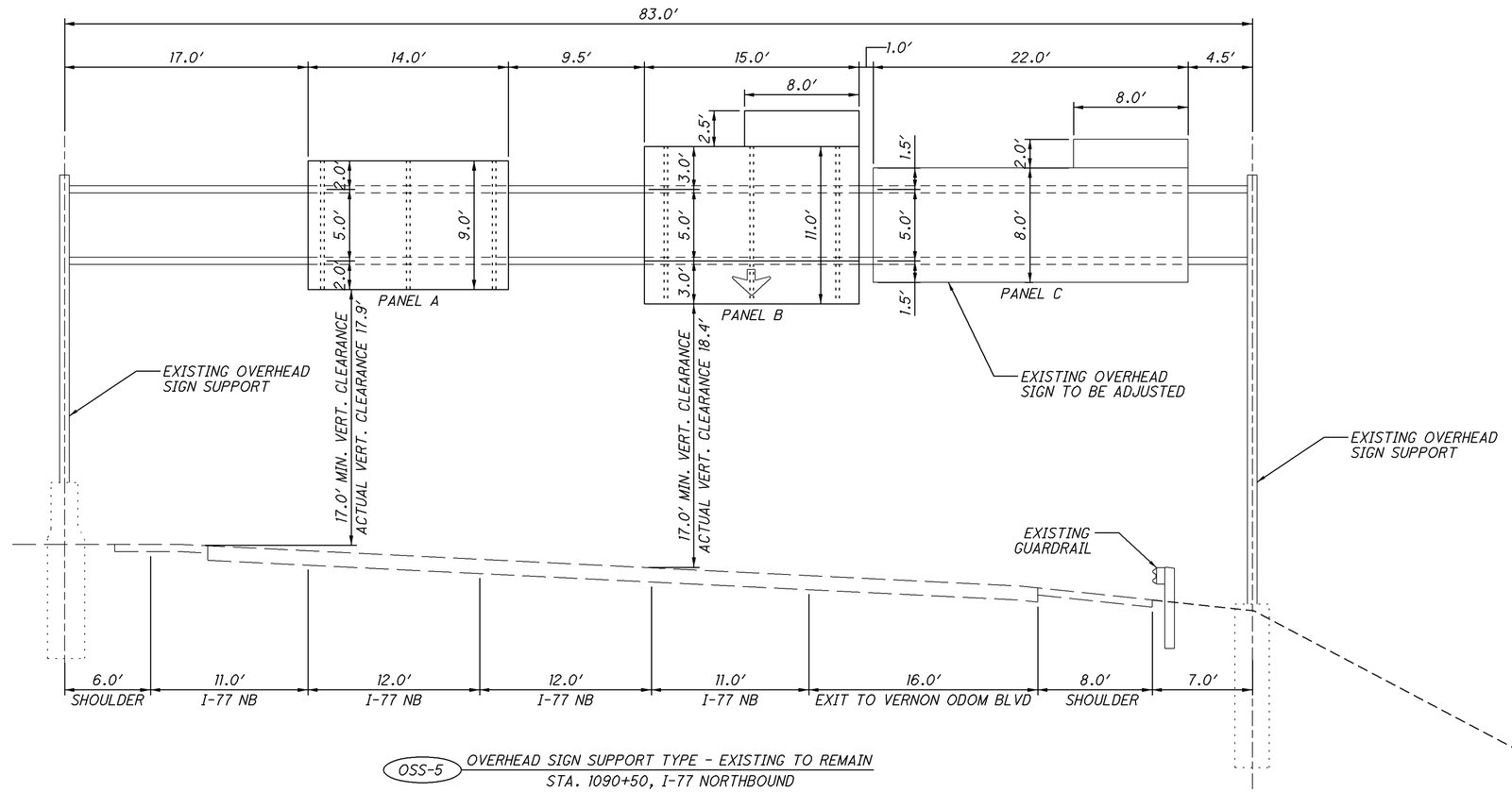


PANEL B
N.T.S.



PANEL C
N.T.S.

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	14′ X 9′
NUMBER OF BRACKETS:	3
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	15′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL SIZE:	15′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL C	
PANEL SIZE:	22′ X 8′
EXIT PANEL SIZE:	8′ X 2′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	126 SQ. FT.
TOTAL SPAN LENGTH:	83 FT.



OSS-5 OVERHEAD SIGN SUPPORT TYPE - EXISTING TO REMAIN
STA. 1090+50, I-77 NORTHBOUND

SEE SHEET 446 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10
CALCULATED ARL
CHECKED RMG

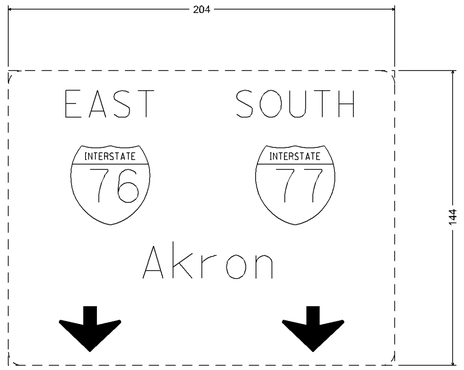
OVERHEAD SIGN SUPPORT DETAILS
OSS-5 - STA. 1090+50, I-77 NORTHBOUND

SUM-76/77-11.27/12.12

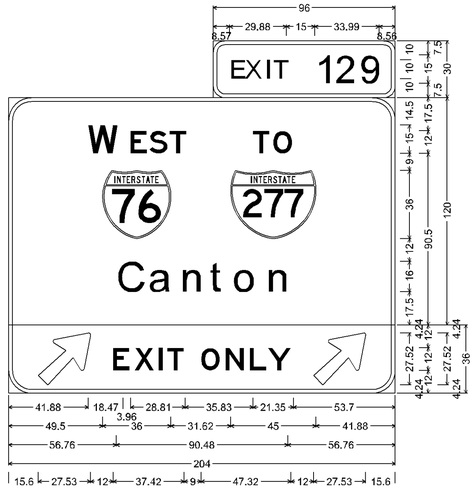
513
652

\\AKRNAS\DATA\2018\2018297\SUM\86979\TRAFFIC\SHEETS\86979TE013.DGN
9/16/2014
3:36:35 PM
DEIBEL

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 10′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL A	
PANEL SIZE:	17′ X 12′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	445 SQ. FT.
TOTAL SPAN LENGTH:	66 FT.

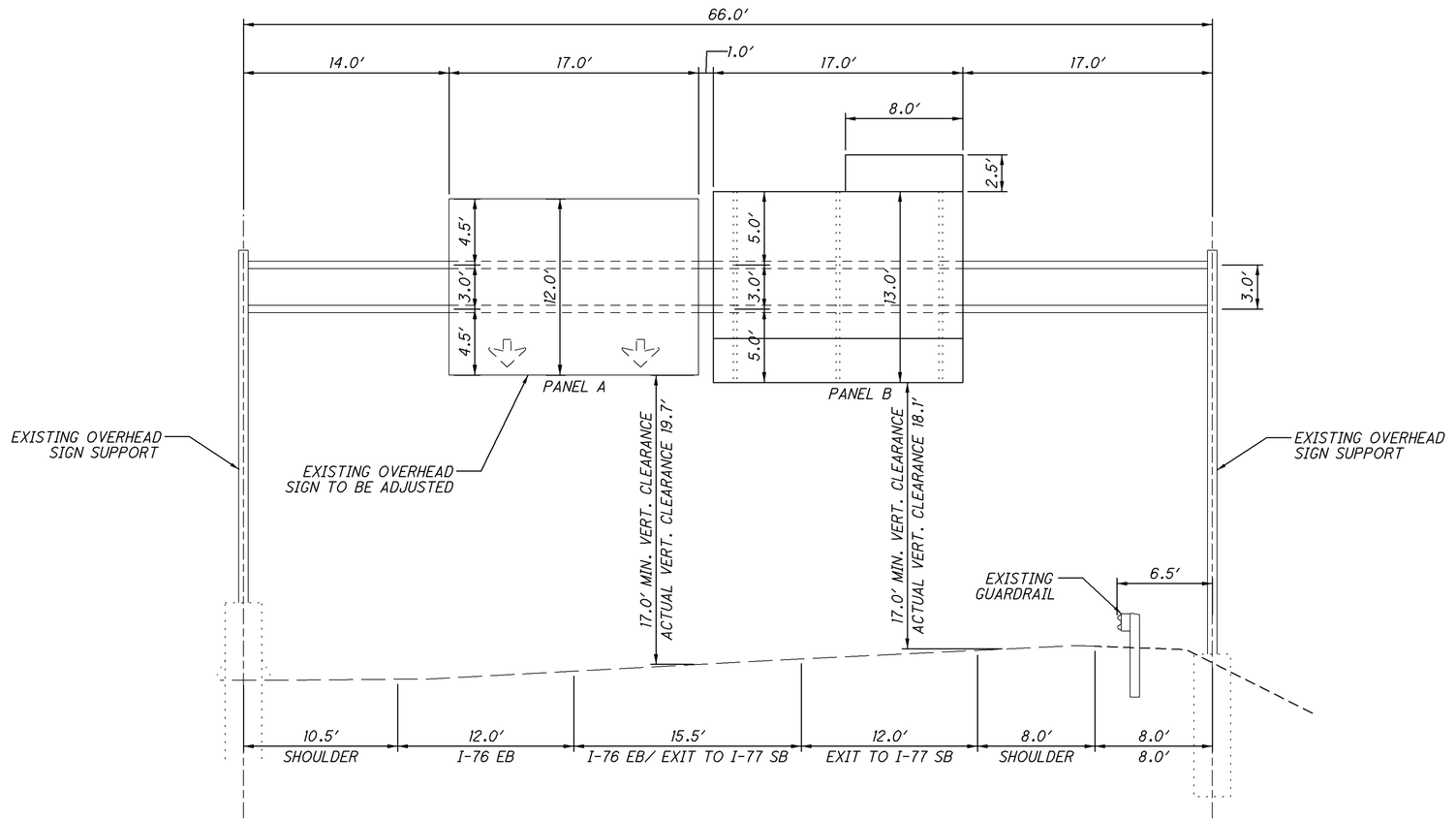


PANEL A
N.T.S.



PANEL B
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-6 OVERHEAD SIGN SUPPORT TYPE - EXISTING TO REMAIN
STA. 401+61, I-77 SOUTHBOUND

SEE SHEET 447 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED SLB
CHECKED RMG

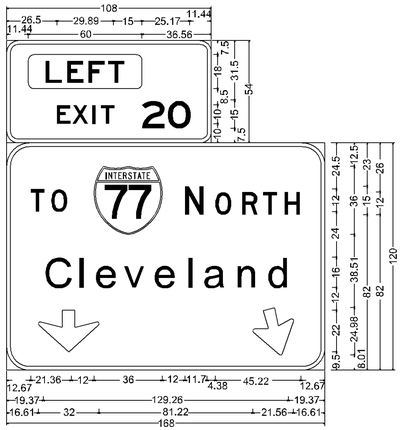
OVERHEAD SIGN SUPPORT DETAILS
OSS-6 - STA. 401+61, I-77 SOUTHBOUND

SUM-76/77-11.27/12.12

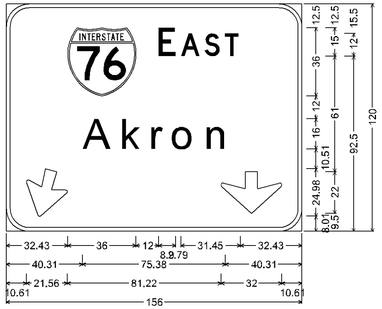
514
652

\\KRNW03\DATA\2010\2012037\SUM\86979\TRAFFIC\SHEETS\86979TEB14.DGN
9/15/2014
3:38:48 PM
DBEIBEL

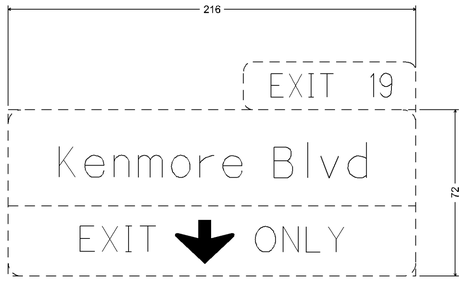
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	14′ X 10′
NUMBER OF BRACKETS:	3
EXIT PANEL SIZE:	9′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	13′ X 10′
NUMBER OF BRACKETS:	3
PANEL C	
PANEL SIZE:	18′ X 6′
EXIT PANEL SIZE:	7′ X 2′
OVERLAY PANEL SIZE:	10′ X 2′
OVERLAY PANEL FONT:	E
OVERLAY PANEL BACKGROUND:	ORANGE
OVERLAY PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	432.5 SQ. FT.
TOTAL SPAN LENGTH:	63 FT.



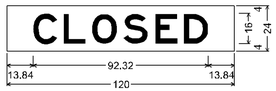
PANEL A
N.T.S.

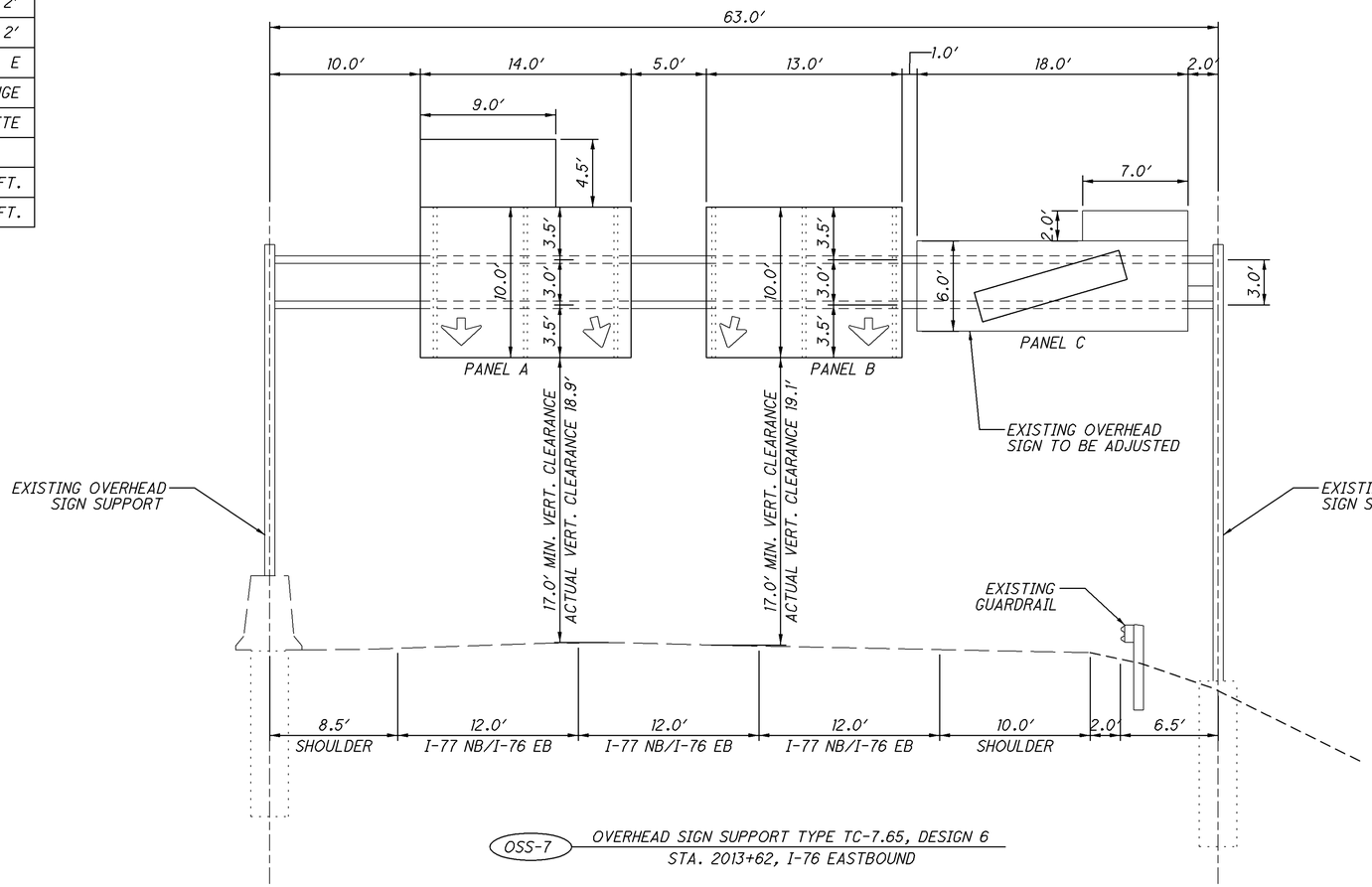


PANEL B
N.T.S.



PANEL C
N.T.S.





OSS-7 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 2013+62, I-76 EASTBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 452 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

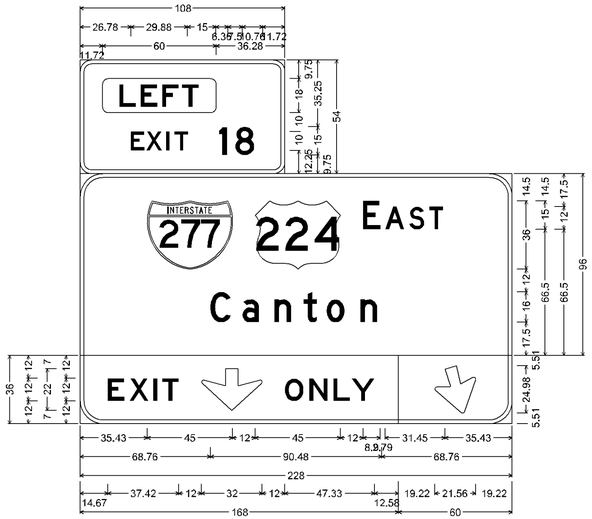
CALCULATED SLB
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-7 - STA. 2013+62, I-76 EASTBOUND

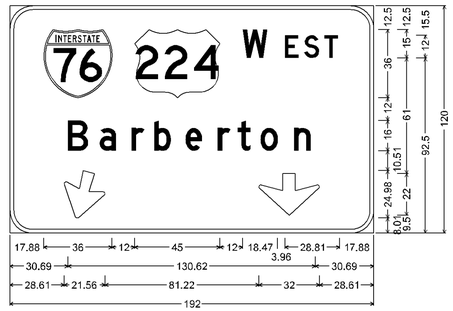
SUM-76/77-11.27/12.12

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9/29/2014
1:43:21 PM
APSHO

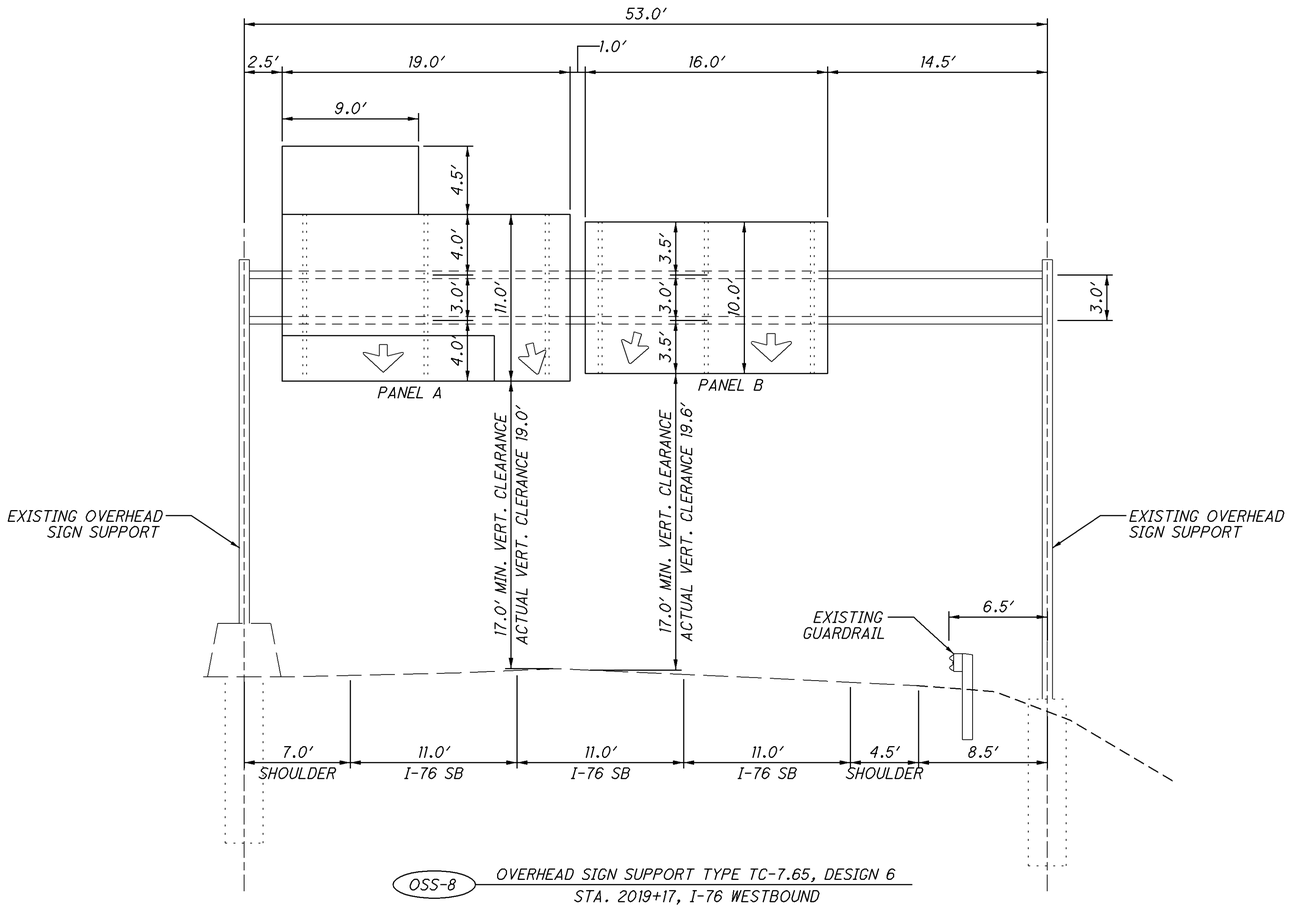
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	19′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL SIZE:	14′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	9′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 10′
NUMBER OF BRACKETS:	3
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	394.5 SQ. FT.
TOTAL SPAN LENGTH:	53 FT.



PANEL A
N.T.S.



PANEL B
N.T.S.



OSS-8 — OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 2019+17, I-76 WESTBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 452 FOR PLAN VIEW.

0 2.5 5 10
HORIZONTAL SCALE IN FEET

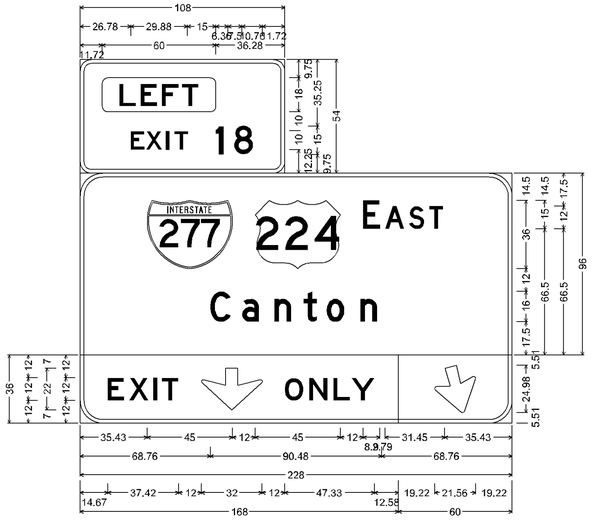
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-8 - STA. 2019+17, I-76 WESTBOUND

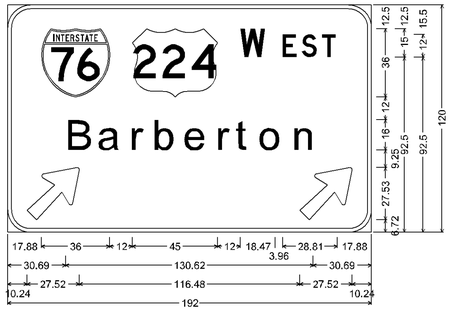
SUM-76/77-11.27/12.12

\\KRM03\DATA\2010\2010297\SUM\86979\TRAFFIC\SHEETS\86979TEB16.DGN
9/16/2014
3:37:34 PM
CDEIBEL

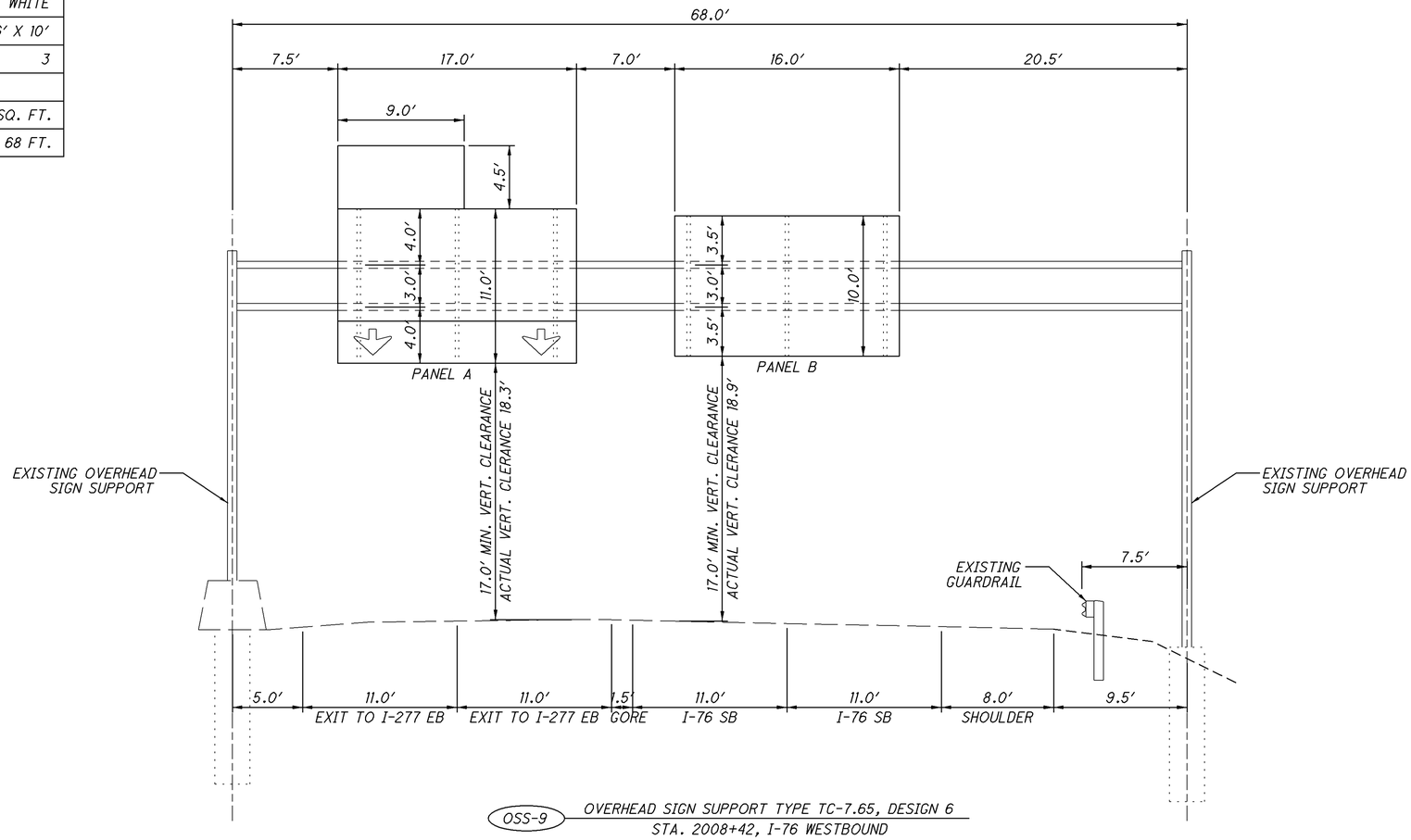
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	9′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 10′
NUMBER OF BRACKETS:	3
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	387.5 SQ. FT.
TOTAL SPAN LENGTH:	68 FT.



PANEL A
N.T.S.



PANEL B
N.T.S.



OSS-9 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 2008+42, I-76 WESTBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 452 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

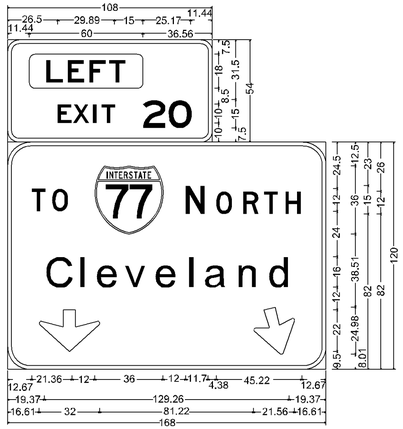
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-9 - STA. 2008+42, I-76 WESTBOUND

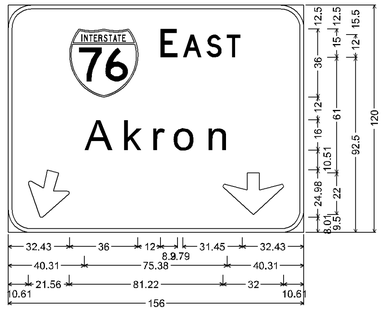
SUM-76/77-11.27/12.12

\\KKRN03\DATA\2010\2010237\SUM\86979\TRAFFIC\SHEETS\86979TE817.DGN
9/16/2014
3:37:46 PM
CDEIBEL

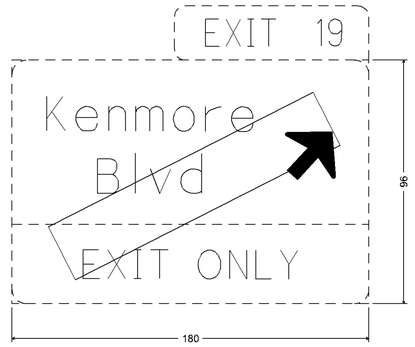
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	14′ X 10′
NUMBER OF BRACKETS:	3
EXIT PANEL SIZE:	9′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	13′ X 10′
NUMBER OF BRACKETS:	3
PANEL C	
PANEL SIZE:	15′ X 8′
EXIT PANEL SIZE:	7′ X 2′
OVERLAY PANEL FONT:	E
OVERLAY PANEL BACKGROUND:	ORANGE
OVERLAY PANEL FILL COLOR:	BLACK
OVERLAY PANEL SIZE:	13′ X 10′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	444.5 SQ. FT.
TOTAL SPAN LENGTH:	80 FT.



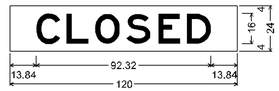
PANEL A
N.T.S.



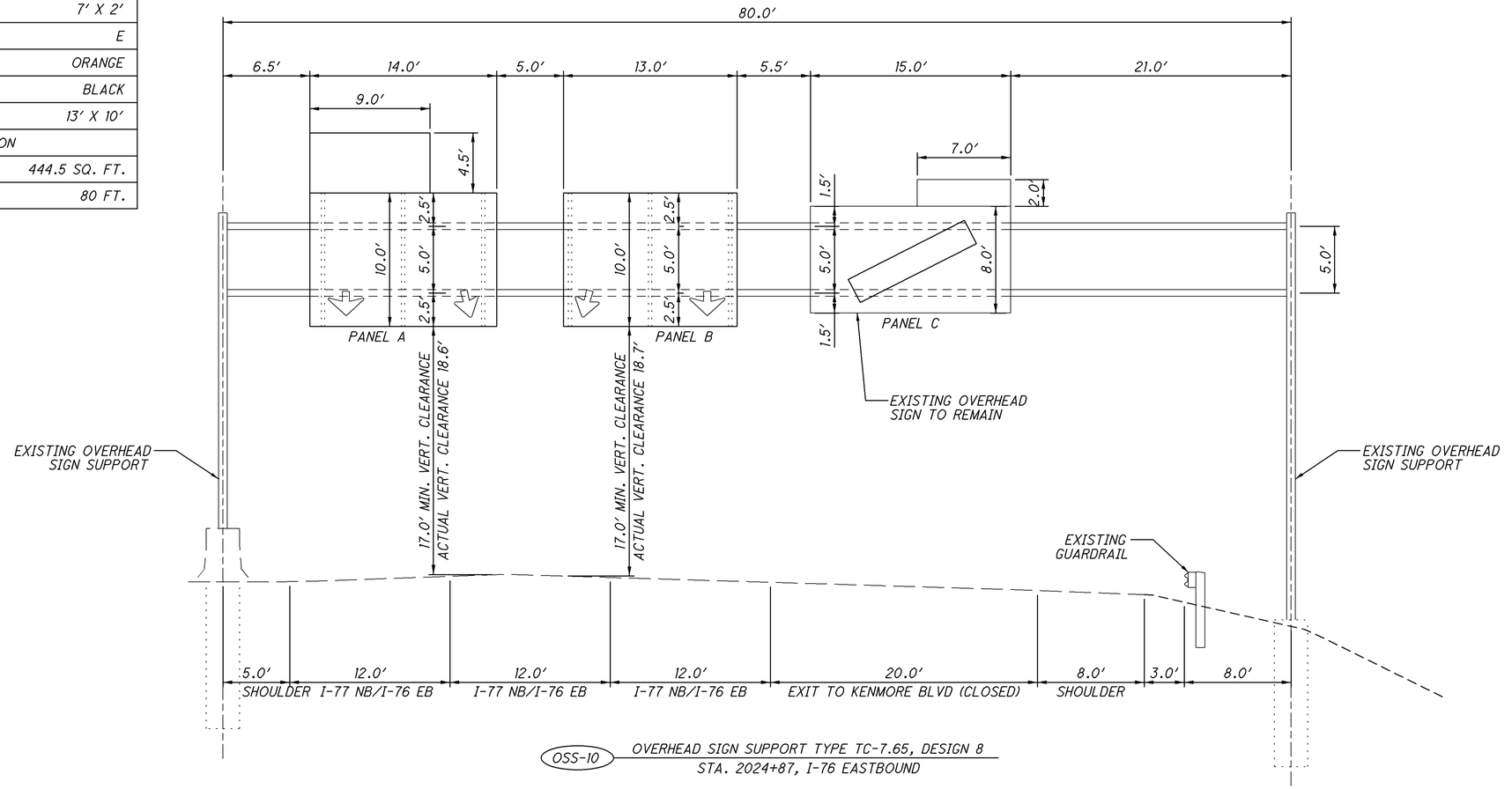
PANEL B
N.T.S.



PANEL C
N.T.S.



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-10 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 2024+87, I-76 EASTBOUND

SEE SHEET 453 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

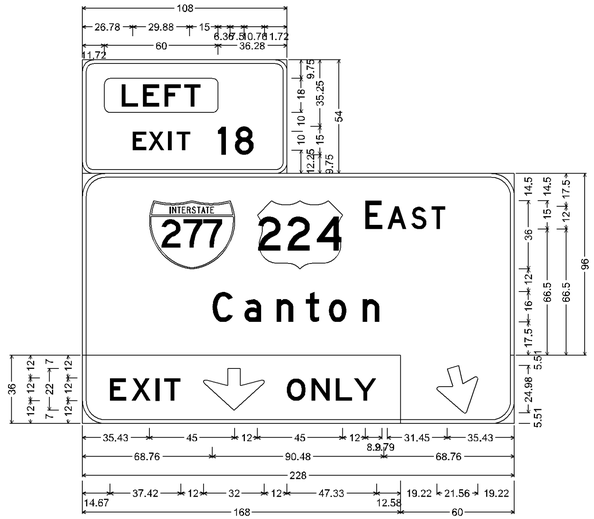
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-10 - STA. 2024+87, I-76 EASTBOUND

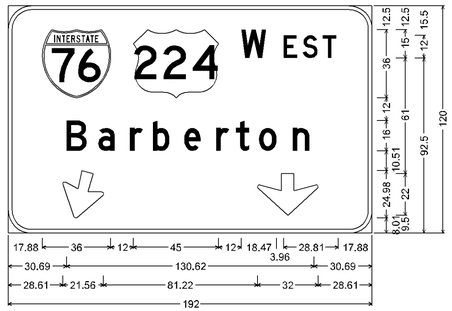
SUM-76/77-11.27/12.12

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CBEIBEL

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	19′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT PANEL SIZE:	14′ X 3′
EXIT PANEL BACKGROUND:	YELLOW
EXIT PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	9′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 10′
NUMBER OF BRACKETS:	3
PANEL C	
PANEL SIZE:	19′ X 6′
EXIT PANEL SIZE:	7′ X 2′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	522.5 SQ. FT.
TOTAL SPAN LENGTH:	60.5 FT.



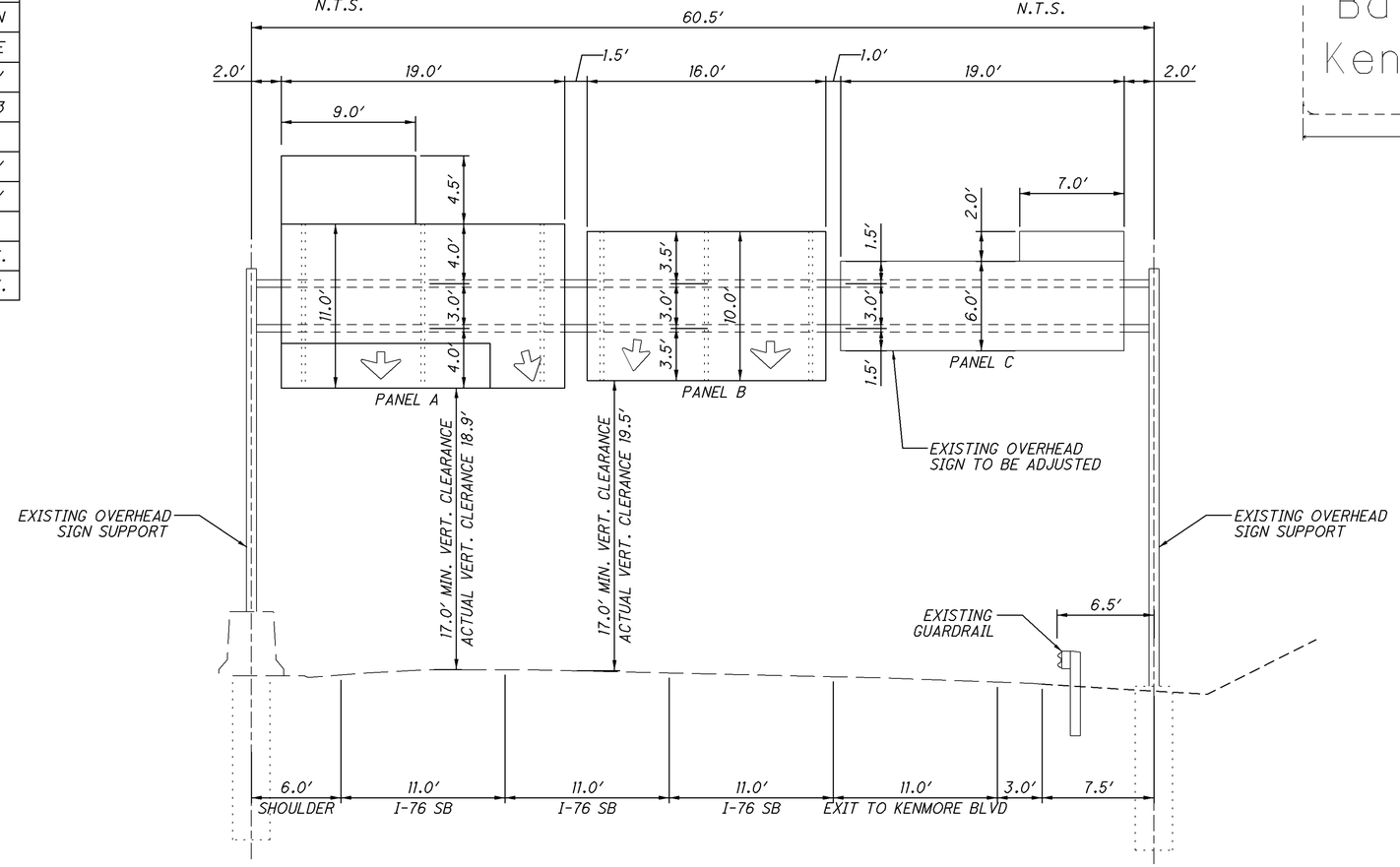
PANEL A
N.T.S.



PANEL B
N.T.S.



PANEL C
N.T.S.



OSS-11 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 2053+83, I-76 WESTBOUND

SEE SHEET 455 FOR PLAN VIEW.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

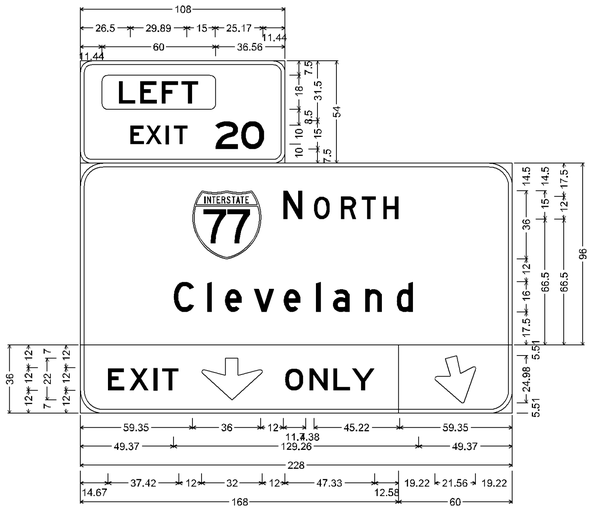
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-11 - STA. 2053+83, I-76 WESTBOUND

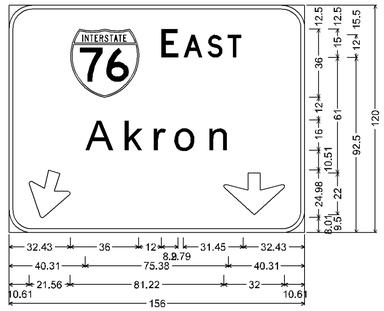
SUM-76/77-11.27/12.12

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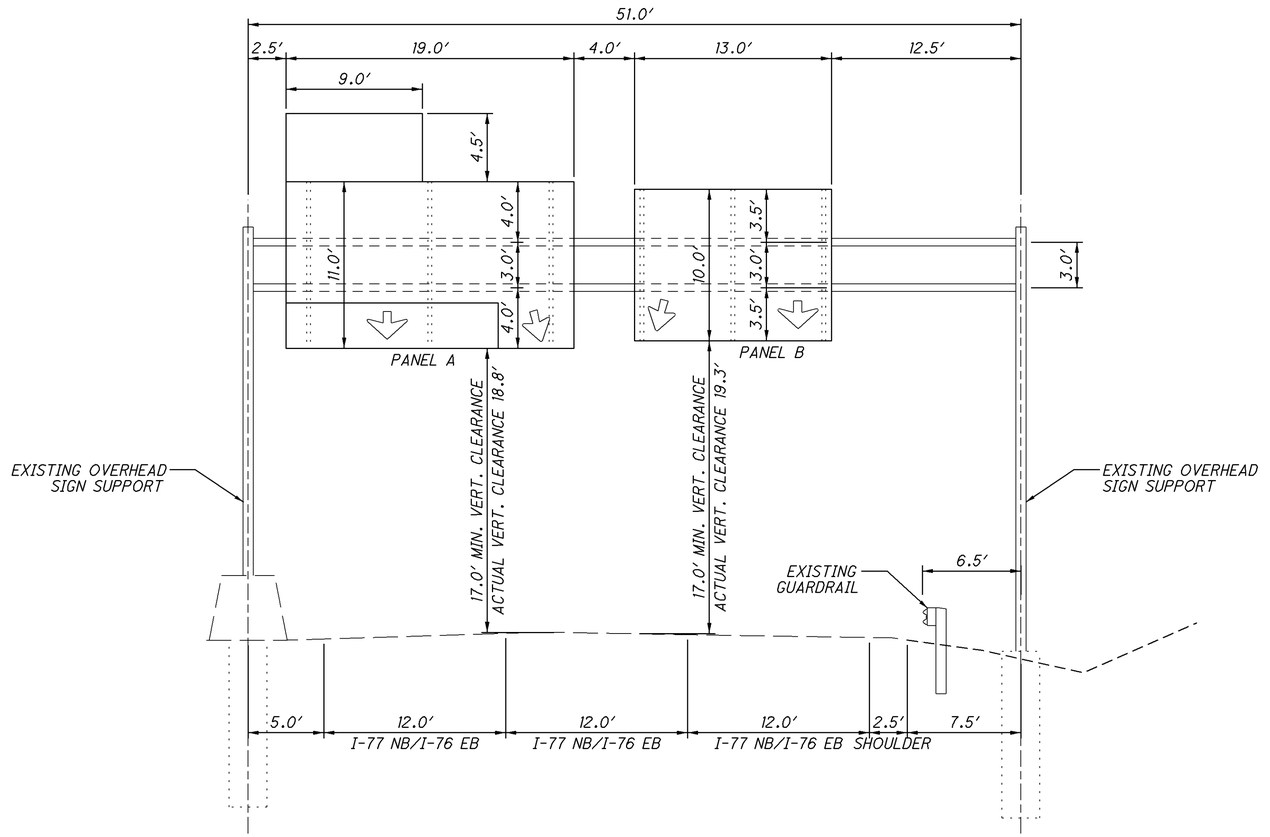
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	19′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	14′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	9′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	13′ X 10′
NUMBER OF BRACKETS:	3
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	379.5 SQ. FT.
TOTAL SPAN LENGTH:	51 FT.



PANEL A
N.T.S.



PANEL B
N.T.S.



OSS-12 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 2060+25, I-76 EASTBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 456 FOR PLAN VIEW.

0 2.5 5 10 HORIZONTAL SCALE IN FEET

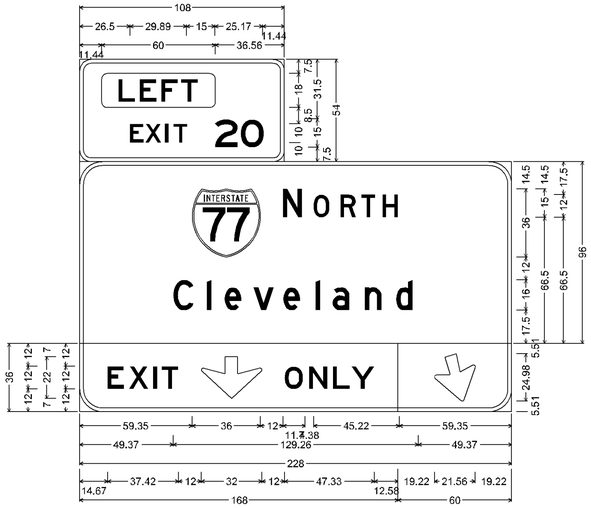
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-12 - STA. 2060+25, I-76 EASTBOUND

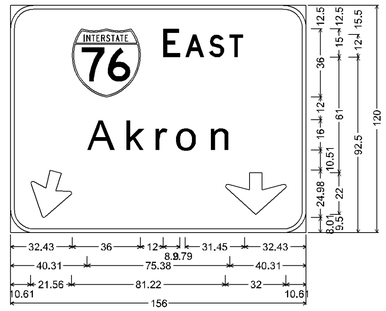
SUM-76/77-11.27/12.12

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CBEIBEL

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	19′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	14′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	9′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	13′ X 10′
NUMBER OF BRACKETS:	3
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	379.5 SQ. FT.
TOTAL SPAN LENGTH:	63 FT.

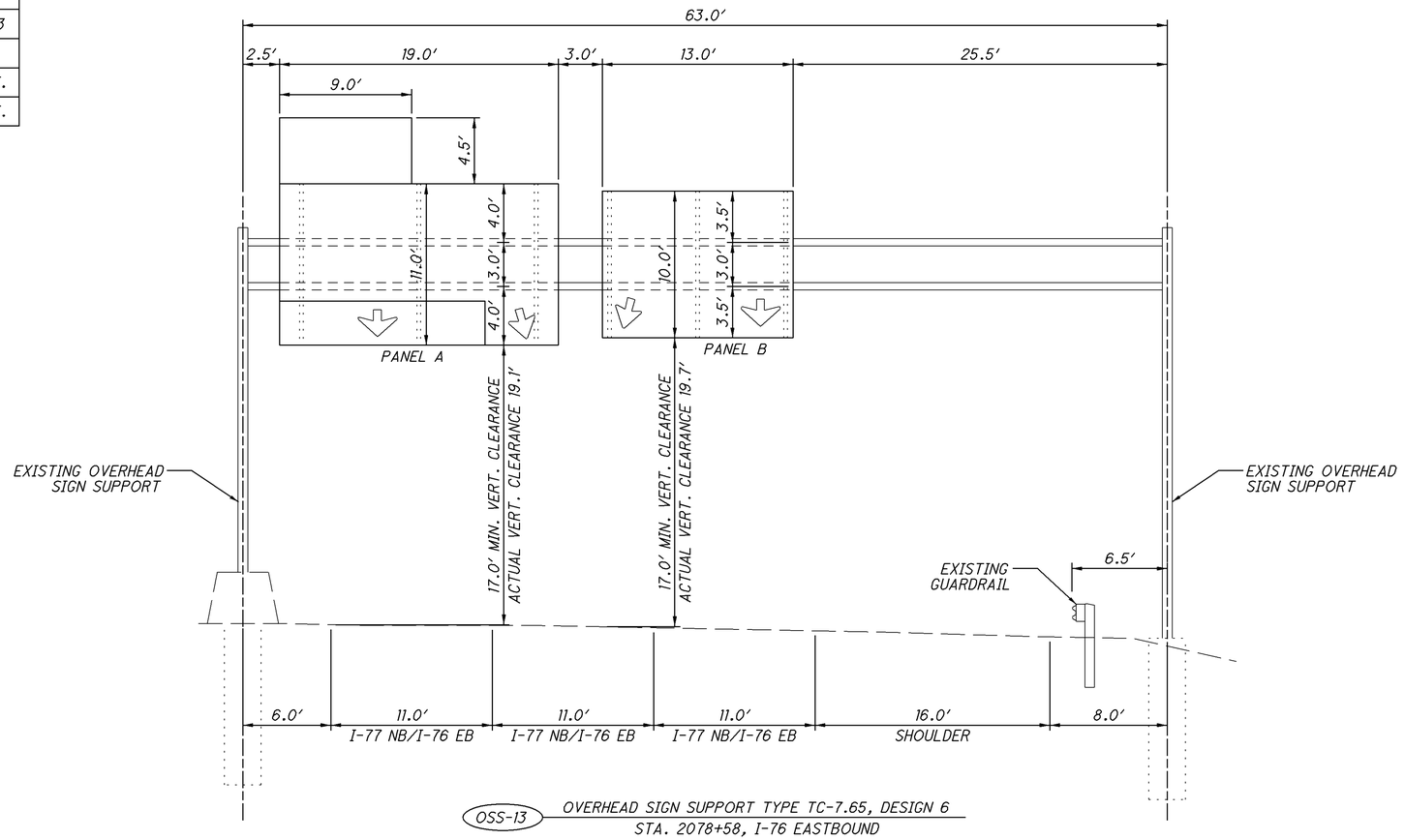


PANEL A
N.T.S.



PANEL B
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-13 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 2078+58, I-76 EASTBOUND

SEE SHEET 457 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

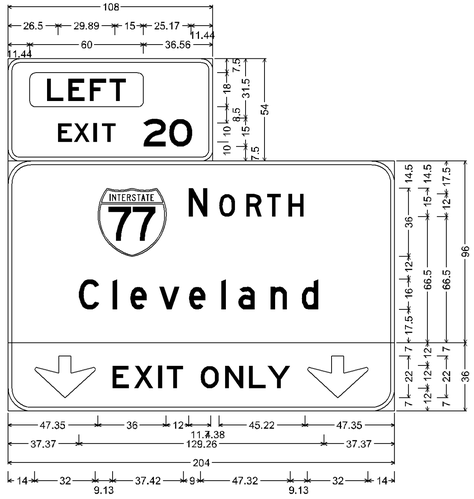
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-13 - STA. 2078+58, I-76 EASTBOUND

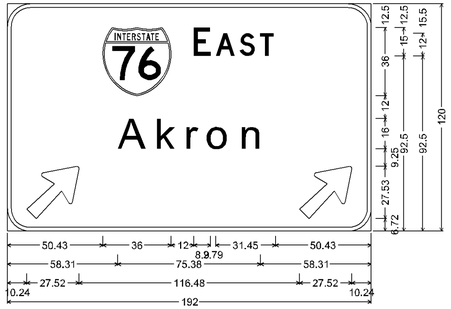
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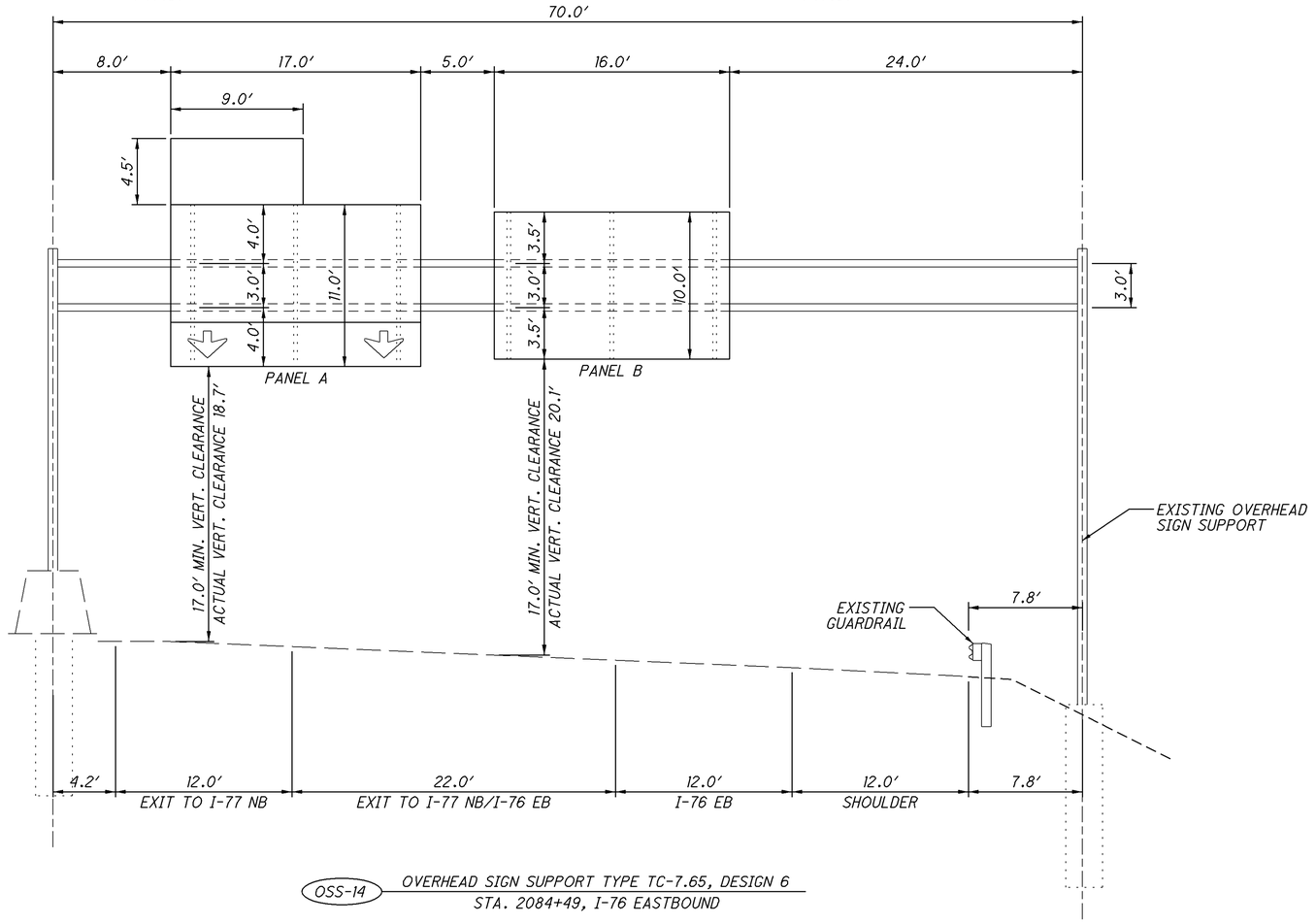
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL SIZE:	E
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	9′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 10′
NUMBER OF BRACKETS:	3
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	387.5 SQ. FT.
TOTAL SPAN LENGTH:	70 FT.



PANEL A
N.T.S.



PANEL B
N.T.S.



OSS-14 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 2084+49, I-76 EASTBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 458 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

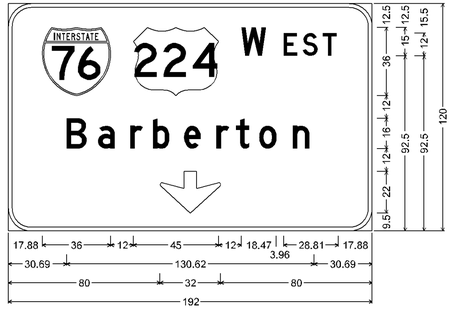
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-14 - STA. 2084+49, I-76 EASTBOUND

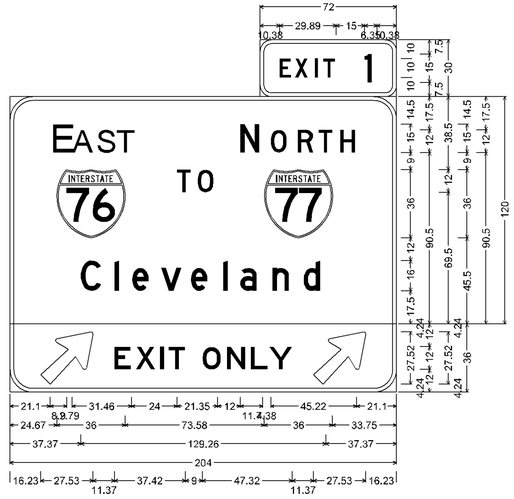
SUM-76/77-11.27/12.12

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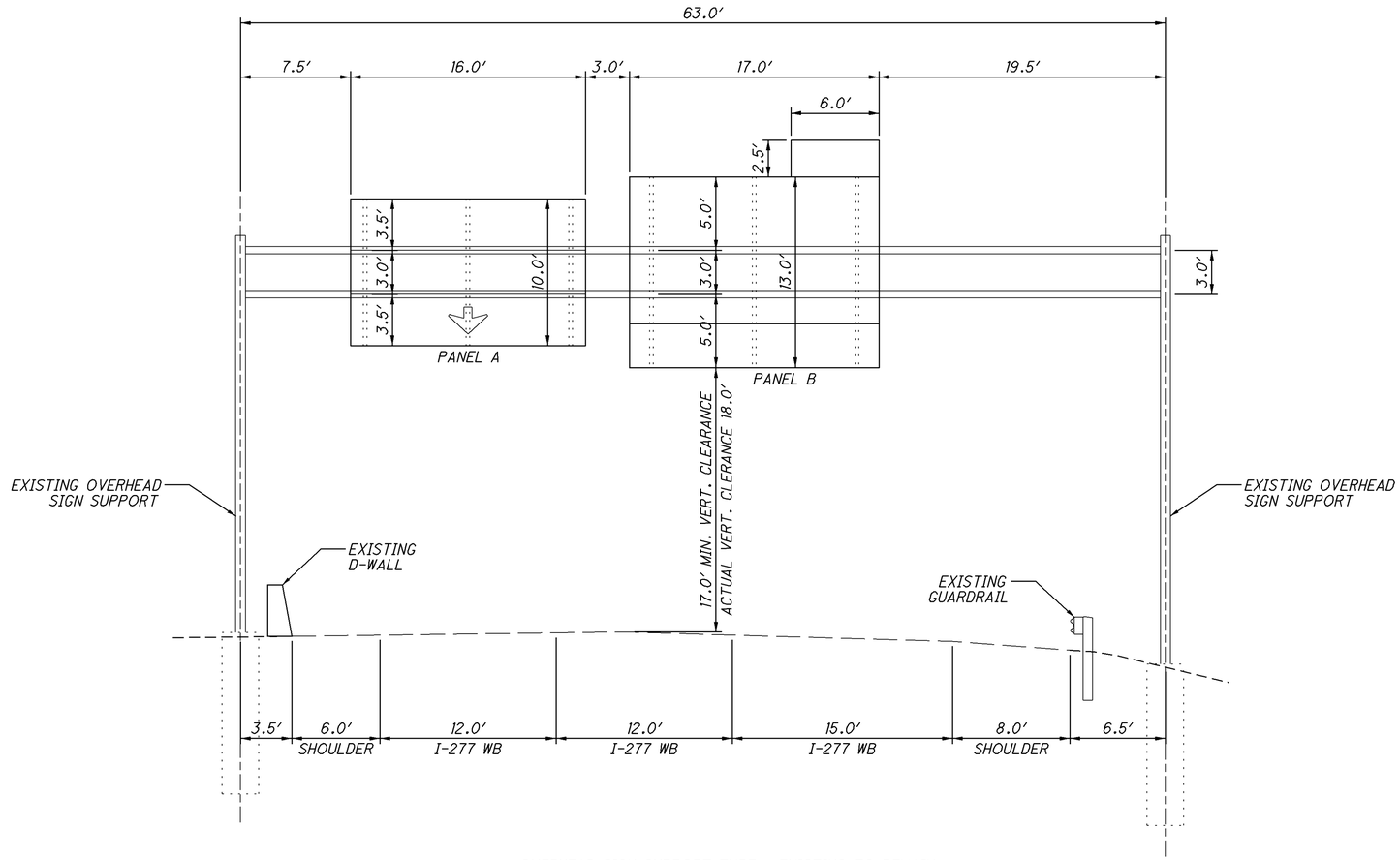
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 10′
NUMBER OF BRACKETS:	3
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 10′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	6′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	396 SQ. FT.
TOTAL SPAN LENGTH:	63 FT.



PANEL A
N.T.S.



PANEL B
N.T.S.



OSS-15 OVERHEAD SIGN SUPPORT TYPE - EXISTING TO REMAIN
STA. 3093+23, I-277 WESTBOUND

SEE SHEET 461 FOR PLAN VIEW.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

0 2.5 5 10
HORIZONTAL SCALE IN FEET

CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-15 - STA. 3093+23, U.S. 224 WESTBOUND

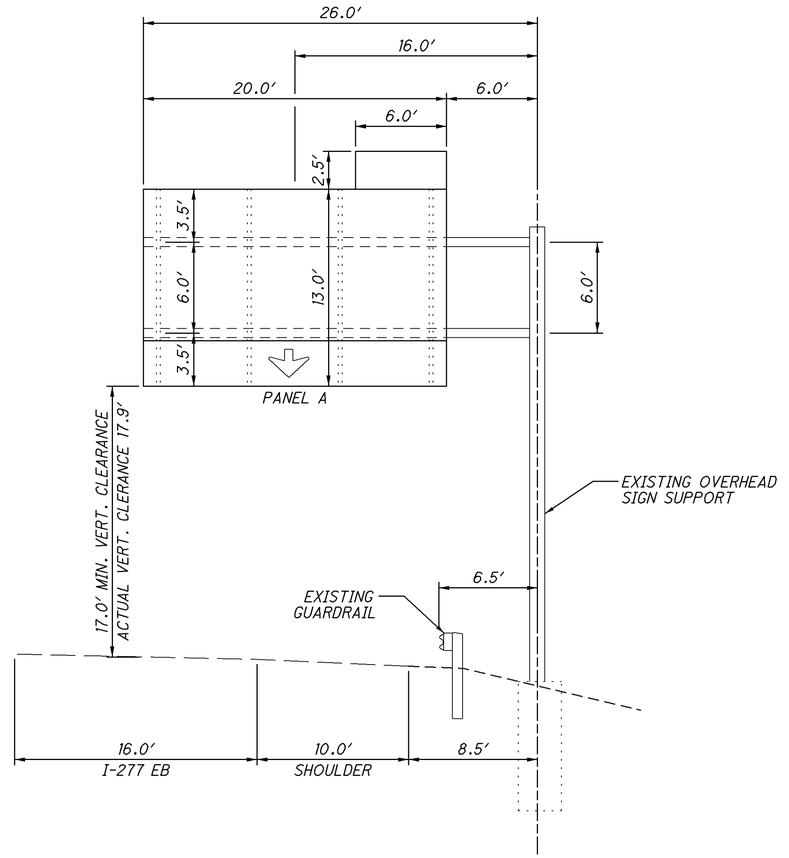
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SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	20′ X 10′
NUMBER OF BRACKETS:	4
EXIT ONLY PANEL TEXT:	E
EXIT ONLY PANEL SIZE:	20′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	6′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	275 SQ. FT.
TOTAL ℄ TO ℄ LENGTH:	16 FT.



PANEL A
N.T.S.



OSS-16 OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN 11
STA. 3117+23, I-277 EASTBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 463 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

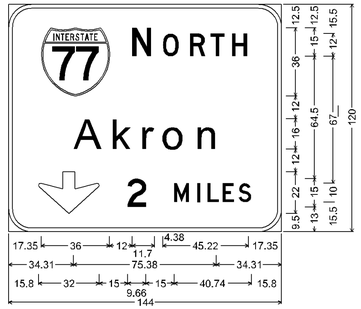
CALCULATED ARL
CHECKED RMG

SIGN SUPPORT DETAILS
OVERHEAD SIGN SUPPORT
OSS-16 - STA. 3117+23, U.S. 224 EASTBOUND

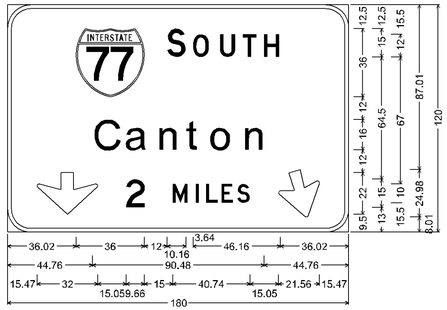
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SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	12′ X 10′
NUMBER OF BRACKETS:	5
OVERLAY PANEL FONT:	CLEARVIEWHWY
OVERLAY PANEL SIZE:	10′ X 4′
OVERLAY PANEL BACKGROUND:	GREEN
OVERLAY PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	15′ X 10′
NUMBER OF BRACKETS:	5
PANEL C	
PANEL SIZE:	13′ X 7′
EXIT PANEL SIZE:	6′ X 2′
PANEL D	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	20′ X 10′
NUMBER OF BRACKETS:	7
EXIT ONLY PANEL FONT:	CLEARVIEWHWY
EXIT ONLY PANEL SIZE:	20′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	6′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	648 SQ. FT.
TOTAL SPAN LENGTH:	77 FT.



PANEL A
N.T.S.

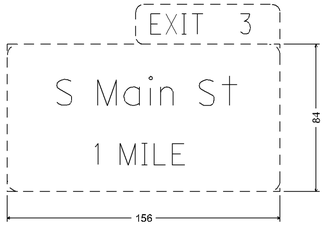


PANEL B
N.T.S.

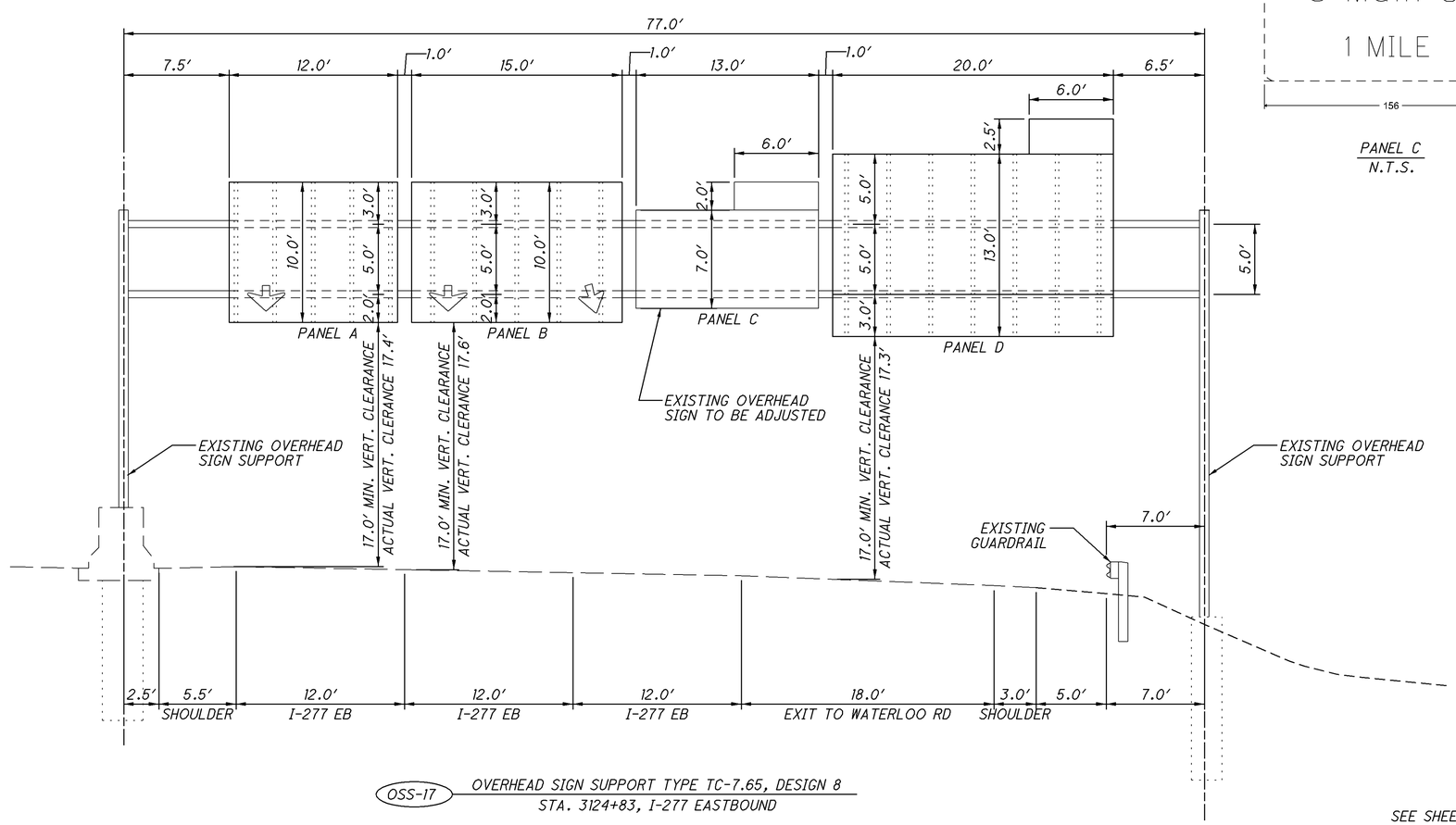


PANEL D
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.
5. PANEL A TO BE RAISED 0.5′ FROM CENTER OF TRUSS CHORDS TO ACHIEVE A MINIMUM CLEARANCE OF 17.0′.
6. PANEL B TO BE RAISED 0.5′ FROM CENTER OF TRUSS CHORDS TO ACHIEVE A MINIMUM CLEARANCE OF 17.0′.
7. PANEL D TO BE RAISED 1.0′ FROM CENTER OF TRUSS CHORDS TO ACHIEVE A MINIMUM CLEARANCE OF 17.0′.



PANEL C
N.T.S.



OSS-17 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 3124+83, I-277 EASTBOUND

SEE SHEET 463 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10
CALCULATED SLB
CHECKED RMG

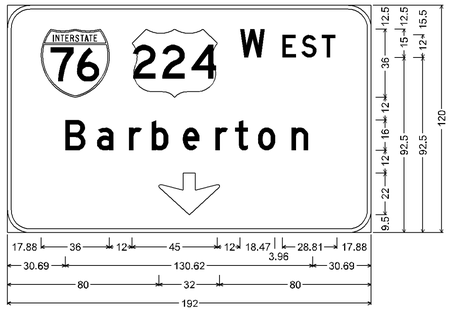
OVERHEAD SIGN SUPPORT DETAILS
OSS-17 - STA. 3124+83, U.S. 224 EASTBOUND

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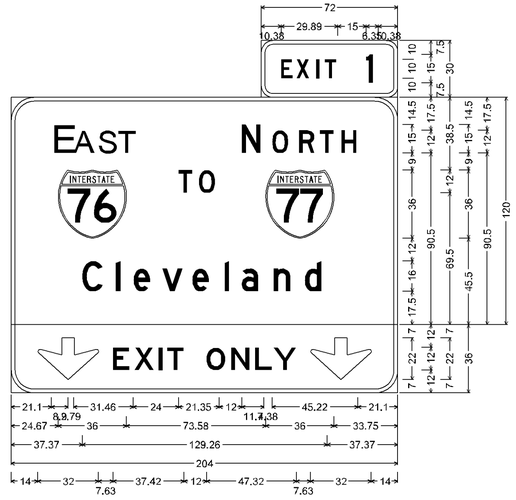
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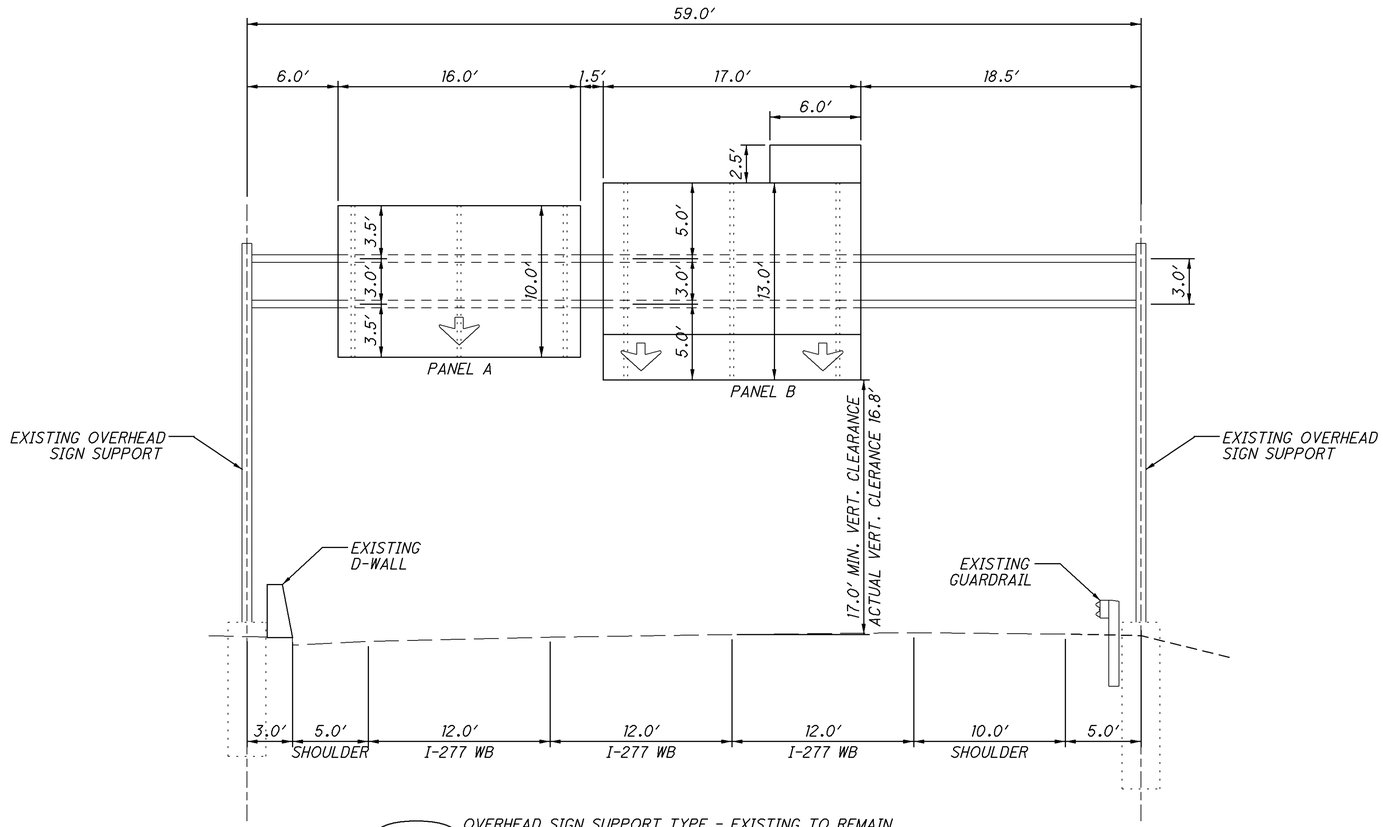
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 10′
NUMBER OF BRACKETS:	3
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 10′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	6′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	396 SQ. FT.
TOTAL SPAN LENGTH:	63 FT.



PANEL A
N.T.S.



PANEL B
N.T.S.



OSS-18 OVERHEAD SIGN SUPPORT TYPE - EXISTING TO REMAIN
STA. 3118+71, I-277 WESTBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 463 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

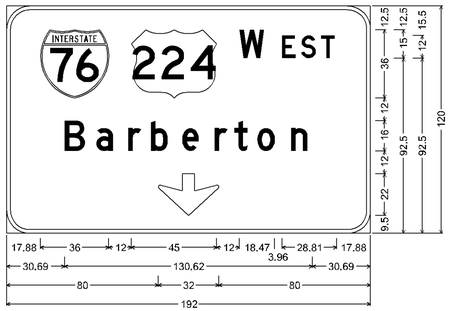
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-18 - STA. 3118+71, U.S. 224 WESTBOUND

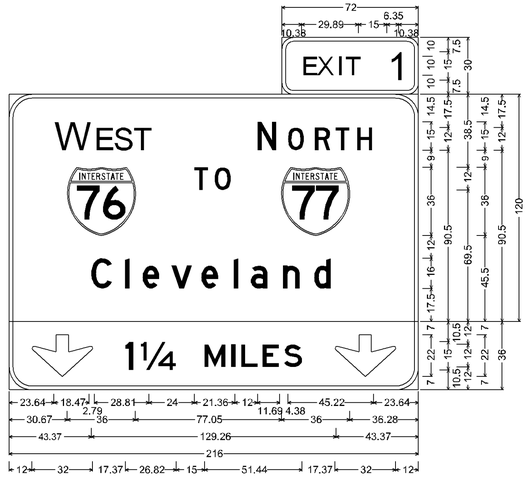
SUM-76/77-11.27/12.12

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AEHRD

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 9′
NUMBER OF BRACKETS:	3
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	18′ X 9′
NUMBER OF BRACKETS:	3
OVERLAY PANEL SIZE:	12′ X 3′
OVERLAY PANEL TEXT:	E
OVERLAY PANEL BACKGROUND:	YELLOW
OVERLAY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	6′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL C	
PANEL SIZE:	23′ X 10′
EXIT PANEL SIZE:	6′ X 2′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	633 SQ. FT.
TOTAL SPAN LENGTH:	101 FT.



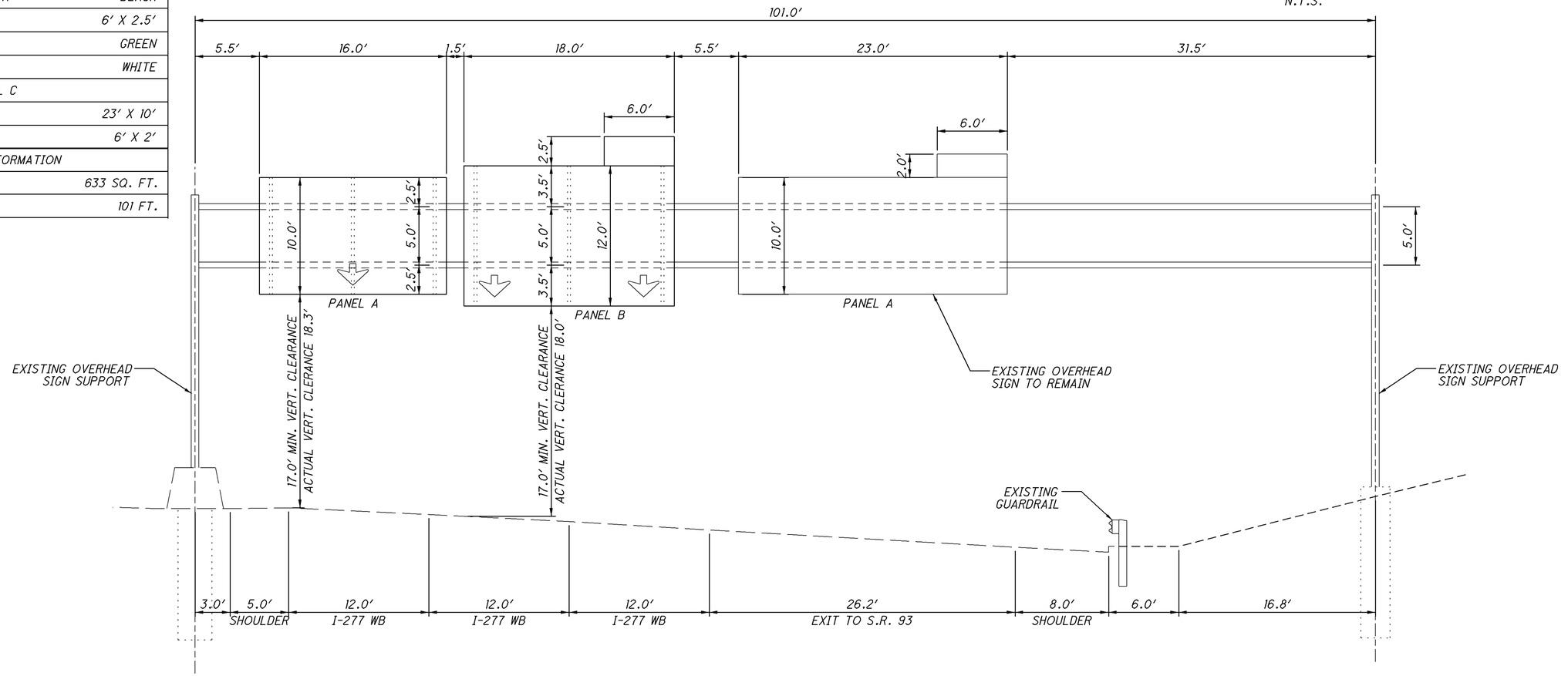
PANEL A
N.T.S.



PANEL B
N.T.S.



PANEL C
N.T.S.



OSS-19 — OVERHEAD SIGN SUPPORT TYPE TC-15.115
STA. 3157+20, I-277 WESTBOUND

SEE SHEET 466 FOR PLAN VIEW.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

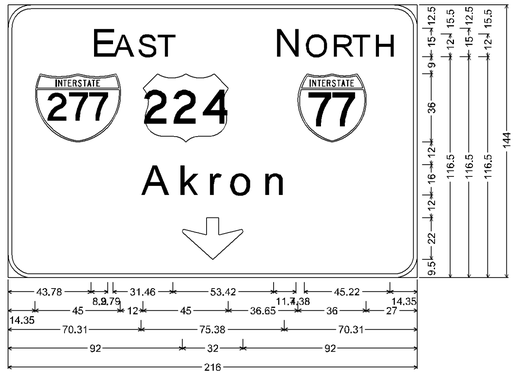
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-19 - STA. 3157+20, U.S. 224 WESTBOUND

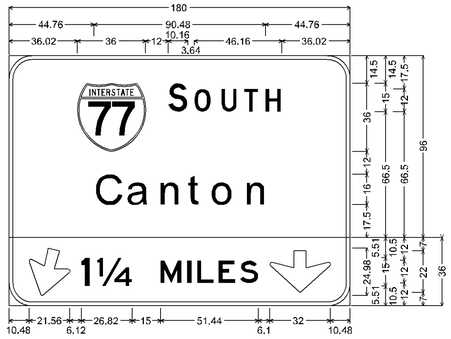
SUM-76/77-11.27/12.12

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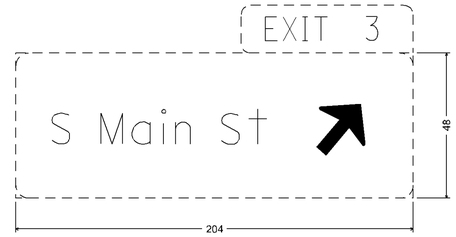
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	18′ X 12′
NUMBER OF BRACKETS:	3
OVERLAY PANEL FONT:	CLEARVIEWHWY
OVERLAY PANEL SIZE:	8′ X 5.5′
OVERLAY PANEL BACKGROUND:	GREEN
OVERLAY PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	15′ X 7′
NUMBER OF BRACKETS:	3
OVERLAY PANEL SIZE:	15′ X 3′
OVERLAY PANEL TEXT:	E
OVERLAY PANEL BACKGROUND:	YELLOW
OVERLAY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	10′ X 4.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	185 SQ. FT.
TOTAL SPAN LENGTH:	23 FT.



PANEL A
N.T.S.

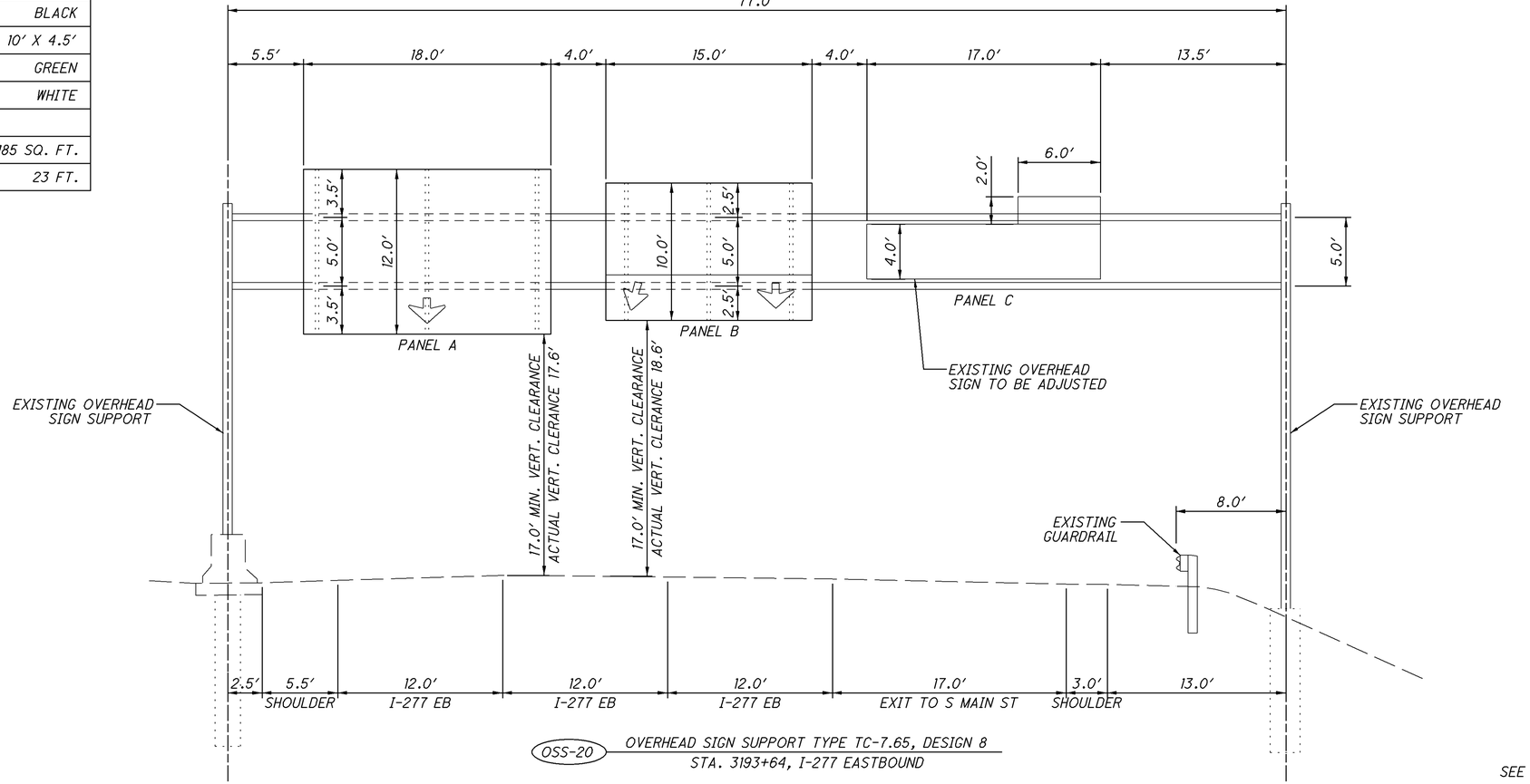


PANEL B
N.T.S.



PANEL C
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-20 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 3193+64, I-277 EASTBOUND

SEE SHEET 469 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED ARL
CHECKED RMG

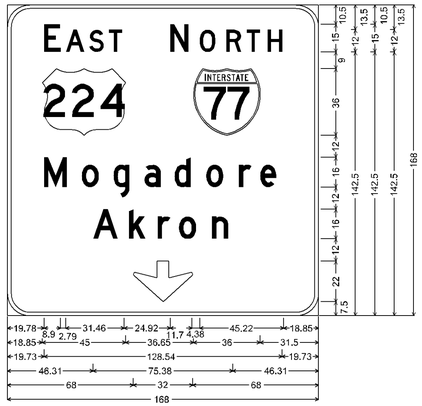
OVERHEAD SIGN SUPPORT DETAILS
OSS-20 - STA. 3193+64, U.S. 224 EASTBOUND

SUM-76/77-11.27/12.12

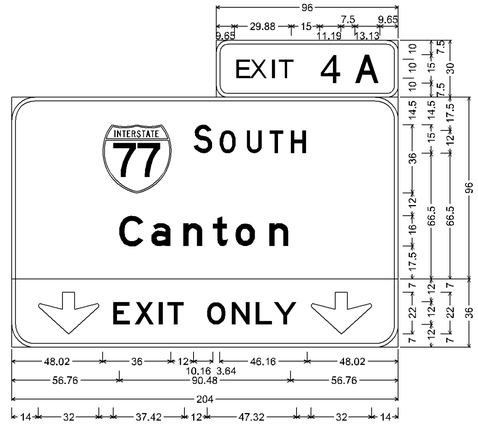
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652

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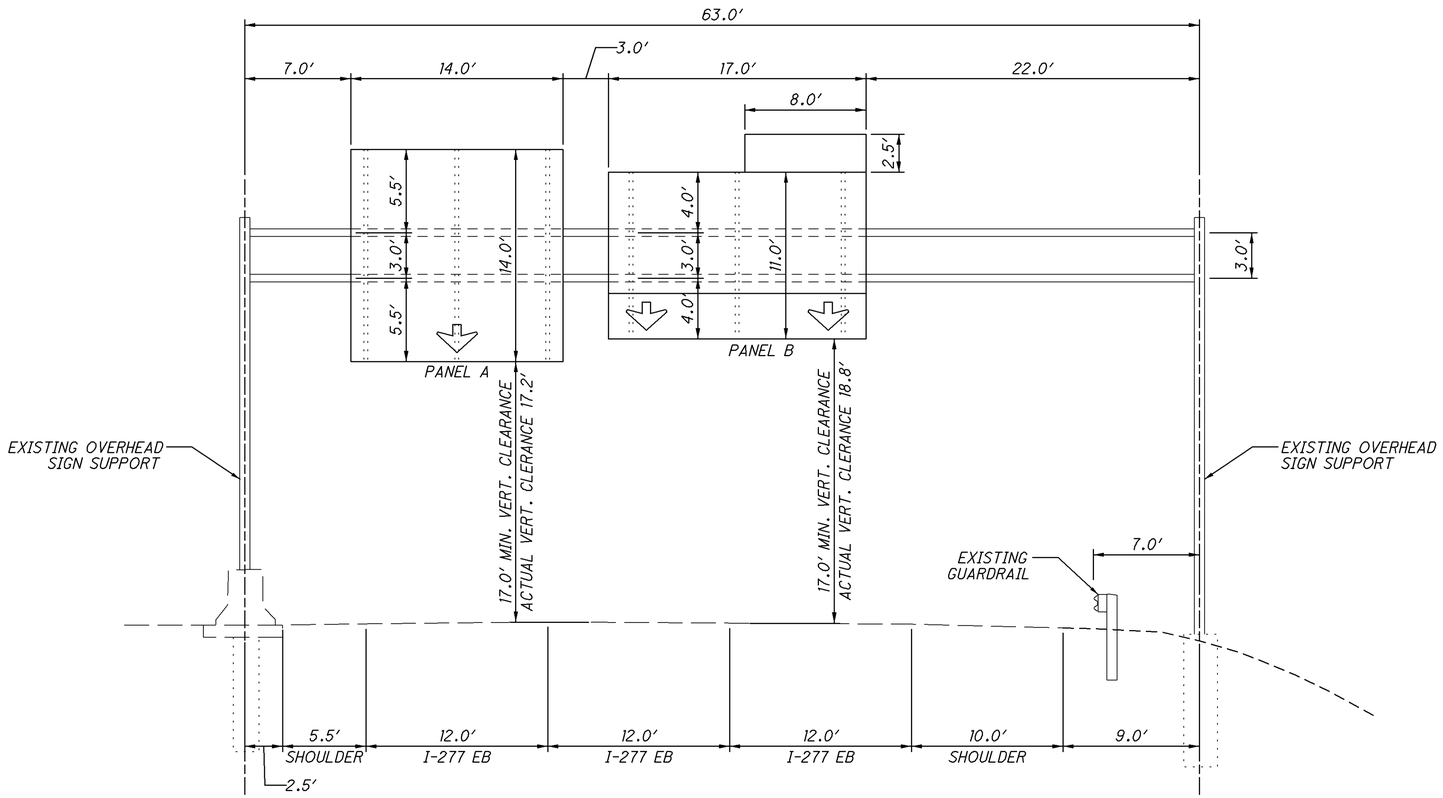
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	14′ X 14′
NUMBER OF BRACKETS:	3
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 11′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	423 SQ. FT.
TOTAL SPAN LENGTH:	63 FT.



PANEL A
N.T.S.



PANEL B
N.T.S.



OSS-22 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 3249+44, U.S. 277 EASTBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 473 FOR PLAN VIEW.

0 2.5 5 10 HORIZONTAL SCALE IN FEET

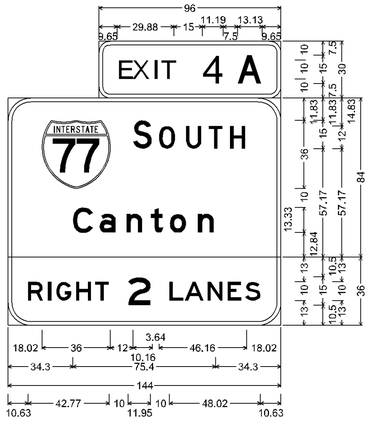
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-22 - STA. 3249+44, U.S. 277 EASTBOUND

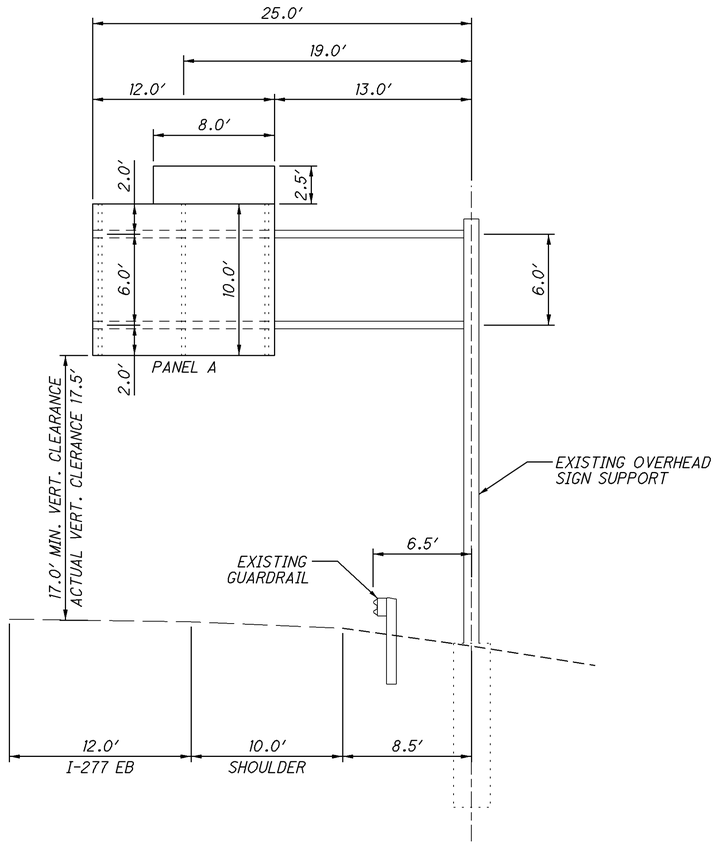
SUM-76/77-11.27/12.12

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7:48:54 PM
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SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	12′ X 7′
NUMBER OF BRACKETS:	3
RIGHT 2 LANES PANEL FONT:	E
RIGHT 2 LANES PANEL SIZE:	12′ X 3′
RIGHT 2 LANES PANEL BACKGROUND:	GREEN
RIGHT 2 LANES PANEL FILL COLOR:	WHITE
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	140 SQ. FT.
TOTAL ℄ TO ℄ LENGTH:	19 FT.



PANEL A
N.T.S.



OSS-23 OVERHEAD SIGN SUPPORT TYPE - EXISTING TO REMAIN
STA. 3258+77, I-277 EASTBOUND

SEE SHEET 474 FOR PLAN VIEW.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

0 2.5 5 10 HORIZONTAL SCALE IN FEET

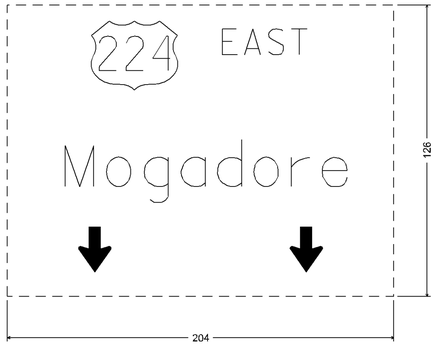
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-23 - STA. 3258+77, U.S. 224 EASTBOUND

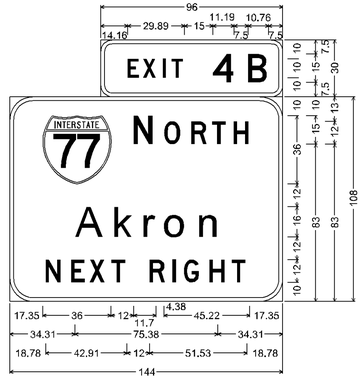
SUM-76/77-11.27/12.12

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AFORD

SIGN INFORMATION	
PANEL A	
PANEL SIZE:	17′ X 10.5′
OVERLAY PANEL SIZE:	3′ X 3′
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	12′ X 9′
NUMBER OF BRACKETS:	3
OVERLAY PANEL FONT:	CLEARVIEWHWY
OVERLAY PANEL SIZE:	10′ X 4′
OVERLAY PANEL BACKGROUND:	GREEN
OVERLAY PANEL FILL COLOR:	WHITE
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL C	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	GREEN
EXIT ONLY PANEL FILL COLOR:	WHITE
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	513.5 SQ. FT.
TOTAL SPAN LENGTH:	77 FT.

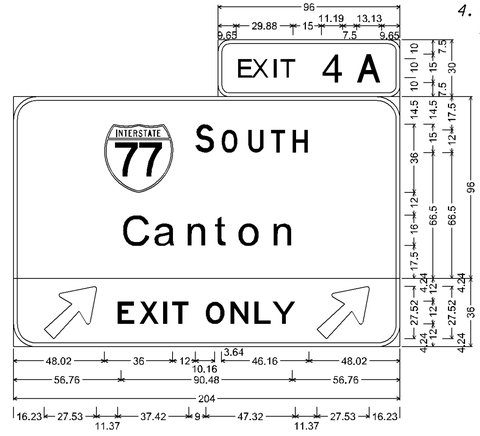


PANEL A
N.T.S.

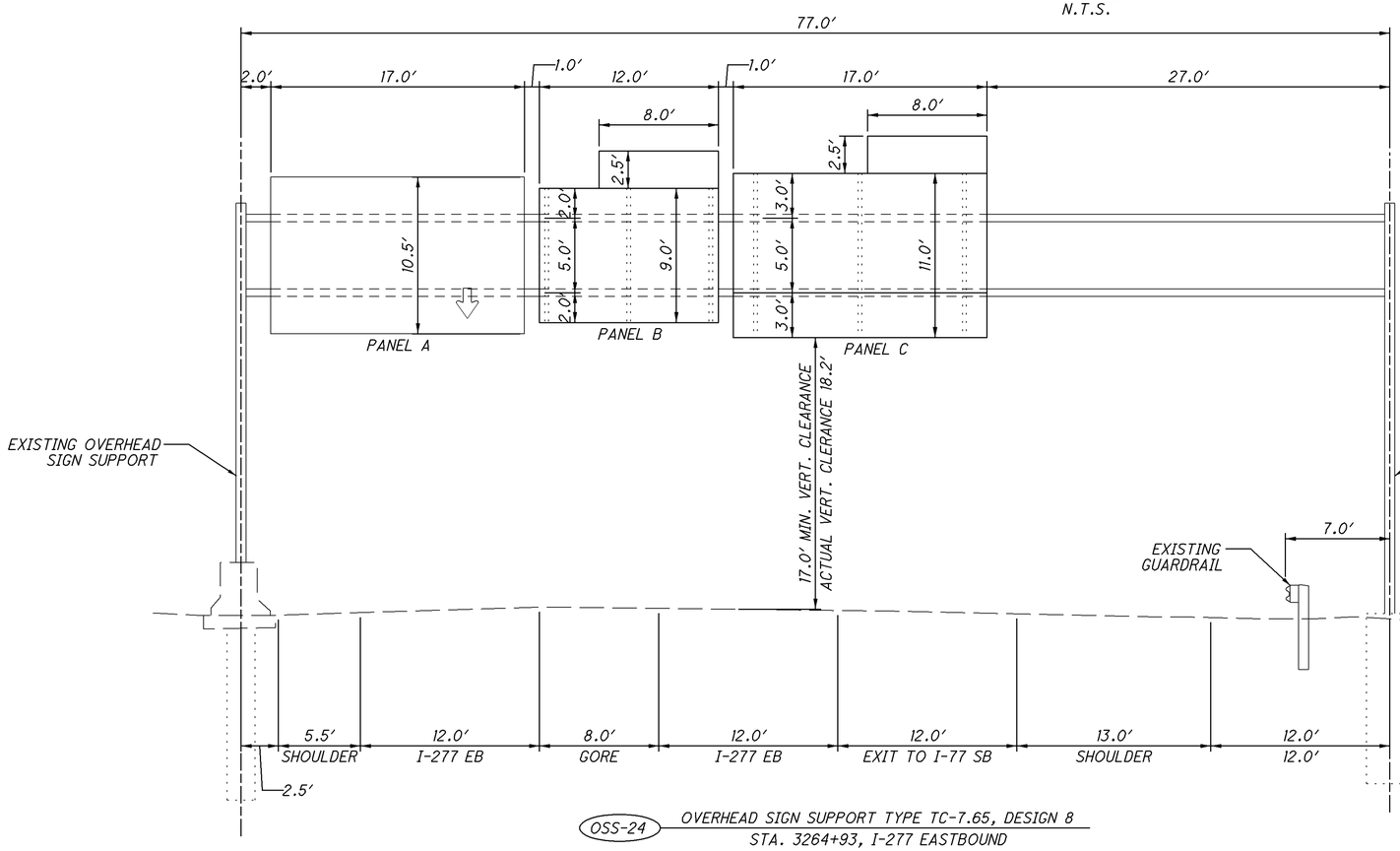


PANEL B
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



PANEL C
N.T.S.



OSS-24 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 3264+93, I-277 EASTBOUND

SEE SHEET 476 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

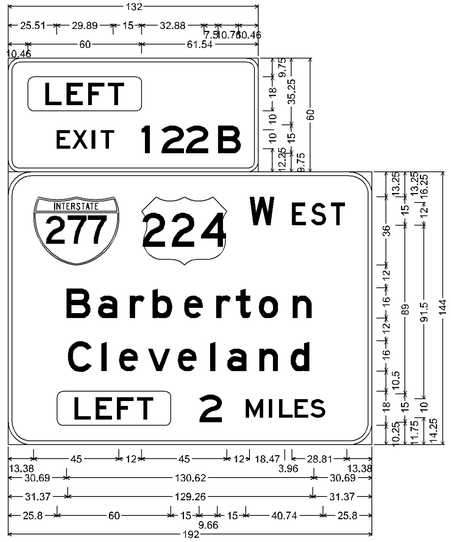
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-24 - STA. 3264+93, U.S. 224 EASTBOUND

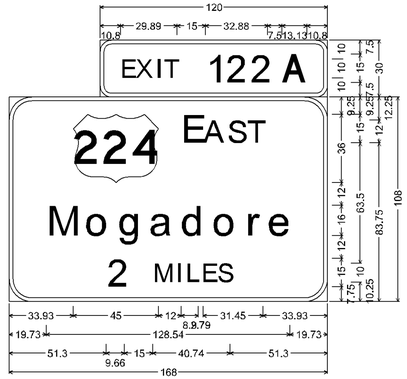
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SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 12′
NUMBER OF BRACKETS:	3
EXIT PANEL SIZE:	11′ X 5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	14′ X 9′
NUMBER OF BRACKETS:	3
EXIT PANEL SIZE:	10′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL C	
PANEL SIZE:	20′ X 6′
EXIT PANEL SIZE:	8′ X 2′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	534 SQ. FT.
TOTAL SPAN LENGTH:	87 FT.



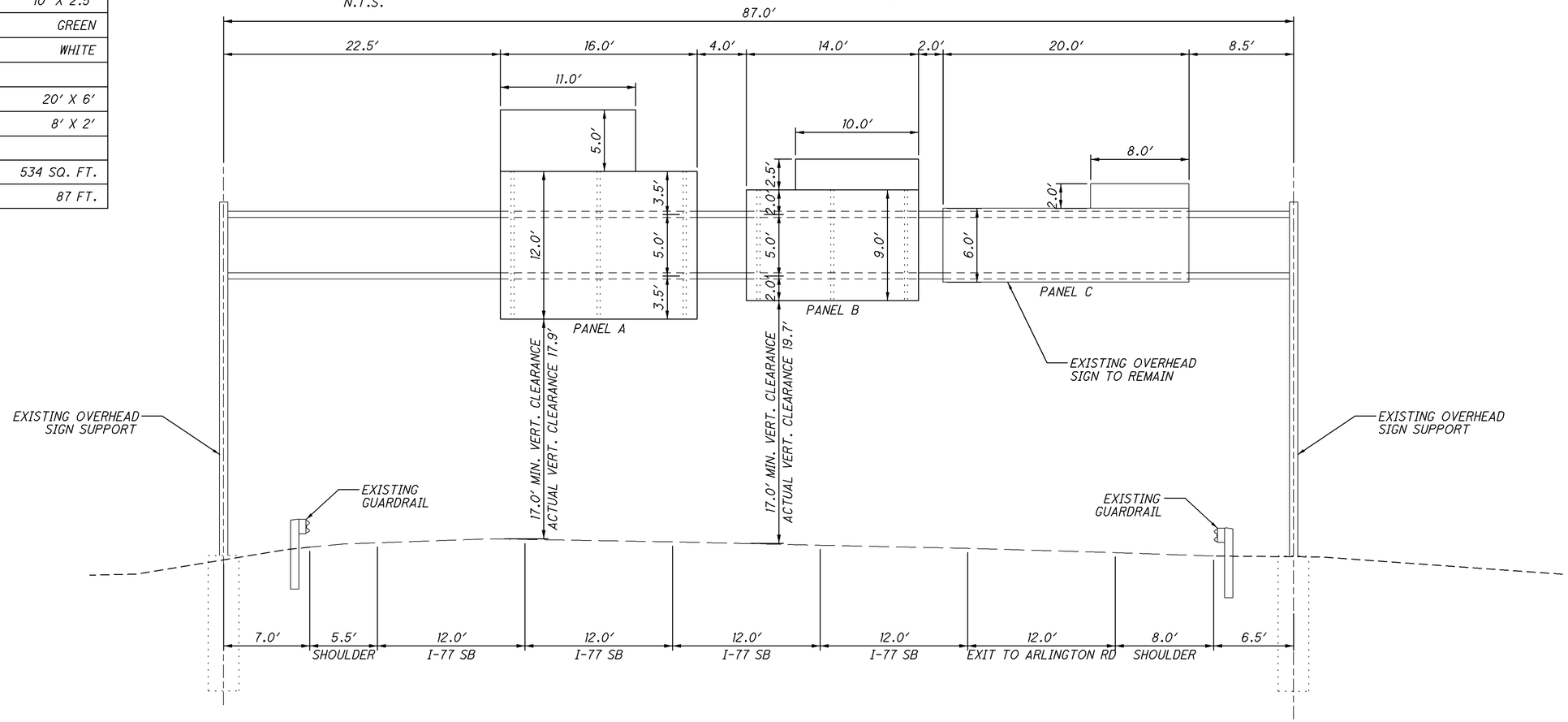
PANEL A
N.T.S.



PANEL B
N.T.S.



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-25 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 4026+60, I-77 NORTHBOUND

SEE SHEET 480 FOR PLAN VIEW.

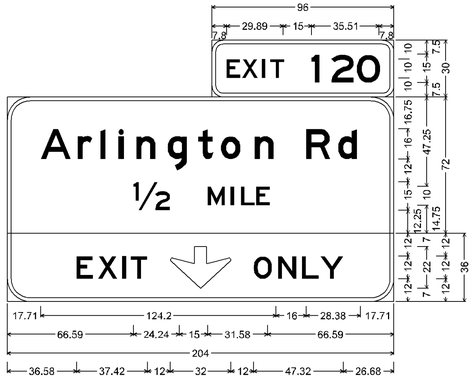
HORIZONTAL SCALE IN FEET
0 2.5 5 10
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-25 - STA. 4026+60, I-77 NORTHBOUND

SUM-76/77-11.27/12.12

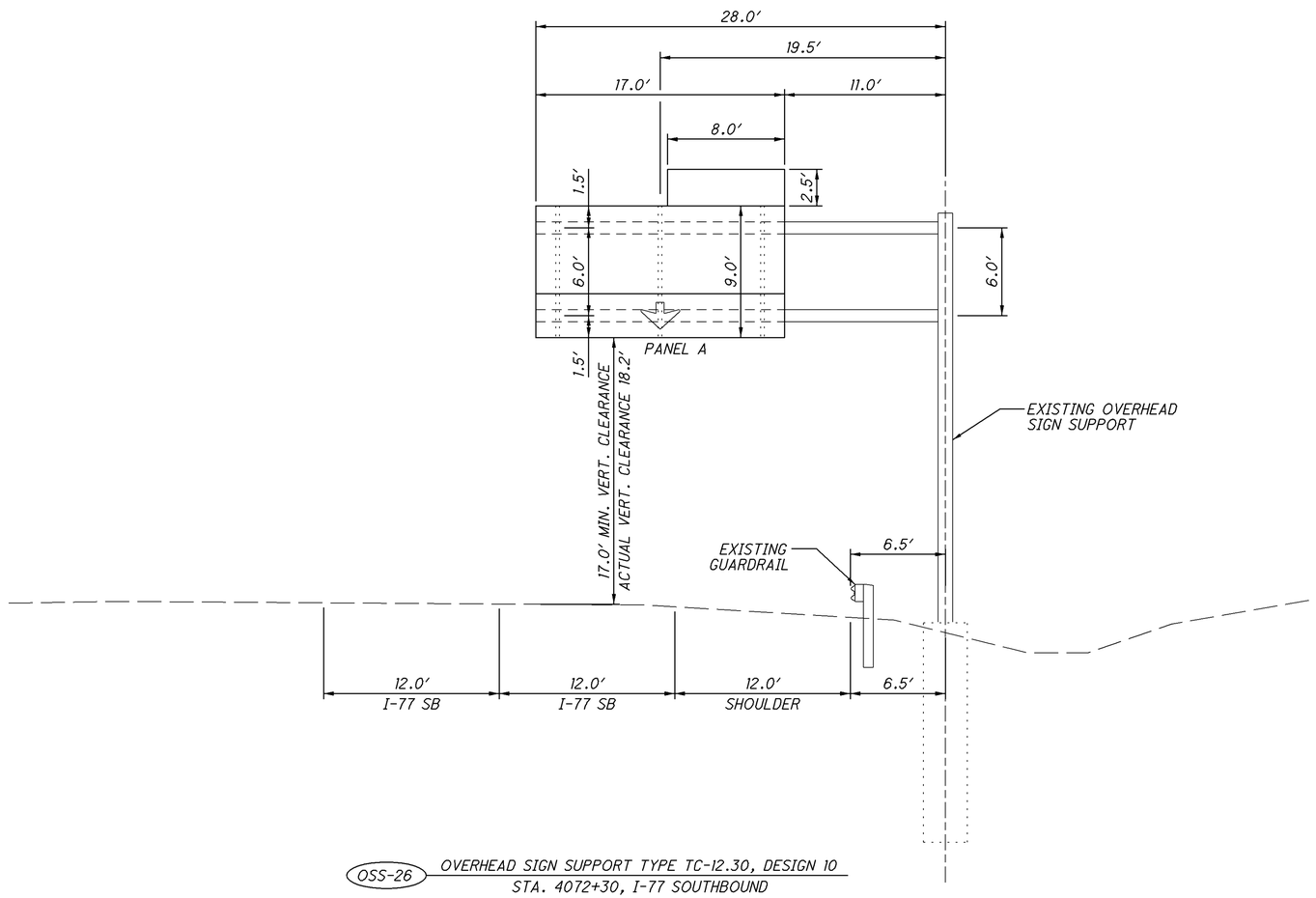
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3:41:18 PM
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SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 6′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	173 SQ. FT.
TOTAL ℄ TO ℄ LENGTH:	19.5 FT.



PANEL A
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-26 OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN 10
STA. 4072+30, I-77 SOUTHBOUND

SEE SHEET 483 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-26 - STA. 4072+30, I-77 SOUTHBOUND

SUM-76/77-11.27/12.12

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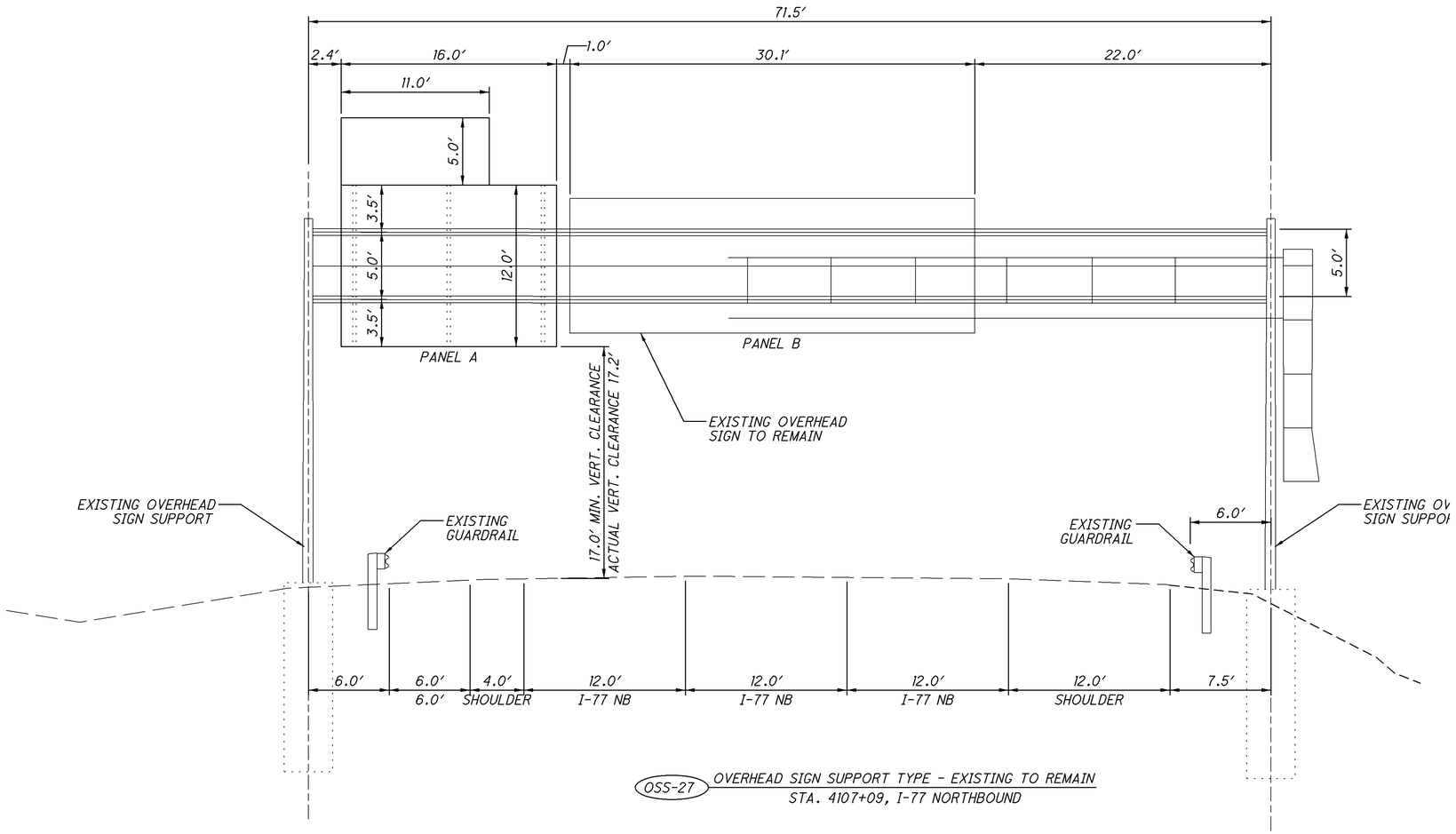
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 12′
NUMBER OF BRACKETS:	3
EXIT PANEL SIZE:	11′ X 5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
PANEL SIZE:	EXISTING DMS SIGN
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	247 SQ. FT.
TOTAL SPAN LENGTH:	71.5 FT.



PANEL A
N.T.S.

PANEL B
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-27 OVERHEAD SIGN SUPPORT TYPE - EXISTING TO REMAIN
STA. 4107+09, I-77 NORTHBOUND

SEE SHEET 486 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

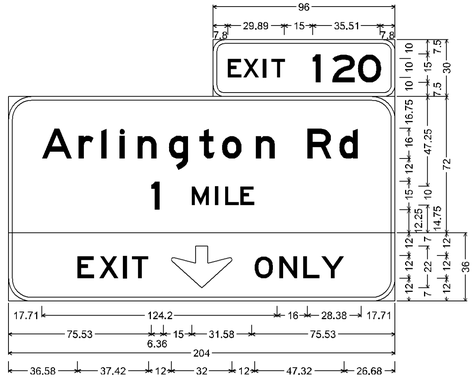
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-27 - STA. 4107+09, I-77 NORTHBOUND

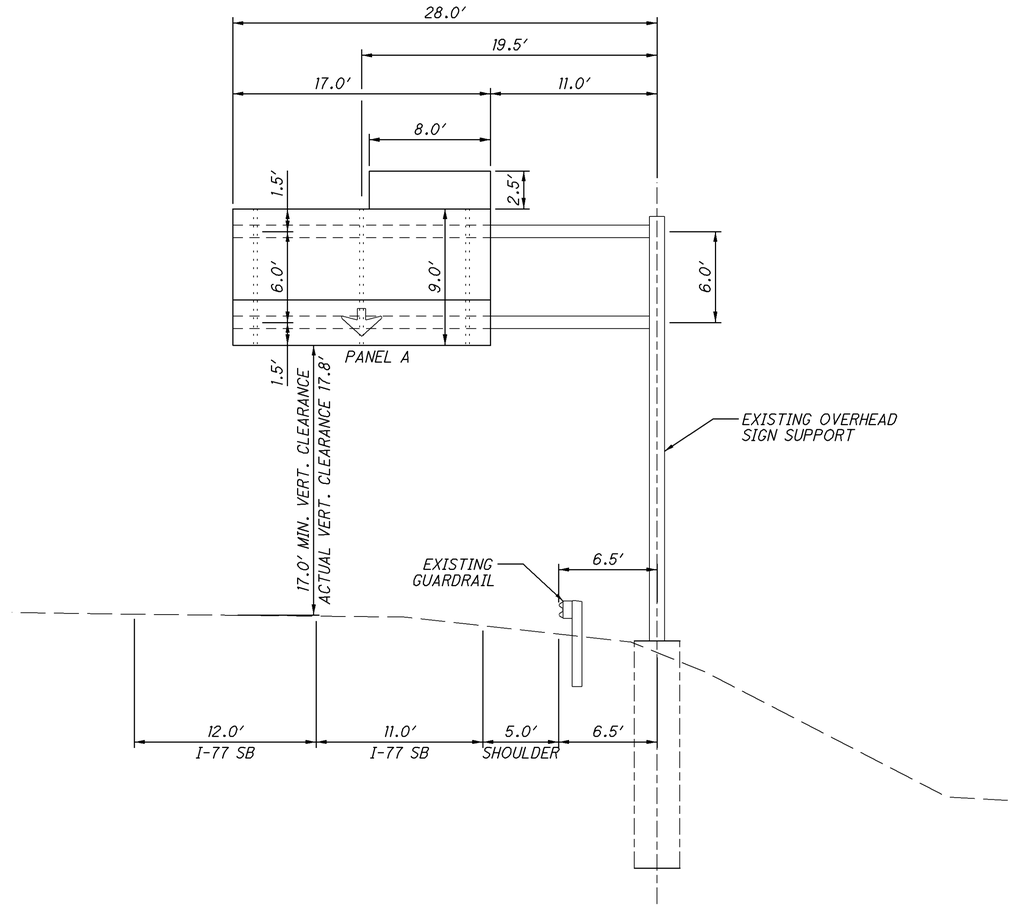
SUM-76/77-11.27/12.12

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9/16/2014
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CDEIBEL

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 6′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	8′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	173 SQ. FT.
TOTAL ℄ TO ℄ LENGTH:	19.5 FT.



PANEL A
N.T.S.



OSS-28 OVERHEAD SIGN SUPPORT TYPE - EXISTING TO REMAIN
STA. 4100+13, I-77 SOUTHBOUND

SEE SHEET 486 FOR PLAN VIEW.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

0 2.5 5 10 HORIZONTAL SCALE IN FEET

CALCULATED ARL
CHECKED RMG

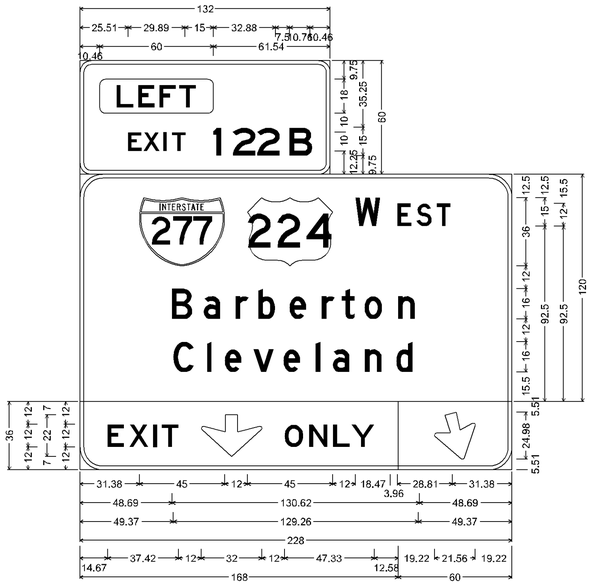
OVERHEAD SIGN SUPPORT DETAILS
OSS-28 - STA. 4100+13, I-77 SOUTHBOUND

SUM-76/77-11.27/12.12

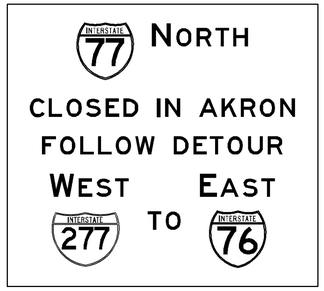
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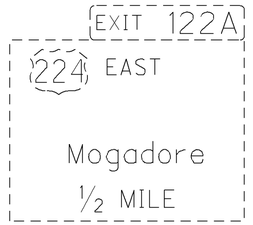
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	19′ X 10′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL SIZE:	14′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	11′ X 5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
PANEL SIZE:	12′ X 6′
NUMBER OF BRACKETS:	3
PANEL C	
PANEL SIZE:	13′ X 9′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	185 SQ. FT.
TOTAL SPAN LENGTH:	69 FT.



PANEL A
N.T.S.

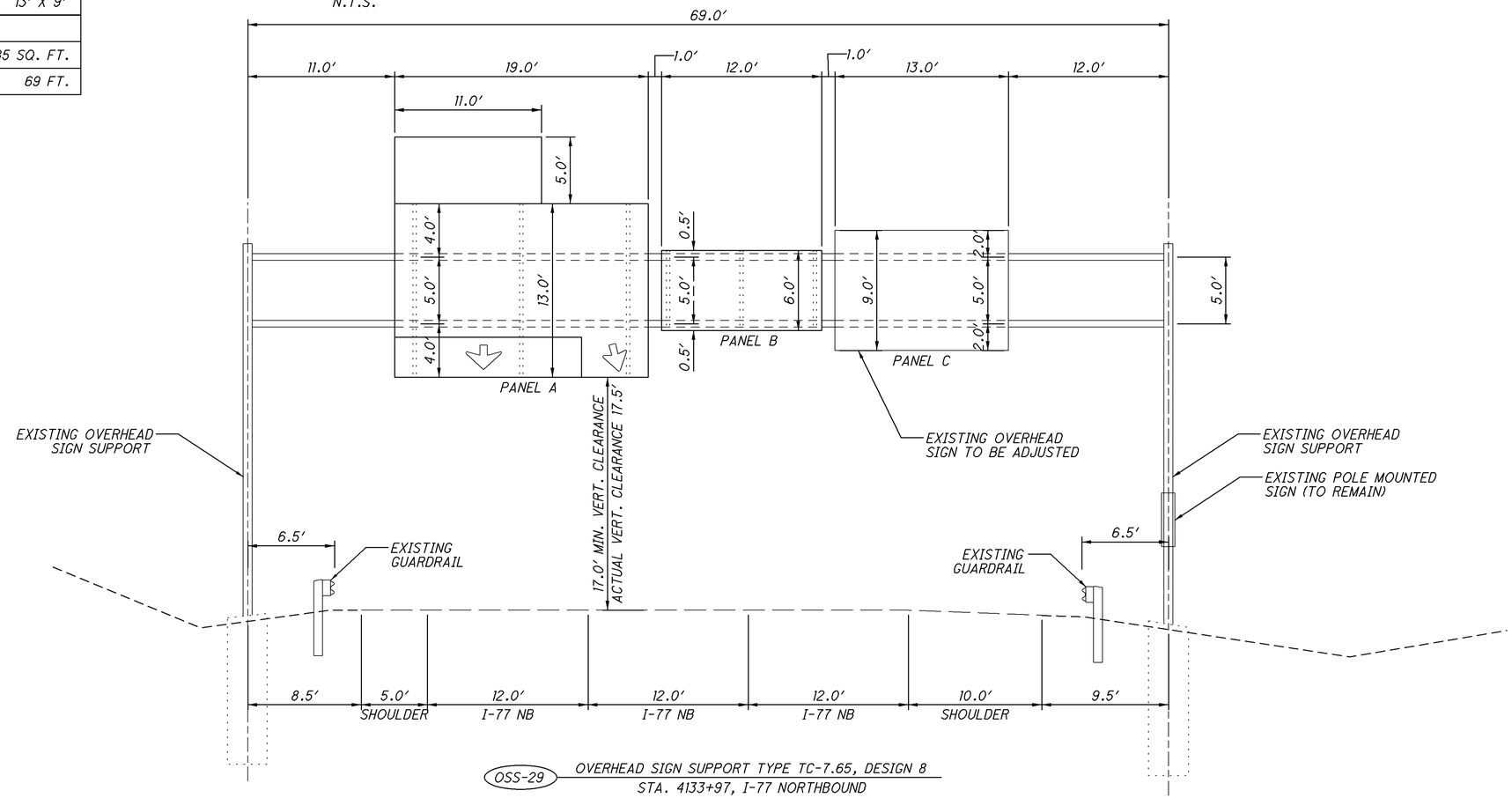


PANEL B
N.T.S.



PANEL C
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-29 — OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 4133+97, I-77 NORTHBOUND

SEE SHEET 488 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-29 - STA. 4133+97, I-77 NORTHBOUND

SUM-76/77-11.27/12.12

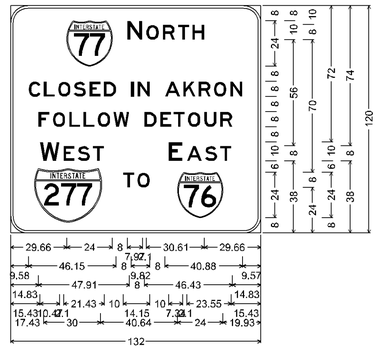
536
652

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CDEIBEL

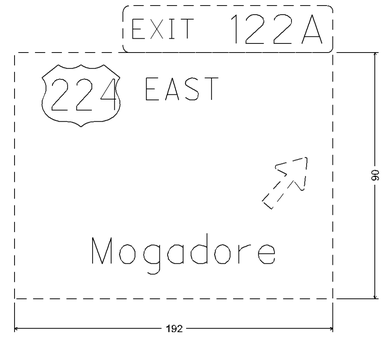
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	19′ X 13′
NUMBER OF BRACKETS:	5
EXIT ONLY PANEL FONT:	CLEARVIEWHWY
EXIT ONLY PANEL SIZE:	14′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	11′ X 5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL B	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	ORANGE
FILL COLOR:	BLACK
PANEL SIZE:	11′ X 10′
NUMBER OF BRACKETS:	2
PANEL C	
PANEL SIZE	16′ X 7.5′
EXIT PANEL SIZE:	6′ X 2.5′
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	547 SQ. FT.
TOTAL SPAN LENGTH:	85 FT.



PANEL A
N.T.S.

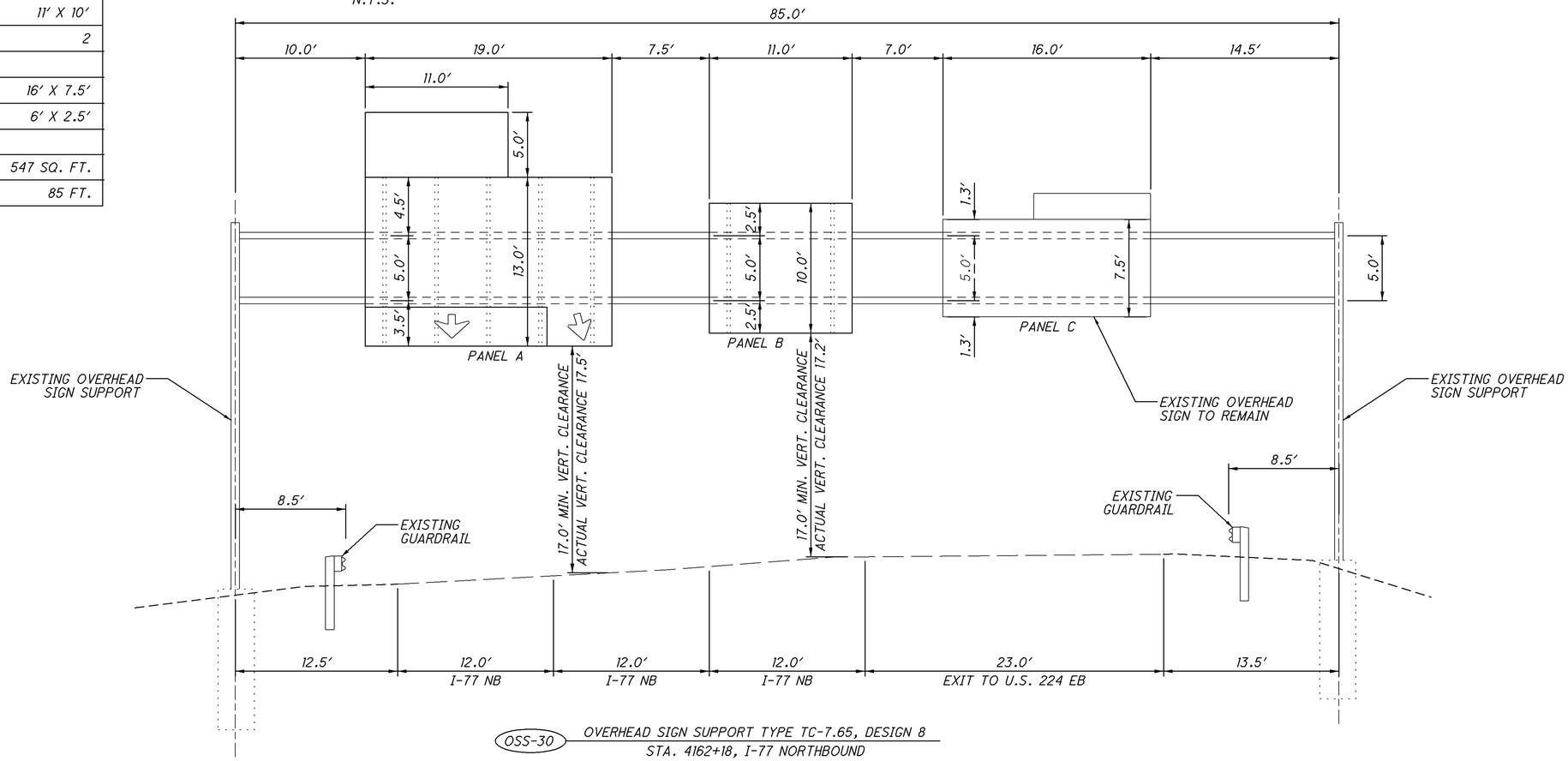


PANEL B
N.T.S.



PANEL C
N.T.S.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.



OSS-30 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 4162+18, I-77 NORTHBOUND

SEE SHEET 490 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED SLB
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-30 - STA. 4162+18, I-77 NORTHBOUND

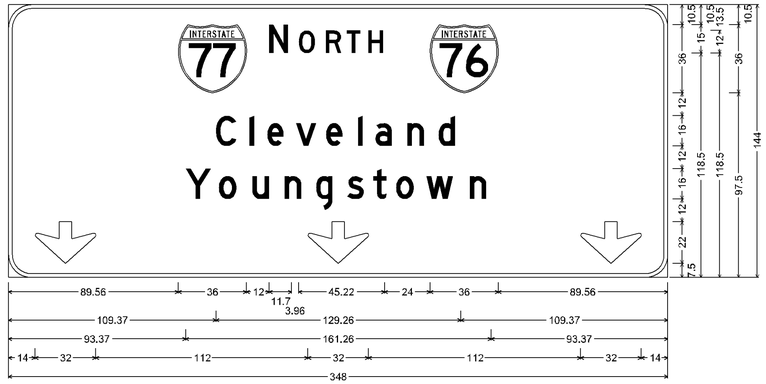
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CBEIBEL

SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 10′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL SIZE:	17′ X 3′
EXIT ONLY PANEL FONT:	E
EXIT ONLY PANEL FILL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	11′ X 5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	17′ X 10′
NUMBER OF BRACKETS:	5
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	624 SQ. FT.
TOTAL SPAN LENGTH:	91.5′



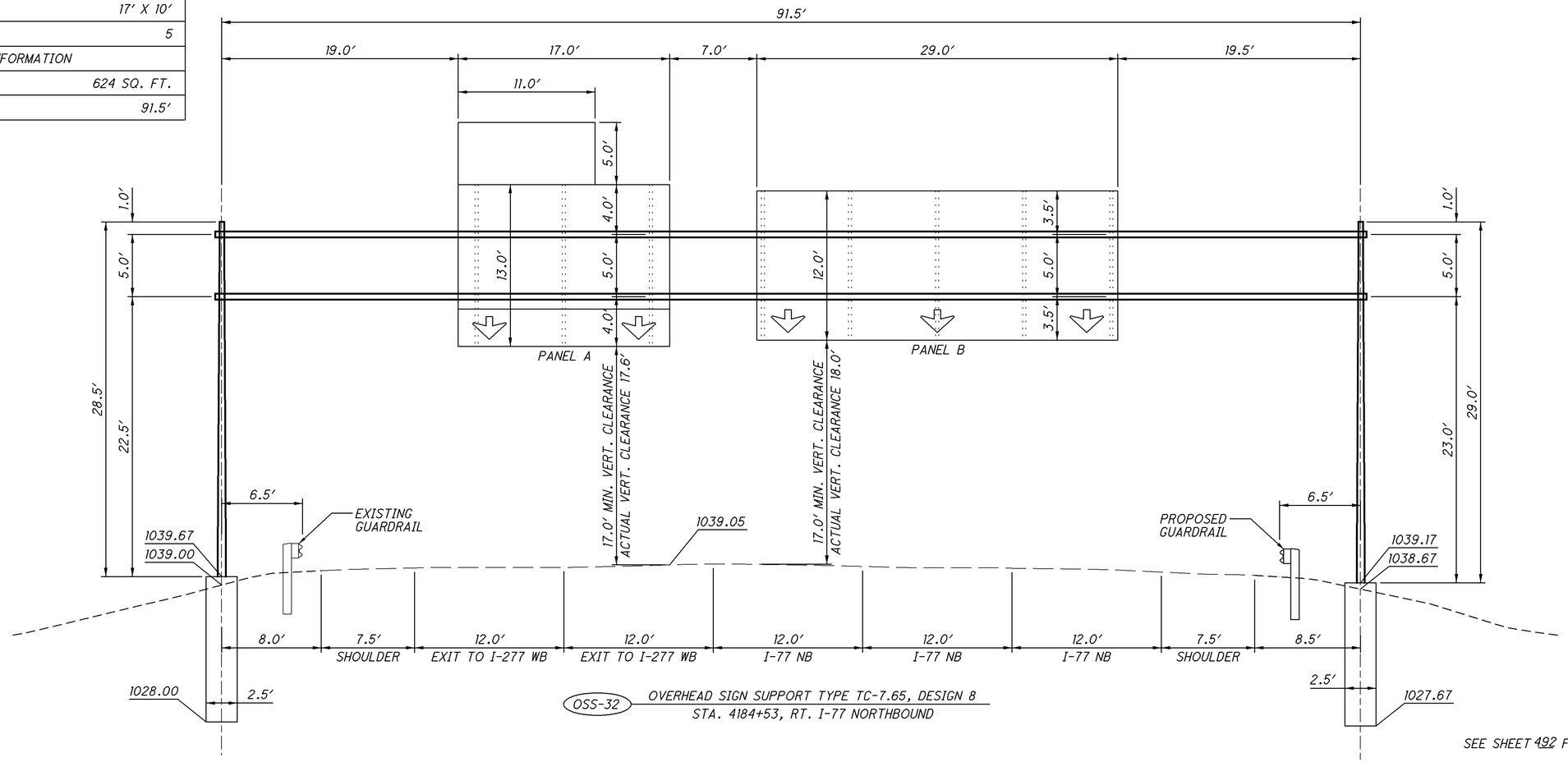
PANEL A
N.T.S.



PANEL B
N.T.S.

NOTES: 1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.



OSS-32 OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 8
STA. 4184+53, RT. I-77 NORTHBOUND

SEE SHEET 492 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

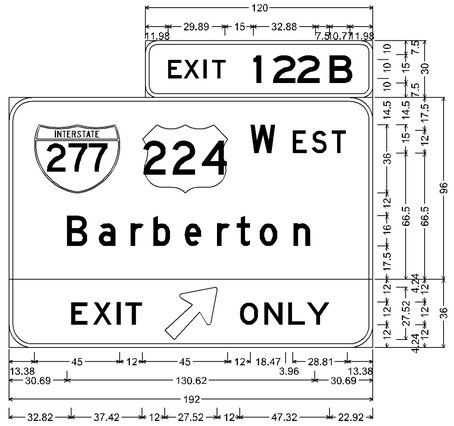
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-32 - STA. 4184+53, RT. I-77 NORTHBOUND

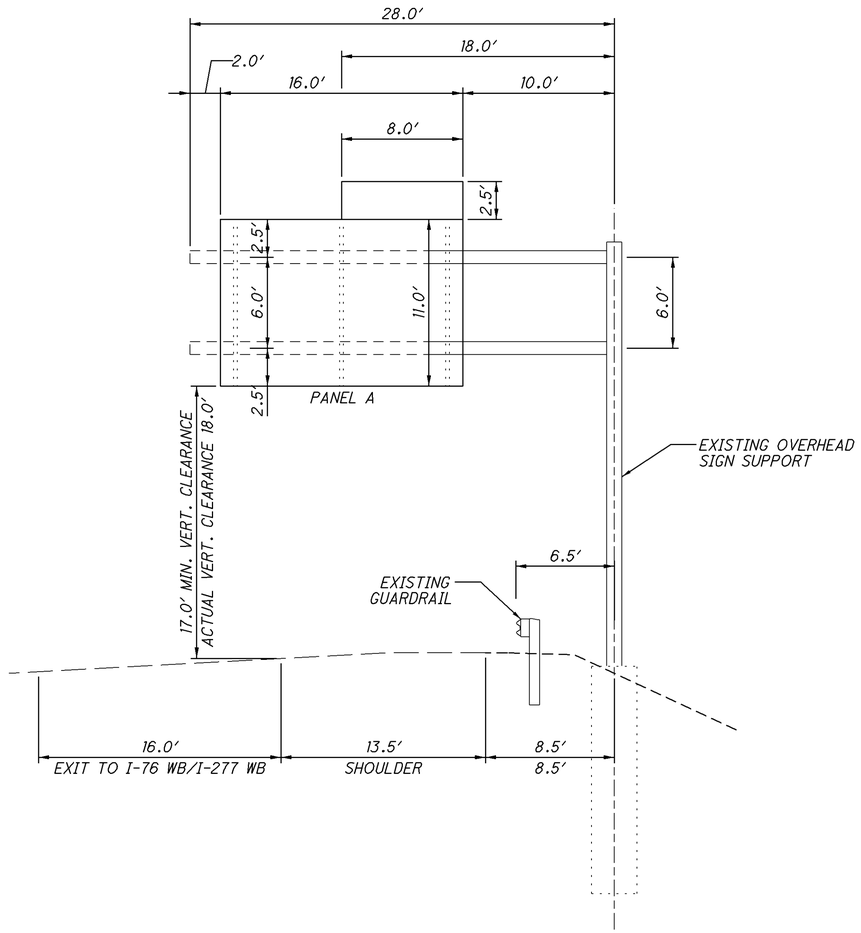
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SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL SIZE:	16′ X 8′
NUMBER OF BRACKETS:	3
EXIT ONLY PANEL FONT:	CLEARVIEWHWY
EXIT ONLY PANEL SIZE:	16′ X 3′
EXIT ONLY PANEL BACKGROUND:	YELLOW
EXIT ONLY PANEL FILL COLOR:	BLACK
EXIT PANEL SIZE:	10′ X 2.5′
EXIT PANEL BACKGROUND:	GREEN
EXIT PANEL FILL COLOR:	WHITE
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	201 SQ. FT.
TOTAL SPAN LENGTH:	28.0′



PANEL A
N.T.S.



OSS-34 — OVERHEAD SIGN SUPPORT TYPE TC-12.30, DESIGN 8
STA. 4200+63, I-77 SOUTHBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.
4. CALCULATED CLEARANCES BASED ON EXISTING PLAN INFORMATION. CLEARANCE SHALL BE FIELD VERIFIED.

SEE SHEET 494 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

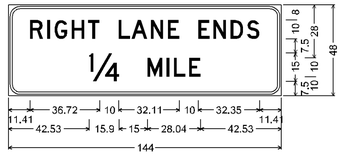
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-34 - STA. 4200+63, I-77 SOUTHBOUND

SUM-76/77-11.27/12.12

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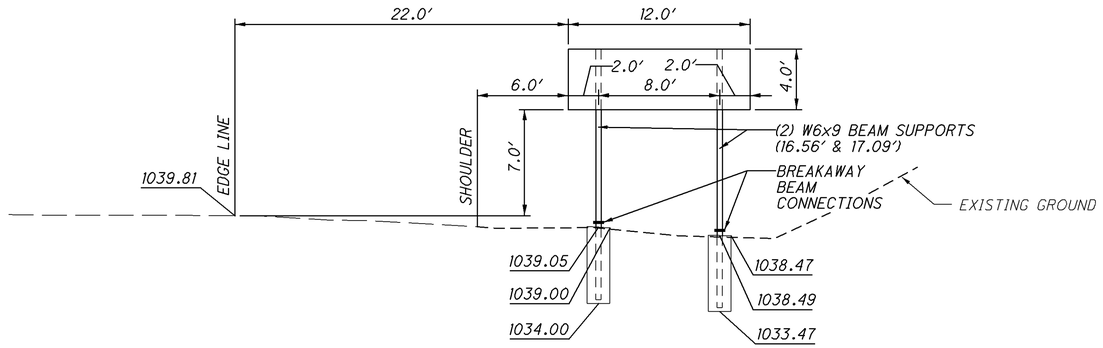
SIGN INFORMATION	
PANEL A	
SIGN CODE:	W9-H5R-144
TEXT FONT:	D
PANEL SIZE:	12′ X 4′
BACKROUND:	YELLOW
FILL COLOR:	BLACK
PROPOSED BEAM INFORMATION	
TOTAL SIGN AREA:	48 SQ. FT.
DESIGN TYPE:	W6X9
SIZE:	5-7/8″ X 4″
BEAM FOUNDATION INFORMATION	
DIAMETER:	18″
DEPTH:	5.0′



PANEL A
N.T.S.

NOTES: 1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.



S-100 BEAM SUPPORT TYPE W6X9
STA. 1127+00, RT. I-76 EASTBOUND

SEE SHEET 449 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED ARL
CHECKED -

BEAM MOUNTED SIGN SUPPORT DETAILS
S-100 - STA. 1127+00, RT. I-76 EASTBOUND

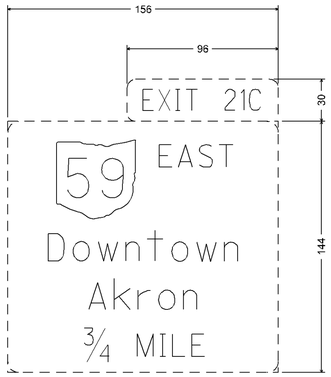
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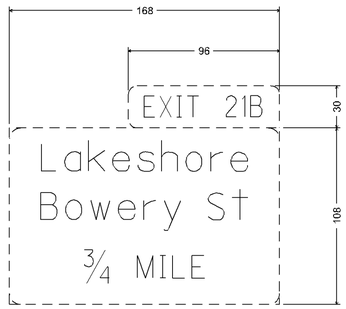
SIGN INFORMATION	
PANEL A	
PANEL SIZE:	13′ X 12′
EXIT PANEL SIZE:	8′ X 2.5′
PANEL B	
PANEL SIZE:	14′ X 9′
EXIT PANEL SIZE:	8′ X 2.5′
PANEL C	
SIGN CODE:	W9-H4R-192
BACKGROUND:	YELLOW
FILL COLOR:	BLACK
PANEL SIZE:	16′ X 5′
NUMBER OF BRACKETS:	3
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	402 SQ. FT.
TOTAL SPAN LENGTH:	62.5 FT.

NOTES: 1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

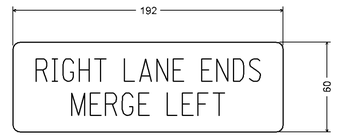
2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.



PANEL A
N.T.S.

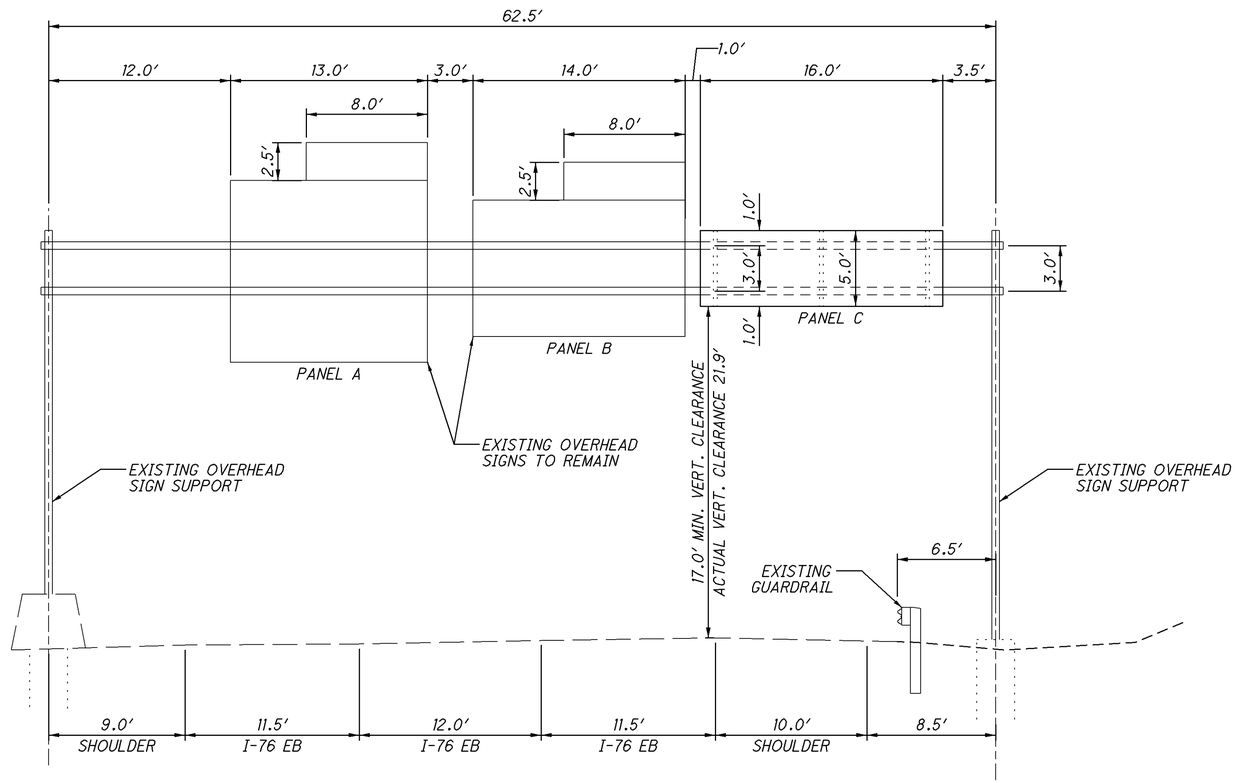


PANEL B
N.T.S.



W9-H4R-192

PANEL A
N.T.S.



OSS-21 — OVERHEAD SIGN SUPPORT TYPE TC-7.65, DESIGN 6
STA. 1139+50, RT. I-76 EASTBOUND

SEE SHEET 450 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

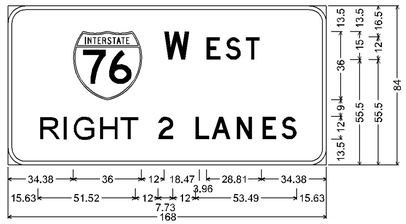
CALCULATED ARL
CHECKED RMG

OVERHEAD SIGN SUPPORT DETAILS
OSS-21 - STA. 1139+50, RT. I-76 EASTBOUND

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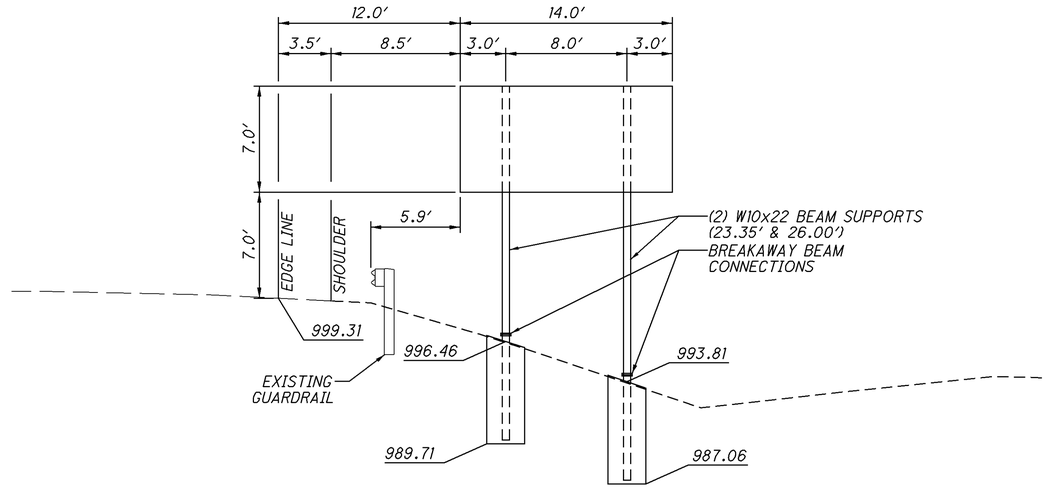
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
PANEL SIZE:	14′ X 7′
BACKROUND:	GREEN
FILL COLOR:	WHITE
PROPOSED BEAM INFORMATION	
TOTAL SIGN AREA:	98 SQ. FT.
DESIGN TYPE:	W10x22
SIZE:	10-1/8″ X 5-3/4″
FOUNDATION INFORMATION	
DIAMETER:	30″
DEPTH:	6.75′



PANEL A
N.T.S.

NOTES: 1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.



S-102 BEAM SUPPORT TYPE W10X22
STA. 2037+50, LT. I-76 SOUTHBOUND

SEE SHEET 454 FOR PLAN VIEW.

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED ARL
CHECKED -

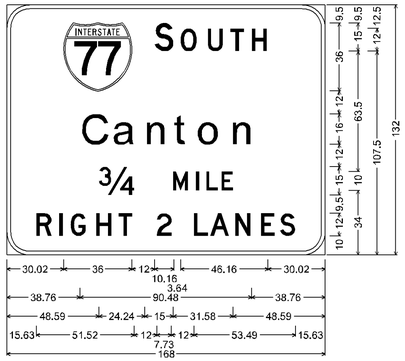
BEAM MOUNTED SIGN SUPPORT DETAILS
S-102 - STA. 2037+50, LT. I-76 SOUTHBOUND

SUM-76/77-11.27/12.12

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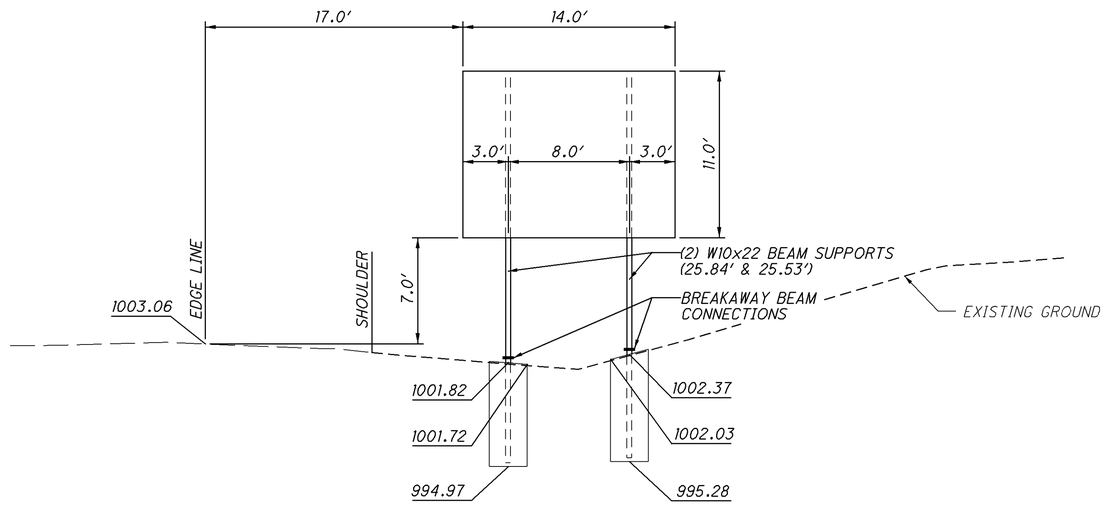
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
PANEL SIZE:	14′ X 11′
BACKROUND:	GREEN
FILL COLOR:	WHITE
PROPOSED BEAM INFORMATION	
TOTAL SIGN AREA:	154 SQ. FT.
DESIGN TYPE:	W10X22
SIZE:	10-1/8″ X 5-3/4″
BEAM FOUNDATION INFORMATION	
DIAMETER:	30″
DEPTH:	6.75′



PANEL A
N.T.S.

NOTES: 1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.



S-103 BEAM SUPPORT TYPE W10X22
STA. 3222+00, RT. I-277 EASTBOUND

SEE SHEET 471 FOR PLAN VIEW.

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CDEIBEL

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED ARL
CHECKED -

BEAM MOUNTED SIGN SUPPORT DETAILS
S-103 - STA. 3222+00, RT. I-277 EASTBOUND

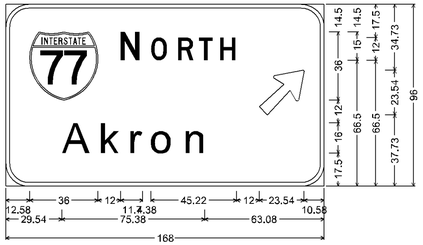
SUM-76/77-11.27/12.12

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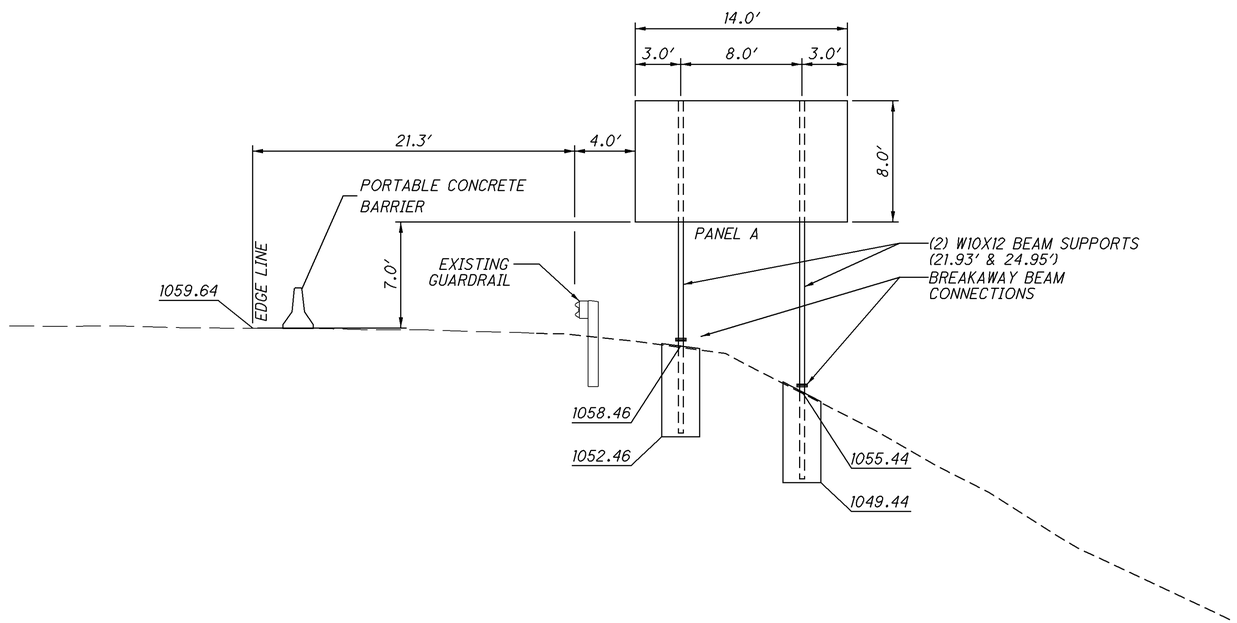
SIGN INFORMATION	
PANEL A	
DESIGN LEVEL:	1
TEXT FONT:	CLEARVIEWHWY
PANEL SIZE:	14′ X 8′
BACKROUND:	GREEN
FILL COLOR:	WHITE
PROPOSED BEAM INFORMATION	
TOTAL SIGN AREA:	112 SQ. FT.
DESIGN TYPE:	W10X12
SIZE:	9⅞″ X 4″
BEAM FOUNDATION INFORMATION	
DIAMETER:	30″
DEPTH:	6.0′

NOTES: 1. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.



PANEL A
N.T.S.



S-104 — BEAM SUPPORT TYPE W10X12
STA. 3272+00, RT. I-277 EASTBOUND

SEE SHEET 476 FOR PLAN VIEW.

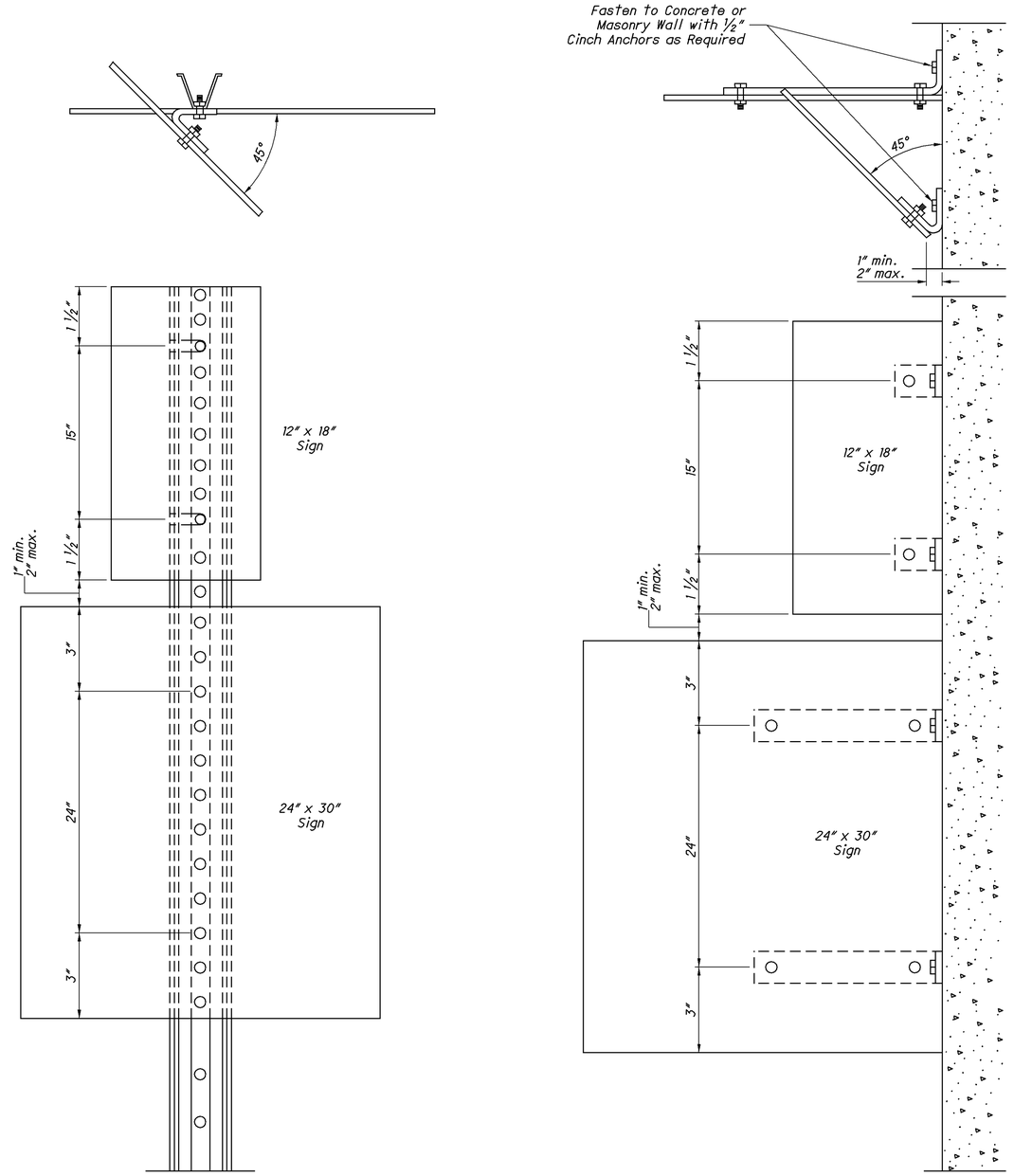
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CHECKED RMG

BEAM MOUNTED SIGN SUPPORT DETAILS
S-104 - STA. 3272+00, RT. U.S. 224 EASTBOUND

SUM-76/77-11.27/12.12

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POST MOUNTING

CONCRETE OR MASONRY
WALL MOUNTING

NOTES:

1. Bracket for angled sign post or wall mounting shall be ¼" x 1" x 6" low carbon steel bent at center as required.
2. Bracket for angled sign greater than 12" in width shall have a length of at least 1/2 of sign width plus the 3" mounting length bent as required. Bracket shall be ¼" x 1" x [required length] low carbon steel.
3. All brackets, anchors, bolts, hex nuts and washers shown are incidental to the bid items where applicable.
4. Vertical clearance from bottom of sign to grade line shall be a minimum of 7' except for low mounted signs which shall be a minimum of 4'.

   Horizontal clearance from side of sign to curb face shall be a minimum of 12" to a maximum of 24".

THIS DRAWING REPLACES PIS 202010 DATED 11-27-2006.

PLAN INSERT SHEET
SIGN MOUNTING DETAILS

PIS 202010

1 / 1

PIS NUMBER	REVISION DATE	DESIGNED	OFFICE OF ROADWAY ENGINEERING
202010	07-18-2014	REVIEWED	
		CHECKED	

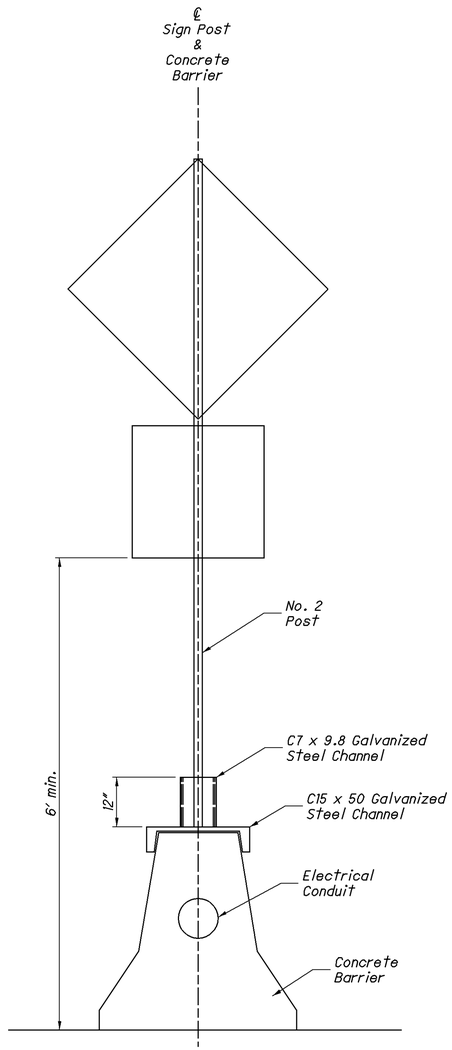
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TRAFFIC CONTROL PLAN INSERT SHEET

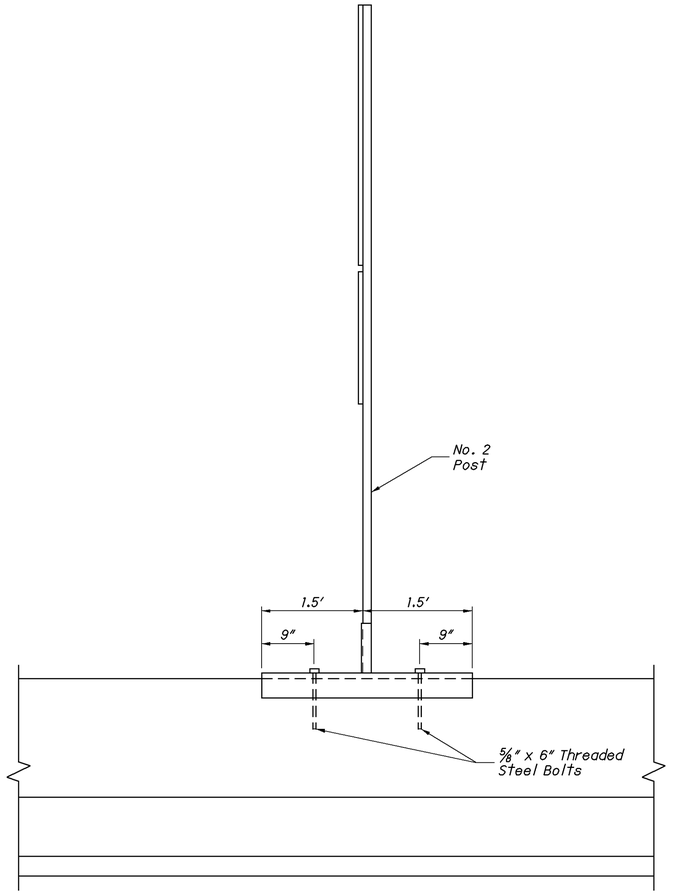
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REAR VIEW



SIDE VIEW

NOTES:

1. The C7 x 9.8 galvanized steel channel shall be welded to the C15 x 50 galvanized steel channel.
2. The No. 2 post shall be attached to the C7 x 9.8 galavanized steel channel with two 5/16" steel hex head bolts. The holes in the C7 x 9.8 steel channel shall be drilled before galvanizing. The holes shall be 9" center to center.
3. The 5/8" threaded steel bolts shall be attached to the concrete barrier with grout meeting the requirements of CMS 255.02.

THIS DRAWING REPLACES PIS 202020 DATED 11-27-2006.

PLAN INSERT SHEET

CONCRETE BARRIER MOUNTED SIGN SUPPORT DETAIL, METHOD A

PIS NUMBER	REVISION DATE	DESIGNED
202020	07-18-2014	
	CHECKED	REVIEWED

OFFICE OF ROADWAY ENGINEERING

PIS 202020

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CALCULATED AKF
CHECKED ---

TRAFFIC CONTROL PLAN INSERT SHEET

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ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AN ACTUATED, SOLID STATE DIGITAL MICROPROCESSOR TYPE TRAFFIC CONTROLLER WITH MENU DRIVEN PROMPTS, INTERNAL TBC, FSK TELEMETRY MODULE FOR CLOSED LOOP COMMUNICATIONS AND ALL OTHER ACCESSORIES THAT ARE REQUIRED TO MAKE THE CONTROLLER COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

THE CONTROLLER UNIT SHALL BE AN ECONOLITE ASC3-2100 AS MANUFACTURED BY ECONOLITE CONTROL PRODUCTS OF ANAHEIM, CA.

THE PROVISIONS OF ITEMS 633 AND 733 SHALL FURTHER INCLUDE THE FOLLOWING:

THE CONTROLLER ASSEMBLY SHALL INCLUDE A NEMA TS2 TYPE 2 CONTROLLER UNIT AND A NEMA TS2 TYPE 16 MALFUNCTION MANAGEMENT UNIT COMPLETE IN A NEMA TS1 CABINET ASSEMBLY.

THE CONTROLLER UNIT AND CABINET SHALL CONFORM TO ODOT SPECIFICATIONS 633 AND 733 AND SHALL HAVE THE FOLLOWING FEATURES:

1. LOAD SWITCHES AND FLASH TRANSFER RELAYS SHALL BE SUPPLIED IN SUFFICIENT QUANTITY TO PERFORM THE OPERATION AS SHOWN IN THE PLANS. THE LOAD SWITCHES SHALL PROVIDE INDICATORS ON BOTH THE INPUTS AND OUTPUTS OF EACH CIRCUIT.

    A. EIGHT (8) PHASE P44 CABINETS SHALL INCLUDE A 12 POSITION NEMA TS1 BACK PANEL WITH A FULL COMPLIMENT OF LOAD SWITCHES (12), FLASHER (1) AND FLASH TRANSFER RELAYS (4).

2. THE CONTROLLER UNIT SHALL BE 16 PHASE FULLY ACTUATED AND SHALL MEET ALL REQUIREMENTS FOR A NEMA TS2 TYPE 2 INCLUDING SDLC (PORT1), RS-232 (PORT 2), AND FSK (PORT 3) PORTS. ADDITIONAL MANUFACTURE SPECIFIC "D" CONNECTORS SHALL BE INCLUDED. ADDITIONAL FEATURES SHALL BE AS FOLLOWS:

    A. THE LCD DISPLAY SHALL BE ALPHANUMERIC AND INCLUDE 16 LINES BY 40 CHARACTERS WITH BACK-LIGHTING AND MULTIPLE LEVELS OF CONTRAST AND A HEATER FOR CONTINUED OPERATION DURING EXTENDED PERIODS BELOW 0°F.
    B. ALL DATA SHALL BE STORED EXCLUSIVELY ON AN EASILY REMOVABLE, SOCKET MOUNTED EEPROM SUB-MODULE. WRITE PROTECTION SHALL BE PROVIDED FOR THE PORTION OF THE EEPROM USED TO STORE INTERSECTION CONFIGURATION DATA.
    C. THE CONTROLLER SHALL HAVE THE ABILITY TO ASSIGN INPUT OR OUTPUT FUNCTION TO ANY INPUT OR OUTPUT PIN RESPECTIVELY.
    D. THE CONTROLLER SHALL BE CAPABLE OF AN ADDITIONAL 12 STANDARD OVERLAPS BY ASSIGNING EACH PHASE OUTPUT TO AN OVERLAP.
    E. THE CONTROLLER SHALL INCLUDE "TIME-OF-DAY" AND "COORDINATION" CAPABILITIES.
    F. THE CONTROLLER SHALL INCLUDE "PREEMPTION" CAPABILITIES INCLUDING 6 RAILROAD, FIRE AND EMERGENCY VEHICLE HIGH-PRIORITY PREEMPTORS. THE CONTROLLER SHALL ALSO BE CAPABLE OF 4 LOW-PRIORITY "BUS-PREEMPTORS".
    G. THE CONTROLLER SHALL BE PROGRAMMABLE TO ALLOW FOR FLASHING "DON'T WALK" THROUGH THE YELLOW SIGNAL PHASE.

3. THE NEMA TS2 TYPE 16 MALFUNCTION MANAGEMENT UNIT SHALL BE PROVIDED WITH EXTENDED MONITORING IN ACCORDANCE WITH 733.03, PART A. SECTION C. THE CABINET SHALL BE WIRED FOR APPROACH MONITORING. AN SDLC CABLE ASSEMBLY AND TWO RS-485 SDLC CABLES SHALL BE PROVIDED. THE CABLES SHALL CONNECT PORT 1 OF THE CONTROLLER TO PORT 1 OF THE MMU. THIS WILL ENABLE THE ADVANCED ERROR CHECKING, REPORTING AND LOGGING FEATURES AS DEFINED BY NEMA. THE MMU SHALL PASS ALL TESTS AS PERFORMED BY AN AUTOMATIC MONITOR TESTER. TEST RESULTS SHALL BE PRINTED AND SUPPLIED WITH EACH CABINET.

4. THE FOLLOWING SWITCHES SHALL BE ACCESSIBLE VIA THE POLICE PANEL:

    A. SIGNAL ON/OFF
    B. FLASH CONTROL
    C. AUTOMATIC/MANUAL TRANSFER
    D. MANUAL PUSH-BUTTON AND 10' COILED HAND CORD

5. THE FOLLOWING SWITCHES SHALL BE MOUNTED ON A TECHNICIANS SWITCH PANEL ON THE INSIDE OF THE MAIN CABINET DOOR:

    A. STOP TIME ON/OFF
    B. FLASH CONTROL
    C. TIMER POWER ON/OFF
    D. DETECTOR TEST, MOMENTARY PUSH-BUTTON

ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET (CONT.)

6. THE MAINTENANCE PANEL AND POLICE PANEL SHALL BE INSTALLED AS A COMPLETE AND INDEPENDENT ASSEMBLY. A SINGLE MULTI PIN CONNECTOR ASSEMBLY SHALL BE USED TO INTERFACE TO THE MAIN BACK PANEL. DIRECT WIRING FROM THE BACK PANEL TO THE MAINTENANCE/POLICE PANEL WILL NOT BE ALLOWED. THE MAINTENANCE/POLICE PANEL ASSEMBLY SHALL BE EASILY REPLACED WITHOUT HAVING TO DISTURB ANY OTHER WIRING IN THE CABINET. THE MAINTENANCE PANEL SHALL BE HINGED WITH A STAINLESS STEEL HINGE TO THE POLICE PANEL TO ALLOW EASY ACCESS TO THE WIRING WITHIN THE ASSEMBLY.

7. A FLUORESCENT LAMP WITH DOOR-ACTIVATED PUSH-BUTTON SHALL BE PROVIDED.

8. A FLEXIBLE GOOSENECK LAMP SHALL BE PROVIDED, WIRED TO THE LOAD SIDE OF THE GFI AND MOUNTED TO THE DOOR SUCH THAT THE ENTIRE BACK PANEL AREA CAN BE EASILY ILLUMINATED.

9. THE CABINET SHALL BE ALUMINUM, WITH A NATURAL SATIN FINISH OF THE REQUIRED SIZE TO INCLUDE ALL EQUIPMENT, UNLESS SPECIFIED OTHERWISE, AND SHALL COMPLY WITH THE REQUIREMENTS OF 733.03.

    A. EIGHT (8) PHASE CABINETS SHALL BE A MINIMUM OF 55"Hx44"Wx26"D UNLESS OTHERWISE SPECIFIED
    B. EIGHT (8) PHASE CABINETS WITH UNINTERRUPTIBLE POWER SERVICE (UPS) SYSTEMS SHALL BE DOUBLE DOOR CABINETS MEASURING 55"Hx60"Wx26"D, INCLUDE A SEPARATE AND ISOLATED COMPARTMENT FOR THE UPS EQUIPMENT UNLESS OTHERWISE SPECIFIED.

10. THE CONTRACTOR SHALL FURNISH, FOR APPROVAL, TWO CABINET PLANS SHOWING COMPONENT LAYOUT, AND A COPY IN AUTO CAD FORMAT. IN ADDITION AN OPERATION MANUAL SHALL BE INCLUDED THAT PROVIDES INFORMATION REQUIRED FOR INSTALLATION, OPERATION AND MAINTENANCE OF THE CONTROLLER.

11. THE MAIN POWER SURGE PROTECTOR SHALL BE PLUG-IN TYPE, INCLUDE A FAILURE INDICATOR AND A SET OF DRY CONTACTS TO INDICATE THE UNIT HAS FAILED. THE FAIL CONTACTS OF THE SURGE PROTECTOR SHALL BE WIRED TO AN ALARM INPUT FOR REPORTING A FAILED DEVICE TO A CENTRAL COMPUTER.

12. THE FOLLOWING LIST OF FEATURES SHALL BE INCORPORATED INTO THE CABINET AND TERMINALS FACILITY:

    A. THE FIELD TERMINALS FOR SIGNAL HOOKUP SHALL BE MOUNTED TO A PANEL AND ANGLED AT 45° FOR EASE OF INSTALLATION AND MAINTENANCE. THE BACKBOARD SHALL BE MOUNTED AT LEAST 6" ABOVE THE BASE OF THE CABINET. NO WIRES LUGGED OR OTHERWISE, SHALL BE PERMITTED ON THE SIGNAL HOOKUP SIDE OF THE FIELD TERMINAL BLOCKS.
    B. WIRE CONNECTIONS TO THE BACK PANEL SHALL BE MADE WITH CRIMP TERMINALS AND THREADED FASTENERS. QUICK-CONNECT TERMINALS ARE NOT ACCEPTABLE. SOLDER CONNECTIONS MAY BE USED ON THE BACKSIDE OF A PANEL THAT UTILIZES FEED THRU STYLE TERMINAL BLOCKS. PRINTED CIRCUIT BOARDS SHALL NOT BE USED AS ANY PART OF THE MAIN BACK PANEL ASSEMBLY.
    C. ALL WIRES FASTENED TO THE LOAD SWITCH, FLASHER AND FLASH TRANSFER RELAY SOCKETS SHALL BE SOLDERED IN PLACE. A GOOD MECHANICAL CONNECTION MUST BE MADE PRIOR TO SOLDERING.
    D. THE BACK PANEL SHALL BE PROVIDED WITH A UNITIZED SELF-LEVELING / SELF ADJUSTING HINGED MOUNTING MECHANISM TO ALLOW EASY ACCESS TO ALL WIRING ON THE REAR PANEL. THE BACK PANEL SHALL SLIDE ONTO THE HINGE SUPPORT BRACKETS AND BE SECURED IN THE CABINET WITH STAINLESS STEEL MOUNTING HARDWARE SECURELY FASTENED AT NO MORE THAN TWO (2) POINTS. COMPLETE REMOVAL AND REPLACEMENT OF THE MAIN BACK PANEL ASSEMBLY SHALL BE ACCOMPLISHED WITH THE USE OF SIMPLE HAND TOOLS.
    E. THE BACK PANEL SHALL BE DESIGNED SUCH THAT IT CAN BE EASILY REMOVED AND REPLACED WITHIN THE CABINET. CONNECTORS SHALL BE USED TO CONNECT ALL SIDE PANELS TO THE BACK PANEL INCLUDING THE DETECTOR PANEL, MAINTENANCE/POLICE PANEL, CABINET FAN PLATE AND ANY AUXILIARY PANEL. THE MAIN BACK PANEL ASSEMBLY SHALL BE EASILY REMOVED AND REPLACED WITHOUT REMOVING OR REWIRING ANY OF THE SIDEWALL MOUNTED PANELS.
    F. ALL WIRING OF HARNESSES AND INTER-PANEL WIRING, INCLUDING WIRING TO THE POLICE PANEL SHALL BE PROTECTED WITH A NYLON MESH OR "SNAKE SKIN". ANY EXPOSED WIRES, OR THE USE OF CABLE TIES TO HOLD THE WIRE BUNDLES TOGETHER SHALL NOT BE ALLOWED.
    G. ALL BACK PANEL TERMINALS AND COMPONENTS SHALL HAVE SILK-SCREENED TERMINAL/SOCKET FUNCTION IDENTIFICATION LABELS SUCH AS AC COM, PHASE 3 GREEN, ETC. SILK-SCREENED TERMINAL REFERENCE NUMBERS SHALL ALSO BE PROVIDED. LOAD SWITCH FIELD TERMINALS SHALL BE LABELED WITH THE LOAD SWITCH NUMBER, COLOR AND TERMINAL REFERENCE NUMBER.

ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET (CONT.)

    H. ALL WIRING FOR PEDESTRIAN OUTPUTS AND OVERLAPS SHALL BE BROUGHT TO TERMINALS ON THE FRONT OF THE BACKBOARD FOR EASY MODIFICATION.
    I. ALL SWITCHES SHALL BE IDENTIFIED WITH PERMANENT TYPE LABELS. THE USE OF PLASTIC MARKING TAPE OR "CROY" TYPE TAPE IS NOT ACCEPTABLE.
    J. ALL MAIN POWER PANEL DEVICES SHALL BE AFFIXED TO THE LOWER RIGHT PORTION OF THE MAIN PANEL, INCLUDING ALL CIRCUIT BREAKERS, LINE FILTERS AND LOAD RELAYS. AS AN ALTERNATE, A SEPARATE POWER PANEL MOUNTED TO THE RIGHT SIDE WALL OF THE CABINET WILL BE PERMITTED.
    K. ALL EQUIPMENT HARNESSES SHALL BE ATTACHED TO THE UNDERSIDE OF THE FIELD TERMINATION FOR LOOPS, AND PEDESTRIAN PUSH BUTTONS SHALL BE ON THE LEFT SIDEWALL. THE TERMINAL BLOCK FOR THESE ITEMS SHALL BE MOUNTED VERTICALLY. TERMINATING OF FIELD WIRES OVER TOP OF OTHER TERMINAL BLOCKS SHALL NOT BE ALLOWED.
    L. SHELVES WITH APPROPRIATE CABLE TIE MOUNTING BLOCKS, FOR EASE OF MAINTENANCE, ALL HARNESSES SHALL BE OF SUFFICIENT LENGTH TO PLACE THE EQUIPMENT ON TOP OF THE CABINET AND BE OPERATIONAL.
    M. A COLOR-CODED WIRING SYSTEM SHALL BE USED THROUGHOUT THE WIRING OF THE CABINET. THE WIRING COLOR-CODE SHALL BE AS FOLLOWS:

        a. CONTROLLER UNIT - BLUE 22 GAUGE
        b. MMU- VIOLET 22 GAUGE
        c. RED LOAD SWITCH OUTPUT - RED 16 GAUGE
        d. YELLOW LOAD SWITCH OUTPUT -YELLOW 16 GAUGE
        e. GREEN LOAD SWITCH OUTPUT - BROWN 16 GAUGE
        f. AC LINE POWER - BLACK VARIES*
        g. AC NEUTRAL - WHITE VARIES*
        h. EARTH GROUND - GREEN VARIES*
        i. LOGIC GROUND -GRAY 22 GAUGE
        j. FLASH PROGRAMMING - ORANGE 16 GAUGE
        *SIZED APPROPRIATELY TO HANDLE THE VARYING CURRENT REQUIREMENTS

13. A DETECTOR TERMINATION PANEL SHALL BE INSTALLED AND MOUNTED ON THE LEFT-SIDE WALL OF THE CABINET. A SINGLE MULTI-PIN CONNECTOR SHALL BE USED TO INTERFACE THE DETECTOR PANEL TO THE MAIN BACK PANEL. DIRECT WIRING FROM THE MAIN BACK PANEL TO THE DETECTOR PANEL WILL NOT BE ALLOWED, EXCEPT FOR THE AC SERVICE TO THE PANEL.

    A. ALL LOOP DETECTOR HARNESSES SHALL INCLUDE AN APPROPRIATE 10-PIN LOCKING TYPE CONNECTOR TO PLUG INTO THE DETECTOR TERMINATION PANEL. THE LOOP HARNESS SHALL LOCK INTO A MATING CONNECTOR ON THE DETECTOR TERMINATION PANEL.
    B. THE PANEL SHALL BE PROVIDED WITH PROVISIONS AND FULLY WIRED FOR A MINIMUM OF EIGHT (8) LOOP DETECTORS INCLUDING CONNECTORS AND LOOP TERMINATION BLOCKS. CONNECTORIZED PLUG-IN STYLE LOOP DETECTOR HARNESSES SHALL BE PROVIDED IN SUFFICIENT QUANTITY TO PERFORM THE REQUIRED SEQUENCE.
    C. THE DETECTOR TERMINATION PANEL SHALL BE FULLY PROGRAMMABLE. ALL DETECTOR FUNCTIONS SHALL BE PROGRAMMABLE ON THE DETECTOR PANEL INCLUDING PHASE CALLS, DELAY DEFEAT AND DETECTOR COUNT OUTPUTS.
    D. TERMINATION POINTS SHALL BE PROVIDED FOR FOUR (4) PEDESTRIAN PUSHBUTTONS.
    E. PROVISIONS FOR INTERFACING SYSTEM DETECTORS AND ADDITIONAL DETECTOR INPUTS SHALL BE INCLUDED ON THE PANEL.
    F. THE DETECTOR TERMINATION PANEL SHALL ALLOW FOR EASY EXPANSION. ADDITIONAL DETECTORS TERMINATION PANELS SHALL BE ADDED BY MEANS OF A SINGLE CONNECTING HARNESS ASSEMBLY THAT INCLUDES ALL FUNCTIONS AS REQUIRED TO ACHIEVE THE DESIRED SEQUENCE AND OPERATION INCLUDING PHASE CALLS, PHASE GREENS AND AUXILIARY SYSTEM FUNCTIONS.
    G. A MINIMUM OF EIGHT (8) SURGE PROTECTION DEVICES SHALL BE SUPPLIED AND TERMINATED ON THE DETECTOR TERMINATION PANEL I FOR EACH LOOP INPUT.

14. PROVIDE AN ETHERNET COMMUNICATIONS MODULE FOR THE CONTROLLER THAT FULLY SUPPORTS AN IEEE 802.3 COMPLIANT GIGABIT ETHERNET AUTO SENSING PORT FOR ADVANCED SYSTEMS COMMUNICATIONS. THE ETHERNET PORT SHALL PROVIDE AN UPSTREAM CONNECTION TO OTHER ETHERNET DEVICES IN THE CABINET. AN INDUSTRY STANDARD RJ-45 TYPE CONNECTOR SHALL BE INCLUDED THAT SUPPORTS A SIMPLE CAT5E PATCH CABLE INTERFACE. THE ETHERNET PORT SHALL BE FACTORY PRE-CONFIGURED WITH A UNIQUE PRIVATE IP ADDRESS AND CLASS B SUBNET MASK.

15. A SYSTEMS INTERFACE PANEL SHALL BE MOUNTED ON THE LEFT SIDEWALL, ABOVE THE DETECTOR TERMINATION PANEL(S). TERMINAL BLOCKS SHALL BE FEED-THRU TYPE AND MOUNTED VERTICALLY. ALL SYSTEMS FUNCTIONS OF THE CONTROLLER SHALL BE TERMINATED ON A SINGLE PANEL. AT A MINIMUM, THE SYSTEMS PANELS SHALL INCLUDE TERMINATION POINTS FOR 16 ADDITIONAL DETECTOR INPUTS, 6 PREEMPT INPUTS, 6 PREEMPT OUTPUTS AND 4 SPECIAL FUNCTION OUTPUTS. THE SYSTEMS INTERFACE PANEL SHALL CONNECT TO THE MAIN BACK PANEL ASSEMBLY AND THE DETECTOR PANEL WITH THE USE OF MULTI-PIN CONNECTORS. DIRECT WIRING FROM THE MAIN BACK PANEL TO THE CLOSED LOOP SYSTEMS INTERFACE PANEL WILL NOT BE ALLOWED.

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SIGNALIZATION NOTES

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ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET (CONT.)

15. A SYSTEMS INTERFACE PANEL SHALL BE MOUNTED ON THE LEFT SIDEWALL, ABOVE THE DETECTOR TERMINATION PANEL(S). TERMINAL BLOCKS SHALL BE FEED-THRU TYPE AND MOUNTED VERTICALLY. ALL SYSTEMS FUNCTIONS OF THE CONTROLLER SHALL BE TERMINATED ON A SINGLE PANEL. AT A MINIMUM, THE SYSTEMS PANELS SHALL INCLUDE TERMINATION POINTS FOR 16 ADDITIONAL DETECTOR INPUTS, 6 PREEMPT INPUTS, 6 PREEMPT OUTPUTS AND 4 SPECIAL FUNCTION OUTPUTS. THE SYSTEMS INTERFACE PANEL SHALL CONNECT TO THE MAIN BACK PANEL ASSEMBLY AND THE DETECTOR PANEL WITH THE USE OF MULTI-PIN CONNECTORS. DIRECT WIRING FROM THE MAIN BACK PANEL TO THE CLOSED LOOP SYSTEMS INTERFACE PANEL WILL NOT BE ALLOWED.

    A. ONE (1) SEICOR MODEL WICO12 WALL MOUNT INTERCONNECT CENTER WITH 12 "SC" COMPATIBLE SINGLE-MODE COUPLERS WITH CERAMIC INSERT SHALL BE INSTALLED ON THE RIGHT SIDE WALL OF THE CABINET. TWO (2) SINGLE-MODE DUPLEX PATCH CORDS WITH "SC" CONNECTORS AND COLOR-CODED BOOTS SHALL BE PROVIDED.
    B. CONNECT THE ETHERNET PORT FROM THE CONTROLLER TO THE OPTICAL ETHERNET TRANSCEIVER INSTALLED USING PROPERLY RATED CAT5e CABLES AND RJ45 CONNECTORS.

16. THE CABINET SHALL BE FULLY WIRED TO ACCOMMODATE THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT INCLUDING A FULLY WIRED RACK AND TERMINATION PANEL. THE RACK SHALL BE WIRED TO ACCOMMODATE TWO (2) NEMA LOAD SWITCHES FOR CONFIRMATION LIGHT CONTROL. CONFIRMATION LIGHTS SHALL BE WIRED TO THE PREEMPT TERMINATION PANEL.

17. THE CABINET ASSEMBLY SHALL BE FULLY TESTED, WITH ALL COMPONENTS INSTALLED, AT THE FACTORY PRIOR TO SHIPMENT. THE CONTROLLER, MONITOR AND DETECTORS SHALL BE FULLY PROGRAMMED PER THE PLANS AND SPECIFICATIONS, BY A TRAINED FACTORY REPRESENTATIVE. THE COMPLETE AND FULLY PROGRAMMED CABINET ASSEMBLY SHALL BE FACTORY TESTED FOR A MINIMUM OF 24 HOURS, PRIOR TO SHIPMENT. THE SUPPLIER SHALL CERTIFY IN WRITING THAT THE TESTS HAVE BEEN SUCCESSFULLY PERFORMED PRIOR TO INSTALLATION IN THE FIELD. A REGISTERED PROFESSIONAL ENGINEER SHALL SUPERVISE ALL TESTING.

PAYMENT FOR ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET SHALL BE MADE AT THE CONTRACT PRICE BID. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS AND OTHER INCIDENTALS NECESSARY TO FURNISH THE CONTROLLER AND WIRING COMPLETE, TESTED AND ACCEPTED.

ITEM 633 - CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET - ALTERNATE BID

IN ADDITION TO MEETING THE REQUIREMENT OF THE BASE BID ITEM, THE CONTRACTOR SHALL PROVIDE THE EDCO SRA-6LC SURGE PROTECTION DEVICES IN THE DETECTOR TERMINATION PANEL TO BE COMPATIBLE WITH THE EXISTING CITY OF AKRON CONTROLLER EQUIPMENT. THIS PAY ITEM SHALL COVER ALL MATERIALS AND LABOR NEEDED IN ORDER TO INSTALL THE SURGE PROTECTOR DEVICES AS WELL AS TESTING AS REQUIRED

ITEM 633 - CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL

THE PREEMPTION SHALL CONFORM TO O.D.O.T. SPECIFICATION 633 AND SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE-PROGRAMMED, PREEMPTION PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THE COMMUNICATIONS MEDIUM SHALL EMPLOY SIREN ACTIVATED DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE SYSTEM SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH A SIREN LOCATED ON THE EMERGENCY VEHICLE. THE SYSTEM SHALL ACTIVATE THE PREEMPTION SEQUENCE BY APPLYING A SIGNAL TO ONE OF THE CONTROLLER'S PREEMPT DISCRETE INPUTS. THE SYSTEM SHALL BE COMPLETELY COMPATIBLE WITH THE NEMA SPECIFIED CONTROLLER.

THE SYSTEM SHALL BE CAPABLE OF PREEMPTING AND RECEIVING PRIORITY FOR EACH APPROACH TO THE INTERSECTION. IT SHALL BE POSSIBLE TO DETECT THE EMERGENCY VEHICLE UP TO 1200 FEET FROM THE INTERSECTION.

ITEM 633 - CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL (CONT.)

EACH INTERSECTION SHOWN IN THE PLANS SHALL BE SUPPLIED WITH THE FOLLOWING COMPONENTS:

1.PREEMPT DETECTORS
2.PREEMPTION DETECTOR CABLE
3.PREEMPT PHASE SELECTOR ASSEMBLY AND INTERFACE WIRING PANEL
4.CONFIRMATION LIGHT AND CABLE
5.PREEMPT POWER CABLES

THE PREEMPTION DETECTORS SHALL CONSIST OF FURNISHING AND INSTALLING A LIGHTWEIGHT, WEATHERPROOF, FOUR CHANNEL DIRECTIONAL PREEMPTION DETECTOR ASSEMBLY AS SHOWN IN THE PLANS. THE DETECTOR SHALL BE CAPABLE OF SENDING THE PROPER ELECTRICAL SIGNAL TO THE TRAFFIC SIGNAL CONTROLLER VIA THE PREEMPTION DETECTOR HOME RUN CABLE. DETECTORS SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE. THE DETECTORS WILL FACE OUTBOUND (TO MINIMIZE FALSE CALLS FROM TURNING EMERGENCY VEHICLES) MOUNTED AS TO POINT DOWN THE CENTER OF ROADWAY. AT TEE INTERSECTIONS, THE LOCATION OF THE DETECTORS MAY BE MOUNTED INBOUND.

THE PREEMPTION DETECTOR CABLE SHALL CONSIST OF FURNISHING AND INSTALLING A HOME RUN CABLE FROM EACH DETECTOR TO THE PHASE SELECTORS IN THE CONTROLLER CABINETS. THE PREEMPTION DETECTOR CABLE SHALL CONFORM TO O.D.O.T. SPECIFICATION 632. THE CABLE SHALL BE APPROVED FOR BOTH OVERHEAD AND UNDERGROUND USE. THE JACKET SHALL WITHSTAND EXPOSURE TO SUNLIGHT AND ATMOSPHERIC TEMPERATURES AND STRESSES REASONABLY EXPECTED IN NORMAL INSTALLATIONS.

PREEMPTION PHASE SELECTIONS SHALL BE INSTALLED AND FURNISHED IN THE CONTROLLER CABINETS AND SHALL INCLUDE WIRING INTERFACE PANELS AND OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTIONS COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. THIS ITEM SHALL INCLUDE THE EXTRA CABINET SPACE NECESSARY TO BE LOCATED IN THE LOCAL CONTROLLER CABINETS WHERE INDICATED IN THE PLANS. THE PHASE SELECTORS SHALL CONSIST OF A MODULE OR MODULES THAT WILL PROVIDE THE NECESSARY INPUTS TO THE CONTROLLER. PHASE SELECTORS SHALL BE SUPPLIED WITH SUFFICIENT QUANTITIES OF CHANNELS TO PROVIDE PREEMPTION FOR ALL APPROACHES TO THE INTERSECTION SEPARATELY. POWER SHALL BE OBTAINED FROM THE PHASE SELECTOR OR PHASE SELECTOR POWER SUPPLY AND NOT FROM THE LOCAL CONTROLLER TIMER. THE PHASE SELECTORS SHALL HAVE FRONT PANEL INDICATORS FOR ACTIVE PREEMPT CHANNEL STATUS. IT SHALL HAVE TEST SWITCHES TO ACTIVATE ALL PREEMPT CHANNELS.

PREEMPT CONFIRMATION LIGHTS SHALL BE FURNISHED AND INSTALLED INCLUDING MOUNTING HARDWARE, WIRE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT CONFIRMATION LIGHT COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

A CONFIRMATION LIGHT SHALL BE SUPPLIED FOR EACH APPROACH TO INDICATE THAT THE EMERGENCY VEHICLE HAS ACHIEVED CONTROL OF THE TRAFFIC SIGNAL. THE CONFIRMATION LIGHT SHALL BE A VAPOR TIGHT ALUMINUM LIGHTING FIXTURE. IT SHALL BE SUPPLIED WITH A BLUE COLORED GLOBE, A 150 WATT PENDANT CONFIRMATION LAMP AND MOUNTING HARDWARE TO ATTACH TO THE TRAFFIC SIGNAL MAST ARM. A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER SHALL POWER THE CONFIRMATION LIGHT.

THE CONTRACTOR SHALL THOROUGHLY CHECK OUT THE INSTALLED SYSTEM. AS A MINIMUM, THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER FOR EACH INTERSECTION. THE CONTRACTOR SHALL DETERMINE THAT ALL PHASE SELECTORS ARE SELECTING THE PROPER PHASE AND TIMING ACCURATELY. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

ALL CABLES, CONNECTORS, TERMINALS, AND INTERFACE RACKS TO PROVIDE A COMPLETE PRIORITY CONTROL SYSTEM SHALL BE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS.

ITEM 633 - CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL - ALTERNATE BID

IN ADDITION TO MEETING THE REQUIREMENT OF THE BASE BID ITEM, THE CONTRACTOR SHALL PROVIDE THE SONEM PREEMPTION SYSTEM SUPPLIED BY PATH MASTER (PATH MASTER, INC., 1960 MIDWAY DRIVE, TWINSBURG, OHIO 44087) TO BE COMPATIBLE WITH THE EXISTING CITY OF AKRON PREEMPTION EQUIPMENT. THIS PAY ITEM SHALL COVER ALL MATERIALS AND LABOR NEEDED IN ORDER TO INSTALL THE PREEMPTION SYSTEM AS WELL AS TESTING AS REQUIRED.

ITEM 632 - PEDESTRIAN PUSHBUTTON, AS PER PLAN

IN ORDER TO CONFORM TO THE AMERICANS WITH DISABILITIES ACT (ADA), THE REQUIREMENTS OF C&MS ITEMS 632.09 AND 732.06 ARE MODIFIED AS FOLLOWS:

1. THE MAXIMUM FORCE REQUIRED TO OPERATE THE PUSHBUTTON SHALL BE 5 POUNDS PER FOOT (22.2 NEWTONS).
2. THE PUSHBUTTON SHALL BE RAISED OR FLUSH AND SHALL BE A MINIMUM OF 2 INCHES (50 MILLIMETERS) AT ITS SMALLEST DIMENSION.

ITEM 633 - CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN INDUSTRY HARDENED, FULLY MANAGED ETHERNET SWITCH PROVIDING DUAL FIBER OPTICAL GIGABIT ETHERNET (1000BASEX) PORTS USING INDUSTRY STANDARD SC FIBER OPTIC CONNECTORS AND 8 FAST ETHERNET (10/100BASE TX) RJ45 COPPER PORTS. THE TRANSCEIVER SHALL OPERATE ON 120VAC, 10 WATTS AND SHALL MEET AND/OR EXCEED NEMA TS2 ENVIRONMENTAL REQUIREMENTS.

THE FIBER OPTIC TRANSCEIVER SHALL INTERFACE TO SINGLE-MODE (8/125) FIBER OPTIC CABLE WITH AN OPTICAL WAVELENGTH OF 1310NM USING SC CONNECTORS. IT SHALL BE CAPABLE OF OPERATING OVER A DISTANCE OF AT LEAST 10KM WITH AN OPTICAL POWER BUDGET OF 17DB. THE TRANSCEIVER SHALL BE CAPABLE OF OPERATING IN A FAULT TOLERANT FIBER OPTIC LOOP.

PROVIDE A TRANSCEIVER THAT IS FULLY COMPLIANT WITH IEEE 802.3, 802.3U & 802.3Z. THE TRANSCEIVER SHALL PROVIDE FULL-DUPLEX OPERATION AND FLOW CONTROL.

PROVIDE A SIMPLE INTUITIVE USER INTERFACE FOR CONFIGURATION AND MONITORING OF THE TRANSCEIVER VIA STANDARD HTML GRAPHICAL WEB BROWSER, INCLUDING DETAILED ON-LINE HELP. EVENT LOGGING AND RECORDING SHALL BE INCLUDED. ALL SIGNIFICANT EVENTS SHALL BE STORED IN A NON-VOLATILE SYSTEM LOG.

THE OPTICAL ETHERNET TRANSCEIVER SHALL CONNECT TO ALL ETHERNET DEVICES IN THE CONTROLLER CABINET INCLUDING THE CONTROLLER (IF APPLICABLE), VIDEO DETECTION COMMUNICATIONS INTERFACE PANEL AND VIDEO SERVERS AND ANY OTHER ETHERNET DEVICES USING PROPERLY RATED CAT5E CABLES WITH RJ45 CONNECTORS.

PAYMENT FOR ITEM 633 - CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, AS PER PLAN SHALL BE MADE AT THE CONTRACT PRICE BID. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS AND OTHER INCIDENTALS NECESSARY TO FURNISH COMPLETE IN PLACE, INCLUDING ALL CONNECTIONS MADE AND WIRING COMPLETE, TESTED AND ACCEPTED.

ITEM 633 - TESTING AND CERTIFICATION OF MALFUNCTION MANAGEMENT UNITS

PRIOR TO THE 10-DAY PERFORMANCE TEST PERIOD OF A NEW SOLID-STATE TRAFFIC SIGNAL CONTROLLER AND CONTINGENT UPON ACCEPTANCE BY THE CITY OF AKRON, THE CONTRACTOR SHALL TEST AND CERTIFY THE MALFUNCTION MANAGEMENT UNIT (MMU). CERTIFICATION TEST REPORTS OF THE MMU ARE TO BE INCLUDED IN THE CABINET PAPERWORK MOUNTED ON THE INSIDE OF THE CABINET DOOR. TESTING AND CERTIFICATION SHOULD BE COMPLETED NO MORE THAN TWO WEEKS PRIOR TO THE 10-DAY PERFORMANCE TEST. FACTORY CERTIFICATION IS NOT ACCEPTABLE.

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH C&MS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE REUSED AS PART OF A NEW INSTALLATION ON THE PROJECT OR STORED ON THE PROJECT FOR SALVAGE BY THE CITY OF AKRON TRAFFIC DEPARTMENT, (CONTACT DAVE GASPER AT (330) 375-2851), IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

SOUTH STREET / JOHNSTON STREET / SPICER STREET

ITEMS TO BE REUSED:
NONE

ITEMS TO BE STORED:
3 - SIGNAL HEADS
1 - POLE MOUNTED CONTROLLER AND CABINET

BROWN STREET / SOUTH STREET INTERSECTION

ITEMS TO BE REUSED:
NONE

ITEMS TO BE STORED:
3 - SIGNAL HEADS
1 - POLE MOUNTED CONTROLLER AND CABINET

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE LOCAL AGENCY ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

CALCULATED SGM CHECKED AKF

SIGNALIZATION NOTES

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FIBER OPTIC GENERAL REQUIREMENTS

THE FOLLOWING PROVIDES THE MINIMUM STANDARDS AND QUALIFICATIONS NECESSARY TO PROVIDE A FIBER OPTIC COMMUNICATION LINK BETWEEN INTERSECTIONS IN AN INTERCONNECTED TRAFFIC SIGNAL SYSTEM.

MATERIALS AND EQUIPMENT SHALL BE THE STANDARD PRODUCTS OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURING OF PRODUCTS USED FOR OUTDOOR FIBER OPTIC SYSTEM INSTALLATIONS. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW, OF FIRST QUALITY, OF LATEST DESIGN AND BE COMPLETELY FREE FROM DEFECTS IN MATERIAL AND POOR WORKMANSHIP. ALL LIKE PIECES OF EQUIPMENT SHALL BE OF THE SAME TYPE AND MANUFACTURER TO ASSURE UNIFORMITY, INTERCHANGEABILITY OF COMPONENTS, SINGLE RESPONSIBILITY, AND MOST SATISFACTORY SERVICE.

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS, TYPE OR STYLE, MODEL OR SERIAL NUMBER AND CATALOG NUMBER ON A PLATE SECURED TO THE EQUIPMENT.

THE FIBER OPTIC INSTALLATION SHALL BE IN ACCORDANCE WITH OR EXCEED ALL MINIMAL REQUIREMENTS OF STATE CODES, NATIONAL CODES AND MANUFACTURER CODES AS APPLICABLE. CONSTRUCTION TECHNIQUES SHALL CONFORM TO THE FOLLOWING IN ORDER OF PRECEDENCE. (1) THESE STANDARDS AND SPECIFICATIONS; (2) CABLE MANUFACTURER; (3) ACCEPTED INDUSTRY PRACTICES.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY MISCELLANEOUS EQUIPMENT TO MAKE A COMPLETE AND OPERATING SYSTEM. THE COST FOR ALL MATERIALS AND LABOR NOT SPECIFICALLY ITEMIZED SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF WORK.

FIBER OPTIC APPLICABLE STANDARDS

MATERIALS AND EQUIPMENT SUPPLIED AS PART OF THE FIBER OPTIC SYSTEM SHALL COMPLY WITH THE LATEST ISSUE OF THE FOLLOWING DOCUMENTS:

RUS RURAL UTILITY SERVICE MATERIAL ACCEPTANCE LIST

REA SPECIFICATIONS FOR FILLED FIBER OPTIC CABLES

EIA-STD-RS-455 STANDARD TEST PROCEDURES FOR FIBER OPTIC FIBERS, CABLES, TRANSDUCERS, CONNECTING AND TERMINATING DEVICES

MIL-STD-202 TEST METHODS FOR ELECTRONIC AND ELECTRICAL COMPONENT PARTS

MIL-STD-454 STANDARD GENERAL REQUIREMENTS FOR ELECTRONIC EQUIPMENT

MIL-STD-810 ENVIRONMENTAL TEST METHODS AND ENGINEERING GUIDELINES

EIA/TIA-598 TUBE AND FIBER COLOR CODE

EIA-568-A FIBER OPTIC CABLE TESTING PROCEDURES

NFPA-70-1993 NATIONAL ELECTRICAL CODE ARTICLE 770, OPTICAL FIBER CABLE

REQUIREMENTS FOR SUPERVISING FIBER OPTIC TECHNICIAN

IN ADDITION TO THE PRE-QUALIFICATION REQUIREMENTS SET FORTH IN THE STATE OF OHIO CONSTRUCTION MATERIAL SPECIFICATIONS (CMS), SECTION 102.01, THE FOLLOWING QUALIFICATION REQUIREMENTS SHALL APPLY TO THE FIBER OPTIC CONTRACT WORK. DOCUMENTATION SHALL BE SUBMITTED TO THE PROJECT ENGINEER SHOWING THEIR ABILITY TO COMPLY WITH THE FOLLOWING SUPERVISING FIBER OPTIC TECHNICIAN PERSONNEL REQUIREMENTS. FAILURE TO SUBMIT THIS DOCUMENTATION WILL RESULT IN THE CONTRACTOR BEING CONSIDERED NON-RESPONSIVE AND MAY BE GROUNDS FOR THE CONTRACTOR BEING DISQUALIFIED AT THE DISCRETION OF THE PROJECT ENGINEER. TECHNICIANS OTHER THAN THE SUPERVISING FIBER OPTIC TECHNICIAN SHALL SHOW PROOF OF MEETING THEIR PERSONNEL REQUIREMENTS PRIOR TO THE BEGINNING OF ANY FIBER OPTIC RELATED INTERCONNECTION WORK. FAILURE TO PROVIDE THIS PROOF TO THE ENGINEER WILL RESULT IN A HALT BEING PLACED UPON INTERCONNECTION WORK UNTIL SUCH A TIME THAT PROOF OF MEETING TECHNICIAN PERSONNEL REQUIREMENTS IS MET.

ANY PROJECT REQUIRING THE OPENING OF THE FIBER OPTIC CABLE JACKET, INSTALLATION OF FIBER OPTIC CONNECTORS, SPLICING FIBERS, OR THE TESTING OF ANY FIBER OPTIC CABLE, DROP CABLE, OR PATCH CORDS SHALL HAVE AT LEAST ONE SUPERVISING FIBER OPTIC TECHNICIAN (SFOT) ASSIGNED TO IT. SUPERVISING FIBER OPTIC TECHNICIANS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS.

(1) SUPERVISING FIBER OPTIC TECHNICIANS (SFOT) SHALL HAVE ATTENDED AND SUCCESSFULLY COMPLETED AT LEAST ONE COMPREHENSIVE "INSTALLATION OF FIBER OPTIC PRODUCTS SCHOOL". THIS SCHOOL WILL BE CONDUCTED BY A MAJOR MANUFACTURER OF FIBER OPTIC PRODUCTS OR AN APPROVED INDEPENDENT SCHOOL THAT ENCOMPASSES ALL ASPECTS OF FIBER OPTIC TECHNICIAN CERTIFICATION.

(2) SFOT'S SHALL BE ABLE TO DOCUMENT A MINIMUM OF ONE YEAR OF WORK EXPERIENCE WHERE THE SPLICING, TERMINATION, AND TESTING OF FIBER OPTIC CABLE WITH AN OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) AND POWER METER WAS A PRIMARY JOB RESPONSIBILITY.

REQUIREMENTS FOR SUPERVISING FIBER OPTIC TECHNICIAN (CONT.)

(3) THE SFOT SHALL BE ON THE JOB SITE SUPERVISING OTHER TECHNICIANS AT LEAST THE FIRST THREE DAYS OF EACH OF THE FOLLOWING ACTIVITIES: CABLE PULLING; REMOVAL OF CABLE JACKETS; CABLE SPLICING; INSTALLATION OF FAN-OUT KITS AND CONNECTORS. THE SFOT SHALL SUPERVISE A MINIMUM OF THE FIRST THREE DAYS ACTIVITIES OF EACH OF THE ABOVE LISTED ACTIVITIES TO MAKE SURE THE OTHER TECHNICIANS ARE PERFORMING THEIR WORK ASSIGNMENTS CORRECTLY.

THE SFOT SHALL ALSO BE PRESENT TO REVIEW THE ENTIRE INSTALLATION BEFORE COMPLETION.

(4) TECHNICIANS, OTHER THAN THE SFOT, PERFORMING FIBER OPTIC WORK SUCH AS CABLE CLEANING, SPLICING, CONNECTORIZING AND TERMINATIONS SHALL HAVE SUCCESSFULLY COMPLETED A MINIMUM OF ONE 16 HOUR FIBER OPTIC CABLE INSTALLATION COURSE FROM A MAJOR CABLE MANUFACTURER OR APPROVED INDEPENDENT SCHOOL.

(5) ALL FIBER OPTIC TECHNICIANS SHALL CARRY EVIDENCE OF THEIR QUALIFICATIONS ON THEIR PERSON AT ALL TIMES WHEN WORKING ON THE PROJECT.

GENERAL SYSTEM CONSTRUCTION

ENTRY INTO CONTROLLER CABINETS FROM THE TRUNK CABLE SHALL BE MADE VIA THE SPECIFIED DROP CABLE. THE DROP CABLE WILL BE SPLICED TO THE TRUNK CABLE IN A SPECIFIED SPLICE ENCLOSURE. THE DROP CABLE INSIDE OF THE CABINET SHALL BE FITTED WITH A FAN-OUT KIT AND THE FAN-OUT KIT SHALL BE CONNECTORIZED AND TERMINATED IN THE SPECIFIED TERMINATION PANEL. A FOUR (4) FIBER PATCH CORD SHALL CONNECT THE DROP CABLE FIBERS IN THE TERMINATION PANEL TO THE FIBER OPTIC TRANSCEIVER.

FIBER OPTIC CABLE INSTALLATION

1. BOTH AERIAL AND CONDUIT INSTALLATIONS SHALL COMPLY WITH NO LOAD AND APPLIED LOAD BEND RADII SPECIFIED BELOW.
   MINIMUM BEND RADIUS
   10 X CABLE DIAMETER UNDER NO LOAD (0-180LBS) (0-82KGS)
   20 X CABLE DIAMETER UNDER APPLIED LOAD (181 LBS - 400 LBS)(83KGS-182KGS)
   MINIMUM BEND DIAMETER IS 2 X MINIMUM BEND RADIUS
2. NO FIBER OPTIC CABLE SHALL BE INSTALLED PRIOR TO THE ENGINEER ACKNOWLEDGING THE CABLE DELIVERED TO THE PROJECT IS ACCEPTABLE BASED UPON THE CONTRACTOR COMPLETING THE PRE-INSTALLATION TESTING GIVEN IN THESE SPECIFICATIONS.
3. FIBER OPTIC CABLE INSTALLED IN CONDUIT SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
   A. NO MORE THAN TWO 90 DEGREE CHANGES IN DIRECTION PER CABLE PULL.
   B. CIRCUITOUS PULLS AND PULLS EXCEEDING 1000 FEET (300 METER) SHALL BE MADE BY BACK FEEDING OR CENTER FEEDING OF CABLE.
   C. AFTER INSTALLATION THERE SHALL BE NO TENSION EXCEPT DUE TO CABLE WEIGHT.
   D. TENSION OF CABLE SHALL BE MONITORED WITH A TENSIOMETER DURING INSTALLATION.
   E. THE APPLIED TENSION SHALL NOT EXCEED 400 POUNDS (182KGS).
   F. THE CENTRAL STRENGTH MEMBER AND THE ARAMID YARN SHALL BE DIRECTLY ATTACHED TO THE PULLING EYE. "BASKET GRIP" OR "CHINESE FINGER" TYPE ATTACHMENTS TO THE OUTER JACKET OF THE CABLE WILL NOT BE PERMITTED. A BREAKAWAY SWIVEL SHALL BE USED ON ALL PULLS.
4. FIBER OPTIC CABLE INSTALLED AERIALLY SHALL BE PROVIDED WITH A SAG OF 3% - 5% UNLESS EXISTING CABLES WILL BE SHARING THE POLE IN WHICH CASE A SAG MATCHING THE EXISTING CABLES SHALL BE PROVIDED.
5. SPLICING REELS OF CABLE - THE METHOD OF JOINING TWO REELS OF FIBER OPTIC CABLE SHALL BE FUSION SPLICING ALL OF THE TRUNK CABLE FIBERS OF ONE REEL TO THE CORRESPONDING FIBERS IN THE SECOND REEL. ALL SPLICES FOR JOINING TWO FIBER REELS OF TRUNK CABLE TOGETHER SHALL BE MADE IN THE SPLICE ENCLOSURE AT THE LAST INTERSECTION THE INTERCONNECT CABLE PASSED THROUGH. IN OTHER WORDS, WHEN A REEL RUNS OUT OF CABLE, ANY EXCESS BEYOND THE LAST TRAFFIC SIGNAL INTERSECTION SPLICE POINT SHALL BE CUT OFF AND DISPOSED OF BY THE CONTRACTOR. THE SPLICE JOINING THE TWO CABLE REELS TOGETHER SHALL BE MADE IN THE INTERSECTION SPLICE ENCLOSURE THAT CONTAINS THE DROP CABLE TO TRUNK CABLE SPLICE. COST FOR THE QUANTITY OF CUT OFF FIBER OPTIC CABLE AND FOR THE ADDITIONAL 16 SPLICES BEYOND THE FOUR SPLICES REQUIRED TO INSTALL THE DROP CABLE SHALL BE INCIDENTAL TO THE COST OF THE FIBER OPTIC CABLE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CALCULATE HIS COST TO JOIN FIBER OPTIC REELS ON THE PROJECT BASED UPON THE REEL LENGTHS THAT HE ORDERS. WHERE INTERCONNECT SYSTEM LENGTH PERMITS, THE CONTRACTOR CAN AVOID THE COST OF JOINING CABLE REELS TOGETHER BY ORDERING A SINGLE REEL OF SUFFICIENT LENGTH TO EXTEND FROM ONE END OF PROJECT TO THE OTHER.

THE ONLY PLACE WHERE FIBERS THAT ARE NOT USED FOR INTERCONNECTION CAN BE CUT IS WHERE IT IS NECESSARY TO SPLICE TWO REELS OF CABLE TOGETHER. THIS PRACTICE OF CUTTING UNUSED FIBERS SHALL BE KEPT TO A MINIMUM AND SHALL NOT OCCUR MORE THAN ONCE PER EVERY MILE (1600 METERS).

CABLE CLEANING

LOOSE TUBE CABLE WILL REQUIRE THE CONTRACTOR TO USE A DE-GEL SOLVENT TO REMOVE WATER BLOCKING GEL FROM EXPOSED FIBERS AND/OR BUFFER TUBES PRIOR TO PLACEMENT OF FAN-OUT KITS, SPLICING OR TERMINATION OF EACH FIBER. THE SOLVENT CHOSEN FOR THIS TASK SHALL DISSOLVE THE GEL AND ALLOW FOR A COMPLETE REMOVAL OF ALL SOLVENT RESIDUE. THE SOLVENT SHALL NOT REMOVE ANY OF THE COLOR FROM INDIVIDUAL FIBER OR BUFFER TUBES AND SHALL NOT PROVE HARMFUL TO THE OUTER PE JACKET OF THE CABLE ITSELF. 3M'S PART NUMBER 4414 "FILLED CABLE CLEANING KIT" OR APPROVED EQUAL SHALL BE UTILIZED AT EVERY OPENING OF THE CABLE. COST FOR DE-GEL SOLVENT AND CLEANING OF FIBERS SHALL BE INCIDENTAL TO THE COST OF THE CABLE.

ITEM 632 - INTERCONNECT, MISC.: TRUNK CABLE, 6 FIBER

(BY TYPE REFERS TO : SINGLE MODE, MULTI-MODE OR HYBRID; ARMORED IF REQUIRED; INTEGRAL MESSENGER WIRE IF REQUIRED)

1. THE FIBER OPTIC CABLE SUPPLIED SHALL BE AN 24 FIBER SINGLE MODE (SM), AS SPECIFIED. SINGLE-MODE CABLE SHALL HAVE A 8.3 μm NOMINAL CORE DIAMETER.
2. ALL FIBER OPTIC CABLE SUPPLIED SHALL BE AN ACCEPTED CABLE WITH THE RURAL UTILITY SERVICE (RUS). A LIST OF ACCEPTABLE CABLE CAN BE FOUND ON THE RUS WEB SITE:
   (HTTP://WWW.USDA.GOV/RUS/TELECOM/MATERIALS/SEC-1_LOMA.HTM)
3. ALL FIBER OPTIC CABLE GLASS SHALL BE SUPPLIED BY THE SAME MANUFACTURER AND SHALL BE PART OF A FIBER OPTIC CABLE UTILIZING LOOSE TUBE CONSTRUCTION WITH THE FOLLOWING PROPERTIES:
   SINGLE MODE
   CLADDING DIA. 125+/-1.0 μm
   COATING DIA. 245+/-10 μm
   NUMERICAL APERTURE 0.275+/-0.015 N/A
   MAX. ATTENUATION 0.4/0.3 DB/KM@1300/1550NM
   PROOF TENSILE TEST 0.7 GPA
4. WHERE ARMORED CABLE IS SPECIFIED IT SHALL BE ON THE RUS ACCEPTABLE MATERIAL LIST.
5. WHERE SELF SUPPORTING CABLE IS SPECIFIED THE MESSENGER CABLE SHALL BE 0.25 INCH (6 MM) AND SHALL BE ON THE RUS ACCEPTABLE MATERIAL LIST.
6. DOCUMENTATION SHALL BE PROVIDED SHOWING RUS ACCEPTANCE.
7. CABLES SHALL BE PACKAGED WOUND ON NON-RETURNABLE WOOD SPOOLS OR REELS. THE DIAMETER OF THE DRUM SHALL BE A MINIMUM OF 30 TIMES THE DIAMETER OF THE CABLE. EACH REEL SHALL CONTAIN ONLY ONE CONTINUOUS LENGTH OF CABLE. LABELS SHALL BE ATTACHED TO THE REEL SHOWING LENGTH, CABLE IDENTIFICATION NAME AND NUMBER, AND DATE OF MANUFACTURE. THE OUTER ENDS OF THE CABLE SHALL BE SECURELY FASTENED TO THE REEL HEAD SO AS TO PREVENT THE CABLE FROM BECOMING LOOSE DURING TRANSIT. BOTH ENDS OF THE CABLE SHALL EXTEND A MINIMUM OF 10 FEET (3M) INTO THE INSIDE OF THE CABLE REEL TO PROVIDE ACCESS FOR TESTING. TEST TAILS SHALL BE SECURED TO THE INSIDE OF THE REEL IN SUCH A MANNER THAT THEY WILL NOT BECOME LOOSE DURING TRANSPORTATION. END SEALS SHALL BE APPLIED TO EACH END OF THE CABLE TO PREVENT THE INTRUSION OF MOISTURE INTO THE CABLE. DOCUMENTATION SHALL ACCOMPANY EACH REEL DOCUMENTING THE ATTENUATION OF EACH CABLE FIBER IN DB/KM.
8. ALL FIBER OPTIC CABLE TO BE USED AS PART OF THE TRAFFIC SIGNAL SYSTEM SHALL BE RATED FOR OUTDOOR USE UNLESS SPECIFICALLY NOTED IN THE PLANS.
9. FIBER OPTIC CABLE RIP CORDS SHALL BE PROVIDED AND MADE FROM EITHER STANDARD TELCO NYLON MATERIAL OR FROM BRAIDED KEVLAR. NO UN-BRAIDED KEVLAR WILL BE ACCEPTED.
10. CABLE JACKETING SHALL BE PERMANENTLY LABELED APPROXIMATELY EVERY TWO FEET WITH THE CABLE MANUFACTURER'S NAME, CABLE TYPE, FIBER COUNT, MANUFACTURING DATE, AND INCREMENTAL CABLE LENGTH. CABLE LENGTH SHALL REFER TO THE CABLE SHEATH LENGTH.

ALL COSTS TO INSTALL FIBER OPTIC CABLE, EITHER AERIALLY OR UNDERGROUND, SHALL INCLUDE THE COSTS FOR EQUIPMENT, LABOR, AND MISCELLANEOUS MATERIALS AT THE BID PRICE OF ITEM 632 - INTERCONNECT CABLE, MISC.: TRUNK CABLE, 6 FIBER UNLESS ITEMIZED SEPARATELY.

CALCULATED SGM CHECKED AKF

SIGNALIZATION NOTES

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ITEM 625 - PULL BOX, MISC.: PULL BOX, 24" X 36" X 24" REINFORCED POLYMER CONCRETE

PULL BOXES SHALL HAVE NOMINAL OPENING DIMENSIONS OF 24 INCHES X 36 INCHES AS MANUFACTURED BY OR APPROVED EQUAL: OLD CASTLE SYNETECH WITH A 20,000 LB LID MODEL # S2436B24FA, BOX # S2436HCBOA WITH INSERTS FOR BOLTS MODEL #1001, QUAZITE, LID, MODEL PG2436HA00, BOX PG2436BA24, OR ARMORCAST, ASSEMBLY A6001974TAPCX24. THE WORD "TRAFF/COMM" SHALL BE INTEGRALLY CAST AS PART OF THE COVER OR SECURELY FASTENED WITH CORROSION RESISTANT HARDWARE. THE SUPPLIED PULL BOXES SHALL BE ABLE TO SUPPORT A 20,000 LB. MINIMUM VERTICAL LOADING WITHOUT PERMANENT DAMAGE OR DEFLECTION TO THE UNIT. THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE DISPOSAL OF SURPLUS MATERIAL AND THE RESTORATION OF DISTURBED FACILITIES AND SURFACES.

THE LARGEST BEND RADIUS POSSIBLE SHALL BE MAINTAINED FOR THE FIBER OPTIC CABLE AS SPECIFIED BY THIS SPECIFICATION. ALL COSTS RESULTING FROM THE ABOVE REQUIREMENT SHALL BE INCLUDED IN THE PRICE BID OF ITEM 625 - PULL BOX, MISC.: PULL BOX, 24" X 36" X 24".

ITEM 625 - PULL BOX, MISC.: PULL BOX, 30" X 48" X 24" REINFORCED POLYMER CONCRETE

PULL BOXES SHALL HAVE NOMINAL OPENING DIMENSIONS OF 30 INCHES X 48 INCHES AS MANUFACTURED BY OR APPROVED EQUAL: OLD CASTLE SYNETECH WITH A 20,000 LB LID MODEL # S3048B24FA, BOX # S3048HCBOA WITH INSERTS FOR BOLTS MODEL #1001, QUAZITE, LID, MODEL PG3048HA00, BOX PG3048BA24 OR ARMORCAST, ASSEMBLY A6001430TAPCX24. THE WORD "TRAFF/COMM" SHALL BE INTEGRALLY CAST AS PART OF THE COVER OR SECURELY FASTENED WITH CORROSION RESISTANT HARDWARE. THE SUPPLIED PULL BOXES SHALL BE ABLE TO SUPPORT A 20,000 LB. MINIMUM VERTICAL LOADING WITHOUT PERMANENT DAMAGE OR DEFLECTION TO THE UNIT. THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE DISPOSAL OF SURPLUS MATERIAL AND THE RESTORATION OF DISTURBED FACILITIES AND SURFACES.

THE LARGEST BEND RADIUS POSSIBLE SHALL BE MAINTAINED FOR THE FIBER OPTIC CABLE AS SPECIFIED BY THIS SPECIFICATION. ALL COSTS RESULTING FROM THE ABOVE REQUIREMENT SHALL BE INCLUDED IN THE PRICE BID OF ITEM 625 - PULL BOX, MISC.: PULL BOX, 30" X 48" X 24".

ITEM 625 - TRENCH, MISC.: TRENCH FOR FIBER OPTIC CABLE

IN ADDITION TO ITEM 625.12, THE CONTRACTOR SHALL PLACE WARNING TAPE DIRECTLY ABOVE ALL NEW CONDUIT CONTAINING FIBER OPTIC CABLE. THE WARNING TAPE SHALL BE PLACED BETWEEN 6" (150MM) AND 12" (300MM) BELOW FINISHED GRADE WITH A TAPE LENGTH EQUAL TO THE LENGTH OF THE CONDUIT OR CABLE. THE TAPE SHALL BE DIELECTRIC POLYOLEFIN FILM TAPE, 0.1MM THICK, 3" (76MM) WIDE, ORANGE IN COLOR. MATERIALS AND INK COLORS SHALL BE USED THAT WILL NOT CHANGE WHEN EXPOSED TO ACIDS AND OTHER DESTRUCTIVE SUBSTANCES COMMONLY FOUND IN SOIL.

PAYMENT SHALL BE MADE AT THE PRICE BID OF ITEM 625 - TRENCH, MISC.: TRENCH FOR FIBER OPTIC CABLE, AS PER PLAN AND SHALL INCLUDE ALL COSTS FOR TRENCHING, THE WARNING TAPE, BACKFILLING AND RESTORATION.

ITEM 632 - INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD, 4 FIBER

A FOUR FIBER PATCH CORD SHALL BE PROVIDED BETWEEN EACH FIBER OPTIC TRANSCEIVER AND EACH TERMINATION PANEL. THE FIBERS SHALL BE EITHER MULTI-MODE OR SINGLE MODE AS REQUIRED TO MATCH THE TRUNK CABLE AND TRANSCEIVER. PATCH CORDS SHALL BE FITTED WITH SC/PC TYPE CONNECTORS UNLESS THE PROPOSED/EXISTING EQUIPMENT REQUIRES A DIFFERENT CONNECTOR. CONNECTORS SHALL BE ATTACHED TO THE PATCH CORDS USING AN EPOXY CRIMPED METHODOLOGY WHERE THE KEVLAR IS CRIMPED TO THE CONNECTOR. COST FOR SUPPLYING AND INSTALLING CONNECTORS ON ALL ENDS OF THE PATCH CORD SHALL BE INCIDENTAL TO THE BID ITEM PRICE OF THE PATCH CORD. THE CONTRACTOR AT HIS OPTION MAY SUPPLY FOUR SEPARATE ONE FIBER PATCH CORDS, HOWEVER, ONLY ONE 4 FIBER PATCH CORD QUANTITY WILL BE PROVIDED AT EACH CONTROLLER. COST FOR THE PATCH CORD SHALL BE PAID AT THE BID ITEM PRICE OF ITEM 632 - INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD, 4 FIBER.

ITEM 632 - INTERCONNECT, MISC.: TERMINATION PANEL, CONTROLLER CABINET

THE NEMA CABINET TERMINATION PANEL SHALL BE ATTACHED TO THE SIDE OF THE CABINET IN A PLACE THAT PROVIDES MOST ROOM FOR MAKING CONNECTIONS. AFTER ATTACHING THE TERMINATION PANEL ON THE WALL OF THE CABINET OR SUPPORT MEMBER, NO SHARP OBJECTS SUCH AS SCREWS SHALL PROTRUDE OUTSIDE OF THE CABINET THAT MIGHT CAUSE INJURY TO PEDESTRIANS. TERMINATION PANELS USED IN ITO/ITS CABINETS SHALL BE MOUNTED WITHIN THE 19" (483 MM) CAGE AND SHALL BE MODEL CCHO2U AS MANUFACTURED BY SIECOR. ALL COSTS INCLUDING MATERIALS, TOOLS AND LABOR TO PROVIDE AND INSTALL A TERMINATION PANEL SHALL BE INCLUDED IN THE BID ITEM PRICE OF ITEM 632 - INTERCONNECT, MISC.: TERMINATION PANEL.

ITEM 632 - INTERCONNECT, MISC.: TERMINATION PANEL, CONTROLLER CABINET - ALTERNATE BID

IN ADDITION TO MEETING THE REQUIREMENT OF THE BASE BID ITEM, THE TERMINAL PANEL, CONTROLLER CABINET SHALL BE A SIECOR MODEL WCH-02P. THIS PAY ITEM SHALL COVER ALL COSTS INCLUDING MATERIALS, TOOLS AND LABOR TO PROVIDE AND INSTALL A TERMINAL PANEL, CONTROLLER CABINET.

ITEM 632 - INTERCONNECT, MISC.: FUSION SPLICE

TYPICALLY THE ONLY PLACE SPLICES WILL BE PERMITTED IS TO CONNECT THE LOOSE TUBE DROP CABLE TO THE LOOSE TUBE TRUNK CABLE UNLESS NOTED IN THE PLAN. FUSION SPLICE SHALL CONFORM TO THE FOLLOWING:

(A) SPLICE LOSS (FUSION SPLICING). THE AVERAGE SPLICE LOSS OF EACH MULTI-MODE FIBER SHALL NOT EXCEED 0.05 DB (PER EIA-568-A) FOR BOTH SINGLE AND MULTI-MODE FIBERS. THE AVERAGE SPLICE LOSS IS DEFINED AS THE SUMMATION OF THE LOSS AS MEASURED IN BOTH DIRECTIONS USING AN OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) THROUGH THE FUSION SPLICE, DIVIDED BY TWO. ONLY SPLICE BETWEEN FIBERS OF IDENTICAL COLORS CONTAINED IN FIBER BUFFER TUBES OF IDENTICAL COLORS.

(B) SPLICE PROTECTION. FUSION SPLICES REQUIRE ADEQUATE SPLICE PROTECTION. WHEN SPLICING OUTDOORS, THE SPLICED AND STRIPPED CABLE SHALL BE PROTECTED BY A SPLICE CLOSURE. ALL FIBER SPLICES ARE HOUSED IN SPLICE TRAYS OR ORGANIZERS INSIDE A CLOSURE. THE PROPER SPLICE TRAY SHALL BE SELECTED BASED ON THE TYPE OF PROTECTION REQUIRED BY THE SPLICE. FUSION SPLICES, REQUIRE ADDITIONAL PROTECTION AND STRAIN RELIEF WHICH CAN BE PROVIDED BY GLASS CAPILLARIES, HEAT SHRINK TUBING, OR SILICONE SEALANT (COMMONLY REFERRED TO AS RTV).

(C) UPON COMPLETION OF THE SPLICING OPERATION, ALL WASTE MATERIAL SHALL BE DEPOSITED IN SUITABLE CONTAINERS, REMOVED FROM THE JOB SITE, AND DISPOSED OF IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.

FUSION SPLICES SHALL BE PAID AT THE BID PRICE OF ITEM 632 - INTERCONNECT, MISC.: FUSION SPLICE AND SHALL INCLUDE ALL COSTS FOR EQUIPMENT, MATERIAL AND LABOR TO PROVIDE A PERMANENT FUSED SPLICE INCLUDING SPLICE PROTECTION. A QUANTITY OF ONE SPLICE WILL BE PROVIDED FOR EACH PAIR OF FIBERS THAT REQUIRE SPLICING.

ITEM 632 - INTERCONNECT, MISC.: DROP CABLE, 6 FIBER

DROP CABLES FOR LOOSE TUBE FIBER OPTIC CABLES SHALL BE PAID ON A LINEAR MEASUREMENT BASIS AND SHALL BE MADE FROM THE SAME GLASS AND CABLE MANUFACTURER THAT PROVIDES THE TRUNK CABLE. SINCE ONLY 4 FIBERS ARE REQUIRED FOR DAISY CHAIN COMMUNICATION, UNUSED DROP CABLE FIBERS (2 FIBERS) SHALL BE LEFT FOR FUTURE USE. SPARE DROP CABLE FIBERS AT THE SPLICE ENCLOSURE END SHALL BE PLACED INSIDE OF THE ENCLOSURE WITH SUFFICIENT EXCESS TO PROVIDE 2 SERVICE LOOPS. SPARE DROP CABLE FIBERS AT THE CONTROLLER END SHALL BE INSERTED INTO THE FAN-OUT KIT, CONNECTORIZED AND TERMINATED IN THE CABINET TERMINATION PANEL. NOTE: DROP CABLES ROUTED DOWN THROUGH A POLE FROM AERIAL INTERCONNECT SHALL BE PROVIDED WITH STRAIN RELIEF (CABLE SUPPORT ASSEMBLY) PER THE INSTALLATION DETAILS. COST OF THE CABLE SUPPORT ASSEMBLY SHALL BE INCIDENTAL TO THE BID ITEM PRICE OF THE DROP CABLE. A MINIMUM OF 15 FEET (5 METERS) SLACK DROP CABLE SHALL BE PROVIDED IN THE EACH CONTROLLER CABINET. SLACK DROP CABLE SHALL BE COILED AND BOUND TO THE CABINET OR WALL VIA TIE WRAP OR OTHER APPROVED MEANS. ANY MEANS OF SECURING THE SLACK CABLE SHALL NOT APPLY STRESS TO THE DROP CABLE. TIE WRAPS SHALL BE LOOSELY WRAPPED AROUND THE CABLE. COST FOR FIBER OPTIC DROP CABLES SHALL BE PAID AT THE BID ITEM PRICE OF ITEM 632 - INTERCONNECT MISC.: DROP CABLE, 6 FIBER AND SHALL INCLUDE ALL COSTS FOR MATERIAL, EQUIPMENT, TOOLS AND LABOR TO PROVIDE AND INSTALL THE DROP CABLE.

ITEM 632 - INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR

UNLESS A DIFFERENT CONNECTOR IS REQUIRED FOR COMPATIBILITY WITH EXISTING OR PROPOSED ACTIVE COMPONENTS, FIBER OPTIC CONNECTORS SHALL BE FIELD INSTALLABLE SC/PC COMPATIBLE, CERAMIC FERRULE, WITH THE FIBER PERMANENTLY SECURED WITHIN THE FERRULE BY EPOXY (HEAT SET), CHEMICALLY CURED OR A HOT MELT ADHESIVE IN ACCORDANCE WITH THE CONNECTOR AND/OR THE EPOXY MANUFACTURER. WHEN CONNECTORS ARE INSTALLED OUTSIDE OF A CONTROLLED ENVIRONMENTAL LOCATION, THE CONNECTOR OPERATING TEMPERATURE SHALL BE MINIMUM -40°C TO +70°C. FOR THOSE APPLICATIONS WITHIN A CONTROLLED ENVIRONMENTAL LOCATION, THE OPERATING TEMPERATURE SHALL BE MINIMUM -20°C TO +60°C.

THE PROCEDURE FOR THE TERMINATION OF CONNECTORS USED ON THIS PROJECT SHALL MEET THAT PROCESS SET OUT IN THE CONNECTOR MANUFACTURER'S STANDARD OPERATING PROCEDURE (SOP) FOR FIELD INSTALLATION. THIS SOP SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER. UNLESS RECOMMENDED OTHERWISE BY THE CONNECTOR MANUFACTURER, EACH FIBER SHALL BE CLEAVED, CLEANED AND RECEIVE MULTIPLE POLISHINGS WITH INCREASINGLY FINE GRIT POLISHING PADS. THE APPROVED SOP WILL BE THE BASIS FOR INSPECTION.

THE AVERAGE LOSS FOR MATED PAIRS OF CONNECTORS SHALL NOT EXCEED 0.4 DB FOR BOTH SINGLE AND MULTI-MODE FIBERS.

PAYMENT SHALL BE MADE AT THE PRICE BID OF ITEM 632 - INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR.

ITEM 632 - INTERCONNECT, MISC.: SPLICE ENCLOSURE (UNDER GRADE OR AERIAL)

INCLUDED WITH THE EACH ENCLOSURE SHALL BE AERIAL OR PULL BOX WALL MOUNTING BRACKETS AS REQUIRED BY THE PARTICULAR SPLICE LOCATION. WHERE ARMORED CABLE IS SPECIFIED, THE ARMOR SHALL BE GROUNDED IN THE GROUNDING SYSTEM PROVIDED WITH THE ENCLOSURE. AS A MINIMUM A 12 FIBER SPLICE TRAY SHALL BE PROVIDED WITH THE ENCLOSURE. WHERE MORE THAN 12 FIBERS ARE SPECIFIED, ADDITIONAL SPLICE TRAYS SHALL BE INCLUDED AS NECESSARY TO ACCOMMODATE THE FIBER COUNT. THE SPLICE ENCLOSURE SHALL FEATURE A MOISTURE TIGHT SEALING ARRANGEMENT WHICH IS RE-ENTERABLE FOR SYSTEM EXPANSION AND REPAIR. NO STRESS SHALL BE PLACED ON FINISHED SPLICES WITHIN THE SPLICE ENCLOSURE.

AT SPLICE LOCATIONS, A RING CUT METHODOLOGY SHALL BE USED. TRUNK CABLE JACKETING SHALL BE CUT BACK A SUFFICIENT DISTANCE TO ALLOW THE TWO UNUSED TRUNK FIBER TUBES BE STORED UNCUT/UNOPENED WITH 2 SERVICE LOOPS INSIDE THE ENCLOSURE. THE TRUNK CABLE TUBE THAT CONTAINS THE INTERCONNECT FIBERS SHALL BE OPENED TO EXPOSE THE SIX INNER FIBERS. ONLY THE TWO TRUNK CABLE FIBERS THAT WILL BE SPLICED MAY BE CUT. THE REMAINING FOUR TRUNK CABLE FIBERS IN THE OPENED TUBE SHALL REMAIN UNCUT AND STORED IN THE SPLICE TRAY WITH A MINIMUM OF TWO SERVICE LOOPS. THE ONLY TRUNK CABLE FIBERS THAT ARE TO BE CUT ARE THE 2 TRUNK CABLE FIBERS BEING SPLICED INTO THE DROP CABLE (TO DROP CABLE FIBERS R1, T1, R2, T2).

PAYMENT SHALL BE MADE AT THE PRICE BID OF ITEM 632 - INTERCONNECT, MISC.: SPLICE ENCLOSURE (UNDER GRADE & AERIAL) AND SHALL INCLUDE ALL COSTS OF MATERIALS, EQUIPMENT AND LABOR TO PROVIDE A COMPLETE INSTALLED FIBER OPTIC SPLICE ENCLOSURE. COST FOR THE SPLICES WILL BE ITEMIZED SEPARATELY.

ITEM 632 - INTERCONNECT, MISC.: SPLICE ENCLOSURE (UNDER GRADE OR AERIAL) - ALTERNATE BID

IN ADDITION TO MEETING THE REQUIREMENT OF THE BASE BID ITEM, THE SPLICE ENCLOSURES SHALL BE A SIECOR MODEL UCAO, 3M 2178. THIS PAY ITEM SHALL COVER ALL COSTS INCLUDING MATERIALS, TOOLS AND LABOR TO PROVIDE AND INSTALL A FIBER OPTIC SPLICE ENCLOSURE.

ITEM 632 - INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER

FAN-OUT KITS SHALL BE PROVIDED FOR LOOSE TUBE DROP CABLE TERMINAL ENDS THAT NEED TO BE FITTED WITH CONNECTORS. THE FAN-OUT KIT CAN BE AN INDIVIDUAL BUFFER TUBE KIT, MULTIPLE BUFFER TUBE KIT OR SPIDER DESIGN KIT. ALL FAN-OUT KITS SHALL HAVE A MINIMUM OF 24" (610 MM) OF TUBING COVERING EACH FIBER WHEN INSTALLATION IS COMPLETE. PRIOR TO ANY WORK THE CONTRACTOR SHALL SUBMIT FOR APPROVAL; CATALOG CUT SHEETS, GENERAL SPECIFICATIONS, AND STANDARD OPERATING PROCEDURES FOR THE KIT THAT IS TO BE UTILIZED ON THE PROJECT. ONLY ONE TYPE OF FAN-OUT KIT MAY BE USED THROUGHOUT THE PROJECT. FAN-OUT KITS SHALL BE RATED FOR OUTDOOR USE (-40C TO 70 C). SINCE ONLY 4 DROP CABLE FIBERS ARE REQUIRED FOR DAISY CHAIN COMMUNICATION, ALL EXTRA DROP CABLE FIBERS AT THE CABINET END SHALL BE INSERTED INTO THE FAN-OUT KIT, CONNECTORIZED AND TERMINATED IN THE TERMINATION PANEL FOR FUTURE USE. COST FOR THE CONNECTORS USED WITH THE FAN-OUT KIT WILL BE ITEMIZED SEPARATELY. COST FOR LOOSE TUBE FAN-OUT KITS SHALL BE PAID AT THE BID ITEM PRICE FOR EACH ITEM 632 - INTERCONNECT MISC.: FAN-OUT KIT, 6 FIBER AND SHALL INCLUDE ALL COSTS FOR MATERIAL, EQUIPMENT, TOOLS AND LABOR TO PROVIDE AND INSTALL THE FAN-OUT KIT.

CALCULATED SGM CHECKED AKF

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ITEM 632 - INTERCONNECT, MISC.: FIBER OPTIC CABLE TESTING

GENERAL

1. OTDR'S USED AS PART OF THESE TESTING SPECIFICATIONS SHALL BE CALIBRATED TO SHEATH (JACKET) LENGTH, NOT OPTICAL LENGTH BY ADJUSTING THE UNIT'S INDEX OF REFRACTION.

2. ALL OTDR TRACES SHALL MAXIMIZE BOTH THE VERTICAL AND HORIZONTAL SCALES TO THE GREATEST EXTENT POSSIBLE AND STILL FIT THE ENTIRE TRACE ON THE SCREEN.

3. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. FAILURE OF A LINK AT ANY PART OF THE TESTING SHALL RESULT IN THE CONTRACTOR HAVING TO REPAIR THE PROBLEM AND RETEST THE INSTALLATION. COST FOR ANY REQUIRED REPAIRS AND RETESTING SHALL BE BOURNE SOLELY BY THE CONTRACTOR.

PRE-INSTALLATION CABLE ACCEPTANCE (TESTED WITH OTDR IN ONE DIRECTION)

THE CONTRACTOR SHALL UTILIZE BARE FIBER ADAPTORS OR OTHER APPROVED MEANS TO TEST ALL FIBERS FOR ATTENUATION LOSS USING AND OTDR SET TO 2-POINT LOSS MEASUREMENT PARAMETERS PRIOR TO INSTALLATION (ON THE REEL). MARKER POINTS SHALL BE PLACED AT THE BEGINNING AND END OF EACH BACKSCATTER SIGNATURE RECORDED BY THE OTDR. THE MANUFACTURER INSTRUCTIONAL GUIDE CAN DETERMINE PROPER PLACEMENT OF THESE MARKERS. THE OTDR DISPLAY SHALL BE RECORDED ON COMPUTER DISKETTES WITH IDENTIFICATION AND NUMBERING SEQUENCES TO BE PRE-APPROVED BY THE ENGINEER. EACH TRACE MUST CONTAIN AS A MINIMUM: CABLE/SHEATH LENGTH (NOT OPTICAL FIBER LENGTH), 2-POINT DB LOSS, ATTENUATION IN DB/FEET (DB/KM), FIBER TYPE, WAVELENGTH USED, PULSE WIDTH SELECTION, AND FIBER/CABLE IDENTIFICATION. THE STORED TRACE SHALL ALLOW FULL MANIPULATION OF THE TRACE WHEN VIEWED WITH THE PC EMULATION SOFTWARE. WORST CASE WAVELENGTH TESTING WILL BE APPLIED TO ALL FIBERS. PROPER PULSE WIDTH SELECTION IS REQUIRED TO MINIMIZE ATTENUATION DEAD ZONE EFFECT (10NS PULSE : MM DEAD ZONE=23 FEET (7 M), SM DEAD ZONE = 33 FEET (10 M)) FIBER LENGTHS IN EXCESS OF 3280 FEET (1000 M) WORST CASE WAVELENGTH IS: MM=850NM/SM=1550NM FIBER LENGTHS LESS THAN 3280 FEET (1000 M) WORST CASE WAVELENGTH IS: MM=850NM/SM=1310NM

THERE SHALL BE NO ATTENUATED ANOMALIES IN THE BACKSCATTER TRACE AS VIEWED BY THE OTDR. ANY ATTENUATED ANOMALY SHALL BE CONSIDERED A FIBER DEFECT AND WILL BE GROUNDS FOR REJECTING THE CABLES USE ON THE PROJECT.

PRE-INSTALLATION MAXIMUM ACCEPTABLE ATTENUATION LOSS: MM @ 850NM = 5.6 DB/MILE (3.5 DB/KM)
SM @ 1310NM = 0.64 DB/MILE (0.4 DB/KM)
SM @ 1550NM = 0.48 DB/MILE (0.3 DB/KM)

LINK TESTING WITH OLTS (POWER METER) AND OTDR (AFTER SPLICING AND TERMINATING) OLTS (POWER METER)

ALL LINKS SHALL BE TESTED WITH THE OLTS AFTER SPLICING AND TERMINATION WORK IS COMPLETED. LINK TESTING WILL BE BI-DIRECTIONAL FOR ATTENUATION LOSS WITH WORST CASE WAVELENGTHS. TEST PROCEDURE SHALL COMPLY WITH EIA-568-A REQUIREMENTS. WORST CASE WAVELENGTHS ARE DEFINED AS: MM = 850 NM
SM = 1310 NM (LINK LENGTH LESS THAN 3280 FT (1 KM))
SM = 1550 NM (LINK LENGTH GREATER THAN 3280 FT(1KM))
MAXIMUM ACCEPTABLE LINK ATTENUATION SHALL BE CALCULATED AS FOLLOWS:

MAXIMUM ACCEPTABLE LINK ATTENUATION = SPLICE LOSS + CONNECTOR LOSS + CABLE ATTENUATION

MAXIMUM ACCEPTABLE LINK ATTENUATION = 0.2 DB + 0.2 DB + (LINK LENGTH X ATTENUATION*)
* ATTENUATION FOR SM AND MM ARE:
ATTENUATION: MM @ 850NM = 5.6 DB/MILE (3.5 DB/KM)
SM @ 1310NM = 0.64 DB/MILE (0.4 DB/KM)
SM @ 1550NM = 0.48 DB/MILE (0.3 DB/KM)

OPTICAL FIBER TEST RESULTS SUBMITTED SHALL SHOW THE LOSS MEASURED ON EACH INDIVIDUAL FIBER AS COMPARED TO THE REFERENCE LAUNCH POWER. THE LINK ATTENUATION AS CALCULATED ABOVE IS A NOT TO EXCEED VALUE. LINK MEASUREMENTS, WHICH EXCEED THIS BUDGET WILL NOT BE ACCEPTED AND SHALL BE BROUGHT TO WITHIN ACCEPTED MAXIMUM VALUES AT THE CONTRACTORS EXPENSE. FAILURE TO DO SO, MAY REQUIRE THE CONTRACTOR TO REPLACE CONNECTORS, SPLICES OR THE ENTIRE LINK.

OTDR

ALL LINKS SHALL BE TESTED WITH AN OTDR THAT ARE 1000 FEET (300 M) OR LONGER FOR THE 850NM AND 1310NM WAVELENGTHS. LINKS WHICH ARE IN EXCESS OF 3280 FEET (1 KM) SHALL INCLUDE 1550NM TESTING ON SM FIBERS. OTDR TESTING SHALL BE IN ONE DIRECTION FOLLOWING WORST CASE WAVELENGTH SELECTION WHEN THERE ARE NO SPLICE POINTS OR INTERCONNECT POINTS IN THE LINK.

ANY LINK, WHICH IS LONGER THAN 1000 FEET (300 M) AND HAS SPLICE POINTS OR INTERCONNECT POINTS IN SAID LINK, SHALL BE TESTED BI-DIRECTIONALLY USING WORST CASE WAVELENGTHS. LINKS THAT ARE LONGER THAN 3280 FEET (1 KM) SHALL INCLUDE TESTING AT THE 1550NM WAVELENGTH FOR SM FIBERS.

ALL FIBER SHALL BE TESTED FOR ATTENUATION LOSS USING AN OTDR SET TO 2-POINT LOSS MEASUREMENT PARAMETERS. MARKER POINTS SHALL BE PLACED AT THE BEGINNING AND END OF EACH BACKSCATTER SIGNATURE RECORDED BY THE OTDR. THE MANUFACTURER'S INSTRUCTIONAL GUIDE CAN BE USED TO DETERMINE PROPER PLACEMENT OF THESE MARKERS. THE OTDR DISPLAY SHALL BE RECORDED ON COMPUTER DISKETTES WITH IDENTIFICATION AND NUMBERING, SEQUENCES TO BE PRE-APPROVED BY THE ENGINEER. EACH TRACE MUST CONTAIN AS A MINIMUM: CABLE/SHEATH LENGTH (NOT OPTICAL FIBER LENGTH), 2-POINT DB LOSS, ATTENUATION IN DB/MILE (DB/KM), FIBER TYPE, WAVELENGTH USED, PULSE WIDTH SELECTION, AND FIBER/CABLE IDENTIFICATION. THE STORED FIBER TRACE SHALL ALLOW FULL MANIPULATION OF THE TRACE WHEN VIEWED WITH THE PC EMULATION SOFTWARE. BOTH A HARD COPY PRINT OUT AND DISKETTE COPY OF EACH TRACE SHALL BE SUBMITTED TO THE ENGINEER FOR HIS APPROVAL.

LINKS THAT CONTAIN SPLICE POINTS OR INTERCONNECT POINTS SHALL ALSO CONTAIN AN ADDITIONAL "EVENTS DISPLAY TABLE" TO ACCOMPANY THE OTDR TRACE. THIS DISPLAY SHALL SHOW THE DISTANCE TO THE EVENTS, DISTANCE BETWEEN MULTIPLE EVENTS, EACH EVENTS LOSS IN DB, AND A DESCRIPTION OF THE EVENT (REFLECTIVE EVENT, NON-REFLECTIVE EVENT, GAINS AND CABLE END). ALL ATTENUATION EVENT LOSS READINGS SHALL BE IN THE LSA (LEAST SQUARE AVERAGE) MODE OF THE OTDR. 2-POINT ATTENUATION MEASUREMENTS AT EVENTS ARE NOT ACCEPTABLE. PROPER PULSE WIDTH SELECTION IS REQUIRED TO MINIMIZE ATTENUATION DEAD ZONE EFFECT (10NS PULSE : MM DEAD ZONE=23 FEET (7 M), SM DEAD ZONE = 33 FEET (10 M)).

ALL COSTS TO PERFORM THE ABOVE TESTING SHALL BE INCLUDED IN THE LUMP SUM BID PRICE OF ITEM 632 - INTERCONNECT, MISC.: FIBER OPTIC CABLE TESTING. ANY LINK THAT FAILS THE ABOVE TESTS SHALL BE REPLACED AND RETESTED AT THE CONTRACTOR'S EXPENSE.

ITEM 633 - UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST UNINTERRUPTIBLE POWER SUPPLY (UPS) STATUS INDICATOR LAMPS THAT ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. A 1-INCH (25 MM) WATERPROOF NEMA 4X OR IP66 LAMP WITH A DOMED RED LENS SHALL BE USED TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS LAMP SHALL BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY" WITH WIRE POLARITY INDICATED. THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THE STATUS DISPLAY SHALL BE SOLID 100% DUTY CYCLE (NOT FLASHING). THE LAMP SHALL BE PLACED IN THE UPS CABINET WALL (NOT THE ROOF) IN SUCH A MANNER AS TO BE SEALED FROM WATER INTRUSION AND VISIBLE FROM A VEHICLE AT THE STOP LINE IN THE CLOSEST LANE OF AT LEAST ONE APPROACH TO THE SIGNALIZED INTERSECTION. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC.

IN ADDITION TO SECTION 633.18 AND 733.09 OF THE ODOT C&MS, THE UNINTERRUPTIBLE POWER SERVICE SHALL BE INSTALLED IN THE CONTROLLER CABINET HAVING DOUBLE DOORS. BATTERY BACKUP SHALL PROVIDE A MINIMUM OF 8 HOURS OF OPERATING TIME.

ITEM 633 - UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN - ALTERNATE BID

IN ADDITION TO MEETING THE REQUIREMENT OF THE BASE BID ITEM, THE UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT SHALL BE A CLARY SP1000-SN UPS. THE UPS SHALL INCLUDE AN INVERTER, SIX (6) OUTPOST, AGM VRLA 12V-41/51 AMP HOUR BATTERIES, POWER INTERFACE MODULE AND A BASE MOUNTED ENCLOSURE WITH BATTERY HEAT MATS ON BATTERY TRAYS. THIS PAY ITEM SHALL COVER ALL COSTS INCLUDING MATERIALS, TOOLS AND LABOR TO PROVIDE AND INSTALL AN UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN - ALTERNATE BID.

ITEM 633 - CONTROLLER ITEM, MISC.: CENTRAL SYSTEM EXPANSION

THIS ITEM SHALL COVER THE COST TO ADD THE INTERSECTION TO THE CITY OF AKRON'S CENTRAL SYSTEM. THE CITY OF AKRON WILL PROVIDE MAPS OF THE INTERSECTIONS AND THE INTERSECTION IP ADDRESSES. THE CONTRACTOR SHALL PERFORM ALL THE OTHER WORK REQUIRED AT THE TRAFFIC CONTROL CENTER AND THE INTERSECTIONS TO BRING THE INTERSECTION INTO THE CENTER BASED SYSTEM.

PAYMENT SHALL BE MADE AS ONE LUMP SUM TO THE PROJECT.

ITEM 632 - VEHICULAR SIGNAL HEAD, ( )-SECTION, 12-INCH LENS, 1-WAY, POLYCARBONATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF YELLOW POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PLASTIC LENS SHALL BE USED.
3. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
4. ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE RED LENS LOCATED IN FRONT OF THE MAST ARM.
5. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.
6. THE ENTRANCE FITTING SHALL BE OF TRI-STUD DESIGN WITH FERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
7. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

THE DEPARTMENT WILL MEASURE "VEHICULAR SIGNAL HEAD, (LED), COLOR, BY TYPE, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, AND LAMPS SPECIFIED.

ITEM 632 - INTERCONNECT CABLE, MISC.: SLACK INSTALLATION

WHERE DESIGNATED IN THE PLANS, THE CONTRACTOR SHALL PROVIDE AN AERIAL MOUNTED SLACK CABLE INSTALLATION OF 100 FEET (30 M) CONFORMING TO THE PLAN DETAILS. WHERE AN UNDERGROUND INSTALLATION IS REQUIRED, THE CONTRACTOR SHALL PROVIDE 150 FEET (45 M) OF SLACK CABLE INSIDE OF THE DESIGNATED PULL BOX. SLACK CABLE SHALL NOT BE LEFT LYING FREE ON THE GROUND EXCEPT DURING THE ACTUAL PULLING PROCESS. THE CABLE SHALL BE NEATLY COILED, ADHERING TO THE BEND RADIUS REQUIREMENTS ON RACKS OR BAYS, AS DIRECTED BY THE ENGINEER. ALL COSTS INCLUDING MATERIALS, EQUIPMENT AND LABOR TO PROVIDE A SLACK INSTALLATION SHALL BE AT THE BID PRICE OF ITEM 632 - INTERCONNECT CABLE, MISC.: SLACK INSTALLATION.

ITEM 632 - PEDESTRIAN SIGNAL HEAD, (LED), (COUNTDOWN), TYPE D2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
3. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

THE DEPARTMENT WILL MEASURE "PEDESTRIAN SIGNAL HEAD, (LED), (COUNTDOWN), TYPE D2, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, CLOSURE CAPS, AND LAMPS SPECOFIED.

CALCULATED SGM CHECKED AKF

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GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT, DETECTOR SYSTEM AND INTERCONNECTION ITEMS.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE CITY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

ITEM 632 - POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632.24, THE CONTRACTOR SHALL PROVIDE THE METER, DISCONNECT SWITCH, POWER SERVICE CABLE #6 AWG, CONDUIT, CONDUIT RISER, WEATHERHEAD AND PULL BOXES AS NECESSARY TO PROVIDE POWER TO THE PROPOSED INSTALLATION. THE DISCONNECT SHALL BE LABELED 'TRAFFIC' WITH ENGRAVED PLASTIC TABS. THE POWER SOURCE LOCATION SHALL BE AS DETERMINED IN THE FIELD BY THE ENGINEER. THE COST FOR ALL NECESSARY ITEMS AND ASSOCIATED LABOR SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 632 POWER SERVICE, AS PER PLAN. THE CONTRACTOR SHALL COORDINATE RELATED WORK WITH ELECTRIC COMPANY WHO WILL MAKE THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE THE POWER CABLE INTO ELECTRIC COMPANY CIRCUITRY. ANY FEES ASSOCIATED WITH OBTAINING POWER SHALL BE RESPONSIBILITY OF THE CONTRACTOR. POWER SUPPLIED SHALL BE 120 VOLTS.

THE COST FOR ALL NECESSARY ITEMS AND ASSOCIATED LABOR SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 632 - POWER SERVICE, AS PER PLAN.

ITEM 632 - POWER SERVICE AS PER PLAN - ALTERNATE BID

IN ADDITION TO MEETING THE REQUIREMENT OF THE BASE BID ITEM, THE PADLOCK SHALL BE A WILSON BOHANNA, GENERAL PURPOSE, ALL WEATHER, SOLID BRASS, 5 PIN, 1.5" SOLID BRASS BODY LOCK, MODEL #14110-1-80160A KEYED TO THE CITY OF AKRON STANDARDS. THE PROPOSED PEDESTAL ENCLOSURE THAT HOUSES THE DISCONNECT SWITCH AND METER SHALL BE A MILBANK ENCLOSURE (MILBANK MANUFACTURING CO., PO BOX 419028, KANSAS CITY, MO 64141-6028) , 200 AMP PEDESTAL, 5-TERMINAL, BREAKER PROVISION, MODEL U4322-O-5T9. THIS PAY ITEM SHALL COVER ALL COSTS INCLUDING MATERIALS, TOOLS AND LABOR TO PROVIDE AND INSTALL THE POWER SERVICE, AS PER PLAN - ALTERNATE BID.

ITEM 690 - SPECIAL - MISC.: TEST HOLE PERFORMED

IT IS ANTICIPATED THAT THE CONTRACTOR MAY ENCOUNTER UNDERGROUND UTILITIES WHILE EXCAVATING FOR SIGNAL SUPPORT FOUNDATIONS. IF, AFTER ACCURATELY IDENTIFYING THE PROPOSED LOCATION OF THE FOUNDATION, AS SHOWN IN THE PLAN, AND AFTER MODIFYING THAT LOCATION, IF NECESSARY, BASED ON THE FIELD MARKING OF UNDERGROUND UTILITY LOCATION, THE CONTRACTOR DISCOVERS A UTILITY CONFLICT DURING HIS EXCAVATION OPERATION, HE WILL BE COMPENSATED FOR THE LABOR AND EQUIPMENT COST ASSOCIATED FOR EACH PARTIAL FOUNDATION EXCAVATION ACCORDING TO HIS BID PRICE.

BEFORE THE CONTRACTOR BEGINS THE EXCAVATION AT THE MODIFIED LOCATION, HE SHALL VERIFY THAT THERE WILL BE NO OVERHEAD UTILITY CONFLICTS RESULTING FROM THE NEW SIGNAL SUPPORT LOCATION.

THE CONTRACTOR'S WORK UNDER THIS BID ITEM SHALL INCLUDE BACKFILLING, COMPACTING, AND RESTORATION OF THE EXCAVATION TO ITS ORIGINAL CONDITION.

EXCAVATIONS SHALL NOT BE LEFT OPEN OVERNIGHT.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID PER EACH ITEM 690 - SPECIAL - MISC.: TEST HOLE PERFORMED. A QUANTITY OF 4 HAS BEEN CARRIED TO THE SIGNALIZATION GENERAL SUMMARY.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF ODOT STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

   A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

   B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.

   C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.

   D. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL-30.11.

   E. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.

   F. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.

   G. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS.

   A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

   B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

   C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

   D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING.

   A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

      I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.

      II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

      III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

      IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

   B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD.

   A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

   B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

GROUNDING AND BONDING (CONT.)

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH.

   A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.

   B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

      I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.

      II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. STRUCTURE GROUNDING: HL-50.21 SHOWS A 1/0 AWG STRANDED COPPER CABLE USED FOR STRUCTURE GROUNDING. ADDITIONALLY, THIS SAME CABLE SHALL BE INSULATED AND ANY CONNECTIONS AND BARE COPPER STRANDS EXPOSED TO CONCRETE SHALL BE COVERED WITH MASTIC TO PREVENT CONTACT WITH THE CONCRETE.

8. PAYMENT.

   A. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

   B. WORK ON BRIDGES MAY BE INCLUDED IN THE BID ITEM FOR "ITEM 625, STRUCTURE GROUNDING."

   C. IN A 3-WIRE HIGHWAY LIGHTING SYSTEM, THE THIRD CONDUCTOR OF THE DUCT CABLE OR DISTRIBUTION CABLE WILL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR AND MAY AS SUCH BE PART OF THE CABLE BID ITEM.

ITEM 632 - SIGNAL SUPPORT, TYPE TC-81.21, DESIGN ( ), AS PER PLAN

THIS ITEM SHALL CONFORM TO ITEM 632.15 AND ITEM 732.11, EXCEPT THAT POLES SHALL BE TAPERED TUBES OF CONTINUOUS TAPER. POLES CONSISTING OF STRAIGHT SECTIONS WITH A TAPERED EFFECT ACCOMPLIOSHED BY THE USE OF REDUCERS SHALL NOT BE PERMITTED. POLES HALL BE ROUND IN SHAPE. OCTAGON SHAPED POLES ARE NOT PERMITTED.

CALCULATED SGM CHECKED AKF

SIGNALIZATION NOTES

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ITEM 632 - SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A VIDEO DETECTION SYSTEM CAPABLE OF INTERSECTION DETECTION CONTROL, TRAFFIC SURVEY DATA COLLECTION AND TEMPORARY DETECTION DURING CONSTRUCTION. REAL-TIME POLLING, DIAL-OUT OR STORED TRAFFIC DATA TO INCLUDE: VOLUME, OCCUPANCY, SPEED, DENSITY, HEADWAY AND 5 VEHICLE CLASSIFICATIONS EITHER BY PHASE OR PROGRAMMED TIMED INTERVALS RANGING FROM 1 SECOND TO 60 MINUTES. EXTENSIVE BOOLEAN LOGIC CAPABILITIES SHALL BE PROVIDED FOR FLEXIBLE DETECTOR LAYOUTS AND CAN BE USED TO HELP VALIDATE AN EVENT OR INCIDENT. THE DETECTION SYSTEM SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

PROVIDE A DETECTION SYSTEM THAT INCLUDES AN INTEGRATED COLOR CAMERA, 22XZOOM LENS, AND MACHINE VISION PROCESSOR IN ONE UNIT. THE CAMERA SHALL BE IP ADDRESSABLE, SHALL INCORPORATE A WEB SERVER INTERFACE FOR EASY SETUP AND PROVIDE MPEG4 STREAMING VIDEO OUTPUT.

PROVIDE A SYSTEM THAT INCORPORATES SIMPLE SETUP AND CONFIGURATION OF THE INTERSECTION STOP BAR DETECTION APPLICATIONS WITH MINIMAL NUMBER OF DETAILED STEP-BY-STEP INSTRUCTIONS.

PROVIDE A COMMUNICATIONS INTERFACE THAT FULLY SUPPORTS AN ETHERNET IEEE 802.3 COMPLIANT 10/100BASE T AUTO SENSING PORT FOR ADVANCED SYSTEMS COMMUNICATIONS. THE ETHERNET PORT SHALL PROVIDE AN UPSTREAM CONNECTION TO OTHER ETHERNET DEVICES IN THE CABINET. AN INDUSTRY STANDARD RJ-45 TYPE CONNECTOR SHALL BE INCLUDED THAT SUPPORTS A SIMPLE CAT5E PATCH CABLE INTERFACE. THE ETHERNET PORT SHALL SUPPORT HIGH SPEED SERIAL COMMUNICATIONS UP TO 230,400 BPS. THE ETHERNET PORT SHALL BE CONFIGURED USING A STATIC IP OR DHCP AND SHALL FACTORY PRE-CONFIGURED WITH A PRIVATE IP ADDRESS AND CALLS C SUBNET MASK.

PROVIDE A DETECTOR STATION THAT COLLECTS AND REPORTS TRAFFIC DATA GATHERED OVER SPECIFIC TIME INTERVALS.

PROVIDE CONTRACT LOSS DETECTORS THAT MONITOR THE QUALITY OF THE VIDEO IMAGE THAT IS BEING PROCESSED.

PROVIDE A VIDEO DETECTION SYSTEM THAT INSTALLS WITH ONLY 3-WIRES FROM THE INTERFACE PANEL TO EACH CAMERA THAT COMBINES STATE-OF-THE ART ADVANCES IN DIGITAL IMAGE SIGNAL PROCESSING AND BROADBAND COMMUNICATIONS.

PROVIDE A COMMUNICATIONS PORT THAT WILL ALLOW THE USER TO UPDATE THE EMBEDDED SOFTWARE WITH A NEW SOFTWARE RELEASE AND INTERACT WITH A PC CLIENT/SERVER APPLICATION FOR ALL OF THE VARIOUS DETECTION REQUESTS THAT ARE SUPPORT BY THE SENSOR.

PROVIDE A CAMERA AND PROCESSOR THAT WILL CONSUME A MAXIMUM OF 15 WATTS INCLUDING A THERMOSTATICALLY CONTROLLED FACEPLATE HEATER.

THE DETECTOR SYSTEM SHALL MAINTAIN A NONVOLATILE OPERATIONS LOG WHICH MINIMALLY CONTAINS: REVISION NUMBERS FOR THE CURRENT DETECTOR HARDWARE AND SOFTWARE COMPONENTS IN OPERATION; TITLE AND COMMENTS FOR THE DETECTOR CONFIGURATION; DATE AND TIME THE LAST DETECTOR CONFIGURATION WAS DOWNLOADED TO THE SENSOR; DATE AND TIME THE OPERATION LOG WAS LAST CLEARED; DATE AND TIME COMMUNICATIONS WERE OPENED OR CLOSED WITH THE SENSOR; DATE AND TIME OF THE LAST POWER-UP, AND TIME-STAMPED, SELF-DIAGNOSED HARDWIRE AND SOFTWARE ERRORS THAT AID IN SYSTEM MAINTENANCE AND TROUBLESHOOTING.

PROVIDE EXTENSION ARM AND CAMERA JUNCTION BOX AS PER COLOR AND TYPE PROVIDED UNDER SPECIFICATION FOR ALL DECORATIVE TRAFFIC SIGNAL SUPPORTS.

PROVIDE A VIDEO SYSTEM THAT WILL ALLOW FOR COMPLETE CONTROL OF THE CAMERAS, DETECTION PROGRAMMING, ZOOM CAPABILITIES, AND VIEWING A LIVE VIDEO IMAGE.

PROVIDE A VIDEO DETECTION SYSTEM THAT INCORPORATES A VIDEO SERVER THAT CONNECTS DIRECTLY TO A 10/100BT ETHERNET NETWORK AND ACCOMMODATES ALL MPEG4 VIDEO STREAMS UP TO 5 MB/SECOND. ALL VIDEO DETECTION SENSORS SHALL BE CONNECTED TO NETWORK FOR REMOTE VIEWING AND MONITORING.

PROVIDE AND INSTALL IN THE CABINET AN INTERFACE PANEL (ATIP) THAT SUPPORTS 3-WIRE BRANCH CABLE CONNECTIONS TO EACH SENSOR. THE PANEL SHALL SUPPORT AND INTERFACE UP TO 8 IMAGE SENSORS VIA BROADBAND OVER POWER (BoP) TECHNOLOGY.

CONNECT THE ETHERNET PORTS FROM THE INTERFACE PANEL (ATIP) TO THE OPTICAL ETHERNET TRANSCEIVER INSTALLED IN THE CONTROLLER CABINET USING PROPERLY RATED CAT5E CABLES AND RJ45 CONNECTORS.

PROVIDE AND INSTALL IN EACH CABINET AN ACCESS POINT (ATAP) DETECTOR PORT MASTER THAT FULLY SUPPORTS UP TO 8 IMAGE SENSORS AND PROVIDES THE INTERFACE FROM EACH SENSOR TO THE TRAFFIC CONTROLLER. THE ACCESS POINT (ATAP) SHALL INCLUDE 24 CONTACT CLOSURE OUTPUTS, 16 CONTACT CLOSURE INPUTS AND FULLY SUPPORT NEMATS2 SDLC DETECTOR COMMUNICATIONS.

ITEM 632 - SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM (CONT.)

PROVIDE ADDITIONAL INTERFACE PANELS (ATIP) AND ACCESS POINTS (ATAP) AS NEEDED TO FULLY SUPPORT THE REQUIRED NUMBER OF SENSORS AS SHOWN IN THE PLANS.

CONSTRUCTION - LOCATE AND MOUNT DETECTOR IN ACCORDANCE WITH MANUFACTURE SPECIFICATIONS. PROVIDE SUFFICIENT NUMBER OF VIDEO SENSORS TO PROCESS VEHICLE PRESENCE, PASSAGE, AND SYSTEM DETECTOR ZONES AS INDICATED IN THE PLANS. RELOCATION OF SENSORS, ADDITIONAL JUNCTION BOXES, CONDUIT, AND CABLE NEEDED TO DETECT PULSE, PASSAGE AND SYSTEM DETECTION ZONES ARE INCIDENTAL TO THE COST OF THE PROJECT.

THE CONTRACTOR SHALL SET UP EACH DETECTION UNIT FOR VEHICLE DETECTION. THE SYSTEM SHALL BE SET UP BY THE MANUFACTURER TO RETRIEVE COUNT INFORMATION FROM EACH DETECTION UNIT ON 15 MINUTE INTERVALS, AND MAKE SUCH REPORTS TO THE INTERSECTION TIMER THE CONTRACTOR SHALL SET THE TIMER UP TO RETRIEVE THE VEHICLE DETECTION REPORTS AND LOG ALL SUCH INFORMATION PRIOR TO THE 10-DAY PERFORMANCE TEST.

PAYMENT FOR ITEM 632-SIGNALIZATION MISC: VIDEO DETECTION SYSTEM SHALL BE MADE AT THE CONTRACT PRICE BID FOR ALL EQUIPMENT NEEDED FOR EACH INTERSECTION COMPLETE AND IN PLACE TESTED AND ACCEPTED INCLUDING PRICE FOR NECESSARY COMMUNICATION PANELS, MINI-HUBS, DETECTOR INTERFACE CARD/DETECTOR PORTS, AND ALL ASSOCIATED WIRING AND CONNECTIONS INSTALLED IN THE CABINET TO MAKE A COMPLETE FUNCTIONING SYSTEM. PAYMENT SHALL ALSO INCLUDE SOFTWARE INSTALLED ON THE CITY'S TRAFFIC ENGINEERING COMPUTERS.

ITEM 632 - SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM - ALTERNATE BID

IN ADDITION TO MEETING THE REQUIREMENT OF THE BASE BID ITEM, THE VIDEO DETECTION SYSTEM SHALL BE AN AUTOSCOPE SOLO TERRA VIDEO DETECTION SYSTEM AS MANUFACTURED BY ECONOLITE CONTROL PRODUCTS, INC. 3360 E. LA PALMA, ANAHEIM, CALIFORNIA. 92806-2856 (1-740-630-3700), SUPPLIED BY PATH MASTER (PATH MASTER, INC., 1960 MIDWAY DRIVE, TWINSBURG, OHIO 44087) AND SHALL INCORPORATE OR BE FURNISHED WITH ALL DESIGN FEATURES, AUXILIARY EQUIPMENT, AND ACCESSORIES AS REQUIRED.

ITEM 632 - SIGNAL PERFORMANCE TEST AND SYSTEM CHECKS

THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION REQUIRES THAT ALL TRAFFIC CONTROL SIGNAL COMPONENTS AND THE ENTIRE SYSTEM SHALL BE TESTED BY THE CONTRACTOR ACCORDING TO SPECIFICATIONS TO ASSURE PROPER OPERATION BEFORE ACCEPTANCE. GROUND ROD SHALL BE TESTED FOR SATISFACTORY LOW RESISTANCE GROUND. A CHECK SHALL BE PERFORMED ON ALL CONDUCTION TO ASSURE THERE ARE NO SHORTS, CROSSES AND HIGH RESISTANCE OR IMPROPER CONNECTIONS. ALL TRAFFIC CONTROL EQUIPMENT IN THE CONTROLLER CABINET SHALL BE CHECKED FOR CORRECT SETTINGS AND MANIPULATION AND OPERATION.

THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION REQUIRES A TEN DAY PERFORMANCE TEST TO START AFTER ABOVE MENTIONED TESTS ARE CONDUCTED AND PROPERLY LOGGED ON TEST REPORT FORMS AS REQUIRED BY CMS 632.26 (ODOT 632.28). THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE CITY OF AKRON TRAFFIC ENGINEERING DIVISION STATING THAT SIGNAL INSTALLATION IS 100% COMPLETE AND THE TEN DAY TEST IS REQUESTED. THE CITY OF AKRON TRAFFIC SIGNAL ENGINEER OR HIS ASSIGNEE SHALL MONITOR THE TESTS TO ACCEPT THE SIGNAL INSTALLATION ON BEHALF OF THE CITY OF AKRON. AND DISCREPANCY DETECTED SHALL BEE REPAIRED AND THE TEN DAY TEST SHALL BE RESTARTED.

ALL COST OF PERSONNEL, EQUIPMENT, ELECTRICAL ENERGY AND INCIDENTALS REQUIRED TO PERFORM THE TESTS ARE TO HAVE BEEN INCLUDED IN THE CONTRACT UNIT PRICE OF NEW OR UPGRADED SIGNAL ITEMS.

CALCULATED SGM
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SIGNALIZATION NOTES

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SHEET NUMBER						PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	551	552		555		01/IMS/OT	02/BRO/BR	03/NFA/OT/AKRN						
				102		102			625	25400	102	FT	CONDUIT, 2", 725.04	
				844		844			625	25500	844	FT	CONDUIT, 3", 725.04	
				71		71			625	25900	71	FT	CONDUIT, JACKED OR DRILLED, 725.04,3"	
				219		219			625	29000	219	FT	TRENCH	
				295		295			625	29600	295	FT	TRENCH IN PAVED AREA, TYPE B	
				270		270			625	29700	270	FT	TRENCH, MISC.: TRENCH FOR FIBER OPTIC CABLE	550
				8		8			625	31600	8	EACH	PULL BOX, MISC.: PULL BOX, 24" X 36" X 24" REINFORCED POLYMER CONCRETE	550
				2		2			625	31600	2	EACH	PULL BOX, MISC.: PULL BOX, 30" X 48" X 24" REINFORCED POLYMER CONCRETE	550
				18		18			625	32000	18	EACH	GROUND ROD	
				514		514			625	36000	514	FT	PLASTIC CAUTION TAPE	
				16		16			632	00303	16	EACH	VEHICULAR SIGNAL HEAD, 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	551
				16		16			632	20731	16	EACH	PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN	551
				16		16			632	26001	16	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	548
				1,871		1,871			632	40500	1,871	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
				1,314		1,314			632	40700	1,314	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
				78		78			632	62810	78	FT	INTERCONNECT CABLE, MISC.: DROP CABLE, 6 FIBER	550
				333		333			632	62810	333	FT	INTERCONNECT CABLE, MISC.: TRUNK CABLE, 6 FIBER	549
				450		450			632	62810	450	FT	INTERCONNECT CABLE, MISC.: SLACK INSTALLATON	551
				2		2			632	62820	2	EACH	INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER	550
				2		2			632	62820	2	EACH	INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD, 4 FIBER	550
				18		18			632	62820	18	EACH	INTERCONNECT, MISC.: FUSION SPLICE	550
				3		3			632	62820	3	EACH	INTERCONNECT, MISC.: SPLICE ENCLOSURE (UNDER GRADE OR AERIAL)	550
				2		2			632	62820	2	EACH	INTERCONNECT, MISC.: TERMINATION PANEL, CONTROLLER CABINET	550
				3		3			632	62820	3	EACH	INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR	550
	LS					LS			632	62830	LS		INTERCONNECT, MISC.: FIBER OPTIC CABLE TESTING	551
				8		8			632	64010	8	EACH	SIGNAL SUPPORT FOUNDATION	
				8		8			632	64020	8	EACH	PEDESTAL FOUNDATION	
				1,807		1,807			632	65200	1,807	FT	LOOP DETECTOR LEAD-IN CABLE	
				2		2			632	70001	2	EACH	POWER SERVICE, AS PER PLAN	552
				4		4			632	80103	4	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 1, AS PER PLAN	552
				3		3			632	80203	3	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2, AS PER PLAN	552
				1		1			632	80303	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 3, AS PER PLAN	552
				8		8			632	89900	8	EACH	PEDESTAL, 8', TRANSFORMER BASE	
				2		2			632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	548
				2		2			632	90400	2	EACH	SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM	553
				2		2			633	67000	2	EACH	CABINET RISER	
				2		2			633	67100	2	EACH	CABINET FOUNDATION	
				2		2			633	74001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN	551
				2		2			633	99000	2	EACH	CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET	548
				2		2			633	99000	2	EACH	CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL	548
				2		2			633	99000	2	EACH	CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER	548
	LS					LS			633	99300	LS		CONTROLLER ITEM, MISC.: CENTRAL SYSTEM EXPANSION	551
		4				4			SPECIAL	69098000	4	EACH	MISC.: TEST HOLE PERFORMED	552
													ALTERNATE BID	
				3		3			632	62820	3	EACH	INTERCONNECT, MISC.: SPLICE ENCLOSURE (UNDER GRADE OR AERIAL), SIECOR MODEL UCAO, 3M 2178, ALTERNATE BID	550
				2		2			632	62820	2	EACH	INTERCONNECT, MISC.: TERMINATION PANEL, CONTROLLER CABINET, SIECOR MODEL WCH-02P, ALTERNATE BID	550
				2		2			632	70001	2	EACH	POWER SERVICE, WILSON BOHANNA BODY LOCK, MODEL #14110-1-80160A, AS PER PLAN, ALTERNATE BID	552
				2		2			632	90400	2	EACH	SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM, AUTOSCOPE SOLO TERRA, ALTERNATE BID	553
				2		2			633	74001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY, (UPS), CLARY SP1000-SN, AS PER PLAN, ALTERNATE BID	551
				2		2			633	99000	2	EACH	CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET, EDCO SRA-6LC SURGE PROTECTION, ALTERNATE BID	548
				2		2			633	99000	2	EACH	CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL, SONEM PREEMPTION SYSTEM, ALTERNATE BID	548

CALCULATED SGM
CHECKED AKF

SIGNALIZATION GENERAL SUMMARY

SUM-76/77-11.27/12.12

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SHEET	LOCATION	625 CONDUIT, 2", 725.04 FT	625 CONDUIT, 3", 725.04 FT	625 CONDUIT, JACKED OR DRILLED, 725.04,3" FT	625 TRENCH FT	625 TRENCH IN PAVED AREA, TYPE B FT	625 TRENCH, MISC.: TRENCH FOR FIBER OPTIC CABLE FT	625 PULL BOX, MISC.: PULL BOX, 24" X 36" X 24" REINFORCED POLYMER CONCRETE EACH	625 PULL BOX, MISC.: PULL BOX, 30" X 48" X 24" REINFORCED POLYMER CONCRETE EACH	625 GROUND ROD EACH	625 PLASTIC CAUTION TAPE FT	632 VEHICULAR SIGNAL HEAD, 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN EACH	632 PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN EACH	632 PEDESTRIAN PUSHBUTTON, AS PER PLAN EACH	632 SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG FT	632 SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG FT	632 INTERCONNECT CABLE, MISC.: DROP CABLE, 6 FIBER FT	632 INTERCONNECT CABLE, MISC.: TRUNK CABLE, 6 FIBER FT	632 INTERCONNECT CABLE, MISC.: SLACK INSTALLATON FT	632 INTERCONNECT, MISC.: FAN-OUT KIT, 6 FIBER EACH	632 INTERCONNECT, MISC.: FIBER OPTIC PATCH CORD, 4 FIBER EACH	632 INTERCONNECT, MISC.: FUSION SPLICE EACH	632 INTERCONNECT, MISC.: SPLICE ENCLOSURE (UNDER GRADE OR AERIAL) EACH	632 INTERCONNECT, MISC.: TERMINATION PANEL, CONTROLLER CABINET EACH
556	JOHNSTON ST / LAMPARTER ST / BROWN ST	58	279		105	167		3	1	9	272	8	8	8	850	592							
561	BROWN ST / SOUTH ST	44	295	71	114	128		3	1	9	242	8	8	8	1021	722							
N/A	JOHNSTON ST / SOUTH ST																						
566	JOHNSTON ST / LAMPARTER ST / BROWN ST		159				159	1									61	159	150	1	1	6	1	1
567	BROWN ST / SOUTH ST		111				111	1									17	174	300	1	1	12	2	1
TOTALS CARRIED TO SIGNALIZATION GENERAL SUMMARY		102	844	71	219	295	270	8	2	18	514	16	16	16	1871	1314	78	333	450	2	2	18	3	2

SHEET	LOCATION	632 INTERCONNECT, MISC.: FIBER OPTIC CONNECTOR EACH	632 SIGNAL SUPPORT FOUNDATION EACH	632 PEDESTAL FOUNDATION EACH	632 LOOP DETECTOR LEAD-IN CABLE FT	632 POWER SERVICE, AS PER PLAN EACH	632 SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 1, AS PER PLAN EACH	632 SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2, AS PER PLAN EACH	632 SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 3, AS PER PLAN EACH	632 PEDESTAL, 8', TRANSFORMER BASE EACH	632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN EACH	632 SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM EACH	633 CABINET RISER EACH	633 CABINET FOUNDATION EACH	633 UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN EACH	633 CONTROLLER ITEM, MISC.: SIGNAL CONTROLLER WITH CABINET EACH	633 CONTROLLER ITEM, MISC.: PREEMPTION PRIORITY CONTROL EACH	633 CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER EACH
556	JOHNSTON ST / LAMPARTER ST / BROWN ST		4	4	818	1	3	1		4		1	1	1	1	1	1	1
561	BROWN ST / SOUTH ST		4	4	989	1	1	2	1	4	1	1	1	1	1	1	1	1
N/A	JOHNSTON ST / SOUTH ST										1							
566	JOHNSTON ST / LAMPARTER ST / BROWN ST	1																
567	BROWN ST / SOUTH ST	2																
TOTALS CARRIED TO SIGNALIZATION GENERAL SUMMARY		3	8	8	1807	2	4	3	1	8	2	2	2	2	2	2	2	2

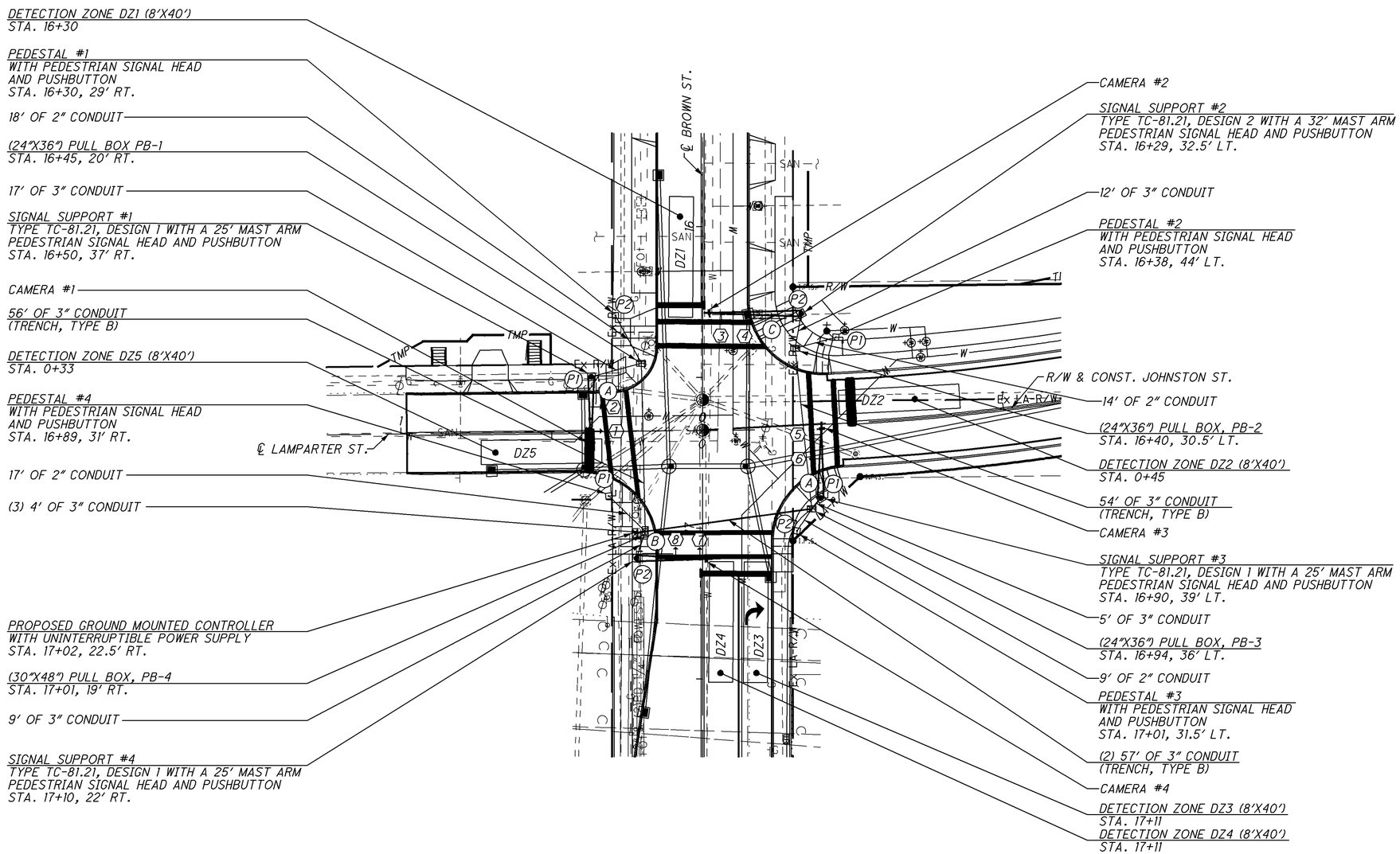
CALCULATED SGM
CHECKED AKF

SIGNALIZATION SUBSUMMARY

SUM-76/77-11.27/12.12

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SIGNAL TYPES
PORTLAND ORANGE NO'S. 1, 2, 3, 4, 5, 6, 7 & 8 LUNAR WHITE NO'S. P1 & P2 PEDESTRIAN SIGNAL HEADS SHALL BE CONSTRUCTED WITH HAND/MAN OVERLAYS 1. ALL SIGNAL HEADS SHALL BE 12" LENSES WITH LED LAMPS.

CAMERA DETECTION ZONES:
CAMERA #1: DZ2
CAMERA #2: DZ3, DZ4
CAMERA #3: DZ5
CAMERA #4: DZ1

NOTES:

1. THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES; CLEAR OF ANY OBSTRUCTION ONCE MOUNTED TO THE MAST ARMS.
2. ALL PROPOSED SIGNAL HEADS SHALL HAVE BACKPLATES.
3. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES AND EXISTING SIGNAL HARDWARE AND APPARATUSES PRIOR TO EXCAVATION.
4. POWER SOURCE LOCATION TO BE VERIFIED IN THE FIELD AND APPROVED BY ENGINEER
5. FOR REFERENCE TO SIGNS Ⓐ, Ⓑ AND Ⓒ SEE SHEET 428

LEGEND	
	PROPOSED MAST ARM SUPPORT POLE AND FOUNDATION
	PROPOSED VEHICULAR SIGNAL HEAD
	PROPOSED TRAFFIC SIGNAL CONTROLLER
TR	PROPOSED PULL BOX (725.04)
	PROPOSED PEDESTAL WITH PEDESTRIAN SIGNAL AND PUSHBUTTON
	PROPOSED PREEMPTION CONFIRMATION LIGHT AND RECEIVER
	PROPOSED VIDEO CAMERA
DZ-#	PROPOSED DETECTION ZONE
	PROPOSED CONDUIT (725.04)

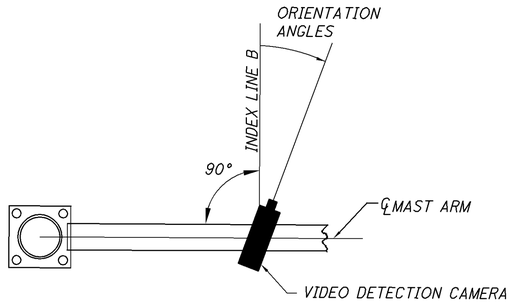
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CALCULATED SGM
CHECKED AKF

SIGNALIZATION PLAN
JOHNSTON ST / LAMPARTER ST / BROWN ST

SUM-76 / 77-11.27 / 12.12

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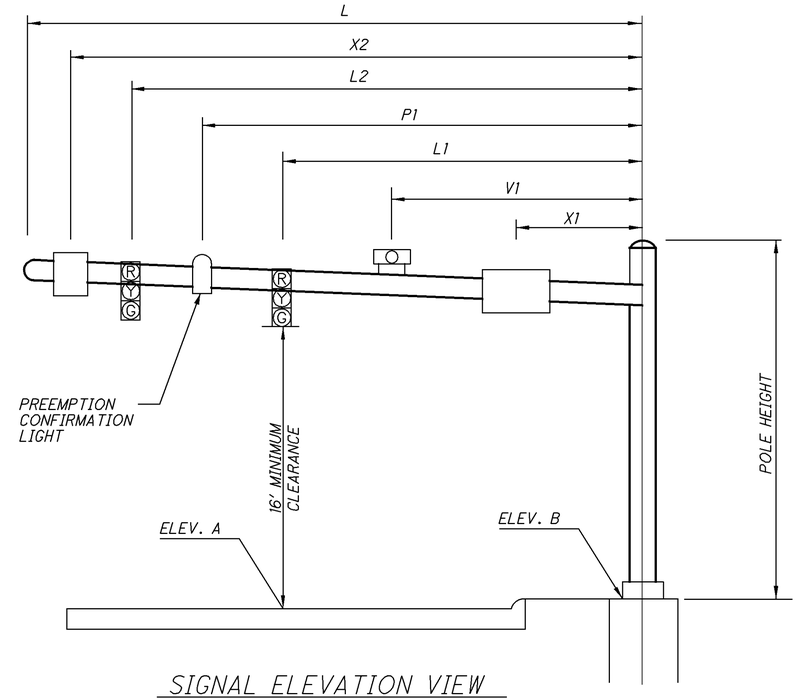


NOTES:

1. ALL ANGLES MEASURED CLOCKWISE.

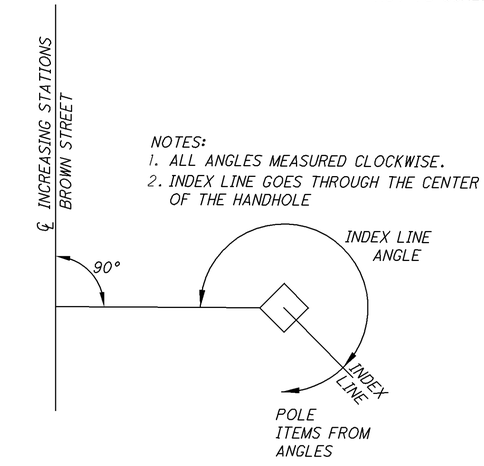
VIDEO DETECTION CAMERA MOUNTING ORIENTATION DIAGRAM

NOT TO SCALE



SIGNAL ELEVATION VIEW

NOT TO SCALE



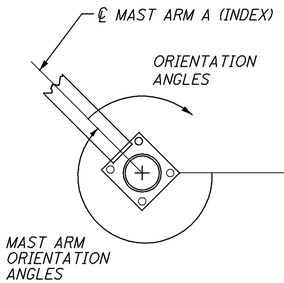
NOTES:

1. ALL ANGLES MEASURED CLOCKWISE.
2. INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE

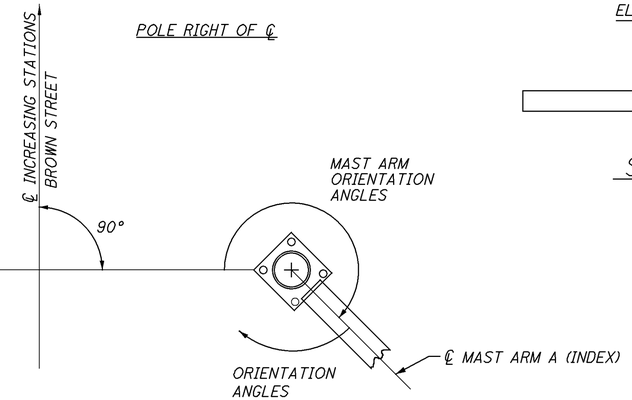
PEDESTAL ORIENTATION DIAGRAM

NOT TO SCALE

POLE LEFT OF ℄



POLE RIGHT OF ℄



NOTES:

1. DIMENSIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED.

TYPE TC-81.21 ORIENTATION DIAGRAM

NOT TO SCALE

PEDESTAL DATA

PEDESTAL NO.	LOCATION	STATION	OFFSET	INDEX LINE ANGLE	ANGLE FROM INDEX LINE	
					PUSH BUTTON	PEDESTRIAN SIGNALS
1	BROWN ST	16+30	29' RT	180°	180°	TOP MOUNTED
2	BROWN ST	16+38	44' LT	93°	180°	TOP MOUNTED
3	BROWN ST	17+01	31.5' LT	169°	180°	TOP MOUNTED
4	BROWN ST	16+89	31' RT	173°	90°	TOP MOUNTED

TYPE TC-81.21 MAST ARM DATA

POLE NO.	DESIGN NO.	POLE HEIGHT (FT)	L (FT)	L1 (FT)	L2 (FT)	X1 (FT)	P1 (FT)	V1 (FT)	LOCATION	STATION	OFFSET	ELEV. A	ELEV. B	INDEX LINE 'A' ANGLE	ORIENTATION FROM MAST ARM 'A'			ORIENTATION FROM INDEX LINE 'B'
															HAND HOLE	PEDESTRIAN SIGNAL HEAD	PEDESTRAIN PUSHBUTTON	VIDEO CAMERA ORIENTATION ANGLE
1	1	21	25	10	18	5.5	14	22	BROWN ST	16+50	37' RT	1038.92	1039.33	90°	180°	0°	180°	350°
2	2	21	32	18.5	26.5	10	22.5	30.5	BROWN ST	16+29	32.5' LT	1036.98	1037.52	0°	153°	270°	333°	353°
3	1	20	25	13	21	5	17	23	BROWN ST	16+90	39' LT	1036.82	1037.72	90°	147°	90°	327°	354°
4	1	20	25	13	21	7	17	23	BROWN ST	17+10	22' RT	1038.28	1039.04	0°	187°	270°	277°	354°

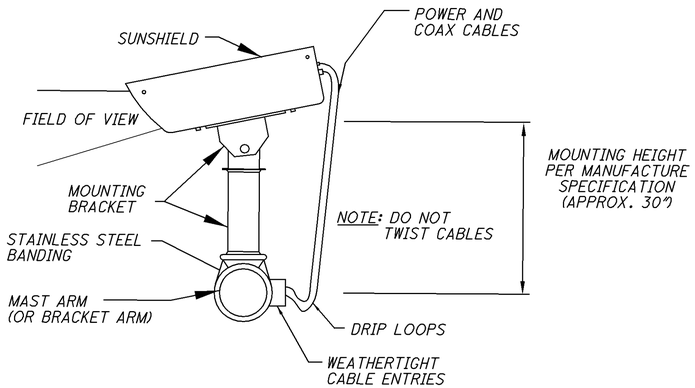
CALCULATED SGM
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SIGNALIZATION DETAILS
JOHNSTON ST / LAMPATER ST / BROWN ST

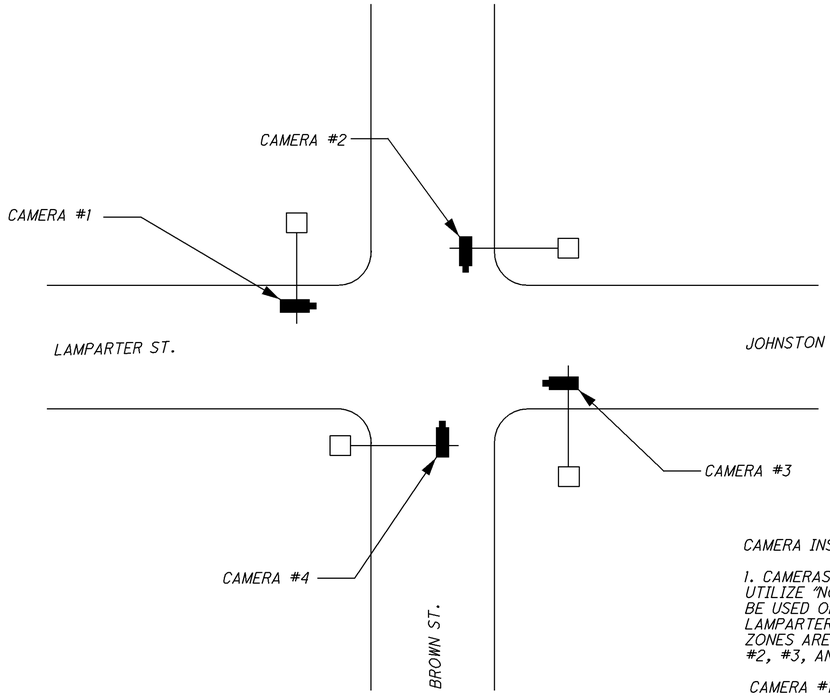
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DETECTION ZONE CHART						
DETECTION ZONE IDENTIFICATION	LOCATION	SIZE	TYPE	DELAY (SEC.)	DELAY INHIBITED BY	DESCRIPTION
DZ1	BROWN ST., STA. 16+30	8'X40'	PRESENCE	10.0	ϕ6	SB CALL
DZ2	JOHNSTON ST., STA. 0+45	8'X40'	PRESENCE	10.0	ϕ8	WB CALL
DZ3	BROWN ST., STA. 17+11	8'X40'	PRESENCE	10.0	ϕ2	NB CALL
DZ4	BROWN ST., STA. 17+11	8'X40'	PRESENCE	0.0	ϕ2	NB CALL
DZ5	LAMPARTER ST., STA. 0+33	8'X40'	PRESENCE	10.0	ϕ4	EB CALL



INSTALLED CAMERA
NOT TO SCALE



CAMERA DESIGNATION DETAIL

CAMERA INSTALLATION INSTRUCTIONS

1. CAMERAS #1, #2, #3, AND #4 SHALL UTILIZE "NORMAL" FOCAL LENGTHS AND SHALL BE USED ON BROWN ST., JOHNSTON ST., AND LAMPARTER ST. THE FOLLOWING DETECTION ZONES ARE ASSOCIATED WITH CAMERAS #1, #2, #3, AND #4 RESPECTIVELY:

CAMERA #1: DZ2
CAMERA #2: DZ3, DZ4
CAMERA #3: DZ5
CAMERA #4: DZ1

CALCULATED SGM
CHECKED AKF

SIGNALIZATION DETAILS
JOHNSTON ST. / LAMPARTER ST. / BROWN ST

SUM-76 / 77-11.27 / 12.12

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LEGEND

- DS — DISCONNECT SWITCH
- M — ELECTRIC METER
- UPS — UNINTERRRUPTIBLE POWER SUPPLY
- PREEMPTION CONFIRMATION LIGHT AND DETECTOR
- VEHICULAR SIGNAL HEAD
- VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL WITH PUSHBUTTON
- GROUND ROD
- 2P — 2/C #6 AWG. (POWER)
- 3P — 3/C #6 AWG. (POWER)
- 2 — 2/C #14 AWG. (LEAD-IN-CABLE)
- 5 — 5/C #14 AWG.
- 7 — 7/C #14 AWG.
- D — PREEMPTION DETECTOR CABLE
- L — PREEMPTION CABLE
- V — VIDEO DETECTION CABLE
- PROPOSED VIDEO CAMERA

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CHECKED AKF

SIGNALIZATION DETAILS
JOHNSTON ST / LAMPARTER ST / BROWN ST

SUM-76/77-11.27/12.12

TRAFFIC SIGNAL CONTROL TIMING CHART
INTERSECTION: JOHNSTON ST. / BROWN ST.
MAINTAINING AGENCY: CITY OF AKRON

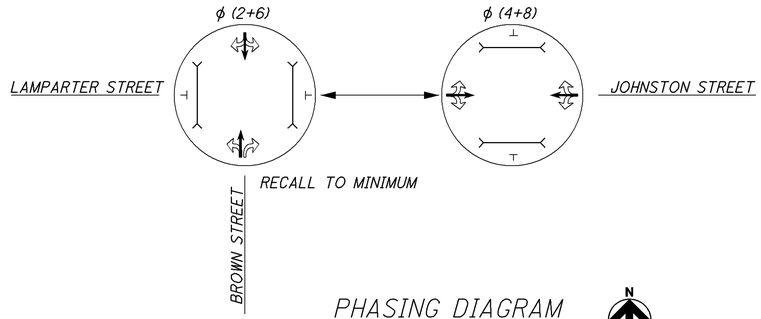
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START UP
START IN: Y/R FLASH; ● ALL RED ○
TIME FOR FLASH OR ALL RED 5
FIRST PHASE(S): (2+6)
COLOR DISPLAYED: GREEN

Dual Entry ●
Rest in Red: Ring 1: ○ Ring 2: ○

Overlap	A	B	C	D
Phases				

INTERVAL OF FEATURE		Controller Movement No. 1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT		↰	↑	↱	→	↰	↓	↱	←
MINIMUM GREEN TIME (SEC.)			20.0		10.0		20.0		10.0
PASSAGE TIME (SEC.)			3.0		3.0		3.0		3.0
MAXIMUM GREEN TIME (SEC.)			30.0		30.0		30.0		30.0
YELLOW CHANGE (SEC.)			4.0		4.0		4.0		4.0
ALL RED CLEARANCE (SEC.)			2.0		2.0		2.0		2.0
WALK (MIN.) (SEC.)			5.0		5.0		5.0		5.0
PEDESTRIAN CLEARANCE (SEC.)			10.0		10.0		10.0		10.0
RECALL	MAXIMUM (ON/OFF)								
	MINIMUM (ON/OFF)		ON				ON		
	PEDESTRIAN (ON/OFF)								



PHASING DIAGRAM
NOT TO SCALE

PREEMPT CHANNELS

CHANNEL 1 = ϕ(2) (NORTHBOUND ONLY)
CHANNEL 2 = ϕ(6) (SOUTHBOUND ONLY)
CHANNEL 3 = ϕ(4) (EASTBOUND ONLY)
CHANNEL 4 = ϕ(8) (WESTBOUND ONLY)

PREEMPT NOTES:

1. ACTIVE WALK INDICATIONS SHALL IMMEDATELY GO TO "DONT WALK" UPON RECIEVING PREEMPTION SIGNAL.
2. IF PHASE ACTIVE CONFLICTS WITH PREEMPT PHASE CALLED, IT SHALL IMMEDIATELY TIME ITS YELLOW AND ALL READ CLEARANCES.
3. IF ACTIVE PHASE = THE PREEMPT PHASE, THEN THE PHASE SHALL HOLD FOR DURATION OF THE PREEMPT SIGNAL.
4. AFTER RELEASE FROM PREEMPT, YELLOW AND ALL RED CLEARANCE SHALL BE DISPLAYED AND RETURN PHASE SHALL BE ϕ2 & ϕ6.

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
1,2 (WB)	R	ϕ8 R	R
	Y	ϕ8 Y	
	G	ϕ8 G	
3,4 (NB)	R	ϕ2 R	Y
	Y	ϕ2 Y	
	G	ϕ2 G	
5,6 (EB)	R	ϕ4 R	R
	Y	ϕ4 Y	
	G	ϕ4 G	
7,8 (SB)	R	ϕ6 R	Y
	Y	ϕ6 Y	
	G	ϕ6 G	
P1 (EAST)	W	PED A G(ϕ2)	BLANK
	DW	PED A R(ϕ2)	
P1 (WEST)	W	PED B G(ϕ6)	BLANK
	DW	PED B A(ϕ6)	
P2 (NORTH)	W	PED C G(ϕ8)	BLANK
	DW	PED C R(ϕ8)	
P2 (SOUTH)	W	PED D G(ϕ4)	BLANK
	DW	PED D R(ϕ4)	

PED A = LS 9 PED C = LS 11
PED B = LS 10 PED D = LS 12

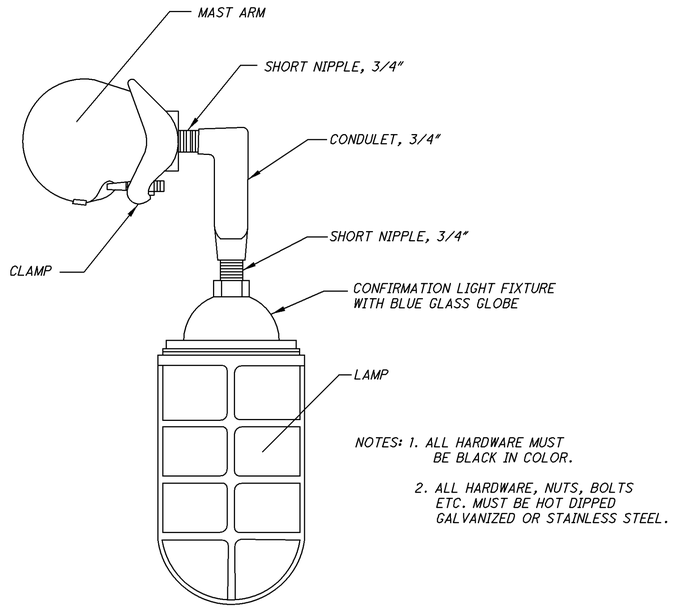
SYSTEM TIMING AND COORDINATION CHART

	CYCLE LENGTH (SEC)	PERCENT SPLIT BY PHASE SBLT 1	NB 2	WBLT 3	EB 4	NBLT 5	SB 6	EBLT 7	WB 8	PERCENT OFFSET (SEC)
PROGRAM #1	60		50%		50%		50%		50%	0% (0)

TRAFFIC SIGNAL OFFSET CHART

INTERSECTION DESCRIPTION:	NON-MASTER INTERSECTION		
TIME PERIOD	TIME INTERVAL	PROGRAM NUMBER	*OFFSET (SEC.)
PEAK HOURS	6:00 AM - 10:00 PM	#1	0% (0)
OFF PEAK HOURS	10:00 PM - 6:00 AM	FREE	N/A

*NOTE: OFFSET IS MEASURED FROM THE START OF YELLOW PHASE OF ϕ (2+6)



NOTES: 1. ALL HARDWARE MUST BE BLACK IN COLOR.
2. ALL HARDWARE, NUTS, BOLTS ETC. MUST BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

CONFIRMATION
LIGHT ASSEMBLY DETAIL
NOT TO SCALE

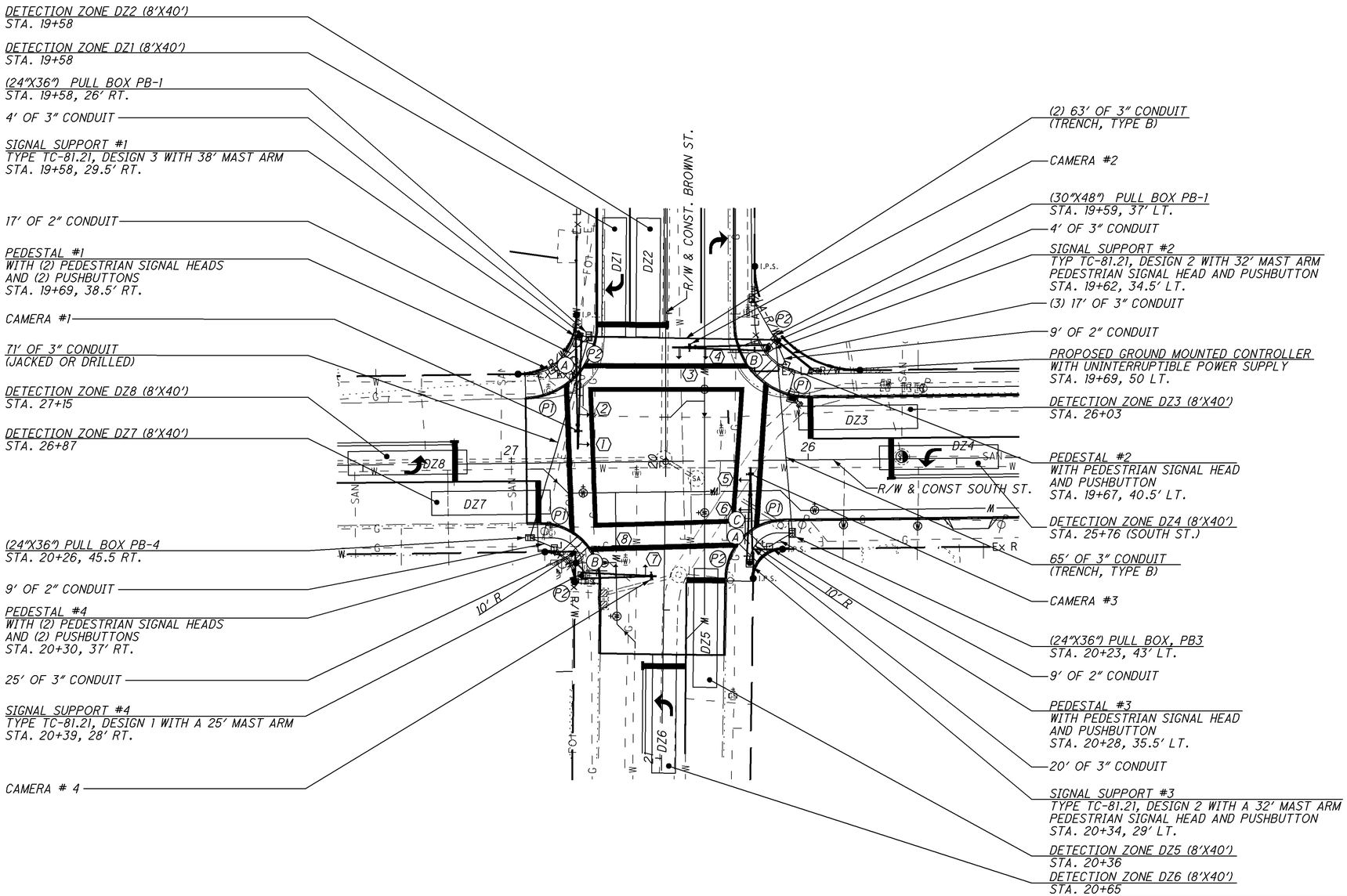
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SIGNALIZATION DETAILS
JOHNSTON ST / BROWN ST
LAMPARTER ST /

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SIGNAL TYPES

PORTLAND ORANGE

NO'S. 1, 2, 3, 4, 5, 7 & 8

PEDESTRIAN SIGNAL HEADS SHALL BE CONSTRUCTED WITH HAND/ MAN OVERLAYS

LUNAR WHITE

NO'S. P1 & P2

1. ALL SIGNAL HEADS SHALL BE 12" LENSES WITH LED LAMPS.

CAMERA DETECTION ZONES
CAMERA #1: DZ3, DZ4
CAMERA #2: DZ5, DZ6
CAMERA #3: DZ7, DZ8
CAMERA #4: DZ1, DZ2

NOTES:

1. THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES: CLEAR OF ANY OBSTRUCTION ONCE MOUNTED TO THE MAST ARMS.
2. ALL PROPOSED SIGNAL HEADS SHALL HAVE BACKPLATES.
3. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES AND EXISTING SIGNAL HARDWARE AND APPARATUSES PRIOR TO EXCAVATION.
4. POWER SOURCE TO BE VERIFIED IN THE FIELD AND APPROVED BY THE ENGINEER.
5. FOR REFERENCE TO SIGNS (A), (B), AND (C) SEE SHEET 433

LEGEND

- PROPOSED MAST ARM SUPPORT POLE AND FOUNDATION
- PROPOSED VEHICULAR SIGNAL HEAD
- PROPOSED TRAFFIC SIGNAL CONTROLLER
- TR — PROPOSED PULL BOX (725.04)
- PROPOSED PEDESTAL WITH PEDESTRIAN SIGNAL AND PUSHBUTTON
- PROPOSED PREEMPTION CONFIRMATION LIGHT AND RECEIVER
- PROPOSED VIDEO CAMERA
- DZ-# — PROPOSED DETECTION ZONE
- PROPOSED CONDUIT (725.04)

HORIZONTAL SCALE IN FEET
0 10 20 40

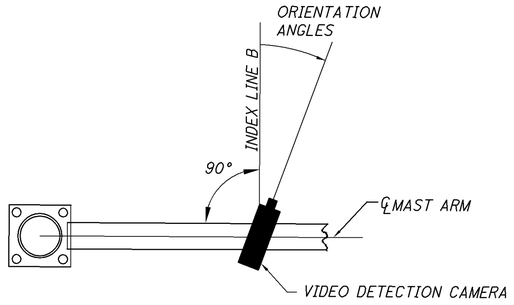
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SIGNALIZATION PLAN
SOUTH ST/ BROWN ST

SUM-76/77-11.27/12.12

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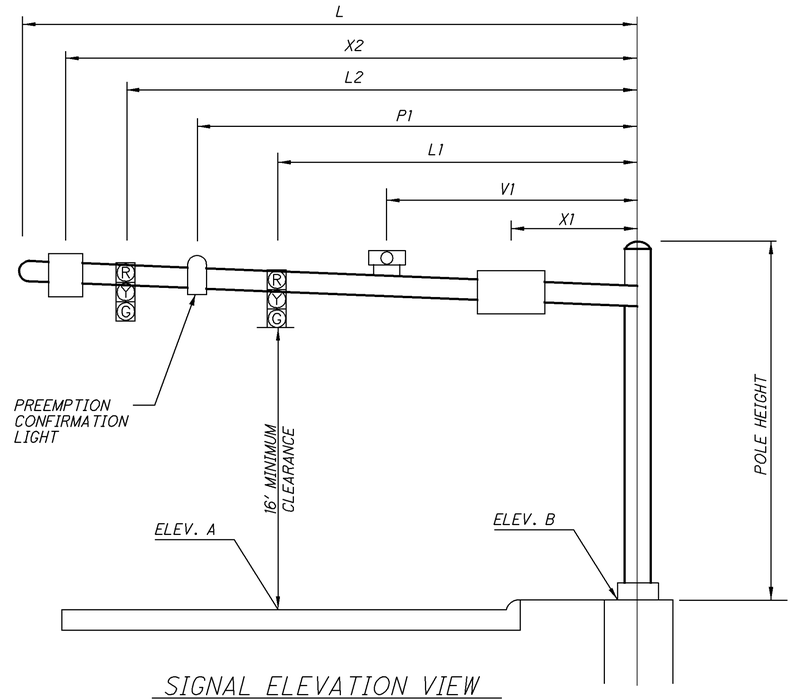


NOTES:

1. ALL ANGLES MEASURED CLOCKWISE.

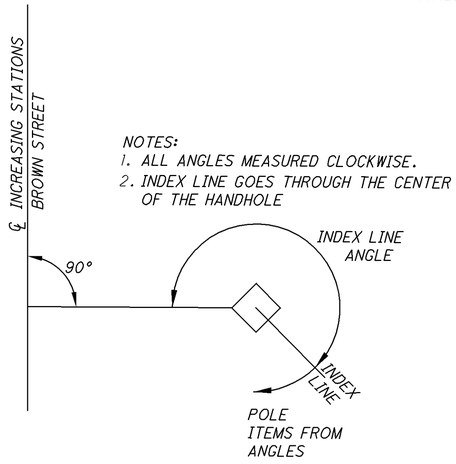
VIDEO DETECTION CAMERA MOUNTING ORIENTATION DIAGRAM

NOT TO SCALE



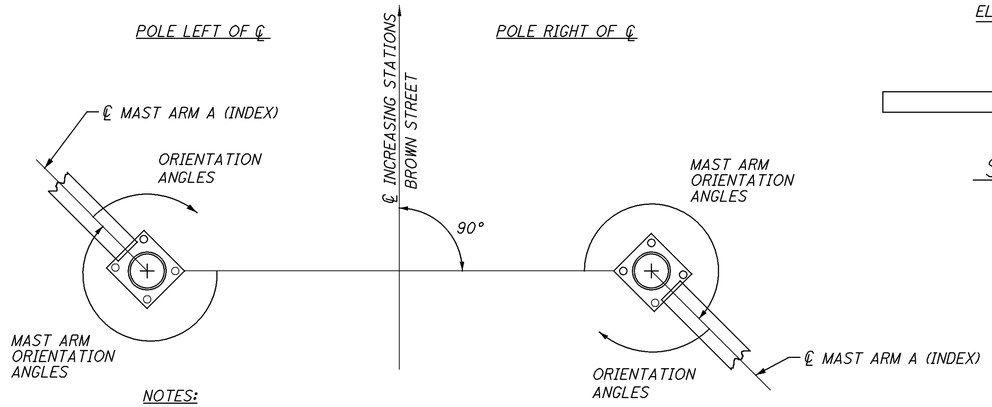
SIGNAL ELEVATION VIEW

NOT TO SCALE



PEDESTAL ORIENTATION DIAGRAM

NOT TO SCALE



NOTES:

1. DIMENSIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED.

TYPE TC-81.21 ORIENTATION DIAGRAM

NOT TO SCALE

PEDESTAL DATA

PEDESTAL NO.	LOCATION	STATION	OFFSET	INDEX LINE ANGLE	ANGLE FROM INDEX LINE	
					PUSH BUTTON	PEDESTRIAN SIGNALS
1	BROWN ST	19+69	38.5' RT	240°	90°/180°	75°/120°
2	BROWN ST	19+67	40.5' LT	116°	180°	TOP MOUNTED
3	BROWN ST	20+28	35.5' LT	270°	90°	TOP MOUNTED
4	BROWN ST	20+30	37' RT	90°	180°/270°	0°/270°

TYPE TC-81.21 MAST ARM DATA

POLE NO.	DESIGN NO.	POLE HEIGHT (FT)	L (FT)	L1 (FT)	L2 (FT)	X1 (FT)	X2 (FT)	P1 (FT)	V1 (FT)	LOCATION	STATION	OFFSET	ELEV. A	ELEV. B	INDEX LINE 'A' ANGLE	ORIENTATION FROM MAST ARM 'A'			ORIENTATION FROM INDEX LINE 'B'
																HAND HOLE	PEDESTRIAN SIGNAL HEAD	PEDESTRAIN PUSHBUTTON	VIDEO CAMERA ORIENTATION ANGLE
1	3	21	38	26.5	36.5	20	N/A	30	32	BROWN ST	19+58	29.5' RT	1045.77	1045.77	90°	103°	N/A	N/A	2°
2	2	20	32	21	30	10	N/A	24.5	26.5	BROWN ST	19+62	34.5' LT	1045.76	1046.89	0°	146°	270°	326°	0°
3	2	21	32	18	28	10	15	23	30	BROWN ST	20+34	29' LT	1046.55	1047.04	90°	90°	0°	0°	358°
4	1	21	25	11.5	21.5	6	N/A	16.5	23.5	BROWN ST	20+39	28' RT	1046.47	1046.38	0°	180°	N/A	N/A	355°

CALCULATED SGM
CHECKED AKF

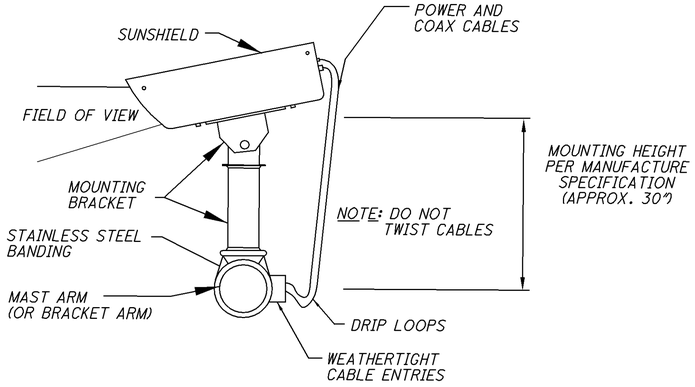
SIGNALIZATION DETAILS SOUTH ST / BROWN ST

SUM-76/77-11.27/12.12

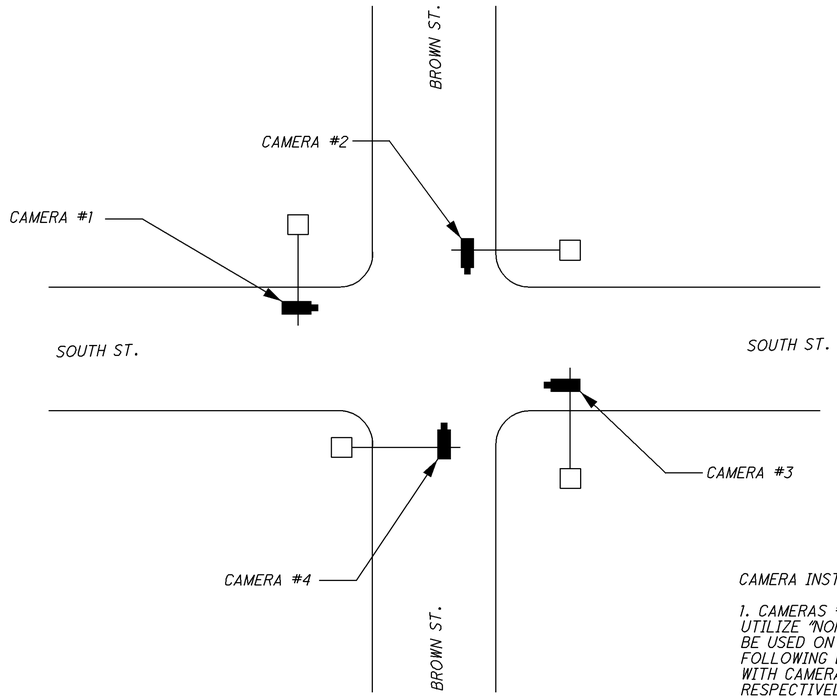
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DETECTION ZONE CHART						
DETECTION ZONE IDENTIFICATION	LOCATION	SIZE	TYPE	DELAY (SEC.)	DELAY INHIBITED BY	DESCRIPTION
DZ1	BROWN ST., STA. 19+58	8' x 40'	PRESENCE	10.0	ϕ 6	SB CALL
DZ2	BROWN ST., STA. 19+58	8' x 40'	PRESENCE	0.0	ϕ 6	SB CALL
DZ3	SOUTH ST., STA. 26+03	8' x 40'	PRESENCE	10.0	ϕ 8	WB CALL
DZ4	SOUTH ST., STA. 25+76	8' x 40'	PRESENCE	0.0	ϕ 8	WB CALL
DZ5	BROWN ST., STA. 20+36	8' x 40'	PRESENCE	10.0	ϕ 2	NB CALL
DZ6	BROWN ST., STA. 20+65	8' x 40'	PRESENCE	0.0	ϕ 2	NB CALL
DZ7	SOUTH ST., STA. 26+87	8' x 40'	PRESENCE	10.0	ϕ 4	EB CALL
DZ8	SOUTH ST., STA. 27+15	8' x 40'	PRESENCE	0.0	ϕ 4	EB CALL



INSTALLED CAMERA
NOT TO SCALE



CAMERA DESIGNATION DETAIL

CAMERA INSTALLATION INSTRUCTIONS

1. CAMERAS #1, #2, #3, AND #4 SHALL UTILIZE "NORMAL" FOCAL LENGTHS AND SHALL BE USED ON BROWN ST. AND SOUTH ST. THE FOLLOWING DETECTION ZONES ARE ASSOCIATED WITH CAMERAS #1, #2, #3, AND #4 RESPECTIVELY:

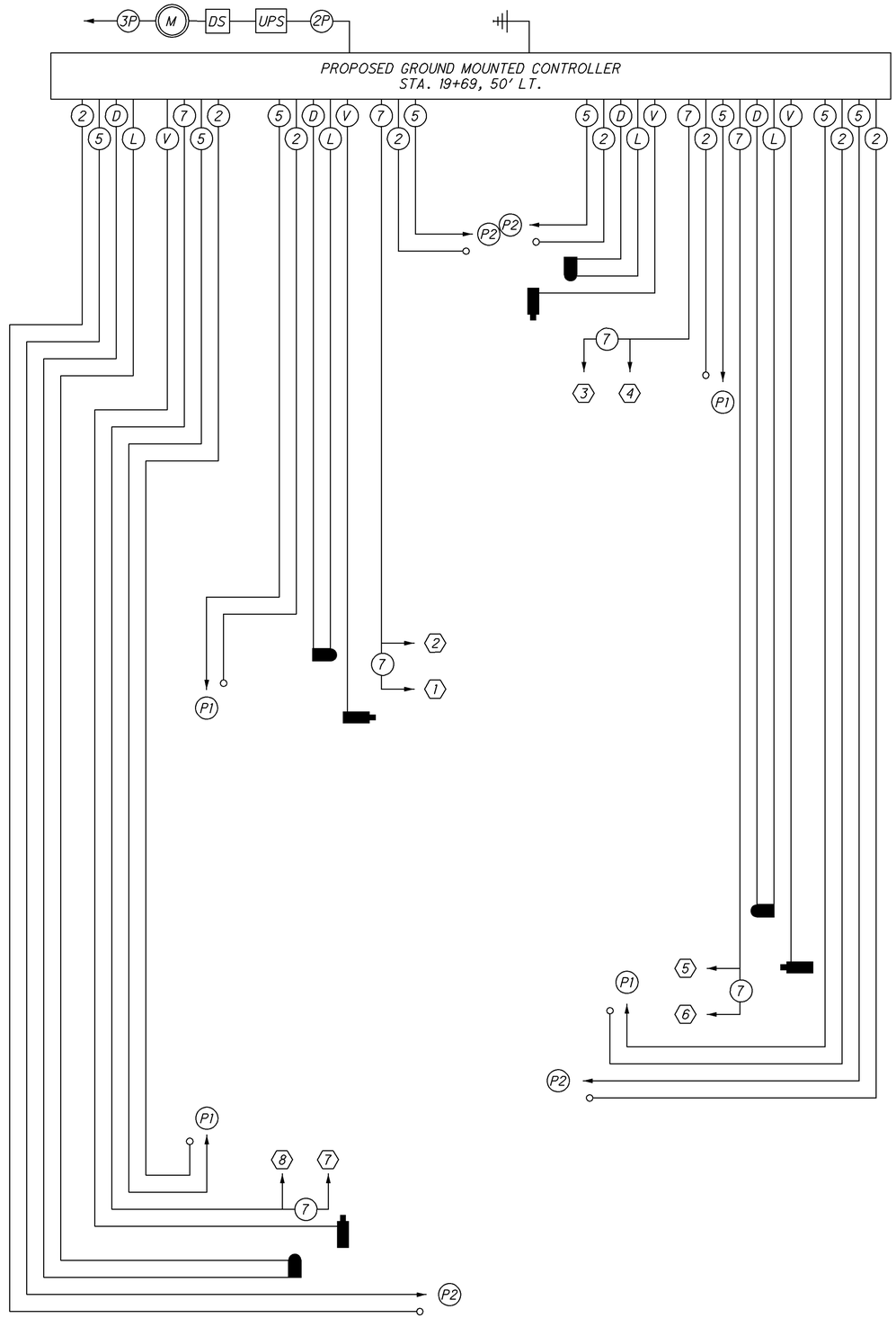
CAMERA #1: DZ3, DZ4
CAMERA #2: DZ5, DZ6
CAMERA #3: DZ7, DZ8
CAMERA #4: DZ1, DZ2

CALCULATED SGM
CHECKED AKF

SIGNALIZATION DETAILS SOUTH ST / BROWN ST

SUM-76 / 77-11.27 / 12.12

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LEGEND

- DS — DISCONNECT SWITCH
- M — ELECTRIC METER
- UPS — UNINTERRUPTIBLE POWER SUPPLY
- PREEMPTION CONFIRMATION LIGHT AND DETECTOR
- VEHICULAR SIGNAL HEAD
- VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL WITH PUSHBUTTON
- GROUND ROD
- 2P — 2/C #6 AWG. (POWER)
- 3P — 3/C #6 AWG. (POWER)
- 2 — 2/C #14 AWG. (LEAD IN CABLE)
- 5 — 5/C #14 AWG.
- 7 — 7/C #14 AWG.
- D — PREEMPTION DETECTOR CABLE
- L — PREEMPTION DETECTOR CABLE
- V — VIDEO DETECTION CABLE
- PROPOSED VIDEO CAMERA

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CALCULATED SGM
CHECKED AKF

SIGNALIZATION DETAILS
SOUTH ST / BROWN ST

SUM-76/77-11.27/12.12

TRAFFIC SIGNAL CONTROL TIMING CHART
INTERSECTION: BROWN ST. / SOUTH ST.
MAINTAINING AGENCY: CITY OF AKRON

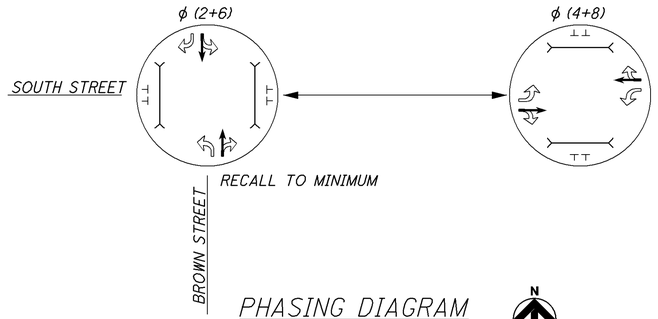
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START UP
START IN: Y/R FLASH; ● ALL RED ○
TIME FOR FLASH OR ALL RED 5
FIRST PHASE(S): (2+6)
COLOR DISPLAYED: GREEN

Dual Entry ●
Rest in Red: Ring 1: ○ Ring 2: ○

Overlap		A	B	C	D
Phases					

INTERVAL OF FEATURE		Controller Movement No. 1	2	3	4	5	6	7	8
INTERSECTION MOVEMENT		↙	↑	↖	→	↗	↓	↘	←
MINIMUM GREEN TIME (SEC.)			20.0		10.0		20.0		10.0
PASSAGE TIME (SEC.)			3.0		3.0		3.0		3.0
MAXIMUM GREEN TIME (SEC.)			40.0		20.0		40.0		20.0
YELLOW CHANGE (SEC.)			4.0		4.0		4.0		4.0
ALL RED CLEARANCE (SEC.)			2.0		2.0		2.0		2.0
WALK (MIN.) (SEC.)			5.0		5.0		5.0		5.0
PEDESTRIAN CLEARANCE (SEC.)			14.0		15.0		14.0		15.0
RECALL	MAXIMUM (ON/OFF)								
	MINIMUM (ON/OFF)		ON				ON		
	PEDESTRIAN (ON/OFF)								



PHASING DIAGRAM
NOT TO SCALE

N

PREEMPT CHANNELS

CHANNEL 1 = ϕ(2) (NORTHBOUND ONLY)
CHANNEL 2 = ϕ(6) (SOUTHBOUND ONLY)
CHANNEL 3 = ϕ(4) (EASTBOUND ONLY)
CHANNEL 4 = ϕ(8) (WESTBOUND ONLY)

PREEMPT NOTES:

1. ACTIVE WALK INDICATIONS SHALL IMMEDATELY GO TO "DONT WALK" UPON RECIEVING PREEMPTION SIGNAL.
2. IF PHASE ACTIVE CONFLICTS WITH PREEMPT PHASE CALLED, IT SHALL IMMEDIATELY TIME ITS YELLOW AND ALL READ CLEARANCES.
3. IF ACTIVE PHASE = THE PREEMPT PHASE, THEN THE PHASE SHALL HOLD FOR DURATION OF THE PREEMPT SIGNAL.
4. AFTER RELEASE FROM PREEMPT, YELLOW AND ALL RED CLEARANCE SHALL BE DISPLAYED AND RETURN PHASE SHALL BE ϕ2 & ϕ6.

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
1,2 (WB)	R	ϕ8 R	R
	Y	ϕ8 Y	
	G	ϕ8 G	
3,4 (NB)	R	ϕ2 R	Y
	Y	ϕ2 Y	
	G	ϕ2 G	
5,6 (EB)	R	ϕ4 R	R
	Y	ϕ4 Y	
	G	ϕ4 G	
7,8 (SB)	R	ϕ6 R	Y
	Y	ϕ6 Y	
	G	ϕ6 G	
P1 (EAST)	W	PED A G(ϕ2)	BLANK
	DW	PED A R(ϕ2)	
P1 (WEST)	W	PED B G(ϕ6)	BLANK
	DW	PED B A(ϕ6)	
P2 (NORTH)	W	PED C G(ϕ8)	BLANK
	DW	PED C R(ϕ8)	
P2 (SOUTH)	W	PED D G(ϕ4)	BLANK
	DW	PED D R(ϕ4)	

PED A = LS 9 PED C = LS 11
PED B = LS 10 PED D = LS 12

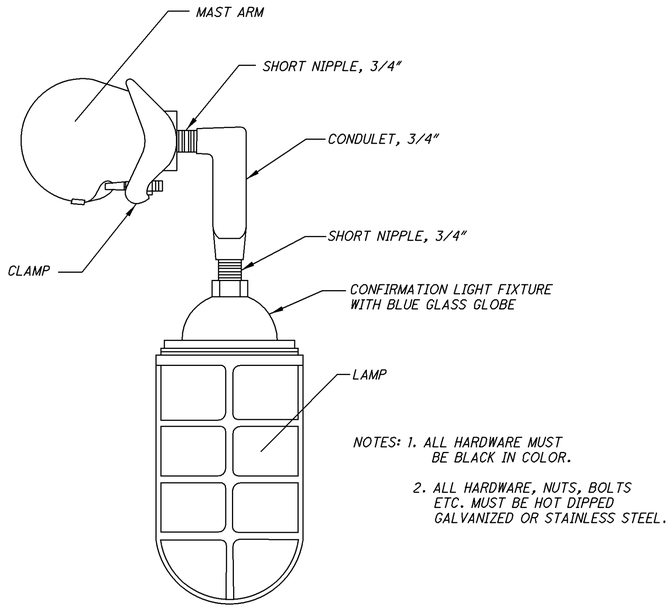
SYSTEM TIMING AND COORDINATION CHART

	CYCLE LENGTH (SEC)	PERCENT SPLIT BY PHASE SBLT 1	NB 2	WBLT 3	EB 4	NBLT 5	SB 6	EBLT 7	WB 8	PERCENT OFFSET (SEC)
PROGRAM #1	60		50%		50%		50%		50%	0% (0)

TRAFFIC SIGNAL OFFSET CHART

INTERSECTION DESCRIPTION:	NON-MASTER INTERSECTION		
TIME PERIOD	TIME INTERVAL	PROGRAM NUMBER	*OFFSET (SEC.)
PEAK HOURS	6:00 AM - 10:00 PM	#1	0% (0)
OFF PEAK HOURS	10:00 PM - 6:00 AM	FREE	N/A

*NOTE: OFFSET IS MEASURED FROM THE START OF YELLOW PHASE OF ϕ (2+6)



NOTES: 1. ALL HARDWARE MUST BE BLACK IN COLOR.
2. ALL HARDWARE, NUTS, BOLTS ETC. MUST BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

CONFIRMATION
LIGHT ASSEMBLY DETAIL
NOT TO SCALE

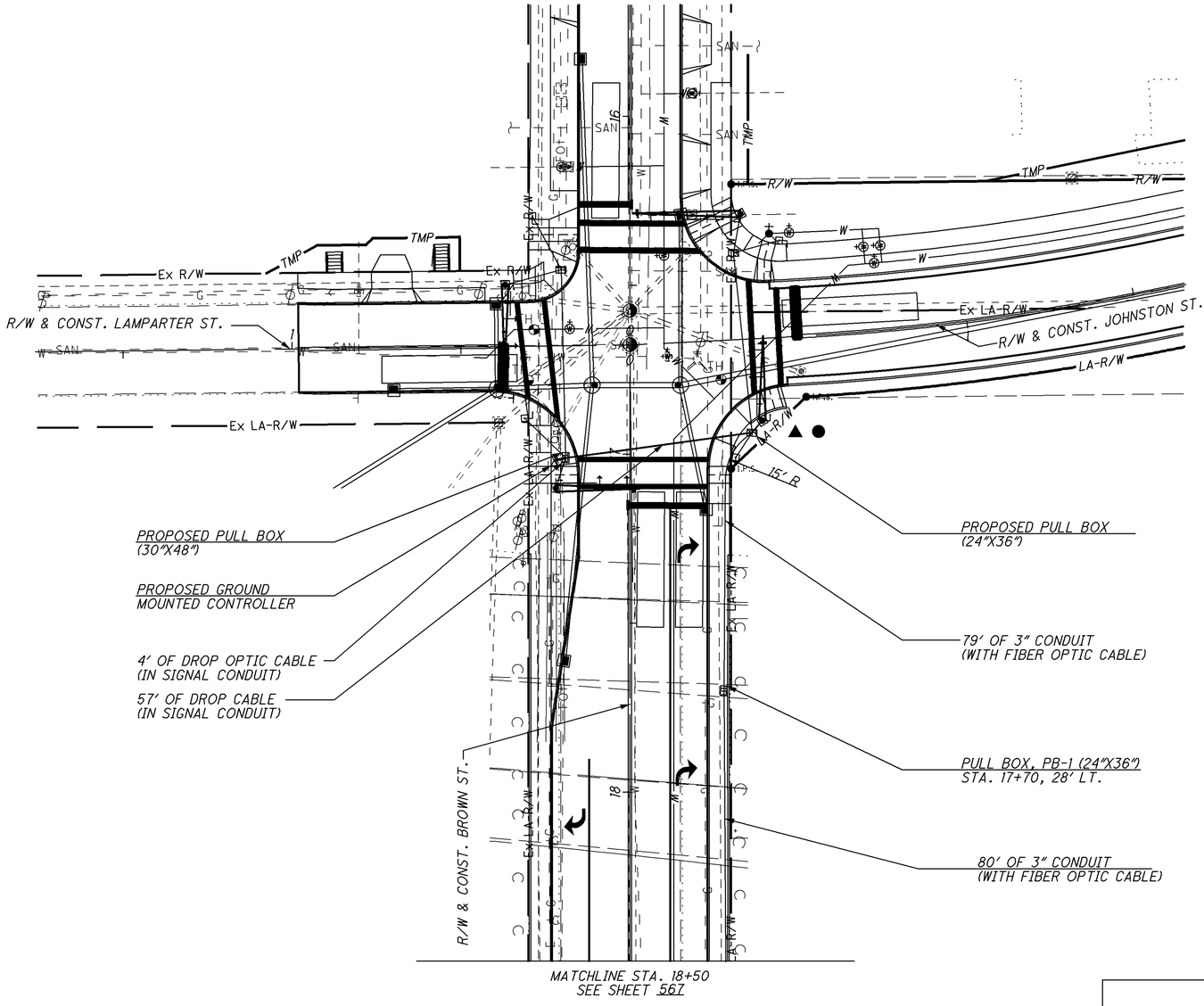
CALCULATED SGM CHECKED AKF

SIGNALIZATION DETAILS
SOUTH ST / BROWN ST

SUM-76/77-11.27/12.12

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DETAIL



LEGEND	
⊠	PROPOSED TRAFFIC SIGNAL CONTROLLER
TR	PROPOSED PULL BOX (725.04)
———	PROPOSED CONDUIT (725.04)
- - - - - -	EXISTING CONDUIT
▭	EXISTING PULL BOX
●	PROPOSED SPLICE LOCATION
▲	PROPOSED SLACK INSTALLATION (COIL AMOUNT = 150')

HORIZONTAL SCALE IN FEET
0 10 20 40

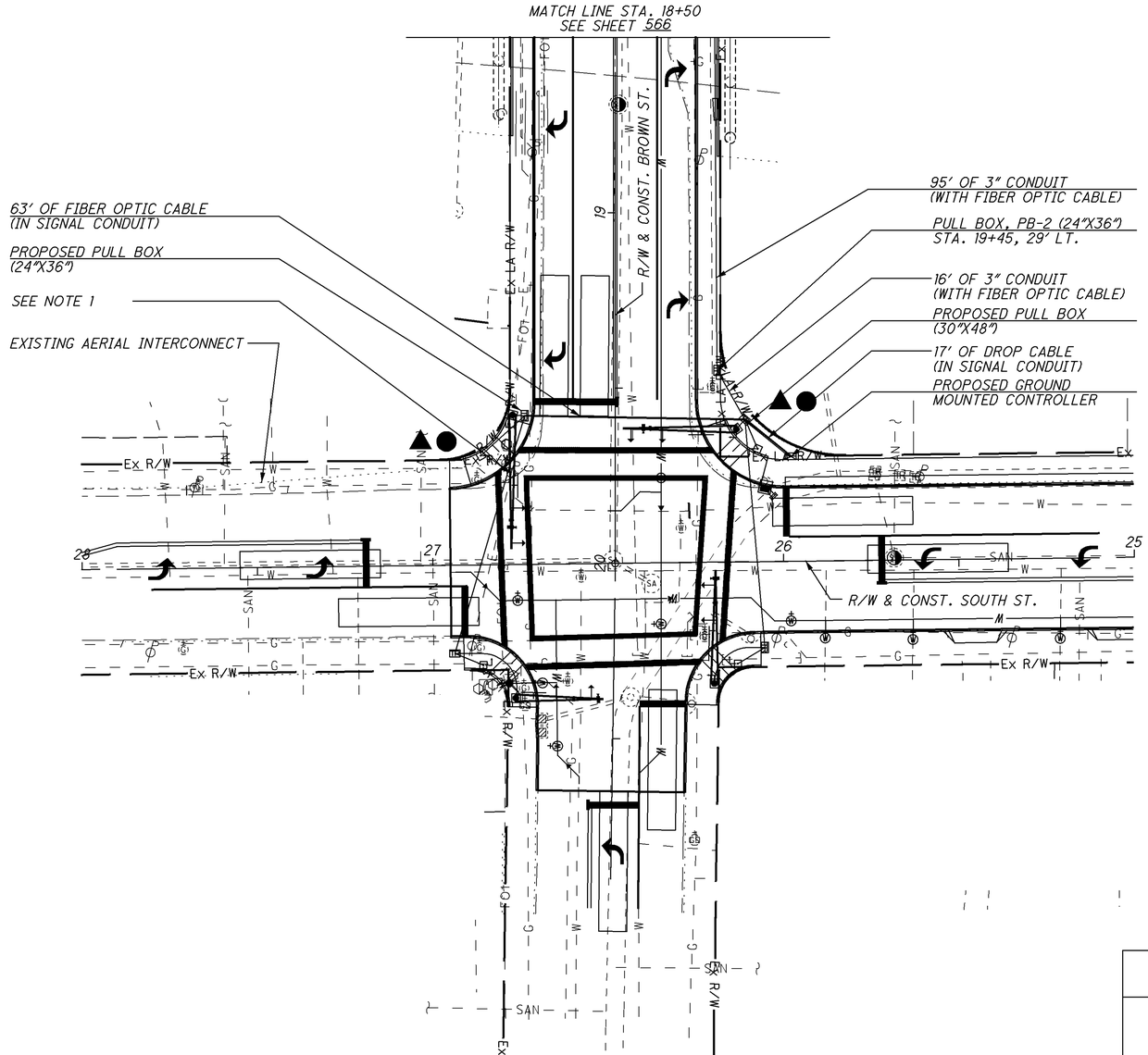
CALCULATED SGM
CHECKED AKF

INTERCONNECTION PLAN
BEGIN TO STA. 18+50

SUM-76/77-11.27/12.12

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NOTES:

1. THE CONTRACTOR SHALL CONNECT THE PROPOSED FIBER OPTIC CABLE TO THE EXISTING AERIAL MASTER CABLE ON THE RELOCATED POWER POLE (LOCATIONS TO BE DETERMINED). THE EXISTING AERIAL MASTER CABLE IS ABANDONED BUT STILL ON POLE LINE.

LEGEND

- PROPOSED TRAFFIC SIGNAL CONTROLLER
- PROPOSED PULL BOX (725.04)
- PROPOSED CONDUIT (725.04)
- EXISTING PULL BOX
- EXISTING CONDUIT
- PROPOSED SPLICE LOCATION
- PROPOSED SLACK INSTALLATION (COIL AMOUNT = 150')

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED SGM
CHECKED AKF

INTERCONNECT PLAN
STA. 18+50 TO END

SUM-76/77-11.27/12.12

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652

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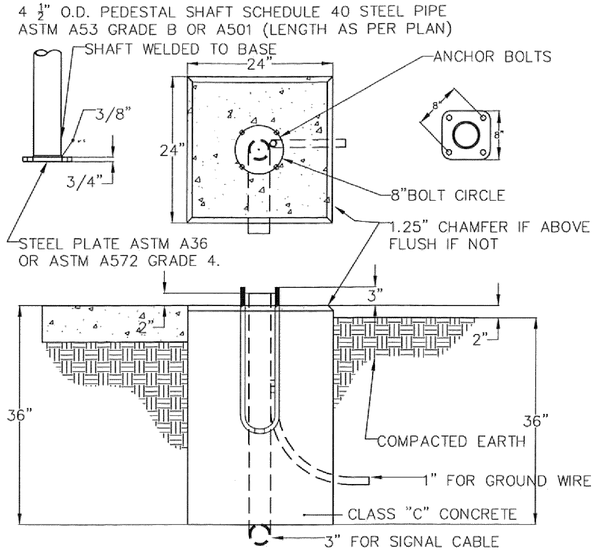
ALL CONDUIT IS SCHEDULE 40 PVC UNLESS OTHERWISE NOTED.

STREET CROSSINGS ARE ENCASED – ALL OTHER CONDUIT CAN BE DIRECT BURIAL.

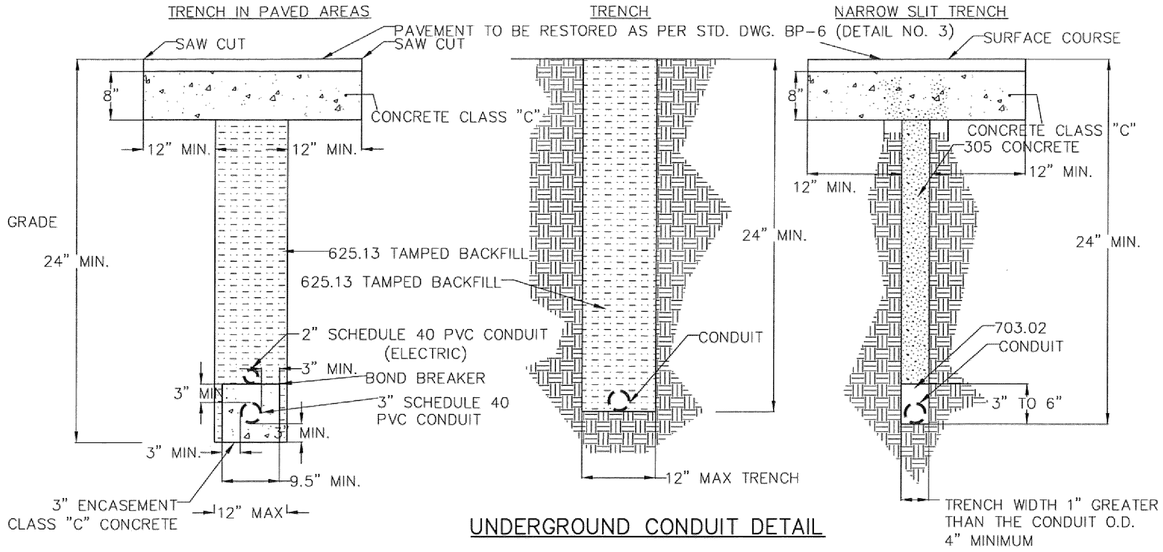
NO SIGNAL BASE OR FOUNDATION SHOULD BE POURED UNTIL THE CURBS AND RADII ARE IN PLACE, THIS IS TO INSURE THAT THE ELEVATION OF THE FOUNDATION IS CORRECT AND THE BOLTS ARE THE CORRECT HEIGHT.

PLEASE REFER TO THE STATE OF OHIO "STANDARD CONSTRUCTION DRAWINGS", DRAWING NUMBERS TC-21.20 AND TC-81.20 AND THE SUMMARY SHEET FOR REQUIRED POLE, BOLT AND FOUNDATION MEASUREMENTS.

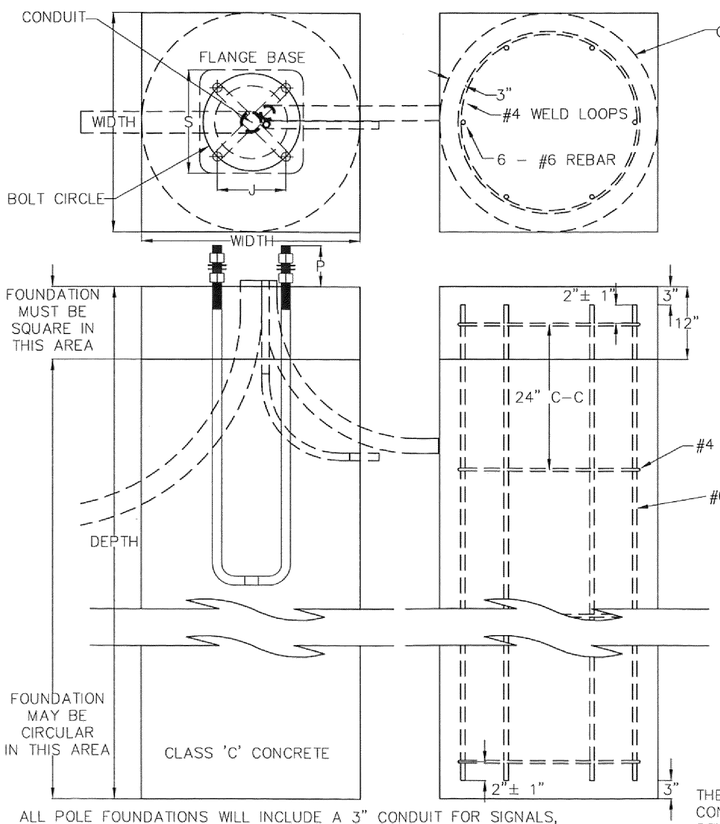
ALL FOUNDATIONS WILL BE PROVIDED WITH: A GROUND ROD, #4 AWG STRANDED GROUND WIRE ATTACHED TO THE GROUND ROD, RUN THROUGH THE GROUND WIRE CONDUIT WITH 18" OF #4 WIRE ABOVE THE TOP OF THE CONDUIT AT THE FOUNDATION TOP.



PEDESTRIAN SIGNAL FOUNDATION



UNDERGROUND CONDUIT DETAIL



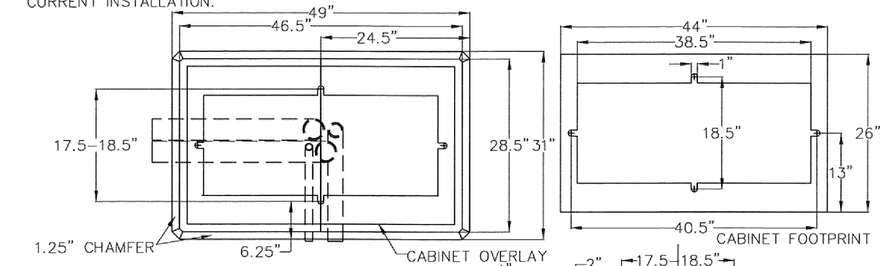
ALL POLE FOUNDATIONS WILL INCLUDE A 3" CONDUIT FOR SIGNALS, A 2" CONDUIT FOR ELECTRIC AND A 1" CONDUIT FOR THE GROUND. UNUSED CONDUITS WILL BE APPROPRIATELY SEALED.

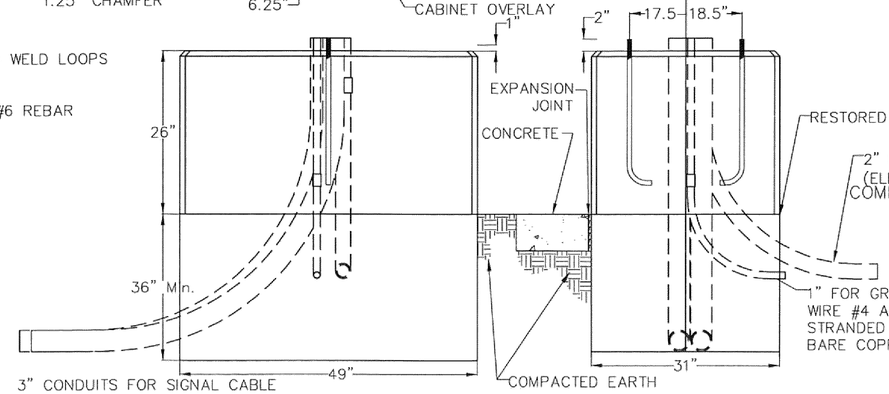
SIGNAL POLE FOUNDATION

THE PULL BOX SHOWN IS THE 24" x 36" A 30" X 48" X 24" BOX, OF THE SAME DESIGN, SHALL BE USED AT ALL UNDER-GROUND SPLICE LOCATIONS, AS PER PLAN

FOUNDATION SHOWN FOR TWO BOLT MOUNTING, SOME CABINETS MAY REQUIRE FOUR BOLT MOUNTING. CONDUIT WILL BE ALIGNED AS NECESSARY FOR THE CURRENT INSTALLATION.

THE CONTROLLER FOUNDATION SHALL INCLUDE: 2 – 3" CONDUIT, 1 – 2" CONDUIT AND 1 – 1" CONDUIT OR MORE, AS PER PLAN.

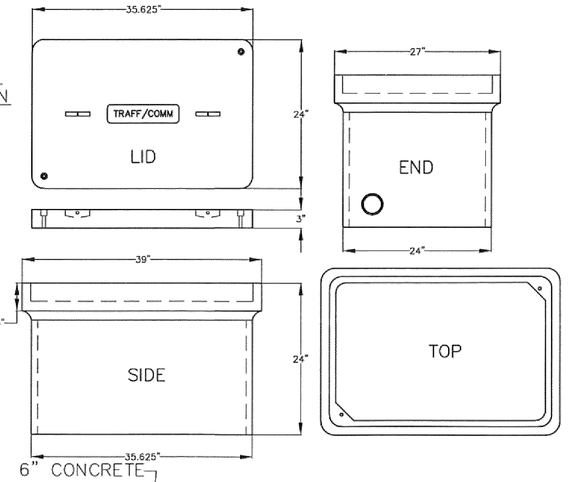




THE CITY OF AKRON WILL PROVIDE THE FOUNDATION FORM, CONTACT THE SIGNAL LINE FOREMAN AT 330.375.2851 TO SCHEDULE FORM USE

GROUND ROD INSTALLED PER ODOT SPEC. 625.16 ROD WILL BE 1" X 10' AND SECURED BY CAD-WELD ALL METAL TRAFFIC SIGNAL EQUIPMENT SHALL BE GROUNDED

P44 CONTROLLER FOUNDATION



APPROVED BOXES:

OLDCASTLE/SYNERTECH
24" X 36" PULL BOX, 20,000 LB LID, COVER – #S2436HCB0A
BOX 24" DEEP – #S2436B24FA, BOLTS, STAINLESS – #1001

QUAZITE
24" X 36" PULL BOX, HEAVY DUTY 15,000, 22,500 PG DESIGN LOAD, COVER – #PG2436HA00 WITH BOLTS, BOX 24" DEEP – PG2436BA24

ARMORCAST
24" X 36" PULL BOX, ASSEMBLY A6001974TAPCX24

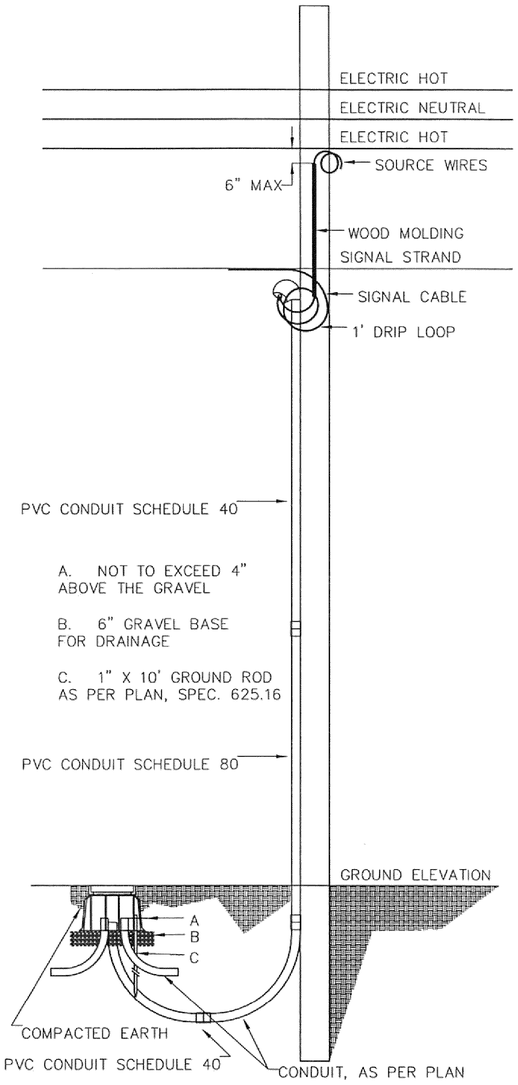
PULLBOX DETAIL

CALCULATED SGM CHECKED AKF

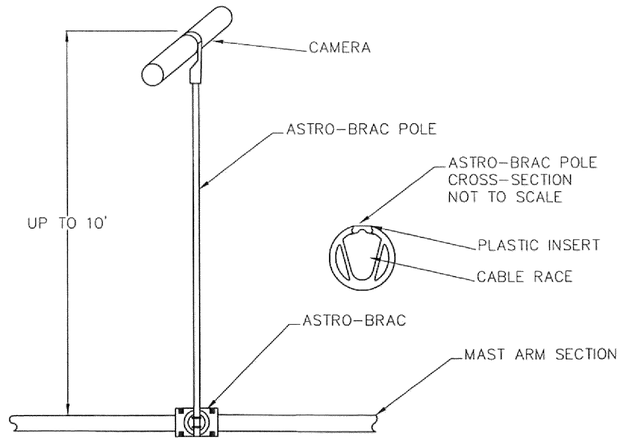
SIGNALIZATION STANDARD DETAIL

SUM-76/77-11.27/12.12

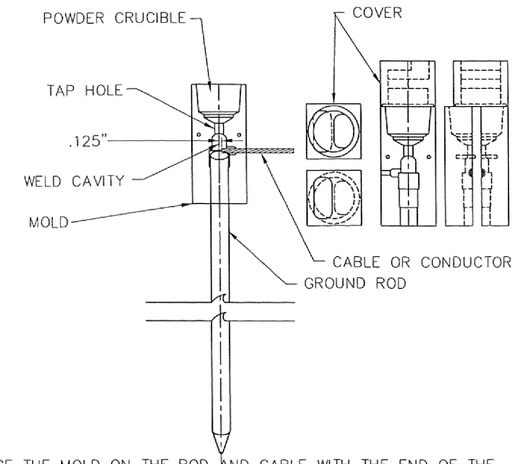
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RISER DETAIL



ALTERNATE MOUNTING FOR VIDEO SENSORS ON EXISTING MAST ARMS



PLACE THE MOLD ON THE ROD AND CABLE WITH THE END OF THE CABLE POSITIONED .125" SHORT OF THE CENTER OF THE TAP HOLE. CABLE MUST SIT ON TOP OF THE ROD. SUPPORT THE MOLD WITH LOCKING PLIERS OR A CLAMP ON THE ROD.

CAD-WELD DETAIL

VOLUME=(66"*32"*54")/46656"
VOLUME=2.444 CUYD

CONDUITS ARE NOT SHOWN IN ANY PARTICULAR CONFIGURATION. THEY WILL BE INSTALLED AS CALLED FOR IN THE INTERSECTION PLANS.

P-44 FOUNDATION FOR CONTROL WITH UPS

CALCULATED SGM
CHECKED AKF

SIGNALIZATION STANDARD DETAIL

SUM-76/77-11.27/12.12

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TRAFFIC NOTES

ALL CONDUIT IS SCHEDULE 40 PVC UNLESS OTHERWISE NOTED.

STREET CROSSINGS ARE ENCASED – ALL OTHER CONDUIT CAN BE DIRECT BURIAL.

NO SIGNAL BASE OR FOUNDATION SHOULD BE POURED UNTIL THE CURBS AND RADII ARE IN PLACE, THIS IS TO INSURE THAT THE ELEVATION OF THE FOUNDATION IS CORRECT AND THE BOLTS ARE THE CORRECT HEIGHT.

PLEASE REFER TO THE STATE OF OHIO "STANDARD CONSTRUCTION DRAWINGS", DRAWING NUMBERS TC-21.20 AND TC-81.20 AND THE SUMMARY SHEET FOR REQUIRED POLE, BOLT AND FOUNDATION MEASUREMENTS.

ALL FOUNDATIONS WILL BE PROVIDED WITH: A GROUND ROD, #4 AWG STRANDED GROUND WIRE ATTACHED TO THE GROUND ROD, RUN THROUGH THE GROUND WIRE CONDUIT WITH 18" OF #4 WIRE ABOVE THE TOP OF THE CONDUIT AT THE FOUNDATION TOP.

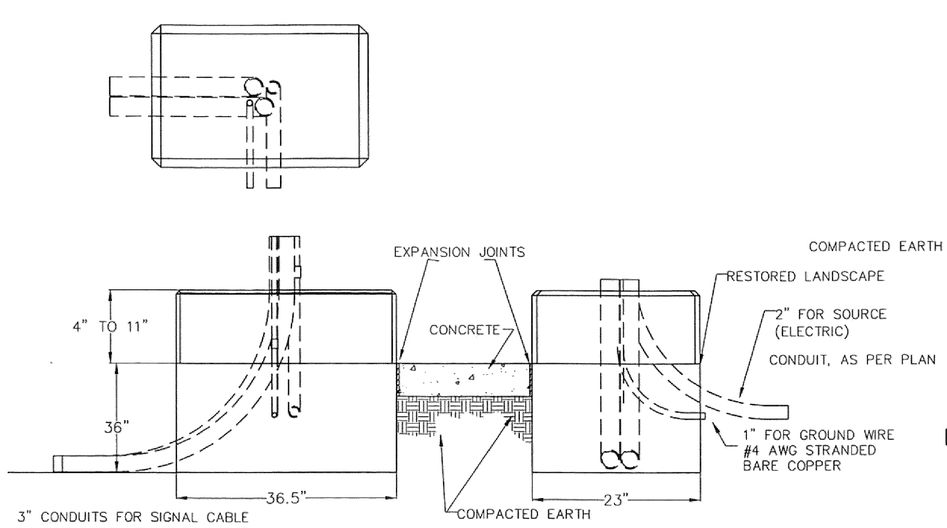
FOUNDATION SHOWN FOR TWO BOLT MOUNTING, SOME CABINETS MAY REQUIRE FOUR BOLT MOUNTING. MOUNTING BOLTS MAY BE INSTALLED MANUALLY USING 2,4, OR 6 WEDGE ANCHORS (¾").75"X10" AS NEEDED.

CONDUIT WILL BE ALIGNED AS NECESSARY FOR THE CURRENT INSTALLATION.

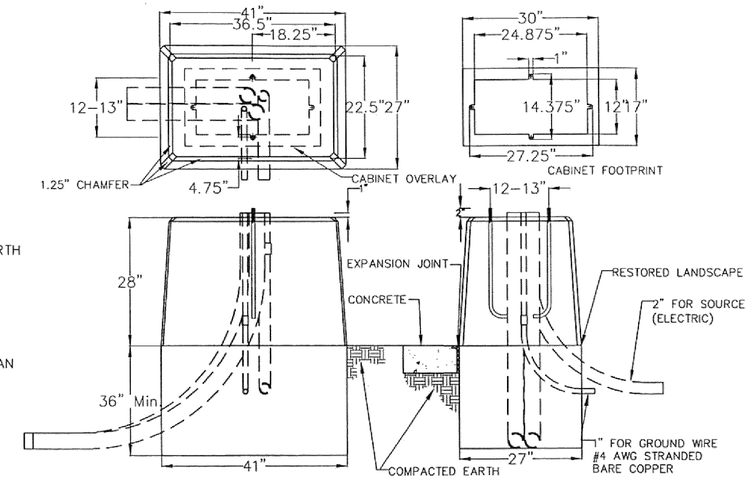
THE CONTROLLER FOUNDATION SHALL INCLUDE: (2) 3" CONDUITS, (1) 2" CONDUIT, (1) 1" CONDUIT OR MORE, AS PER PLAN.

GROUND ROD INSTALLED PER ODOT SPEC. 625.16 ROD WILL BE 1" X 10' AND SECURED BY CAD-WELD ALL METAL TRAFFIC SIGNAL EQUIPMENT SHALL BE GROUNDED

THE CITY OF AKRON WILL PROVIDE THE FOUNDATION FORM, CONTACT THE SIGNAL LINE FOREMAN AT 330.375.2851 TO SCHEDULE FORM USE



36" SIGNAL FOUNDATION (TALL CABINET)
VARIABLE HEIGHT 4"–11" ABOVE GRADE



BASIC 36" SIGNAL FOUNDATION

CALCULATED SGM CHECKED AKF

SIGNALIZATION STANDARD DETAIL

SUM-76/77-11.27/12.12

570
652

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HIGHWAY LIGHTING

ITEM 625 - PULL BOX CLEANED

THIS ITEM OF WORK SHALL CONSIST OF CLEANING AN EXISTING PULL BOX BY REMOVING ANY EXISTING CABLES NOT BEING RECONNECTED, AND DEBRIS SO THAT NEW CABLES CAN BE INSTALLED. ANY UNUSED OPENINGS SHALL BE CLOSED. DISTURBED AREAS NEAR THE PULL BOX SHALL BE CLEARED OF WEEDS OR DEBRIS AND SHALL BE FULLY RESTORED. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "PULL BOX CLEANED" FOR EACH PULL BOX CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 625 - PULLBOX CLEANED 5 EACH

ITEM 625 - LUMINAIRE, HIGH MAST, 1000W, HPS, TYPE III, 480V, AS PER PLAN

THE LUMINAIRE ARRAYS AND ASSOCIATED ILLUMINATION TEST AREAS SPECIFIED IN CMS 725.11 ARE HEREBY WAIVED. INSTEAD, THE LUMINAIRES FOR HIGH-MAST LIGHTING SHALL MEET THE FOLLOWING REQUIREMENTS:

LUMINAIRES FOR HIGH-MAST LIGHTING UNITS WITH SYMMETRIC DISTRIBUTION SHALL BE HOLOPHANE "HMST" WITH PHOTOMETRIC DISTRIBUTION 36383, GENERAL ELECTRIC "HM" WITH PHOTO-METRIC DISTRIBUTION 6312, OR COOPER "HMX" WITH PHOTO-METRIC DISTRIBUTION HMX4SDW, OR EQUAL AS APPROVED BY THE ENGINEER.

LUMINAIRES FOR HIGH-MAST LIGHTING UNITS WITH ASYMMETRIC DISTRIBUTION SHALL BE HOLOPHANE "HMST" WITH PHOTOMETRIC DISTRIBUTION 46973, GENERAL ELECTRIC "HM" WITH PHOTO-METRIC DISTRIBUTION 7349, OR COOPER "HMC" WITH PHOTO-METRIC DISTRIBUTION HMC4S3D, OR EQUAL AS APPROVED BY THE ENGINEER.

LUMINIARES FOR HIGH-MAST LIGHTING UNITS WITH LONG AND NARROW DISTRIBUTION SHALL BE HOLOPHANE "HMST" WITH PHOTOMETRIC DISTRIBUTION 36801, GENERAL ELECTRIC "HM" WITH PHOTOMETRIC DISTRIBUTION 8946, OR COOPER "HMC" WITH PHOTOMETRIC DISTRIBUTION HMC4S1DL, OR EQUAL AS APPROVED BY THE ENGINEER.

IN ADDITION, OTHER LUMINAIRES WILL BE CONSIDERED IF THE DESIGNED INTENSITY AND UNIFORMITY ARE PROVIDED USING THE DESIGNED POLE LOCATIONS AND THE DESIGNED NUMBER AND TYPE OF FIXTURES PER POLE.

LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX," OSRAM SYLVANIA "LUMALUX," PHILIPS "CERAMALUX," OR EQUAL APPROVED BY THE ENGINEER.

HIGH VOLTAGE TEST WAIVED

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETED CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH CMS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

ITEM SPECIAL - MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF ANY EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING LIGHTING SHALL BE MADE BY THE STATE'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT OPERATIONAL, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR. IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS. REPLACEMENTS OF KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A PER UNIT BASIS. BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENTS. THE MAINTAINING AGENCY SHALL GIVE THE CONTRACTOR ONE COPY OF THE EXISTING LIGHTING CIRCUITRY LAYOUT. WHEN THE CONTRACTOR HAS TAKEN OVER THE MAINTENANCE OF THE EXISTING SYSTEM, HE SHALL PROVIDE ALL REQUIRED LAYOUT AND LOCATING OF EXISTING LIGHTING CIRCUITS WITHIN THE PROJECT.

SHOULD THE CONTRACTOR DESIRE THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING. TWO (2) WEEKS PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR (4) SETS OF THE TEMPORARY LIGHTING PLANS TO THE ENGINEER FOR REVIEW AND APPROVAL. THIS PLAN SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, STYLE OF LUMINAIRES, MOUNTING HEIGHT, WIRING METHODS, AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY RATIO NOT TO EXCEED 4:1. MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FEET AND MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THIS CRITERIA, THEN UNDERGROUND WIRING WILL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING. ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. A SEPARATE POWER SERVICE WILL BE PROVIDED BY THE CONTRACTOR FOR THE TEMPORARY LIGHTING SYSTEM. THE TEMPORARY LIGHTING SHALL NOT BE SPLICED INTO EXISTING LIGHTING CIRCUITS. THE CONTRACTOR SHALL PAY ALL HOOK-UP FEES AND ELECTRICAL COSTS FOR THE TEMPORARY SYSTEM. THESE COSTS SHALL BE PAID FOR UNDER THE LUMP SUM ITEM SPECIAL MAINTAIN EXISTING LIGHTING. WHEN NO LONGER NEEDED THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE LUMP SUM BID FOR ITEM SPECIAL - MAINTAIN EXISTING LIGHTING, SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, INCIDENTALS, AND TEMPORARY POWER SERVICES NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN. THE UNIT BID PRICE FOR EACH ITEM SPECIAL - REPLACING EXISTING CONVENTIONAL LIGHTING UNIT, SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFORE-MENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, REPLACEMENT OF EXISTING LIGHTING UNIT, 2 EACH
SPECIAL, MAINTAIN EXISTING LIGHTING, LUMP

POWER SUPPLY

625.03 GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:
POWER COMPANY: FIRST ENERGY / OHIO EDISON
EXISTING METER #: 723 030 003
ADDRESS: AKRON, OHIO
PHONE #: (330) 436-4055
CONTACT NAME: DAVID MILLER

POWER SERVICE: 480 VOLT, 3-WIRE, SINGLE PHASE, GROUNDED NEUTRAL

ITEM 625 - CONTROL CENTER CABINET, COMPLETE, AS PER PLAN (200 AMP)

THIS ITEM SHALL CONSIST OF THE REMOVAL OF THE EXISTING CONTROL CENTER CABINET AND THE FURNISHING AND INSTALLATION OF A NEW CONTROL CANTER CABINET, 200 AMP, INCLUDING DISCONNECT SWITCH, LIGHTING CONTACTOR, H-O-A SWITCH, LIGHTING ARRESTOR. PHOTO-CELL TRANSFORMER, STAINLESS STEEL CABINET. THIS ITEM INCLUDES ALL NECESSARY WIRING, TESTING AND OTHER MISCELLANEOUS ITEMS REQUIRED TO RETURN THE SYSTEM TO NORMAL OPERATION

ITEM 625 - DISCONNECT CIRCUIT, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTING OF AN EXISTING LIGHT CIRCUIT "GS" AT A PULL BOX OR TRANSFORMER BASE. THE CABLES OF CIRCUIT(S) TO BE REUSED SHALL BE CUT IN SUCH A MANNER THAT SUFFICIENT CABLE REMAINS FOR RECONNECTION. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED IN A MANNER SUCH THAT NO CABLE IS LEFT IN THE PULLBOX OR TRANSFORMER BASE

DISCONNECTION AT A PULLBOX SHALL CONSIST OF CUTTING THE CIRCUIT CABLES AND REMOVING THE SPLICE KITS AND CABLE OF CIRCUIT(S) TO BE ABANDONED.

DISCONNECTION IN A TRANSFORMER BASE SHALL CONSIST OF CUTTING THE CIRCUIT CABLES AND REMOVING THE EXISTING CONNECTOR KITS.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ITEM 625 - DISCONNECT CIRCUIT, AS PER PLAN WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED FOR COMPLETING THE WORK IN A SATISFACTORY WORK LIKE MANNER.

ITEM 625 LIGHTING, MISC.: RECONNECT UNDERPASS LIGHTING

THIS ITEM SHALL CONSIST OF RECONNECTING THE EXISTING UNDERPASS LIGHTING TO REMAIN AFTER THE RAISING OF THE BRIDGE SUPERSTRUCTURE AS DESCRIBED ON SHEET 573 ALL LABOR, EQUIPMENT AND MATERIALS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 625 LIGHTING, MISC.: RECONNECT UNDERPASS LIGHTING (LS).

CALCULATED ATR
CHECKED CWL

LIGHTING GENERAL NOTES

SUM-76/77-11.27/12.12

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	625 SERVICE TO UNDERPASS LIGHTING	625 LIGHT POLE REMOVED	625 LIGHT POLE FOUNDATION REMOVED	625 DISCONNECT CIRCUIT, AS PER PLAN	625 CONTROL CENTER CABINET, COMPLETE, AS PER PLAN	625 LIGHT TOWER, BB120	625 LIGHT TOWER, BB110	625 LIGHT TOWER, BB100	625 LIGHT TOWER FOUNDATION 36"x20" DEEP	625 GROUND ROD	625 1-1/2" DUCT CABLE WITH TWO NO. 4 AWG 5000 VOLT CABLES	625 TRENCH, 24" DEEP	625 PLASTIC CAUTION TAPE	625 LIGHTING, MISC.; RECONNECT UNDERPASS LIGHTING	625 CONNECTION, UNFUSED PERMANENT	625 CONDUIT, 3", JACKED OR DRILLED, 725.04	625 NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	625 PULLBOX, 725.08, 18"	625 LUMINAIRE, HIGH MAST, 1000W, HPS, TYPE III, 480V, AS PER PLAN
				EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	LS	EACH	FT	FT	EACH	EACH
1	577	3+06.90									1	1	2									2
2	577	3+06.90	6+57.44											363	353	353						
3	577	6+57.44								1		1	2									2
4	577	6+57.44	529+00.97											129	119	119						
5	577	529+00.97																2			1	
6	577	529+00.97	8+41.99											97	87	87						
7	577	8+41.99																2			1	
8	577	8+41.99	8+87.51																86	192		
9	577	8+87.51																2			1	
10	577	8+87.51	9+13.51											49	39	39						
11	577	9+13.51							1			1	2									2
12	577	529+00.97	520+00.79											113					103	226		
13	577	520+00.79																2			1	
14	577	520+00.79	7+34.81											578.5	568.5	568.5						
15	577	7+34.81																			1	
16	577-578	7+34.81	EX. TOWER											578.5	568.5	568.5						
17	578	14+59.90						1														
18	577	E.B. 76	E.B. 76		1	1	1															
19	577	E.B. 76	E.B. 76		1		1															
20	577	E.B. 76	E.B. 76		1	1	1															
21	577	W.B. 76	W.B. 76		1		1															
22	577	W.B. 76	W.B. 76		1		1															
23	577	LANE O	LANE O		1	1	1															
24	577	LANE O	LANE O		1		1															
25	577	LANE O	LANE O		1		1															
26	577	BROWN ST.		1																		
27	577	BROWN ST.															LS					
28	577	LANE O	LANE O		1		1															
LIGHTING TOTALS CARRIED TO GENERAL SUMMARY				1	9	3	9	1	1	1	1	3	6	1908	1735	1735	LS	8	189	418	5	6

CALCULATED AJE CHECKED MM

LIGHTING ESTIMATED QUANTITIES

SUM-76/77-11.27/12.12

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℄ R/W & CONST. BROWN ST.

℄ R/W & CONST. SPICER ST.

NEW ℄ R/W & CONST. JOHNSTON ST.

℄ R/W & CONST. LAMPARTER ST.

℄ R/W & CONST. SOUTH ST.

℄ CONST. RAMP P

℄ CONST. LANE O

℄ CONST. W.B. I-76

℄ CONST. E.B. I-76

℄ CONST. LANE M

℄ EXIST LANE N

MATCHLINE ℄ CONST. EB I-76 STA. 534+00.00

STA. 3406.90; 12.75' RT. BB100, LAF2-25

BB110, LAF2-24 STA. 6+57.44; 41.75' RT.

PROP. PULLBOX, PBLAF213 STA. 8+87.51; 50.66' LT.

BB120, LAF2-23 STA. 9+13.51; 78.36' LT.

PROP. PULLBOX, PBLAF212 STA. 8+41.99; 22.14' RT.

PROP. PULLBOX, PBLAF211 529+00.97; 18.87' LT.

PROP. PULLBOX, PBLAF210 STA. 520+00.79; 50.66' LT.

PROP. PULLBOX, PBLAF29 STA. 7+34.81; 200.61' RT.

SHEET NOTES

1. PROVIDE 3" RGS CONDUIT FOR UNDERGROUND CONDUIT TO BE INSTALLED UNDER ROADWAYS
2. REMOVE LIGHT POLE AND FOUNDATION, DISCONNECT CIRCUIT BACK TO NEXT DEVICE TO REMAIN.
3. REMOVE LIGHT POLE FROM BRIDGE, DISCONNECT CIRCUIT BACK TO NEXT DEVICE TO REMAIN.
4. LIGHT POLE BEING REMOVED IS WIRED TO CIRCUIT 'GS'. CIRCUIT 'GS' ORIGINATES IN THE NE QUANDRANT OF THE WB 76 RAMP & GRANT ST. INTERSECTION, FOR DISCONNECTING MEANS. VERIFY FIELD CONDITIONS PRIOR TO COMMENCING WORK.
5. UNDERPASS LIGHTING IS EXSITING TO REMAIN. EXISTING POLE MOUNTED SERVICE TO BE RELOCATED BY UTILITY COMPANY. THE CONRACTOR SHALL PROVIDE ANY ADDITIONAL CONDUIT AND WIRING FOR RELOCATION AS REQUIRED. ALL LABOR, EQUIPMENT, AND MATERIALS INCLUDED IN PRICE BID FOR ITEMS 625 SERVICE TO UNDERPASS LIGHTING (EACH).
6. PRIOR TO NEW BRIDGE CONSTRUCTION UNDERPASS LIGHTING CIRCUT SHALL BE REMOVED BACK TO JUNCTION BOX LOCATED ON UNDERPASS SUPERSTRUCTURE TO REMAIN. AFTER COMPLETION OF BRIDGE, NEW CONDUIT AND WIRING SHALL BE USED TO CONNECT EACH SIDE OF UNDERPASS LIGHTING. TERMINATING AT EACH JUNCTION BOX. EXAMINE AREA OF WORK AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK. ALL LABOR, EQUIPMENT, AND MATERIALS INCLUDED IN PRICE BID FOR ITEM 625 LIGHTING, MISC.: RECONNECT UNDERPASS LIGHTING (LS).

LEGEND

- NEW HIGH MAST LUMINAIRE
- LIGHTING DUCT CABLE 1½" WITH (2) NO. 4 AWG 5000V WIRE
- PULLBOX
- CONTROL CENTER POWER SERVICE
- SUB-SUMMARY REFERENCE NUMBER

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AJE
CHECKED MM

LIGHTING PLAN

SUM-76/77-11.27/12.12

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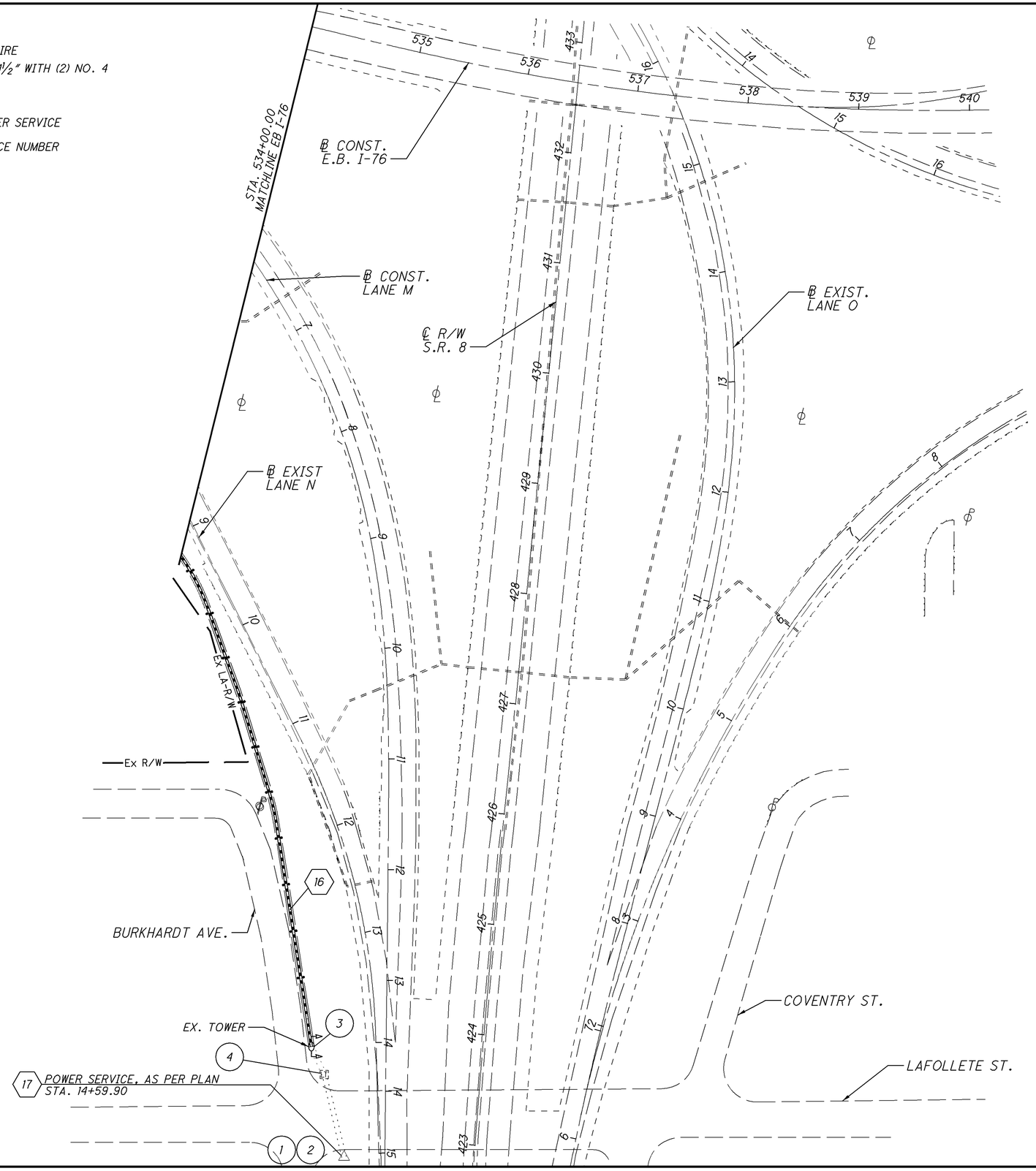
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LEGEND

- NEW HIGH MAST LUMINAIRE
- LIGHTING DUCT CABLE 1½" WITH (2) NO. 4 AWG 5000V WIRE
- PULLBOX
- CONTROL CENTER POWER SERVICE
- SUB-SUMMARY REFERENCE NUMBER

SHEET NOTES

1. EXISTING CONTROL CENTER TO BE REFURBISHED. REFER TO 'LAF' LOAD SUMMARY AND CONTROL CENTER DATA ON SHEET 571
2. EC SHALL VERIFY EXISTING WIRING SYSTEM AND NOTIFY ENGINEER WITH ANY DISCREPANCIES
3. CONTRACTOR CONNECT NEW CIRCUIT TO EXISTING TOWER, EXISTING CIRCUIT LAF-2.
4. EXISTING PULLBOX TO REMAINS.



N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AJE
CHECKED MM

LIGHTING PLAN

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CONTROL CENTER DATA									
CONTROL CENTER	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE - AWG	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE AMPS	CIRCUIT CABLE SIZE AWG	MAINTAINING AGENCY
838+54	480	41.3	3 /0	200	LAF-1	44	60	#4	ODOT
					LAF-2	42	60	#4	
NOTE: FOR ADDITIONAL CONTROL CENTER DETAILS, SEE STD. CONST. DWGS.									

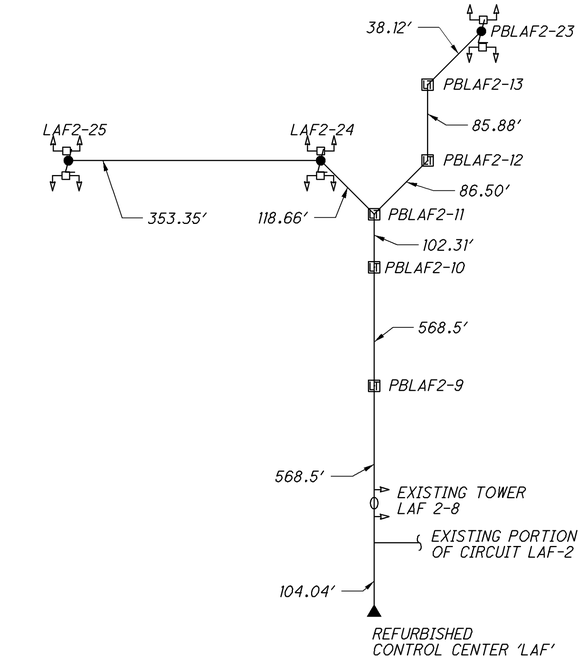
TOWER FOUNDATION SCHEDULE				
TOWER NO.	POLE HEIGHT	TOP ELEVATION	DEPTH	DIAMETER
23	120'	1081.77'	20'-0"	3'-0"
24	110'	1082.40'	20'-0"	3'-0"
25	100'	1074.95'	20'-0"	3'-0"

LIGHT TOWER FOUNDATIONS

1. FOR ADDITIONAL LIGHT TOWER FOUNDATION NOTES AND DETAILS SEE STD. DWG. NO. HL-20.21.
2. THE LIGHT TOWER FOUNDATIONS SHALL BE CONSTRUCTED TO THE DEPTH AS SHOWN IN THE ABOVE TABLE STARTING AT THE TOP OF GROUND SURFACE.
3. LIGHT TOWER FOUNDATIONS SHALL EXTEND A MINIMUM OF 6" ABOVE THE GROUND SURFACE. THE 6" DIMENSION IS IN ADDITION TO THE FOUNDATION DEPTH LISTED IN THE PLANS. ALL MATERIALS AND WORK NECESSARY TO CONSTRUCT THE FOUNDATIONS SHALL CONFORM TO SECTION 625.10 OF THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS.

LAF LOAD

EXISTING CIRCUIT LAF-1		
14 @ 1000W =	18144W	37.8A
3 @ 400W =	1584W	3.3A
5 @ 100W =	648W	1.38A
EXISTING LOAD =	203376W	43.86A
EXISTING CIRCUIT LAF-2		
4 @ 1000W =	5184W	10.8A
10 @ 400W =	5280W	11.0A
2 @ 200W =	518.4W	1.08A
8 @ 100W =	1036.8W	2.16A
EXISTING LOAD =	11630.4W	25.04A
6 @ 1000W =	7776W	16.2A
PROPOSED LOAD =	7776W	16.2A
TOTAL LAF LOAD =		85.10



CIRCUIT 'LAF-2'

CALCULATED AJE
CHECKED MM

LIGHTING NOTES & DETAILS

SUM-76/77-11.27/12.12

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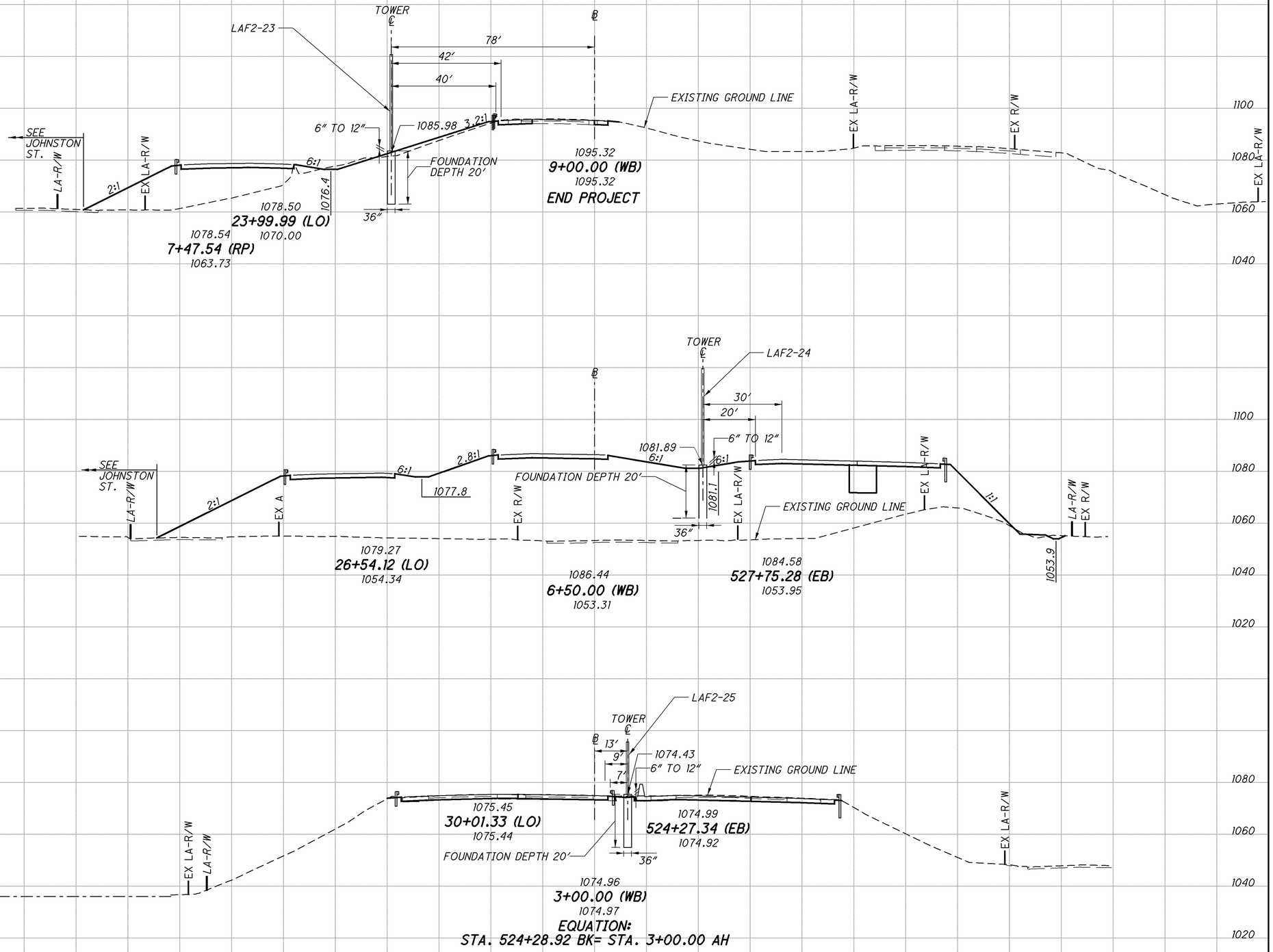
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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED AJE

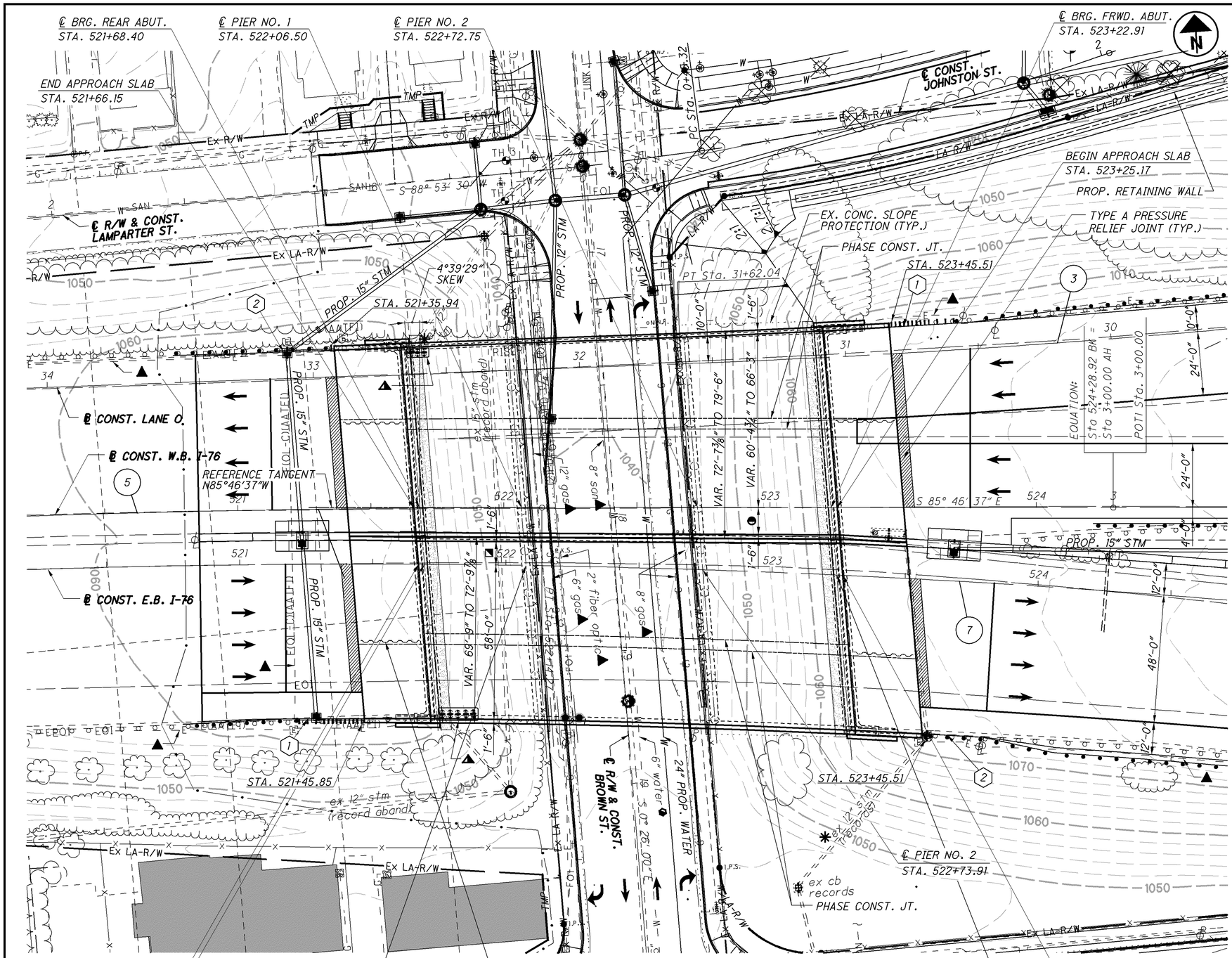
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LIGHTING PLANS I-76
HIGH MAST TOWER ELEVATIONS

SUM-76/77-11.27/12.12

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PLAN

LEGEND:

- NEW 4'-0" SLOPE PROTECTION
- (1) MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1
- (2) MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2

LEGEND CONT'D:

- TO BE REMOVED
- TO REMAIN
- TO BE ABANDONED

LEGEND CONT'D:

- VAR. 9'-2⅝" TO 10'-3"
- VAR. 8'-9" TO 11'-9⅞" (N.D.C. = 12'-0")
- EXISTING SCUPPERS TO BE REMOVED

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

BENCHMARK DATA

REFERENCE POINT 137	REFERENCE POINT 139
NORTHING: 509852.9686 EASTING: 2242227.7649 BOX CUT ON EAST CORNER OF FLAGPOLE EL. 1054.0820	NORTHING: 510245.6599 EASTING: 2241727.3460 BOX CUT IN FIRST STEP EL. 1040.0370

NOTE:
FOR CURVE DATA SEE SHT. NOS. 4 /652 & 5 /652.

WESTBOUND

2016 ADT = 58,450 — 2016 ADTT = 6,430
2036 ADT = 58,980 — 2036 ADTT = 6,488

EASTBOUND

2016 ADT = 53,730 — 2016 ADTT = 5,910
2036 ADT = 54,260 — 2036 ADTT = 5,969

VERTICAL CLEARANCE:

(1) 18.41' EXIST. ACTUAL
(2) 18.38' PROP. 16.50' REQ'D 17.00' PREF'D

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 38'-1⅜"±, 66'-2⅛"± 50'-2"± C/C BRGS. (MEASURED ALONG REFERENCE LINE)

ROADWAY: WESTBOUND: VAR. 68'-6¼" TO 76'-5¾" T/T BARRIERS
EASTBOUND: VAR. 66'-1⅛" TO 68'-2¼" T/T BARRIERS

LOADING: CF 2000

SKEW: 4°39'23"± RF

APPROACH SLABS: 25'± LONG

WEARING SURFACE: 6"± ASHPALT CONCRETE

ALIGNMENT: TANGENT AND CURVE RT

SUPERELEVATION: VARIES

STRUCTURAL FILE NUMBER: 7703031

DATE BUILT: 1961

PROPOSED STRUCTURE

PROPOSED WORK: NEW COMPOSITE CONCRETE DECK SLAB, RAISED PIER CAPS AND SEMI-INTEGRAL TYPE ABUTMENT RETROFIT

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 38'-1⅜"±, 66'-2⅛"± 50'-2"± C/C BRGS. (MEASURED ALONG REFERENCE TANGENT & ℄ CONST.) W.B. I-76)

ROADWAY: WESTBOUND: VAR. 71'-1⅜" TO 78'-1" T/T BARRIERS
EASTBOUND: VAR. 68'-3" TO 71'-5⅛" T/T BARRIERS

LOADING: HS20 CASE I AND ALTERNATE MILITARY LOADING (EXISTING BEAMS)
F.W.S. = 30 PSF

SKEW: 4°39'29"± RF (FROM THE REFERENCE TANGENT AT REAR ABUT. & FROM ℄ CONST. W.B. I-76 AT FRWD. ABUT.)

APPROACH SLABS: AS-1-81 25' LONG (MODIFIED)

WEARING SURFACE: 1" MONOLITHIC CONCRETE

ALIGNMENT: TANGENT & CURVE RT

SUPERELEVATION: VARIES

COORDINATES: LATITUDE 41°03'44" N
LONGITUDE 81°30'35" E

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100 Fax 330-572-2101

DESIGNED DJC — DRAWN RPR — CHECKED TJW — REVIEWED DGN — DATE 4-2-14 — REVISED

STRUCTURE FILE NUMBER 7703031

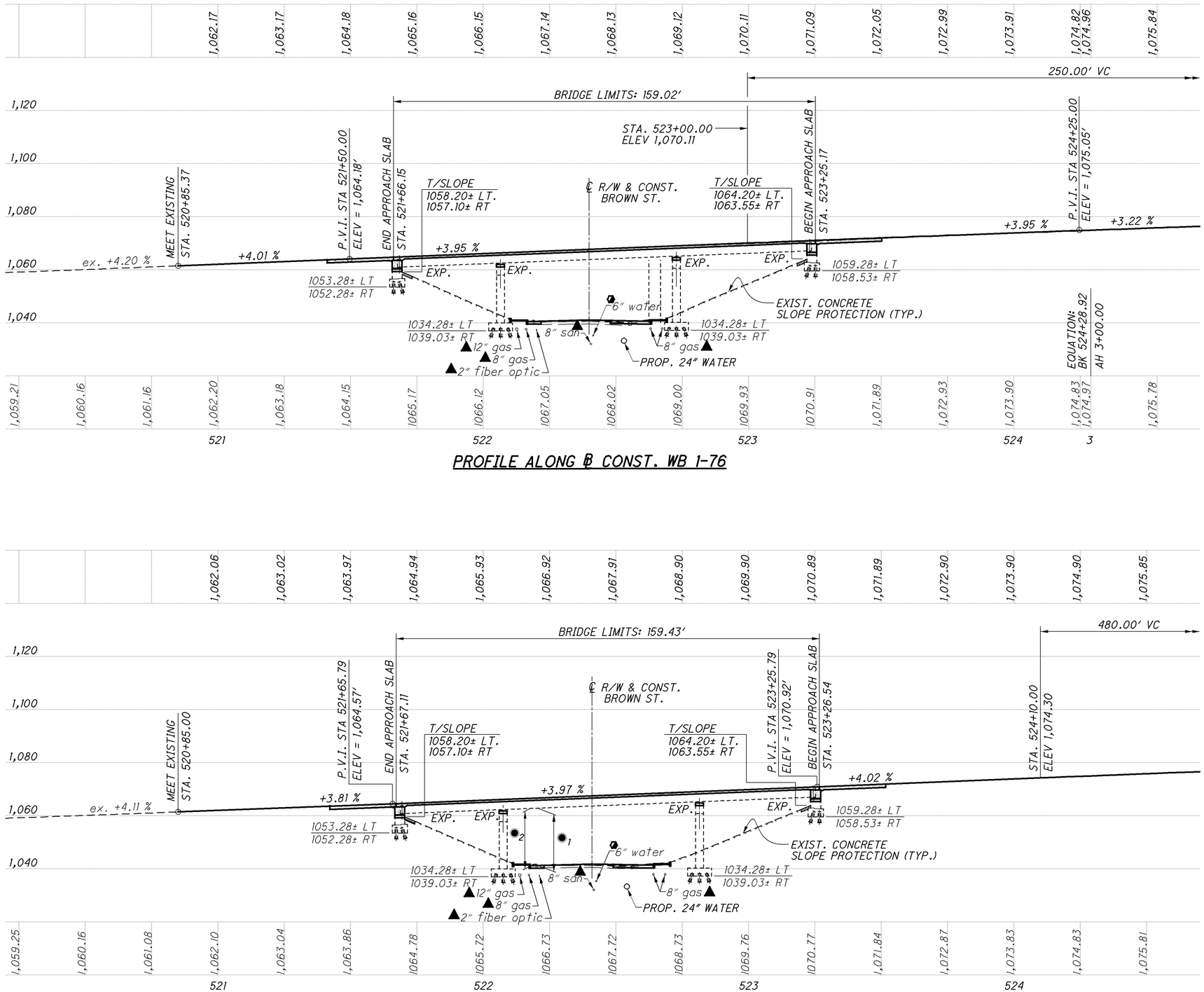
SUMMIT COUNTY
STA. 521+66.15
STA. 523+25.17

SITE PLAN
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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PROFILE ALONG ℄ CONST. WB I-76

PROFILE ALONG ℄ CONST. EB I-76

LEGEND:

- ▲ *TO REMAIN*
- ⬢ *TO BE REMOVED*
- ▨ *NEW 4'-0" SLOPE PROTECTION*

VERTICAL CLEARANCE:

- ●1 *18.41' EXIST. ACTUAL*
- ●2 *18.38' PROP. 16.50' REQ'D 17.00' PREF'D*

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

REVIEWED	DATE
DGN	4-2-14
STRUCTURE FILE NUMBER	
7703031	
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RPR	
REVISED	
DESIGNED	
DJC	
CHECKED	
TJW	

SUMMIT COUNTY
STA. 521+66.15
STA. 523+25.17

SITE PLAN
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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℄ BRG. REAR ABUT.
STA. 521+68.40

℄ PIER NO. 1
STA. 522+06.50

℄ PIER NO. 2
STA. 522+72.75

℄ BRG. FRWD. ABUT.
STA. 523+22.91

END APPROACH SLAB
STA. 521+66.15

℄ CONST. JOHNSTON ST.

BEGIN APPROACH SLAB
STA. 523+25.17

PROP. RETAINING WALL

EX. CONC. SLOPE PROTECTION (TYP.)

TYPE A PRESSURE RELIEF JOINT (TYP.)

PHASE CONST. JT.
STA. 523+45.51

PT Sta. 31+62.04

4°39'29" SKEW

STA. 521+35.94

℄ R/W & CONST. LAMPARTER ST.

℄ CONST. LANE O.

℄ CONST. W.B. I-76

REFERENCE TANGENT
N85°46'37"W

℄ CONST. E.B. I-76

S 88° 53' 30" W

S 85° 46' 37" E

EQUATION:
Sta 524+28.92 BK =
Sta 3+00.00 AH
POTI Sta. 3+00.00

VAR. 60'-4¾" TO 66'-5"

VAR. 72'-7⅜" TO 79'-6"

VAR. 69'-9" TO 72'-9⅛"

PT Sta. 522+14.27

℄ R/W & CONST. BROWN ST.

S 0° 26' 00" E

STA. 521+45.85

STA. 523+45.51

PHASE CONST. JT.

APPROXIMATE LOCATION OF TEMPORARY SHEETING (TYP.)

END APPROACH SLAB
STA. 521+67.11

℄ PIER NO. 1
STA. 522+07.51

℄ BRG. REAR ABUT.
STA. 521+69.36

℄ PIER NO. 2
STA. 522+73.91

BEGIN APPROACH SLAB
STA. 523+26.54

℄ BRG. FRWD. ABUT.
STA. 523+24.27

PLAN

REFERENCE TANGENT = EXTENDED TANGENT OF ℄ CONST. W.B. I-76 FROM WEST OF PT STA. 522+14.27

LEGEND:

NEW 4'-0" SLOPE PROTECTION

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DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

SUMMIT COUNTY
STA. 521+66.15
STA. 523+25.17

GENERAL PLAN
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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579
652

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

AS-1-81	REVISED: 1-18-13
SBR-1-99	REVISED: 7-19-02
GSD-1-96	REVISED: 7-19-02
SICD-1-96	REVISED: 7-19-02
PCB-91	REVISED: 1-18-13

DESIGN LOADING

DESIGN LOADING: HS20-44 CASE I AND THE ALTERNATE MILITARY LOADING

FUTURE WEARING SURFACE (FWS) OF 30 POUNDS PER SQUARE FOOT

DESIGN STRESSES

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

PROPOSED STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD

CLASS QC2 CONCRETE
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

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

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING THE EXISTING STRUCTURE TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE SUBSTRUCTURE SIMULTANEOUSLY. THE MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS AND PIERS SHALL BE 1 INCH OR LESS. IF THIS 1 INCH IS TO BE EXCEEDED, PROVIDE CALCULATIONS SHOWING THAT THE SUPERSTRUCTURE COMPONENTS WILL NOT BE TEMPORARILY STRESSED BEYOND ALLOWABLE STRESSES AND THAT NO PERMANENT STRESSES WILL BE INDUCED IN THE COMPONENTS AFTER THEY OBTAIN THEIR FINAL POSITION.

THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL PAY FOR THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

PROPOSED WORK

1. ALL WORK SHALL BE PERFORMED WITHIN RESPECTIVE PHASES OF CONSTRUCTION.
2. REMOVE EXISTING WEARING SURFACE, CONCRETE DECK, EXPANSION JOINTS, SCUPPERS AND THEIR ATTACHMENTS, AND EXISTING BEARINGS. RAISE AND TEMPORARILY SUPPORT EXISTING STEEL SUPERSTRUCTURE.
3. REMOVE PORTIONS OF EXISTING ABUTMENTS.
4. REMOVE EXISTING APPROACH SLABS.
5. CONSTRUCT NEW WIDENED ABUTMENT BREASTWALL AND WINGWALLS AND BUILD UP ABUTMENT SEATS AT EXISTING PORTIONS OF ABUTMENTS.
6. CONSTRUCT NEW PORTIONS OF PIER CAPS ON TOP OF THE EXISTING PIER CAPS.
7. INSTALL NEW LAMINATED ELASTOMERIC BEARINGS AT THE ABUTMENTS AND PIERS.
8. INSTALL BOLTED MOMENT PLATE RETROFITS ACCORDING TO THE PLANS
9. INSTALL WELDED STUD SHEAR CONNECTORS.
10. CONSTRUCT NEW CONCRETE END DIAPHRAGMS AND NEW DECK.
11. INSTALL POROUS BACKFILL AND NEW ABUTMENT DRAINAGE SYSTEM.
12. CONSTRUCT APPROACH SLABS.
13. PATCH EXISTING CONCRETE SUBSTRUCTURES.
14. INSTALL/REPAIR CONCRETE SLOPE PROTECTION.
15. PAINT STRUCTURAL STEEL.
16. SEAL CONCRETE SURFACES AS INDICATED ON THE PLANS.
17. RE-ATTACH/INSTALL THE UNDERPASS LIGHTS (IN KIND) (SEE THE LIGHTING PLANS)

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING CONCRETE DECK, PARAPETS, RAILINGS, EXPANSION JOINTS, BEARINGS, SCUPPERS AND THEIR ATTACHMENTS, AND PORTIONS OF THE ABUTMENTS AS INDICATED IN THE PLANS, AND GENERAL NOTES THAT ARE NOT LISTED SEPARATELY FOR PAYMENT. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK AND ABUTMENT REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE AND IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.5

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF THE DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF THE FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH [25 MMJ DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS [16 KILOGRAMS] FOR REMOVAL WITHIN 18 INCHES [450 MM] OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH [450 MM] LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS [41 KILOGRAMS] UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAMS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO POSSIBLE PRESENCE OF ATTACHMENTS (E.G. FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

IN ORDER TO PROTECT VEHICULAR AND PEDESTRIAN TRAFFIC AGAINST DAMAGE FROM FALLING MATERIAL, DEBRIS AND OTHER DEMOLITION OPERATIONS, WHILE SUPERSTRUCTURE CONCRETE IS BEING REMOVED OR WHILE THE CONTRACTOR IS WORKING OVERHEAD, THE CONTRACTOR SHALL FURNISH AND ERECT A TEMPORARY PROTECTIVE STRUCTURE UNDER THE SPANS THAT ARE DIRECTLY OVER THE ROADWAY AND SHOULDER AREAS, PLUS ENOUGH ADDITIONAL COVERAGE IN THE AREA TO PREVENT ANY FALLING MATERIAL FROM ANY SPAN FROM REACHING THESE AREAS. THE AFOREMENTIONED AND PROTECTIVE STRUCTURE SHALL EXTEND UNDER THE EXISTING STRUCTURE WITHIN THE WORK AREA.

IN ADDITION TO THE TEMPORARY PROTECTIVE STRUCTURE, THE CONTRACTOR SHALL PROVIDE PLASTIC SHEETING OR OTHER APPROVED METHODS TO CONTROL WATER USED IN THE SAW CUTTING OPERATION FROM FALLING ON VEHICULAR AND PEDESTRIAN TRAFFIC.

THE PROTECTIVE STRUCTURES SHALL MEET THE FOLLOWING REQUIREMENTS:

1. PROTECTIVE STRUCTURES SHALL BE PLACED ABOVE THE PAVEMENT AND SHOULDERS OF THE ROADWAYS ON WHICH VEHICULAR AND PEDESTRIAN TRAFFIC IS BEING MAINTAINED ON THE EXISTING LANES OR BY PARTIAL LANE CLOSURES. THE PROTECTIVE STRUCTURES IN ALL CASES SHALL EXTEND BEYOND THE EXISTING AND/OR NEW EXTERIOR STRUCTURAL BEAMS A SUFFICIENT DISTANCE TO PROTECT UNDER THE EXISTING AND PROPOSED PARAPETS, AND SHALL HAVE SIDEWALLS EXTENDING A MINIMUM OF FOUR (4) FEET UPWARD. THE FLOORING AND SIDEWALLS OF THE PROTECTIVE STRUCTURES SHALL HAVE NO CRACKS OR OPENINGS THROUGH WHICH MATERIAL PARTICLES MAY FALL.

2. THE PROTECTIVE STRUCTURE SHALL BE DESIGNED FOR A LOADING OF 50 POUNDS PER SQUARE FOOT.

3. THE PROTECTIVE STRUCTURE DESIGN SHALL INCORPORATE AT LEAST ONE (1) LAYER OF 3/4 INCH PLYWOOD PLACED BETWEEN THE LOWER FLANGES OF THE STRUCTURAL STEEL BEAMS OR GIRDERS AT THE ABOVE MENTIONED LOCATIONS.

THE CALCULATIONS AND DETAILS FOR THE PROTECTIVE STRUCTURES SHALL BE PREPARED BY THE CONTRACTOR AND SHALL BE STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO.

SIDEWALKS SHALL BE BRACED SUBSTANTIALLY TO RESIST WIND LOADS. DURING SAWCUTTING AND DECK REMOVAL OPERATIONS, THE TEMPORARY SHIELDS ATTACHED TO THE SIDE WALLS AND EXTENDING ONE (1) FOOT ABOVE THE TOP PARAPET, SHALL BE INSTALLED TO LIMITS AS DIRECTED BY THE ENGINEER. TEMPORARY SHIELDS SHALL BE REMOVED IMMEDIATELY AFTER THEY HAVE SERVED ITS PURPOSE. DEBRIS SHALL NOT BE PERMITTED TO COLLECT ON THE PROTECTIVE STRUCTURES.

WHEN SUPPORTING THE PROTECTIVE STRUCTURES FROM THE STEELWORK OF THE BRIDGE(S), ALL CONNECTIONS THERETO SHALL BE MADE BY MEANS OF APPROVED CLAMPS ON BOTH SIDES OF THE BEAM FLANGE. THE DRILLING OF HOLES IN THE STEELWORK, OR WELDING THERETO, FOR THIS PURPOSE WILL NOT BE PERMITTED. NO PORTION OF THE TEMPORARY SUPPORT SYSTEM AND/OR PROTECTIVE STRUCTURES (INCLUDING CONNECTION DEVICES) SHALL EXTEND MORE THAN TEN (10) INCHES BELOW THE BOTTOM FLANGE OF THE STEEL STRINGERS OR COVER PLATES THAT ARE OVER THE TRAVELED WAY (PAVEMENT AND SHOULDERS OR TRACKS) OF A HIGHWAY. HOWEVER, IN NO INSTANCE SHALL THE UNDERCLEARANCE BE LESS THAN FOURTEEN (14) FEET FOR A HIGHWAY.

AFTER THE FALSEWORK, TEMPORARY BRACING AND PROTECTIVE STRUCTURES HAVE SERVED ITS PURPOSE, THEY SHALL BE REMOVED. PROTECTIVE STRUCTURES, INCLUDING SIDEWALLS, SHALL NOT BE REMOVED UNTIL THE PARAPETS AND PARAPET FENCE (IF APPLICABLE) ARE COMPLETED, INCLUDING WEATHERPROOFING. ALL MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR AT ITS OWN EXPENSE.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, OH 44311-1050
Phone 330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

GENERAL NOTES
BRIDGE NO. SUM-76-1127
1-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

THE AREAS OF EXISTING CONCRETE TO BE PATCHED ARE THOSE AREAS IDENTIFIED BY THE ENGINEER THAT ARE OUTSIDE THE LIMITS OF THE EXISTING ABUTMENTS AND PIERS THAT ARE TO BE REPLACED ACCORDING TO THE PLANS. A CONTINGENCY QUANTITY OF 30 SQUARE FEET HAS BEEN ESTABLISHED TO COVER THOSE AREAS THAT ARE DEEMED NECESSARY FOR REPAIR BY THE ENGINEER. THIS WORK SHALL BE PERFORMED IN CONJUNCTION WITH THE WORK DESCRIBED IN THE PLANS.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 0.95 KIPS FOR PHASE 8 AND 1.04 KIPS FOR PHASE 10 WITH A TOTAL MACHINE LOAD OF 7.6 KIPS FOR PHASE 8 AND 8.3 KIPS FOR PHASE 10.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA BEAM TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF BRIDGE NO. SUM-76-1127 SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF THE DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGHT ST., SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMIN.
PHONE: (330) 375-2480
FAX: (330) 375-2402

AT LEAST TEN (10) WORKING DAYS PRIOR TO START OF THE BRIDGE DEMOLITION WORK, THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: THE CONTRACTOR'S NAME AND ADDRESS, THE SCHEDULED DATES FOR RENOVATION AND A DESCRIPTION OF THE PLANNED DEMOLITION OR RENOVATION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON STREET, AKRON, OHIO 44306.

BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

INSPECTION OF EXISTING STRUCTURAL STEEL:

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.07, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511 - SUPERSTRUCTURE CONCRETE. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

EXISTING UNDERPASS LIGHTING

CARE SHALL BE TAKEN TO NOT DAMAGE EXISTING LUMINAIRES (WHICH ARE MOUNTED ON THE PIERS) AND ASSOCIATED CONDUIT. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE, IN KIND, ANY LUMINAIRES OR CONDUIT THAT ARE DAMAGED DUE TO CONSTRUCTION ACTIVITIES AS PER ITEM 625 AT NO COST TO THE DEPARTMENT.

UPON COMPLETION OF THE BRIDGE WORK, THE EXISTING UNDERPASS LIGHTING SHALL BE RECONNECTED AS PER THE NOTE ON SHEET 571 .

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. A CONTINGENCY QUANTITY OF 100 LBS (LEFT & RIGHT) SHALL BE USED.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

THE COLOR OF THE SEALER SHALL BE FEDERAL STANDARD NO. 595B-13522, BUFF.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

THE COLOR OF THE FINISH COAT SHALL BE FEDERAL STANDARD NO. 595B-10080.

UTILITY LINES

THE UTILITIES SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

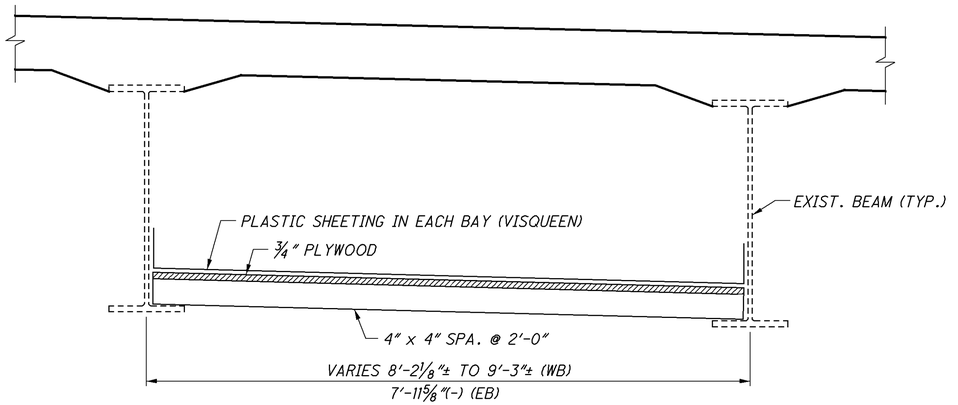
THE EXISTING TELEPHONE LINES ATTACHED TO THE BOTTOM OF THE EXISTING BEAM FLANGES NEAR PIER 1 SHALL BE DETACHED DURING CONSTRUCTION AND RE-ATTACHED IN KIND UPON COMPLETION OF THE RELOCATION OF ANY OF THE TELEPHONE POLES. THE TELEPHONE COMPANY SHALL BORE ALL EXPENSE INVOLVED IN DETACHING AND RE-ATTACHING THEIR EXISTING LINES TO THE NEW POLE LOCATION.

ITEM 601 - CONCRETE SLOPE PROTECTION

THIS ITEM SHALL INCLUDE THE REPAIR OR REPLACEMENT OF ANY EXISTING CONCRETE SLOPE PROTECTION PANELS THAT ARE DAMAGED UNDER THE ENDS SPANS OF THE BRIDGE. THESE MAY INCLUDE THOSE PANELS THAT ARE DAMAGED OR SETTLED PRIOR TO CONSTRUCTION OR THOSE PANELS THAT ARE DAMAGED DURING CONSTRUCTION. THE ENGINEER SHALL GIVE APPROVAL OF REPAIR/REPLACEMENT OF ANY PANELS DEEMED IN NEED OF REPAIR. THIS WORK SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 601 - CONCRETE SLOPE PROTECTION, INCLUDED WITH THE ROADWAY QUANTITIES.

PROTECTION OF PEDESTRIAN TRAFFIC

IN CONJUNCTION WITH THE NOTE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, THE SECTION BELOW PROVIDES MORE DETAIL ON THE REQUIREMENTS FOR PROTECTION OF THE ROADWAY AND SIDEWALK UNDERNEATH THE BRIDGE. AT A MINIMUM, THE SIDEWALK ON THE WEST SIDE OF BROWN STREET UNDERNEATH THE STRUCTURE SHALL BE MAINTAINED AT ALL TIMES AND PROTECTED AS SHOWN BELOW.



ABBREVIATIONS

ABUT.	ABUTMENT
BRG.	BEARING
C.J.	CONSTRUCTION JOINT
C.P.	CLOSURE POUR
B.S.	BOTH SIDES
N.S.	NEAR SIDE
F.S.	FAR SIDE
SER.	SERIES
TYP.	TYPICAL
EQ.	EQUAL
DIM.	DIMENSION
SPA.	SPACES
EA.	EACH
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
MIN.	MINIMUM
ADDIT.	ADDITIONAL
FRWD.	FORWARD
SPL.	SPLICE
CLR.	CLEAR
BET.	BETWEEN
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE
EX.	EXISTING

NO.	DESCRIPTION	REV. BY	DATE
1	REVISED INSPECTION NOTE	DJC	03-16-15

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311-1050
330-572-2100 Fax 330-572-2101

DESIGNED DJC | DRAWN RFV | REVIEWED DGN | DATE 4-2-14
CHECKED TJW | REVISED | STRUCTURE FILE NUMBER 7703031

GENERAL NOTES

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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ESTIMATED QUANTITIES

CALCULATED: RFV DATE: 11-23-13
CHECKED: DJC DATE: 11-25-13

	ITEM	EXT.	TOTAL	PARTICIPATION 02 / BRO / BR	UNITS	DESCRIPTION	ABUT	PIER	SUPER	GENERAL	SEE SHEET NUMBER
	202	11203	LS	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					4
	202	22900	563	563	SY	APPROACH SLAB REMOVED				563	
	202	23500	3017	3017	SY	WEARING COURSE REMOVED				3017	
**	202	32800	145	145	SY	CONCRETE SLOPE PROTECTION REMOVED				145	
	503	11100	LS	LS		COFFERDAMS AND EXCAVATION BRACING					
	503	21300	LS	LS		UNCLASSIFIED EXCAVATION					
	509	10000	324411	324411	LB	EPOXY COATED REINFORCING STEEL	11320	7091	306000		
	509	20001	100	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	5
	510	10000	891	891	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	459	432			
	511	34446	843	843	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			843		
	511	34450	110	110	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			110		
	511	43210	43	43	CY	CLASS QC1 CONCRETE, PIER		43			
	511	45710	94	94	CY	CLASS QC1 CONCRETE, ABUTMENT	94				
	512	10101	1476	1476	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	88	732	656		5
	512	10300	165	165	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			142	23	
	512	33000	25	25	SY	TYPE 2 WATERPROOFING	25				
	512	74000	680	680	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	17	663			
	513	10220	40650	40650	LB	STRUCTURAL STEEL MEMBERS, LEVEL 1			40650		
	513	20000	8181	8181	EACH	WELDED STUD SHEAR CONNECTORS			8181		
	514	00050	28900	28900	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			28900		
	514	00056	28900	28900	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			28900		
	514	00060	28900	28900	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			28900		
	514	00067	28900	28900	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			28900		5
	514	00504	46	46	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			46		
	514	10000	27	27	EACH	FINAL INSPECTION REPAIR			27		
	516	13200	12	12	SF	1/2" PREFORMED EXPANSION JOINT FILLER	12				
	516	13600	130	130	SF	1" PREFORMED EXPANSION JOINT FILLER	93		37		
	516	13900	450	450	SF	2" PREFORMED EXPANSION JOINT FILLER	212			238	
	516	14020	330	330	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	330				
	516	44100	18	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (9" x 11" x 2.04")	18				
	516	44100	36	36	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (11" x 17" x 2.42")		36			
	516	44100	18	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (9" x 12 1/2" x 2.04")	18				
	516	47001	LS	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					4
	518	21200	156	156	CY	POROUS BACKFILL WITH FILTER FABRIC	156				
	518	40000	300	300	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	300				
	518	40010	50	50	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	50				
	519	11101	30	30	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	30				5
	526	25001	823	823	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				823	46-52
*	601	21000	145	145	SY	CONCRETE SLOPE PROTECTION				145	

* PAID FOR UNDER THE EROSION CONTROL QUANTITIES - SEE THE GENERAL SUMMARY

** PAID FOR UNDER THE ROADWAY QUANTITIES - SEE THE GENERAL SUMMARY

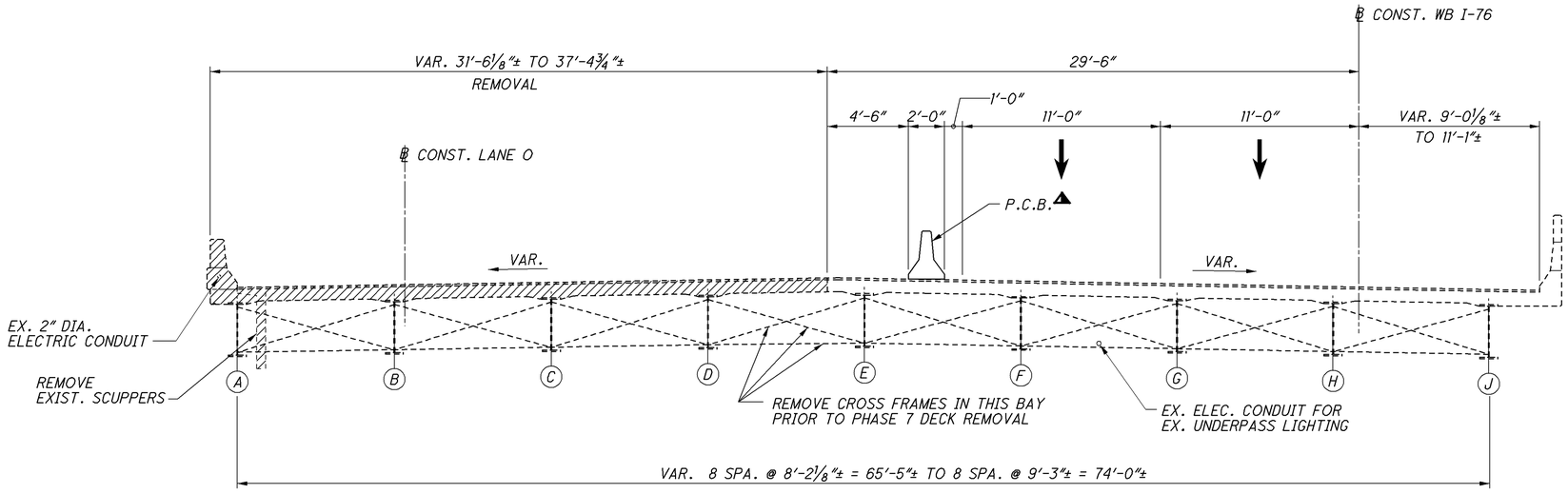
DESIGN AGENCY
GPD GROUP
Consulting Engineers
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED DJC | DRAWN RFV | REVIEWED DGN | DATE 4-2-14
CHECKED TJW | REVISED | STRUCTURE FILE NUMBER 77033031

ESTIMATED QUANTITIES
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

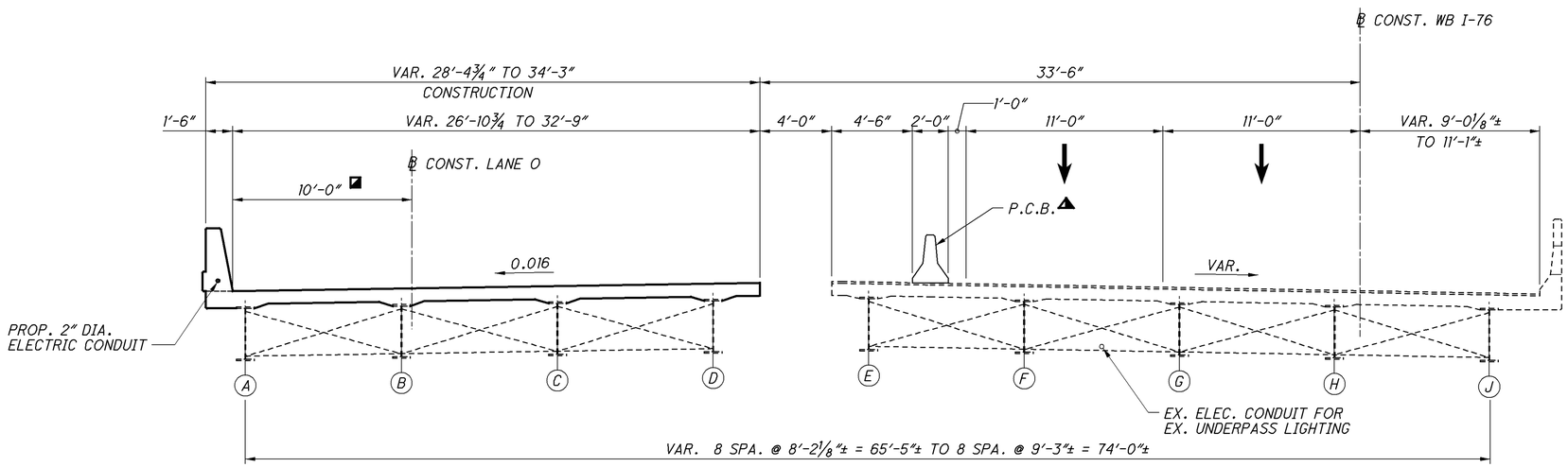
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PHASE 7 (REMOVAL)

WESTBOUND



PHASE 8 (CONSTRUCTION)

WESTBOUND

LEGEND:

- ◪ MEASURED PERPENDICULAR TO ℄ CONST. LANE O
- ▲ 3 ANCHORS PER SEGMENT
- ▨ LIMITS OF PHASE 7 DECK REMOVAL

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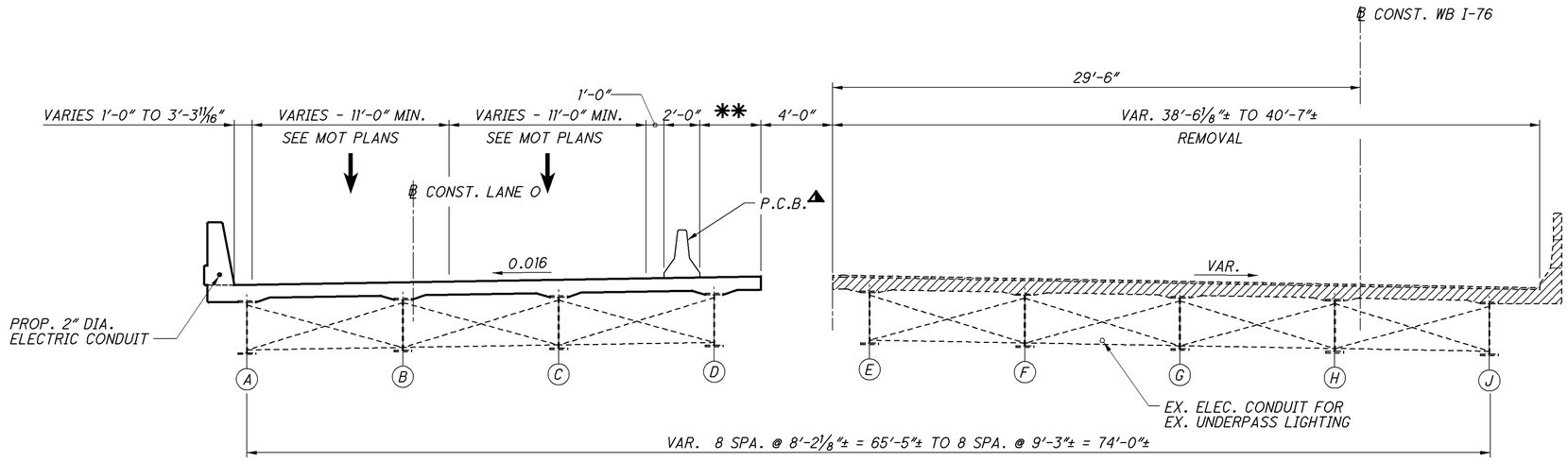
DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, OH 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

CONSTRUCTION PHASING - WESTBOUND

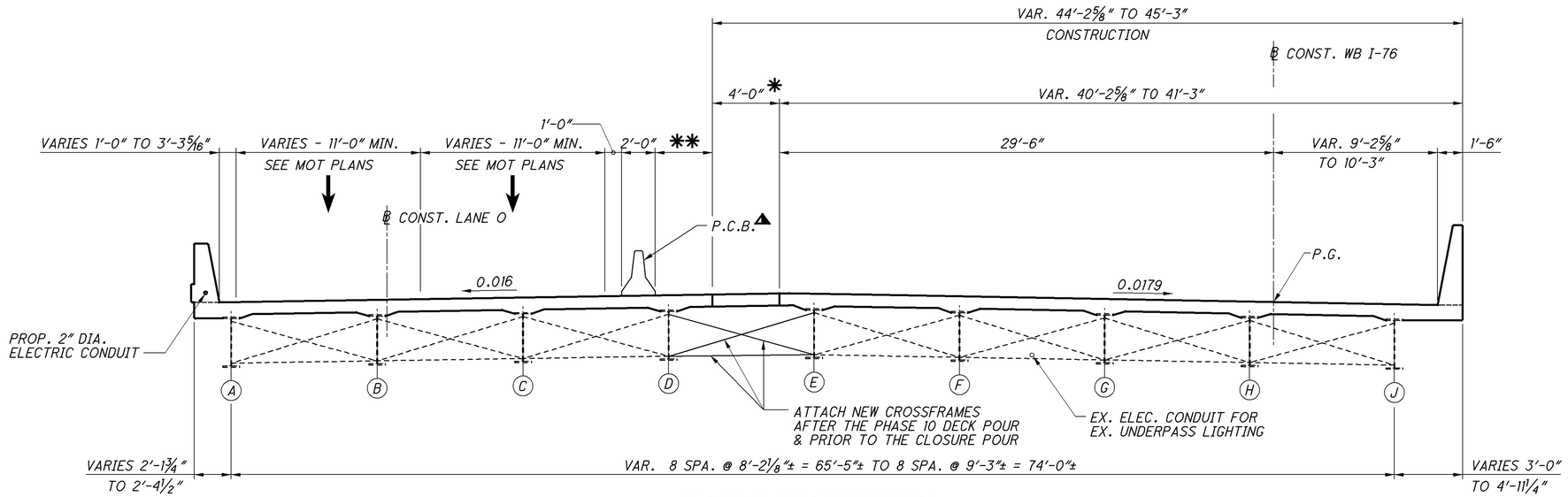
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I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979



PHASE 9 (REMOVAL)

WESTBOUND



PHASE 10 (CONSTRUCTION)

WESTBOUND

LEGEND:

* CLOSURE POUR

** VAR. 10 1/2" TO 2'-6 3/4"

▲ 3 ANCHORS PER SEGMENT. AT LOCATIONS ON THE BRIDGE WHERE THE PORTABLE CONCRETE BARRIER IS CLOSER THAN 1'-0" TO THE EDGE OF THE PROPOSED DECK EDGE CONSTRUCTED IN PHASE 8, THE NUMBER OF ANCHORS PER SEGMENT SHALL BE DOUBLED.

▨ LIMITS OF PHASE 9 DECK REMOVAL

NOTE: PORTABLE CONCRETE BARRIER SHALL BE PLACED ACCORDING TO THE MAINTENANCE OF TRAFFIC PLANS

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GPD GROUP
320 South Main Street, Suite 2000, Akron, OH 44308
330-572-2100
Fax 330-572-2101

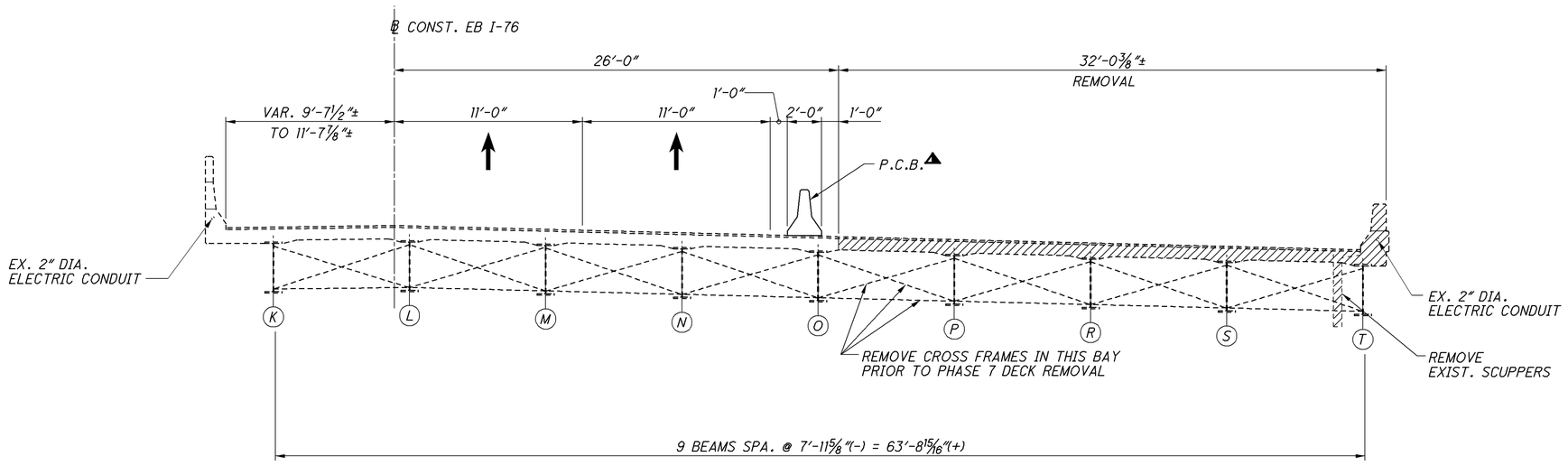
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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CONSTRUCTION PHASING - WESTBOUND

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

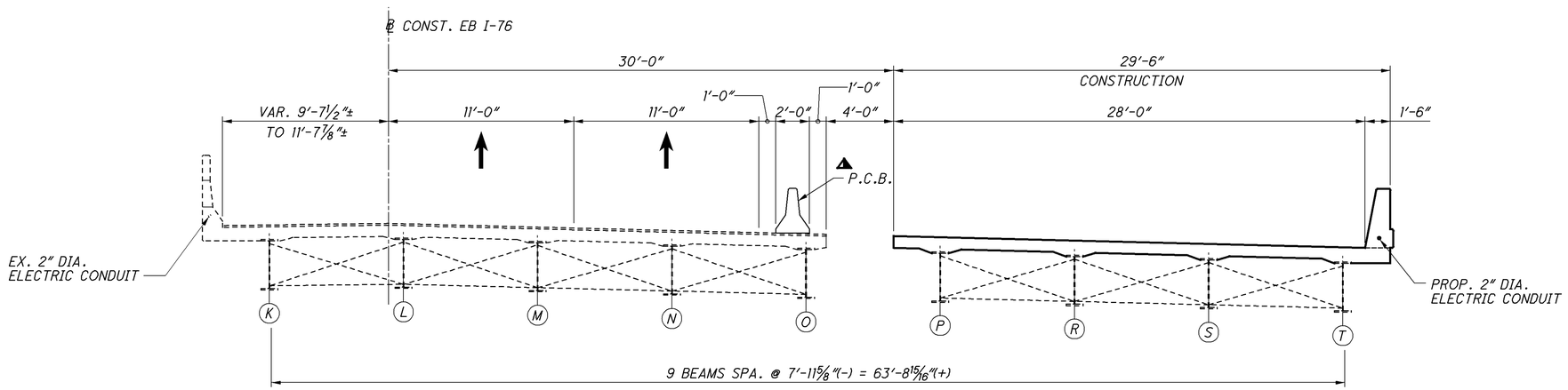
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PHASE 7 (REMOVAL)

EASTBOUND



PHASE 8 (CONSTRUCTION)

EASTBOUND

LEGEND:

▲ 3 ANCHORS PER SEGMENT

LIMITS OF PHASE 7 DECK REMOVAL

DESIGN AGENCY
GPD GROUP.
320 South Main Street, Suite 2000, Akron, OH 44308
330-572-2100
Fax 330-572-2101

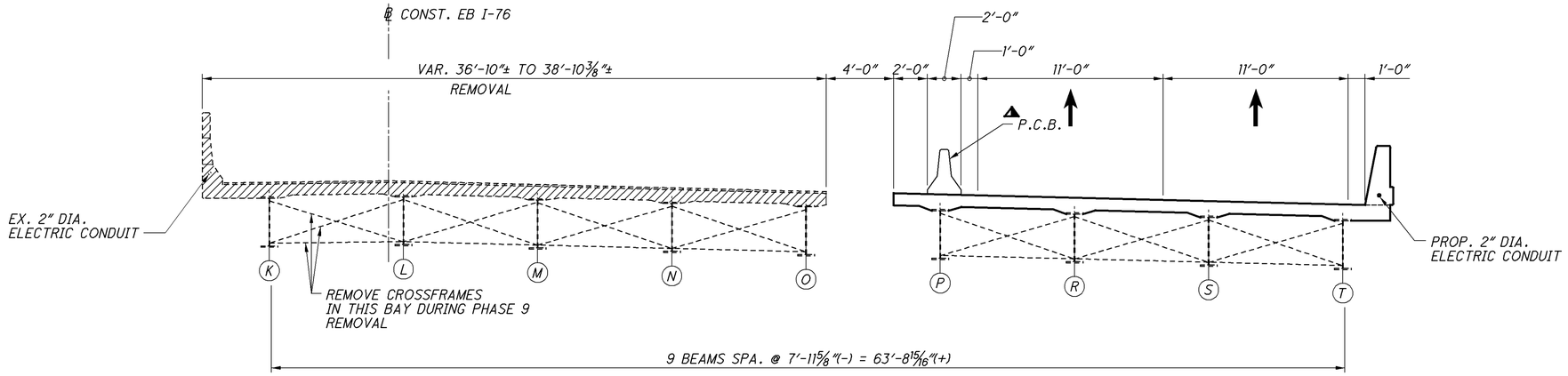
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CONSTRUCTION PHASING - EASTBOUND

BRIDGE NO. SUM-76-1127
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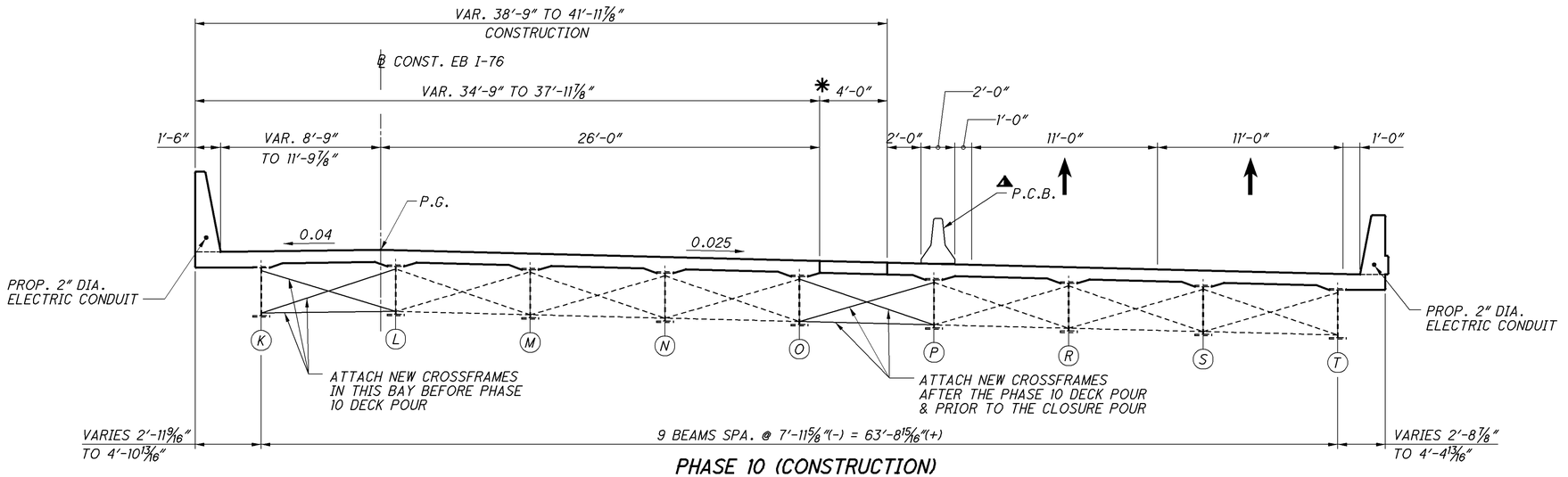
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PHASE 9 (REMOVAL)

EASTBOUND



PHASE 10 (CONSTRUCTION)

EASTBOUND

LEGEND:

- ✱ CLOSURE POUR
- ▲ 3 ANCHORS PER SEGMENT
- ▨ LIMITS OF PHASE 9 DECK REMOVAL

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, OH 44311
330-572-2100
Fax 330-572-2101

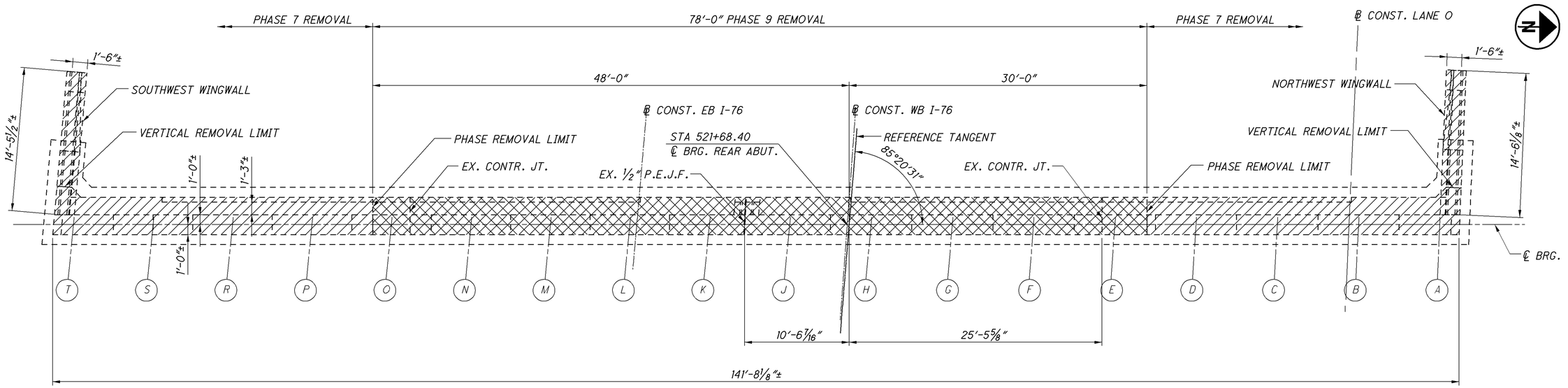
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CONSTRUCTION PHASING - EASTBOUND

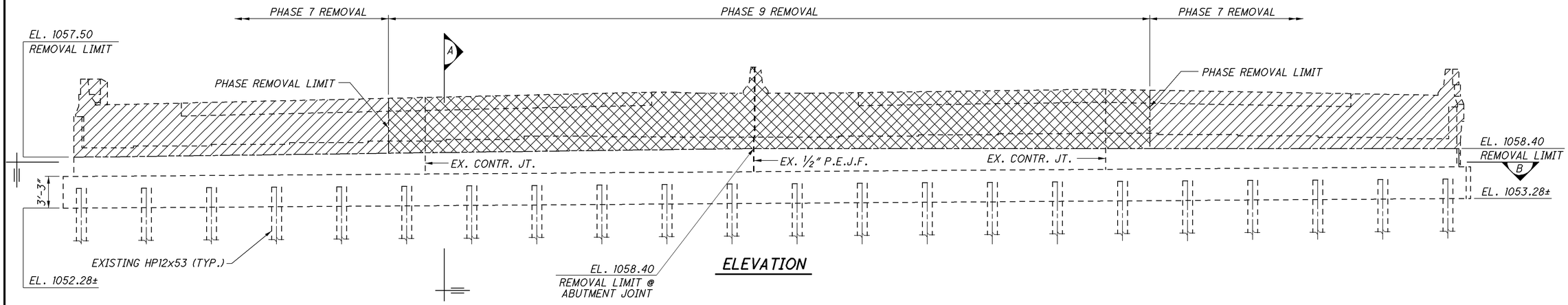
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I-76 OVER BROWN STREET

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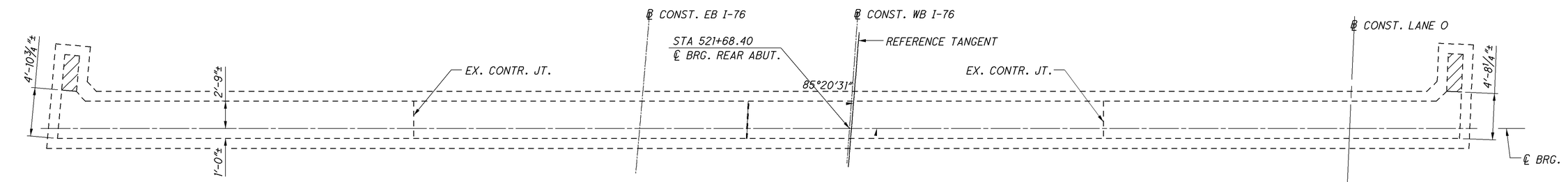
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PLAN



ELEVATION



SECTION B

LEGEND:

INDICATES REMOVAL LIMITS - PHASE 7

INDICATES REMOVAL LIMITS - PHASE 9

NOTE:

FOR SECTION A, SEE SHT. NO. 14/56

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9/16/2014
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GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

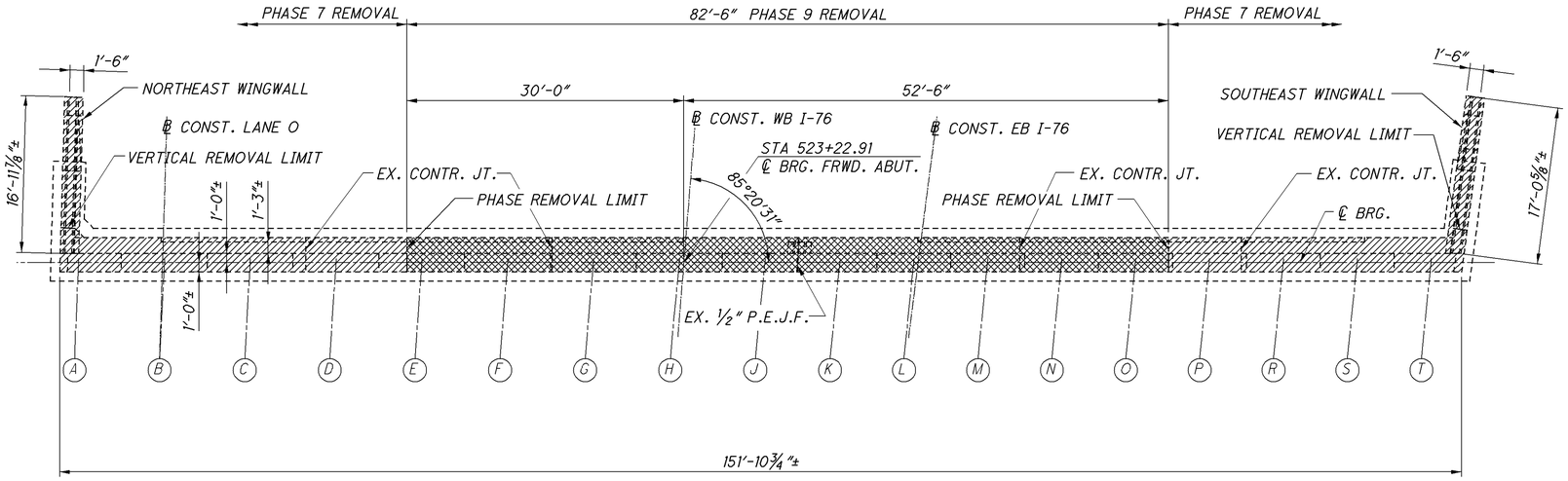
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DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77703031	

REAR ABUTMENT REMOVAL DETAILS
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

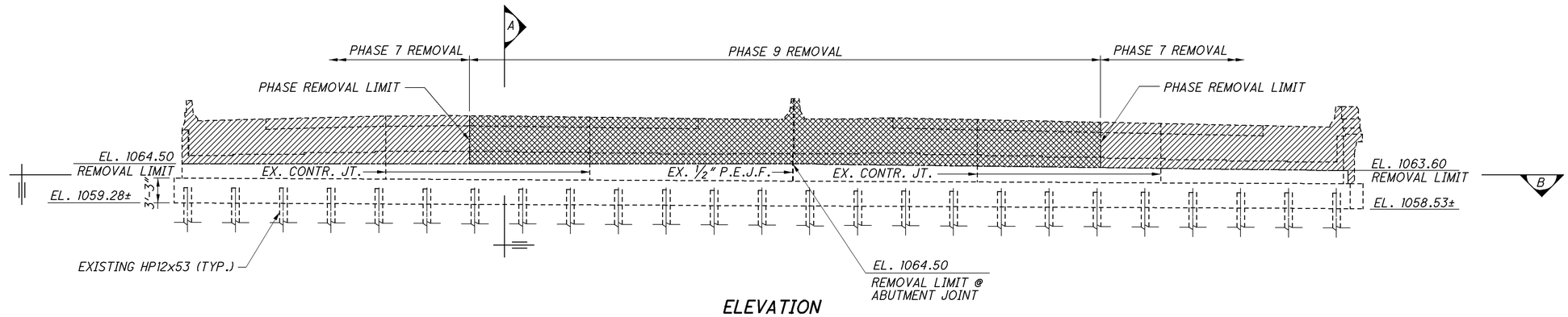
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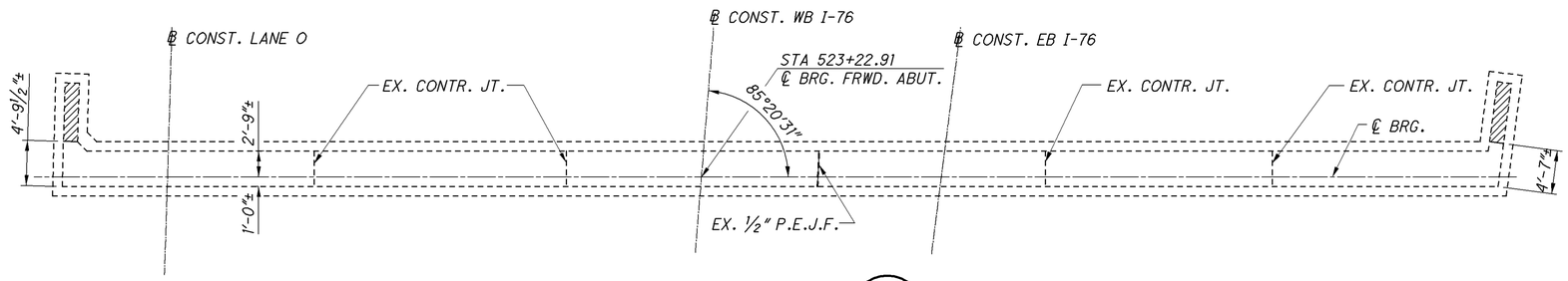
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PLAN



ELEVATION



SECTION B

LEGEND:

- INDICATES REMOVAL LIMITS - PHASE 7
- INDICATES REMOVAL LIMITS - PHASE 9

NOTE:

FOR SECTION A, SEE SHT. NO. 14/56

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

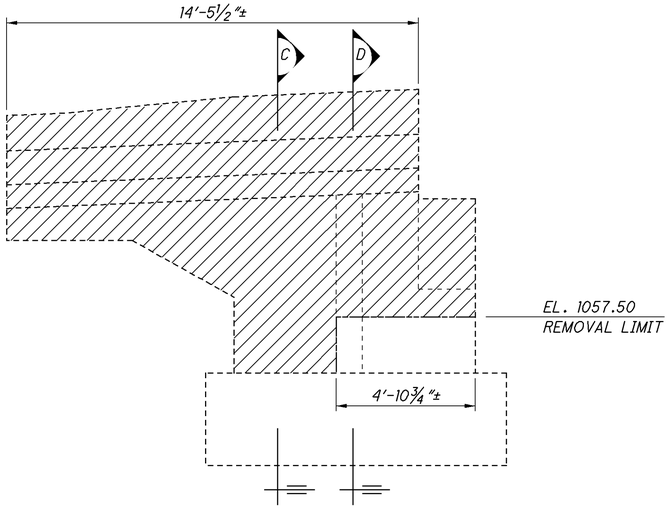
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BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
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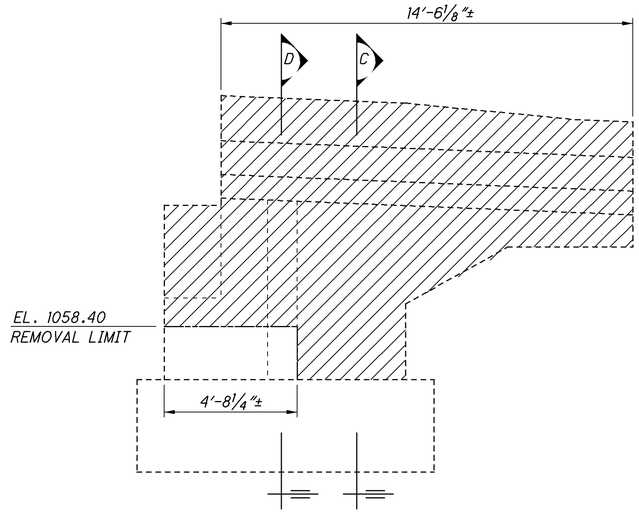
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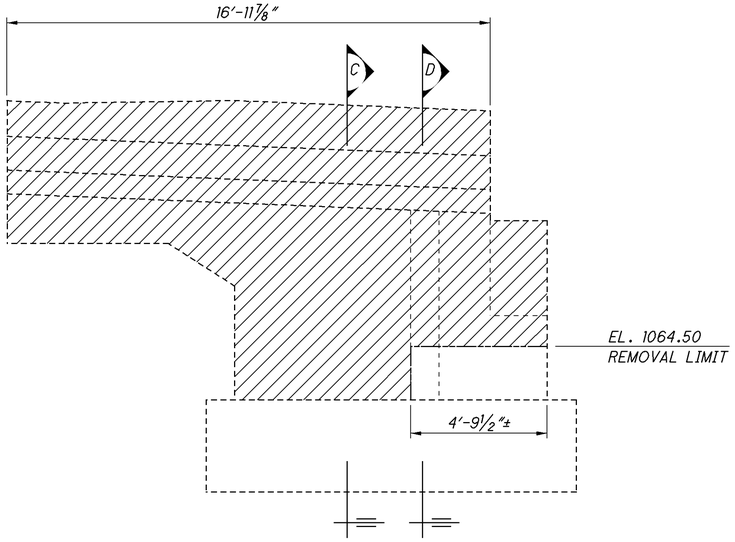
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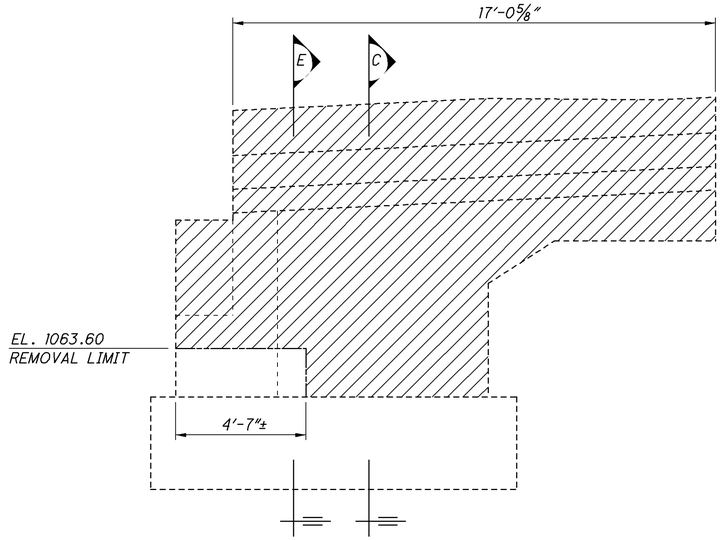
SOUTHWEST WINGWALL ELEVATION



NORTHWEST WINGWALL ELEVATION



NORTHEAST WINGWALL ELEVATION



SOUTHEAST WINGWALL ELEVATION

LEGEND:

INDICATES REMOVAL LIMITS - PHASE 7

NOTE:

FOR SECTION C, D & E, SEE SHT. NO. 14/56.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

ABUTMENT WINGWALL REMOVAL DETAILS

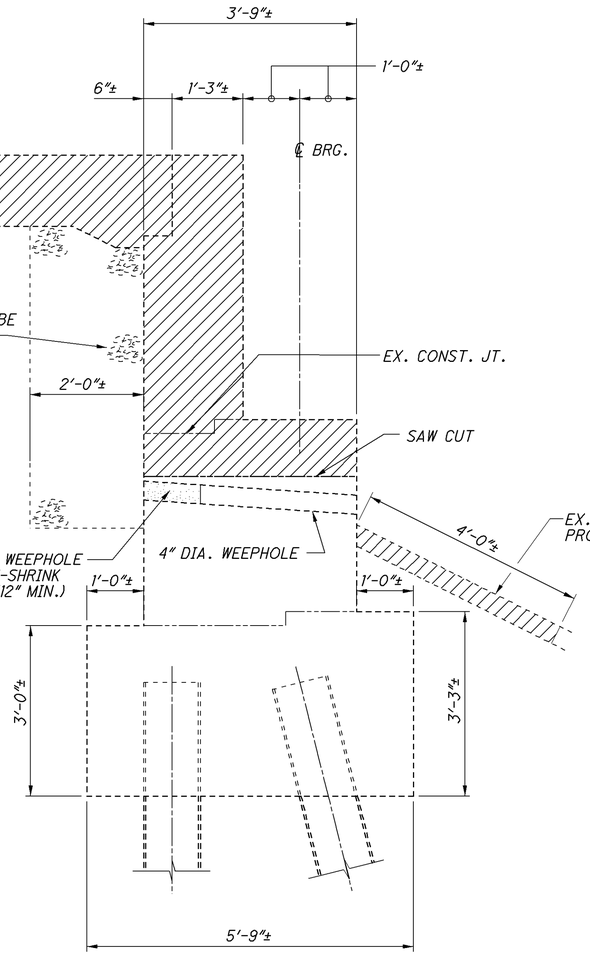
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

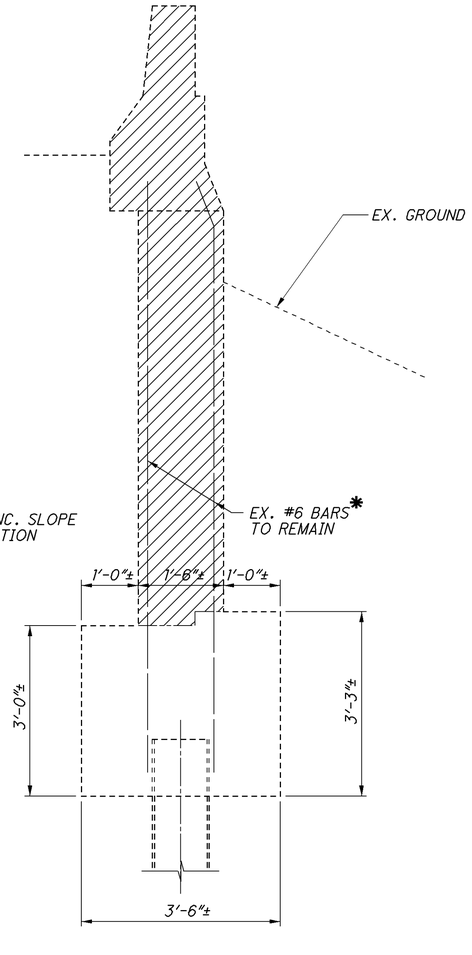
13 / 56

589
652

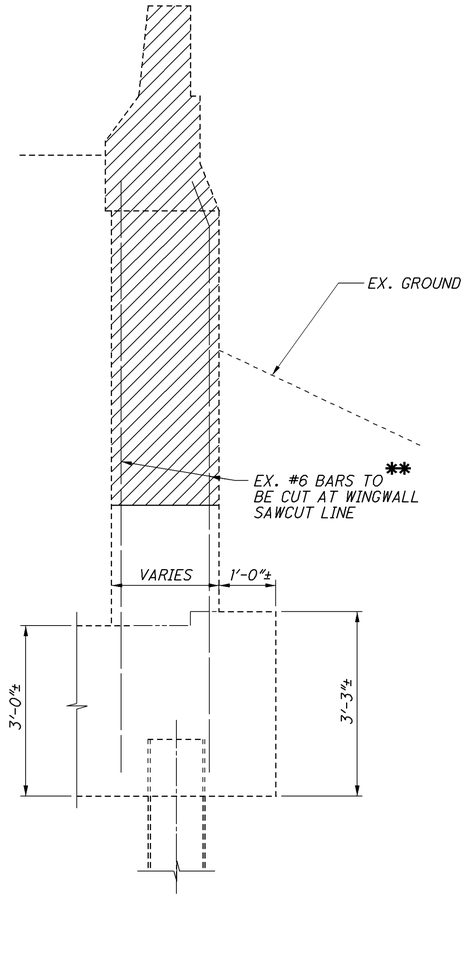
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NITELLI



SECTION A

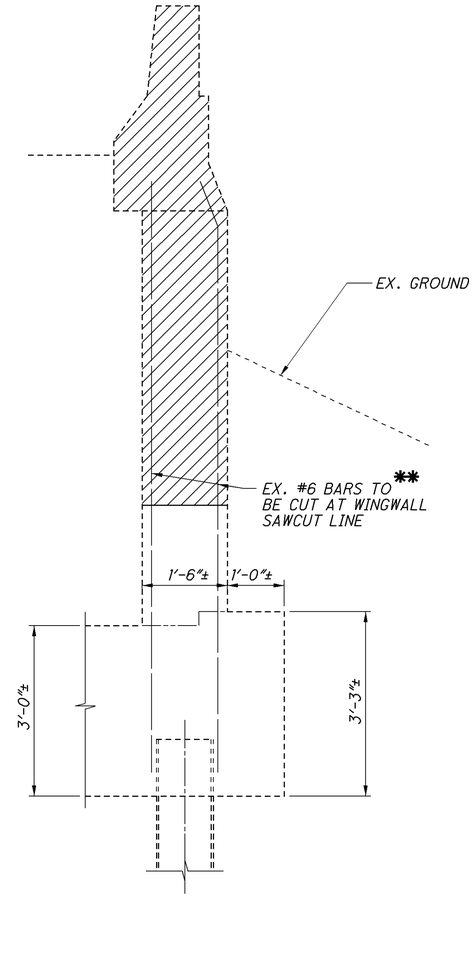


SECTION C



SECTION D

WINGWALL FILLET



SECTION E

LEGEND:

* AT THE OPTION OF THE CONTRACTOR, THE EXISTING #6 VERTICAL BARS CAN BE CUT OFF AT THE TOP OF THE WINGWALL FOOTING AND THE NEW PORTION OF THE WINGWALL CAN BE CONNECTED TO THE EXISTING FOOTING WITH NEW DOWEL BARS.

** FOR SECTIONS D & E ONLY

INDICATES LIMITS OF REMOVAL

DESIGN AGENCY
GPD GROUP
320 South Main Street, Suite 2251, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77031331	

ABUTMENT DEMOLITION SECTIONS

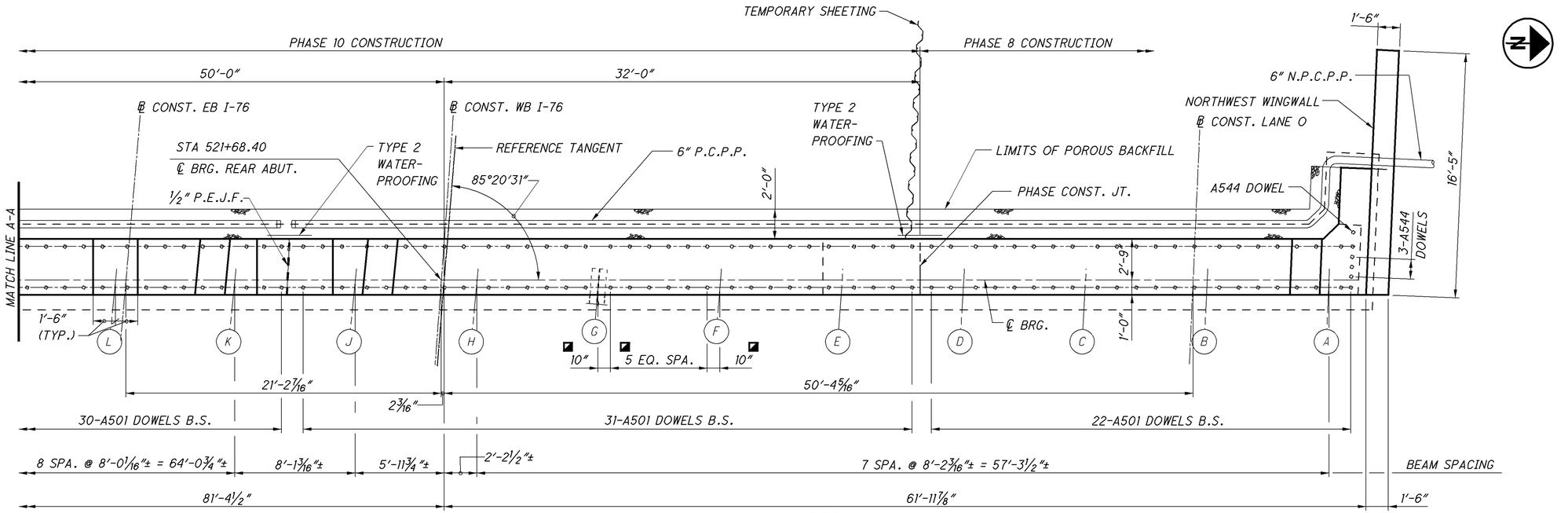
BRIDGE NO. SUM-76-1127
1-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

14 / 56

590
652

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PLAN

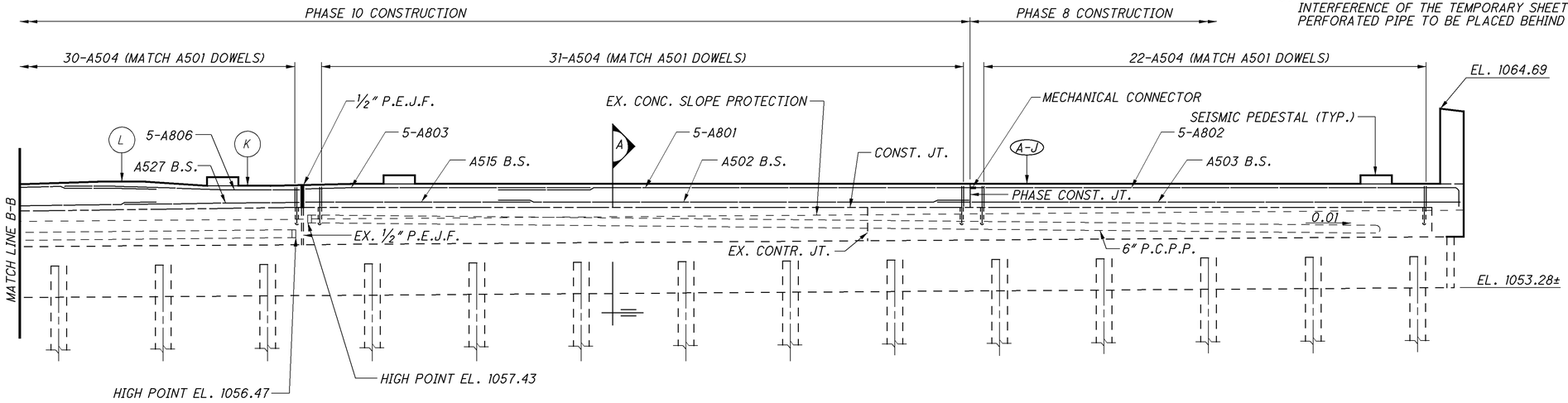
ELEVATION TABLE	
A-J	1059.90
K	1059.78
L	1060.04

LEGEND:

■ TYPICAL SPACING BETWEEN BEAMS

NOTES:

1. FOR SECTION A, SEE SHT. NO. 20/56.
2. FOR NORTHWEST WINGWALL DETAILS, SEE SHT. NO. 19/56.
3. FOR MATCH LINES A-A & B-B, SEE SHT. NO. 16/56.
4. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/56.
5. FOR PIPE OUTLET DETAIL, SEE SHT. NO. 16/56.
6. MINIMUM LAP LENGTHS, UNLESS OTHERWISE NOTED, SHALL BE AS FOLLOWS:
   #5 BARS - 2'-0"
   #8 BARS - 5'-10"
7. THE BACK OF THE ABUTMENT PHASE CONSTRUCTION JOINT SHALL ALSO BE SEALED WITH TYPE 2 WATERPROOFING, 711.25, 3'-0" WIDE, CENTERED OVER THE JOINT, FROM THE TOP OF THE FOOTING TO 1'-6" ABOVE THE BEAM SEAT.
8. AT THE PHASE CONSTRUCTION LOCATIONS, CARE SHALL BE TAKEN TO AVOID INTERFERENCE OF THE TEMPORARY SHEETING AND THE PROPOSED PERFORATED PIPE TO BE PLACED BEHIND THE ABUTMENT.



ELEVATION

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

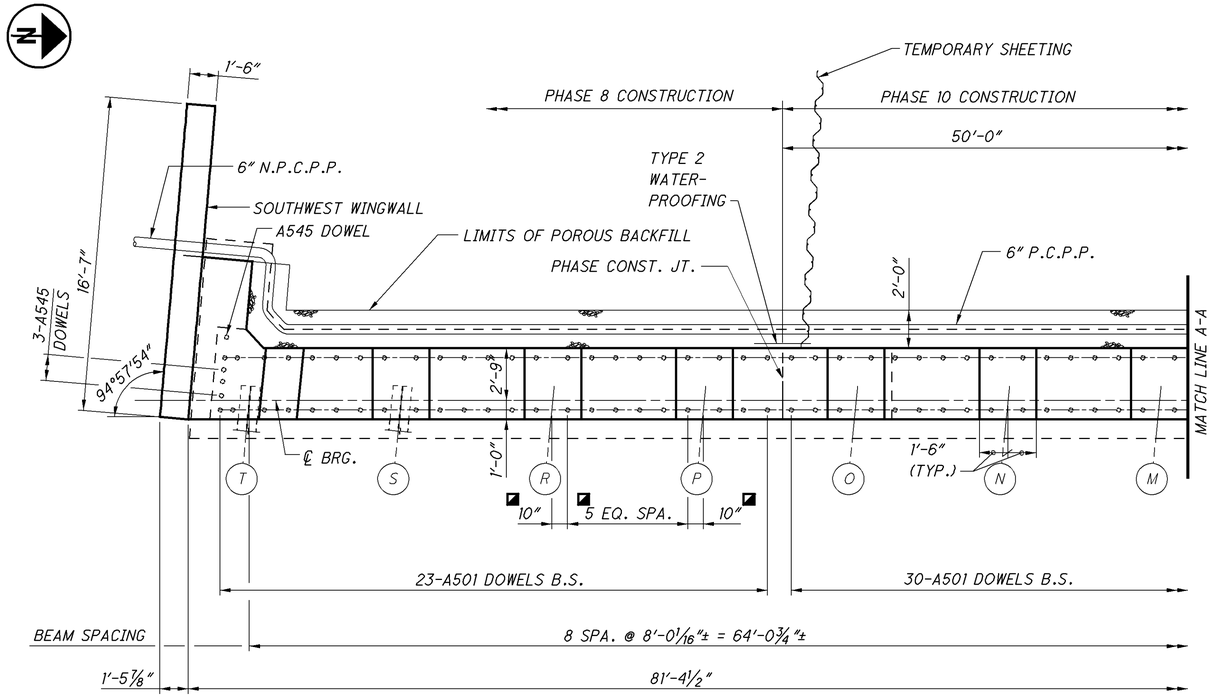
REAR ABUTMENT - WESTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

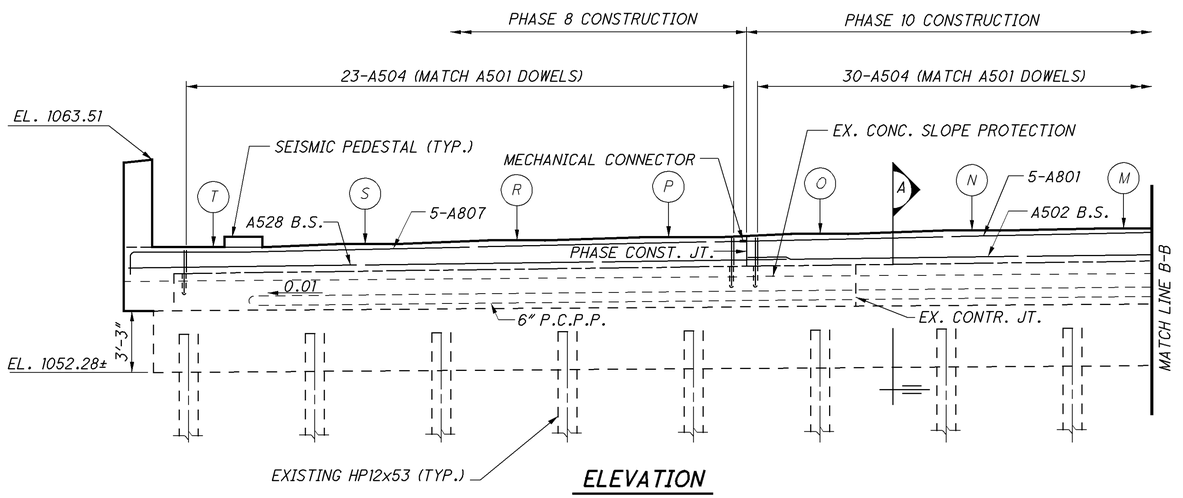
15 / 56

591
652

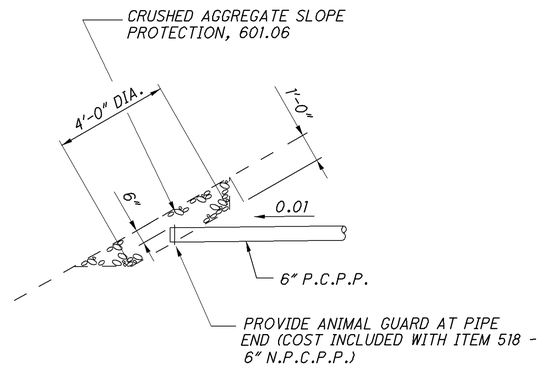
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9/15/2014
2:21:07 PM
RVITELLI



PLAN



ELEVATION



PIPE OUTLET DETAIL

ELEVATION TABLE			
(M)	1059.88	(R)	1059.25
(N)	1059.77	(S)	1059.06
(O)	1059.60	(T)	1058.89
(P)	1059.43		

LEGEND:

■ TYPICAL SPACING BETWEEN BEAMS

NOTES:

1. FOR SECTION A, SEE SHT. NO. 20/56.
2. FOR SOUTHWEST WINGWALL DETAILS, SEE SHT. NO. 19/56.
3. FOR MATCH LINES A-A & B-B, SEE SHT. NO. 15/56.
4. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/56.
5. MINIMUM LAP LENGTHS, UNLESS OTHERWISE NOTED, SHALL BE AS FOLLOWS:

   #5 BARS - 2'-0"

   #8 BARS - 5'-10"

6. THE BACK OF THE ABUTMENT PHASE CONSTRUCTION JOINT SHALL ALSO BE SEALED WITH TYPE 2 WATERPROOFING, 711.25, 3'-0" WIDE, CENTERED OVER THE JOINT, FROM THE TOP OF THE FOOTING TO 1'-6" ABOVE THE BEAM SEAT.
7. AT THE PHASE CONSTRUCTION LOCATIONS, CARE SHALL BE TAKEN TO AVOID INTERFERENCE OF THE TEMPORARY SHEETING AND THE PROPOSED PERFORATED PIPE TO BE PLACED BEHIND THE ABUTMENT.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

REAR ABUTMENT - EASTBOUND

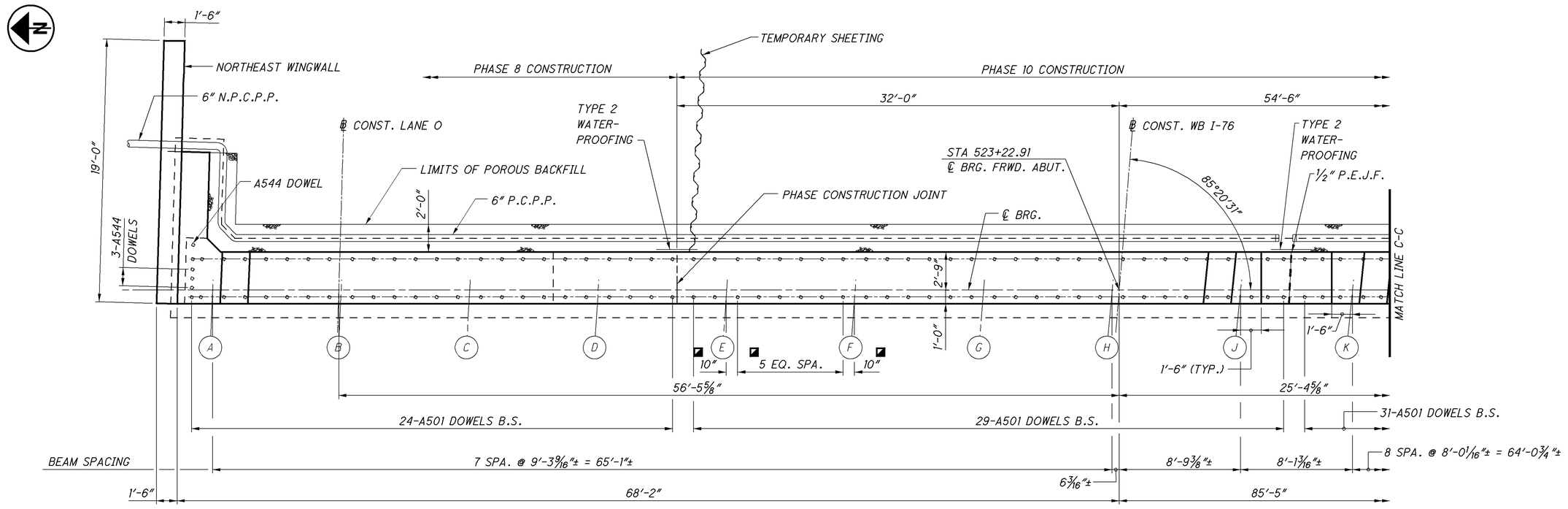
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

16/56

592/652

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9/15/2014
2:21:41 PM
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ELEVATION TABLE	
A-J	1066.10
K	1065.79

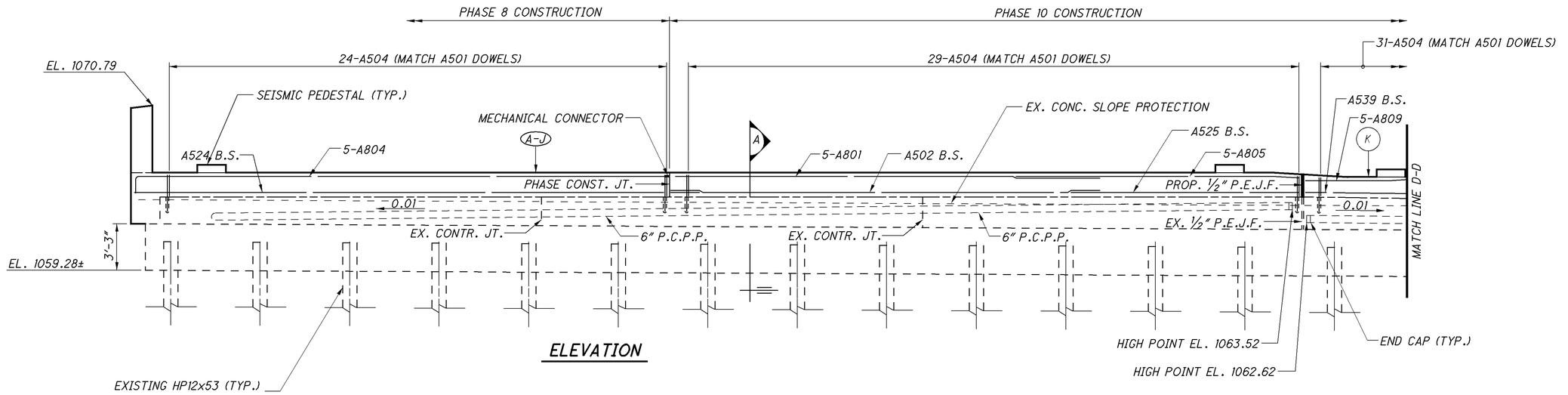
PLAN

LEGEND:

■ TYPICAL SPACING BETWEEN BEAMS

NOTES:

1. FOR SECTION A, SEE SHT. NO. 20/56.
2. FOR NORTHEAST WINGWALL DETAILS, SEE SHT. NO. 19/56.
3. FOR MATCH LINES C-C & D-D, SEE SHT. NO. 18/56.
4. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/56.
5. FOR PIPE OUTLET DETAIL, SEE SHT. NO. 16/56.
6. MINIMUM LAP LENGTHS, UNLESS OTHERWISE NOTED, SHALL BE AS FOLLOWS:
   #5 BARS - 2'-0"
   #8 BARS - 5'-10"
7. THE BACK OF THE ABUTMENT PHASE CONSTRUCTION JOINT SHALL ALSO BE SEALED WITH TYPE 2 WATERPROOFING, 711.25, 3'-0" WIDE, CENTERED OVER THE JOINT, FROM THE TOP OF THE FOOTING TO 1'-6" ABOVE THE BEAM SEAT.
8. AT THE PHASE CONSTRUCTION LOCATIONS, CARE SHALL BE TAKEN TO AVOID INTERFERENCE OF THE TEMPORARY SHEETING AND THE PROPOSED PERFORATED PIPE TO BE PLACED BEHIND THE ABUTMENT.



ELEVATION

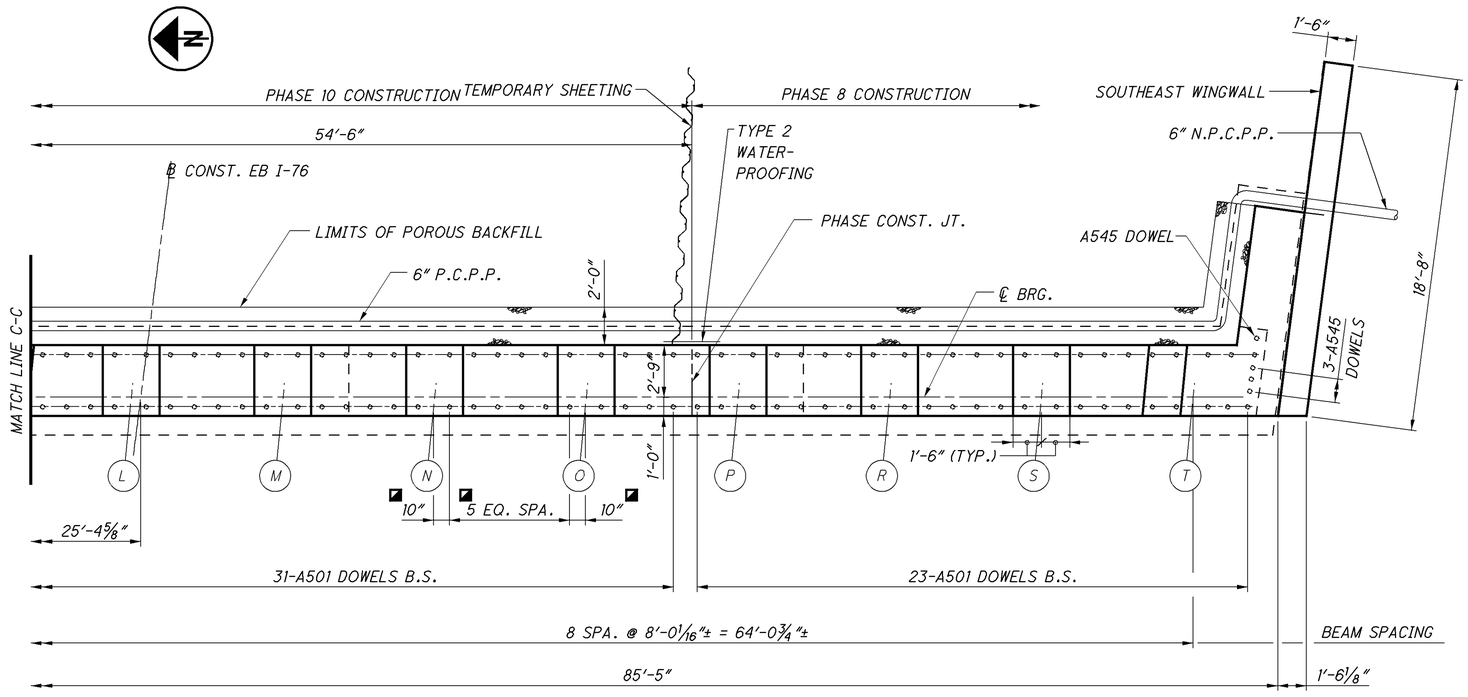
DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DATE 4-2-14
REVIEWED DGN
STRUCTURE FILE NUMBER 77003031
DRAWN RFV
REVISED
DESIGNED DJC
CHECKED TJW

FORWARD ABUTMENT - WESTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

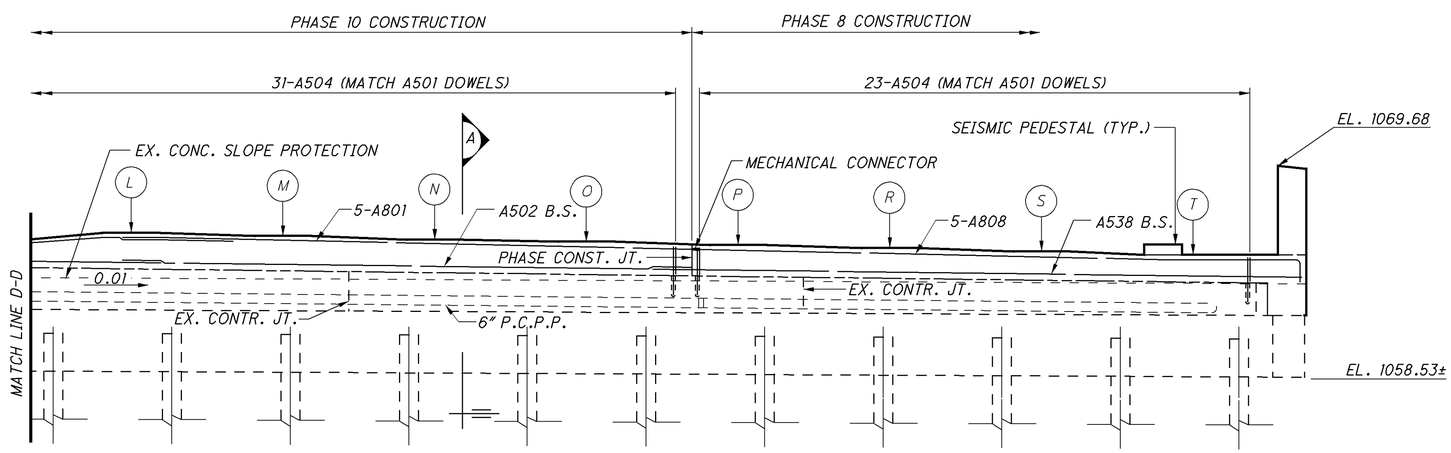
SUM-76/77-11.27/12.12
PID No. 86979

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9/16/2014
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PLAN

ELEVATION TABLE			
L	1066.15	P	1065.49
M	1065.97	R	1065.34
N	1065.78	S	1065.16
O	1065.67	T	1064.98



ELEVATION

LEGEND:

◪ TYPICAL SPACING BETWEEN BEAMS

NOTES:

1. FOR SECTION A, SEE SHT. NO. 20/56.
2. FOR SOUTHEAST WINGWALL DETAILS, SEE SHT. NO. 19/56.
3. FOR MATCH LINES C-C & D-D, SEE SHT. NO. 17/56.
4. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/56.
5. FOR PIPE OUTLET DETAIL, SEE SHT. NO. 16/56.
6. MINIMUM LAP LENGTHS, UNLESS OTHERWISE NOTED, SHALL BE AS FOLLOWS:

   #5 BARS - 2'-0"

   #8 BARS - 5'-10"

7. THE BACK OF THE ABUTMENT PHASE CONSTRUCTION JOINT SHALL ALSO BE SEALED WITH TYPE 2 WATERPROOFING, 711.25, 3'-0" WIDE, CENTERED OVER THE JOINT, FROM THE TOP OF THE FOOTING TO 1'-6" ABOVE THE BEAM SEAT.
8. AT THE PHASE CONSTRUCTION LOCATIONS, CARE SHALL BE TAKEN TO AVOID INTERFERENCE OF THE TEMPORARY SHEETING AND THE PROPOSED PERFORATED PIPE TO BE PLACED BEHIND THE ABUTMENT.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77031031	

FORWARD ABUTMENT - EASTBOUND

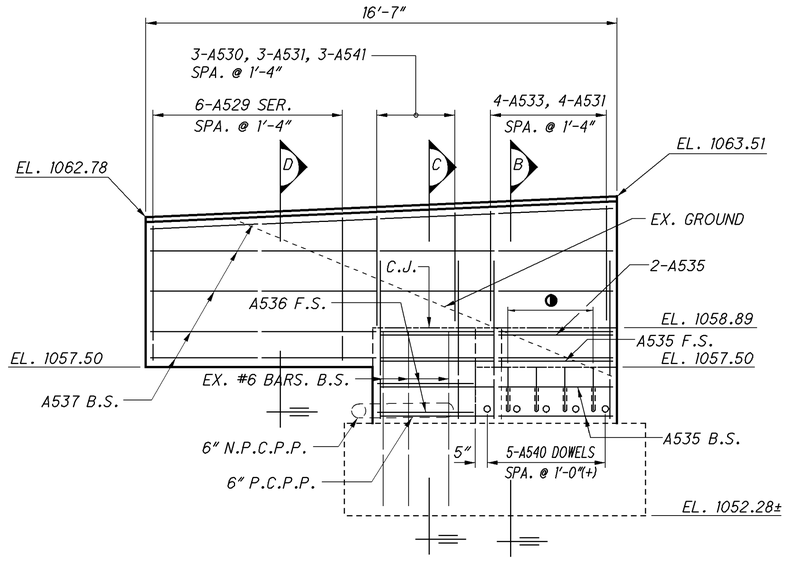
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I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
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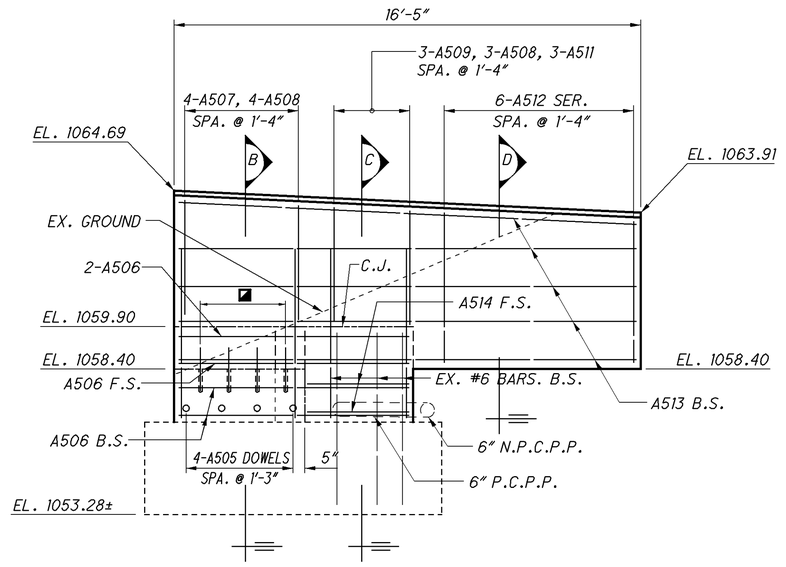
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594/652

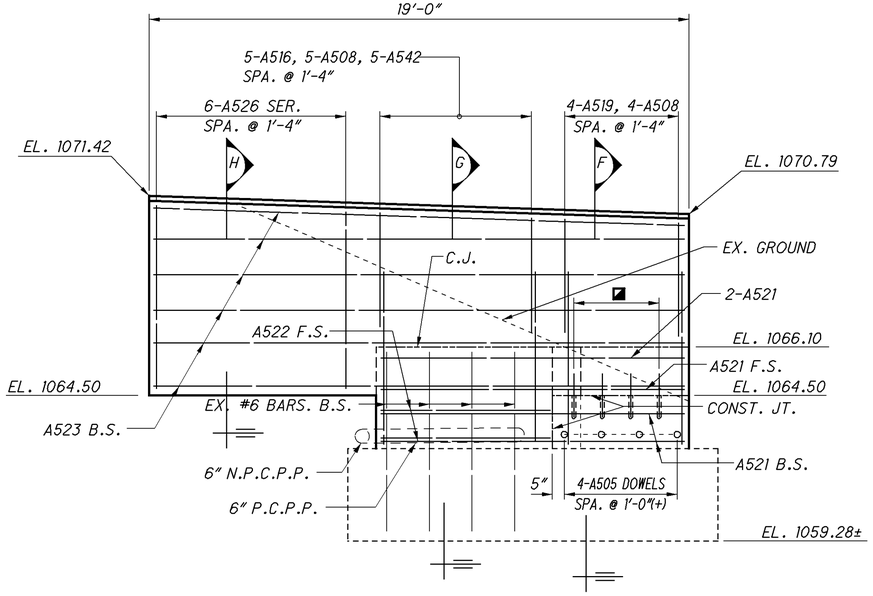
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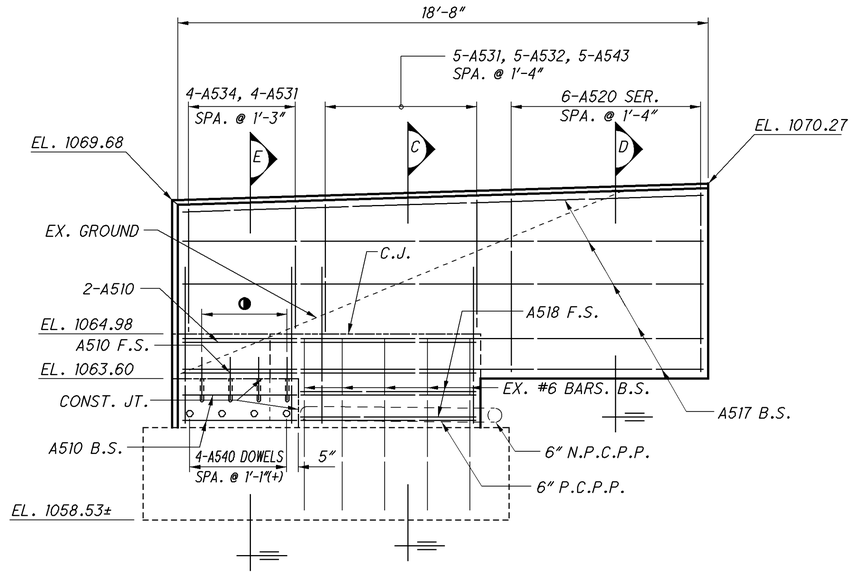
SOUTHWEST WINGWALL ELEVATION



NORTHWEST WINGWALL ELEVATION



NORTHEAST WINGWALL ELEVATION



SOUTHEAST WINGWALL ELEVATION

LEGEND:

◪ = 4-A544 DOWELS
◑ = 4-A545 DOWELS

NOTE:

FOR SECTIONS B, C, D, E, F, G AND H, SEE SHT. NO. 21/56.

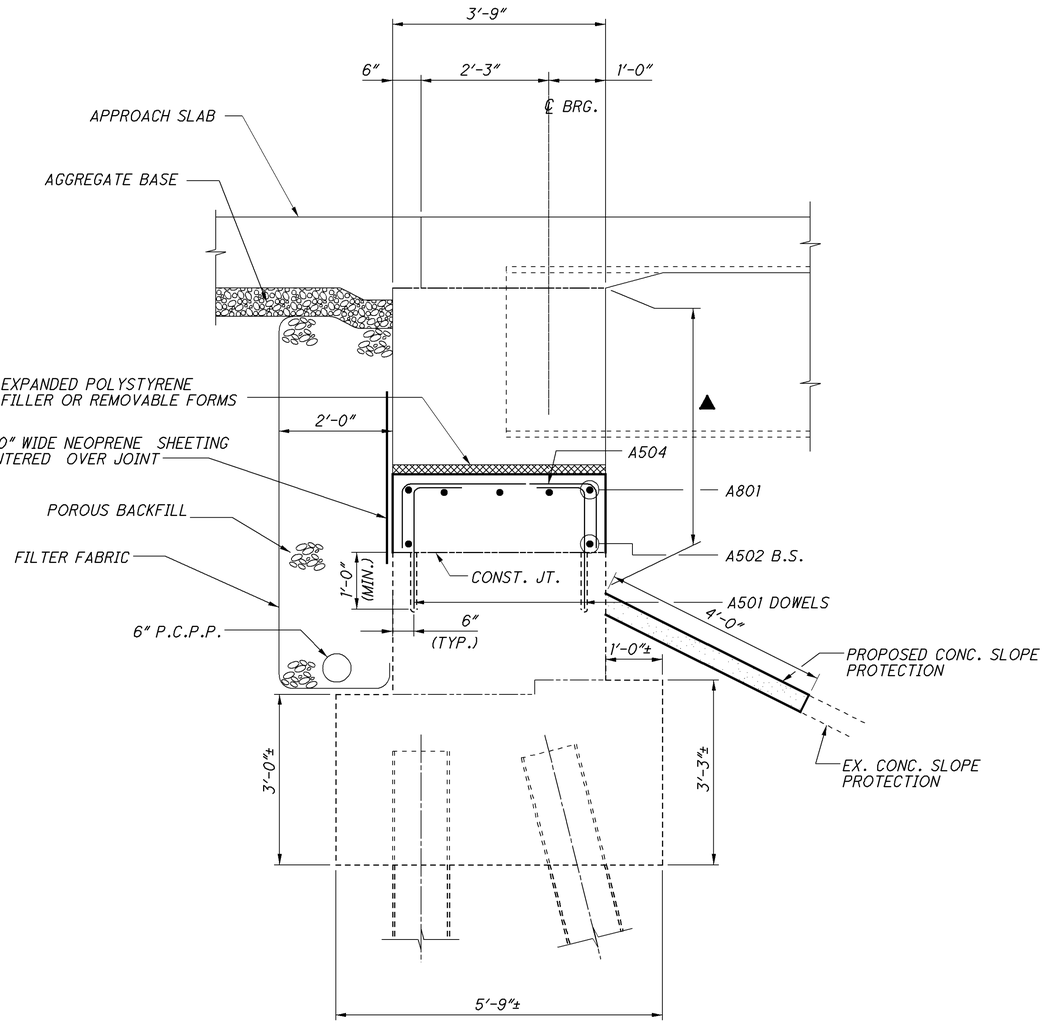
DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311-1073
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

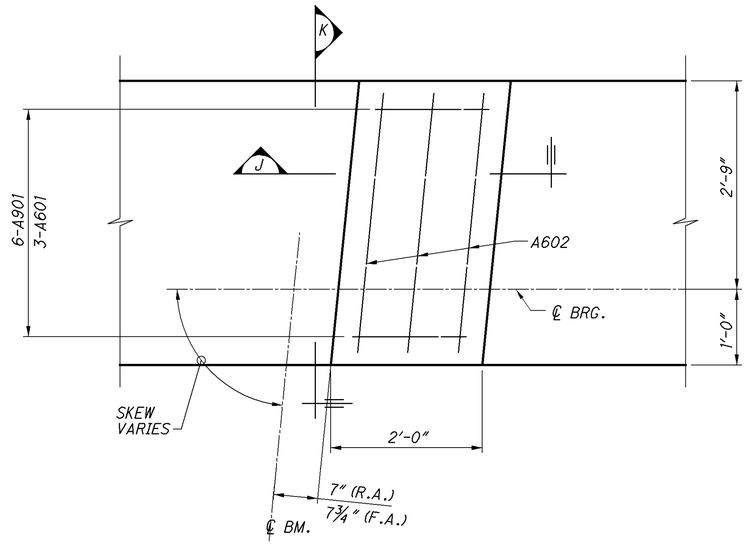
WINGWALL DETAILS
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN ST.

SUM-76/77-11.27/12.12
PID No. 86979

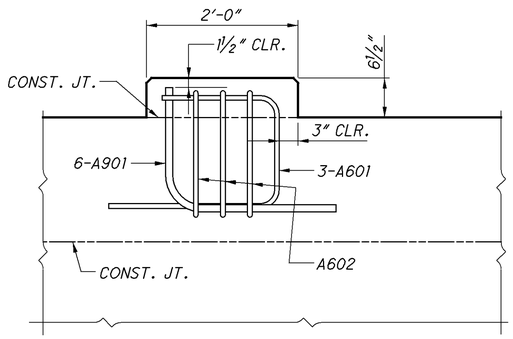
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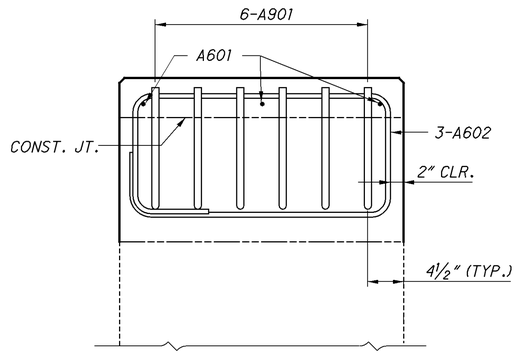
SECTION A



TYPICAL SEISMIC PEDESTAL DETAIL



SECTION J



SECTION K

LEGEND:

▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

DESIGN AGENCY
GPD GROUP
330-724-2100
320 South Main Street, Suite 2251, Akron, Ohio 44311
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77033031	

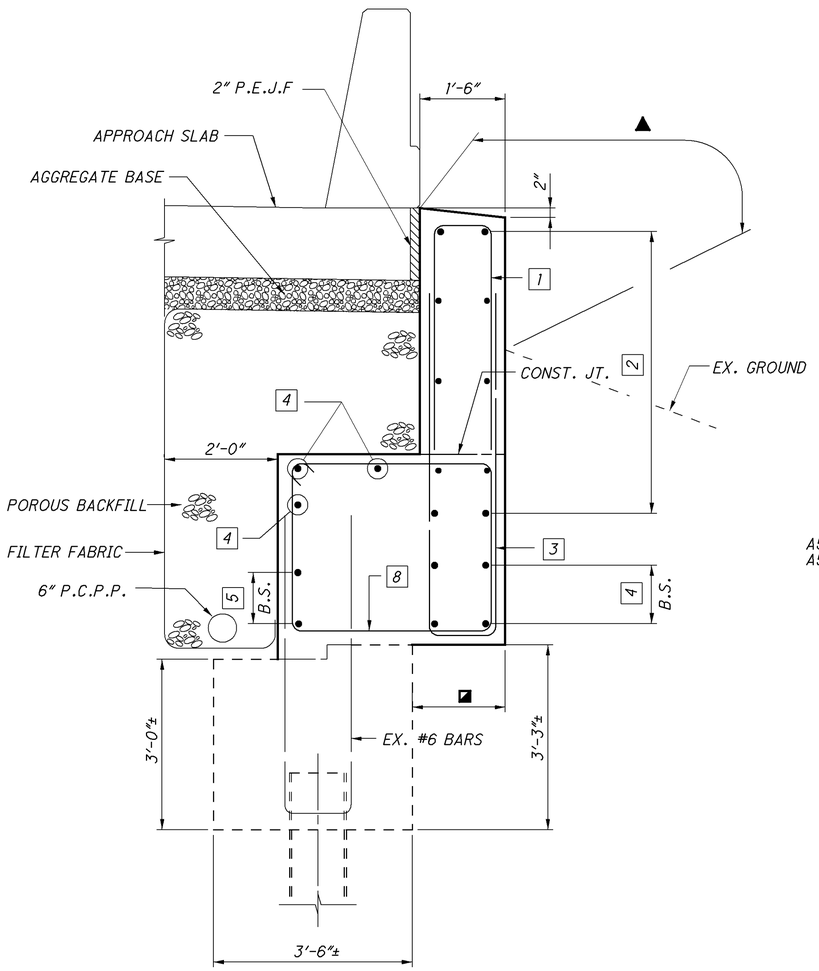
ABUTMENT MODIFICATION SECTIONS
BRIDGE NO. SUM-76-1127
1-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

20/56

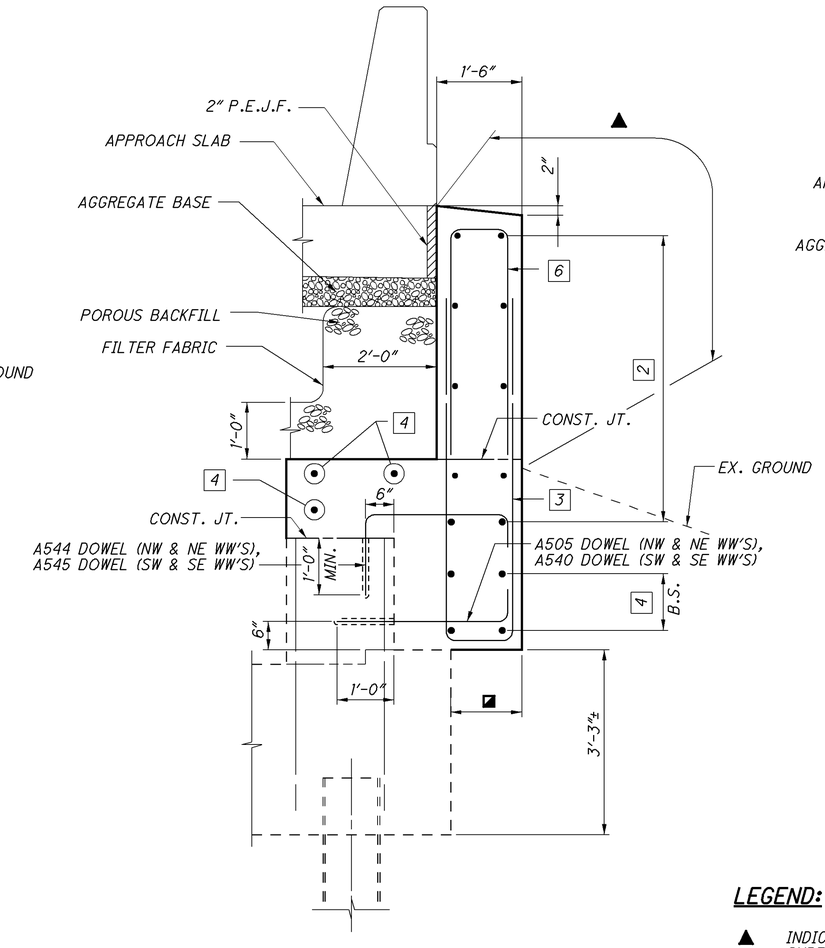
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9/16/2014
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SECTION C

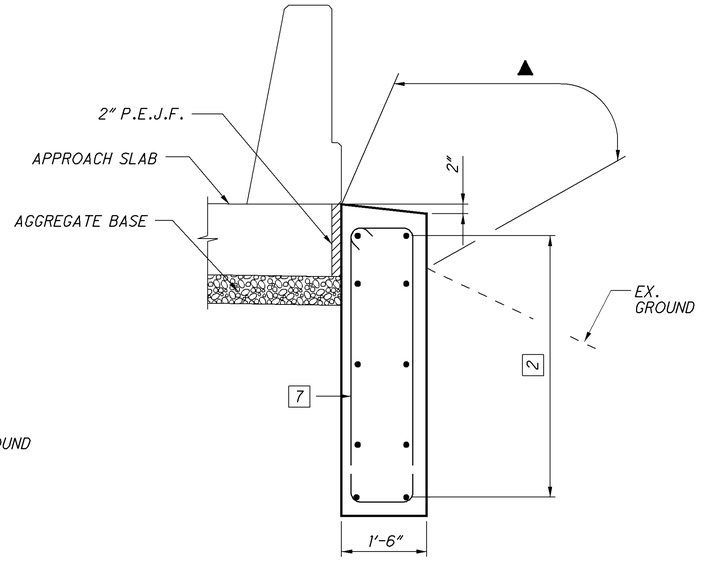
SECTION G SIM.



SECTION B

SECTION E SIM.

SECTION F SIM.



SECTION D

SECTION H SIM.

LEGEND:

▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

◪ 1'-7½"± SOUTH WINGWALLS
1'-0½"± NORTH WINGWALLS

1	A509 - NORTHWEST WINGWALL A530 - SOUTHWEST WINGWALL A516 - NORTHEAST WINGWALL A532 - SOUTHEAST WINGWALL	5	A514 - NORTHWEST WINGWALL A536 - SOUTHWEST WINGWALL A522 - NORTHEAST WINGWALL A518 - SOUTHEAST WINGWALL
2	A513 - NORTHWEST WINGWALL A537 - SOUTHWEST WINGWALL A523 - NORTHEAST WINGWALL A517 - SOUTHEAST WINGWALL	6	A507 - NORTHWEST WINGWALL A533 - SOUTHWEST WINGWALL A519 - NORTHEAST WINGWALL A534 - SOUTHEAST WINGWALL
3	A508 - NORTHWEST WINGWALL A531 - SOUTHWEST WINGWALL A508 - NORTHEAST WINGWALL A531 - SOUTHEAST WINGWALL	7	A512 SER. - NORTHWEST WINGWALL A529 SER. - SOUTHWEST WINGWALL A526 SER. - NORTHEAST WINGWALL A520 SER. - SOUTHEAST WINGWALL
4	A506 - NORTHWEST WINGWALL A535 - SOUTHWEST WINGWALL A521 - NORTHEAST WINGWALL A510 - SOUTHEAST WINGWALL	8	A511 - NORTHWEST WINGWALL A541 - SOUTHWEST WINGWALL A542 - NORTHEAST WINGWALL A543 - SOUTHEAST WINGWALL

DESIGN AGENCY
GPD GROUP
330-572-2100
320 South Main Street, Suite 2251, Akron, Ohio 44311 Fax 330-572-2101

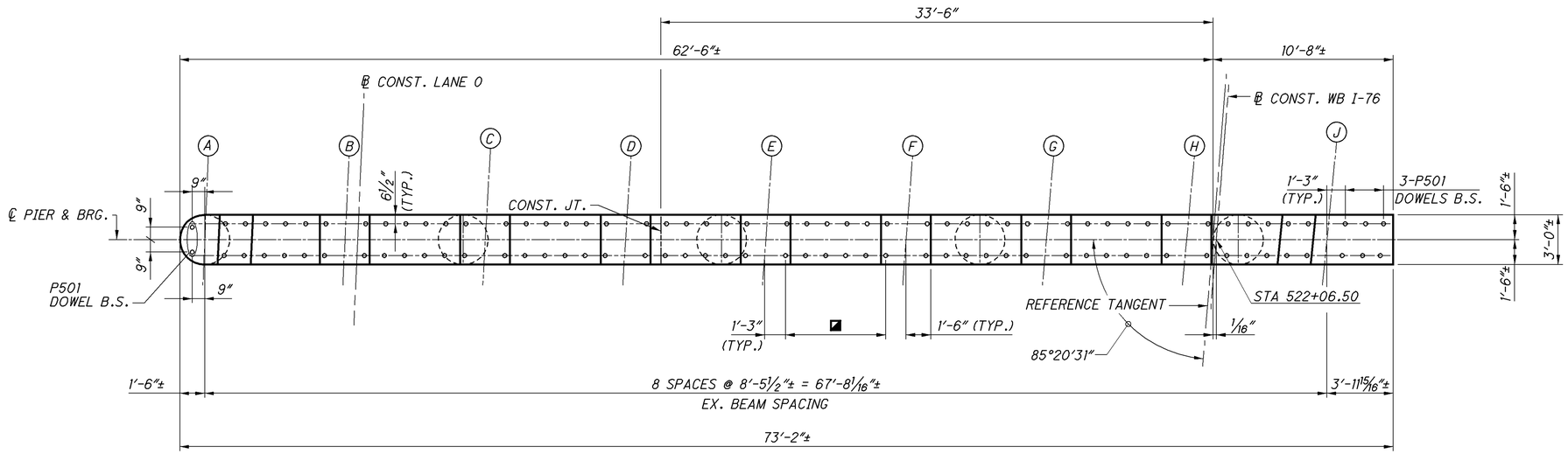
DESIGNED	DRAWN	REVIEWED	DATE
DJC	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77033031	

ABUTMENT MODIFICATION SECTIONS

BRIDGE NO. SUM-76-1127
1-76 OVER BROWN STREET

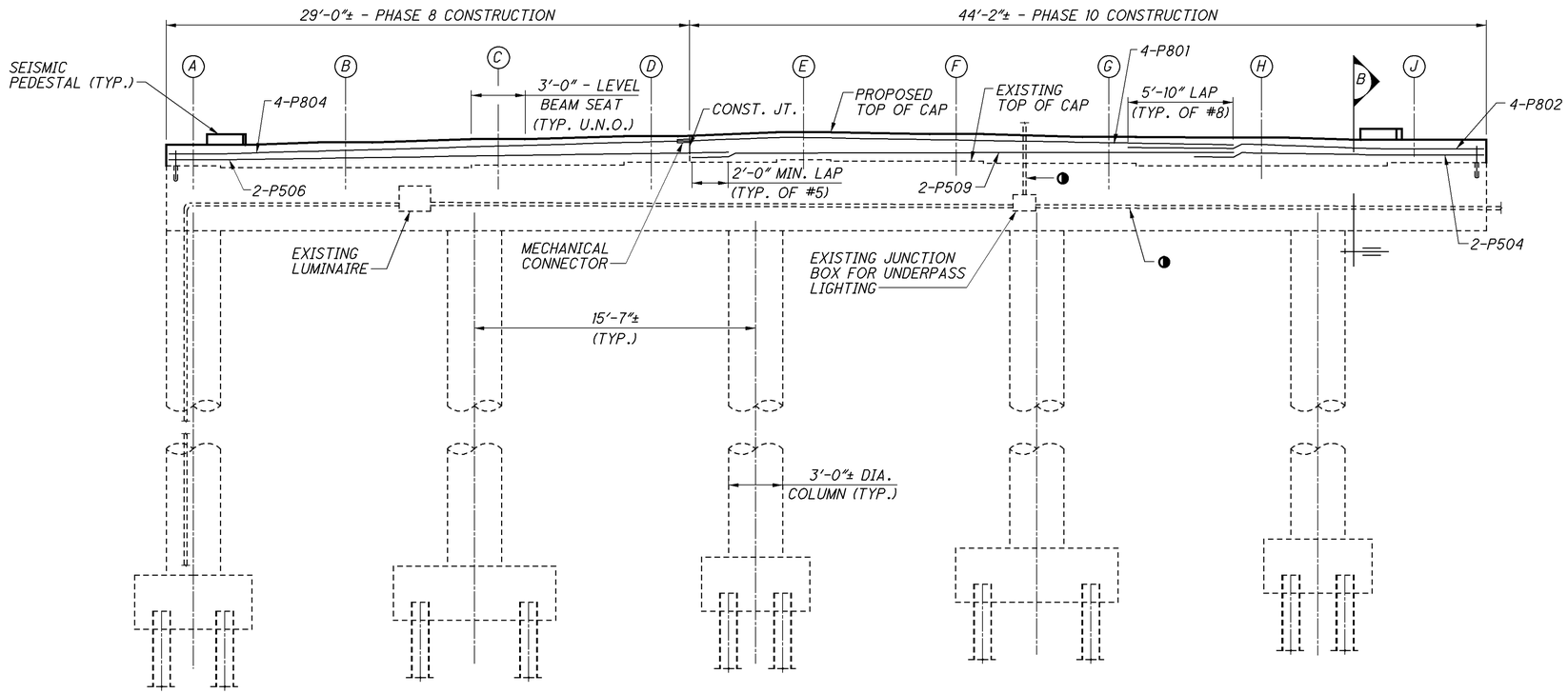
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PLAN

PROPOSED ELEVATIONS									
LOCATION	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	Ⓙ
PIER 1	1061.72	1061.84	1062.00	1062.11	1062.26	1062.18	1062.10	1061.94	1061.87



ELEVATION

LOOKING UPSTATION

LEGEND:

- ◪ 6-P501 DOWELS B.S. EQUALLY SPACED. TYP. BTWN. BEAMS U.N.O.
- ◐ EXISTING UNDERPASS LIGHTING CONDUIT SEE THE LIGHTING PLANS FOR MORE INFORMATION

NOTES:

1. FOR SECTION B AND SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 26/56 .
2. CLEAN AND ROUGHEN THE TOP OF EXISTING PIER CAP BEFORE PLACING DOWELS AND POURING NEW CONCRETE. THE LABOR & MATERIALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
3. THE EXISTING UNDERPASS LIGHTING & CONDUIT SHOWN ATTACHED TO THE EXISTING PIER IS ON THE OPPOSITE SIDE OF THE PIER FROM THIS VIEW. SEE THE LIGHTING PLANS FOR MORE INFORMATION.

DESIGN AGENCY
GPD GROUP
320 South Main Street, Suite 2251, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77703031	

PIER 1 - WESTBOUND PLAN & ELEVATION

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

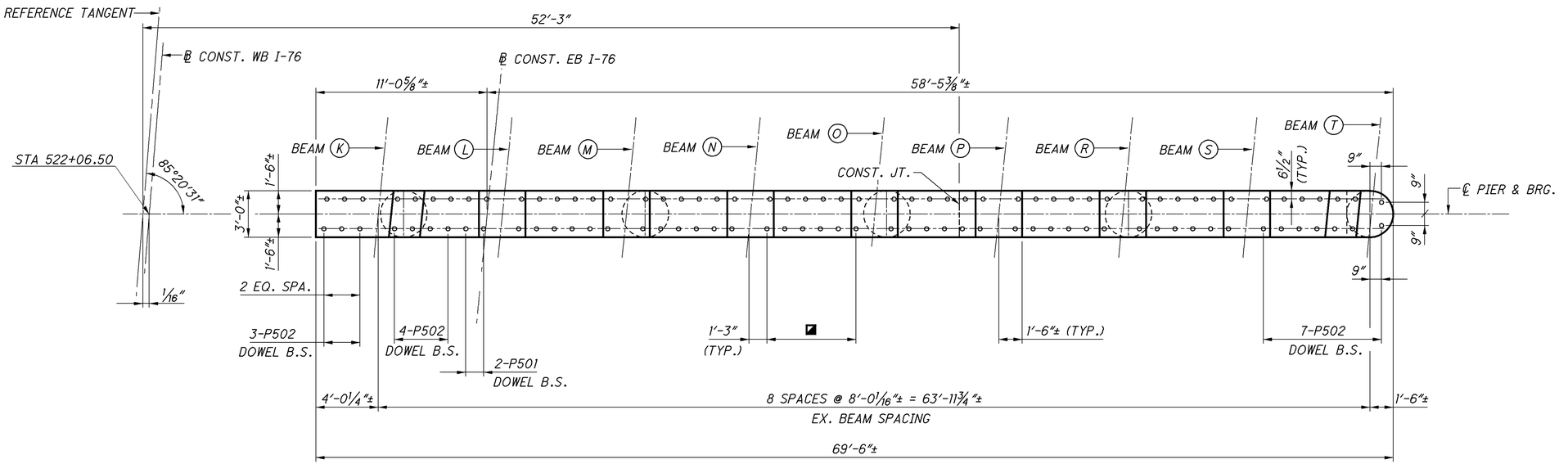
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PID No. 86979

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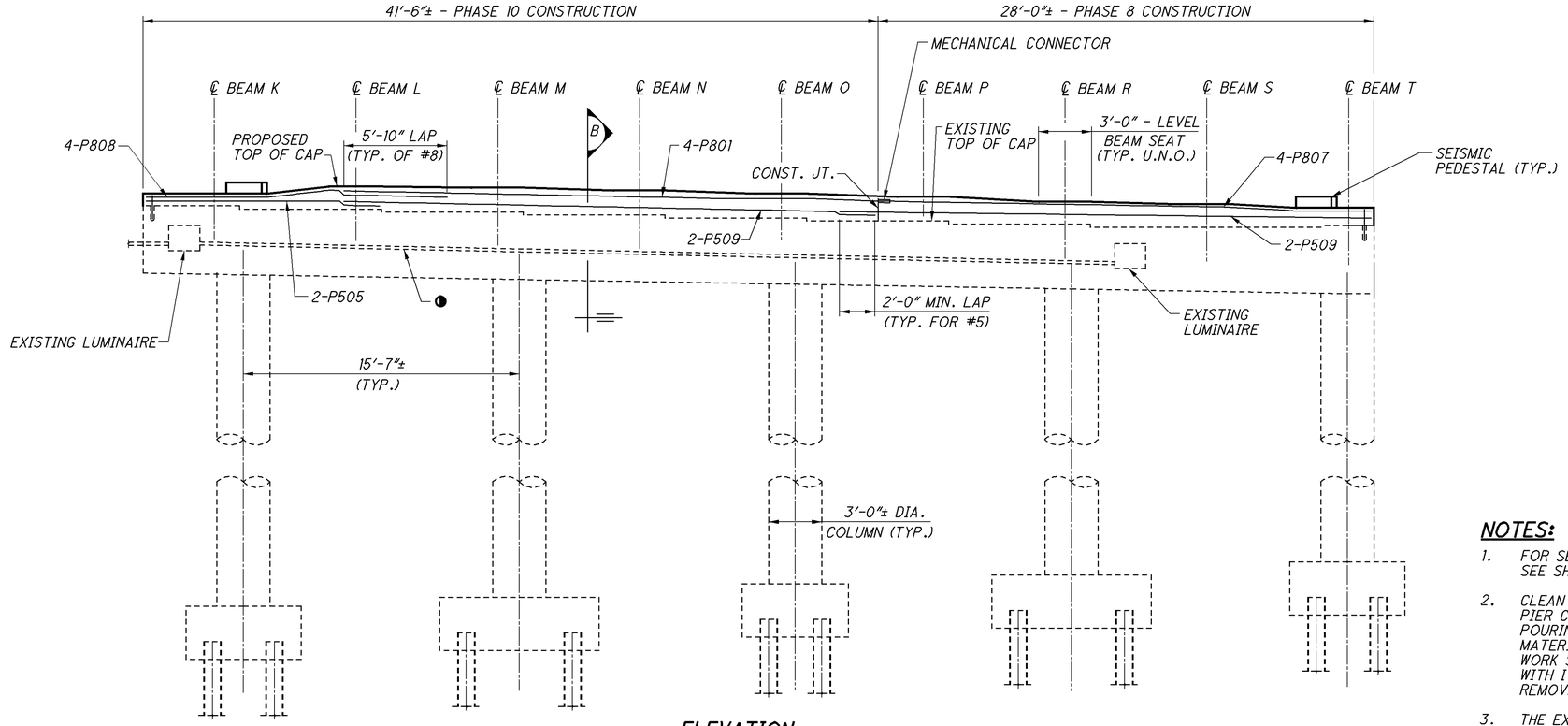
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PLAN

PROPOSED ELEVATIONS									
LOCATION	(K)	(L)	(M)	(N)	(O)	(P)	(R)	(S)	(T)
PIER 1	1061.46	1061.82	1061.64	1061.47	1061.29	1061.11	1060.83	1060.69	1060.49



ELEVATION

LOOKING UPSTATION

LEGEND:

- ◪ 6-P501 DOWELS B.S. EQUALLY SPACED. TYP. BTWN. BEAMS U.N.O.
- ◑ EXISTING UNDERPASS LIGHTING CONDUIT SEE THE LIGHTING PLANS FOR MORE INFORMATION

NOTES:

1. FOR SECTION B AND SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 26/56.
2. CLEAN AND ROUGHEN THE TOP OF EXISTING PIER CAP BEFORE PLACING DOWELS AND POURING NEW CONCRETE. THE LABOR & MATERIALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
3. THE EXISTING UNDERPASS LIGHTING & CONDUIT SHOWN ATTACHED TO THE EXISTING PIER IS ON THE OPPOSITE SIDE OF THE PIER FROM THIS VIEW. SEE THE LIGHTING PLANS FOR MORE INFORMATION.

DESIGN AGENCY
GPD GROUP
330-572-2100
320 South Main Street, Suite 2251, Akron, Ohio 44311 Fax 330-572-2101

DESIGNED DJC | DRAWN RFV | REVIEWED DGN | DATE 4-2-14 | STRUCTURE FILE NUMBER 77033031 | CHECKED TJW | REVISED

PIER 1 - EASTBOUND PLAN & ELEVATION

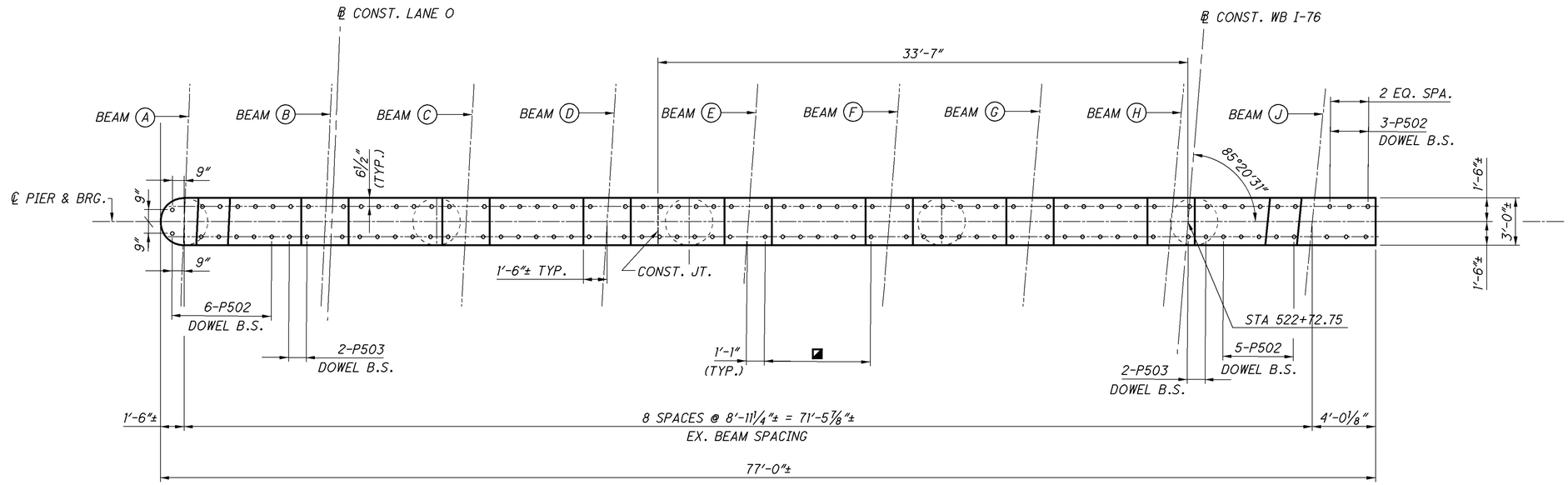
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I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

23/56

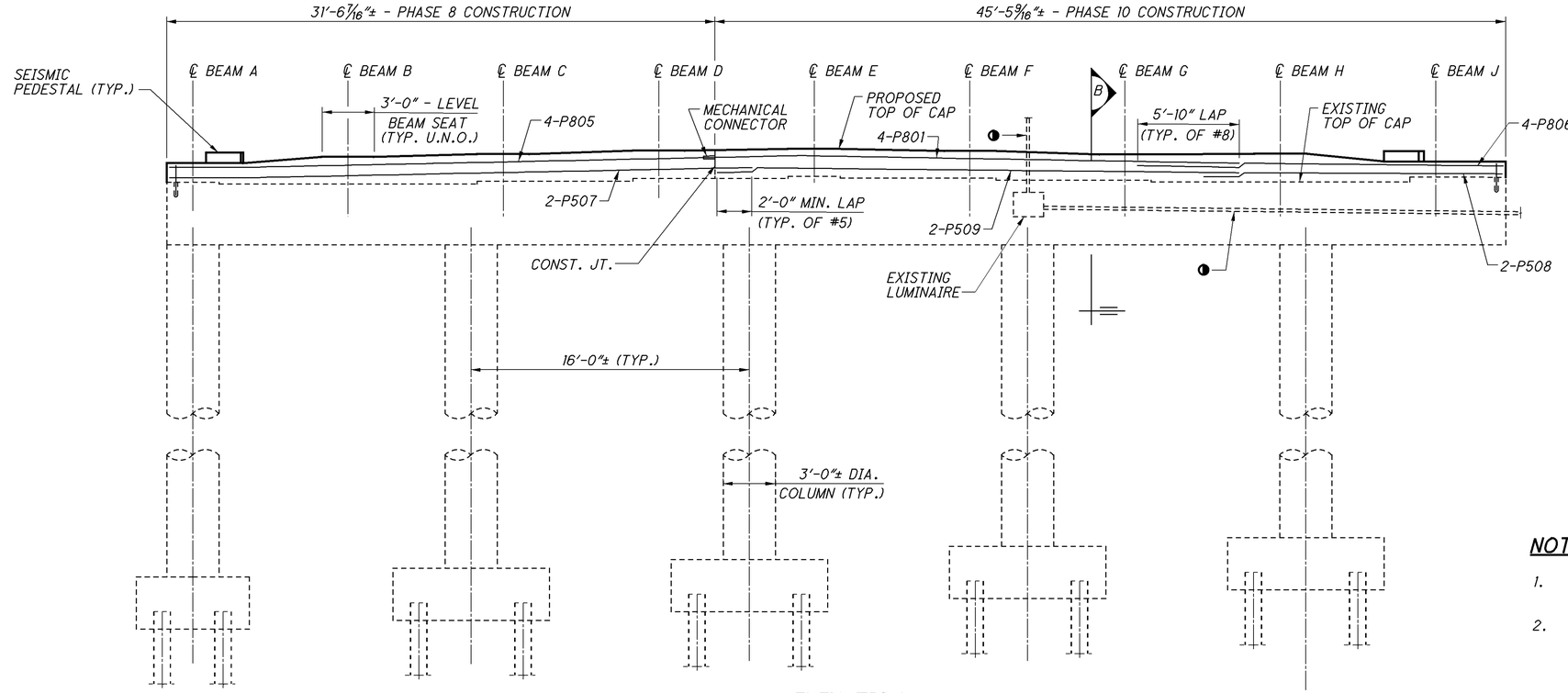
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PLAN

PROPOSED ELEVATIONS									
LOCATION	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(J)
PIER 2	1064.39	1064.52	1064.68	1064.85	1064.98	1064.87	1064.73	1064.64	1064.52



ELEVATION

LOOKING UPSTATION

LEGEND:

- ◪ 7-P503 DOWELS B.S. EQUALLY SPACED. TYP. BTWN. BEAMS U.N.O.
- ◑ EXISTING UNDERPASS LIGHTING CONDUIT SEE THE LIGHTING PLANS FOR MORE INFORMATION

NOTES:

1. FOR SECTION B AND SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 26/56
2. CLEAN AND ROUGHEN THE TOP OF EXISTING PIER CAP BEFORE PLACING DOWELS AND POURING NEW CONCRETE. THE LABOR & MATERIALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

DESIGN AGENCY
GPD GROUP
330-572-2100
Fax 330-572-2101
520 South Main Street, Suite 2531, Akron, Ohio 44311

DESIGNED DJC | DRAWN RFV | REVIEWED DGN | DATE 4-2-14
CHECKED TJW | REVISED | STRUCTURE FILE NUMBER 77033031

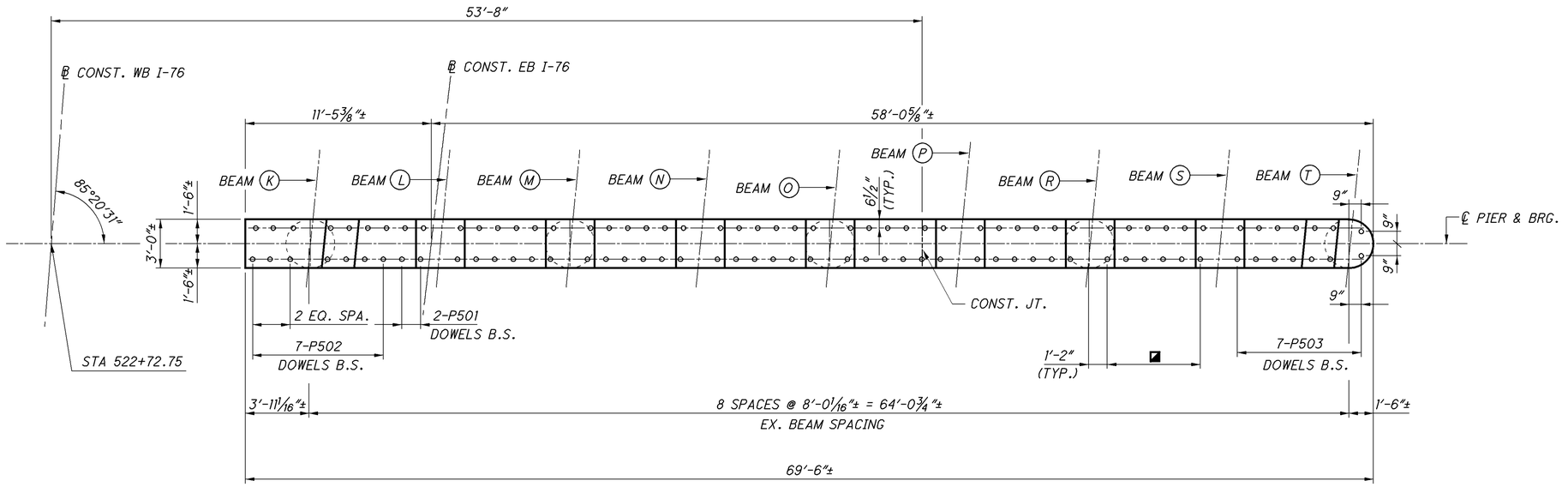
PIER 2 - WESTBOUND PLAN & ELEVATION
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

24/56

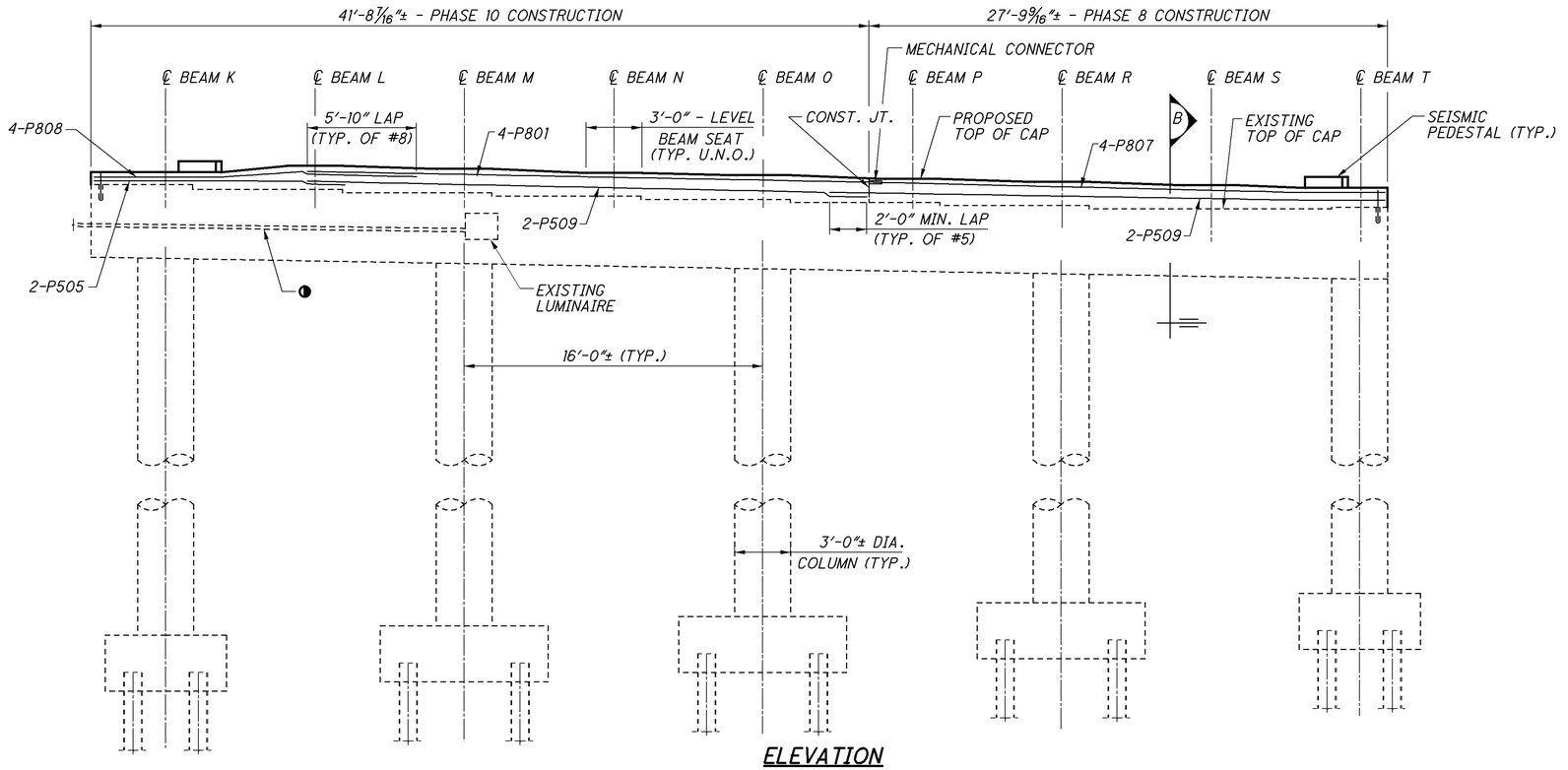
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PLAN

PROPOSED ELEVATIONS									
LOCATION	K	L	M	N	O	P	R	S	T
PIER 2	1064.10	1064.44	1064.28	1064.06	1063.94	1063.73	1063.57	1063.39	1063.26



ELEVATION

LOOKING UPSTATION

LEGEND:

- 6-P501 DOWELS B.S. EQUALLY SPACED. TYP. BTWN. BEAMS U.N.O.
- EXISTING UNDERPASS LIGHTING CONDUIT SEE THE LIGHTING PLANS FOR MORE INFORMATION

NOTES:

1. FOR SECTION B AND SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 26/56
2. CLEAN AND ROUGHEN THE TOP OF EXISTING PIER CAP BEFORE PLACING DOWELS AND POURING NEW CONCRETE. THE LABOR & MATERIALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

DESIGN AGENCY
GPD GROUP
330-572-2100
330-572-2101
320 South Main Street, Suite 2251, Akron, Ohio 44311

DESIGNED DJC | DRAWN RFV | CHECKED TJW | REVIEWED DGN | DATE 4-2-14 | REVISED | STRUCTURE FILE NUMBER 77033031

PIER 2 - EASTBOUND PLAN & ELEVATION

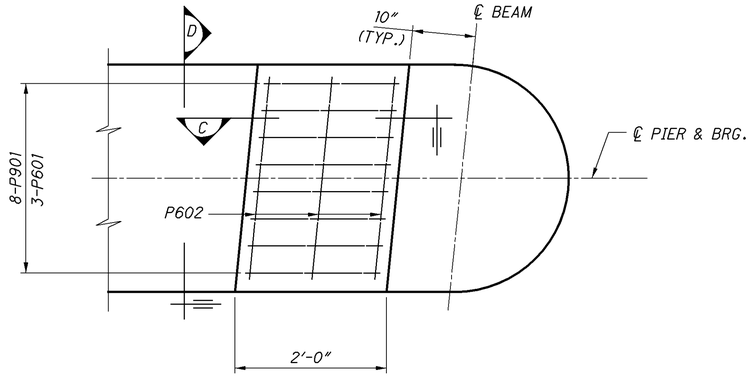
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I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

25/56

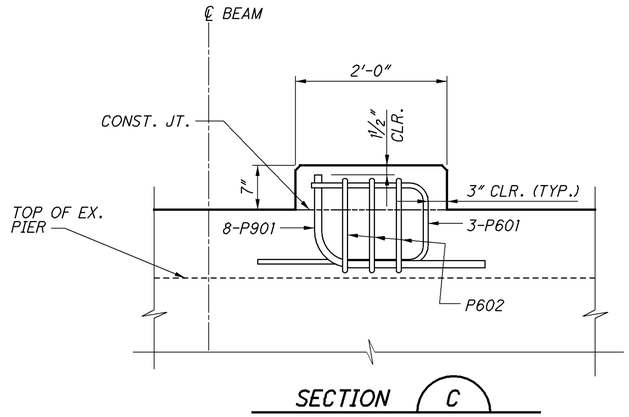
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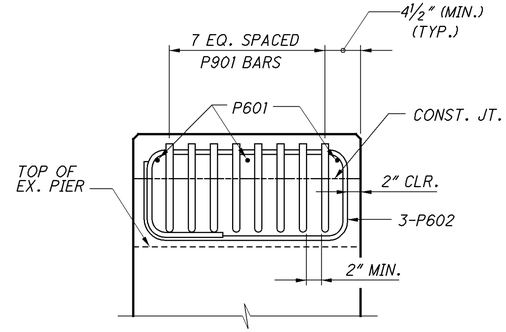


SEISMIC PEDESTAL DETAIL

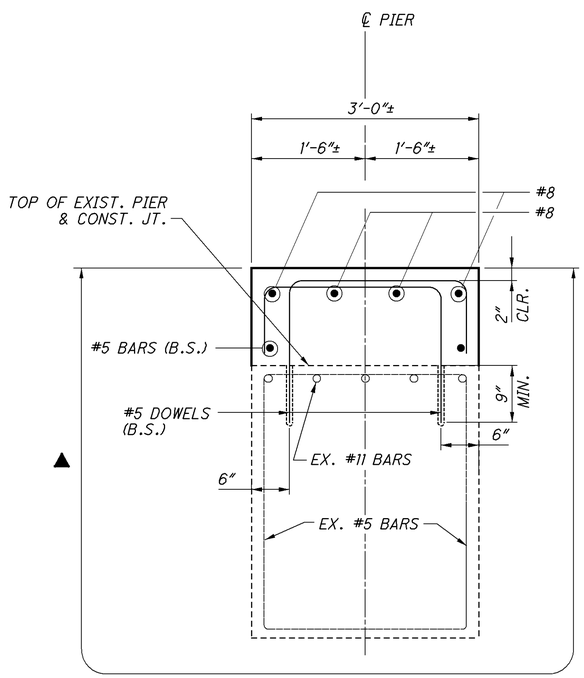
RIGHT END OF PIER SHOWN, LEFT END SIMILAR



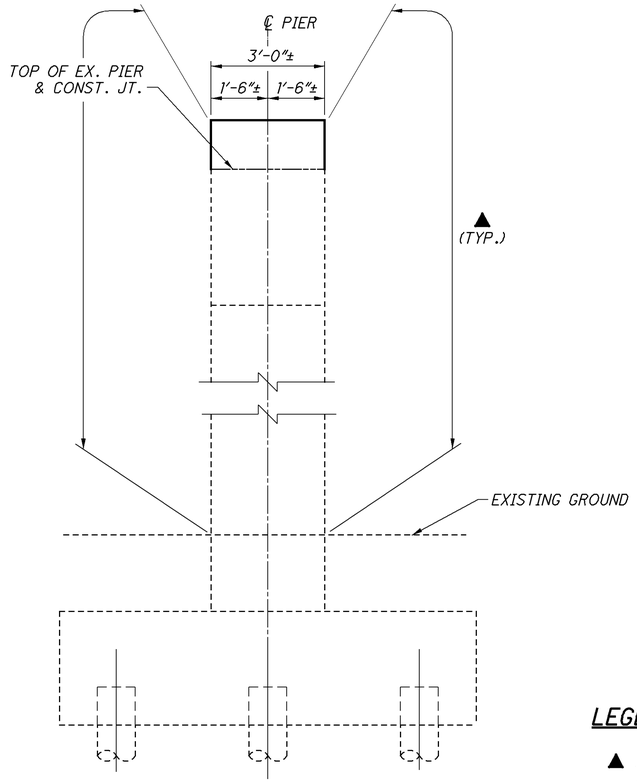
SECTION C



SECTION D



SECTION B



TYPICAL END VIEW

LEGEND:

▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

DESIGN AGENCY
GPD GROUP
330-572-2100
320 South Main Street, Suite 2251, Akron, Ohio 44311
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77033031	

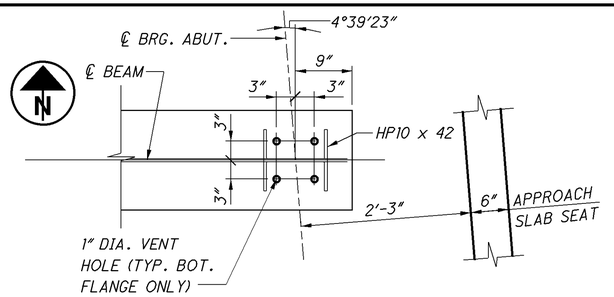
PIER DETAILS
BRIDGE NO. SUM-76-1127
1-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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	SUB-STRUCTURE	LOAD PLATE A	B	E	F	G	H	ELASTOMERIC PAD L	W	T	NO. OF INTER. LAYERS	ti	te	STEEL LAMINATES NO.	THICK.	TYPE	MIN. DEAD LOAD (K)	MAX. DEAD LOAD (K)	LIVE * LOAD (K)	TOTAL LOAD (K)
LEFT BRIDGE	REAR ABUT.	11″	12″	1″	½″	1½″	1½″	9″	11″	2.04″	5	0.25″	0.17″	6	0.0747	EXP.	38.9	44.3	45.0	89.3
	PIER NO. 1	12″	18″	½″	½″	1¾″	2¼″	11″	17″	2.42″	5	0.31″	0.21″	6	0.0747	EXP.	81.5	110.3	59.5	169.8
	PIER NO. 2	12″	18″	½″	½″	1¾″	2¼″	11″	17″	2.42″	5	0.31″	0.21″	6	0.0747	EXP.	93.6	126.4	58.7	185.1
	FRWD. ABUT.	11″	13½″	1″	½″	1½″	1½″	9″	12½″	2.04″	5	0.25″	0.17″	6	0.0747	EXP.	49.8	58.3	48.2	106.5
RIGHT BRIDGE	REAR ABUT.	11″	12″	1″	½″	1½″	1½″	9″	11″	2.04″	5	0.25″	0.17″	6	0.0747	EXP.	36.7	41.7	42.0	83.7
	PIER NO. 1	12″	18″	½″	½″	1¾″	2¼″	11″	17″	2.42″	5	0.31″	0.21″	6	0.0747	EXP.	80.2	106.9	55.3	162.3
	PIER NO. 2	12″	18″	½″	½″	1¾″	2¼″	11″	17″	2.42″	5	0.31″	0.21″	6	0.0747	EXP.	99.3	129.9	51.0	180.9
	FRWD. ABUT.	11″	13½″	1″	½″	1½″	1½″	9″	12½″	2.04″	5	0.25″	0.17″	6	0.0747	EXP.	50.5	58.4	40.2	98.6

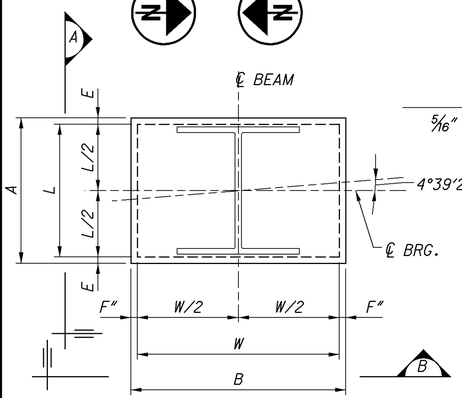
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DETAIL 1

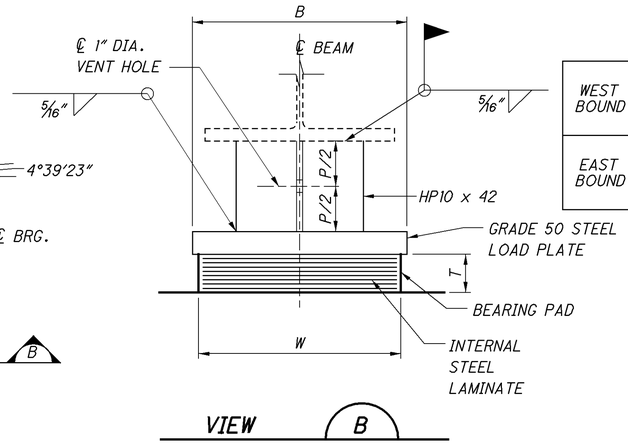
FRWD. ABUT. SHOWN, REAR ABUT. SIMILAR

R.A. F.A.



PLAN

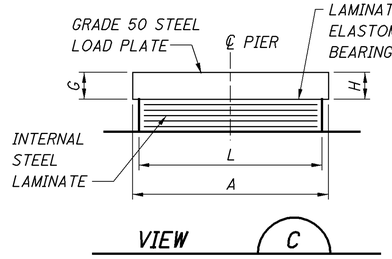
ABUTMENT BEARING



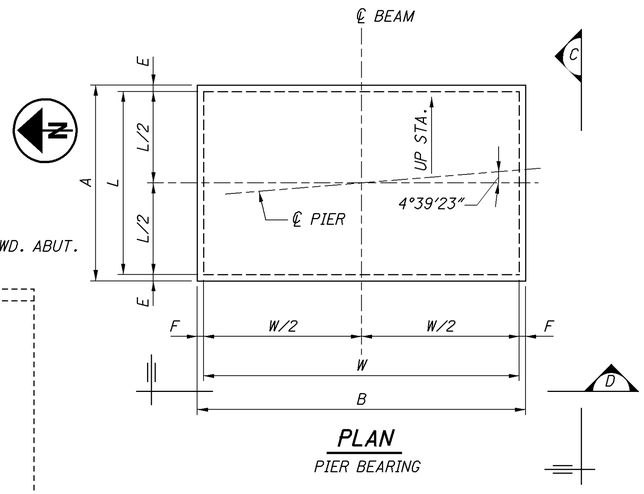
VIEW B

TABLE OF HP10 x 42 HEIGHTS "P" @ ℄ ABUT. BEARING

	LOCATION	BEAM A	BEAM B	BEAM C	BEAM D	BEAM E	BEAM F	BEAM G	BEAM H	BEAM J
WEST BOUND	REAR ABUT.	6 1⁄16″	8 1⁄8″	10 1⁄2″	12 5⁄8″	14 15⁄16″	13 3⁄4″	11 11⁄16″	9 13⁄16″	8″
	FRWD. ABUT.	5 5⁄8″	8 9⁄16″	10 3⁄4″	13 1⁄8″	12 1⁄2″	10 15⁄16″	9 7⁄8″	9 1⁄8″	5 13⁄16″
	LOCATION	BEAM K	BEAM L	BEAM M	BEAM N	BEAM O	BEAM P	BEAM R	BEAM S	BEAM T
EAST BOUND	REAR ABUT.	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″
	FRWD. ABUT.	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″	5 7⁄16″

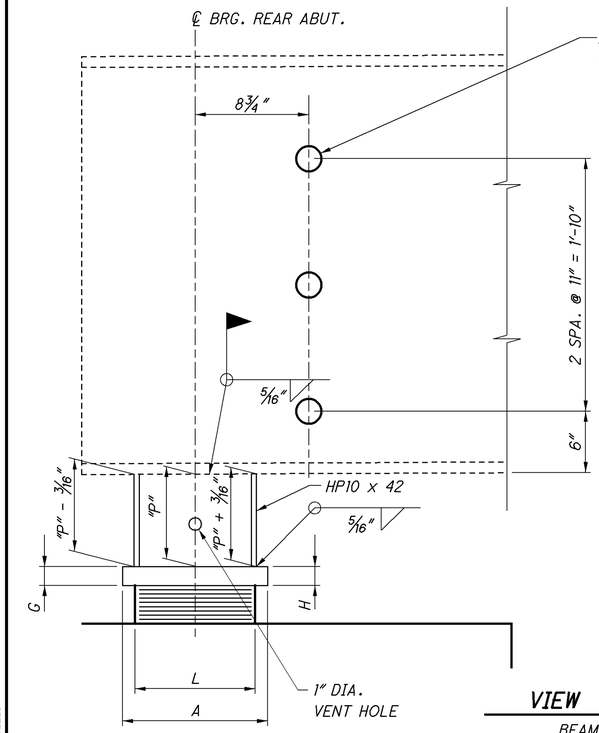


VIEW C



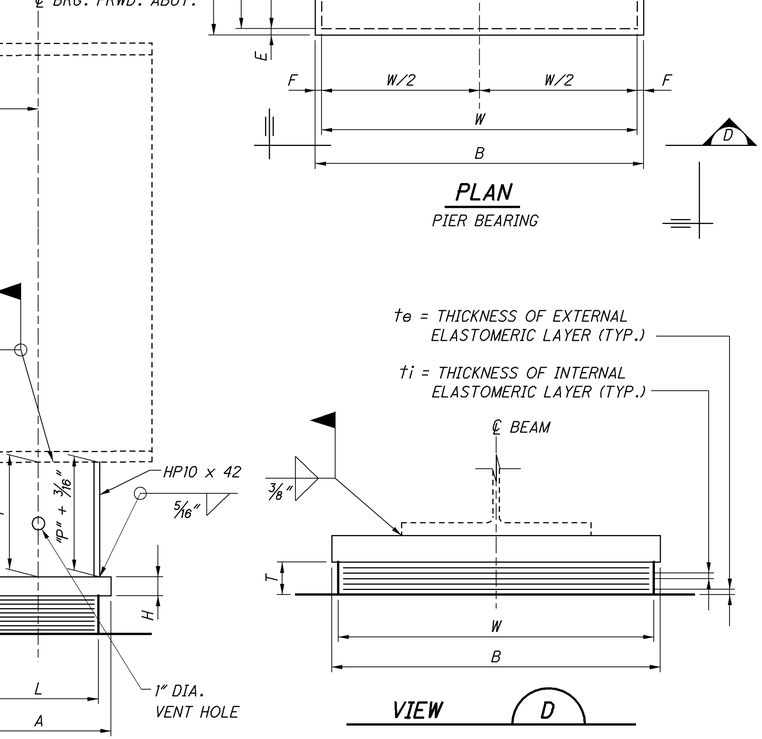
PLAN

PIER BEARING



VIEW A

BEAM END DETAIL



VIEW D

NOTES:

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION 1, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. THE STEEL LOAD PLATE SHALL BE ASTM A709, GRADE 50 STEEL. THE LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE LAMINATED ELASTOMERIC BEARINGS DURING THE MOLDING PROCESS.
3. THE HP10 x 42 STEEL SHAPE AT THE ABUTMENTS SHALL BE ASTM A709, GRADE 50 STEEL.
4. FOR LOCATION OF DETAIL 1, SEE SHT. NO. 28/56 & 29/56.
5. THE 3″ DIAMETER HOLES IN THE WEB AND THE 1″ DIAMETER HOLES IN THE BOTTOM FLANGE SHALL BE FIELD DRILLED. FLAME CUTTING IS NOT ALLOWED.
6. BASIS OF PAYMENT: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS, STEEL LOAD PLATES AND HP SHAPES. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516 - ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE).

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311-1050
Phone 330-572-2100 Fax 330-572-2101

DESIGNED DJC | DRAWN RFV | REVIEWED DGN | DATE 4-2-14
CHECKED TJW | REVISED | STRUCTURE FILE NUMBER 7703031

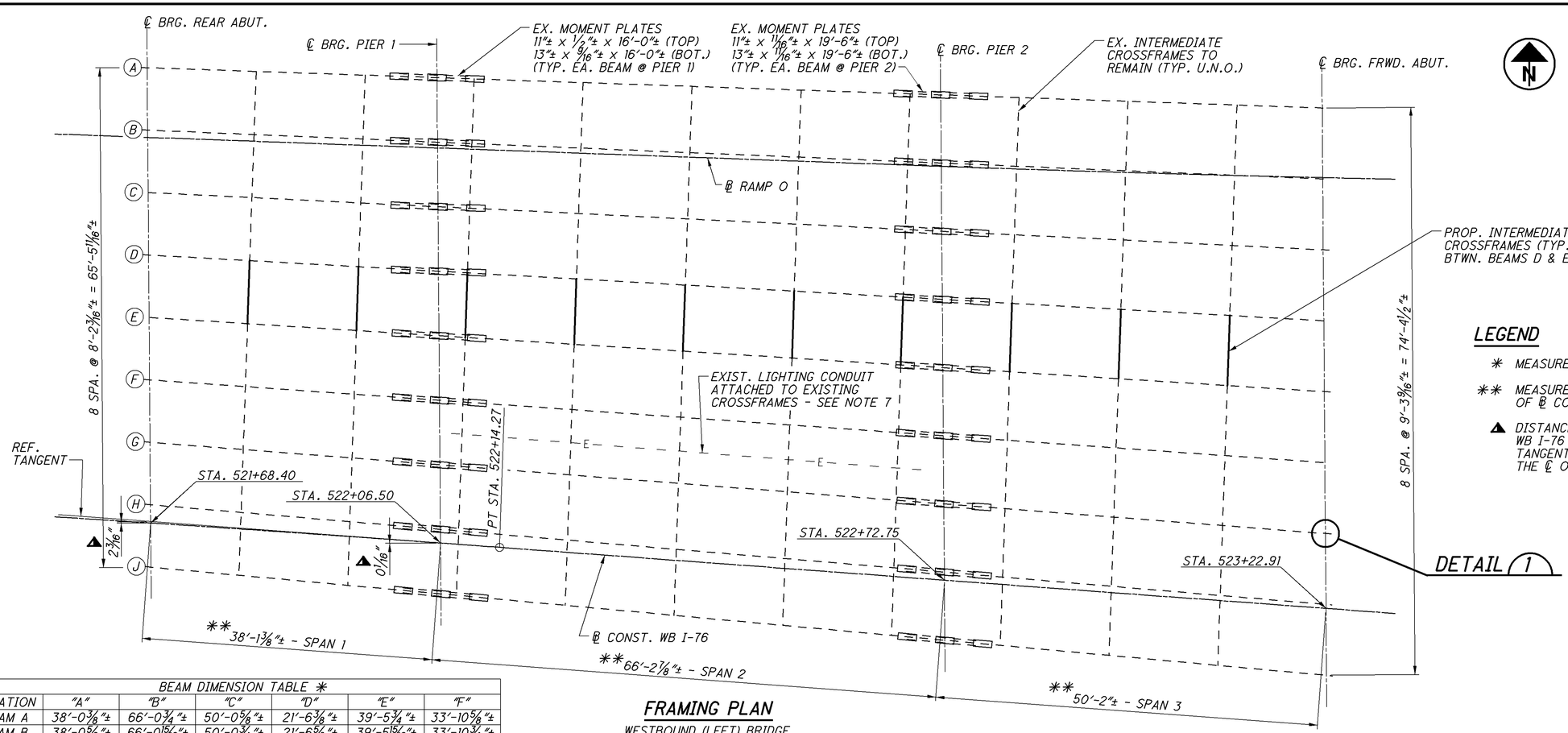
BEARING DETAILS
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

27/56

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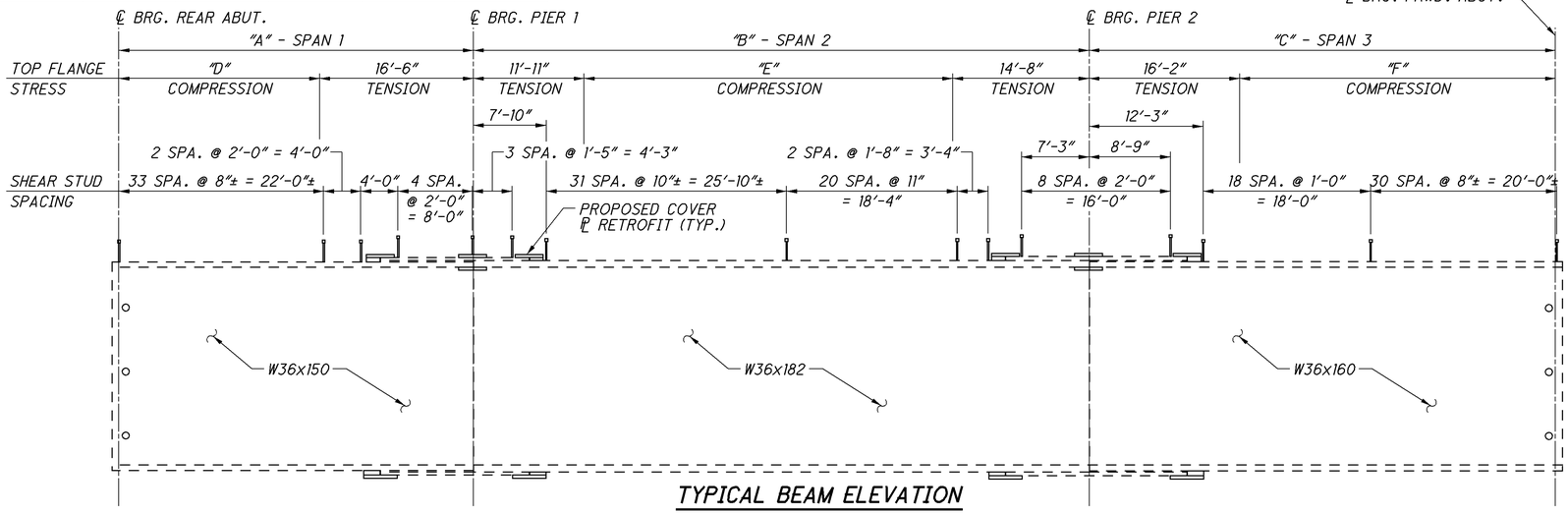
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FRAMING PLAN

WESTBOUND (LEFT) BRIDGE

BEAM DIMENSION TABLE ✳						
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"
BEAM A	38'-0 3/8"±	66'-0 3/4"±	50'-0 5/8"±	21'-6 3/8"±	39'-5 3/4"±	33'-10 5/8"±
BEAM B	38'-0 5/8"±	66'-0 15/16"±	50'-0 3/4"±	21'-6 5/8"±	39'-5 15/16"±	33'-10 3/4"±
BEAM C	38'-0 3/4"±	66'-1 1/4"±	50'-0 15/16"±	21'-6 3/4"±	39'-6 1/4"±	33'-10 15/16"±
BEAM D	38'-0 15/16"±	66'-1 5/8"±	50'-1 3/16"±	21'-6 15/16"±	39'-6 5/8"±	33'-11 3/16"±
BEAM E	38'-1 1/8"±	66'-2"±	50'-1 1/2"±	21'-7 1/8"±	39'-7"±	33'-11 1/2"±
BEAM F	38'-1 3/8"±	66'-2 3/4"±	50'-1 15/16"±	21'-7 3/8"±	39'-7 3/4"±	33'-11 13/16"±
BEAM G	38'-1 5/8"±	66'-2 1/8"±	50'-2 3/16"±	21'-7 5/8"±	39'-7 1/8"±	34'-0 3/16"±
BEAM H	38'-1 15/16"±	66'-3 3/8"±	50'-2 1/2"±	21'-7 15/16"±	39'-8 3/8"±	34'-0 1/2"±
BEAM J	38'-2 1/4"±	66'-3 15/16"	50'-3"±	21'-8 1/4"±	39'-8 15/16"	34'-1"±



TYPICAL BEAM ELEVATION

WESTBOUND (LEFT) BRIDGE

LEGEND

✳ MEASURED ALONG THE ℄ BEAM

✳✳ MEASURED ALONG REFERENCE TANGENT OF ℄ CONST. I-76 WESTBOUND

▲ DISTANCE BETWEEN THE ℄ CONST. WB I-76 AND THE REFERENCE TANGENT, MEASURED ALONG THE ℄ OF EACH SUBSTRUCTURE UNIT

NOTES:

1. ALIGN PROPOSED INTERMEDIATE CROSSFRAMES WITH THE EXISTING CROSSFRAMES TO REMAIN ON OPPOSITE SIDES OF BEAMS D & E, RESPECTIVELY.
2. FOR PROPOSED COVER PLATE RETROFIT DETAILS, SEE SHT. NO. 30/56 .
3. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA BEAM FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
4. SHEAR STUD CONNECTORS MAY BE SHIFTED UP TO 2" TO AVOID INTERFERENCE WITH THE BOLTS OF THE RETROFIT PLATES AT THE CENTERLINE OF PIERS
5. FOR WESTBOUND TRANSVERSE SECTION, SEE SHT. NO. 35/56 .
6. FOR DETAIL 1, SEE SHT. NO. 27/56 .
7. EXISTING CONDUIT FOR THE UNDERPASS LIGHTING ATTACHED TO THE BEAM CROSSFRAMES SHALL BE DETACHED FROM THE EXISTING LUMINAIRES BEFORE THE EXISTING DECK IS REMOVED, AND RE-ATTACHED AFTER THE WESTBOUND PHASE 10 CONSTRUCTION IS COMPLETE.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DATE 4-2-14
REVIEWED DGN
STRUCTURE FILE NUMBER 77031031
DRAWN DJC
REVISED
DESIGNED DJC
CHECKED TJW

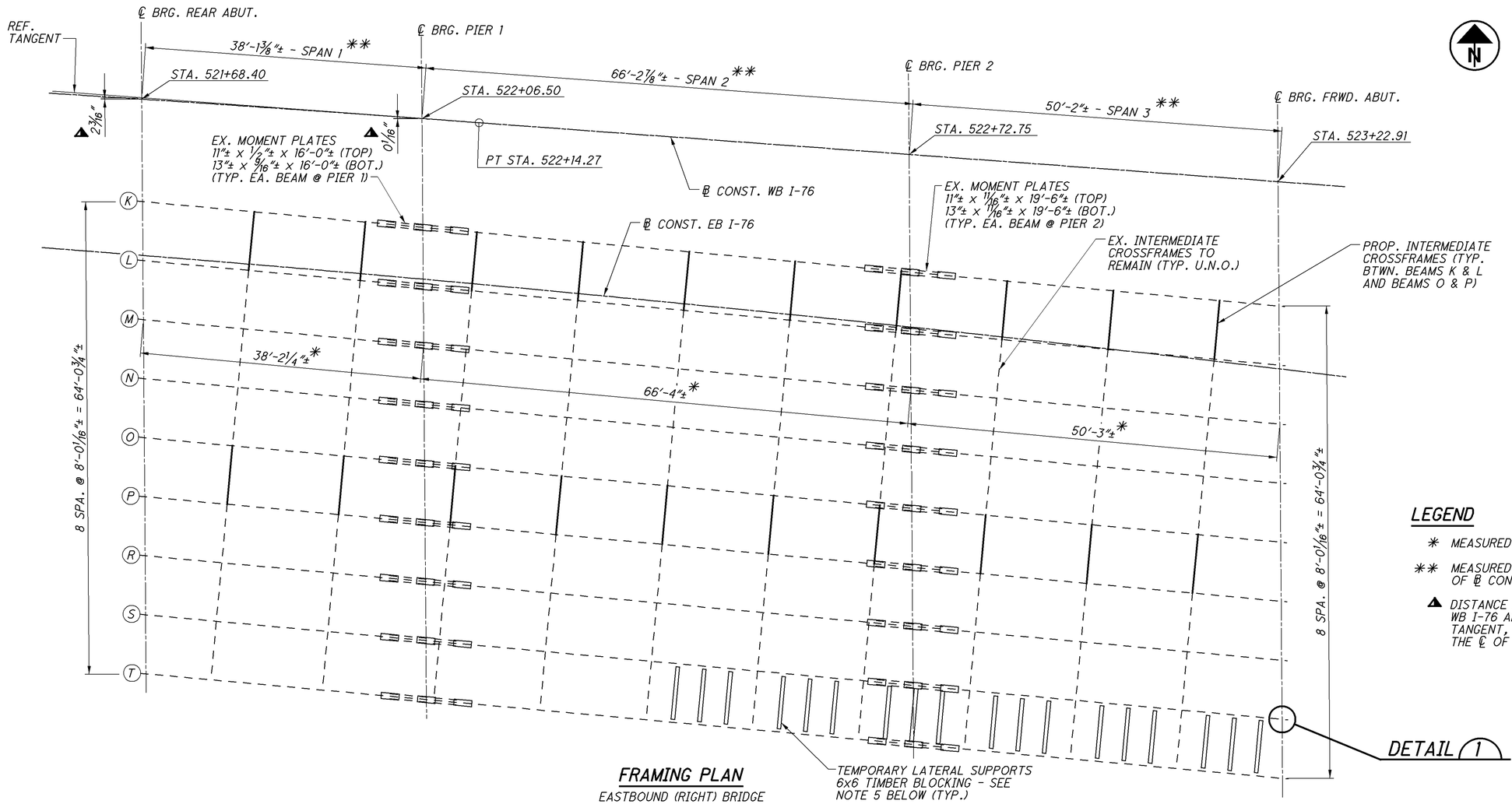
FRAMING PLAN & BEAM ELEVATION - WESTBOUND

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

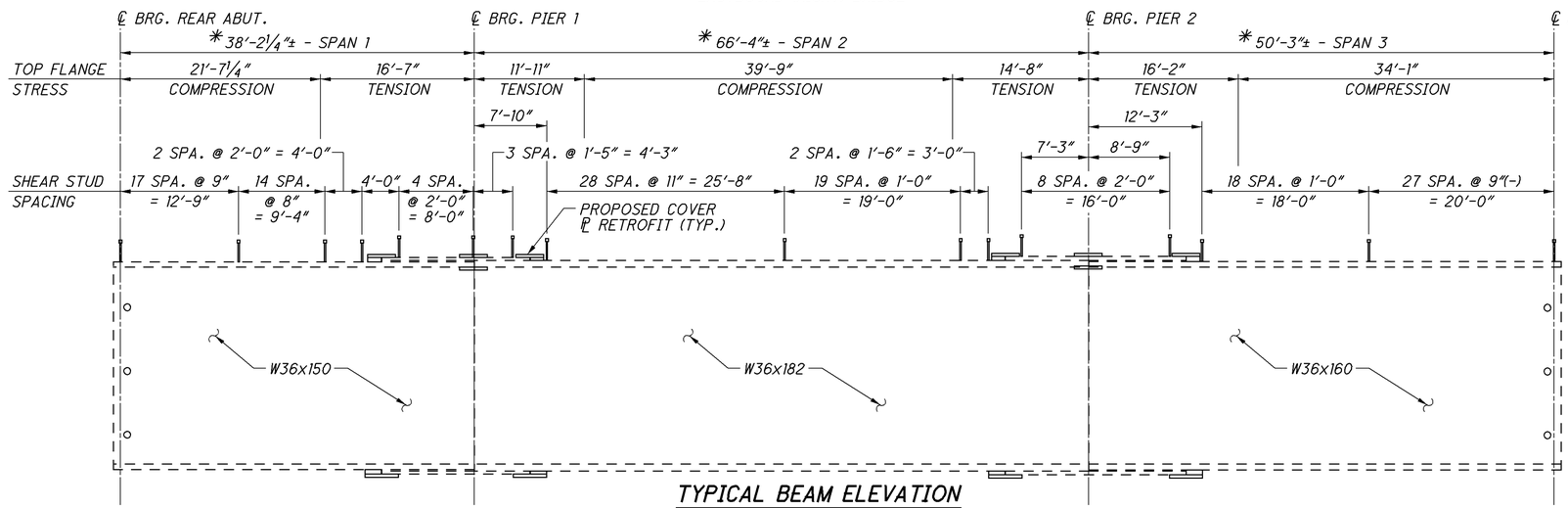
SUM-76/77-11.27/12.12
PID No. 86979

28/56
604/652

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9/15/2014
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FRAMING PLAN
EASTBOUND (RIGHT) BRIDGE



TYPICAL BEAM ELEVATION
EASTBOUND (RIGHT) BRIDGE

LEGEND

* MEASURED ALONG THE ℄ BEAM

** MEASURED ALONG REFERENCE TANGENT OF ℄ CONST. I-76 WESTBOUND

▲ DISTANCE BETWEEN THE ℄ CONST. WB I-76 AND THE REFERENCE TANGENT, MEASURED ALONG THE ℄ OF EACH SUBSTRUCTURE UNIT

NOTES:

1. ALIGN PROPOSED INTERMEDIATE CROSSFRAMES WITH THE EXISTING CROSSFRAMES TO REMAIN ON OPPOSITE SIDES OF BEAMS L, O & P, RESPECTIVELY.
2. FOR EASTBOUND TRANSVERSE SECTIONS, SEE SHT. NO. 36/56.
3. FOR ADDITIONAL NOTES, SEE SHT. NO. 28/56.
4. FOR DETAIL 1, SEE SHT. NO. 27/56.
5. TEMPORARY LATERAL SUPPORTS COMPRISED OF 6x6 TIMBER BLOCKING WEDGED BETWEEN THE BEAMS ON TOP OF THE BOTTOM FLANGES SHALL BE PLACED BETWEEN BEAMS Ⓢ & Ⓣ WHERE THE PROPOSED OVERHANG AT BEAM Ⓣ IS EQUAL TO OR GREATER THAN 3′-0″. PLACE SUPPORTS AT ¼ POINTS BETWEEN EXISTING CROSSFRAMES. TEMPORARY SUPPORTS SHALL BE PLACED PRIOR TO THE PHASE 8 DECK POUR AND CAN BE REMOVED AFTER THE DECK HAS CURED.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	DJC	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77033031	

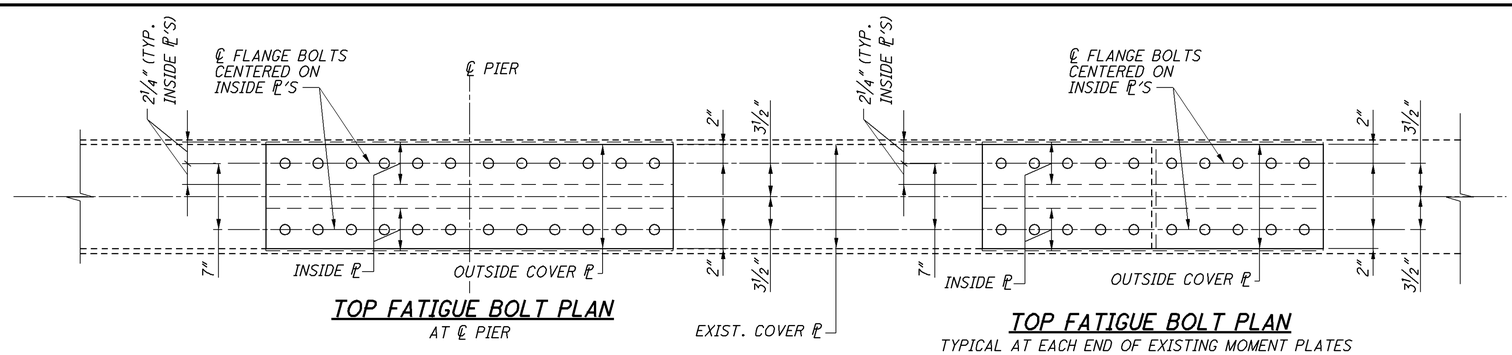
FRAMING PLAN & BEAM ELEVATION - EASTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

29/56

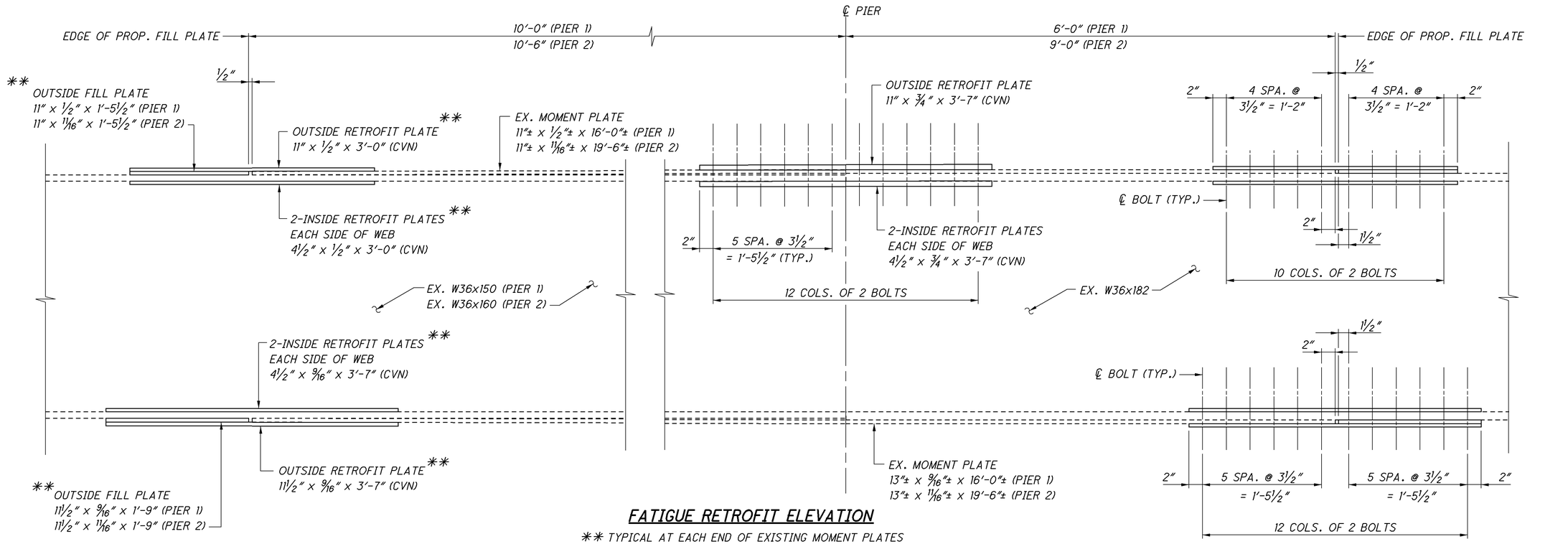
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9/16/2014
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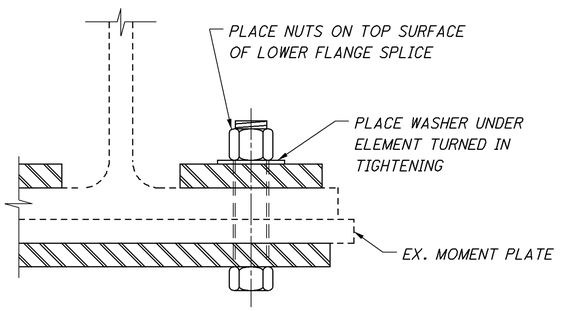
TOP FATIGUE BOLT PLAN
AT ℄ PIER

TOP FATIGUE BOLT PLAN
TYPICAL AT EACH END OF EXISTING MOMENT PLATES



FATIGUE RETROFIT ELEVATION
** TYPICAL AT EACH END OF EXISTING MOMENT PLATES
PIER 1 SHOWN - PIER 2 OPPOSITE

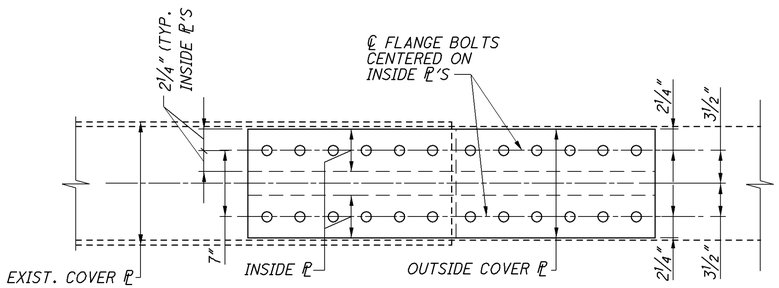
TOP AND BOTTOM FATIGUE BOLT LAYOUT
TYPICAL AT EACH END OF EXISTING MOMENT PLATES



PARTIAL SECTION
AT ℄ OF BEAM SPLICE

NOTES:

1. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 UNLESS NOTED OTHERWISE.
3. ALL BOLT HOLES FOR 1" DIAMETER HIGH STRENGTH BOLTS SHALL BE 1 1/16" DIAMETER.
4. ALL PROPOSED STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50. ALL STEEL PLATES AND FASTENERS THAT MAKE UP THE PROPOSED FATIGUE RETROFIT DETAILS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 1.



BOTTOM FATIGUE BOLT PLAN
TYPICAL AT EACH END OF EXISTING MOMENT PLATES

DESIGN AGENCY
CPD GROUP.
CIVIL PLANNING DESIGN
7320 North Mopac Street, Suite 315, Austin, Texas 78731
512-372-0199
Fax 512-372-0181

DESIGNED DJC | DRAWN RFV | REVIEWED DGN | DATE 4-2-14
CHECKED TJW | REVISED | STRUCTURE FILE NUMBER 7703031

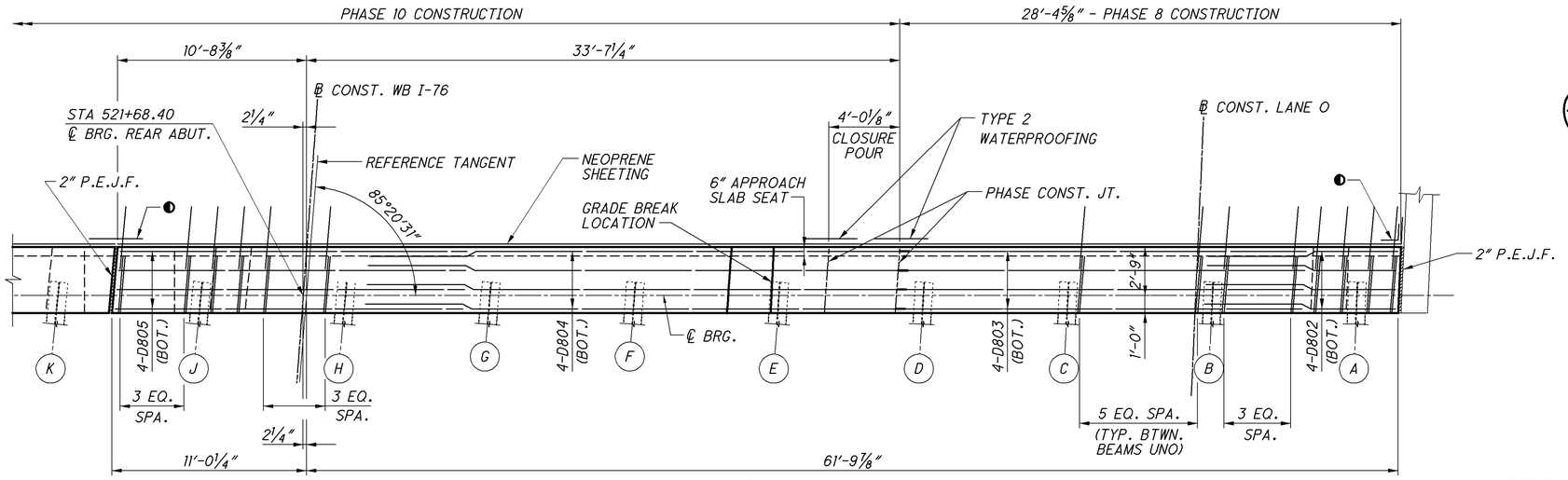
BEAM FATIGUE RETROFIT DETAILS
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

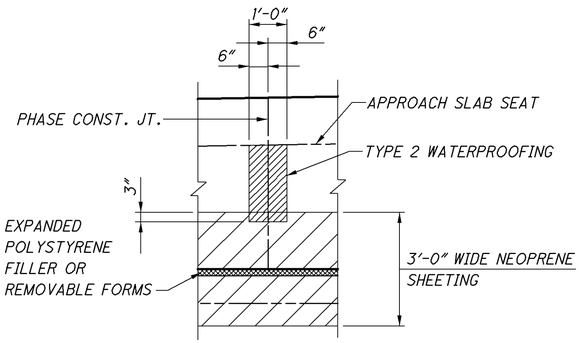
30/56

606
652

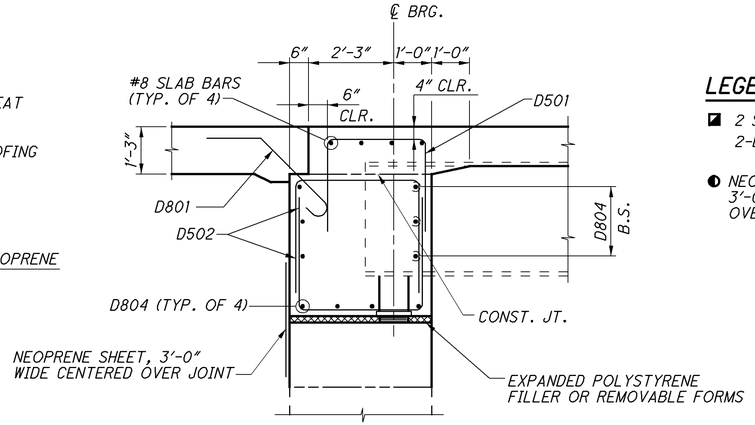
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9/16/2014
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PLAN



DETAIL 1



SECTION A

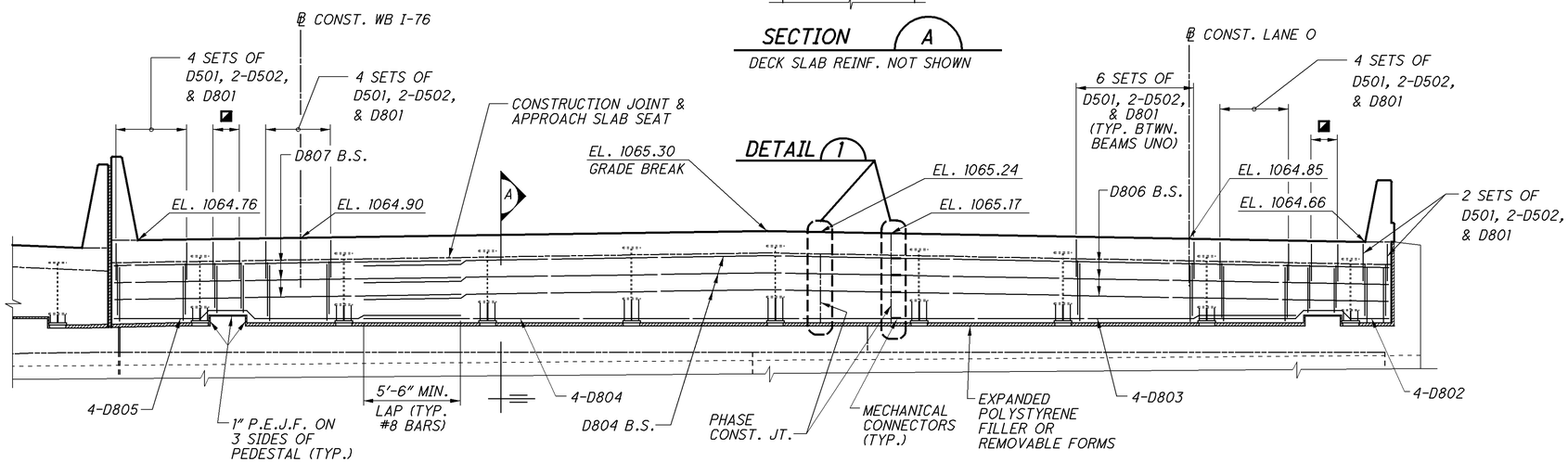
DECK SLAB REINF. NOT SHOWN

LEGEND:

- ◪ 2 SETS OF D501, 2-D503, & D801
- ◐ NEOPRENE SHEETING 3'-0" WIDE CENTERED OVER JOINT.

NOTES:

1. ALIGN D501, D502 & D503 VERTICAL BARS, AND D801 APPROACH SLAB BARS PARALLEL TO BEAMS.
2. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE CONCRETE ENCASING THE STRUCTURAL STEEL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.
3. FOR DETAILS NOT SHOWN, SEE STANDARD DRAWING SICD-1-96.
4. ABUTMENT DIAPHRAGM CONCRETE SHALL BE CLASS QC2 AND INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK, FOR PAYMENT.
5. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/56 .
6. ELEVATIONS ARE GIVEN AT THE CENTERLINE OF ABUTMENT BEARING.



ELEVATION

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311-1050
330-572-2100
Fax 330-572-2101

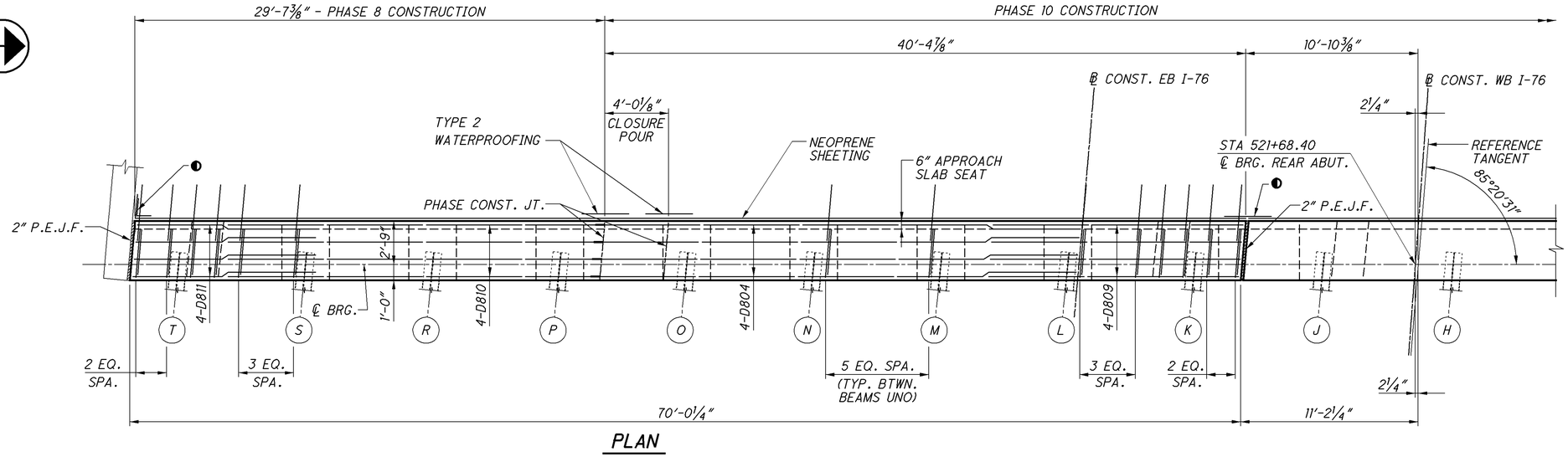
DRAWN RFV | REVIEWED DGN | DATE 4-2-14
DESIGNED DJC | CHECKED TJW | REVISED
STRUCTURE FILE NUMBER 7703031

REAR END DIAPHRAGM - WESTBOUND

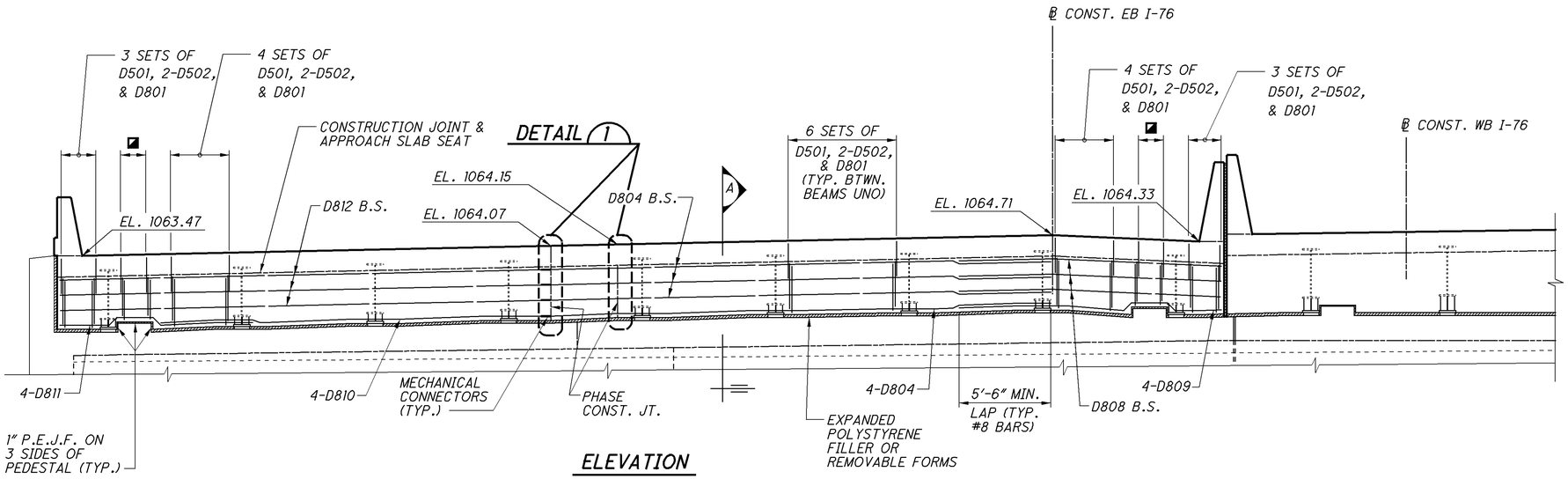
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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PLAN



ELEVATION

LEGEND:

- ◪ 2 SETS OF D501, 2-D503, & D801
- ◐ NEOPRENE SHEETING 3'-0" WIDE CENTERED OVER JOINT.

NOTE:

FOR NOTES, SECTION A, & DETAIL 1, SEE SHT. NO. 31/56

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

REAR END DIAPHRAGM - EASTBOUND

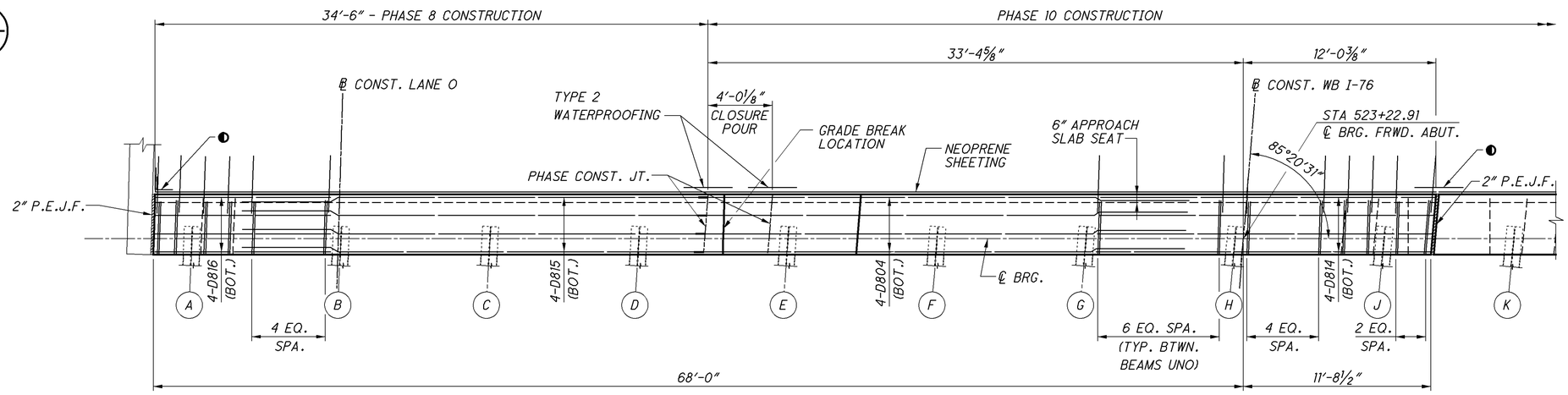
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

32/56

608/652

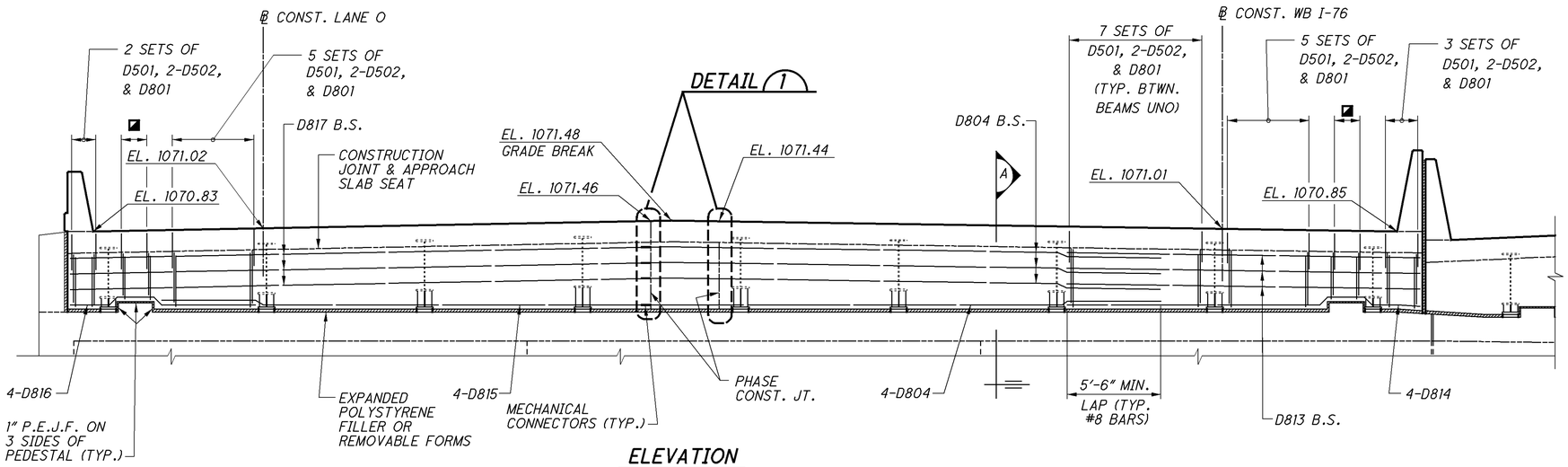
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RVITELLI



PLAN

LEGEND:

- ◪ 2 SETS OF D501, 2-D503, & D801
- ◐ NEOPRENE SHEETING 3'-0" WIDE CENTERED OVER JOINT.



ELEVATION

NOTE:

FOR NOTES, SECTION A, & DETAIL 1, SEE SHT. NO. 31/56

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

FORWARD END DIAPHRAGM - WESTBOUND

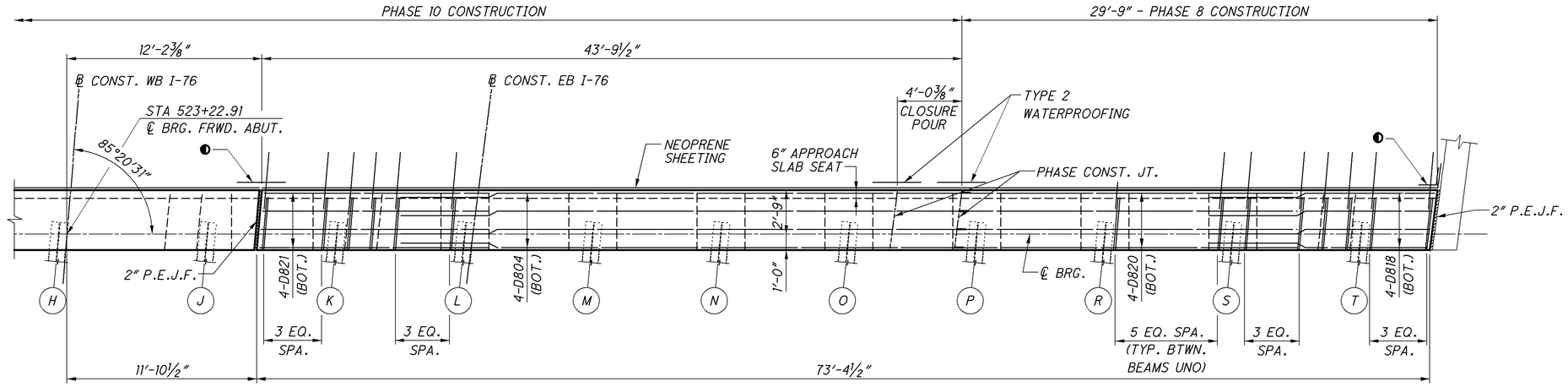
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I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

33/56

609/652

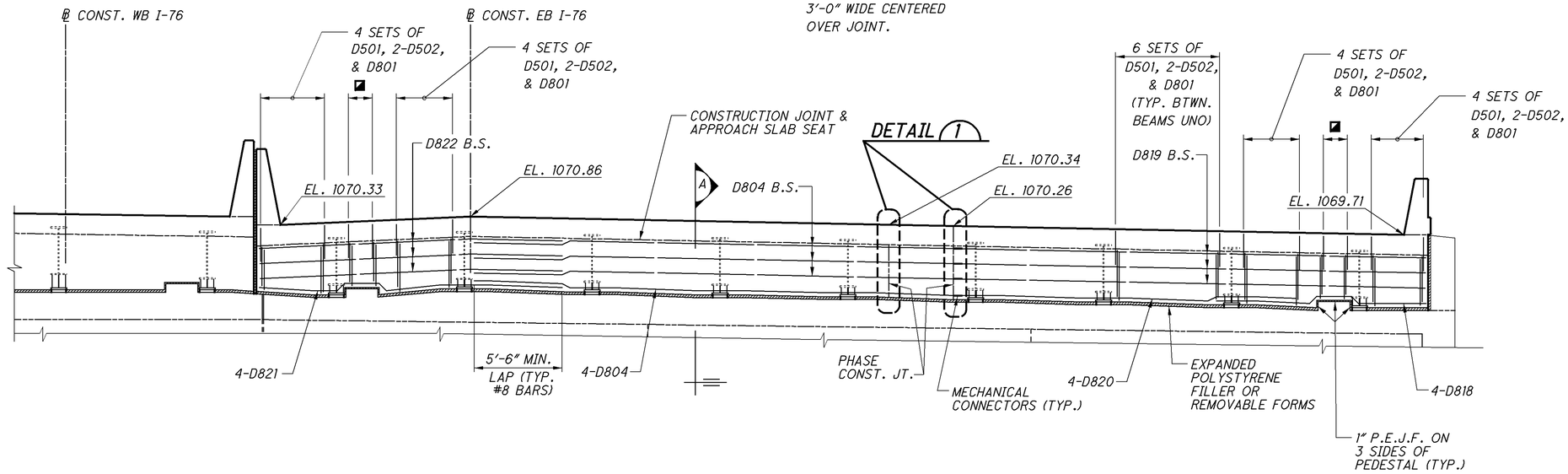
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PLAN

LEGEND:

- ◪ 2 SETS OF D501, 2-D503, & D801
- ◐ NEOPRENE SHEETING 3'-0" WIDE CENTERED OVER JOINT.



ELEVATION

NOTE:

FOR NOTES, SECTION A, & DETAIL 1, SEE SHT. NO. 31/56

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77030331	

FORWARD END DIAPHRAGM - EASTBOUND

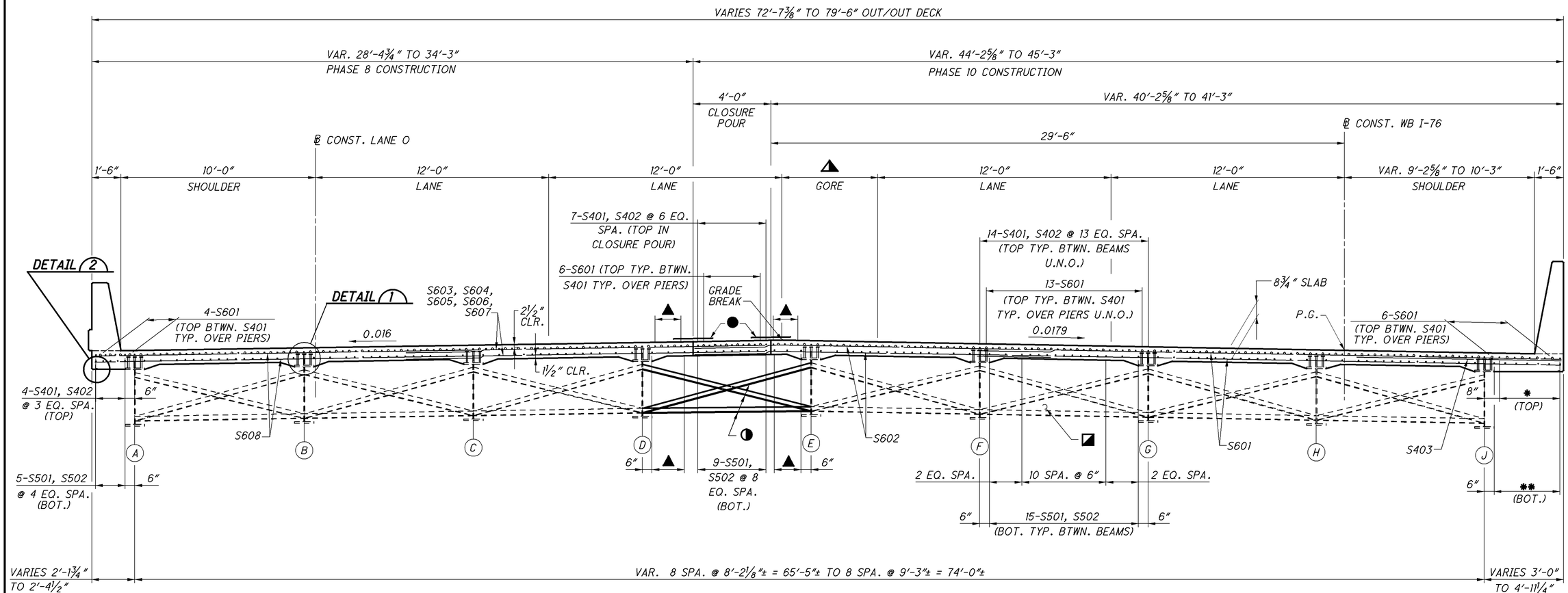
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34/56

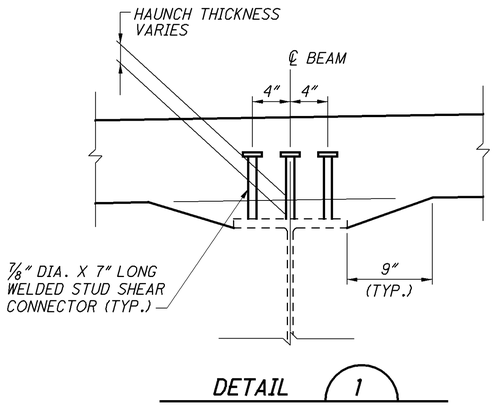
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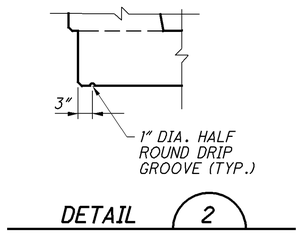
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TRANSVERSE SECTION

WESTBOUND





LEGEND:

- ✱ S401 & S402 BARS, SEE DECK PLAN SHT. NO. 37/56 FOR MORE INFORMATION
- ✱✱ S501 & S502, SEE DECK PLAN SHT. NO. 37/56 FOR MORE INFORMATION
- ▲ VARIES, SEE DECK PLAN SHT. NO. 37/56.
- ⚠ VAR. 2'-4½" TO 8'-2½"
- ◪ EXISTING CONDUIT FOR UNDERPASS LIGHTING - DETACHED DURING CONSTRUCTION AND RE-ATTACHED AFTER THE WESTBOUND PHASE 10 CONSTRUCTION IS COMPLETE. SEE THE LIGHTING PLANS FOR MORE INFORMATION AND PAYMENT.
- ◑ L 3 x 3 x 5/16" TYPE I INTERMEDIATE CROSSFRAMES PER STD. DWG. GSD-1-96. DO NOT PERMANENTLY ATTACH UNTIL THE CONCRETE DECK ON BOTH SIDES OF THE CLOSURE POUR HAS BEEN PLACED
- ● HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) 2'-0" WIDE CENTERED OVER CONSTRUCTION JOINT

NOTES:

1. THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2½" INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23

2. THE LOCATION OF THE CLOSURE POUR VARIES BETWEEN BEAMS D & E. PLACE THE BARS IN THE CLOSURE POUR ACCORDING TO THIS SHEET AND THE DECK PLAN SHEET. FOR THE BARS PLACED BETWEEN THE CLOSURE POUR JOINTS AND BEAMS D & E THE NUMBER OF BARS VARIES, WITH A TOTAL OF AT LEAST 14 BARS MINIMUM PLACED FROM BEAM TO BEAM.
3. THE GRADE BREAK IS A CONSTANT 24'-0" OFFSET RIGHT FROM THE ℄ CONST. LANE O.
4. FOR THE DECK SLAB PLAN, SEE SHT. NO. 37/56.
5. FOR PARAPET DETAIL, SEE SHT. NO. 39/56.
6. FOR THE EASTBOUND TRANSVERSE SECTION, SEE SHT. NO. 36/56.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, OH 44311
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

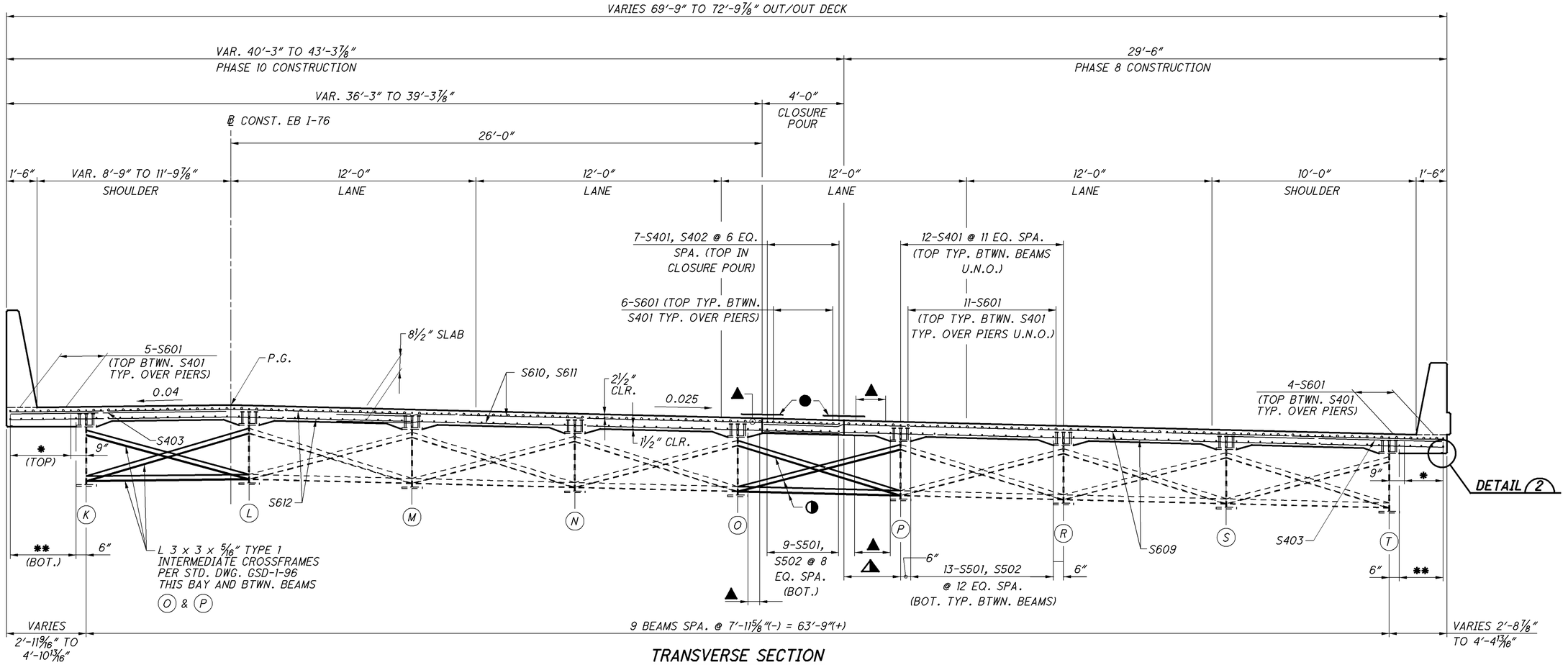
TRANSVERSE SECTION - WESTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

35/56

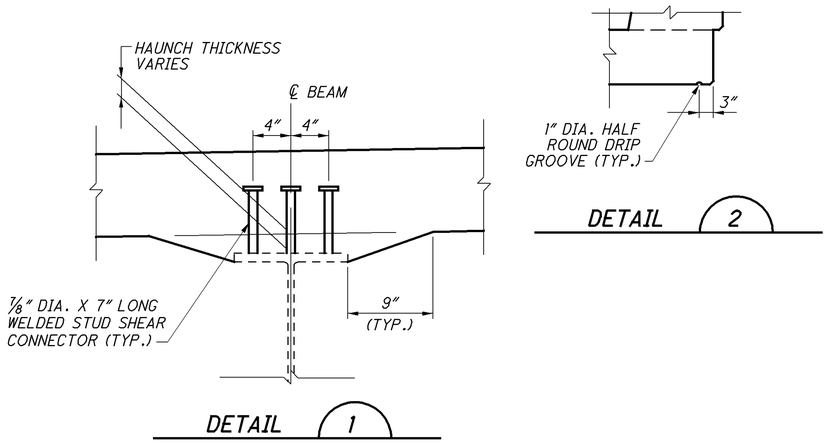
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TRANSVERSE SECTION

EASTBOUND



LEGEND:

- * S401 & S402 BARS, SEE DECK PLAN SHT. NO. 38/56 FOR MORE INFORMATION
- ** S501 & S502, SEE DECK PLAN SHT. NO. 38/56 FOR MORE INFORMATION
- ▲ VARIES, SEE DECK PLAN SHT. NO. 38/56.
- ◑ DO NOT PERMANENTLY ATTACH CROSSFRAMES IN THIS BAY UNTIL THE CONCRETE DECK ON BOTH SIDES OF THE CLOSURE POUR HAS BEEN PLACED.
- ◭ DIMENSION FROM ℄ BEAM P TO THE CLOSURE POUR CONST. JOINT VARIES FROM 2'-7 3/16" TO 1'-3 3/8"
- ● HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) 2'-0" WIDE CENTERED OVER CONSTRUCTION JOINT

NOTES:

1. THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2 1/2" INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23

2. THE LOCATION OF THE CLOSURE POUR VARIES BETWEEN BEAMS O & P. PLACE THE BARS IN THE CLOSURE POUR ACCORDING TO THIS SHEET AND THE DECK PLAN SHEET. FOR THE BARS PLACED BETWEEN THE CLOSURE POUR JOINTS AND BEAMS O & P THE NUMBER OF BARS VARIES, WITH A TOTAL OF AT LEAST 12 BARS MINIMUM PLACED FROM BEAM TO BEAM.
3. FOR THE DECK SLAB PLAN, SEE SHT. NO. 38/56.
4. FOR PARAPET DETAIL, SEE SHT. NO. 39/56.
5. FOR THE WESTBOUND TRANSVERSE SECTION, SEE SHT. NO. 35/56.

DESIGN AGENCY
GPD GROUP
320 South Main Street, Suite 2100, Akron, OH 44308
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

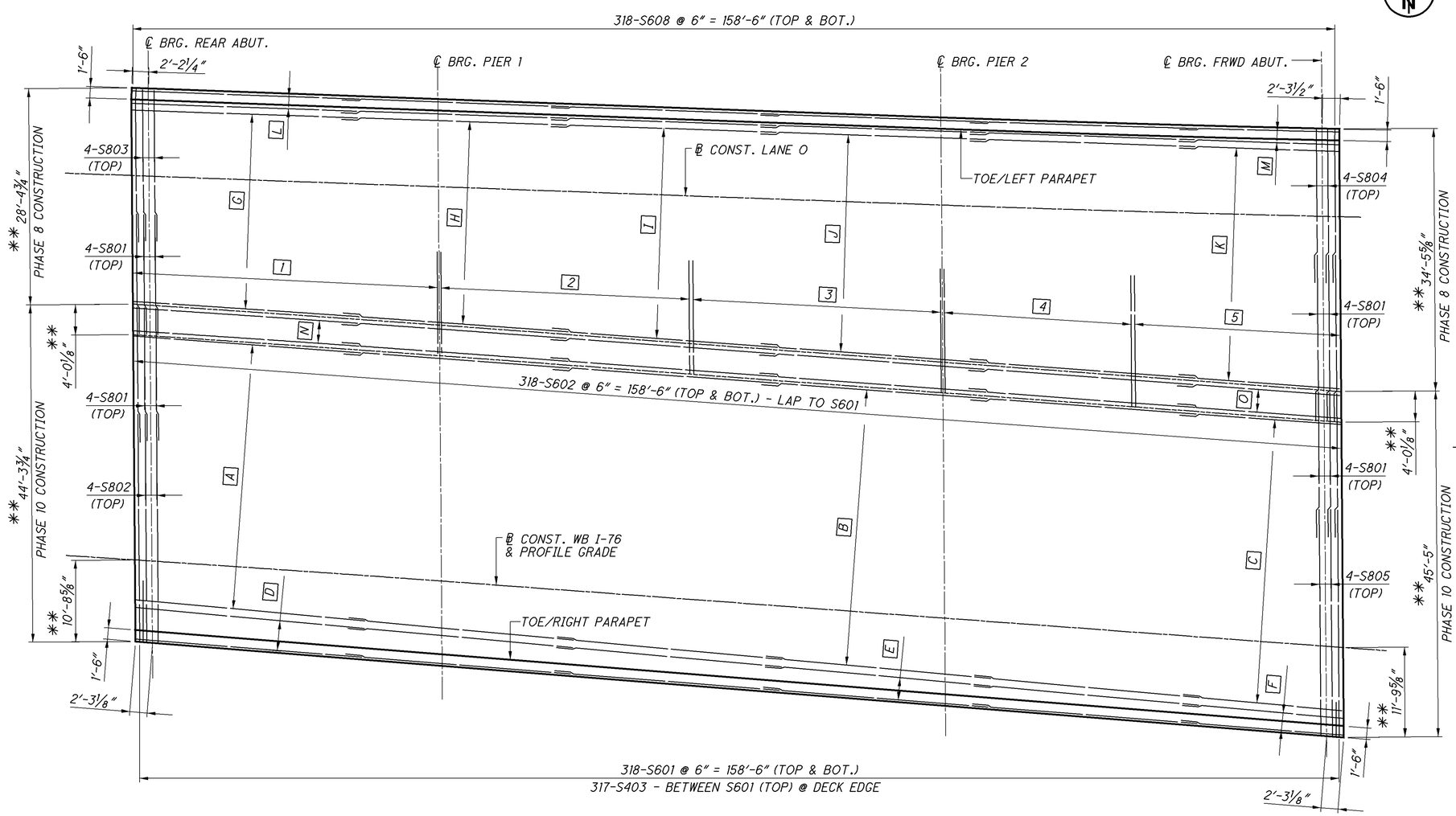
TRANSVERSE SECTION - EASTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76 / 77-11.27 / 12.12
PID No. 86979

36 / 56

612
652

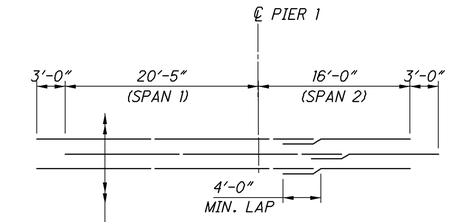
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DECK SLAB PLAN

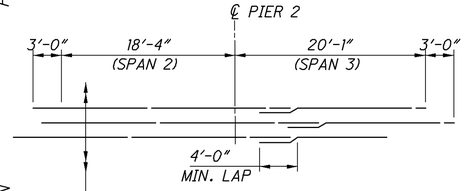
WESTBOUND BRIDGE

** MEASURED ALONG THE EDGE OF DECK AT THE BRIDGE LIMITS



STAGGER DIAGRAM - PIER 1

47-S601, S613 (PHASE 8)
62-S601, S613 (PHASE 10 - NOT INCL. C.P.)
6-S601, S613 (C.P.)



STAGGER DIAGRAM - PIER 2

49-S601, S618 (PHASE 8)
61-S601, S618 (PHASE 10 - NOT INCL. C.P.)
6-S601, S618 (C.P.)

MINIMUM BAR LAPS:

#4 LONGITUDINAL = 2'-0"
#5 LONGITUDINAL = 2'-6"
#6 LONGITUDINAL (OVER PIERS) = 4'-0"
#6 TRANSVERSE = 4'-0"
#8 TRANSVERSE = 4'-0"

LEGEND:

- A 3 SET OF 65-S501 (BOT.), 3 SETS OF 57-S401 (TOP)
- B 2 SETS OF 64-S501 (BOT.), 2 SETS OF 56-S401 (TOP)
- C 1 SET OF 63-S502 (BOT.), 1 SET OF 55-S402 (TOP)
- D 3 SETS OF 9-S501 (BOT.), 5 SETS OF 6-S401 (TOP)
- E 2 SETS OF 7-S501 (BOT.)
- F 1 SET OF 6-S502 (BOT.), 1 SET OF 6-S402 (TOP)
- G 1 SET OF 48-S501 (BOT.), 1 SET OF 43-S401 (TOP)
- H 1 SET OF 49-S501 (BOT.), 1 SET OF 44-S401 (TOP)
- I 1 SET OF 50-S501 (BOT.), 1 SET OF 45-S401 (TOP)
- J 2 SETS OF 52-S501 (BOT.), 2 SETS OF 46-S401 (TOP)
- K 1 SET OF 52-S502 (BOT.), 1 SET OF 46-S402 (TOP)
- L 5 SETS OF 5-S501 (BOT.), 5 SETS OF 4-S401 (TOP)
- M 1 SET OF 5-S502 (BOT.), 1 SET OF 4-S402 (TOP)
- N 5 SETS OF 9-S501 (BOT.), 5 SETS OF 7-S401 (TOP)
- O 1 SET OF 9-S502 (BOT.), 1 SET OF 7-S402 (TOP)
- 1 80-S603 @ 6" = 39'-6" (TOP & BOT.) (LAP TO S608)
- 2 67-S604 @ 6" = 33'-0" (TOP & BOT.) (LAP TO S608)
- 3 67-S605 @ 6" = 33'-0" (TOP & BOT.) (LAP TO S608)
- 4 50-S606 @ 6" = 24'-6" (TOP & BOT.) (LAP TO S608)
- 5 54-S607 @ 6" = 26'-6" (TOP & BOT.) (LAP TO S608)

NOTES:

1. FOR PARAPET DETAILS, SEE SHT. NO. 39/56.
2. FOR TRANSVERSE SECTION, SEE SHT. NO. 35/56.
3. FOR EASTBOUND BRIDGE DECK PLAN. SEE SHT. NO. 38/56.
4. FOR REAR END DIAPHRAGM DETAIL, SEE SHT. NO. 31/56.
5. FOR FORWARD END DIAPHRAGM DETAIL, SEE SHT. NO. 33/56.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DATE 4-2-14
REVIEWED DGN
STRUCTURE FILE NUMBER 7703031
DRAWN RFV
REVISED
DESIGNED DJC
CHECKED TJW

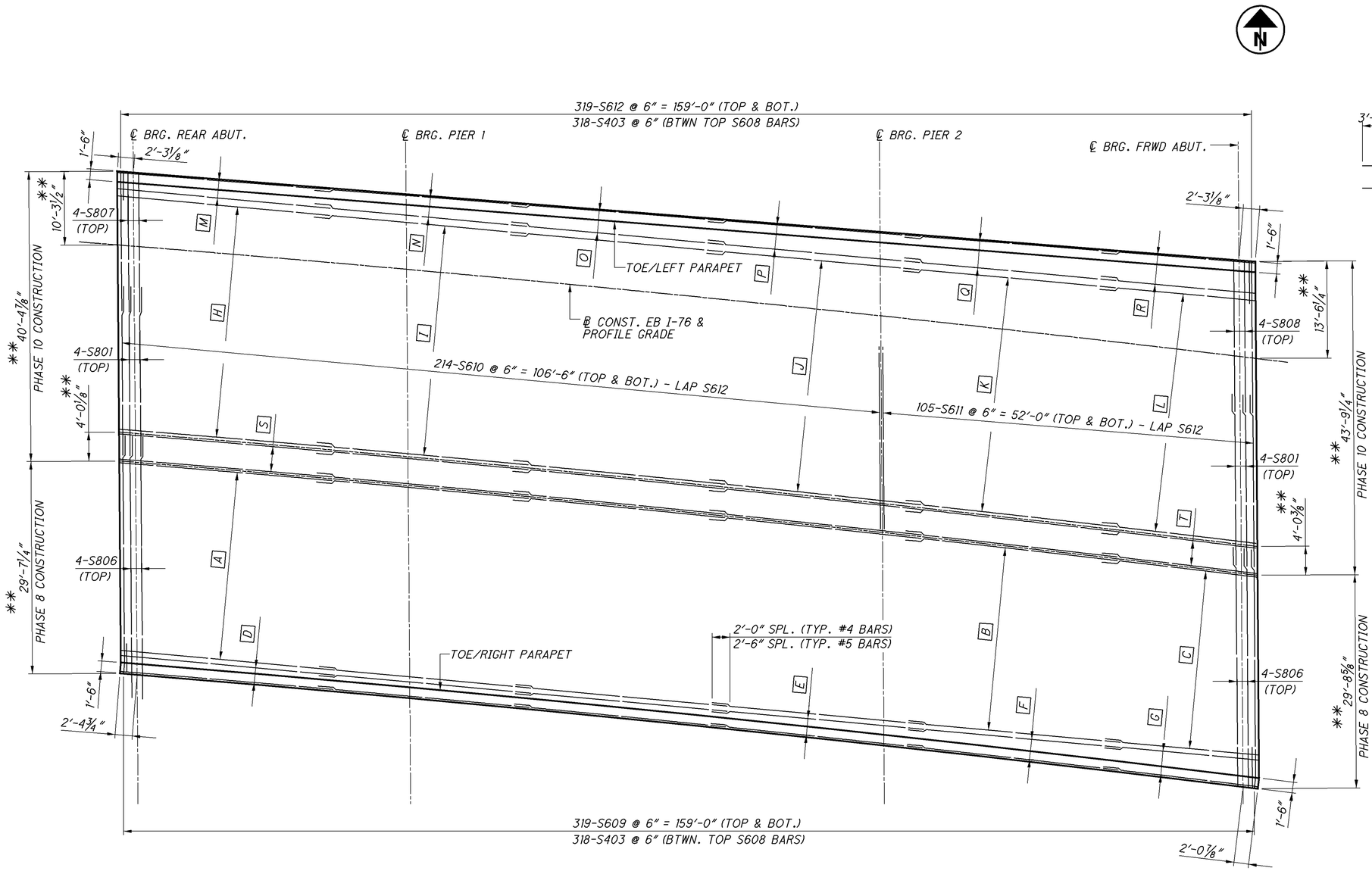
DECK SLAB PLAN - WESTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

37/56

613/652

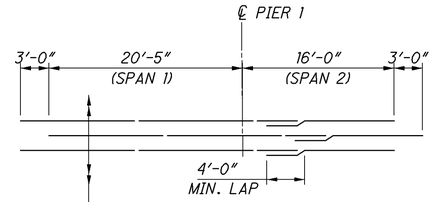
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9/15/2014
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DECK SLAB PLAN

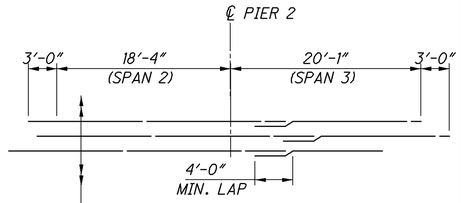
EASTBOUND BRIDGE

** MEASURED ALONG THE EDGE OF DECK AT THE BRIDGE LIMITS



STAGGER DIAGRAM - PIER 1

41-S601, S613 (PHASE 8)
47-S601, S613 (PHASE 10 NOT INCL. C.P.)
6-S601, S613 (C.P.)



STAGGER DIAGRAM - PIER 2

42-S601, S618 (PHASE 8)
50-S601, S618 (PHASE 10 NOT INCL. C.P.)
6-S601, S618 (C.P.)

MINIMUM BAR LAPS:

#4 LONGITUDINAL = 2'-0"
#5 LONGITUDINAL = 2'-6"
#6 LONGITUDINAL (OVER PIERS) = 4'-0"
#6 TRANSVERSE = 4'-0"
#8 TRANSVERSE = 4'-0"

LEGEND:

- [A] 4 SETS OF 44-S501 (BOT.), 4 SETS OF 38-S401 (TOP)
- [B] 1 SET OF 43-S501 (BOT.), 1 SETS OF 37-S401 (TOP)
- [C] 1 SET OF 43-S502 (BOT.), 1 SET OF 37-S402 (TOP)
- [D] 3 SETS OF 5-S501 (BOT.), 3 SETS OF 4-S401 (TOP)
- [E] 1 SET OF 6-S501, 2 SETS OF 5-S401 (TOP)
- [F] 1 SET OF 7-S501 (BOT.)
- [G] 1 SET OF 8-S502 (BOT.), 1 SET OF 6-S402 (TOP)
- [H] 1 SET OF 54-S501 (BOT.), 3 SETS OF 43-S401 (TOP)
- [I] 2 SETS OF 54-S501 (BOT.)
- [J] 1 SET OF 55-S501 (BOT.), 1 SET OF 44-S401 (TOP)
- [K] 1 SET OF 56-S501 (BOT.), 1 SET OF 45-S401 (TOP)
- [L] 1 SET OF 56-S502 (BOT.), 1 SET OF 45-S402 (TOP)
- [M] 1 SET OF 6-S501 (BOT.), 2 SETS OF 5-S401 (TOP)
- [N] 2 SETS OF 7-S501 (BOT.)
- [O] 2 SETS OF 6-S401 (TOP)
- [P] 1 SET OF 8-S501 (BOT.)
- [Q] 1 SET OF 9-S501 (BOT.), 1 SET OF 7-S401 (TOP)
- [R] 1 SET OF 9-S502 (BOT.), 1 SET OF 7-S402 (TOP)
- [S] 5 SETS OF 8-S501 (BOT.), 5 SETS OF 7-S401 (TOP)
- [T] 1 SET OF 8-S502 (BOT.), 1 SET OF 7-S402 (TOP)

NOTES:

1. FOR PARAPET DETAILS, SEE SHT. NO. 39/56.
2. FOR TRANSVERSE SECTION, SEE SHT. NO. 36/56.
3. FOR WESTBOUND BRIDGE DECK PLAN. SEE SHT. NO. 37/56.
4. MIN. LAP SPICE FOR TOP #8 BARS IS 4'-0"
5. FOR REAR END DIAPHRAGM DETAIL, SEE SHT. NO. 32/56.
6. FOR FORWARD END DIAPHRAGM DETAIL, SEE SHT. NO. 34/56.

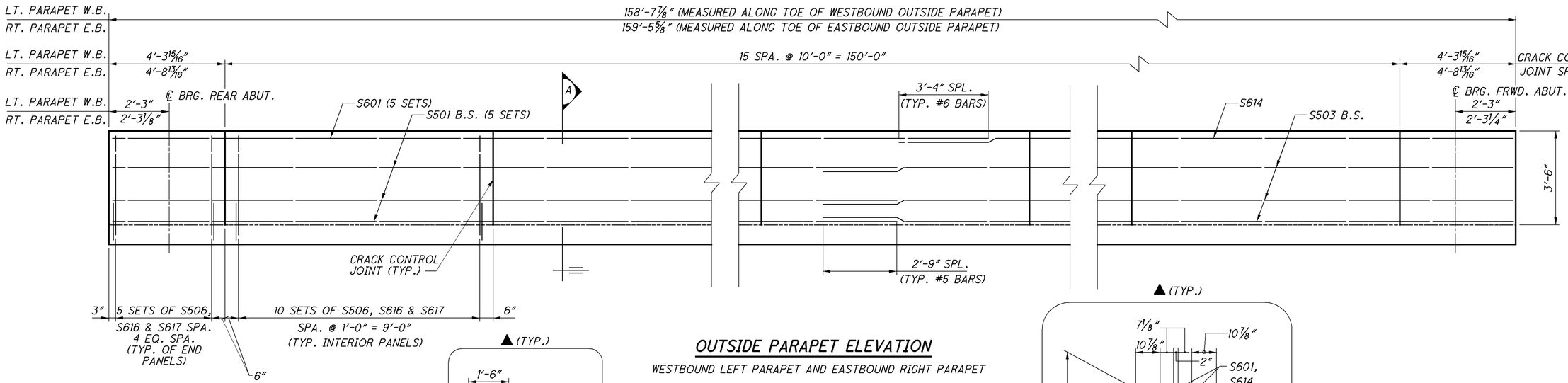
DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

DECK SLAB PLAN - EASTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

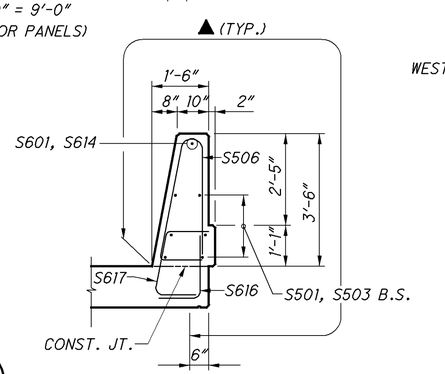
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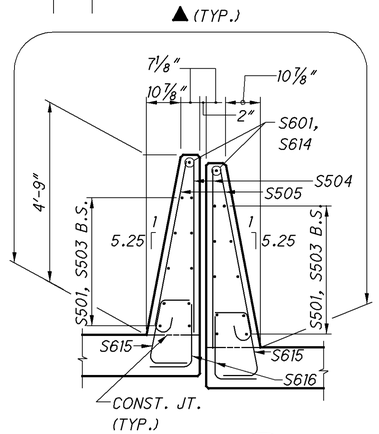
OUTSIDE PARAPET ELEVATION

WESTBOUND LEFT PARAPET AND EASTBOUND RIGHT PARAPET



SECTION A

DECK SLAB REINFORCEMENT NOT SHOWN

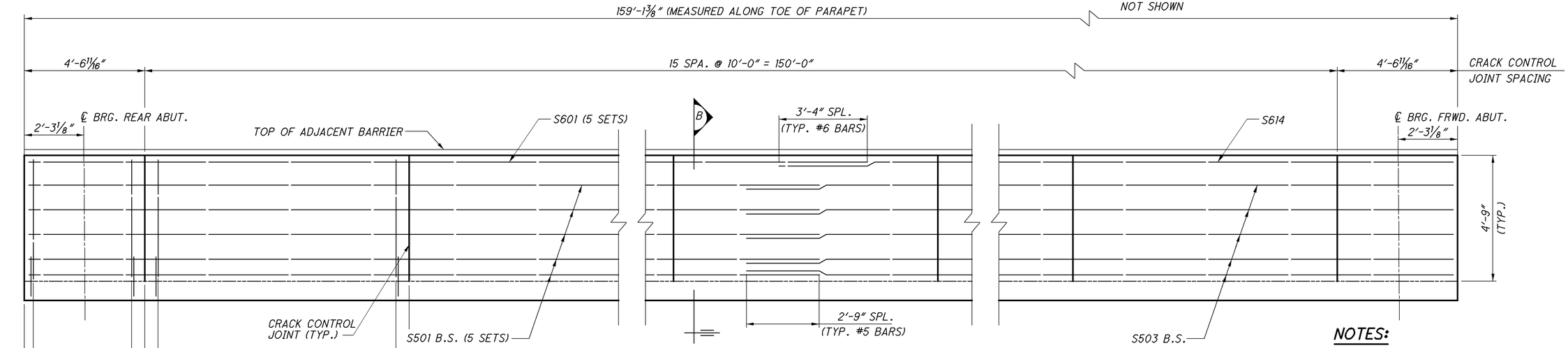


SECTION B

DECK SLAB REINFORCEMENT NOT SHOWN

LEGEND:

▲ LIMITS OF (ITEM 512 - SEALING OF OF CONCRETE SURFACES (EPOXY-URETHANE)



MEDIAN PARAPET ELEVATION

WESTBOUND RIGHT PARAPET AND EASTBOUND LEFT PARAPET

NOTES:

1. FOR DECK SLAB PLANS, SEE SHT. NO. 37/56 & 38/56.
2. SAWCUT CRACK CONTROL JOINTS IN CONCRETE PARAPETS ACCORDING TO ODOT STD. DWG. SBR-1-99

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311-1050
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RFV	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

PARAPET ELEVATIONS & DETAILS - OUTSIDE & MEDIAN

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

39/56

615/652

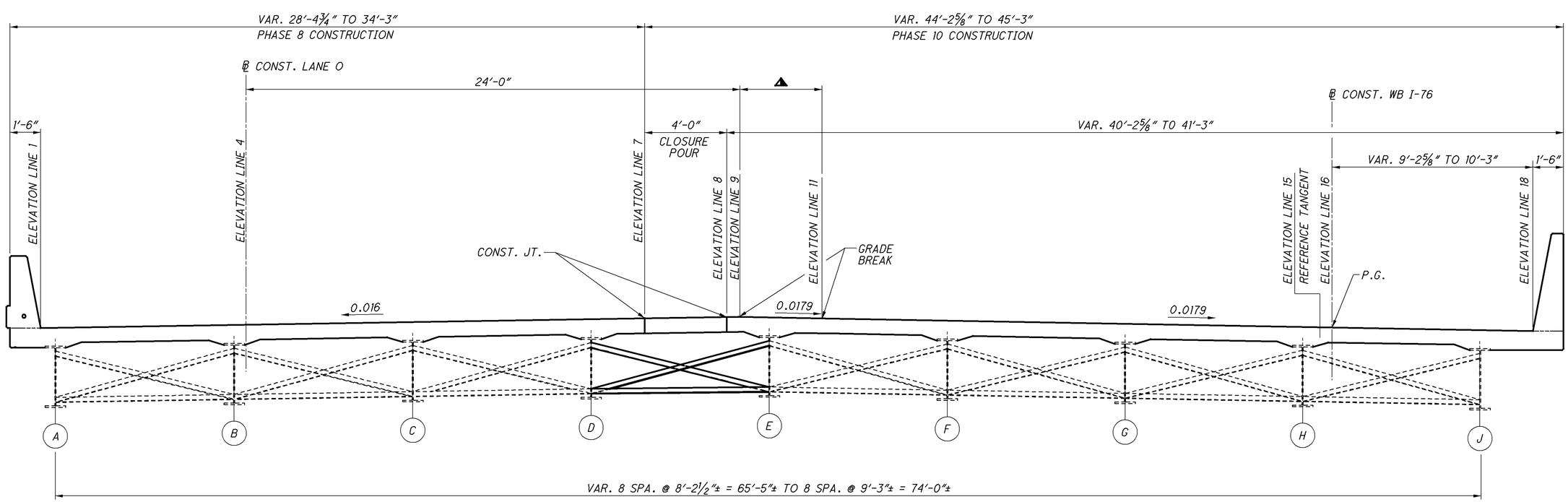
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AVITELLI

TABLE OF SCREED ELEVATIONS

	ELEVATION LINE 1		ELEVATION LINE 4		ELEVATION LINE 7		ELEVATION LINE 8		ELEVATION LINE 9		ELEVATION LINE 11		ELEVATION LINE 15		ELEVATION LINE 16		ELEVATION LINE 18	
LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
℄ BRG. R.A.	521+64.01	1064.66	521+64.73	1064.85	521+65.96	1065.17	521+66.25	1065.24	521+66.47	1065.30	521+66.65	1065.26	521+68.39	1064.91	521+68.40	1064.90	521+69.08	1064.76
¼ SPAN 1	521+73.42	1065.04	521+74.15	1065.23	521+75.42	1065.55	521+75.72	1065.63	521+75.93	1065.68	521+76.13	1065.64	521+77.92	1065.28	521+77.93	1065.28	521+78.63	1065.14
½ SPAN 1	521+82.82	1065.41	521+83.57	1065.60	521+84.89	1065.94	521+85.20	1066.01	521+85.38	1066.06	521+85.61	1066.01	521+87.44	1065.66	521+87.45	1065.66	521+88.18	1065.52
¾ SPAN 1	521+92.22	1065.79	521+92.99	1065.98	521+94.36	1066.32	521+94.67	1066.39	521+94.84	1066.44	521+95.10	1066.39	521+96.97	1066.03	521+96.98	1066.03	521+97.72	1065.89
℄ PIER 1	522+01.62	1066.17	522+02.40	1066.36	522+03.83	1066.71	522+04.15	1066.78	522+04.30	1066.82	522+04.59	1066.76	522+06.50	1066.41	522+06.50	1066.41	522+07.27	1066.27
¼ SPAN 2	522+17.99	1066.84	522+18.81	1067.04	522+20.33	1067.40	522+20.66	1067.47	522+20.76	1067.50	522+21.11	1067.44			522+23.06	1067.08	522+23.85	1066.94
½ SPAN 2	522+34.51	1067.51	522+35.32	1067.71	522+36.89	1068.08	522+37.22	1068.16	522+37.27	1068.17	522+37.67	1068.10			522+39.62	1067.75	522+40.42	1067.61
¾ SPAN 2	522+51.02	1068.17	522+51.83	1068.36	522+53.45	1068.75	522+53.78	1068.82	522+53.78	1068.82	522+54.23	1068.74			522+56.18	1068.39	522+56.99	1068.25
℄ PIER 2	522+67.53	1068.82	522+68.34	1069.01	522+70.02	1069.41	522+70.34	1069.46	522+70.29	1069.47	522+70.79	1069.38			522+72.75	1069.03	522+73.56	1068.88
¼ SPAN 3	522+80.03	1069.32	522+80.84	1069.52	522+82.56	1069.92	522+82.88	1069.96	522+82.79	1069.98	522+83.33	1069.88			522+85.29	1069.53	522+86.11	1069.38
½ SPAN 3	522+92.53	1069.83	522+93.34	1070.03	522+95.10	1070.45	522+95.42	1070.47	522+95.29	1070.49	522+95.87	1070.39			522+97.83	1070.03	522+98.65	1069.89
¾ SPAN 3	523+05.02	1070.34	523+05.83	1070.53	523+07.64	1070.96	523+07.97	1070.96	523+07.78	1070.99	523+08.41	1070.88			523+10.37	1070.53	523+11.20	1070.38
℄ BRG. F.A.	523+17.51	1070.83	523+18.33	1071.02	523+20.18	1071.46	523+20.51	1071.44	523+20.28	1071.48	523+20.96	1071.36			523+22.91	1071.01	523+23.75	1070.85

NOTES:

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. ELEVATION LINE 9 IS BETWEEN LINE 8 & LINE 11 FROM THE REAR ABUTMENT TO THE ½ POINT OF SPAN 2. LINE 9 IS BETWEEN LINE 7 & LINE 8 FROM THE ¾ POINT OF SPAN 2 TO THE FORWARD ABUTMENT.



TRANSVERSE SECTION

WESTBOUND

▲ VARIES 2'-4½" TO 8'-2½"

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9/16/2014
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DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

SCREED ELEVATIONS - WESTBOUND

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

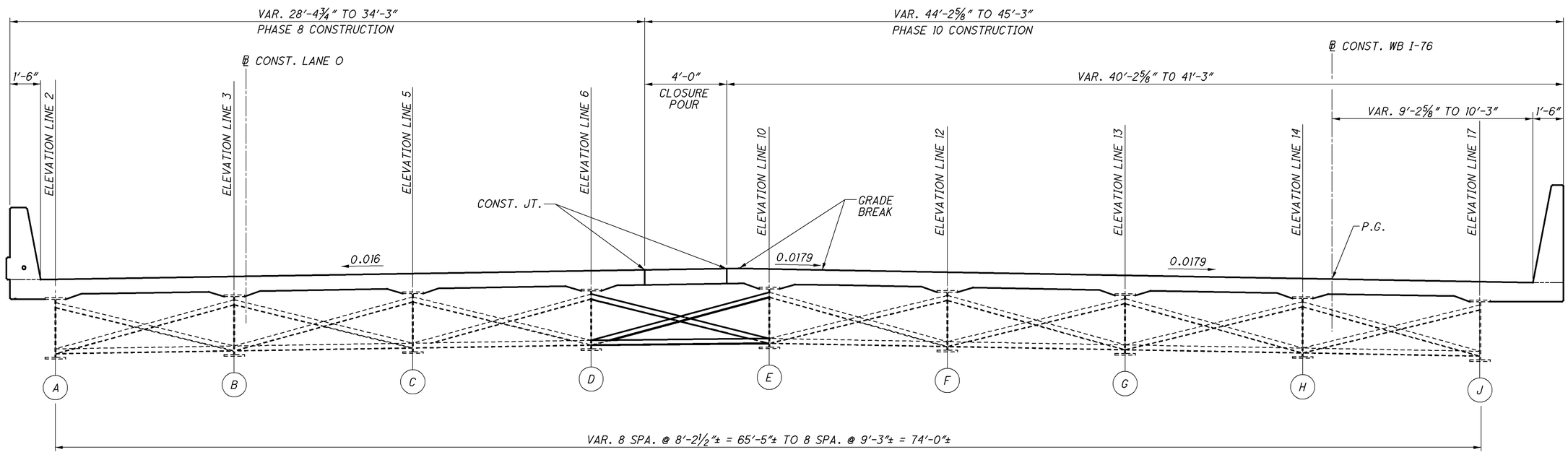
SUM-76/77-11.27/12.12
PID No. 86979

TABLE OF TOP OF HAUNCH (TOH) ELEVATIONS

	ELEVATION LINE 2		ELEVATION LINE 3		ELEVATION LINE 5		ELEVATION LINE 6		ELEVATION LINE 10		ELEVATION LINE 12		ELEVATION LINE 13		ELEVATION LINE 14		ELEVATION LINE 17	
LOCATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION
℄ BRG. R.A.	521+64.08	1063.94	521+64.66	1064.10	521+65.25	1064.25	521+65.85	1064.41	521+66.44	1064.56	521+67.03	1064.45	521+67.63	1064.33	521+68.23	1064.21	521+68.83	1064.09
¼ SPAN 1	521+73.48	1064.32	521+74.09	1064.48	521+74.69	1064.64	521+75.30	1064.79	521+75.91	1064.95	521+76.53	1064.83	521+77.14	1064.71	521+77.76	1064.59	521+78.38	1064.46
½ SPAN 1	521+82.88	1064.70	521+83.51	1064.86	521+84.13	1065.01	521+84.76	1065.18	521+85.39	1065.33	521+86.02	1065.20	521+86.66	1065.08	521+87.29	1064.96	521+87.93	1064.83
¾ SPAN 1	521+92.28	1065.07	521+92.93	1065.23	521+93.57	1065.39	521+94.22	1065.55	521+94.87	1065.70	521+95.52	1065.58	521+96.17	1065.45	521+96.83	1065.33	521+97.48	1065.21
℄ PIER 1	522+01.68	1065.45	522+02.34	1065.61	522+03.01	1065.78	522+03.67	1065.94	522+04.34	1066.08	522+05.01	1065.96	522+05.69	1065.83	522+06.36	1065.71	522+07.04	1065.58
¼ SPAN 2	522+18.06	1066.13	522+18.75	1066.29	522+19.45	1066.46	522+20.15	1066.62	522+20.84	1066.75	522+21.54	1066.63	522+22.24	1066.50	522+22.93	1066.38	522+23.63	1066.25
½ SPAN 2	522+34.56	1066.80	522+35.27	1066.97	522+35.98	1067.14	522+36.68	1067.30	522+37.39	1067.42	522+38.10	1067.29	522+38.80	1067.17	522+39.51	1067.04	522+40.21	1066.92
¾ SPAN 2	522+51.07	1067.45	522+51.79	1067.62	522+52.50	1067.79	522+53.22	1067.96	522+53.94	1068.07	522+54.65	1067.94	522+55.37	1067.81	522+56.08	1067.68	522+56.80	1067.55
℄ PIER 2	522+67.58	1068.10	522+68.30	1068.27	522+69.03	1068.44	522+69.76	1068.62	522+70.48	1068.71	522+71.21	1068.58	522+71.93	1068.45	522+72.66	1068.32	522+73.38	1068.18
¼ SPAN 3	522+80.08	1068.61	522+80.81	1068.78	522+81.55	1068.95	522+82.28	1069.13	522+83.01	1069.21	522+83.75	1069.08	522+84.48	1068.95	522+85.21	1068.81	522+85.94	1068.68
½ SPAN 3	522+92.58	1069.12	522+93.32	1069.29	522+94.06	1069.47	522+94.80	1069.65	522+95.54	1069.72	522+96.28	1069.58	522+97.02	1069.45	522+97.76	1069.32	522+98.50	1069.18
¾ SPAN 3	523+05.08	1069.62	523+05.83	1069.80	523+06.58	1069.98	523+07.33	1070.16	523+08.07	1070.21	523+08.82	1070.08	523+09.57	1069.94	523+10.32	1069.81	523+11.06	1069.67
℄ BRG. F.A.	523+17.59	1070.11	523+18.34	1070.29	523+19.10	1070.47	523+19.85	1070.65	523+20.61	1070.69	523+21.36	1070.56	523+22.12	1070.42	523+22.87	1070.28	523+23.63	1070.15

NOTE:

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM/GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.



TRANSVERSE SECTION

WESTBOUND

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DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

TOP OF HAUNCH ELEVATIONS - WESTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

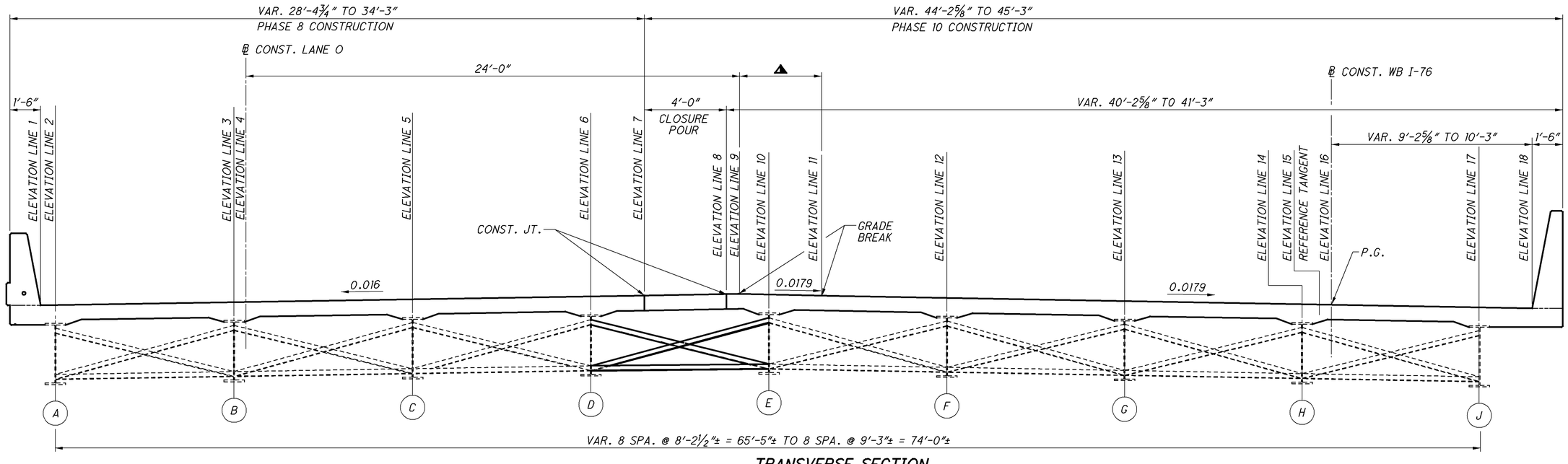
SUM-76/77-11.27/12.12
PID No. 86979

TABLE OF FINISHED ELEVATIONS

LOCATION	ELEVATION LINE 1		ELEVATION LINE 2		ELEVATION LINE 3		ELEVATION LINE 4		ELEVATION LINE 5		ELEVATION LINE 6		ELEVATION LINE 7		ELEVATION LINE 8		ELEVATION LINE 9		ELEVATION LINE 10		ELEVATION LINE 11	
	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION
℄ BRG. R.A.	521+64.01	1064.66	521+64.08	1064.67	521+64.66	1064.83	521+64.73	1064.85	521+65.25	1064.98	521+65.85	1065.14	521+65.96	1065.17	521+66.25	1065.24	521+66.47	1065.30	521+66.44	1065.29	521+66.65	1065.26
¼ SPAN 1	521+73.42	1065.03	521+73.48	1065.05	521+74.09	1065.21	521+74.15	1065.22	521+74.69	1065.36	521+75.30	1065.52	521+75.42	1065.55	521+75.72	1065.63	521+75.93	1065.68	521+75.91	1065.68	521+76.13	1065.64
½ SPAN 1	521+82.82	1065.41	521+82.88	1065.43	521+83.51	1065.59	521+83.57	1065.60	521+84.13	1065.74	521+84.76	1065.90	521+84.89	1065.93	521+85.20	1066.01	521+85.38	1066.06	521+85.39	1066.06	521+85.61	1066.01
¾ SPAN 1	521+92.22	1065.79	521+92.28	1065.80	521+92.93	1065.96	521+92.99	1065.98	521+93.57	1066.12	521+94.22	1066.28	521+94.36	1066.32	521+94.67	1066.40	521+94.84	1066.44	521+94.87	1066.43	521+95.10	1066.39
℄ PIER 1	522+01.62	1066.17	522+01.68	1066.18	522+02.34	1066.34	522+02.40	1066.36	522+03.01	1066.50	522+03.67	1066.67	522+03.83	1066.71	522+04.15	1066.78	522+04.30	1066.82	522+04.34	1066.81	522+04.59	1066.76
¼ SPAN 2	522+17.99	1066.82	522+18.06	1066.84	522+18.75	1067.00	522+18.81	1067.02	522+19.45	1067.17	522+20.15	1067.33	522+20.33	1067.38	522+20.66	1067.46	522+20.76	1067.48	522+20.84	1067.46	522+21.11	1067.42
½ SPAN 2	522+34.51	1067.49	522+34.56	1067.50	522+35.27	1067.67	522+35.32	1067.68	522+35.98	1067.84	522+36.68	1068.00	522+36.89	1068.05	522+37.22	1068.13	522+37.27	1068.14	522+37.39	1068.12	522+37.67	1068.07
¾ SPAN 2	522+51.02	1068.15	522+51.07	1068.16	522+51.79	1068.33	522+51.83	1068.34	522+52.50	1068.50	522+53.22	1068.67	522+53.45	1068.73	522+53.78	1068.81	522+53.78	1068.81	522+53.94	1068.78	522+54.23	1068.73
℄ PIER 2	522+67.53	1068.82	522+67.58	1068.83	522+68.30	1069.00	522+68.34	1069.01	522+69.03	1069.17	522+69.76	1069.34	522+70.02	1069.41	522+70.34	1069.46	522+70.29	1069.47	522+70.48	1069.44	522+70.79	1069.38
¼ SPAN 3	522+80.03	1069.32	522+80.08	1069.33	522+80.81	1069.51	522+80.84	1069.51	522+81.55	1069.68	522+82.28	1069.85	522+82.56	1069.92	522+82.88	1069.96	522+82.79	1069.97	522+83.01	1069.93	522+83.33	1069.88
½ SPAN 3	522+92.53	1069.82	522+92.58	1069.84	522+93.32	1070.01	522+93.34	1070.02	522+94.06	1070.19	522+94.80	1070.36	522+95.10	1070.43	522+95.42	1070.45	522+95.29	1070.48	522+95.54	1070.43	522+95.87	1070.37
¾ SPAN 3	523+05.02	1070.33	523+05.08	1070.34	523+05.83	1070.52	523+05.83	1070.52	523+06.58	1070.70	523+07.33	1070.87	523+07.64	1070.95	523+07.97	1070.95	523+07.78	1070.98	523+08.07	1070.93	523+08.41	1070.87
℄ BRG. F.A.	523+17.51	1070.83	523+17.59	1070.84	523+18.34	1071.02	523+18.33	1071.02	523+19.10	1071.20	523+19.85	1071.38	523+20.18	1071.46	523+20.51	1071.44	523+20.28	1071.48	523+20.61	1071.42	523+20.96	1071.36

TABLE OF FINISHED ELEVATIONS (CONT.)

LOCATION	ELEVATION LINE 12		ELEVATION LINE 13		ELEVATION LINE 14		ELEVATION LINE 15		ELEVATION LINE 16		ELEVATION LINE 17		ELEVATION LINE 18	
	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION
℄ BRG. R.A.	521+67.03	1065.18	521+67.63	1065.06	521+68.23	1064.94	521+68.39	1064.91	521+68.40	1064.90	521+68.83	1064.82	521+69.08	1064.76
¼ SPAN 1	521+76.53	1065.56	521+77.14	1065.44	521+77.76	1065.31	521+77.92	1065.28	521+77.93	1065.28	521+78.38	1065.19	521+78.63	1065.14
½ SPAN 1	521+86.02	1065.93	521+86.66	1065.81	521+87.29	1065.69	521+87.44	1065.66	521+87.45	1065.66	521+87.93	1065.56	521+88.18	1065.52
¾ SPAN 1	521+95.52	1066.31	521+96.17	1066.18	521+96.83	1066.06	521+96.97	1066.03	521+96.98	1066.03	521+97.48	1065.94	521+97.72	1065.89
℄ PIER 1	522+05.01	1066.68	522+05.69	1066.56	522+06.36	1066.44	522+06.50	1066.41	522+06.50	1066.41	522+07.04	1066.31	522+07.27	1066.27
¼ SPAN 2	522+21.54	1067.34	522+22.24	1067.21	522+22.93	1067.09			522+23.06	1067.06	522+23.63	1066.96	522+23.85	1066.92
½ SPAN 2	522+38.10	1067.99	522+38.80	1067.87	522+39.51	1067.74			522+39.62	1067.72	522+40.21	1067.61	522+40.42	1067.58
¾ SPAN 2	522+54.65	1068.65	522+55.37	1068.52	522+56.08	1068.39			522+56.18	1068.37	522+56.80	1068.26	522+56.99	1068.23
℄ PIER 2	522+71.21	1069.31	522+71.93	1069.18	522+72.66	1069.04			522+72.75	1069.03	522+73.38	1068.91	522+73.56	1068.88
¼ SPAN 3	522+83.75	1069.80	522+84.48	1069.67	522+85.21	1069.54			522+85.29	1069.53	522+85.94	1069.41	522+86.11	1069.38
½ SPAN 3	522+96.28	1070.30	522+97.02	1070.17	522+97.76	1070.03			522+97.83	1070.02	522+98.50	1069.90	522+98.65	1069.87
¾ SPAN 3	523+08.82	1070.79	523+09.57	1070.66	523+10.32	1070.53			523+10.37	1070.52	523+11.06	1070.39	523+11.20	1070.37
℄ BRG. F.A.	523+21.36	1071.29	523+22.12	1071.15	523+22.87	1071.01			523+22.91	1071.01	523+23.63	1070.88	523+23.75	1070.85



TRANSVERSE SECTION

WESTBOUND

▲ VARIES 2′-4½″ TO 8′-2½″

NOTES:

1. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFELECTIONS HAVE OCURRED.
2. ELEVATION LINE 9 IS BETWEEN LINE 10 & LINE 11 FROM THE REAR ABUTMENT TO THE ¼ POINT OF SPAN 1. LINE 9 IS BETWEEN LINE 8 & LINE 10 FROM THE ½ POINT OF SPAN 1 TO THE ½ POINT OF SPAN 2. LINE 9 IS BETWEEN LINE 7 & LINE 8 FROM THE ¾ POINT OF SPAN 2 TO THE FORWARD ABUTMENT.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, OH 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

FINISHED ELEVATIONS - WESTBOUND

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12

PID No. 86979

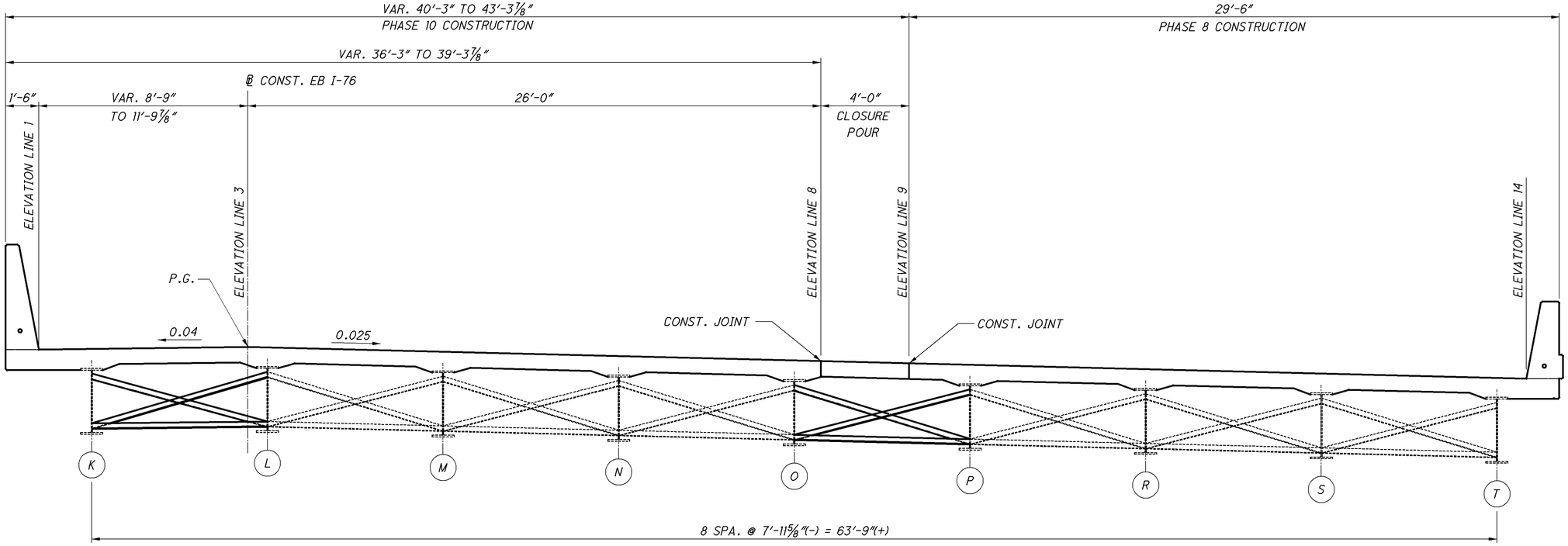
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TABLE OF SCREED ELEVATIONS

	ELEVATION LINE 1		ELEVATION LINE 3		ELEVATION LINE 8		ELEVATION LINE 9		ELEVATION LINE 14	
LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
℄ BRG. R.A.	521+68.60	1064.33	521+69.36	1064.71	521+71.65	1064.15	521+72.01	1064.07	521+74.51	1063.47
1/4 SPAN 1	521+78.11	1064.71	521+78.90	1065.09	521+81.25	1064.54	521+81.62	1064.45	521+84.19	1063.85
1/2 SPAN 1	521+87.62	1065.09	521+88.43	1065.47	521+90.85	1064.92	521+91.23	1064.83	521+93.87	1064.24
3/4 SPAN 1	521+97.14	1065.46	521+97.97	1065.85	522+00.45	1065.30	522+00.84	1065.21	522+03.56	1064.62
℄ PIER 1	522+06.65	1065.84	522+07.51	1066.23	522+10.06	1065.68	522+10.45	1065.59	522+13.24	1065.00
1/4 SPAN 2	522+23.18	1066.50	522+24.10	1066.90	522+26.76	1066.36	522+27.17	1066.27	522+30.08	1065.69
1/2 SPAN 2	522+39.70	1067.16	522+40.70	1067.57	522+43.47	1067.03	522+43.90	1066.95	522+46.93	1066.37
3/4 SPAN 2	522+56.23	1067.79	522+57.30	1068.22	522+60.18	1067.68	522+60.63	1067.60	522+63.78	1067.02
℄ PIER 2	522+72.75	1068.41	522+73.91	1068.86	522+76.90	1068.33	522+77.37	1068.25	522+80.65	1067.68
1/4 SPAN 3	522+85.26	1068.90	522+86.49	1069.36	522+89.57	1068.84	522+90.05	1068.76	522+93.42	1068.19
1/2 SPAN 3	522+97.77	1069.39	522+99.08	1069.87	523+02.25	1069.35	523+02.74	1069.27	523+06.21	1068.71
3/4 SPAN 3	523+10.27	1069.86	523+11.68	1070.37	523+14.93	1069.85	523+15.43	1069.77	523+18.99	1069.21
℄ BRG. F.A.	523+22.77	1070.33	523+24.27	1070.86	523+27.61	1070.34	523+28.13	1070.26	523+31.78	1069.71

NOTE:

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.



TRANSVERSE SECTION

EASTBOUND

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DESIGN AGENCY
GPD GROUP
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77033031	

SCREED ELEVATIONS - EASTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

43/56

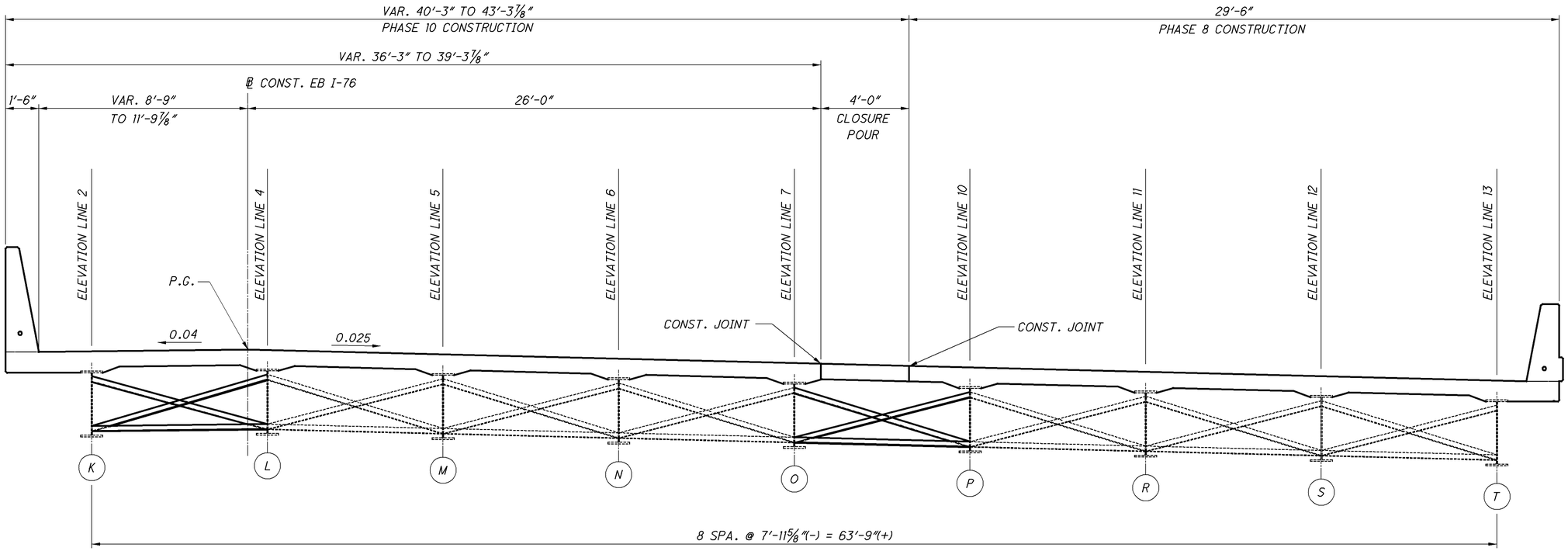
619/652

TABLE OF TOP OF HAUNCH (TOH) ELEVATIONS

	ELEVATION LINE 2		ELEVATION LINE 4		ELEVATION LINE 5		ELEVATION LINE 6		ELEVATION LINE 7		ELEVATION LINE 10		ELEVATION LINE 11		ELEVATION LINE 12		ELEVATION LINE 13	
LOCATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION	STATION	TOH ELEVATION
℄ BRG. R.A.	521+68.73	1063.69	521+69.42	1063.99	521+70.12	1063.82	521+70.83	1063.65	521+71.53	1063.48	521+72.24	1063.30	521+72.95	1063.13	521+73.66	1062.96	521+74.38	1062.79
¼ SPAN 1	521+78.25	1064.07	521+78.97	1064.37	521+79.69	1064.20	521+80.41	1064.03	521+81.13	1063.86	521+81.86	1063.69	521+82.59	1063.52	521+83.33	1063.35	521+84.06	1063.17
½ SPAN 1	521+87.78	1064.45	521+88.52	1064.74	521+89.25	1064.57	521+90.00	1064.40	521+90.74	1064.23	521+91.49	1064.06	521+92.24	1063.90	521+92.99	1063.73	521+93.75	1063.56
¾ SPAN 1	521+97.31	1064.83	521+98.06	1065.12	521+98.82	1064.95	521+99.58	1064.78	522+00.34	1064.61	522+01.11	1064.44	522+01.88	1064.27	522+02.66	1064.11	522+03.43	1065.36
℄ PIER 1	522+06.83	1065.21	522+07.61	1065.50	522+08.39	1065.33	522+09.17	1065.16	522+09.95	1064.99	522+10.74	1064.83	522+11.53	1064.66	522+12.32	1064.49	522+13.12	1064.32
¼ SPAN 2	522+23.39	1065.89	522+24.20	1066.17	522+25.01	1066.01	522+25.83	1065.84	522+26.64	1065.67	522+27.47	1065.51	522+28.29	1065.34	522+29.12	1065.17	522+29.95	1065.01
½ SPAN 2	522+39.95	1066.55	522+40.79	1066.84	522+41.64	1066.68	522+42.49	1066.51	522+43.34	1066.35	522+44.19	1066.18	522+45.05	1066.02	522+45.91	1065.85	522+46.78	1065.69
¾ SPAN 2	522+56.51	1067.19	522+57.38	1067.49	522+58.26	1067.33	522+59.14	1067.16	522+60.03	1067.00	522+60.92	1066.84	522+61.81	1066.67	522+62.71	1066.51	522+63.61	1066.35
℄ PIER 2	522+73.06	1067.82	522+73.97	1068.14	522+74.89	1067.98	522+75.80	1067.82	522+76.72	1067.65	522+77.65	1067.49	522+78.57	1067.33	522+79.51	1067.17	522+80.44	1067.01
¼ SPAN 3	522+85.60	1068.32	522+86.53	1068.65	522+87.47	1068.49	522+88.42	1068.33	522+89.36	1068.16	522+90.31	1068.00	522+91.26	1067.84	522+92.22	1067.68	522+93.18	1067.52
½ SPAN 3	522+98.14	1068.82	522+99.10	1069.16	523+00.06	1069.00	523+01.03	1068.84	523+02.00	1068.68	523+02.97	1068.52	523+03.95	1068.36	523+04.94	1068.20	523+05.93	1068.04
¾ SPAN 3	523+10.67	1069.30	523+11.65	1069.65	523+12.64	1069.51	523+13.64	1069.35	523+14.63	1069.19	523+15.64	1069.03	523+16.64	1068.87	523+17.65	1068.71	523+18.67	1068.56
℄ BRG. F.A.	523+23.20	1069.77	523+24.21	1070.13	523+25.23	1070.00	523+26.25	1069.85	523+27.27	1069.69	523+28.30	1069.53	523+29.33	1069.37	523+30.36	1069.22	523+31.40	1069.06

NOTE:

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM/GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.



TRANSVERSE SECTION

EASTBOUND

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DESIGN AGENCY
GPD GROUP
Akron, Ohio
520 South Main Street, Suite 2531, Akron, OH 44311-1050
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77703031	

TOP OF HAUNCH ELEVATIONS - EASTBOUND
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

TABLE OF FINISHED ELEVATIONS

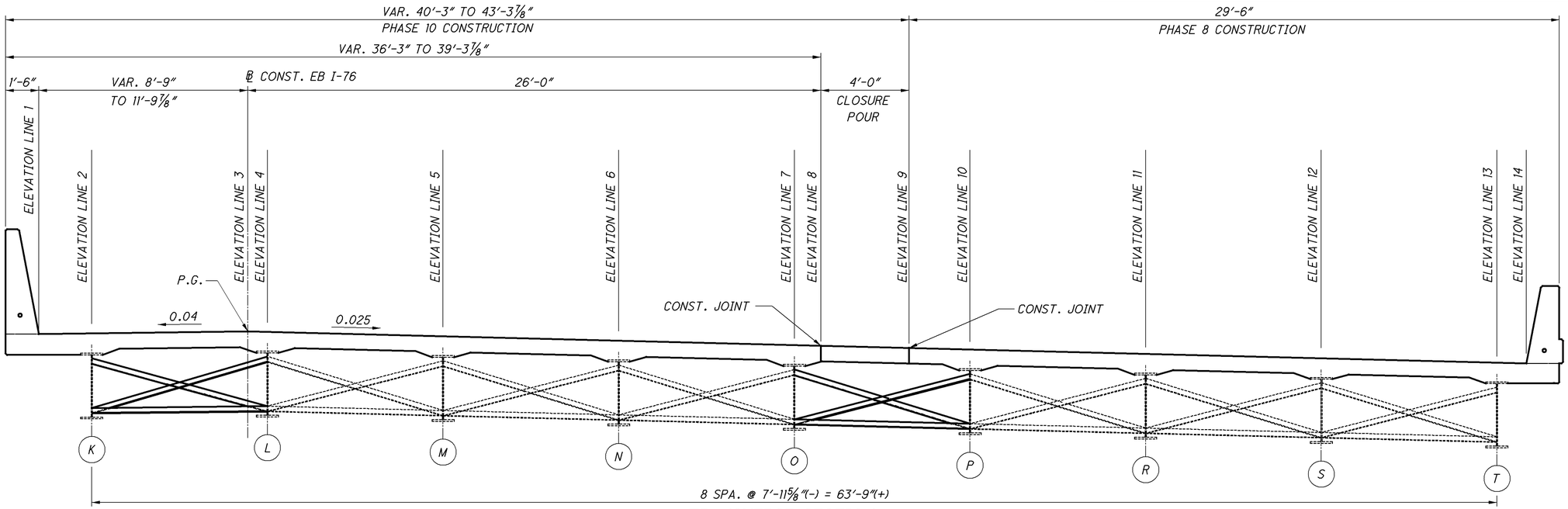
LOCATION	ELEVATION LINE 1		ELEVATION LINE 2		ELEVATION LINE 3		ELEVATION LINE 4		ELEVATION LINE 5		ELEVATION LINE 6		ELEVATION LINE 7		ELEVATION LINE 8		ELEVATION LINE 9		ELEVATION LINE 10		ELEVATION LINE 11	
	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION
℄ BRG. R.A.	521+68.60	1064.33	521+68.73	1064.40	521+69.36	1064.71	521+69.42	1064.70	521+70.12	1064.53	521+70.83	1064.36	521+71.53	1064.18	521+71.65	1064.15	521+72.01	1064.07	521+72.24	1064.01	521+72.95	1063.84
1/4 SPAN 1	521+78.11	1064.71	521+78.25	1064.78	521+78.90	1065.09	521+78.97	1065.08	521+79.69	1064.90	521+80.41	1064.73	521+81.13	1064.56	521+81.25	1064.54	521+81.62	1064.45	521+81.86	1064.39	521+82.59	1064.22
1/2 SPAN 1	521+87.62	1065.09	521+87.78	1065.16	521+88.43	1065.47	521+88.52	1065.45	521+89.25	1065.28	521+90.00	1065.11	521+90.74	1064.94	521+90.85	1064.92	521+91.23	1064.83	521+91.49	1064.77	521+92.24	1064.60
3/4 SPAN 1	521+97.14	1065.46	521+97.31	1065.54	521+97.97	1065.85	521+98.06	1065.83	521+98.82	1065.66	521+99.58	1065.49	522+00.34	1065.32	522+00.45	1065.30	522+00.84	1065.21	522+01.11	1065.15	522+01.88	1064.98
℄ PIER 1	522+06.65	1065.84	522+06.83	1065.92	522+07.51	1066.23	522+07.61	1066.21	522+08.39	1066.04	522+09.17	1065.87	522+09.95	1065.70	522+10.06	1065.68	522+10.45	1065.59	522+10.74	1065.53	522+11.53	1065.37
1/4 SPAN 2	522+23.18	1066.48	522+23.39	1066.58	522+24.10	1066.89	522+24.20	1066.87	522+25.01	1066.70	522+25.83	1066.53	522+26.64	1066.36	522+26.76	1066.34	522+27.17	1066.26	522+27.47	1066.20	522+28.29	1066.03
1/2 SPAN 2	522+39.70	1067.13	522+39.95	1067.23	522+40.70	1067.54	522+40.79	1067.53	522+41.64	1067.36	522+42.49	1067.19	522+43.34	1067.03	522+43.47	1067.00	522+43.90	1066.92	522+44.19	1066.86	522+45.05	1066.70
3/4 SPAN 2	522+56.23	1067.77	522+56.51	1067.88	522+57.30	1068.20	522+57.38	1068.19	522+58.26	1068.02	522+59.14	1067.86	522+60.03	1067.69	522+60.18	1067.67	522+60.63	1067.58	522+60.92	1067.53	522+61.81	1067.37
℄ PIER 2	522+72.75	1068.41	522+73.06	1068.53	522+73.91	1068.86	522+73.97	1068.85	522+74.89	1068.69	522+75.80	1068.52	522+76.72	1068.36	522+76.90	1068.33	522+77.37	1068.25	522+77.65	1068.20	522+78.57	1068.04
1/4 SPAN 3	522+85.26	1068.89	522+85.60	1069.02	522+86.49	1069.36	522+86.53	1069.35	522+87.47	1069.19	522+88.42	1069.03	522+89.36	1068.87	522+89.57	1068.83	522+90.05	1068.75	522+90.31	1068.71	522+91.26	1068.55
1/2 SPAN 3	522+97.77	1069.37	522+98.14	1069.51	522+99.08	1069.86	522+99.10	1069.86	523+00.06	1069.70	523+01.03	1069.54	523+02.00	1069.38	523+02.25	1069.34	523+02.74	1069.26	523+02.97	1069.22	523+03.95	1069.06
3/4 SPAN 3	523+10.27	1069.85	523+10.67	1070.00	523+11.68	1070.36	523+11.65	1070.35	523+12.64	1070.20	523+13.64	1070.04	523+14.63	1069.89	523+14.93	1069.84	523+15.43	1069.76	523+15.64	1069.73	523+16.64	1069.57
℄ BRG. F.A.	523+22.77	1070.33	523+23.20	1070.48	523+24.27	1070.86	523+24.21	1070.84	523+25.23	1070.71	523+26.25	1070.55	523+27.27	1070.40	523+27.61	1070.34	523+28.13	1070.26	523+28.30	1070.24	523+29.33	1070.08

NOTE:

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFELECTIONS HAVE OCURRED.

FINISHED ELEVATIONS (CONT.)

LOCATION	ELEVATION LINE 12		ELEVATION LINE 13		ELEVATION LINE 14	
	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION	STATION	FINISHED ELEVATION
℄ BRG. R.A.	521+73.66	1063.67	521+74.38	1063.50	521+74.51	1063.47
1/4 SPAN 1	521+83.33	1064.05	521+84.06	1063.88	521+84.19	1063.85
1/2 SPAN 1	521+92.99	1064.43	521+93.75	1064.26	521+93.87	1064.24
3/4 SPAN 1	522+02.66	1064.82	522+03.43	1066.07	522+03.56	1064.62
℄ PIER 1	522+12.32	1065.20	522+13.12	1065.03	522+13.24	1065.00
1/4 SPAN 2	522+29.12	1065.87	522+29.95	1065.70	522+30.08	1065.67
1/2 SPAN 2	522+45.91	1066.53	522+46.78	1066.37	522+46.93	1066.34
3/4 SPAN 2	522+62.71	1067.20	522+63.61	1067.04	522+63.78	1067.01
℄ PIER 2	522+79.51	1067.88	522+80.44	1067.71	522+80.65	1067.68
1/4 SPAN 3	522+92.22	1068.39	522+93.18	1068.23	522+93.42	1068.19
1/2 SPAN 3	523+04.94	1068.90	523+05.93	1068.74	523+06.21	1068.69
3/4 SPAN 3	523+17.65	1069.41	523+18.67	1069.25	523+18.99	1069.20
℄ BRG. F.A.	523+30.36	1069.92	523+31.40	1069.77	523+31.78	1069.71



TRANSVERSE SECTION

EASTBOUND

DESIGN AGENCY
GPD GROUP
Engineering | Architecture | Planning
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100 Fax 330-572-2101

DESIGNED	CHECKED
DJC	TJW

DRAWN	REVIEWED	DATE
RFV	DGN	4-2-14

REVISED

STRUCTURE FILE NUMBER
7703031

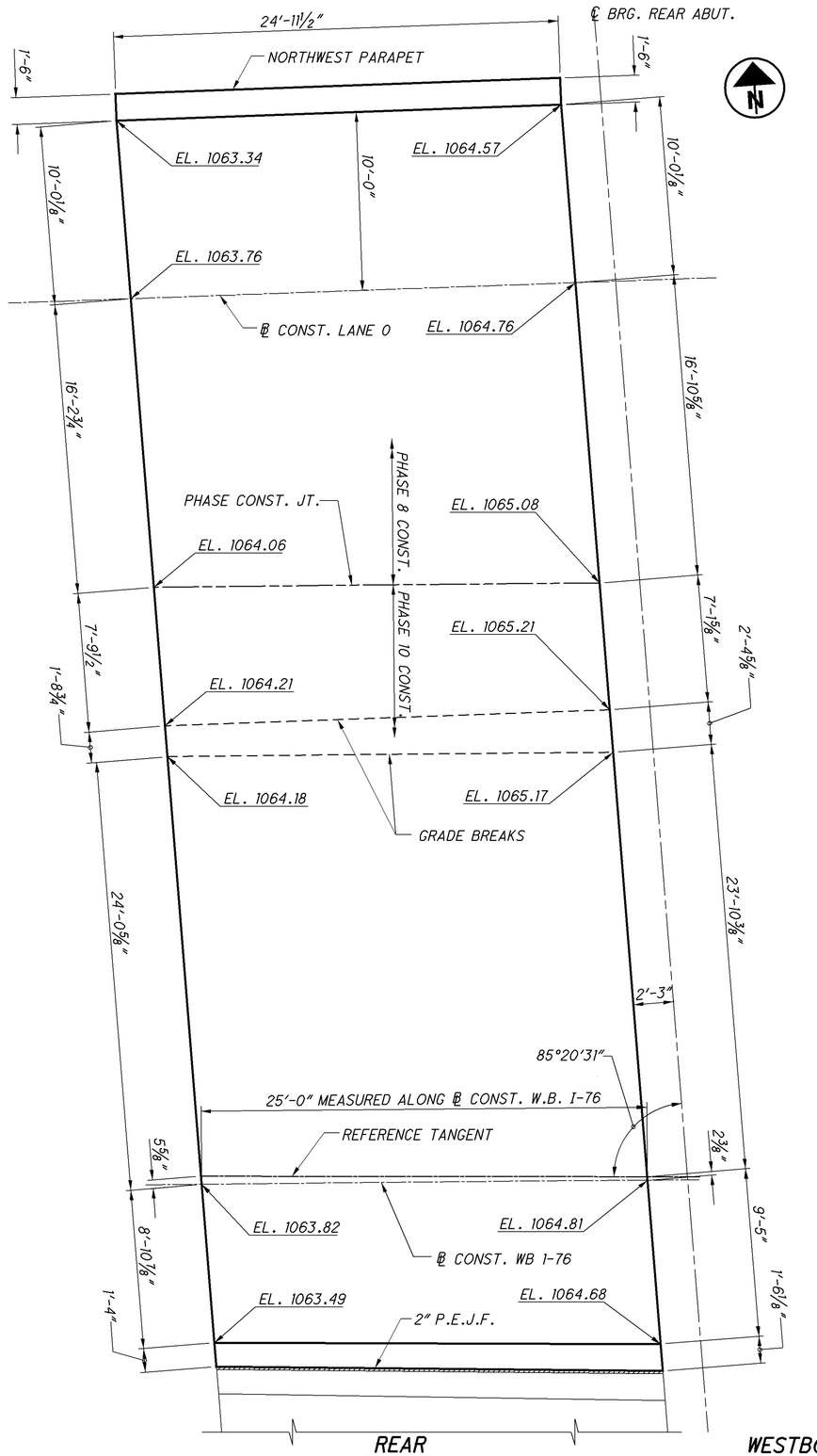
FINISHED ELEVATIONS - EASTBOUND

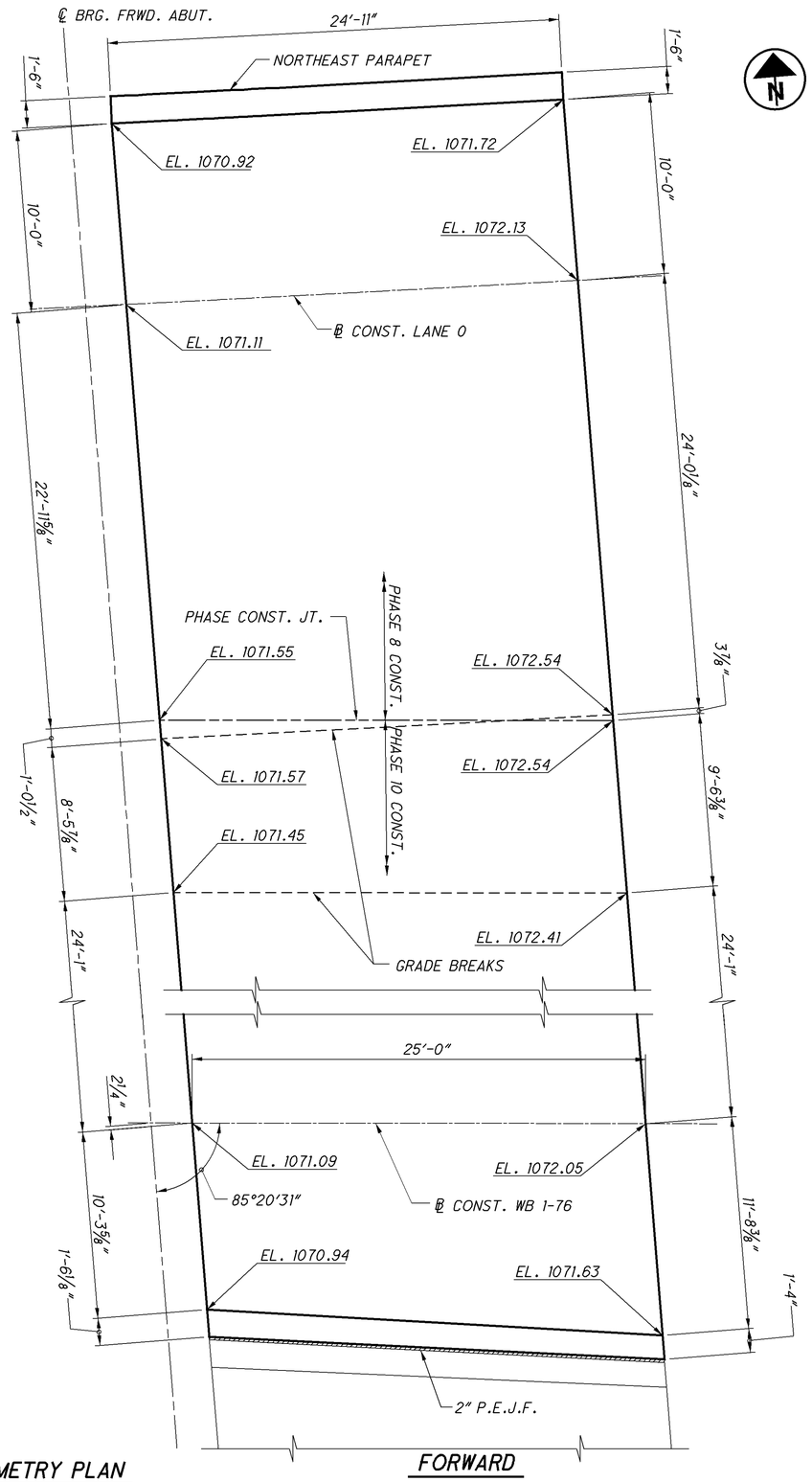
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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WESTBOUND APPROACH SLAB GEOMETRY PLAN

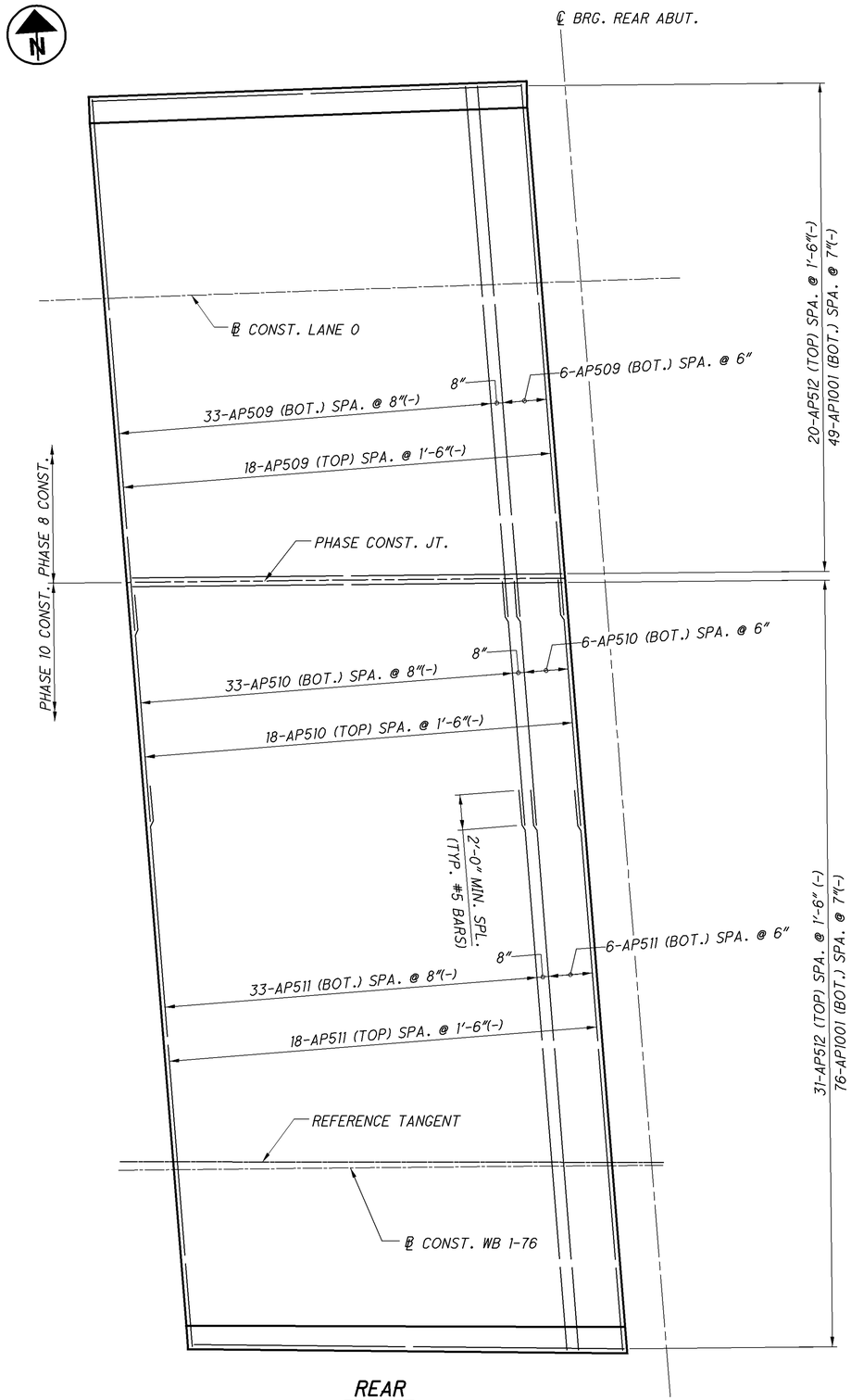
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9/16/2014
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RVITELLI

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, OH 44311-1050
Fax 330-572-2100

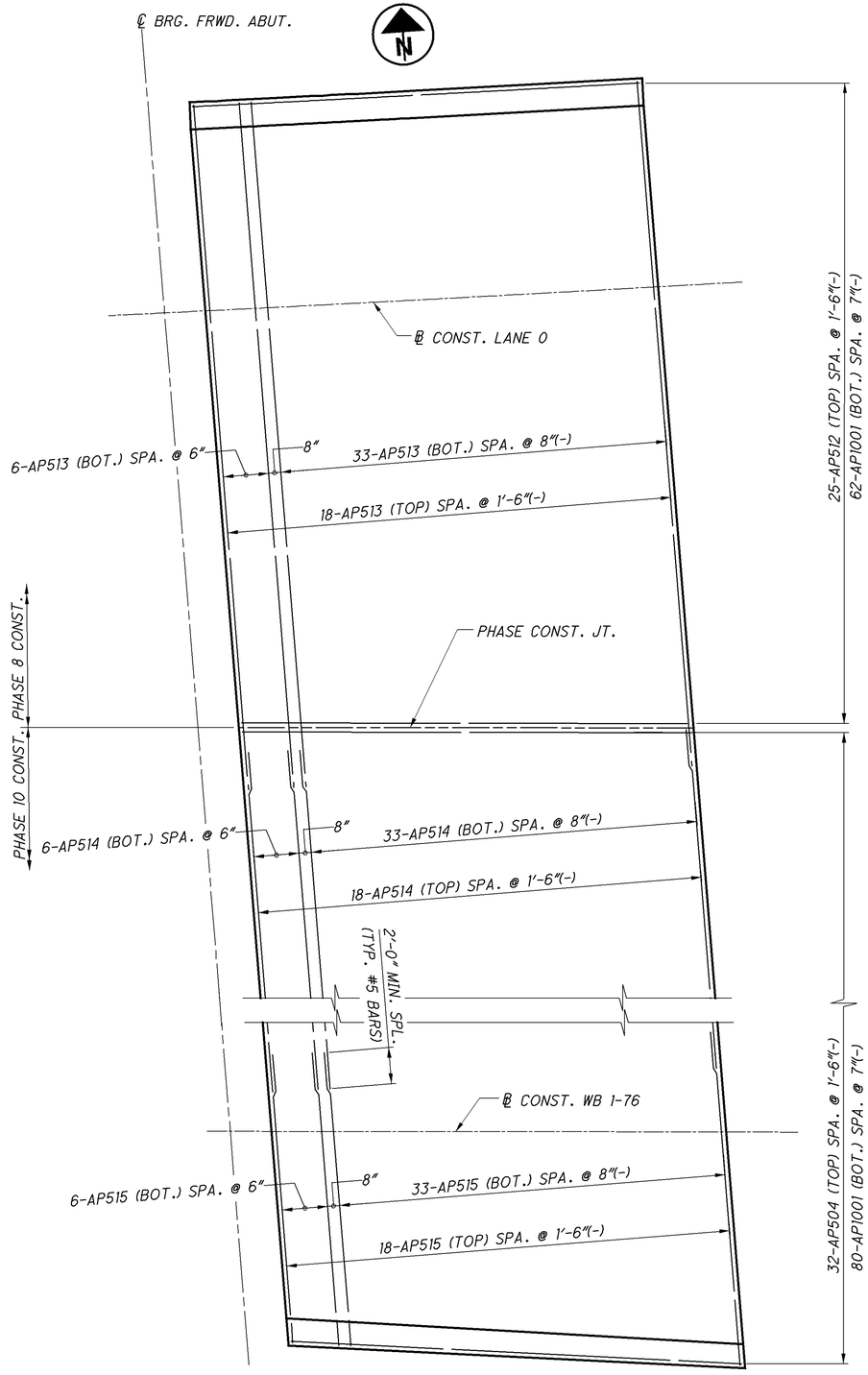
DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

WESTBOUND APPROACH SLAB GEOMETRY PLAN
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979



REAR



FORWARD

WESTBOUND APPROACH SLAB REINFORCING PLAN

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DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

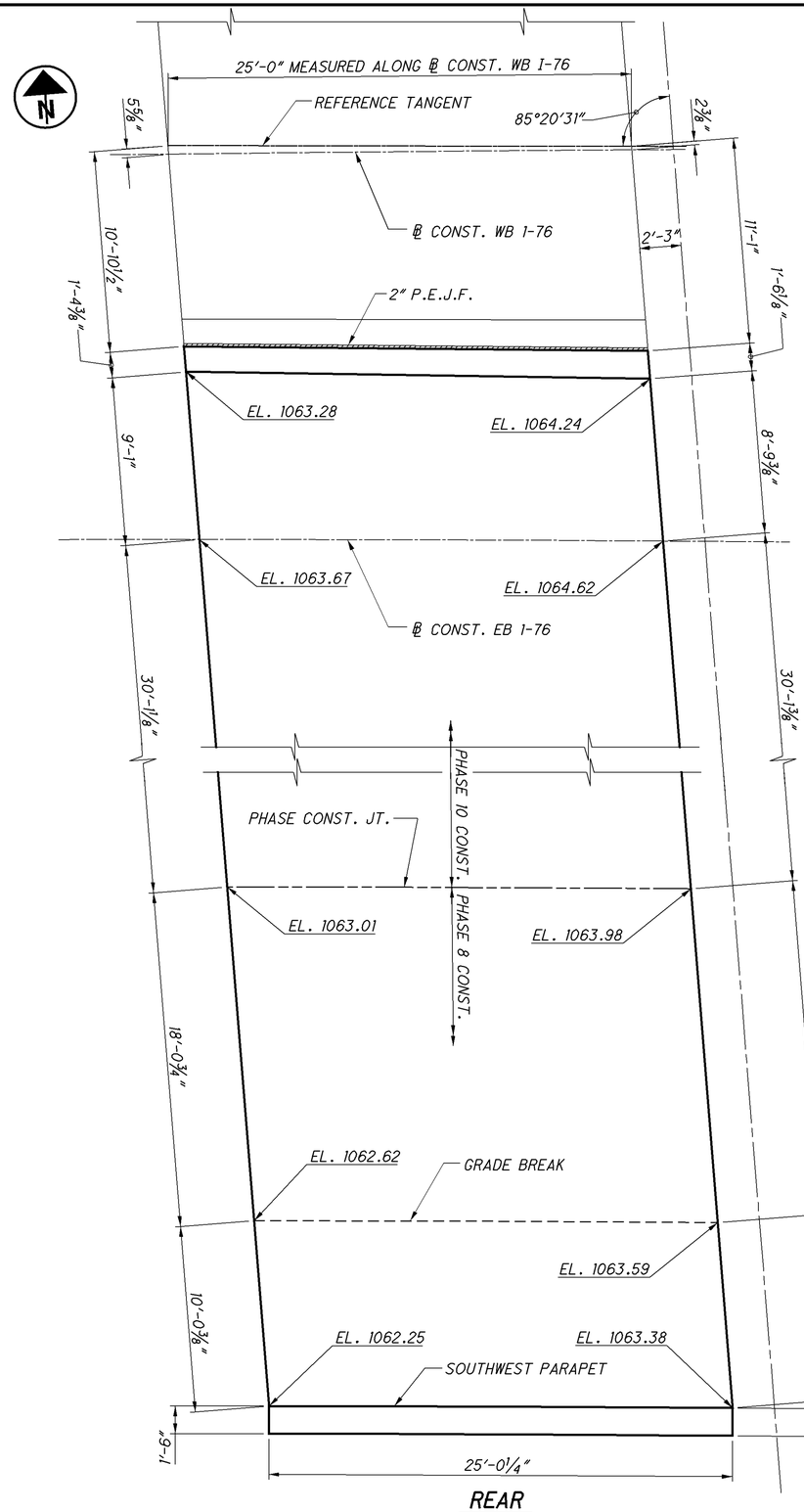
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RPR	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77033031	

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BRIDGE NO. SUM-76-1127 & SUM-76-1128
I-76 OVER BROWN STREET

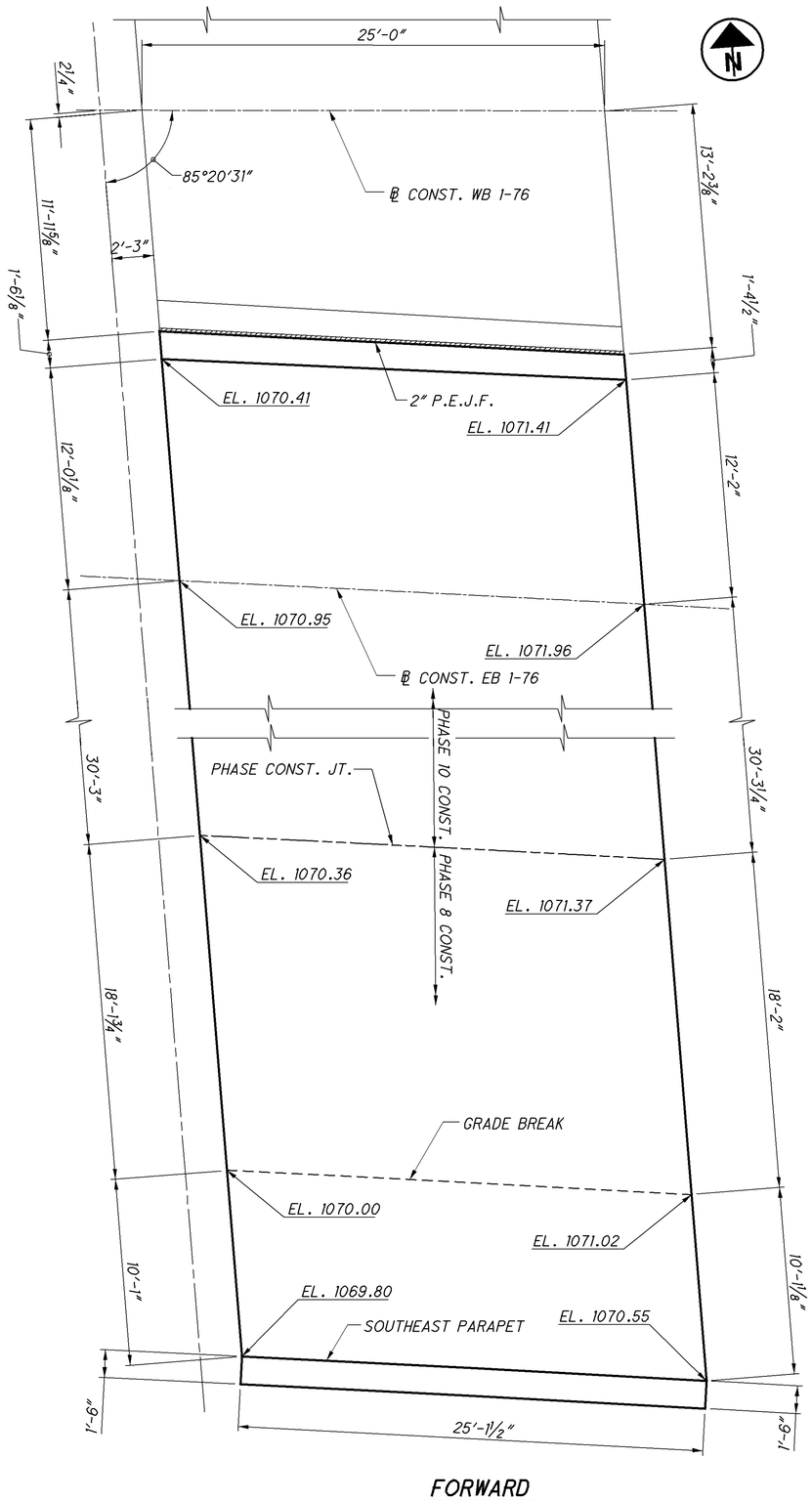
SUM-76/77-11.27/12.12
PID No. 86979

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623
652



REAR



FORWARD

EASTBOUND APPROACH SLAB GEOMETRY PLAN

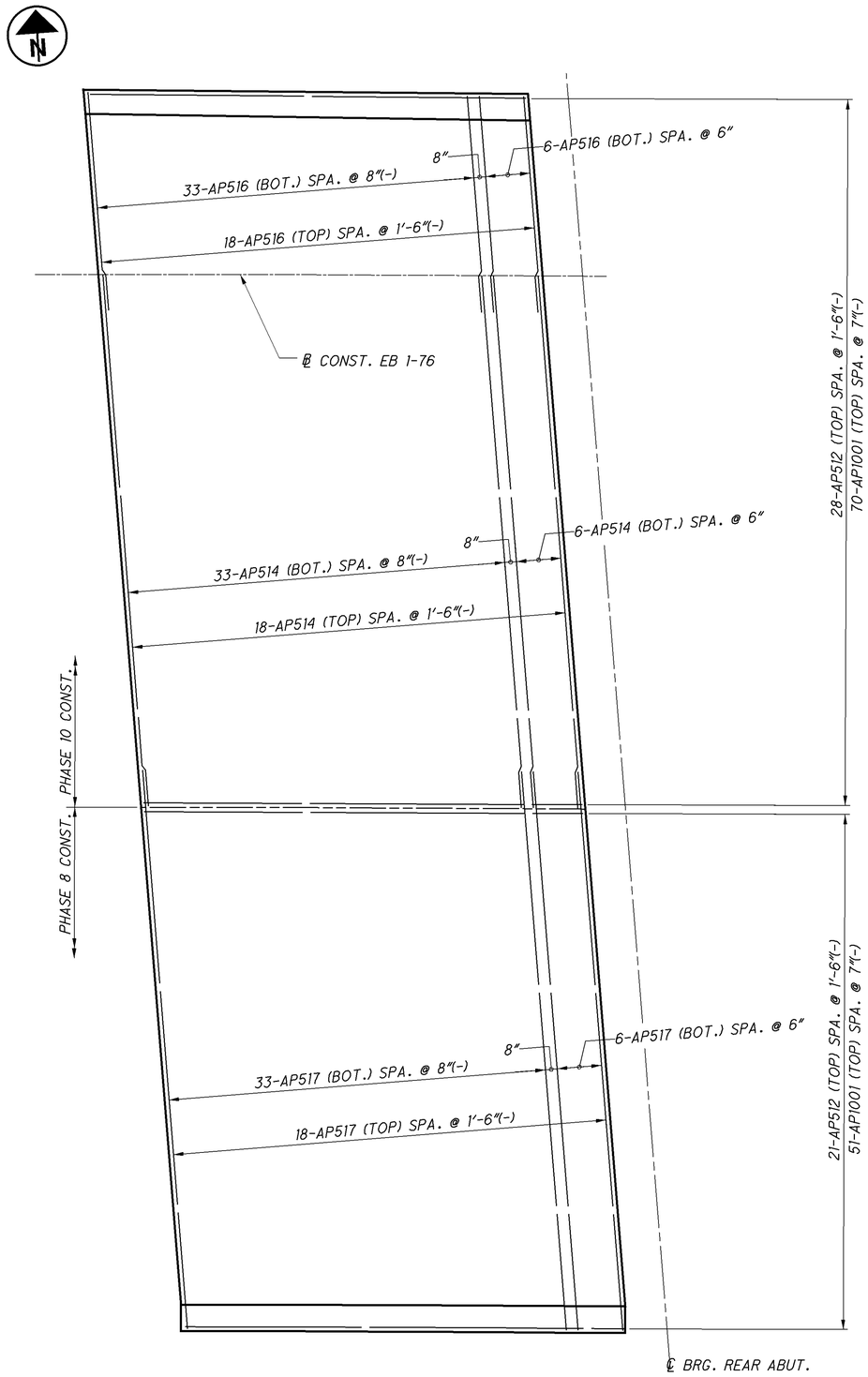
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DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

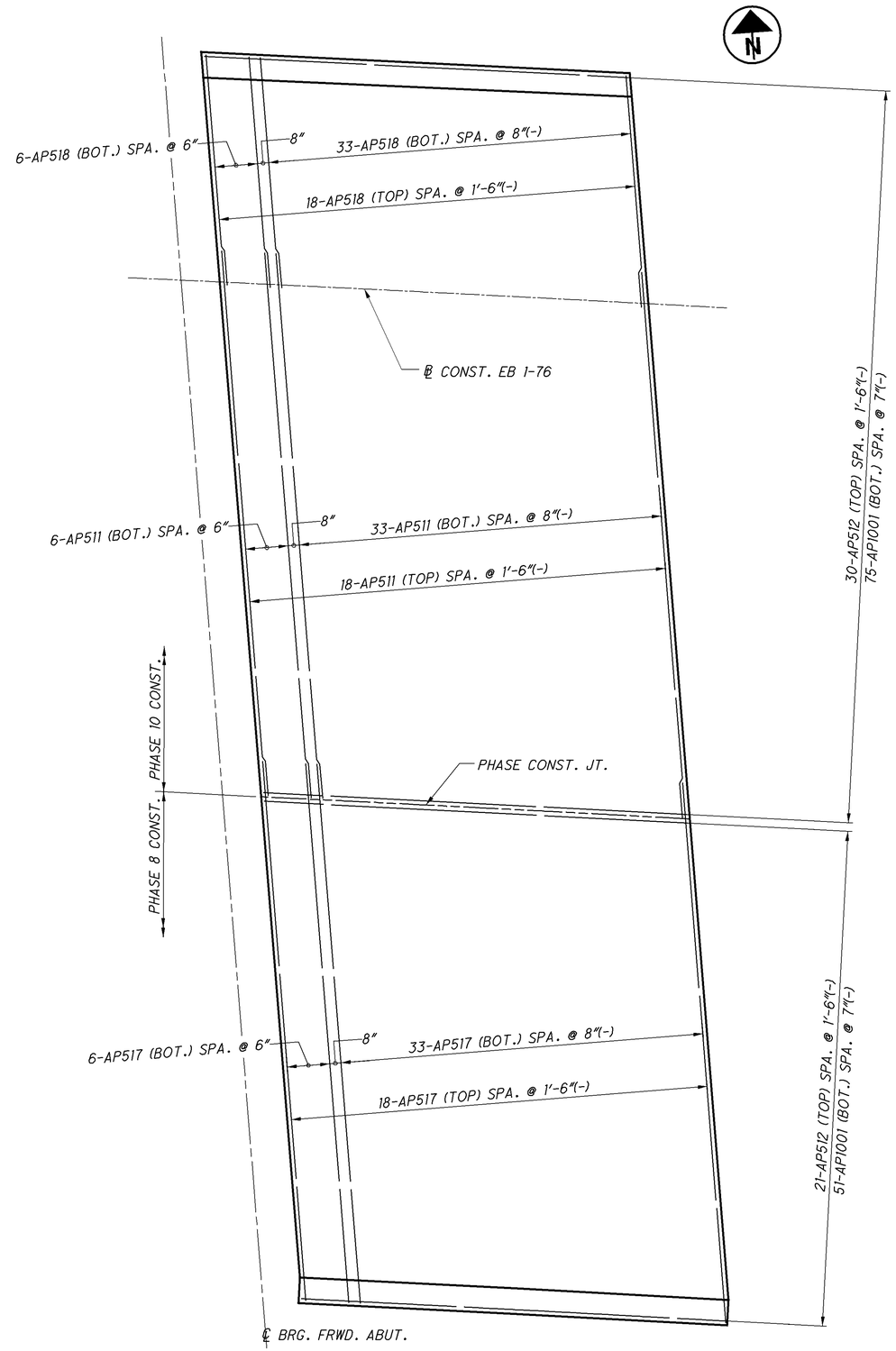
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RPR	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

EASTBOUND APPROACH SLAB GEOMETRY PLAN
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979



REAR



FORWARD

EASTBOUND APPROACH SLAB REINFORCING PLAN

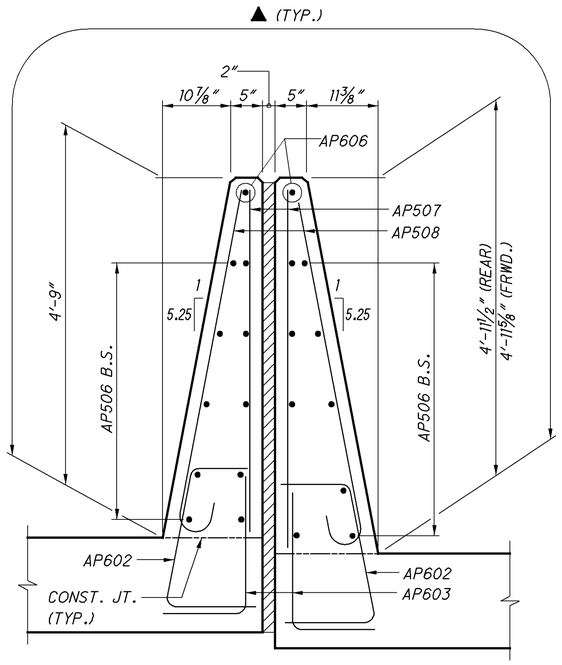
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DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311-1010
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		77033031	

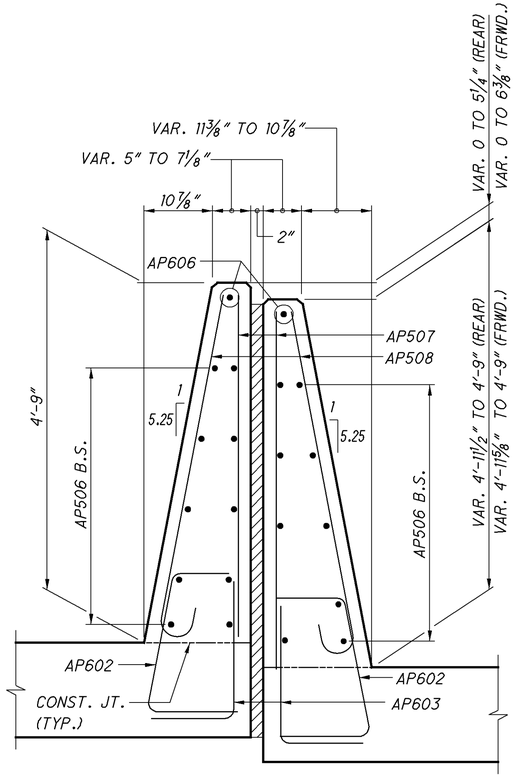
EASTBOUND APPROACH SLAB REINFORCING PLAN
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979



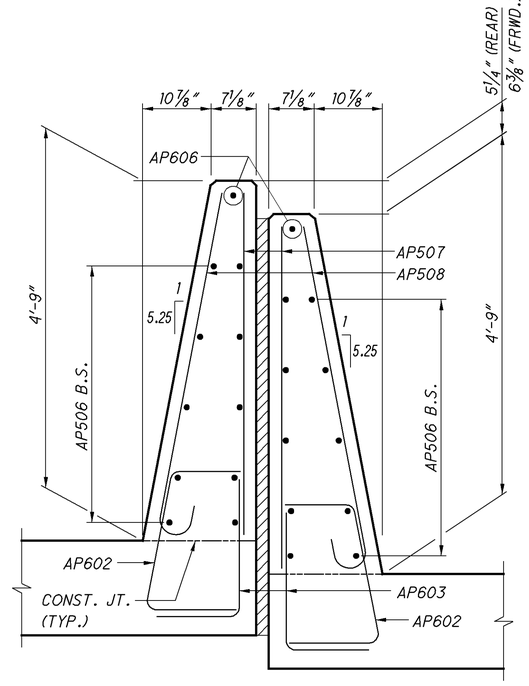
SECTION A

APPROACH SLAB REINFORCEMENT
NOT SHOWN



SECTION B

APPROACH SLAB REINFORCEMENT
NOT SHOWN



SECTION C

APPROACH SLAB REINFORCEMENT
NOT SHOWN

LEGEND:

▲ INDICATES LIMITS OF "ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)"

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DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

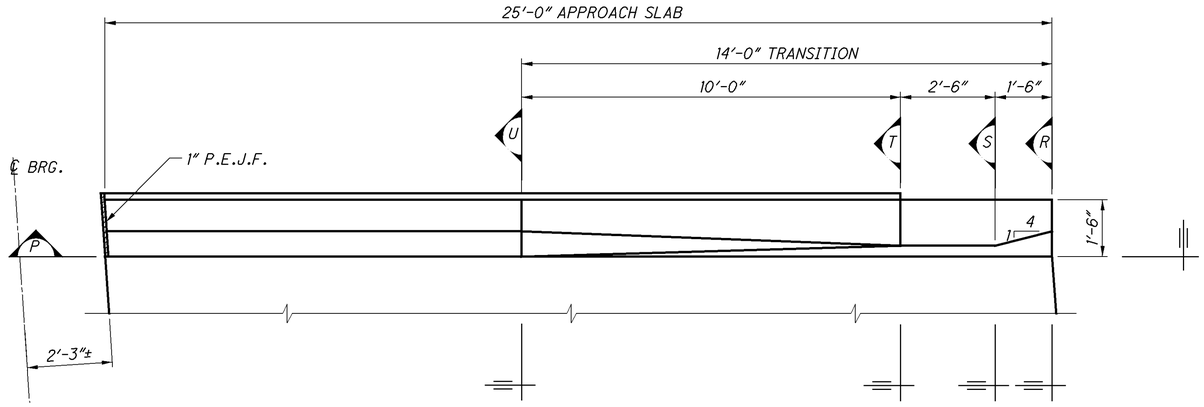
APPROACH SLAB MEDIAN BARRIER SECTIONS

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

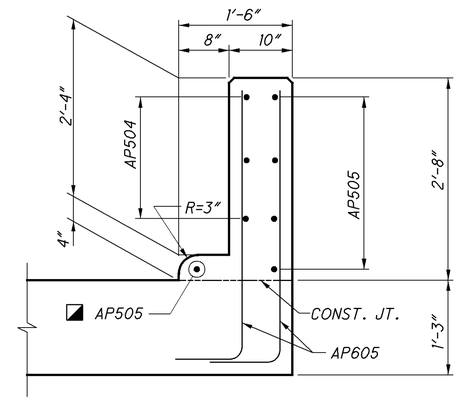
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652



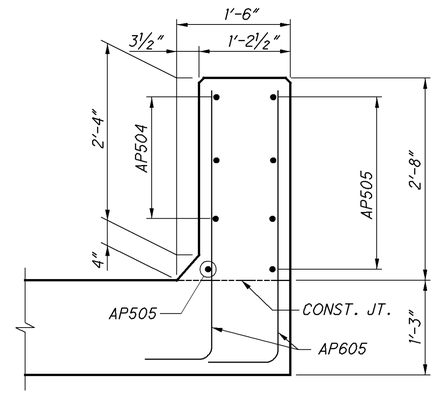
TYPICAL PARAPET PARTIAL PLAN AT APPROACH SLAB

NORTHEAST PARAPET SHOWN, OTHERS SIMILAR



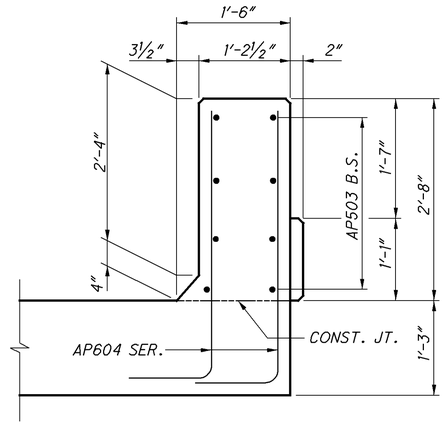
SECTION R

APPROACH SLAB REINFORCEMENT NOT SHOWN



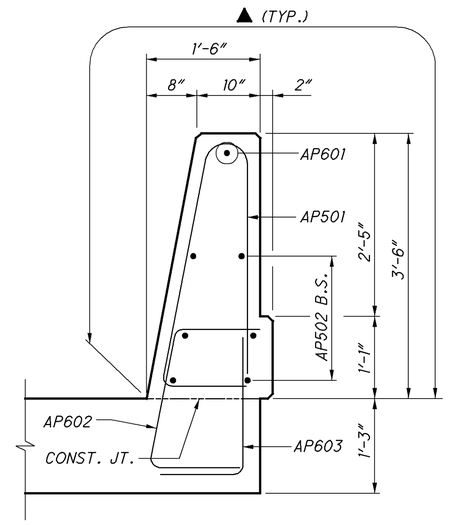
SECTION S

APPROACH SLAB REINFORCEMENT NOT SHOWN



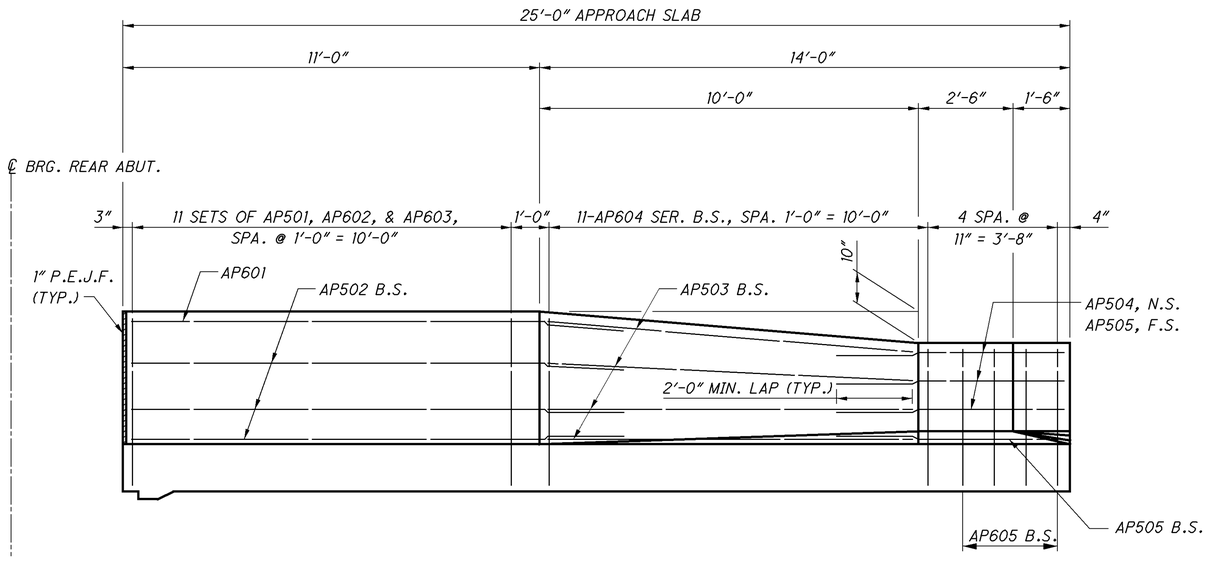
SECTION T

APPROACH SLAB REINFORCEMENT NOT SHOWN



SECTION U

APPROACH SLAB REINFORCEMENT NOT SHOWN



VIEW P

APPROACH SLAB REINFORCEMENT NOT SHOWN
(DIMENSIONS MEASURED ALONG TOE OF PARAPET)

LEGEND:

▲ INDICATES LIMITS OF "ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)"

◪ FIELD BEND IF NECESSARY

NOTES:

1. GUARDRAIL AND BRIDGE TERMINAL ASSEMBLY NOT SHOWN. FOR DETAILS, REFER TO STANDARD DRAWING MGS-3.1 AND MGS-3.2.
2. PARAPET ON APPROACH SLAB SHALL BE CLASS QC2 CONCRETE. THE PARAPET CONCRETE AND REINFORCING STEEL ON THE APPROACH SLAB SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

DESIGN AGENCY
GPD GROUP
Akron, Ohio Cleveland, Ohio
1801 Thurman St Phone, Suite 1900, Cincinnati, Ohio 45203 Fax 614-621-0472

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

APPROACH SLAB PARAPET TRANSITION DETAILS

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

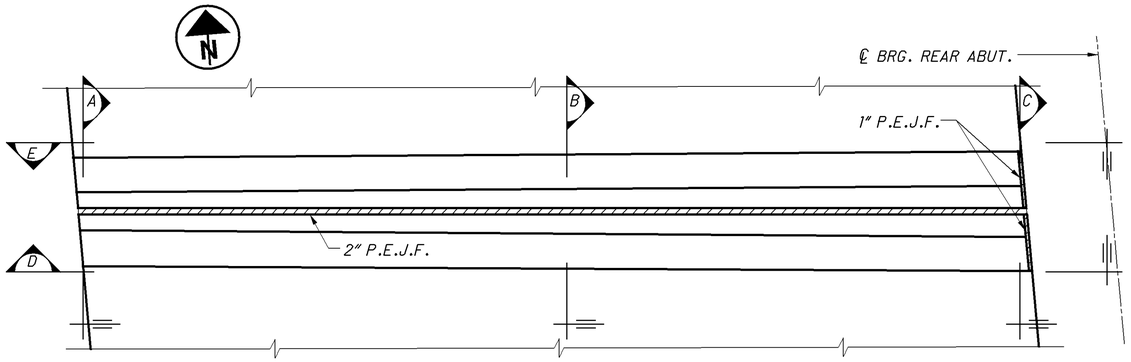
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PID No. 86979

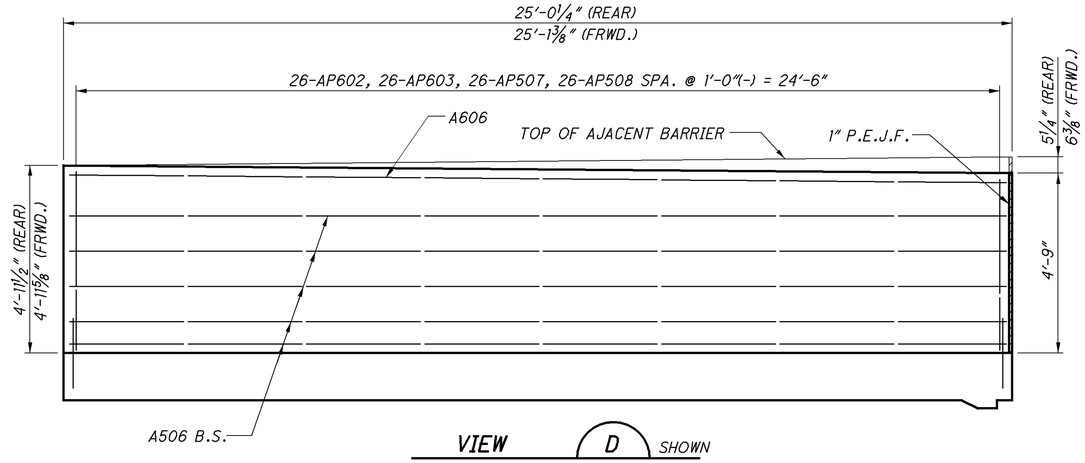
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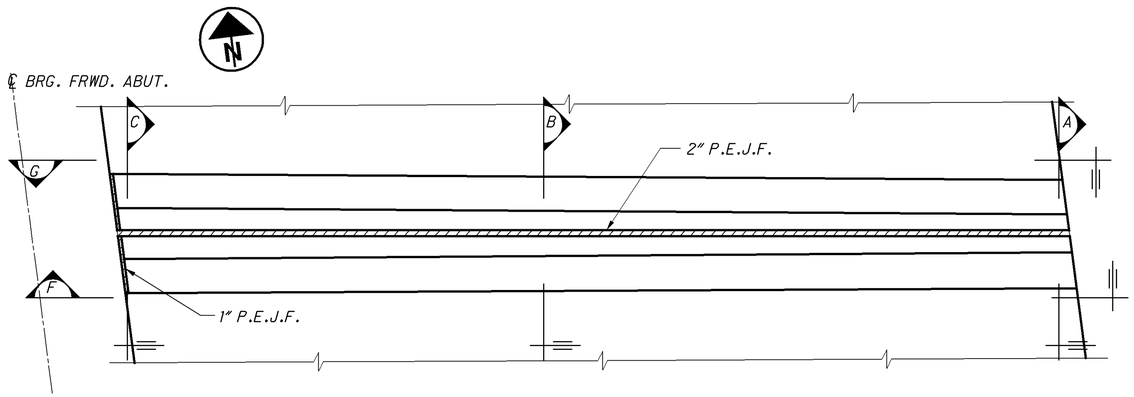
REAR APPROACH SLAB MEDIAN BARRIER PLAN



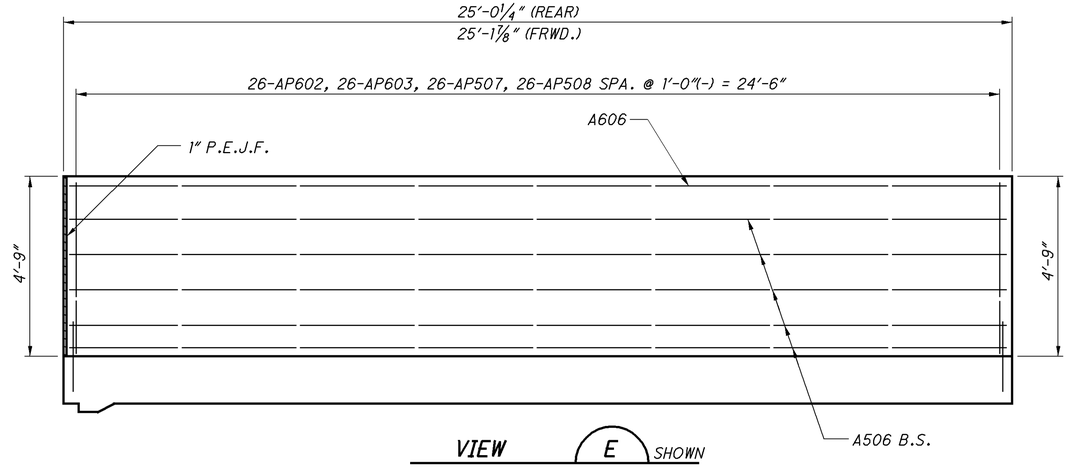
VIEW D SHOWN

VIEW F OPPOSITE

APPROACH SLAB REINFORCEMENT NOT SHOWN
(DIMENSIONS MEASURED ALONG TOE OF PARAPET)



FRWD. APPROACH SLAB MEDIAN BARRIER PLAN



VIEW E SHOWN

VIEW G OPPOSITE

APPROACH SLAB REINFORCEMENT NOT SHOWN
(DIMENSIONS MEASURED ALONG TOE OF PARAPET)

NOTES:

1. BARRIER ON APPROACH SLAB SHALL BE CLASS QC2 CONCRETE. THE BARRIER CONCRETE AND REINFORCING STEEL ON THE APPROACH SLAB SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

2. FOR SECTIONS A, B & C, SEE SHT. NO. 50/56.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

APPROACH SLAB MEDIAN BARRIER DETAILS
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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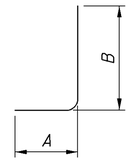
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
PIERS (WESTBOUND)											
P501	104	4′-10″	524	2	1′-11″	2′-4″	0′-10″				
P502	28	4′-9″	139	2	1′-10″	2′-4″	0′-10″				
P503	92	4′-11″	472	2	2′-0″	2′-4″	0′-10″				
P504	2	16′-0″	33	STR							
P506	2	31′-0″	65	STR							
P507	2	33′-6″	70	STR							
P508	2	17′-3″	36	STR							
P509	4	30′-0″	125	STR							
P601	12	4′-5″	80	2	1′-7″	0′-10½″	2′-3″				
P602	12	6′-1″	110	33	1′-7″	0′-10½″					
P801	8	30′-0″	641	STR							
P802	4	19′-10″	212	STR							
◪ P804	4	28′-10″	308	STR							
◪ P805	4	31′-5″	336	STR							
P806	4	21′-3″	227	STR							
P901	32	2′-7″	281	1	0′-10½″	2′-0″					
PIERS (WESTBOUND) TOTAL =			3659	LBS							

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
PIERS (EASTBOUND)											
P501	152	4′-10″	766	2	1′-11″	2′-4″	0′-10″				
P502	42	4′-9″	208	2	1′-10″	2′-4″	0′-10″				
P503	14	4′-11″	72	2	2′-0″	2′-4″	0′-10″				
P505	4	13′-7″	57	STR							
P509	8	30′-0″	250	STR							
P601	12	4′-5″	80	2	1′-7″	0′-10½″	2′-3″				
P602	12	6′-1″	110	33	1′-7″	0′-10½″					
P801	8	30′-0″	641	STR							
◪ P807	8	27′-10″	595	STR							
P808	8	17′-5″	372	STR							
P901	32	2′-7″	281	1	0′-10½″	2′-0″					
PIERS (EASTBOUND) TOTAL =			3432	LBS							

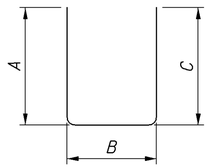
LEGEND:

◪ INDICATES BAR WITH MECHANICAL CONNECTOR IN PHASE 8. FABRICATOR SHALL ADJUST LENGTH AS REQUIRED TO SUIT THE CONNECTOR PROVIDED. BAR LENGTHS AS SHOWN IN THE LIST ARE TO THE CONSTRUCTION JOINT.

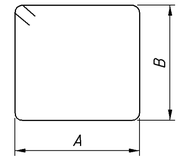
BAR BENDING DIAGRAM



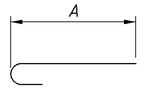
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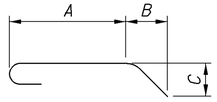
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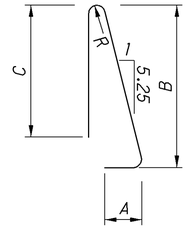
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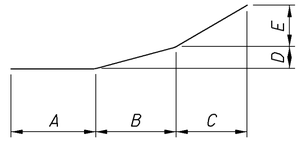
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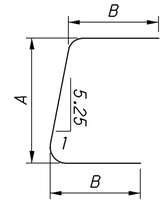
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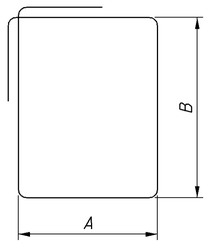
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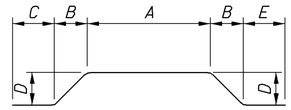
TYPE-25



TYPE 28



TYPE-33



TYPE-66

NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
2. ALL BARS ARE EPOXY COATED.
3. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND.
4. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST ALPHABETICAL LETTER INDICATES LOCATION. THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

EXAMPLES:

S 501 — NO. 5 SIZE BAR, SLAB

A 801 — NO. 8 SIZE BAR, ABUTMENT

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, OH 44311-1050
Phone 330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RFV	DGN	4-2-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		7703031	

REINFORCING STEEL LIST
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

53/56

629/652

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
ABUTMENTS & WINGWALLS (WESTBOUND)													
A501	106	106	212	3′-5″	755	1	2′-9″	0′-10″					
A502	2	2	4	30′-0″	125	STR							
A503	2		2	33′-4″	70	STR							
A504	53	53	106	4′-10″	534	2	0′-10″	3′-5″	0′-10″				
A505	4	4	8	3′-5″	29	1	2′-9″	0′-10″					
A506	7		7	8′-0″	58	STR							
A507	4		4	8′-11″	37	2	4′-0″	1′-2″	4′-0″				
A508	7	9	16	13′-1″	218	2	6′-1″	1′-2″	6′-1″				
A509	3		3	8′-7″	27	2	3′-10″	1′-2″	3′-10″				
A511	3		3	13′-0″	41	3	3′-2″	3′-0″					
	1 SR		1 SR	12′-10″				4′-11″					
A512	OF		OF	TO	82	3	1′-2″	TO					0′-0¾″
	6		6	13′-6″				5′-3″					
A513	10		10	16′-1″	168	STR							
A514	2		2	3′-5″	7	STR							
A515	2		2	14′-4″	30	STR							
A516		5	5	9′-3″	48	2	4′-2″	1′-2″	4′-2″				
A519		4	4	9′-1″	38	2	4′-1″	1′-2″	4′-1″				
A521		7	7	10′-8″	78	STR							
A522		2	2	5′-10″	12	STR							
A523		12	12	18′-8″	234	STR							
A524		2	2	39′-6″	82	STR							
A525		2	2	16′-0″	33	STR							
			1 SR	15′-4″				6′-2″					
A526			OF	TO	98	3	1′-2″	TO					0′-0⅝″
			6	15′-10″				6′-5″					
A542		5	5	13′-6″	70	3	3′-2″	3′-3″					
A544	4	4	8	4′-4″	36	2	1′-6″	2′-3″	0′-10″				
A601	6	6	12	5′-0″	90	2	1′-6″	1′-7″	2′-3″				
A602	6	6	12	11′-2″	201	33	1′-7″	3′-5″					
A801	5	5	10	30′-0″	801	STR							
◪ A802	5		5	32′-4″	432	1	31′-3″	1′-3″					
A803	5		5	18′-3″	244	STR							
◪ A804		5	5	38′-8″	516	1	37′-5″	1′-5″					
A805		5	5	19′-9″	264	STR							
A901	12	12	24	3′-5″	279	1	1′-8″	2′-0″					
ABUTMENTS & WINGWALLS (WESTBOUND) TOTAL =					5737	LBS							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
ABUTMENTS & WINGWALLS (EASTBOUND)													
A501	106	108	214	3′-5″	763	1	2′-9″	0′-10″					
A502	2	2	4	30′-0″	125	STR							
A504	53	54	107	4′-10″	539	2	0′-10″	3′-5″	0′-10″				
A510		7	7	10′-5″	76	STR							
A517		10	10	18′-4″	191	STR							
A518		2	2	6′-1″	13	STR							
		1 SR	1 SR	15′-0″				6′-0″					
A520		OF	OF	TO	95	3	1′-2″	TO					0′-0⅝″
		6	6	15′-6″				6′-3″					
A527	2		2	11′-3″	23	STR							
A528	2		2	34′-9″	72	STR							
	1 SR		1 SR	12′-4″				4′-8″					
A529	OF		OF	TO	79	3	1′-2″	TO					0′-0¾″
	6		6	13′-0″				5′-0″					
A530	3		3	8′-7″	27	2	3′-10″	1′-2″	3′-10″				
A531	7	9	16	12′-11″	216	2	6′-0″	1′-2″	6′-0″				
A532		5	5	9′-9″	51	2	4′-5″	1′-2″	4′-5″				
A533	4		4	8′-11″	37	2	4′-0″	1′-2″	4′-0″				
A534		4	4	9′-5″	39	2	4′-3″	1′-2″	4′-3″				
A535	7		7	8′-3″	60	STR							
A536	2		2	3′-4″	7	STR							
A537	10		10	16′-3″	169	STR							
A538		2	2	34′-4″	72	STR							
A539		2	2	14′-0″	29	STR							
A540	5	4	9	4′-1″	38	1	3′-5″	0′-10″					
A541	3		3	14′-2″	44	3	3′-9″	3′-0″					
A543		5	5	13′-10″	72	3	3′-9″	2′-10″					
A545	4	4	8	5′-0″	42	2	1′-6″	2′-11″	0′-10″				
A601	6	6	12	5′-0″	90	2	1′-6″	1′-7″	2′-3″				
A602	6	6	12	11′-2″	201	33	1′-7″	3′-5″					
A801	5	5	10	30′-0″	801	STR							
A806	5		5	15′-0″	200	STR							
◪ A807	5		5	33′-9″	451	1	32′-8″	1′-4″					
◪ A808		5	5	33′-3″	444	1	32′-3″	1′-2″					
A809		5	5	17′-10″	238	STR							
A901	12	12	24	3′-5″	279	1	1′-8″	2′-0″					
ABUTMENTS & WINGWALLS (EASTBOUND) TOTAL =					5583	LBS							

LEGEND:

◪ INDICATES BAR WITH MECHANICAL CONNECTOR IN PHASE 8. FABRICATOR SHALL ADJUST LENGTH AS REQUIRED TO SUIT THE CONNECTOR PROVIDED. BAR LENGTHS AS SHOWN IN THE LIST ARE TO THE CONSTRUCTION JOINT.

FOR NOTES AND BAR BENDING DIAGRAM, SEE SHT. NO. 53/56.

DESIGN AGENCY
GPD GROUP
520 South Main Street, Suite 2531, Akron, OH 44311-1050
330-572-2100
Fax 330-572-2101

DATE 4-2-14
REVIEWED DGN
STRUCTURE FILE NUMBER 7703031
DRAWN RFV
REVISED
DESIGNED DJC
CHECKED TJW

REINFORCING STEEL LIST

BRIDGE NO. SUM-76-1127
1-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
DECK AND RAILING (WESTBOUND)											
S401	592	30′-0″	11864	STR							
S402	118	19′-0″	1498	STR							
S403	317	10′-6″	2223	STR							
S501	765	30′-0″	23937	STR							
S502	135	21′-6″	3027	STR							
S503	16	23′-0″	384	STR							
S504	160	4′-6″	751	STR							
S505	160	5′-1″	848	16	4′-6″						
S506	160	7′-5″	1238	23	1′-1″	3′-2″	3′-0″			0′-2¾″	
S601	877	30′-0″	39518	STR							
S602	636	19′-3″	18389	STR							
S603	160	17′-10″	4286	STR							
S604	134	19′-0″	3824	STR							
S605	134	20′-5″	4109	STR							
S606	100	21′-4″	3204	STR							
S607	108	22′-7″	3663	STR							
S608	636	20′-0″	19105	STR							
S613	115	13′-5″	2317	STR							
S614	2	26′-0″	78	STR							
S615	160	3′-4″	801	28	1′-10″	0′-11″					
S616	320	2′-8″	1282	1	1′-0″	1′-10″					
S617	160	3′-8″	881	28	1′-10″	1′-1″					
S618	116	15′-5″	2686	STR							
S801	16	20′-0″	854	STR							
S802	4	28′-2″	301	STR							
S803	4	16′-4″	174	STR							
S804	4	22′-2″	237	STR							
S805	4	29′-3″	312	STR							
DECK & RAILING (WESTBOUND) TOTAL =			151791	LBS							

LEGEND:

◪ INDICATES BAR WITH MECHANICAL CONNECTOR IN PHASE 8. FABRICATOR SHALL ADJUST LENGTH AS REQUIRED TO SUIT THE CONNECTOR PROVIDED. BAR LENGTHS AS SHOWN IN THE LIST ARE TO THE CONSTRUCTION JOINT.

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
DIAPHRAGM (WESTBOUND)													
D501	54	61	115	7′-6″	900	2	2′-7″	2′-7″	2′-7″				
D502	100	114	214	8′-10″	1972	2	2′-10″	3′-5″	2′-10″				
D503	8	8	16	8′-0″	134	2	2′-5″	3′-5″	2′-5″				
D801	54	61	115	4′-9″	1458	18	2′-7″	1′-0″	1′-0″				
D802	4		4	11′-2″	119	66	2′-2″	0′-6″	5′-6″	0′-6″	2′-2″		
◪ D803	4		4	23′-1″	247	STR							
D804	10	10	20	30′-0″	1602	STR							
D805	4		4	20′-2″	215	66	2′-2″	0′-6″	4′-11″	0′-6″	11′-9″		
◪ D806	6		6	28′-4″	454	STR							
D807	6		6	19′-8″	315	STR							
D813		6	6	20′-9′	332	STR							
D814		4	4	25′-1″	268	66	2′-2″	0′-6″	18′-10″	0′-6″	2′-9″		
◪ D815		4	4	28′-9″	307	STR							
D816		4	4	11′-3″	120	66	2′-2″	0′-6″	2′-3″	0′-6″	5′-6″		
◪ D817		6	6	34′-2″	547	STR							
DIAPHRAGM (WESTBOUND) TOTAL =					8990	LBS							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
APPROACH SLABS (WESTBOUND)													
AP501	11	11	22	7′-5″	170	23	1′-1″	3′-2″	3′-0″			0′-2¾″	
AP502	6	6	12	13′-0″	163	STR							
AP503	8	8	16	10′-0″	167	STR							
AP504	3	3	6	5′-6″	34	25	1′-8″	2′-5″	1′-4″	0′-1½″	0′-6½″		
AP505	5	5	10	5′-6″	57	STR							
AP506	10	10	20	24′-8″	515	STR							
AP507	26	26	52	4′-6″	244	STR							
AP508	26	26	52	5′-1″	276	16	4′-6″						
AP509	57		57	30′-4″	1803	STR							
AP510	57		57	14′-1″	837	STR							
AP511	57		57	32′-0″	1902	STR							
AP512	51	57	108	24′-6″	2760	STR							
AP513		57	57	37′-9″	2244	STR							
AP514		57	57	30′-0″	1784	STR							
AP515		57	57	18′-4″	1090	STR							
AP601	1	1	2	13′-0″	39	STR							
AP602	37	37	74	3′-10″	426	28	1′-10″	1′-1″					
AP603	37	37	74	2′-10″	315	1	1′-1″	1′-11″					
	2 SR	2 SR	4 SR	4′-6″				3′-7″					
AP604	OF	OF	OF	TO	322	1	1′-1″	TO					0′-2″
	11	11	11	5′-3″				4′-4″					
AP605	8	8	16	4′-6″	108	1	1′-1″	3′-7″					
AP606	1	1	2	24′-8″	74	STR							
AP1001	125	142	267	25′-11″	29776	16	24′-6″						
APPROACH SLABS (WESTBOUND) TOTAL =					45106	LBS							

NOTE: APPROACH SLAB REINFORCING STEEL IS INCLUDED FOR PAYMENT WITH ITEM 526

FOR NOTES AND BAR BENDING DIAGRAM, SEE SHT. NO. 53/56.

DESIGN AGENCY
GPD GROUP
Akron, Ohio
520 South Main Street, Suite 2531, Akron, OHIO 44311-1050
330-572-2100
Fax 330-572-2101

DESIGNED DJC | DRAWN RFV | REVIEWED DGN | DATE 4-2-14
CHECKED TJW | REVISED | STRUCTURE FILE NUMBER 7703031

REINFORCING STEEL LIST

BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

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MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
DECK AND RAILING (EASTBOUND)											
S401	471	30′-0″	9439	STR							
S402	102	19′-0″	1295	STR							
S403	636	10′-6″	4461	STR							
S501	677	30′-0″	21183	STR							
S502	124	21′-6″	2781	STR							
S503	16	23′-0″	384	STR							
S504	160	4′-6″	751	STR							
S505	160	5′-1″	848	16	4′-6″						
S506	160	7′-5″	1238	23	1′-1″	3′-2″	3′-0″			0′-2¾″	
S601	202	30′-0″	9102	STR							
S609	638	33′-4″	31942	STR							
S610	428	24′-9″	15911	STR							
S611	210	26′-6″	8359	STR							
S612	638	21′-0″	20124	STR							
S613	94	13′-5″	1894	STR							
S614	2	26′-0″	78	STR							
S615	160	3′-4″	801	28	1′-10″	0′-11″					
S616	320	2′-8″	1282	1	1′-0″	1′-10″					
S617	160	3′-8″	881	28	1′-10″	1′-1″					
S618	98	15′-5″	2269	STR							
S801	8	20′-0″	427	STR							
S806	8	33′-4″	712	STR							
S807	4	24′-3″	259	STR							
S808	4	27′-5″	293	STR							
DECK & RAILING (EASTBOUND) TOTAL =			136714	LBS							

LEGEND:

◪ INDICATES BAR WITH MECHANICAL CONNECTOR IN PHASE 8. FABRICATOR SHALL ADJUST LENGTH AS REQUIRED TO SUIT THE CONNECTOR PROVIDED. BAR LENGTHS AS SHOWN IN THE LIST ARE TO THE CONSTRUCTION JOINT.

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
DIAPHRAGM (EASTBOUND)													
D501	54	56	110	7′-6″	860	2	2′-7″	2′-7″	2′-7″				
D502	100	104	204	8′-10″	1879	2	2′-10″	3′-5″	2′-10″				
D503	8	8	16	8′-0″	134	2	2′-5″	3′-5″	2′-5″				
D801	54	56	110	4′-9″	1395	18	2′-7″	1′-0″	1′-0″				
D804	10	10	20	30′-0″	1602	STR							
D808	6		6	15′-9″	252	STR							
D809	4		4	16′-2″	173	66	2′-2″	0′-6″	9′-11″	0′-6″	2′-9″		
◪ D810	4		4	23′-5″	250	STR							
D811	4		4	12′-0″	128	66	2′-2″	0′-6″	2′-11″	0′-6″	5′-7″		
◪ D812	6		6	29′-5″	471	STR							
D818		4	4	13′-7″	145	66	2′-2″	0′-6″	5′-10″	0′-6″	4′-3″		
◪ D819		6	6	29′-7″	474	STR							
◪ D820		4	4	21′-7″	231	STR							
D821		4	4	19′-5″	207	66	2′-2″	0′-6″	4′-11″	0′-6″	11′-0″		
D822		6	6	19′-0″	304	STR							
DIAPHRAGM (EASTBOUND) TOTAL =					8505	LBS							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
APPROACH SLABS (EASTBOUND)													
AP501	11	11	22	7′-5″	170	23	1′-1″	3′-2″	3′-0″			0′-2¾″	
AP502	6	6	12	13′-0″	163	STR							
AP503	8	8	16	10′-0″	167	STR							
AP504	3	3	6	5′-6″	34	25	1′-8″	2′-5″	1′-4″	0′-1½″	0′-6½″		
AP505	5	5	10	5′-6″	57	STR							
AP506	10	10	20	24′-8″	515	STR							
AP507	26	26	52	4′-6″	244	STR							
AP508	26	26	52	5′-1″	276	16	4′-6″						
AP511		57	57	32′-0″	1902	STR							
AP512	49	51	100	24′-6″	2555	STR							
AP514	57		57	30′-0″	1784	STR							
AP516	57		57	12′-6″	743	STR							
AP517	57	57	114	31′-8″	3765	STR							
AP518		57	57	13′-7″	808	STR							
AP601	1	1	2	13′-0″	39	STR							
AP602	37	37	74	3′-10″	426	28	1′-10″	1′-1″					
AP603	37	37	74	2′-10″	315	1	1′-1″	1′-11″					
	2 SR	2 SR	4 SR	4′-6″				3′-7″					
AP604	OF	OF	OF	TO	322	1	1′-1″	TO					
	11	11	11	5′-3″				4′-4″					0′-2″
AP605	8	8	16	4′-6″	108	1	1′-1″	3′-7″					
AP606	1	1	2	24′-8″	74	STR							
AP1001	121	126	247	25′-11″	27545	16	24′-6″						
APPROACH SLABS (EASTBOUND) TOTAL =					42012	LBS							

NOTE: APPROACH SLAB REINFORCING STEEL IS INCLUDED FOR PAYMENT WITH ITEM 526

FOR NOTES AND BAR BENDING DIAGRAM, SEE SHT. NO. 53/56.

DESIGN AGENCY
GPD GROUP
Engineering | Architecture | Planning
520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100
Fax 330-572-2101

DESIGNED DJC | DRAWN RFV | REVIEWED DGN | DATE 4-2-14
CHECKED TJW | REVISED
STRUCTURE FILE NUMBER 7703031

REINFORCING STEEL LIST
BRIDGE NO. SUM-76-1127
I-76 OVER BROWN STREET

SUM-76/77-11.27/12.12
PID No. 86979

56/56

632/652

\\AKRNAS3\DATA\2010\2010237\SUM\86979\STRUCTURES\SUM076_1127C\SHEETS\076_1127CRL004.DGN
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ESTIMATED QUANTITIES

ITEM	EXT.	TOTAL	PARTICIPATION 01 / IMS / OT	UNITS	DESCRIPTION	BRIDGE NO. SUM-76-1137L (SFN 7705913)	BRIDGE NO. SUM-76-1137R (SFN 7705948)	BRIDGE NO. SUM-77-1212R (SFN 7703007)	SEE SHEET NUMBER
202	11203	LS	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	LS	LS	LS	633
202	22900	598	598	SY	APPROACH SLAB REMOVED	171	267	160	

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THIS WORK CONSISTS OF THE REMOVAL OF PORTIONS OF THE THREE (3) EXISTING STRUCTURES OVER EXISTING JOHNSTON ST. & SPICER ST. THAT ARE HIGHER THAN ONE (1) FOOT BELOW THE PROPOSED SUBGRADE OF THE NEW EMBANKMENT. THIS SHALL INCLUDE THE REMOVAL OF THE EXISTING SUPERSTRUCTURE ELEMENTS, INCLUDING THE ASPHALT OVERLAY, CONCRETE DECK, PARAPETS, BEARINGS, EXPANSION JOINTS, SCUPPERS AND THEIR ATTACHMENTS, STEEL BEAMS/GIRDERS, CROSSFRAMES AND THEIR ATTACHMENTS, AND PORTIONS OF THE EXISTING PIERS AND ABUTMENTS THAT ARE HIGHER THAN ONE (1) FOOT BELOW THE PROPOSED SUBGRADE. THE PROVISIONS OF ITEM 202 SHALL APPLY. THE PORTIONS OF THE STRUCTURES DESCRIBED ABOVE SHALL ALL BE REMOVED TO ONE (1) FOOT BELOW THE PROPOSED SUBGRADE OF THE NEW EMBANKMENT AS DESCRIBED IN THE ROADWAY PLANS. PRIOR TO THE NEW EMBANKMENT CONSTRUCTION, THE EXISTING EXPOSED PORTIONS OF THE EXISTING ABUTMENTS AND PIERS SHALL BE COATED IN A LOW VISCOSITY BITUMINOUS ASPHALT AND THEN WRAPPED IN A DURABLE THICK PLASTIC (VISQUEEN), ACCORDING THE EMBANKMENT CONSTRUCTION NOTE ON SHEET 27/652. SUBMIT REMOVAL PLANS ACCORDING TO 501.05.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF BRIDGE NOS. SUM-76-1137L, SUM-76-1137R & SUM-77-1212R SCHEDULED FOR REMOVAL WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGES.

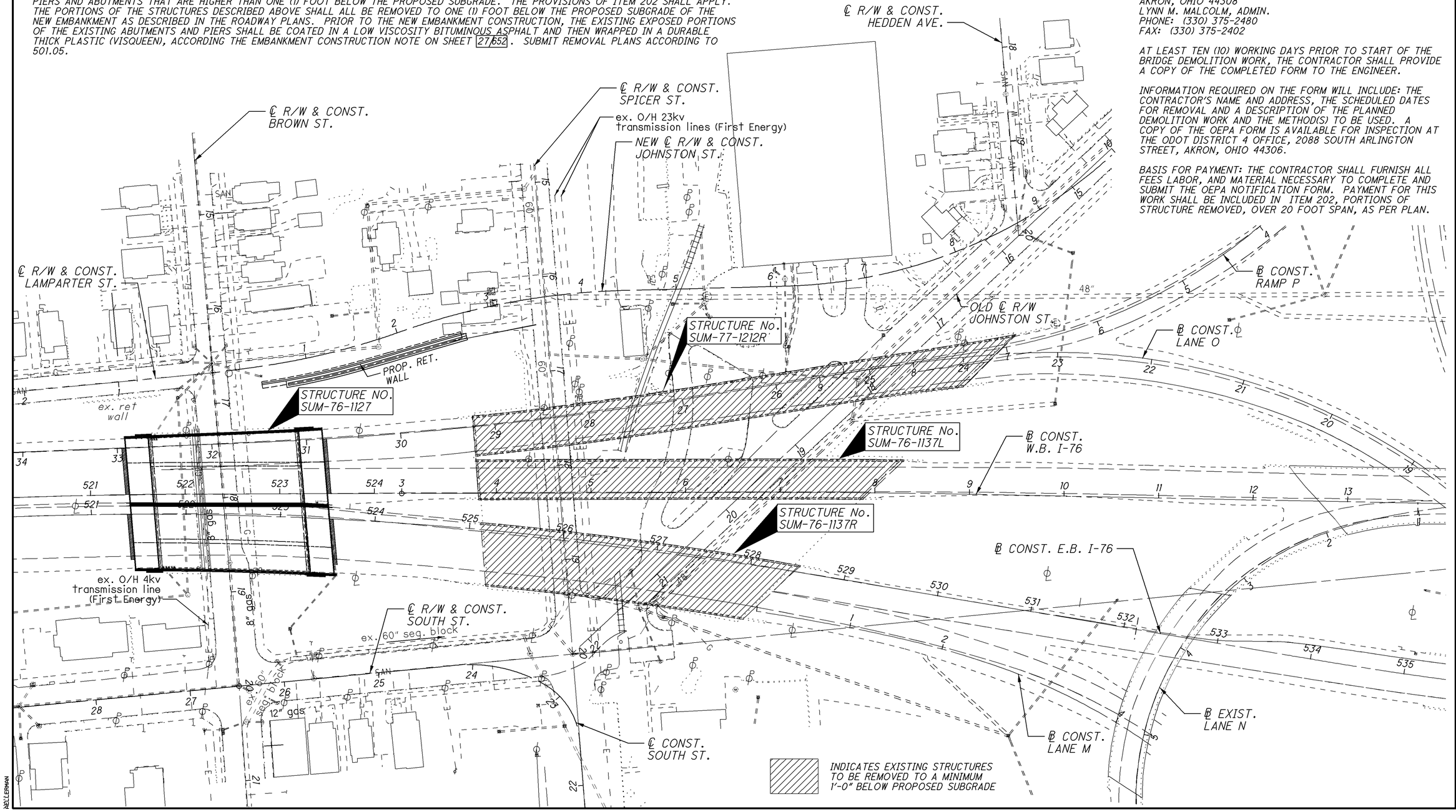
A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF THE DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNERS WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGHT ST., SUITE 904
AKRON, OHIO 44308
LYNN M. MALCOLM, ADMIN.
PHONE: (330) 375-2480
FAX: (330) 375-2402

AT LEAST TEN (10) WORKING DAYS PRIOR TO START OF THE BRIDGE DEMOLITION WORK, THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: THE CONTRACTOR'S NAME AND ADDRESS, THE SCHEDULED DATES FOR REMOVAL AND A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON STREET, AKRON, OHIO 44306.

BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.



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HORIZONTAL SCALE IN FEET
0 25 50 100

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CHECKED DGN

STRUCTURE REMOVAL PLAN
BRIDGE NOS. SUM-76-1137L&R & SUM-77-1212R

SUM-76/77-11.27/12.12

633
652

FENCE LEGEND

FOR ESTIMATED QUANTITIES, SEE SHEET 194-206

E-# END POST ASSEMBLY

I-# INTERMEDIATE POST ASSEMBLY

EXISTING FENCE

PROPOSED FENCE

℄ R/W & CONST. HEDDEN AVE.

NEW ℄ R/W & CONST. JOHNSTON ST.

℄ R/W & CONST. SPICER ST.

℄ R/W & CONST. BROWN ST.

℄ R/W & CONST. LAMPARTER ST.

℄ EX. RAMP Q

℄ CONST. RAMP P

℄ CONST. LANE O

℄ CONST. W.B. I-76

OLD ℄ R/W JOHNSTON ST.

℄ CONST. E.B. I-76

℄ CONST. LANE M

℄ CONST. SOUTH ST.

POT 5+18 27+69.82

Ex R/W

Ex LA-R/W

R/W

LA-R/W

conc.

FENCE LEGEND TABLE

I-1	STA. 22+68.06 169.41' RT SOUTH ST.	I-12	STA. 6+39.70 31.65' RT JOHNSTON ST.
I-2	STA. 23+21.00 60.95' RT SOUTH ST.	I-13	STA. 8+14.06 62.92' RT JOHNSTON ST.
I-3	STA. 23+30.20 59.95' RT SOUTH ST.	I-14	STA. 9+78.66 26.36' RT JOHNSTON ST.
I-4	STA. 23+39.59 56.83' RT SOUTH ST.	I-15	STA. 0+39.17 16.69' LT LAMPARTER ST.
I-5	STA. 19+68.23 65.40' LT BROWN ST.	I-16	STA. 16+92.23 30.66' RT BROWN ST.
I-6	STA. 19+58.41 41.10' LT BROWN ST.	E-1	STA. 22+61.69 202.97' RT SOUTH ST. MEET EXISTING FENCE
I-7	STA. 19+33.81 31.00' LT BROWN ST.	E-2	STA. 0+51.01 19.50' RT JOHNSTON ST. MEET RETAINING WALL
I-8	STA. 17+04.66 31.00' LT BROWN ST.	E-3	STA. 2+65.04 22.00' RT JOHNSTON ST. MEET RETAINING WALL
I-9	STA. 3+28.13 23.15' RT JOHNSTON ST.	E-4	STA. 10+10.27 25.14' RT. JOHNSTON ST. MEET EXISTING FENCE
I-10	STA. 3+82.57 32.07' RT JOHNSTON ST.	E-5	STA. 0+98.00 16.01' LT LAMPARTER ST. MEET EXISTING FENCE
I-11	STA. 4+43.07 47.95' RT JOHNSTON ST.	E-6	STA. 19+22.28 31.73' RT BROWN ST. MEET EXISTING FENCE

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SEH
CHECKED CWL

FENCE PLAN

SUM-76/77-11.27/12.12

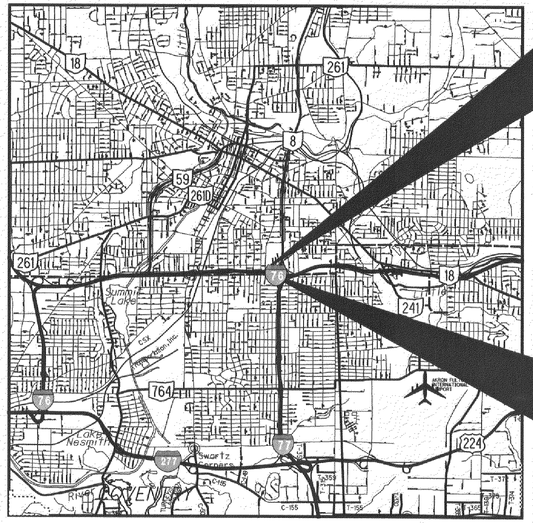
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RIGHT OF WAY LEGEND SHEET

SUM-76/77-11.27/12.12

SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8 (O.L. 4 & 5) &
TRACT 9 (O.L. 5 & 12)



LOCATION MAP

LATITUDE: N 41°03'44" LONGITUDE: W 81°30'29"

SCALE IN MILES
0 1 2 3 4

N

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

TYPES OF TITLE LEGEND:
WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
A = AERIAL EASEMENT
SL = SLOPE EASEMENT
PRE = PROPERTY RIGHT EASEMENT

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 REVISED CODE OF OHIO.

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way (Ex) Ex R/W
Right of Way (Pr) R/W
Standard Highway Ease.(Ex) Ex SH
Temporary Right of Way TMP
Channel Ease. (Pr) CH
Utility Ease. (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)

Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr) , Tree (Ex) , Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) , Mailbox (Pr) MB
Light (Ex) , Telephone Marker (Ex) TEL
Fire Hydrant (Ex) , Water Meter (Ex) W
Water Valve (Ex) , Utility Valve Unknown (Ex)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

STATE OF OHIO · STEVEN L MULLANEY 7900 REGISTERED SURVEYOR

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PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE REMOVAL OF STRUCTURES SUM-76-1137 L & R AND SUM-77-1212 (I-76 & I-77 OVER SPICER AND JOHNSTON STREETS) AND REHABILITATION OF SUM-76-1127 (I-76 OVER BROWN STREET). PROJECT ALSO INVOLVES THE REALIGNMENT OF JOHNSTON STREET WITH DRAINAGE, UTILITY AND INTERSECTION IMPROVEMENTS.

PROJECT CONTROL

STATE PLANE GRID OH NORTH ZONE NAD 83 (CORS96)
PROJECT ADJUSTMENT FACTOR 1.000107111

PLANS PREPARED BY:

FIRM NAME : GPD GROUP
R/W DESIGNER: TRAVIS D. McCARTY, P.S.
R/W REVIEWER: STEVEN L. MULLANEY, P.S.
FIELD REVIEWER: ADAM RYAN
TRACINGS FIELD REVIEW DATE: 7/15/2013
OWNERSHIP UPDATED BY: NATHAN CONNER
DATE COMPLETED: 7/16/2013
PLAN COMPLETION DATE: 7/16/2013

INDEX OF SHEETS:

TITLE SHEET	1
CENERLINE PLAT	2-3
PROPERTY MAP	4,5
SUMMARY OF ADDITIONAL R/W	6,7,8
R/W TOPO SHEETS	9,11,13,15,17
R/W BOUNDARY SHEETS	10,12,14,16,18

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

UTILITY OWNERS

CITY OF AKRON - TRAFFIC
ATTN: CHRIS SLABAUGH
1420 TRIPLETT BLVD, BUILDING #2
AKRON, OH 44306
(330) 375-2851 EXT. 7842

FIRST ENERGY / OHIO EDISON
ATTN: DAVID MILLER
1910 W. MARKET ST., BUILDING #1
AKRON, OH 44313
(330) 436-4055

TIME WARNER CABLE
ATTN: CHRISTINE LIENHARDT
530 SOUTH MAIN ST.
AKRON, OH 44311
(330) 633-9203

DOMINION EAST OHIO GAS
ATTN: MARY LONG
320 SPRINGSIDE DR., SUITE 320
AKRON, OH 44333
(330) 664-2409

ZAYO COMMUNICATIONS
ATTN: BRYCE BASISTA
1787 FLEMING FALLS ROAD
MANSFIELD, OH 44903
(419) 512-6771

AT&T CORP
ATTN: ED HUGHES
5980-G WILCOX PLACE
DUBLIN, OH 43016
(614) 760-8320

ODOT DISTRICT 4 - TRAFFIC
ATTN: KEN GREENE
2088 SOUTH ARLINGTON ROAD
AKRON, OH 44306
(330) 786-3145

AT&T
ATTN: HAROLD MAYNARD
2933 SALT SPRINGS ROAD
YOUNGSTOWN, OH 44503
(216) 476-6138

EVERFLOW EASTERN
ATTN: MIKE STRAWN
29093 STATE ROUTE 62
SALEM, OH 44460
(330) 537-3863

CITY OF AKRON UTILITIES
BUREAU (WATER & SEWER)
CITICENTER
ATTN: GEORGE THOMAS
146 SOUTH HIGH STREET
AKRON, OH 44309
(330) 375-2690 EXT. 6418

RANGE RESOURCE (ENERVEST)
ATTN: TOM LORENTZ
125 STATE ROUTE 619, SUITE 100
HARTVILLE, OH 44632
(330) 587-1208

J.R. SMAIL, INC.
ATTN: MARK SPARR
2285 EAGLE PASS
WOOSTER, OH 44691
(330) 264-7500

BASS ENERGY
130 MERZ BLVD.
FAIRLAWN, OH 44333
(330) 869-0870

GXT TELECOMM.
ATTN: SHAWN THEISS
10881 JOHNSON ROAD
NORTH BENTON, OH 44449

ZAYO COMMUNICATIONS
ATTN: BRYCE BASISTA
1787 FLEMING FALLS ROAD
MANSFIELD, OH 44903
(419) 512-6771

AKRON ENERGY SYSTEM
ATTN: KELLY DODSON
226 OPPORTUNITY PARKWAY
AKRON, OH 44307

I, Steven L. Mullaney, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in October 2010. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System North Zone on NAD 83 (CORS96) datum. The Project Coordinates (US Survey Feet) are relative to State Plane Grid Coordinates (US Survey Feet) by a Project Adjustment Factor of 0.99989290. As a part of this project I have reestablished the locations of the existing property lines and the existing centerline of Right of Way for property takes contained herein. As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein. As a part of this work I have set right of way monuments at the property corners, property line intersection, points along the right of way and/or angle points on the right of way, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

Steven L. Mullaney, Professional Land Surveyor 7900

Date: 8/6/2013

FEDERAL PROJECT NO. E101163
PID NO. 86979
CALCULATED TDM
CHECKED SLM
RIGHT OF WAY LEGEND SHEET
SUM-76/77-11.27/12.12
1/18
635/652

SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

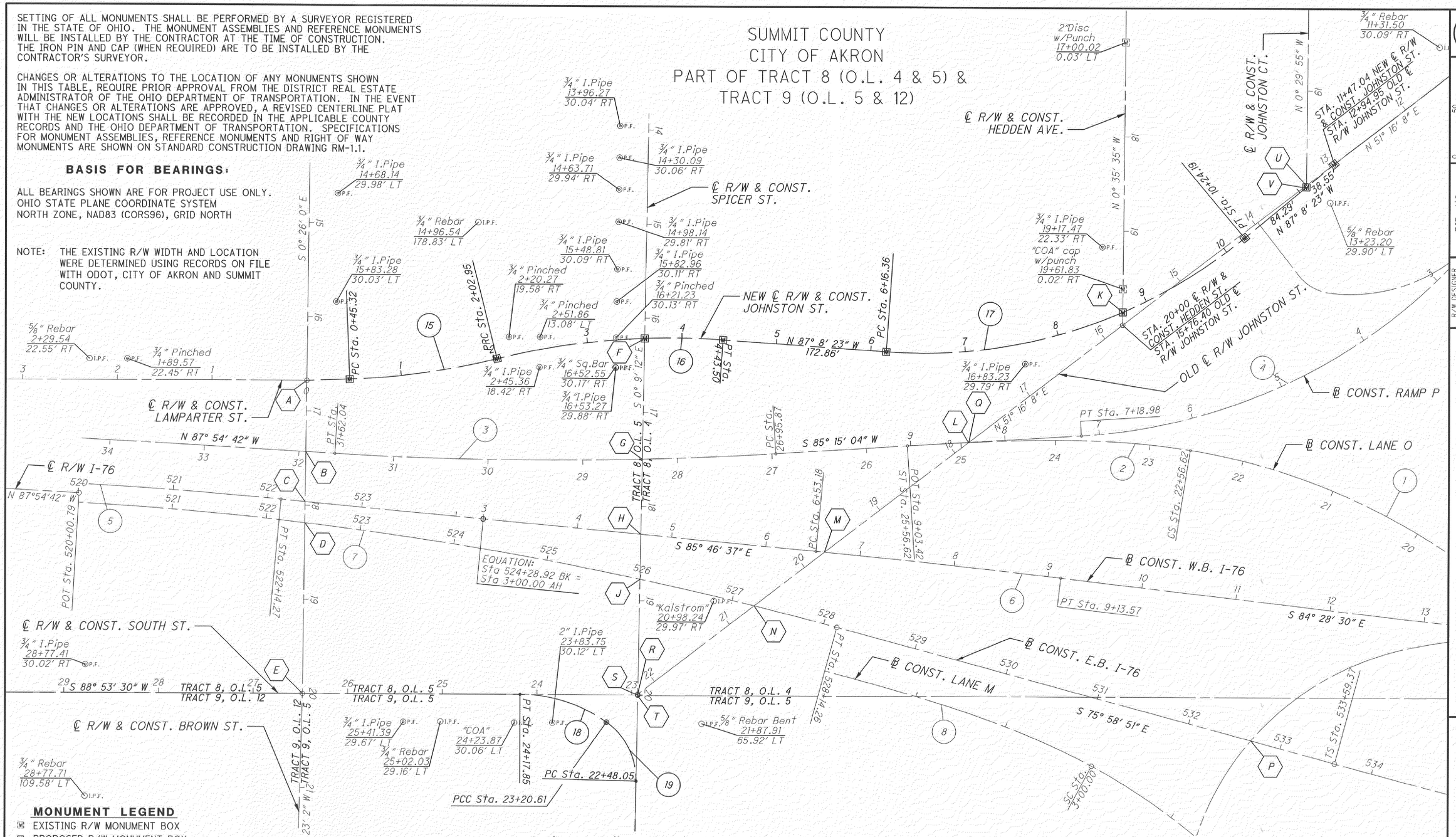
CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN IN THIS TABLE, REQUIRE PRIOR APPROVAL FROM THE DISTRICT REAL ESTATE ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. IN THE EVENT THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY.
OHIO STATE PLANE COORDINATE SYSTEM
NORTH ZONE, NAD83 (CORS96), GRID NORTH

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING RECORDS ON FILE WITH ODOT, CITY OF AKRON AND SUMMIT COUNTY.

SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8 (O.L. 4 & 5) & TRACT 9 (O.L. 5 & 12)



MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

= INTERSECTION DATA POINTS

FOR INTERSECTION DATA TABLE, SEE R/W SHEET 3

RECEIVED _____, 20____
RECORDED _____, 20____
BOOK _____ PAGE _____
COUNTY RECORDER

I, Steven L. Mullaney, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in October 2010. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System North Zone on NAD 83 (CORS96) datum. The Project Coordinates (US Survey Feet) are relative to State Plane Grid Coordinates (US Survey Feet) by a Project Adjustment Factor of 0.99989290. As a part of this project I have reestablished the locations of the existing property lines and the existing centerline of Right of Way for property takes contained herein. As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein. As a part of this work I have set right of way monuments at the property corners, property line intersection, points along the right of way and/or angle points on the right of way, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

Steven L. Mullaney, Professional Land Surveyor 7900

Date: 8/6/2013

SURVEYORS SEAL

STATE OF OHIO · STEVEN L MULLANEY 7900 · REGISTERED SURVEYOR

HORIZONTAL SCALE IN FEET
0 25 50 100

PID NO. 86979

R/W DESIGNER TDM
R/W REVIEWER SLM

CENTERLINE PLAT
SHEET 1 OF 2

SUM-76/77-11.27/12.12

2/18

636/652

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1 ℄ CONST. LANE O
P.I. Sta. 20+78.63
Δ = 109° 18′ 31″ (LT)
Dc = 8° 30′ 00″
R = 674.07′
Ls = 300.00′
θs = 12° 45′ 00″
LT = 200.52′
ST = 100.47′
x = 298.52′
y = 22.17′
k = 149.75′
p = 5.55′
Δc = 83° 48′ 31″ (LT)
Lc = 985.99′
Ts = 1,108.00′
E = 500.71′
C = 900.41′
e_{max}= 0.0763
T.S. Sta. 9+70.63
S.C. Sta. 12+70.63
C.S. Sta. 22+56.62
S.T. Sta. 25+56.62

2 ℄ CONST. LANE O
P.I. STA. 23+57.09
Ls= 300.00′
f s = 12° 45′ 00″
LT = 200.52′
ST = 100.47′
x = 298.52′
y = 22.17′
k = 149.75′
p = 5.55′
e_{max}= 0.0705

3 ℄ CONST. LANE O
P.I. Sta. 29+29.23
Δ = 6° 50′ 14″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 233.36′
L = 466.17′
E = 6.96′
C = 465.90′
e_{max} = 0.0275
P.C. Sta. 26+95.87
P.T. Sta. 31+62.04

4 ℄ CONST. RAMP P
P.I. Sta. 4+11.19
Δ = 69° 30′ 07″ (RT)
Dc = 9° 40′ 00″
R = 592.71′
T = 411.19′
L = 718.98′
E = 128.67′
C = 675.70′
e_{max}= 0.0394
P.C. Sta 0+00.00
P.T. Sta. 7+18.98

5 ℄ CONST. W.B. I-76
P.I. Sta. 521+07.54
Δ = 2° 08′ 05″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 106.75′
L = 213.47′
E = 0.99′
C = 213.46′
e_{max}= 0.0179 (NDC = 0.027)
P.C. Sta. 520+00.79
P.T. Sta. 522+14.27

6 ℄ CONST. W.B. I-76
P.I. Sta. 7+83.38
Δ = 1° 18′ 07″ (RT)
Dc = 0° 30′ 00″
R = 11,459.16′
T = 130.20′
L = 260.39′
E = 0.74′
C = 260.38′
e_{max}= NC
P.C. Sta. 6+53.18
P.T. Sta. 9+13.57

7 ℄ CONST. E.B. I-76
P.I. Sta. 524+09.00
Δ = 11° 55′ 51″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 408.21′
L = 813.47′
E = 21.27′
C = 812.00′
e_{max}= 0.025 (NDC = 0.0363)
P.C. Sta. 520+00.79
P.T. Sta. 528+14.26

8 ℄ CONST. LANE M
P.I. STA. 2+00.54
Ls= 300.00′
f s = 13° 00′ 00″
LT = 200.54′
ST = 100.49′
x = 298.46′
y = 22.61′
k = 149.74′
p = 5.66′
e_{max}= 0.025
T.S. Sta. 0+00.00
S.C. Sta. 3+00.00

15 ℄ CONST. JOHNSTON ST.
P.I. Sta. 1+24.42
Δ = 11° 49′ 21″ (LT)
Dc = 7° 30′ 00″
R = 763.94′
T = 79.10′
L = 157.63′
E = 4.08′
C = 157.36′
C.B. = N 80° 43′ 50″ E
e_{max}= NC
P.C. Sta. 0+45.32
P.R.C. Sta. 2+02.95

16 ℄ CONST. JOHNSTON ST.
P.I. Sta. 3+24.23
Δ = 18° 02′ 28″ (RT)
Dc = 7° 30′ 00″
R = 763.94′
T = 121.28′
L = 240.55′
E = 9.57′
C = 239.56′
C.B. = N 83° 50′ 23″ E
e_{max}= NC
P.R.C. Sta. 2+02.95
P.T. Sta. 4+43.50

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50′ 29″ (LT)
Dc = 10° 45′ 00″
R = 532.98′
T = 214.48′
L = 407.83′
E = 41.54′
C = 397.95′
C.B. = N 70° 56′ 23″ E
e_{max}= 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19

18 ℄ CONST. SOUTH ST.
P.I. Sta. 23+70.82
Δ = 35° 16′ 35″ (LT)
Dc = 36° 16′ 44″
R = 157.93′
T = 50.21′
L = 97.24′
E = 7.79′
C = 95.71′
C.B. = N 73° 28′ 12″ W
e_{max}= NC
P.C.C. Sta. 23+20.61
P.T. Sta. 24+17.85

19 ℄ CONST. SOUTH ST.
P.I. Sta. 22+87.50
Δ = 55° 47′ 36″ (LT)
Dc = 76° 53′ 35″
R = 74.51′
T = 39.45′
L = 72.56′
E = 9.80′
C = 69.73′
C.B. = N 27° 56′ 07″ W
e_{max}= NC
P.C. Sta. 22+48.05
P.C.C. Sta. 23+20.61

MONUMENT TABLE

℄ of Johnston St.		PROJECT COORDINATES SEE SURVEY CERTIFCATION		MONUMENTS TO BE SET DURING CONSTRUCTION		R/W MON. EXPECTED TO BE DISTURBED	
STATION	OFFSET	NORTH (Y)	EAST (X)	MON. ASSY.	REF. MON.	R/W MON.	DESCRIPTION
PC 0+45.32	-	510225.5788	2241826.5745	1			
PRC 2+02.95	-	510250.9255	2241981.8750	1			
3+60.50	-	510276.2670	2242137.0879	1			
PT. 4+43.50	-	510276.6322	2242220.0490	1			
PC 6+13.36	-	510268.0061	2242392.6946	1			
8+72.55	-	510316.0263	2242641.8354	1			
10+24.19	-	510397.9626	2242768.8280	1			
11+08.89	-	510453.5084	2242832.7686	1			
11+47.04	-	510478.5274	2242861.5689	1			
TOTAL CARRIED TO GENERAL SUMMARY SHEET				9			

INTERSECTION DATA TABLE

A	STA. 0+00.00 NEW ℄ R/W & CONST. JOHNSTON ST. = STA. 16+67.64 ℄ R/W & CONST. BROWN ST.	L	STA. 17+81.90 OLD ℄ R/W JOHNSTON ST. = STA. 24+91.95 ℄ CONST. LANE O
B	STA. 17+43.09 ℄ R/W & CONST. BROWN ST. = STA. 31+92.81 ℄ CONST. LANE O	M	STA. 19+73.66 OLD ℄ R/W JOHNSTON ST. = STA. 6+62.20 ℄ CONST. W.B. I-76
C	STA. 17+96.11 ℄ R/W & CONST. BROWN ST. = STA. 522+39.85 ℄ CONST. W.B. I-76	N	STA. 20+67.37 OLD ℄ R/W JOHNSTON ST. = STA. 527+23.87 ℄ CONST. E.B. I-76
D	STA. 18+18.58 ℄ R/W & CONST. BROWN ST. = STA. 522+40.92 ℄ CONST. E.B. I-76	P	STA. 532+67.84 ℄ CONST. E.B. I-76 = STA. 3+87.69 ℄ EXIST. RAMP N
E	STA. 20+00.00 ℄ R/W & CONST. BROWN ST. = STA. 26+47.97 ℄ R/W & CONST. SOUTH ST.	Q	STA. 17+81.51 OLD ℄ R/W JOHNSTON ST. = STA. 8+38.42 ℄ CONST. RAMP P
F	STA. 3+60.50 NEW ℄ R/W & CONST. JOHNSTON ST. = STA. 16+21.42 ℄ R/W & CONST. SPICER ST.	R	STA. 19+99.41 ℄ R/W & CONST. SPICER ST. = STA. 23+69.82 OLD ℄ R/W JOHNSTON ST.
G	STA. 17+49.66 ℄ R/W & CONST. SPICER ST. = STA. 28+37.17 ℄ CONST. LANE O	S	STA. 20+00.26 ℄ R/W & CONST. SPICER ST. = STA. 22+93.81 ℄ R/W SOUTH ST.
H	STA. 18+29.47 ℄ R/W & CONST. SPICER ST. = STA. 4+67.24 ℄ CONST. W.B. I-76	T	STA. 20+00.94 ℄ R/W & CONST. SPICER ST. = STA. 22+93.81 ℄ R/W SOUTH ST.
J	STA. 18+77.18 ℄ R/W & CONST. SPICER ST. = STA. 526+00.05 ℄ CONST. E.B. I-76	U	STA. 13+31.84 OLD ℄ R/W JOHNSTON ST. = STA. 20+00.00 ℄ R/W JOHNSTON CT.
K	STA. 8+72.55 NEW ℄ R/W & CONST. JOHNSTON ST. = STA. 19+86.38 ℄ R/W & CONST. HEDDEN AVE.	V	STA. 11+08.89 NEW ℄ R/W & CONST. JOHNSTON ST. = STA. 20+01.91 ℄ R/W JOHNSTON CT.

PID NO. 86979
R/W DESIGNER TDM
R/W REVIEWER SLM

CENTERLINE PLAT
SHEET 2 OF 2

SUM-76/77-11.27/12.12

3 / 18

637
652

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SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8 (O.L. 4 & 5) &
TRACT 9 (O.L. 5 & 12)

BEGIN PROJECT
STA. 520+85.37
W.B. I-76

℄ R/W & CONST.
SPICER ST.

STEINBACHER ALLOTMENT
P.B. 5 Pg. 39

16' Street
Reservation

BEGIN WORK
STA. 14+97.25

BEGIN WORK
STA. 15+00.00

℄ R/W & CONST.
BROWN ST.

LEDGE ALLOTMENT
P.B. 11 Pg. 5

℄ R/W & CONST.
LAMPARTER ST.

BEGIN WORK
STA. 00+98.00

8' Driveway Agreement
V. 4821 Pg. 199

TRACT 8, O.L. 5

MATCHLINE STA. 5+00 NEW ℄ R/W & CONST. JOHNSTON ST.
(SEE SHEET 5)

NEW ℄ R/W & CONST.
JOHNSTON ST.

BEGIN ACQUISITION
STA. 1+07.19

℄ CONST. LANE 'O'

℄ CONST. W.B. I-76

℄ CONST. E.B. I-76

OLD ℄ R/W
JOHNSTON ST.

END WORK
STA. 26+95.06

TRACT 8, O.L. 4
TRACT 9, O.L. 5

BEGIN WORK
STA. 22+38.05

℄ R/W & CONST. SOUTH ST.

TRACT 9, O.L. 12

BEGIN ACQUISITION
STA. 26+99.34

END WORK
STA. 29+00.00

S.W. BARTGES BEARDSLEY
FARM ALLOTMENT
P.B. 3 Pg. 22

Right of Use Ordinance
Ordinance No. 11-1942

PARCEL DETAIL
SCALE - 1' = 800'

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

1. Michael Yockey & Robin R. Yockey — Parcel No. 6738146
2. Alan Weaner — Parcel No. 6843763
3. Kay Management LLC, an Ohio Limited Liability Company — Parcel No. 6826581
4. David Roscoe — Parcel No. 6839152 & 6839153
5. Valentine Asset Management LLC — Parcel No. 6839154
6. Brian M. Feliciano & Alicia M. Feliciano — Parcel No. 6739569
7. Nazareth Housing Development Corp. — Parcel No. 6840644
8. Brian C. East — Parcel No. 6826833
9. Lonnie St. Clair — Parcel No. 6847199
10. Thomas D. McKinstry & Theresia A. McKinstry — Parcel No. 6808762
11. Valerie J. Lewis — Parcel No. 6802941
12. CCS Incorporated — Parcel No. 6843493
13. Merle. W. Thompson — Parcel No. 6860576
14. Barry E. Pickering — Parcel No. 6856997
15. Jerry Jarvis & Pamela Jarvis — Parcel No. 6728277
16. Walter Milton Gordon ETAL — Parcel No. 6734831
17. Henry Walker Jr. — Parcel No. 6733328
18. Donald Mangan — Parcel No. 6730552
19. Kayco Limited — Parcel No. 6843872
20. City of Akron — Parcel No. 6761372
21. City of Akron, Ohio — Parcel No. 6758096
37. Abraham J. Gild — Parcel No. 6733641
38. Cameron L. Mack — Parcel No. 6732392
39. Falor Management Company LLC. — Parcel No. 6703910
40. Howard S. Duma — Parcel No. 6736195
41. Akron Bible Church — Parcel No. 6757672
42. Eric Cooper & James Oxenrider — Parcel No. 6855223
43. Rose Ann Miller — Parcel No. 6832190
44. John G. Irace — Parcel No. 6845315
45. County of Summit — Parcel No. 6849171 & 6709658
46. City of Akron — Parcel No. 6761371
47. County of Summit — Parcel No. 6708887

HORIZONTAL SCALE IN FEET
0 12.5 25 50

PID NO. 86979

R/W DESIGNER TDM
R/W REVIEWER SLM

PROPERTY MAP
SHEET 1 OF 2

SUM-76/77-11.27/12.12

4 / 18

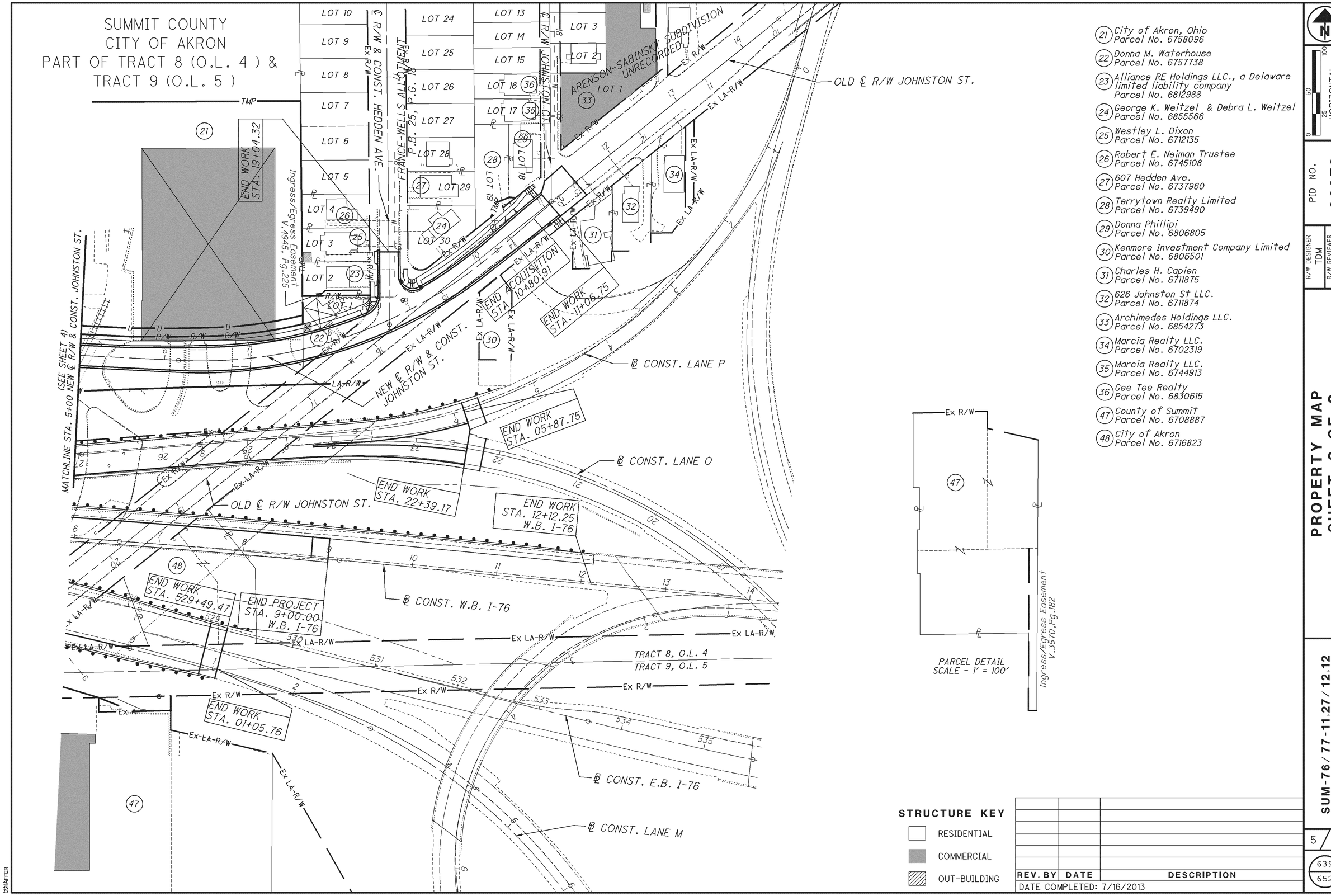
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REV. BY	DATE	DESCRIPTION
AJE	7/28/2014	REMOVED PARCEL 17T
AJE	7/14/2014	REMOVED PARCEL 5T

DATE COMPLETED: 7/16/2013

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SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8 (O.L. 4) &
TRACT 9 (O.L. 5)



(21) City of Akron, Ohio
Parcel No. 6758096

(22) Donna M. Waterhouse
Parcel No. 6757738

(23) Alliance RE Holdings LLC., a Delaware limited liability company
Parcel No. 6812988

(24) George K. Weitzel & Debra L. Weitzel
Parcel No. 6855566

(25) Westley L. Dixon
Parcel No. 6712135

(26) Robert E. Neiman Trustee
Parcel No. 6745108

(27) 607 Hedden Ave.
Parcel No. 6737960

(28) Terrytown Realty Limited
Parcel No. 6739490

(29) Donna Phillipi
Parcel No. 6806805

(30) Kenmore Investment Company Limited
Parcel No. 6806501

(31) Charles H. Capien
Parcel No. 6711875

(32) 626 Johnston St LLC.
Parcel No. 6711874

(33) Archimedes Holdings LLC.
Parcel No. 6854273

(34) Marcia Realty LLC.
Parcel No. 6702319

(35) Marcia Realty LLC.
Parcel No. 6744913

(36) Gee Tee Realty
Parcel No. 6830615

(47) County of Summit
Parcel No. 6708887

(48) City of Akron
Parcel No. 6716823

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 7/16/2013

HORIZONTAL SCALE IN FEET
0 25 50 100

PID NO. 86979

R/W DESIGNER TDM
R/W REVIEWER SLM

PROPERTY MAP
SHEET 2 OF 2

SUM-76/77-11.27/12.12

5 / 18

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TOTAL NUMBER OF :

21 OWNERSHIPS
33 PARCELS
4 TOTAL TAKES
5 OWNERSHIPS W/ STRUCTURES INVOLVED

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN

GRANTEE:

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

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1	Michael Yockey & Robin R. Yockey	4, 9, 10	Reception # 54259330		6738146	0.1443	0.0000	0	0.0000	0.0000					Oil & Gas Lease O.R. 857 Pg. 747, Inst. No. 55872180		
2T	Alan Weaner	4, 9, 10	Reception # 55662328		6843763	0.0709	0.0000	0.0059	0.0000	0.0059					Stair & Drive Const., Oil & Gas Lease O.R. 857, Pg. 759		
3T	Dawgwood Enterprises LLC	4, 9, 10	Reception # 55595925		6826581	0.1096	0.0000	0.0045	0.0000	0.0045					Stair & Drive Const. Oil & Gas Lease O.R. 997 Pg. 484, Inst. No. 55874060		
4WDV	David Roscoe	4, 9, 10	Reception # 55834450		6839152	0.1290	0.0000	0.1290	0.0000	0.1290	Y	0.0000			Road Const., take 38 L.F. fence, trees (2), bush (1), Oil & Gas Lease O.R. 857 Pg. 837, O.R. 1645 Pg. 278, Inst. No. 55872180, Total Take		
4T		4, 9, 10	Reception # 55834449		6839153	0.1290	0.0000	0.0118	0.0000	0.0118					Grading, Oil & Gas Lease O.R. 857 Pg. 672, O.R. 1645 Pg. 278, Inst. No. 55870674, Inst. No. 55872180, Total Take, 6 LF Fence Take		
4T1		4, 9, 10			6839153			0.0044	0.0000	0.0044					Grading, Oil & Gas Lease O.R. 857 Pg. 672, O.R. 1645 Pg. 278, Inst. No. 55870674, Inst. No. 55872180		
5	Valentine Asset Management LLC	4, 9, 10	Reception # 54742352		6839154	0.0652									Grading, Oil & Gas Lease O.R. 857 Pg. 834		
6	Brian M. Feliciano and Alicia M. Feliciano	4, 9, 10	Reception #55842162		6739569	0.0734 (c)											
7	Landmark Property Development LTD	4, 9, 10	Reception # 55391134		6840644	0.0654	0.0000	0.0000	0.0000	0.0000							
8	Brian C. East	4, 9, 10	Reception # 55437949		6826833	0.0654	0.0000	0.0000	0.0000	0.0000							
9	Lonnie St. Clair	4, 9, 10	Reception # 55185725		6847199	0.0734 (c)											
10	Thomas D. McKinstry and Theresia A. McKinstry	4, 9, 10	Reception #55218311		6808762	0.0654 (c)											
11	Valerie J. Lewis	4, 9, 10	6668	59	6802941	0.0595 (c)									Oil & Gas Lease Volume 857 Pg. 735		
12	CCS Incorporated	4, 9, 10	7457	739	6843493												
					6843494												
13	Merle W. Thompson	4, 9, 10	4702	563	6860576	0.0314	0.0000	0.0000	0.0000	0.0000					Oil & Gas Lease O.R. 857 Pg. 834, O.R. 1592 Pg. 833		
14WDV	Barry E. Pickering	4, 9, 10	6443	85	6856997	0.2696	0.0000	0.0643	0.0000	0.0643		0.2053			Road Const., take trees(6), pine(1), post(1), bushes(3), rock(1), flower beds(1), rock garden (1) 10.06 LF Fence		
14T		4, 9, 10			6856997			0.0122	0.0000	0.0122					Take bushes (4), post (1), grading		
					6740635												
15WL	Jerry Jarvis & Pamela Jarvis	4, 9, 10, 11, 12	Reception # 54055718		6728277	0.0590	0.0000	0.0098	0.0000	0.0098			0.0492				
15WDV					6728277	0.0590	0.0000	0.0492	0.0000	0.0492	Y				Road Const., Total Take		
					TOTAL:	0.0590	0.0000	0.0590	0.0000	0.0590		0.0000			Demo 2 Story Frame Building & Garage		
16WDV	Walter Milton Gordon ETAL	4, 9, 10, 11, 12	5306	845	6734831	0.0704	0.0000	0.0704	0.0000	0.0704	Y	0.0000			Road Const., Total Take, 2 - Story Frame Building & Garage		
17	Henry Walker Jr.	4, 9, 10, 11, 12	Reception # 55249446		6733328	0.0609											
18T	Donald Mangan	4, 9, 10, 11, 12, 17, 18	Reception # 54334173		6730552	0.0754	0.0000	0.0009	0.0000	0.0009					Grading		

90% Federal / 10% State

(c) = CALCULATED AREA

TYPES OF TITLE LEGEND:
WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
A = AERIAL EASEMENT
SL = SLOPE EASEMENT
PRE = PROPERTY RIGHT EASEMENT

"V" - DENOTES RIGHT OF WAY TO BE ACQUIRED IN THE NAME OF "THE CITY OF AKRON"

* DENOTES RIGHT OF WAY ENCROACHMENT

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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

REV. BY	DATE	DESCRIPTION
AJE	7/28/2014	REMOVED PARCEL 17T
AJE	7/14/2014	REMOVED PARCEL 5T

FIELD REVIEW BY: ADAM RYAN DATE: 7/15/2013
OWNERSHIP VERIFIED BY: NATHAN CONNER DATE: 7/16/2013
DATE COMPLETED: 7/16/2013

FEDERAL PROJECT NO. E101163
PID NO. 86979
STATE JOB NO. 440463
TDM
R/W REVIEWER SLM

SUMMARY OF ADDITIONAL RIGHT OF WAY

SUM-76/77-11.27/12.12

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NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
19	Kayco Limited	4, 11, 12, 17, 18	Reception #55801376		6843872	0.0778											
20WL	City of Akron	4, 11, 12, 17, 18	Reception #54494964		6761372	4.2079	0.0000	0.2955	0.0000	0.2955					Road construction, Ingress/Egress Easement Vol. 1532 Pg. 242, Aerial & L/A Easement Vol. 4006 Pg. 480		
20WDV		4, 11, 12, 17, 18					0.0000	0.0739	0.0000	0.0739					128 LF Chainlink Fence, Road construction		
					TOTAL:	4.2079	0.0000	0.3694	0.0000	0.3694			3.8385				
20UV		4, 11, 12			6761372		0.0000	0.0115	0.0000	0.0115							
20T		4, 11, 12			6761372		0.0000	0.2986	0.0000	0.2986					Grading		
21WL	City of Akon, Ohio	4 ,5 11, 12	705	43	6758096	7.74	0.0000	0.7857	0.0000	0.7857			6.9543		Road construction, Commercial Lease Inst. #55495260, Ingress/Egress Easement Vol. 705 Pg. 43, Ingress/Egress Easement Vol. 1532 Pg. 242: Auditor's record shows owner as "City of Akron Public Ground"		
21WDV					6758096		0.0000	0.4671	0.0000	0.4671	S (1)				Take Bollards (10), Gate, Road Construction,		
					Total:	7.74	0.0000	1.2528	0.0000	1.2528			6.4872		35 LF Chainlink Fence, Stonewall (2)		
21UV		4 ,5 11, 12			6758096		0.0000	0.0743	0.0000	0.0743					Flagpoles (2), Yard Lights (3), Sign, Fence		
21T		4 ,5 11, 12			6758096		0.0000	1.9497	0.0000	1.9497	Y				2 - Story Building and Site Demolition		
22WDV	Donna M. Waterhouse	5, 11, 12, 13, 14	Reception # 55183021		6757738	0.0997(a)	0.0000	0.0970(c)	0.0000	0.0970(c)	Y	*0.0000			Road Const., 2 - Story Frame Building, Restrictions on Plat Plat Vol. 25 Pg. 18, Ingress/Egress Easement Vol. 4945 Pg. 225 *Auditor shows greater acreage than calculated; however, this is a total take		
23	Alliance RE Holdings LLC., a Delaware limited liability company	5, 13, 14	Reception # 55778107		6812988	0.0735	0.0000	0.0000	0.0000	0.0000					Ingress/Egress Easement Vol. 4945 Pg. 225		
24	George K. Weitzel & Debra L. Weitzel	5, 13, 14	6870	786	6855566	0.1065	0.0000	0.0000	0.0000								
25	Westley L. Dixon	5, 11, 12, 13, 14	Reception # 55061593		6712135	0.0735	0.0000	0.0000	0.0000	0.0000							
26	Robert E. Nieman Trustee	5, 13, 14	Reception # 55669989		6745108	0.0735	0.0000	0.0000	0.0000	0.0000							
27	607 Hedden Ave LLC	5, 13, 14	Reference # 55555669		6737960	0.0735	0.0000	0.0000	0.0000	0.0000							
28T	Terrytown Realty Limited	5, 13, 14	Reception # 55862999		6739490	0.100	0.0000	0.0041	0.0000	0.0041					Drive Const.		
29T	Donna Phillipi	5, 13, 14	Reception # 55396337		6806805	0.0674	0.0000	0.0006	0.0000	0.0006					Grading		
30WL	Kenmore Investment Company Limited	5, 13, 14	Reception # 55239906		6806501	0.0788	0.0000	0.0788	0.0000	0.0788			0.0000		Grading, Highway Easement Vol. 3409 Pg. 176		
31	Charles H. Capien	5, 13, 14	Reception # 54722992		6711875	0.0842	0.0000	0.0000	0.0000	0.0000							
32	626 Johnston St. LLC	5, 13, 14	Reception # 55666517		6711874	0.1966	0.0000	0.0000	0.0000	0.0000							
33	Archimedes Holdings LLC	5, 13, 14	Reception # 55835617		6854273	0.2522	0.0000	0.0000	0.0000	0.0000							
34	Marcia Realty LLC	5, 13, 14	Reception # 55794567		6702319	0.0972	0.0000	0.0000	0.0000	0.0000							

90% Federal / 10% State

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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TYPES OF TITLE LEGEND:
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SL = SLOPE EASEMENT
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(c) = CALCULATED AREA
(a) = AUDITOR RECORD AREA

"V" - DENOTES RIGHT OF WAY TO BE ACQUIRED IN THE NAME OF "THE CITY OF AKRON"

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY: ADAM RYAN DATE: 7/15/2013
OWNERSHIP VERIFIED BY: NATHAN CONNER DATE: 7/16/2013
DATE COMPLETED: 7/16/2013

FEDERAL PROJECT NO. E101163
PID NO. 86979
STATE JOB NO. 440463
R/W DESIGNER TDM
R/W REVIEWER SLM

SUMMARY OF ADDITIONAL RIGHT OF WAY

SUM-76/77-11.27/12.12

641
652

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
35	Marcia Realty LLC	5, 13, 14	Reception # 55472571		6744913	0.062	0.0083	0.0000	0.0000	0.0000							
36	Gee Tee Realty	5, 13, 14	Reception # 55582669		6830615	0.0621	0.0083	0.0000	0.0000	0.0000							
37	Abraham J. Gild	4, 15, 16	Reception # 55573162		6733641	0.0596	0.0000	0.0000	0.0000	0.0000							
					6733642	0.0486											
					6733643	0.0541											
38	Cameron L. Mack	4	Reception # 55332441		6732392	0.0724	0.0000	0.0000	0.0000	0.0000							
39WDV	Falor Management Company LLC	4, 15, 16	Reception # 55082290		6703910	0.3765 (c)	0.0000	0.0005	0.0000	0.0005			0.3760		Sidewalk Const., *encroaching post		
40WDV	Howard S. Duma	4, 15, 16	Reception # 54707705		6736195	0.0807	0.0000	0.0019	0.0000	0.0019			0.0788		Sidewalk Const., Oil & Gas Lease Vol. 856 Pg. 500, Post		
40T		4, 15, 16						0.0076	0.0000	0.0076					Grading, Oil & Gas Lease Vol. 856 Pg. 500		
41WDV	Akron Bible Church	4, 15, 16	7108	323	6757672	0.0990	0.0000	0.0005	0.0000	0.0005			0.0985		Sidewalk Const.		
42	Eric Cooper and James Oxenrider	4, 15, 16	Reception # 55492726		6855223	0.1065	0.0000	0.0000	0.0000	0.0000							
43	Rose Ann Miller	4, 15, 16	Reception #55861807		6832190	0.1065	0.0000	0.0000	0.0000	0.0000					Oil & Gas Easement O.R. 1645 Pg. 203		
44	John G. Irace	4, 17, 18	Reception # 55033895		6845315	0.2781	0.0000	0.0000	0.0000	0.0000							
45WDV	County of Summit	4, 17, 18	Reception # 54727404		6849171	0.7783	0.0000	0.0638	0.0000	0.0638		0.7145			Road Const.,Take 48.1 LF & 32 LF(80.1 LF total) of Fence,Post		
			Reception # 55054328		6709658	0.623		0.0036	0.0000	0.0036		0.6194					
					Total	1.4013		0.0674	0.0000	0.0674		1.3339					
45T					6849171	0.7783	0.0000	0.0171	0.0000	0.0171					Grading, Take Light Pole, Take 19.9 LF of Fence		
					6709658	0.623	0.0000	0.0283	0.0000	0.0283							
					Total			0.0454	0.0000	0.0454							
46T	City of Akron	4, 17, 18	Reception # 54494964		6761371	0.9044	0.0000	0.0334	0.0000	0.0334				90% Federal / 10% State	Grading, Parking Lot Const., take 23 LF of fence, bollard (1), guardrail (1), Ingress/Egress Easement Vol. 1532 Pg. 242		
47WL	County of Summit	5, 17, 18	Reception # 55128925		6708887	3.25	0.0000	0.0254	0.0000	0.0254		3.2246			Grading , Road Const., Ingress/Egress Easement Vol. 3570 Pg. 182		
48	City of Akron	5, 17, 18	3630	3777	6716823	0.41	0.41	0.0000	0.0000	0.0000							

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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

TYPES OF TITLE LEGEND:
WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
A = AERIAL EASEMENT
SL = SLOPE EASEMENT
PRE = PROPERTY RIGHT EASEMENT

(c) = CALCULATED AREA

"V" - DENOTES RIGHT OF WAY TO BE ACQUIRED IN THE NAME OF "THE CITY OF AKRON"

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY: ADAM RYAN DATE: 7/15/2013

OWNERSHIP VERIFIED BY: NATHAN CONNER DATE: 7/16/2013

DATE COMPLETED: 7/16/2013

FEDERAL PROJECT NO. E101163

PID NO. 86979

STATE JOB NO. 440463

R/W DESIGNER TDM

R/W REVIEWER SLM

SUMMARY OF ADDITIONAL RIGHT OF WAY

SUM-76/77-11.27/12.12

SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8, O.L. 5

1 Michael & Robin R. Yockey
Reception No. 54259330
Parcel No. 6738146
Vacant Land
Lamparter St.

2 Alan Wegner
Reception No. 55662328
Parcel No. 6843763
Residential
465 Lamparter St.

3 Kay Management LLC, an Ohio Limited Liability Company
Reception No. 55595925
Parcel No. 6826581
Residential
469 Lamparter St.

4 David Roscoe
Reception No. 55834449 & 55834450
Parcel No. 6839152 & 6839153
Residential
691 & 695 Brown St.

5 Valentine Asset Management LLC.
Reception No. 54742352
Parcel No. 6839154
Residential
689 Brown St.

6 Brian M. Feliciano & Alicia M. Feliciano
Reception No. 55842162
Parcel No. 6739569
Residential
688 Brown St.

7 Nazareth Housing Development Corp.
Reception No. 55966650
Parcel No. 6840644
Residential
685 Brown St.

8 Brian C. East
Reception No. 55437949
Parcel No. 6826833
Residential
683 Brown St.

9 Lonnie St. Clair
Reception No. 55185725
Parcel No. 6847199
Residential
684 Brown St.

10 Thomas D. McKinstry & Theresia A. McKinstry
Reception No. 55218311
Parcel No. 6808762
Residential
679 Brown St.

11 Valerie J. Lewis
Vol. 6668, Pg. 59
Parcel No. 6802941
Residential
682 Brown St.

12 CCS Incorporated
Vol. 7457, Pg. 739
Parcel No. 6843493
Residential
Brown St.

13 Merle W. Thompson
Vol. 4702 Pg. 563
Parcel No. 6860576
Vacant Land
Brown St.

14 Barry E. Pickering
Vol. 6443 Pg. 85, Vol. 7136 Pg. 57
Parcel No. 6856997 & 6740635
Residential
506 Leda Pl.

15 Jerry Jarvis & Pamela Jarvis
Reception No. 54055718
Parcel No. 6728277
Residential
678 Spicer St.

16 Walter Milton Gordon ETAL
Vol. 5306 Pg. 845
Parcel No. 6734831
Residential
672 Spicer St.

17 Henry Walker, Jr.
Reception No. 55249446
Parcel No. 6733328
Vacant Land
Spicer St.

18 Donald Mangan
Reception No. 54334173
Parcel No. 6730552
Residential
666 Spicer St.

STRUCTURE KEY
- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

HORIZONTAL SCALE IN FEET
0 10 20 40

BEGIN ACQUISITION STA. 15+54.13
BEGIN WORK STA. 15+00.00
BEGIN ACQUISITION STA. 1+07.19
BEGIN WORK STA. 0+98.00
BEGIN PROJECT STA. 520+85.37 W.B. I-76
MATCHLINE STA. 18+00 ℄ R/W & CONST. BROWN ST. (SEE SHEET 15)
MATCHLINE STA. 3+00 ℄ CONST. & NEW ℄ R/W JOHNSTON (SEE SHEET 11)

LOT 100, LOT 101, LOT 102, LOT 103, LOT 104, LOT 114, LOT 115, LOT 116, LOT 117, LOT 118, LOT 7, LOT 8, LOT 9, LOT 10, LOT 5, LOT 6, LOT 20, LOT 21, LOT 19, LOT 18, LOT 17
LEDGE ALLOTMENT PB 11, PG.15
STEINBACHER ALLOTMENT PB 5, PG.39
Parcel No. 6856997 Residential 506 Leda Pl.
Reception No. 55834450 Parcel No. 6839153 691 Brown St.
Reception No. 55834449 Parcel No. 6839152
Proposed Sidewalk
℄ R/W & CONST. LAMPARTER ST.
℄ R/W & CONST. BROWN ST.
℄ CONST. JOHNSTON ST.
℄ CONST. W.B. I-76
℄ CONST. LANE 'O
NEW ℄ R/W & CONST. JOHNSTON ST.
CONST. LIMITS
Ex R/W
Ex LA-R/W
LA R/W
Street Reservation V. 7136, Pg. 57
8' Driveway Agreement V. 4821, Pg. 199
dense vegetation
gravel drive
conc. drive
conc. sidewalk
brick drive
brush
rock garden (TAKE)
fence (TAKE 44 l.f.)
fence (TAKE 10.06 l.f.)
6' wood fence
post (clothes line) (Typ.)
flower bed
chainlink fence
12" TYPE B
15" TYPE B
15" TYPE C
18" TYPE B
24" TYPE B
Sta: 15+71.37
Sta: 15+64.55
Sta: 15+51.18'
Sta: 15+48.63'
Sta: 16+15.95'
PC Sta. 0+45.32
PT Sta. 2+02.95
N 86° 53' 30" E
S 86° 38' 30" W 45.32'
S 0° 25' 59" E
E 4.08'
P.I. Sta. 1+24.42
Δ = 11° 49' 21" (LT)
Dc = 7° 30' 00"
R = 763.94'
T = 79.10'
L = 157.63'
E = 4.08'
C = 157.36'
C.B. = N 80° 43' 50" E

REV. BY	DATE	DESCRIPTION
AJE	7/14/2014	REMOVED PARCEL 5T

DATE COMPLETED: 7/16/2013

PID NO. 86979
R/W DESIGNER TDM
R/W REVIEWER SLM

RIGHT OF WAY TOPO SHEET
JOHNSTON ST. BEGIN TO STA. 3+00

SUM-76/77-11.27/12.12

9 / 18

643
652

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5:29:38 PM
ARDELAND

SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8, O.L. 5

TIE DATA

TIE	DISTANCE	BEARING
1-2	82.63′	N 88° 53′ 30″ E
1-3	120.06′	N 88° 53′ 30″ E
1-4	22.50′	S 01° 06′ 30″ E
4-5	189.82′	N 88° 53′ 30″ E
5-6	47.59′	N 00° 26′ 00″ W
6-7	30.00′	N 89° 34′ 00″ E
7-8	75.10′	N 88° 53′ 30″ E
7-9	38.00′	N 00° 26′ 00″ W
7-10	148.00′	N 88° 53′ 30″ E

(15) ℄ CONST. JOHNSTON ST.
P.I. Sta. 1+24.42
Δ = 11° 49′ 21″ (LT)
Dc = 7° 30′ 00″
R = 763.94′
T = 79.10′
L = 157.63′
E = 4.08′
C = 157.36′
C.B. = N 80° 43′ 50″ E
Θ_{max} = NC
P.C. Sta. 0+45.32
P.R.C. Sta. 2+02.95

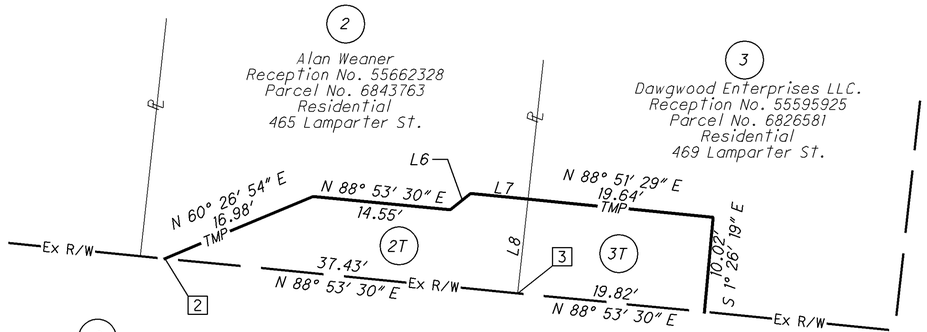
(16) ℄ CONST. JOHNSTON ST.
P.I. Sta. 3+24.23
Δ = 18° 02′ 28″ (RT)
Dc = 7° 30′ 00″
R = 763.94′
T = 121.28′
L = 240.55′
E = 9.57′
C = 239.56′
C.B. = N 83° 50′ 23″ E
Θ_{max} = NC
P.R.C. Sta. 2+02.95
P.T. Sta. 4+43.50

RIGHT OF WAY CURVE DATA

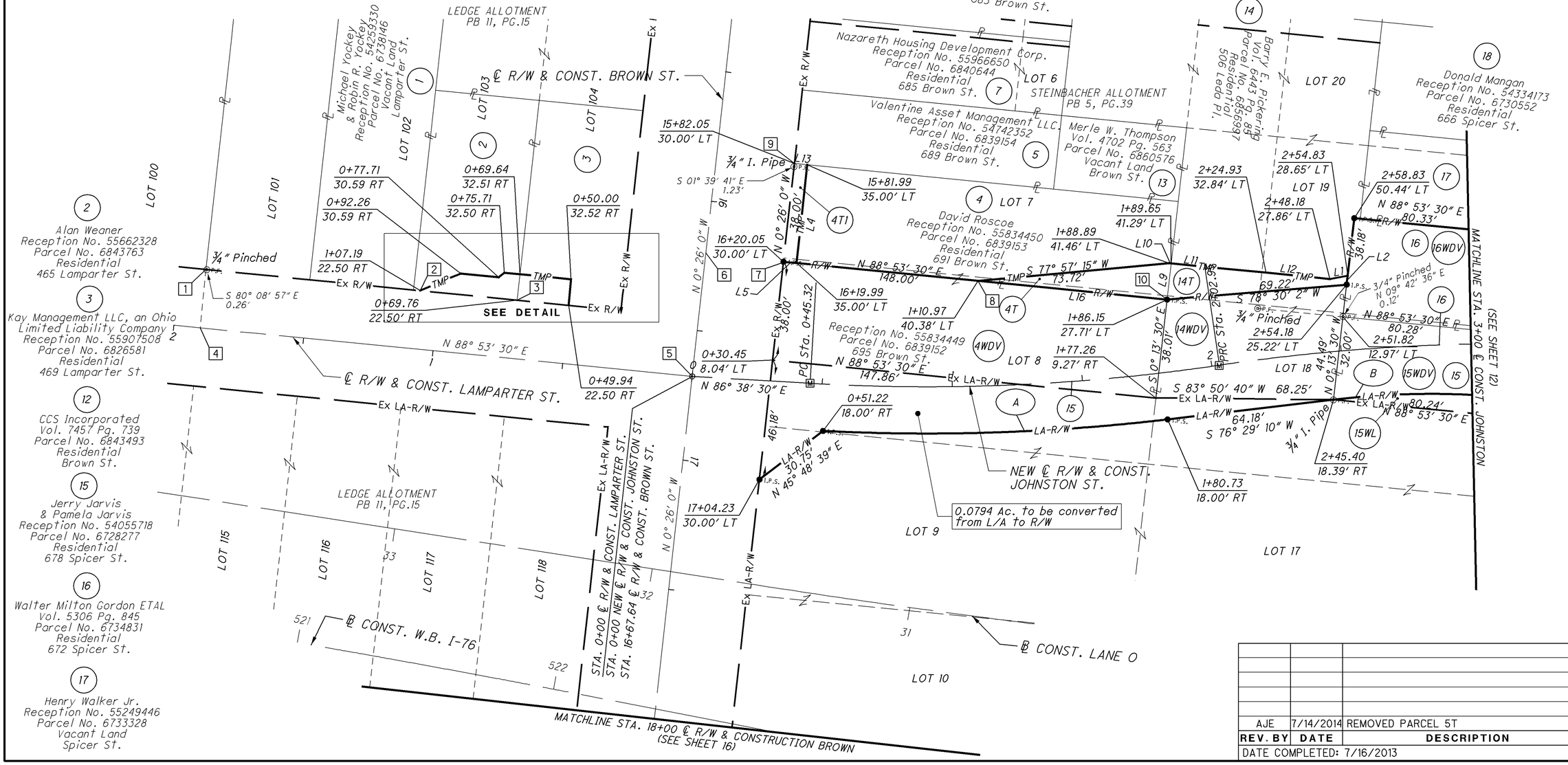
CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
A	33° 58′ 20″	385.00′	228.28′	224.95′	S 88° 37′ 54″ E
B	14° 35′ 20″	317.71′	80.90′	80.68′	N 83° 46′ 50″ E

RIGHT OF WAY LINE DATA

LINE	DISTANCE	BEARING
L1	6.94′	S 71° 55′ 8″ W
L2	3.50′	N 0° 13′ 30″ W
L3	NOT USED	
L4	38.00′	N 0° 26′ 0″ W
L5	5.00′	S 88° 53′ 30″ W
L6	2.77′	N 45° 0′ 0″ E
L7	6.07′	N 88° 51′ 29″ E
L8	10.01′	S 0° 26′ 0″ E
L9	13.99′	S 0° 13′ 30″ E
L10	0.73′	N 88° 53′ 26″ E
L11	36.60′	S 88° 53′ 26″ W
L12	24.68′	S 88° 57′ 45″ W
L13	5.00′	S 88° 54′ 0″ W
L14	NOT USED	
L15	NOT USED	
L16	72.90′	S 88° 53′ 30″ W



DETAIL
NO SCALE



REV. BY	DATE	DESCRIPTION
AJE	7/14/2014	REMOVED PARCEL 5T

DATE COMPLETED: 7/16/2013

N

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 86979

R/W DESIGNER TDM
R/W REVIEWER SLM

RIGHT OF WAY BOUNDARY SHEET
JONHSTON ST. BEGIN TO STA. 3+00

SUM-76/77-11.27/12.12

10 / 18

644
652

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ARCLAND

16 ℄ CONST. JOHNSTON ST.
P.I. Sta. 3+24.23
Δ = 18° 02′ 28″ (RT)
Dc = 7° 30′ 00″
R = 763.94′
T = 121.28′
L = 240.55′
E = 9.57′
C = 239.56′
C.B. = N 83° 50′ 23″ E
e_{max}= NC
P.R.C. Sta. 2+02.95
P.T. Sta. 4+43.50

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50′ 29″ (LT)
Dc = 10° 45′ 00″
R = 532.98′
T = 214.48′
L = 407.83′
E = 41.54′
C = 397.95′
C.B. = N 70° 56′ 23″ E
e_{max}= 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19

SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8, O.L. 4 & 5

TMP
CONST. LIMITS

℄ R/W & CONST. SPICER ST.
TRACT 8, O.L. 5
TRACT 8, O.E. 4
S 0°09′ 12″ E
Ex R/W

BEGIN WORK
STA. 14+97.25

BEGIN ACQUISITION
STA. 15+40.40

STEINBACHER ALLOTMENT
P.B.5, PG.39

LOT 22
LOT 21
LOT 20
LOT 19
LOT 3
LOT 2
LOT 1

20 T — City of Akron
Reception No.54494964
Parcel No. 6761372
Government
Spicer St.

21 T — City of Akron, Ohio
Vol. 705 Pg. 43
Parcel No. 6758096
Government
565 Johnston St.

22 — Donna M. Waterhouse
Reception No. 55183021
Parcel No. 6757738
Residential
585 Johnston St.

23 — Alliance RE Holdings LLC., a Delaware limited liabiltiy company
Reception No. 55778107
Parcel No. 6812988
Residential
620 Hedden Ave.

25 — Westley L. Dixon
Reception No. 55061593
Parcel No. 6712135
Residential
616 Hedden Ave.

FRANCE-WELLS ALLOTMENT
P.B.25, PG.18

15 — Jerry Jarvis & Pamela Jarvis
Reception No. 54055718
Parcel No. 6728277
Residential
678 Spicer St.

16 — Walter Milton Gordon ETAL
Vol. 5306 Pg. 845
Parcel No. 6734831
Residential
672 Spicer St.

17 — Henry Walker, Jr.
Reception No. 55249446
Parcel No. 6733328
Vacant Land
Spicer St.

18 — Donald Mangan
Reception No. 54334173
Parcel No. 6730552
Residential
666 Spicer St.

MATCHLINE STA. 3+00 NEW ℄ R/W & CONST. JOHNSTON (SEE SHEET 9)

MATCHLINE STA. 17+00 ℄ R/W SPICER ST. (SEE SHEET 17)

MATCHLINE STA. 8+00 NEW ℄ R/W & CONST. JOHNSTON (SEE SHEET 13)

MATCHLINE STA. 17+60 OLD ℄ R/W JOHNSTON ST. SEE SHEET 17

STA. 16+21.42 ℄ R/W & CONST. SPICER ST.
STA. 3+60.50 NEW ℄ R/W & CONST. JOHNSTON

PC Sta. 6+16.36

NEW ℄ R/W & CONST. JOHNSTON ST.
S 87° 08′ 23″ E
172.86′

proposed sidewalk
proposed ditch
proposed ditch
OLD ℄ R/W JOHNSTON ST.

(TAKE)
(TAKE 128 l.f.)
(TAKE 35 l.f.)
(TAKE 35 l.f.)
(SAVE)
(SAVE)
CONST. LIMITS

Yiliyapis Pesopodopis

Ex R/W
LA-R/W
EX LA-R/W
U
SAN
W
E
T
G
M.N.S.

12" TYPE D
24" TYPE D
15" TYPE C

20 UV
21 UV
20 WDV
21 WDV
22 WDV
16 WDV
15 WDV
20 WL
21 WL
15 WL

REV. BY	DATE	DESCRIPTION
AJE	7/28/2014	REMOVED PARCEL 17T
DATE COMPLETED: 7/16/2013		

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AROLAND

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 86979

R/W DESIGNER TDM
R/W REVIEWER SLM

RIGHT OF WAY TOPO SHEET
JOHNSTON ST. STA. 3+00 TO 8+00

SUM-76/77-11.27/12.12

11 / 18

645
652

SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8, O.L. 4 & 5

TIE DATA

TIE	DISTANCE	BEARING
11-12	30.00′	S 38° 43′ 52″ E
12-13	539.16′	S 51° 16′ 08″ W
13-14	346.28′	N 00° 09′ 12″ E
14-15	30.00′	S 89° 50′ 48″ W
13-16	378.28′	N 00° 09′ 12″ E
16-17	30.00′	S 89° 50′ 48″ W
13-18	450.46′	N 00° 09′ 12″ E
18-19	30.00′	S 89° 50′ 48″ W
11-20	412.88′	S 51° 16′ 08″ W
20-21	301.12′	N 00° 09′ 12″ W
20-22	311.13′	N 00° 09′ 12″ W
11-23	62.13′	N 00° 35′ 35″ W

*See sheet 18 for tie data point 13

RIGHT OF WAY CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
A	3° 37′ 58″	788.94′	50.02′	50.02′	S 89° 15′ 59″ E
B	0° 18′ 37″	788.94′	4.27′	4.27′	S 87° 17′ 41″ E
C	13° 41′ 15″	503.98′	120.40′	120.11′	N 83° 3′ 30″ E
D	3° 35′ 15″	798.94′	50.02′	50.02′	N 89° 16′ 39″ W
E	0° 20′ 39″	798.94′	4.80′	4.80′	S 87° 18′ 42″ E
F	13° 58′ 06″	493.98′	120.43′	120.13′	S 82° 55′ 36″ W
G	9° 26′ 3″	317.71′	52.31′	52.25′	N 73° 17′ 50″ W
H	1° 01′ 34″	1565.44′	28.04′	28.03′	S 0° 21′ 35″ W
I	14° 35′ 20″	317.71′	80.90′	80.68′	S 83° 46′ 50″ W
J	10° 54′ 39″	317.71′	60.50′	60.41′	N 83° 28′ 11″ W

RIGHT OF WAY LINE DATA

LINE	DISTANCE	BEARING
L1	19.65′	S 88° 53′ 30″ W
L2	80.28′	S 88° 53′ 30″ W
L3	7.26′	S 88° 53′ 30″ W
L4	8.56′	S 00° 09′ 12″ E

16 ℄ CONST. JOHNSTON ST.
P.I. Sta. 3+24.23
Δ = 18° 02′ 28″ (RT)
Dc = 7° 30′ 00″
R = 763.94′
T = 121.28′
L = 240.55′
E = 9.57′
C = 239.56′
C.B. = N 83° 50′ 23″ E
e_{max} = NC
P.R.C. Sta. 2+02.95
P.T. Sta. 4+43.50

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50′ 29″ (LT)
Dc = 10° 45′ 00″
R = 532.98′
T = 214.48′
L = 407.83′
E = 41.54′
C = 397.95′
C.B. = N 70° 56′ 23″ E
e_{max} = 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19

STEINBACHER ALLOTMENT
P.B. 5, PG. 39

LOT 22 — LOT 21 — LOT 20 — LOT 18 — LOT 3 — LOT 2 — LOT 1

¾″ I. Pipe

℄ R/W & CONST. SPICER ST.

TRACT 8, O.L. 5 — TRACT 8, O.L. 4

Ex R/W

S 0° 09′ 12″ E 14′ — S 0° 09′ 12″ E 232.69′ — S 0° 9′ 12″ E 259.87′ — S 0° 9′ 12″ E 284.13′ — S 0° 9′ 12″ E 229.08′

N 0° 9′ 12″ W

TMP 50.26′ 3+94.08 294.84′ LT — 4+30.34 295.52′ LT — 4+30.89 267.49′ LT — TMP — TMP — S 89° 44′ 44″ W 320.11′ — TMP — 8+97.91 278.00′ LT

H

20 City of Akron Reception No.54494964 Parcel No. 6761372 Government Spicer St.

21 City of Akron, Ohio Vol. 705 Pg. 43 Parcel No. 6758096 Government 565 Johnston St.

21T

FRANCE-WELLS ALLOTMENT P.B.25, PG.18

22 Donna M. Waterhouse Reception No. 55183021 Parcel No. 6757738 Residential 585 Johnston St.

23 Alliance RE Holdings LLC., a Delaware limited liability company Reception No. 55778107 Parcel No. 6812988 Residential 620 Hedden Ave.

25 Westley L. Dixon Reception No. 55061593 Parcel No. 6712135 Residential 616 Hedden Ave.

252.83′ — N 0° 35′ 35″ W — TMP

NEW ℄ R/W & CONST. JOHNSTON ST.

STA. 16+21.14 ℄ R/W & CONST. SPICER ST. = STA. 3+60.50 NEW ℄ R/W & CONST. JOHNSTON ST.

MATCHLINE STA. 3+00 NEW ℄ CONST. JOHNSTON ST. (SEE SHEET 10)

MATCHLINE STA. 17+00 ℄ R/W SPICER ST. (SEE SHEET 18)

MATCHLINE STA. 8+00 NEW ℄ R/W & CONST. JOHNSTON ST. (SEE SHEET 14)

OLD ℄ R/W JOHNSTON ST.

LA-R/W — N 88° 0′ 1″ E 198.69′ — N 88° 40′ 8″ E 99.21′ — N 88° 40′ 8″ E 98.78′

Ex LA-R/W

N 19° 45′ 58″ E 4.16′ — N 19° 45′ 58″ E 36.38′ — N 50° 34′ 14″ E 7.54′ — N 33° 04′ 01″ W 0.17′ — S 0° 09′ 12″ E 14.81′ — S 0° 9′ 12″ E 7.19′ — S 88° 53′ 30″ W 80.24′ — S 89° 51′ 48″ W 0.11′ — S 53° 06′ 40″ W 0.16′ — S 42° 39′ 10″ E 0.18′ — N 89° 24′ 25″ E 80.00′ — S 20° 06′ 31″ E 0.22′ — S 51° 16′ 08″ W 380.91′

15+40.40 30.00′ RT — 15+49.08 37.25′ RT — 15+83.28 49.65′ RT — 15+82.96 30.00′ RT — 15+48.96 30.00′ RT — 16+21.14 30.00′ RT — 16+45.95 30.00′ RT — 16+53.14 30.00′ RT — 3+89.91 34.72′ RT — 4+42.99 46.95′ RT — 6+39.66 30.65′ RT — 7+32.96 36.44′ RT — 7+59.83 21.61′ RT — 7+79.72 61.08′ LT — 7+73.74 39.00′ LT — 7+71.21 29.00′ LT

4+38.91 35.00′ LT — 3+91.08 35.00′ LT — 3+90.93 25.00′ LT — 4+39.36 25.00′ LT — 4+43.50 35.00′ LT — 4+43.50 25.00′ LT — 5+61.08 35.00′ LT — 5+61.32 25.00′ LT — 6+01.29 36.95′ LT — 6+01.86 26.96′ LT — 6+43.80 39.00′ LT — 6+43.88 29.00′ LT

S 87° 8′ 23″ E 117.58 — S 87° 8′ 23″ E 117.82 — N 89° 54′ 48″ W 40.26′ — N 89° 54′ 48″ W 40.59′ — S 89° 2′ 13″ W 40.58′ — S 89° 2′ 13″ W 40.60′ — S 87° 08′ 23″ E 172.86′

PC Sta. 6+16.36

72.04′ to PT Sta. 4+43.50

57.66′ — 24.81′ — 51.85′ — 84.87′ — 82.26′ — 31.97′ — 412.88′

10.00′ R/W — 10.01′ R/W — 10.28′ R/W

Jerry Jarvis & Pamela Jarvis Reception No. 54055718 Parcel No. 6728277 Residential 678 Spicer St.

Walter Milton Gordon ETAL Vol. 5306 Pg. 845 Parcel No. 6734831 Residential 672 Spicer St.

Henry Walker Jr. Reception No. 55249446 Parcel No. 6733328 Vacant Land Spicer St.

Donald Mangan Reception No. 54334173 Parcel No. 6730552 Residential 666 Spicer St.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 7/16/2013

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

PID NO. 86979

R/W DESIGNER TDM — R/W REVIEWER SLM

RIGHT OF WAY BOUNDARY SHEET
STA. 3+00.00 TO 8+00.00

SUM-76/77-11.27/12.12

12 / 18

646 / 652

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SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8, O.L. 4 & 5

22 Donna M. Waterhouse
Reception No. 55183021
Parcel No. 6757738
Residential
585 Johnston St.

23 Alliance RE Holdings LLC., a Delaware limited liability company
Reception No. 55778107
Parcel No. 6812988
Residential
620 Hedden Ave.

24 George K. Weitzel & Debra L. Weitzel
Vol. 6870 Pg. 786
Parcel No. 6855566
Residential
599 Johnston St.

25 Westley L. Dixon
Reception No. 55061593
Parcel No. 6712135
Residential
616 Hedden Ave.

26 Robert E. Neiman Trustee
Reception No. 55669989
Parcel No. 6745108
Residential
612 Hedden Ave.

27 607 Hedden Ave LLC
Reference No. 55555669
Parcel No. 6737960
Residential
607 Hedden Ave.

29 Donna Phillipi
Reception No. 55396337
Parcel No. 6806805
Residential
613 Johnston St.

17 ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50′ 29″ (LT)
Dc = 10° 45′ 00″
R = 532.98′
T = 214.48′
L = 407.83′
E = 41.54′
C = 397.95′
C.B. = N 70° 56′ 23″ E
e_{max} = 0.04
P.C. Sta. 6+16.36
P.T. Sta. 10+24.19

30 Kenmore Investment Company Limited
Reception No. 55239906
Parcel No. 6806501
Vacant Land
Johnston St.

31 Charles H. Capien
Reception No. 54722992
Parcel No. 6711875
Residential
618 Johnston St.

32 626 Johnston St LLC.
Reception No. 55666517
Parcel No. 6711874
Residential
626 Johnston St.

34 Marcia Realty LLC.
Reception No. 55794567
Parcel No. 6702319
Residential
630 Johnston St.

35 Marcia Realty LLC.
Reception No. 55472571
Parcel No. 6744913
Residential
630 Johnston Ct.

36 Gee Tee Realty LLC.
Reception No. 55582669
Parcel No. 6830615
Residential
626 Johnston Ct.

FRANCE-WELLS ALLOTMENT
P.B. 25, P.G. 18

ARENSON SABINSKY SUBDIVISION
UNRECORDED

Ingress/Egress Easement
V.4945, Pg.225

MATCHLINE STA. 8+00 ℄ R/W & CONST. JOHNSTON (SEE SHEET 11)

OLD ℄ R/W JOHNSTON ST.

NEW ℄ R/W & CONST. JOHNSTON ST.

℄ R/W & CONST. HEDDEN ST.

℄ R/W & CONST. JOHNSTON CT.

STA. 20+00 ℄ R/W & CONST. HEDDEN ST.
STA. 16+76.40 OLD ℄ R/W JOHNSTON ST.

STA. 20+00 ℄ R/W & CONST. JOHNSTON CT.
STA. 13+31.84 OLD ℄ R/W JOHNSTON ST.

STA. 11+47.04 NEW ℄ R/W & CONST. JOHNSTON ST.
STA. 12+94.90 OLD ℄ R/W JOHNSTON ST.

END WORK STA. 19+06.59

END ACQUISITION STA. 10+80.91

END WORK STA. 11+06.75

END WORK STA. 05+87.75

Terytown Realty Limited
Reception No. 55869980
Parcel No. 6739490
Residential
609 Johnston St.

Archimedes Holdings LLC.
Reception No. 55835617
Parcel No. 6854273
Commercial
617 Johnston St.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 7/16/2013

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 86979

R/W DESIGNER TDM
R/W REVIEWER SLM

RIGHT OF WAY TOPO SHEET
JOHNSTON ST. STA. 8+00 TO END

SUM-76/77-11.27/12.12

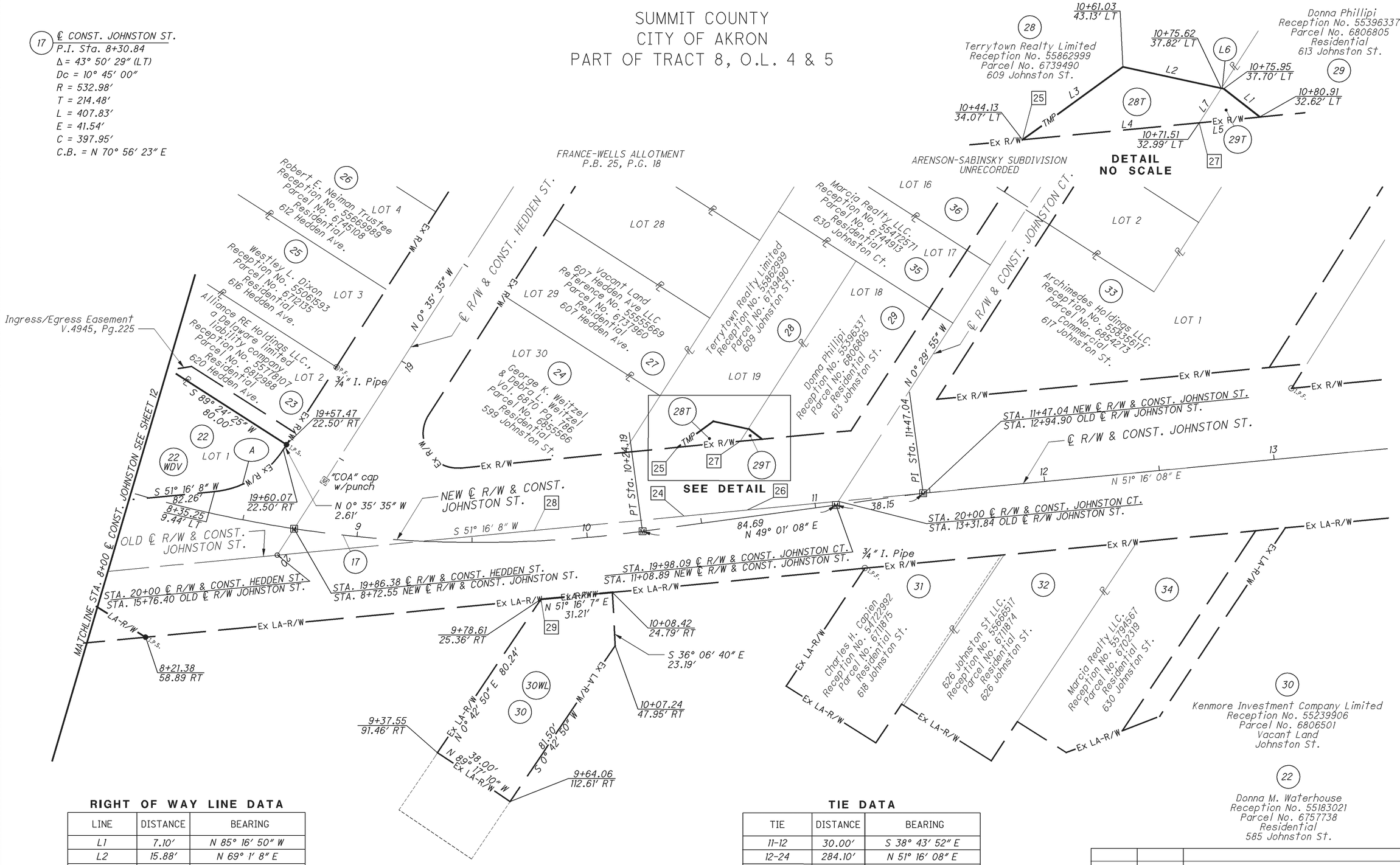
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652

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SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8, O.L. 4 & 5

(17) ℄ CONST. JOHNSTON ST.
P.I. Sta. 8+30.84
Δ = 43° 50′ 29″ (LT)
Dc = 10° 45′ 00″
R = 532.98′
T = 214.48′
L = 407.83′
E = 41.54′
C = 397.95′
C.B. = N 70° 56′ 23″ E



RIGHT OF WAY LINE DATA

LINE	DISTANCE	BEARING
L1	7.10′	N 85° 16′ 50″ W
L2	15.88′	N 69° 1′ 8″ E
L3	19.18′	S 20° 48′ 12″ W
L4	27.40′	S 51° 16′ 8″ W
L5	9.41′	N 51° 16′ 8″ E
L6	0.35′	N 69° 1′ 8″ E
L7	6.34′	S 0° 35′ 35″ E

RIGHT OF WAY CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
A	51°51′43″	40.00′	36.21″	34.98′	N 25°20′17″ E

TIE DATA

TIE	DISTANCE	BEARING
11-12	30.00′	S 38° 43′ 52″ E
12-24	284.10′	N 51° 16′ 08″ E
24-25	30.00′	N 38° 43′ 52″ W
12-26	311.50′	N 51° 16′ 08″ E
26-27	30.00′	N 38° 43′ 52″ W
12-28	218.78′	N 51° 16′ 08″ E
28-29	30.00′	S 38° 43′ 52″ E

* See sheet 12 for tie data points 11 & 12

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 7/16/2013

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 86979

R/W DESIGNER TDM
R/W REVIEWER SLM

RIGHT OF WAY BOUNDARY SHEET
STA. 8+00.00 TO END

SUM-76/77-11.27/12.12

14 / 18

648
652

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37 *Abraham J. Gild*
Reception No. 55573162
Parcel Nos. 6733641, 6733642 & 6733643
Commercial
465, 469 & 473 E. South St.

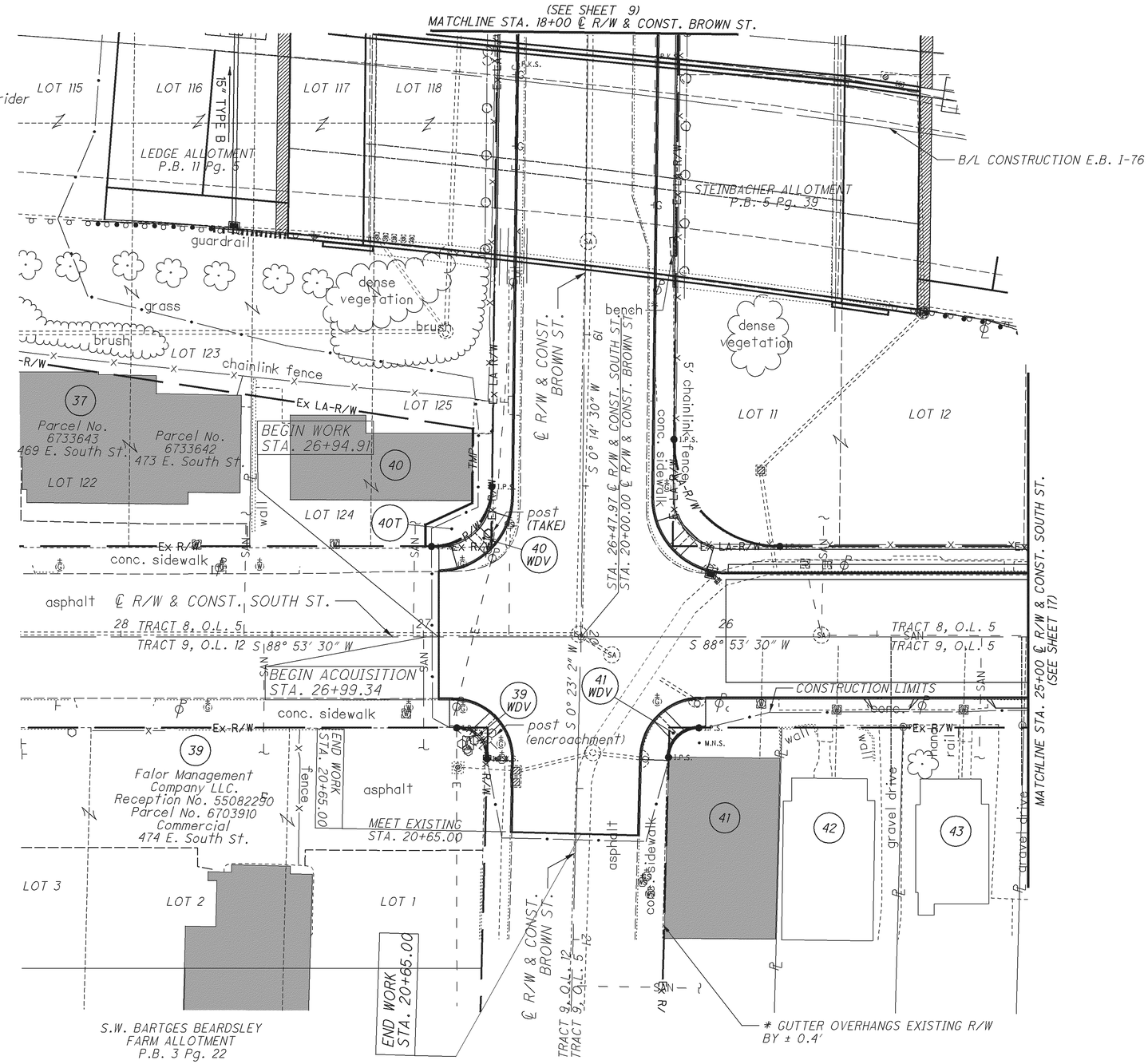
40 *Howard S. Duma*
Reception No. 54707705
Parcel No. 6736195
Commercial
481 E. South St.

41 *Akron Bible Church*
Vol. 7108 Pg. 323
Parcel No. 6757672
Church
490 E. South St.

42 *Eric Cooper & James Oxenrider*
Reception No. 55492726
Parcel No. 6855223
Residential
496 E. South St.

43 *Rose Ann Miller*
Vol. 6085 Pg. 693
Parcel No. 6832190
Residential
500 E. South St.

SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8 (O.L. 5) &
PART OF TRACT 9 (O.L. 5 & 12)



REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 7/16/2013

HORIZONTAL SCALE IN FEET
0 10 20 40

R/W DESIGNER TDM
R/W REVIEWER SLM

PID NO. 86979

RIGHT OF WAY TOPO SHEET
SOUTH ST, BEGIN TO STA. 25+00

SUM-76/77-11.27/12.12

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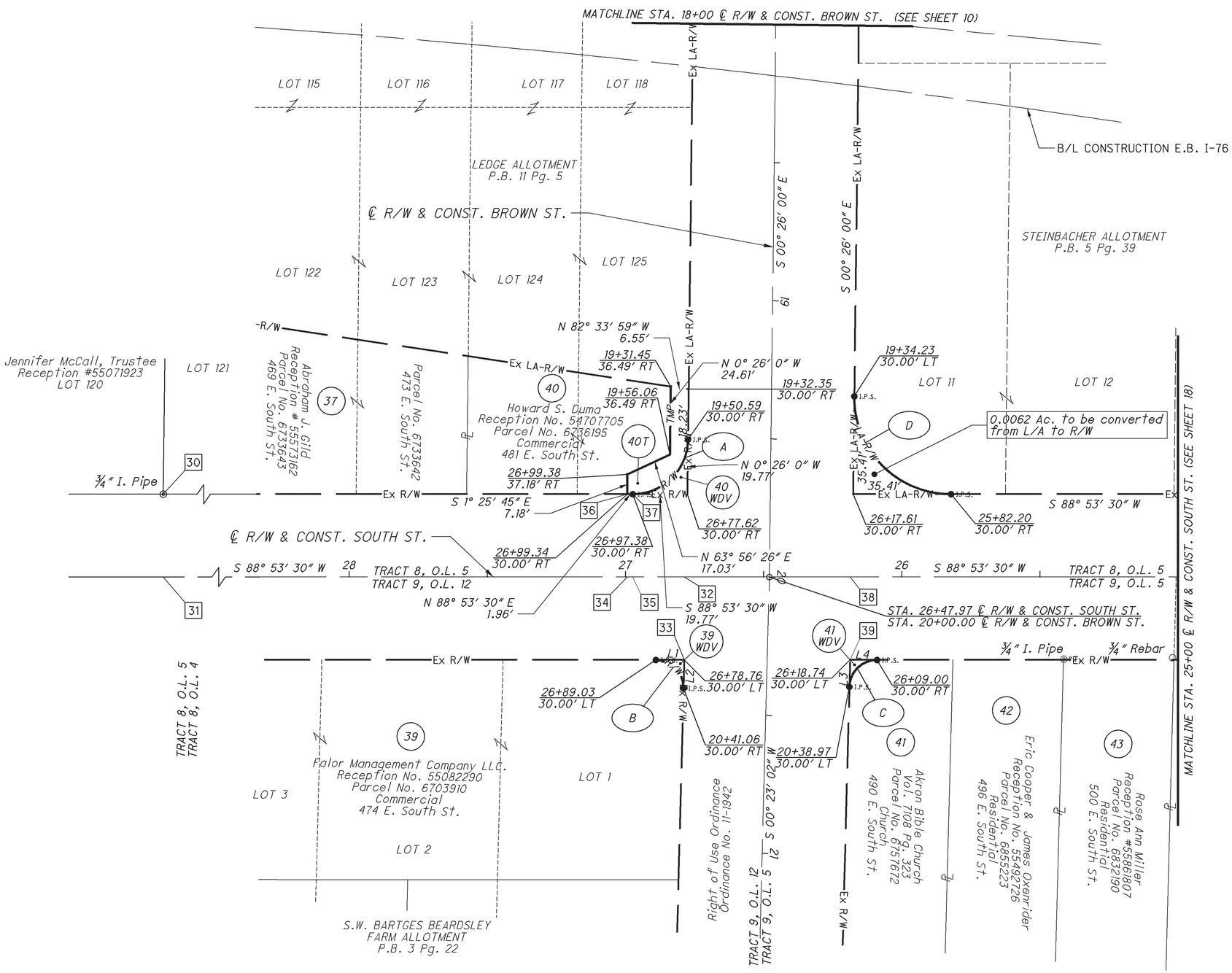
RIGHT OF WAY CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
A	89°19'30"	20.00'	31.18'	28.12'	S 44° 13' 45" W
B	91°29'32"	10.00'	15.97'	14.33"	N 45° 21' 44" W
C	88°30'28"	10.00'	15.45'	13.96'	S 44° 38' 16" W
D	90°40'30"	35.00'	55.39'	49.79'	S 45° 46' 15" E

SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8 (O.L. 5) &
PART OF TRACT 9 (O.L. 5 & 12)

RIGHT OF WAY LINE DATA

LINE	DISTANCE	BEARING
L1	10.26'	N 88° 53' 30" E
L2	10.26'	S 0° 23' 02" W
L3	9.74'	S 0° 23' 02" W
L4	9.74'	N 88° 53' 30" E



TIE DATA

TIE	DISTANCE	BEARING
30-31	30.00'	S 01° 06' 30" E
31-32	198.74'	N 88° 53' 30" E
32-33	30.00'	S 01° 06' 30" E
31-35	180.12'	N 88° 53' 30" E
35-37	30.00'	N 01° 06' 30" W
31-34	178.16'	N 88° 53' 30" E
34-36	30.00'	N 01° 06' 30" W
31-38	258.76'	N 88° 53' 30" E
38-39	30.00'	S 01° 06' 30" E

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 7/16/2013

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 86979

R/W DESIGNER TDM
R/W REVIEWER SLM

RIGHT OF WAY BOUNDARY SHEET
SOUTH ST, BEGIN TO STA. 25+00

SUM-76/77-11.27/12.12

16/18

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652

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SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8, (O.L. 4 & 5) & TRACT 9, (O.L. 5)

(18) ℄ CONST. SOUTH ST.
P.I. Sta. 23+70.82
Δ = 35° 16′ 35″ (LT)
Dc = 36° 16′ 44″
R = 157.93′
T = 50.21′
L = 97.24′
E = 7.79′
C = 95.71′
C.B. = N 73° 28′ 12″ W
e_{max}= NC
P.C.C. Sta. 23+20.61
P.T. Sta. 24+17.85

(19) ℄ CONST. SOUTH ST.
P.I. Sta. 22+87.50
Δ = 55° 47′ 36″ (LT)
Dc = 76° 53′ 35″
R = 74.51′
T = 39.45′
L = 72.56′
E = 9.80′
C = 69.73′
C.B. = N 27° 56′ 07″ W
e_{max}= NC
P.C. Sta. 22+48.05
P.C.C. Sta. 23+20.61

STEINBACHER ALLOTMENT
P.B. 5 Pg. 39

MATCHLINE STA. 17+00 ℄ R/W SPICER ST. (SEE SHEET 11)
(SEE SHEET 11) MATCHLINE STA. 17+60 OLD ℄ R/W JOHNSTON ST.
MATCHLINE STA. 25+00 ℄ CONST. SOUTH ST. (SEE SHEET 15)

(46) City of Akron, Reception No. 54494964, Parcel No. 6761371, Government, Spicer St.
(21) City of Akron, Ohio, Vol. 705 Pg. 43, Parcel No. 6758096, Government, 565 Johnston St.
(20) City of Akron, Reception No. 54494964, Parcel No. 6761372, Government, Spicer St.
(48) City of Akron, Vol. 3630 Pg. 377, Parcel No. 6716823, Vacant
(44) John G. Irace, Reception No. 55033895, Parcel No. 6845315, Residential, 504 E. South St.
(45) County of Summit, Reception No. 54727404, Parcel No. 6849171, Government, 510 E. South St.
(45T) Reception No. 55054328, Parcel No. 6709655TMP
(47) County of Summit, Reception No. 55128925, Parcel No. 6708887, Government, 538 E. South St.

℄ CONST. LANE O
℄ CONST. WB I-76
℄ CONST. EB I-76
℄ CONST. LANE M
℄ R/W & CONST. SPICER ST.
℄ CONST. SPICER ST.
℄ R/W & CONST. OLD ℄ R/W JOHNSTON ST.
℄ R/W & CONST. SOUTH ST.
℄ CONST. SOUTH ST.
OLD ℄ R/W JOHNSTON ST.
Ex R/W
Ex LA-R/W
LA-R/W
Const. Limits
TRACT 8, O.L. 4
TRACT 9, O.L. 5
LOT 16
LOT 15
LOT 14
LOT 13
S 0° 09′ 12″ W
S 88° 53′ 30″ W
N 51° 16′ 8″ E
527′
STA. 20+00.26 ℄ R/W & CONST. SPICER ST.
STA. 22+93.81 ℄ R/W SOUTH ST.
STA. 20+00.39 ℄ R/W & CONST. SPICER ST.
℄ R/W SOUTH ST.
STA. 19+99.47 ℄ R/W & CONST. SPICER ST.
STA. 22+22.32 OLD ℄ R/W JOHNSTON ST.
PT Sta. 24+17.85
PC Sta. 22+48.05
PCC Sta. 23+20.61
BEGIN WORK STA: 22+38.05
TAKE 19.9 l.f. FENCE
TAKE 48.1 l.f. FENCE
TAKE 32 LF FENCE
TAKE 23 LF FENCE
bollard (TAKE)
*1′ conc base
*bollard
proposed ditch
proposed sidewalk
conc. sidewalk
conc. ditch
conc. headwall
bridge pier(typ.)
wall
fence
chainlink fence
5′ chainlink fence
6′ chainlink fence
brush
dense vegetation
flower bed
grass
gravel
asphalt
brick
railroad
OVERHEAD SIGN
15″ TYPE B
24″ TYPE B
24″ TYPE C
12″ cmp
M.H.S.
M.N.S.
I.P.S.
P.K.S.
I.P.F.
SA
WL
WDV
WV
SAN
TMP

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40
PID NO. 86979
R/W DESIGNER TDM
R/W REVIEWER SLM
RIGHT OF WAY TOPO SHEET
SOUTH ST. STA. 25+00 TO END
SUM-76/77-11.27/12.12
17 / 18
651
652

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 7/16/2013

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SUMMIT COUNTY
CITY OF AKRON
PART OF TRACT 8, (O.L. 4 & 5) &
TRACT 9, (O.L. 5)

RIGHT OF WAY CURVE DATA

CURVE	CENTRAL ANGLE	RADIUS	CURVE LENGTH	CHORD LENGTH	CHORD BEARING
A	53° 6′ 53″	26.00′	24.10′	23.25′	S 51° 52′ 14″ E
B	51° 47′ 20″	74.00′	66.89′	64.63′	S 51° 12′ 27″ E
C	67° 16′ 8″	59.00′	69.27′	65.36′	S 58° 56′ 51″ E
D	53° 6′ 53″	41.00′	38.01′	36.66′	S 51° 52′ 14″ E
E	24° 34′ 35″	60.00′	25.74′	25.54′	N 68° 20′ 41″ W

RIGHT OF WAY LINE DATA

LINE	DISTANCE	BEARING
L1	9.57′	S 0° 0′ 0″ E
L2	19.24′	N 90° 0′ 0″ W
L3	12.38′	S 0° 23′ 30″ W
L4	33.89′	N 88° 53′ 30″ E
L5	15.02′	N 88° 53′ 30″ E

TIE DATA

TIE	DISTANCE	BEARING
30-31	30.00′	S 01° 06′ 30″ E
31-40	419.75′	N 88° 53′ 30″ E
40-41	30.00′	S 01° 06′ 30″ E
41-42	33.89′	N 88° 53′ 30″ E
41-43	48.91′	N 88° 53′ 30″ E
41-44	133.60′	N 88° 53′ 30″ E
44-45	60.00′	N 89° 29′ 52″ E
45-46	130.44′	N 88° 48′ 15″ E

* See sheet 16 for tie data points 30 & 31

MATCHLINE STA. 17+00 ℄ R/W & CONST. SPICER ST. (SEE SHEET 12)

LOT 17 · LOT 16 · LOT 13 · LOT 14 · LOT 15

Ex A · Ex R/W · Ex LA-R/W · LA-R/W

℄ R/W & CONST. SPICER ST. · ℄ R/W & CONST. SOUTH ST. · ℄ R/W SOUTH ST.

℄ CONST. LANE O · ℄ CONST. WB I-76 · ℄ CONST. EB I-76 · ℄ CONST. LANE M

℄ CONST. SOUTH ST.

OLD ℄ R/W JOHNSTON ST.

STA. 19+99.41 ℄ R/W & CONST. SPICER ST.
STA. 22+22.32 OLD ℄ R/W JOHNSTON ST.

STA. 20+00.26 ℄ R/W & CONST. SPICER ST.
STA. 22+93.81 ℄ R/W SOUTH ST.

STA. 20+00.39 ℄ R/W & CONST. SPICER ST.
STA. 22+93.65 ℄ R/W SOUTH ST.

MATCHLINE STA. 25+00 ℄ R/W & CONST. SOUTH ST. SEE SHEET 16

229.08′ · N 0° 9′ 12″ W · 284.13′ · N 0° 9′ 12″ W · S 0° 09′ 12″ E · 81′ · 18′ · 61′ · 380.91′ · 412.88′ · S 51° 16′ 8″ W · N 51° 16′ 8″ E · 63.97′ · 527′ · 4+55.06 · 275.72′ RT · 19+37.11 · 30.00′ LT · 23+39.24 · 55.95′ RT · S 88° 53′ 30″ W · 7.42′ · 23+44.13 · 52.51′ RT · 23+20.78 · 60.00′ RT · POT Sta. 22+22.32 · S 88° 53′ 30″ W · PI Sta. 24+17.85 · 20+32.18 · 114.68′ RT · 24+23.87 · 30.00′ LT · 84.69′ · 20+54.89 · 85.90′ RT · 24+24.19 · 42.38′ LT · 20+46.86 · 117.73′ RT · 20+61.27 · 89.48′ RT · 21+01.89 · 49.21′ RT · 21+11.52 · 30.00′ RT · 21+11.47 · 49.24′ RT · S 80° 30′ 43″ E · 12.26′ · 20+30.40 · 30.00′ LT · S 88° 48′ 15″ W · 22.92′ · 20+29.98 · 52.92′ LT · S 0° 09′ 12″ E · 57.99′ · 20+88.75 · 30.00′ RT · S 0° 09′ 12″ E · 22.77′ · 21+04.01 · 30.00′ LT · N 0° 9′ 12″ W · 73.61′ · 20+83.99 · 52.77′ LT · S 0° 0′ 0″ W · 54.01′ · S 48° 31′ 50″ W · 30.32′ · N 73° 24′ 51″ W · 166.33′ · 20+28.03 · 160.42′ LT · 20+45.03 · 160.42′ LT · 20+26.48 · 245.42′ LT · 20+43.48 · 245.42′ LT · S 0° 9′ 12″ E · 17.00′ · N 88° 48′ 15″ E · 85.01′ · N 68° 01′ 01″ W · 45.19′ · 45.00′ · S 88° 48′ 15″ W · 5/8″ Rebar · 3/4″ I. Pipe · 2″ I. Pipe · "COA" · "Kalstrom" · TMP · P.O.B. · P.O.C. · I.P.S. · P.I. · P.C. · P.T. · P.R.C. · L1 · L2 · L3 · L4 · L5

18 ℄ CONST. SOUTH ST.
P.I. Sta. 23+70.82
Δ = 35° 16′ 35″ (LT)
Dc = 36° 16′ 44″
R = 157.93′
T = 50.21′
L = 97.24′
E = 7.79′
C = 95.71′
C.B. = N 73° 28′ 12″ W

19 ℄ CONST. SOUTH ST.
P.I. Sta. 22+87.50
Δ = 55° 47′ 36″ (LT)
Dc = 76° 53′ 35″
R = 74.51′
T = 39.45′
L = 72.56′
E = 9.80′
C = 69.73′
C.B. = N 27° 56′ 07″ W

20 · 21 · 21 WL · 20 WL · 45 WDV · 45T · 46T · 47WL · A · B · C · D · E

City of Akron
Reception No.54494964
Parcel No. 6761372
Government
Spicer St.

City of Akron, Ohio
Vol. 705 Pg. 43
Parcel No. 6758096
Government
565 Johnston St.

City of Akron
Vol. 3630 Pg. 377
Parcel No. 6716823
Vacant

STEINBACHER ALLOTMENT
P.B. 5 Pg 39

TRACT 8, O.L. 5
TRACT 9, O.L. 5
TRACT 8, O.L. 4
TRACT 9, O.L. 5
N 88° 48′ 15″ E

Reception #55054328
Parcel No. 6709658
Right of Use Ordinance No. 11-1942

44 John G. Irace
Reception No. 55033895
Parcel No. 6845315
Residential
504 E. South St.

45 County of Summit
Reception No. 54727404
Parcel No. 6849171
Government
510 E. South St.

County of Summit
Reception No. 55128925
Parcel No. 6708887
Government
538 E. South St.

46 City of Akron
Reception No. 54494964
Parcel No. 6761371
Government
Spicer St.

EASEMENT OVERLAP TABLE

PARCEL	AREA OF OVERLAP	EXIST. EASEMENT
20 WL	0.2138 Acre	AERIAL EASEMENT
21 WL	0.4458 Acre	AERIAL EASEMENT
47 WL	0.0254 Acre	AERIAL EASEMENT

HORIZONTAL SCALE IN FEET: 0 · 10 · 20 · 40

PID NO. 86979

R/W DESIGNER TDM · R/W REVIEWER SLM

RIGHT OF WAY BOUNDARY SHEET
SOUTH ST. STA 25+00 TO END

SUM-76/77-11.27/12.12

18 / 18

652 / 652

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 7/16/2013

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PROJECT DESCRIPTION

SUM 76-11.27/77-12.12 SITE IS LOCATED AT THE I-77/I-76 INTERCHANGE IN AKRON, SUMMIT COUNTY, OHIO. THE PROJECT CONSISTS OF RELOCATING JOHNSTON STREET, AND CONVERTING EB-76, WB-76, SB-S.R. 8 (RAMP P), AND NB-77 (LANE O) MAINLINE AND RAMP BRIDGES TO ROADWAY EMBANKMENT. UP TO 15-FOOT HIGH WALL WILL BE CONSTRUCTED INTO THE EXISTING EMBANKMENT OF RAMP P AND LANE O, AT THE W. END. A 60-INCH DIAMETER STORM SEWER IS PLANNED ALONG THE W. SIDE OF SPICER ST. BETWEEN E. SOUTH STREET & NEWLY RELOCATED JOHNSTON STREET.

HISTORIC RECORDS

SEVENTEEN (17) HISTORIC BORINGS ALONG EXISTING BRIDGE PROFILES FROM THE ORIGINAL CONSTRUCTION PLANS, SUM-8-11.65 DATED 1959, WERE REVIEWED AND INCLUDED ON THESE SHEETS

GEOLOGY

IN GENERAL, THE GEOLOGY SETTING OF THE PROJECT AREA IS 7A, GLACIAL TILL OVER BEDDED SEDIMENTARY ROCK. THIS HYDROGEOLOGICAL SETTING IS ASSOCIATED WITH UPLAND AREAS AND GENERALLY FEATURES TOPOGRAPHY WHICH IS CONTROLLED BY BEDROCK. THE AQUIFER OF THIS SETTING CONSISTS OF THINLY INTERBEDDED SHALE, SANDSTONES, AND SILTSTONES OF THE POTTSVILLE AND ALLEGHENY GROUPS, CONGLOMERATES AND SANDSTONES OF THE SHARON AND MASSILLON FORMATIONS OF THE PENNSYLVANIAN SYSTEM, AS WELL AS INTERBEDDED SHALE, SILTSTONES AND SANDSTONES OF THE CUYAHOGA FORMATION, LOGAN FORMATION, BEREA SANDSTONE, AND BLACK HARD SANDSTONE ALL OF THE MISSISSIPPIAN SYSTEM. THE DEPTH TO WATER IN THIS AREA IS GREATLY VARIABLE AND CAN RANGE FROM 15 TO 30 FEET. (GROUND WATER POLLUTION POTENTIAL OF SUMMIT COUNTY, OHIO, ANGLE, M., RUSSEL, C., AND ZISS, B., ODNR DIVISION OF WATER, 2003)

THERE ARE TWO DIFFERENT SOIL TYPES IN THE AREA OF INTEREST: CANFIELD-URBAN LAND COMPLEX AND UDORTHENTS. THE CANFIELD-URBAN LAND COMPLEX IS A LOAMY TILL, WHICH HAS LOW FREQUENCY OF FLOODING OR PONDING. THE SECOND TYPE OF SOIL, UDORTHENTS, IS A LOAMY SOIL CONSISTING OF A FILL MATERIAL. THIS SOIL ALSO HAS A LOW FREQUENCY OF FLOODING OR PONDING.

RECONNAISSANCE

DURING THE MONTH OF NOVEMBER 2011, MATTHEW KAIROUZ PERFORMED MULTIPLE RECONNAISSANCE VISITS. THE MAJORITY OF THE SITE WILL BE CONSTRUCTED ONTO RELATIVELY LEVEL, DEVELOPED LAND WITH SURFACE COVER CONSISTING OF PAVED AREAS, GRAVEL BASE, GRASS, AND A FEW TALL BUSHES, AND ISOLATED TREES. THE SITE SLOPES GRADUALLY DOWNWARD TOWARD THE WEST WITH MAXIMUM ELEVATION DIFFERENCE OF ABOUT 20 FEET. EXISTING BRIDGE EMBANKEMNTS WERE OBSERVED TO BE STABLE, CHANELLED EROSION WAS NOTED AT THE S. SLOPE OF I-76 EB NEAR THE W. ABBUTMENT. THE RELOCATED JOHNSTON STREET WILL ENCOUNTER COMMERCIAL AND RESIDENTIAL UNITS, SOME OCCUPIED, OTHERS BOARDED AND ABANDONED. MOST EXISTING STRUCTURES TO BE DEMOLISHED HAVE BASEMENTS. JOHNSTON STREET WILL BE CONSTRUCTED ON PRIVATE PROPERTY. SURROUNDING LAND USE CONSISTS OF COMMERCIAL AND RESIDENTIAL DEVELOPED LAND.

SUBSURFACE EXPLORATION

THIRTY TWO (32) BORINGS, DESIGNATED AS B-001-0-11 THROUGH B-031-0-11, B-018-1-11 WERE DRILLED FOR THIS PROJECT DURING THE PERIOD OF 11/09/11 TO 4/17/13. THE TEST BORINGS WERE PERFORMED USING TRUCK AND ATV MOUNTED DRILL RIGS, UTILIZING HOLLOW STEM AUGERS (HSA). STANDARD PENETRATION TESTS WERE CONDUCTED USING A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE A 2-INCH O.D. SPLIT BARREL SAMPLER FOR 18 INCHES. MULTIPLE DRILL RIGS WERE USED TO DRILL THESE BORINGS. THE ENERGY TRANSFER RATIO ASSOCIATED WITH THESE AUTOMATIC HAMMERS RANGED FROM 80.0 TO 84.8 PERCENT, WITH CALIBRATION DATES OF OCTOBER 2011 AND MARCH 2013.

EXPLORATION FINDINGS

SURFACE MATERIALS CONSISTED MOSTLY OF GRAVEL OR ASPHALT PAVED AREAS WITH CONCRETE SIDEWALKS AND FEW TOPSOIL ISLANDS. TOPSOIL THICKNESS RANGED FROM ABOUT 3 TO 11 INCHES. GRAVEL/PAVEMENT THICKNESS RANGED FROM ABOUT 4 TO 36 INCHES. THE SUBSURFACE MATERIAL CONSISTED OF ABOUT 8.5 TO 28 FEET OF OVERBURDEN MATERIAL OVER SHALE. THE OVERBURDEN MATERIAL WAS VARIABLE; IT CONSISTED OF SANDY SILT (A-4a) WITH INTERMITTENT LAYERS AND POCKETS OF GRAVEL WITH SAND (A-2-4) OR SILT AND CLAY (A-6a). SEVERELY TO HIGHLY WEATHERED SHALE BEDROCK WAS ENCOUNTERED AT DEPTHS RANGING FROM ABOUT 8.5 TO 18 FEET ALONG THE EAST END OF THE PROJECT TO DEPTHS RANGING FROM ABOUT 19.5 TO 28.5 FEET ALONG THE WEST END OF THE PROJECT. UNCONTROLLED FILL WAS ENCOUNTERED AT THE WEST END OF PROPOSED JOHNSTON ST. GROUNDWATER WAS ENCOUNTERED IN A FEW BORINGS AT ELEVATIONS RANGING FROM 1040 TO 1025 FEET (11.5 TO 14 FEET BELOW EXISTING GRADES).

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN GENERAL ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING; SPECIFICATIONS FOR GEOTECHNICAL EXPLORATION DATED JULY 2011.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	A-1-a (0)	0	3
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b (0)	1	4
GRAVEL AND/OR STONE FRAGMENTS W/SAND AND SILT	A-2-4 (0)	2	19
GRAVEL AND/OR STONE FRAGMENTS W/SAND, SILT & CLAY	A-2-6 (0)	2	4
FINE SAND	A-3 (0)	0	13
COARSE AND FINE SAND	A-3a (0)	2	14
SANDY SILT	A-4a (2)	19	77
SILT	A-4b (0)	1	4
SILT AND CLAY	A-6a (4)	4	21
SILTY CLAY	A-6b (7)	0	3
	TOTAL	31	162
UNCONTROLLED FILL	VISUAL		
WEATHERED SHALE	VISUAL		
WEATHERED SANDSTONE	VISUAL		
LIMESTONE	VISUAL		

PAVEMENT OR BASE =4-36"= APPROXIMATE THICKNESS

SOD AND TOPSOIL =3-8"= APPROXIMATE THICKNESS

BORING LOCATION - PLAN VIEW

HISTORIC BORING LOCATION - PLAN VIEW - SUM 8-11.65, 1959

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC — INDICATES WATER CONTENT IN PERCENT.

W — INDICATES FREE WATER ELEVATION.

DELAYED WATER ELEVATION.

N — INDICATES STANDARD PENETRATION RESISTANCE

N_{60} — INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

● — INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.

⊖ — INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25% OR GREATER THAN 19% WITH A WET APPEARANCE.

✳ — INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.

SS — INDICATES A SPLIT SPOON SAMPLE, STANDARD PENETRATION TEST.

ST — INDICATES A SHELBY TUBE SAMPLE.

NP — INDICATES A NON-PLASTIC SAMPLE.

TR — INDICATES TOP OF ROCK.

HISTORIC BORING DESCRIPTIONS

UNCONTROLLED FILL

GRAVEL AND/OR STONE FRAGMENTS W/SAND, SILT & CLAY

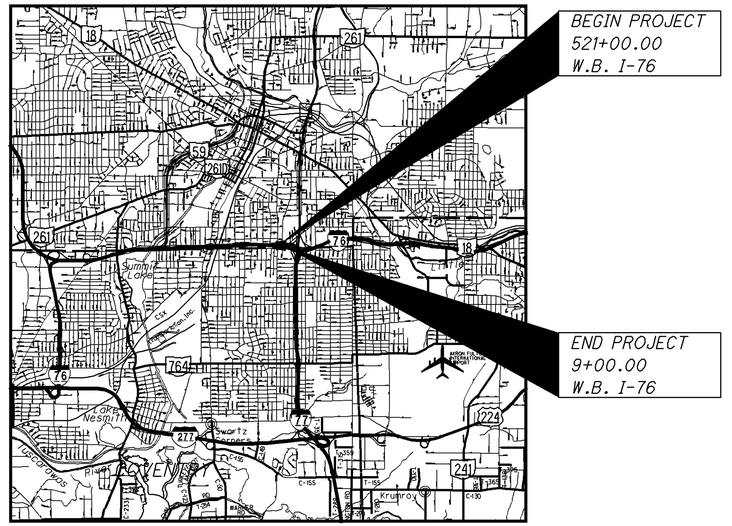
FINE SAND

COARSE AND FINE SAND

SHALE

SANDSTONE

N/A — SANDY CLAY



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
		NO. 10 SIEVE	NO. 40 SIEVE	NO. 200 SIEVE		

INDEX OF SHEETS

LOCATION FROM STA. TO STA.	PLAN VIEW SHEET	PROFILE SHEET	CROSS-SECTION SHEET	CUT MAX.	FILL EMB. MAX.
JOHNSTON STREET 0+00 10+00	26 & 27	26 & 27	-	10 FT	1.5 FT
WB I-76 521+00 9+04	28 & 29	28 & 29	32 TO 38	0 FT	34 FT
EB I-76 521+00 529+49	30	30	-	0 FT	32 FT

RECON. - HMK 11/2011

DRILLING - CTL & RIDGEWAY 11/9/11-3/7/13

DRAWN - B.R.U. 3/18/2013

REVIEWED - HMK 3/28/2013

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

CTL ENGINEERING, INC.
6777 ENGLE RD, BLDG. III, SUITE N
CLEVELAND, OHIO 44130
PHONE:(440)239-9526 FAX:(440)239-9529

PID NO. 86979

SOIL PROFILE

SUM-76/77-11.27/12.12

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SUMMARY OF SOIL TEST DATA - JOHNSTON STREET

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-022-0-11 STA. 1+70.3, 5.5 LT NORTHING = 510193.809 EASTING = 2241708.879	1.0'-2.5'	SS-1	5	56	Medium stiff to stiff, damp, brown SANDY SILT, trace cinders, gravel, roots, Moderately to Highly ORGANIC(FILL) SS-3: ORGANIC CONTENT = 9.8% ST-4: ORGANIC CONTENT = 13.0% SS-5: ORGANIC CONTENT = 8.4								29	A-4a (V)*
	2.5'-3.0'	SS-2	5	56	SAME AS SS-1								-	A-4a (V)*
	4.0'-5.5'	SS-3	4	44	SAME AS SS-1								21	A-4a (V)
	5.5'-7.0'	ST-4	5	78	SAME AS SS-1								18	A-4a (V)
	8.5'-10.0'	SS-5	9	67	SAME AS SS-1								17	A-4a (V)
	10.0'-12.0'	ST-6	3	79	Very loose to loose, wet, gray SANDY SILT, little clay								20	A-4a (V)
	12.0'-13.5'	SS-7	5	100	SAME AS ST-6								33	A-4a (V)
	16.0'-17.5'	SS-8	11	100	Stiff, moist, gray SILT, little sand								15	A-4b (V)
	18.5'-20.0'	SS-9	19	100	SAME AS SS-8								16	A-4b (V)
	21.0'-22.5'	SS-10	43	100	SHALE, dark gray, severely weathered, very weak								16	Rock (V)
	23.5'-24.0'	SS-11	-	67	COBBLE and BOULDERS								13	Rock (V)
	26.0'-27.0'	SS-12	-	100	SHALE with limestone fragments, dark gray, severely weathered, very weak								7	Rock (V)
	28.5'-29.0'	SS-13	-	100	SHALE, dark gray, moderately weathered, slightly strong								14	Rock (V)
B-023-0-11 STA. 1+89.7, 7.5 LT NORTHING = 510200.194 EASTING = 2241727.116	1.0'-2.5'	SS-1	0	33	Very loose to loose, damp, brown GRAVEL & STONE FRAGMENTS with sand and silt, trace clay, organic (FILL)								19	A-2-4 (V)*
	3.5'-5.0'	SS-2	5	56	38	10	23	19	10	27	21	6	20	A-2-4 (0)*
	6.5'-7.5'	SS-3	9	17	SAME AS SS-1								-	A-2-4 (V)
	8.5'-10.0'	SS-4	8	61	30	13	21	20	16	25	18	7	18	A-4a (0)
	11.0'-12.5'	SS-5	15	72	Very stiff, dry, grey SILT and CLAY, little gravel								14	A-6a (V)
	13.5'-15.0'	SS-6	13	100	Medium dense, damp, grey SILT, trace clay								18	A-4b (V)
	16.0'-17.5'	SS-7	67	100	SHALE, gray, severely weathered, very weak								6	Rock (V)
	18.5'-20.0'	SS-8	39	72	SHALE, little gravel, grey, severely weathered, very weak								9	Rock (V)
B-024-0-11 STA. 2+28.7, 12.7 LT NORTHING = 510215.258 EASTING = 2241764.027	1.0'-2.5'	SS-1	5	83	4	9	33	13	41	27	17	10	17	A-4a (4)*
	3.5'-5.0'	SS-2	11	67	Loose CINDER/Very stiff, moist, brown SANDY SILT, little clay (FILL)								22	(VISUAL) *
	6.0'-7.5'	SS-3	28	100	Medium dense, damp, grey to brown GRAVEL and STONE FRAGMENTS with SAND and SILT, trace clay (FILL)								-	A-2-4 (V)
	8.5'-10.0'	SS-4	11	78	Medium dense to loose, damp to wet, brown COARSE and FINE SAND, trace gravel, silt								-	A-3a (V)
	11.0'-12.5'	SS-5	8	100	SAME AS SS-4								-	A-3a (V)
	13.5'-15.0'	SS-6	9	89	SAME AS SS-4								16	A-3a (V)
	16.0'-17.5'	SS-7	28	72	Medium dense, dry, brown to grey SANDY SILT, little clay								13	A-4a (V)
	18.5'-20.0'	SS-8	31	67	SHALE, gray, severely weathered, very weak (clay like)								11	Rock (V)
	23.5'-25.0'	SS-9	43	67	SAME AS SS-8								12	Rock (V)

SUMMARY OF SOIL TEST DATA - JOHNSTON STREET

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-026-0-11 STA. 3+45.9, 11.1 LT NORTHING = 510231.642 EASTING = 2241881.510	1.0'-2.5'	SS-1	5	89	13	35	41	-	11	-	NP	NP	NP	-	A-3a (0)*
	3.5'-5.0'	SS-2	4	72	Loose to very loose, brown, damp COARSE and FINE SAND, trace silt								-	A-3a (V)*
	6.0'-7.5'	SS-3	4	72	SAME AS SS-2								-	A-3a (V)
	8.5'-10.0'	SS-4	3	83	SAME AS SS-2								-	A-3a (V)
B-027-0-11 STA. 4+17.8, 16.7 LT NORTHING = 510239.564 EASTING = 2241954.511	1.0'-2.5'	SS-1	13	78	Medium dense, damp, blue to white to brown GRAVEL & SLAG (FILL)								-	A-1-a (V)
	3.5'-5.0'	SS-2	7	67	9	7	25	39	20	28	15	13	16	A-6a (6)
	6.0'-7.5'	SS-3	3	11	Stiff to soft, brown-grey, damp SILT and CLAY, little sand, trace gravel (FILL)								17	A-6a (V)
	8.5'-10.0'	SS-4	9	67	Loose, brown, damp, SANDY SILT, some gravel, SANDSTONE fragments, trace clay								13	A-4a (V)*
	11.0'-12.5'	SS-5	16	100	Medium dense, dry, grey-brown SANDY SILT, little clay								14	A-4a (V)*
	13.5'-15.0'	SS-6	9	100	Stiff, moist, grey SILT & CLAY (shale like), strong petroleum odor								20	A-6a (V)
	16.0'-17.5'	SS-7	88	100	SHALE, gray, severely weathered, very weak								9	Rock (V)
	18.5'-20.0'	SS-8	-	100	SAME AS SS-7								7	Rock (V)
B-028-0-11 TA. 4+40.2, 10.4 RT NORTHING = 510211.719 EASTING = 2241976.171	1.0'-2.5'	SS-1	5	67	Loose CINDER (FILL)								12	(VISUAL)
	2.5'-4.0'	SS-2	4	22	Soft, damp, brown SILT and CLAY, some cinder (FILL)								17	A-6a (V)
	4.0'-5.5'	SS-3	7	56	Medium stiff, damp, SILT and CLAY, little gravel (Possible FILL)								18	A-6a (V)
	5.5'-7.0'	SS-4	5	72	Loose to very loose, damp, brown FINE SAND, trace gravel								16	A-3 (V)*
	8.5'-10.0'	SS-5	4	100	Loose to very loose, damp, brown FINE SAND, trace gravel								22	A-3 (V)*
	13.5'-15.0'	SS-6	41	100	SHALE, brown, severely weathered, very weak								-	Rock (V)
B-029-0-11 STA. 5+76.3, 18.3 LT NORTHING = 510233.653 EASTING = 2242113.400	1.0'-2.5'	SS-1	4	78	Very loose, moist, brown SANDY SILT, trace clay and gravel								14	A-4a (V)
	2.5'-4.0'	SS-2	15	89	Medium dense, moist, brown SANDY SILT, trace clay and gravel								15	A-4a (V)
	4.0'-5.5'	SS-3	17	100	Medium dense, moist, brown, COARSE & FINE SAND								-	A-3a (V)
	5.5'-7.0'	SS-4	16	89	SAME AS SS-3								-	A-3a (V)*
	8.0'-8.5'	SS-5	-	40	SANDSTONE, gray, severely weathered, very weak								7	Rock (V)*
	11.0'-11.5'	SS-6	-	50	SHALE, brown, severely to highly weathered, very weak								8	Rock (V)*
	13.5'-15.0'	SS-7	-	50	SAME AS SS-6								6	Rock (V)
B-030-0-11 STA. 7+35.1, 6.5 LT NORTHING = 510227.080 EASTING = 2242269.683	1.0'-2.5'	SS-1	13	100	25	17	3	21	34	33	25	8	15	A-4a (4)*
	2.5'-4.0'	SS-2	28	100	Medium dense, moist, gray SANDY SILT, some clay and rock fragments								12	A-4a (V)*
	4.0'-5.5'	SS-3	47	100	Dense to very dense, moist, gray SANDY SILT and rock fragments								12	A-4a (V)
	5.5'-7.0'	SS-4	69	100	SAME AS SS-3								12	A-4a (V)
	8.5'-9.5'	SS-5	-	100	SHALE, gray, severely weathered, very weak								-	Rock (V)

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
SUMMARY OF SOIL TEST DATA

SUM-76/77-11.27/12.12

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SUMMARY OF SOIL TEST DATA - JOHNSTON STREET

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-031-0-11 STA. 8+74.9, 12.3 LT NORTHING = 510273.513 EASTING = 2242398.647	1.0'-2.5'	SS-1	28	100	16	12	10	28	34	30	20	10	12	A-4a (5)*
	2.5'-4.0'	SS-2	48	89	Dense to very dense, damp gray SANDY SILT, trace clay, some rock fragments								13	A-4a (V)
	4.0'-5.5'	SS-3	64	100	SAME AS SS-2								14	A-4a (V)
	5.5'-7.0'	SS-4	71	100	SAME AS SS-2								-	A-4a (V)
	8.5'-10.0'	SS-5	21	78	Very stiff, gray, SILT & CLAY (shale like)								-	A-6a (V)

SUMMARY OF SOIL TEST DATA - W.B. I-76

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-002-0-11 STA. 523+63, 64.0 LT NORTHING = 510094.603 EASTING = 2241669.633	1.0'-2.5'	SS-1	13	78	Medium dense, damp, brown, SAND with GRAVEL, little Silt, drain tile (FILL)								9	A-3a (V)*
	3.5'-5.0'	SS-2	15	33	Medium dense, damp, grey SANDY SILT, little clay, shale, gravel (FILL)								17	A-4a (V)*
	6.0'-7.5'	SS-3	8	94	41	12	31	3	13	NP	NP	NP	13	A-1-b (0)
	8.5'-10.0'	SS-4	-	71	Very dense, dry, grey to white, SANDSTONE (FILL)								6	A-1-a (V)
	11.0'-12.5'	SS-5	11	22	Medium dense, dry, grey, SHALE, some sandstone fragments (FILL)								7	A-2-6 (V)
	13.5'-15.0'	SS-6	15	83	43	10	11	22	14	NP	NP	NP	14	A-4a (0)
	16.0'-17.5'	SS-7	12	39	23	9	21	33	14	28	17	11	16	A-6a (3)
	18.5'-20.0'	SS-8	24	83	Hard, dry, dark grey SILT and CLAY, some sand, gravel, little sandstone fragments (FILL)								12	A-6a (V)
	23.5'-25.0'	SS-9	16	17	Medium dense, dry, grey SHALE, little sandstone (FILL)								7	A-1-a (V)
	28.5'-30.0'	SS-10	19	56	Hard, dry, grey to brown SANDY SILT, some gravel, little clay, shale fragments								18	A-4a (V)
B-003-0-11 STA. 3+46, 87.0 RT NORTHING = 509935.610 EASTING = 2241769.712	1.0'-2.5'	SS-1	13	83	Stiff, damp, grey-brown SILT and CLAY, some gravel, sand, trace brick (FILL)								14	A-6a (V)*
	3.5'-5.0'	SS-2	7	56	Medium stiff, damp, brown SANDY SILT, little clay, gravel (FILL)								18	A-4a (V)*
	6.0'-7.5'	SS-3	7	28	Medium stiff, damp, grey-brown SANDY SILT, some gravel, little clay, trace organic (FILL)								17	A-4a (V)
	8.5'-10.0'	SS-4	4	61	32	10	18	23	17	25	16	9	18	A-4a (1)
	11.0'-12.5'	SS-5	20	78	Hard, dry, grey to brown SANDY SILT, little clay, gravel, sandstone fragments, shale fragments (FILL)								15	A-4a (V)
	13.5'-15.0'	SS-6	20	83	SAME AS SS-5								15	A-4a (V)
	16.0'-17.5'	SS-7	15	83	29	8	18	28	17	28	16	12	18	A-6a (3)
	18.5'-20.0'	SS-8	43	78	Dense, damp, grey, SHALE FRAGMENTS, little clay, silt, sand, trace slag (FILL)								12	A-2-6 (V)
	23.5'-25.0	SS-9	27	78	Hard, dry, grey SANDY SILT, some shale fragments, little sand, trace sandstone fragments, cinders (FILL)								15	A-4a (V)
	28.5'-30.0'	SS-10	13	56	21	10	32	25	12	23	15	8	17	A-4a (0)
B-004-0-11 STA. 4+46, 94.0 LT NORTHING = 510108.555 EEASTING = 2241882.840	1.0'-2.5'	SS-1	11	83	Medium dense to loose, moist-wet, brown SANDY SILT (FILL)								19	A-4a (V)
	2.5'-4.0'	SS-2	8	56	SAME AS SS-1								-	A-4a (V)
	4.0'-6.0'	ST-3		42	SAME AS SS-1								-	A-4a (V)
	6.0'-7.5'	SS-4	5	50	14	12	35	22	17	NP	NP	NP	21	A-4a (1)

SUMMARY OF SOIL TEST DATA - W.B. I-76

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-004-0-11 (CONTD.)	8.5'-10.0'	SS-5	3	56	Very loose, wet, brown, GRAVEL with sand, silt (organic smell)								22	A-2-4 (V)
	11.0'-12.5'	SS-6	1	50	SAME AS SS-5								25	A-2-4 (V)
	13.5'-15.0'	SS-7	12	56	Stiff, damp, brown and gray mottled, SANDY SILT, little organic (coal), trace gravel								15	A-2-4 (V)
	16.0'-17.0'	SS-8	-	83	SHALE, gray, severely weathered, very weak								-	Rock (V)
	18.5'-19.0'	SS-9	-	83	SAME AS SS-8								-	Rock (V)
B-005-0-11 STA. 4+49, 26.0 RT NORTHING = 509989.120 EASTING = 2241877.359	1.0'-2.5'	SS-1	12	56	Medium dense, damp, brown GRAVEL with sand and silt (FILL)								15	A-2-4 (V)
	3.5'-5.0'	SS-2	3	0	Very loose FINE SAND								-	(VISUAL)
	6.0'-7.5'	SS-3	0	0	SAME AS SS-2								-	(VISUAL)
	8.5'-10.0'	SS-4	1	22	Stiff, moist, brown SANDY SILT								20	A-4a (V)
	11.0'-11.5'	SS-5	-	83	SHALE, brown, severely weathered, very weak								-	Rock (V)
	13.5'-14.0'	SS-6	-	83	SHALE, gray, severely weathered, very weak								-	Rock (V)
	16.0'-17.5'	SS-7	82	83	SAME AS SS-6								-	Rock (V)
	18.5'-19.5'	SS-8	-	100	SAME AS SS-6								-	Rock (V)
B-007-0-11 STA. 4+88, 43.0 LT NORTHING = 510054.958 EASTING = 2241921.403	1.0'-2.5'	SS-1	13	78	Medium dense, black, moist SANDY SILT with gravel, red bricks (FILL)								-	A-4a (V)
	3.0'-5.0'	ST-2		92	SAME AS SS-1								15	A-4a (V)
	5.0'-6.5'	SS-3	12	72	Stiff, moist, light brown SANDY SILT, trace organic, gravel								15	A-4a (V)
	6.5'-8.0'	SS-4	15	67	SAME AS SS-3								15	A-4a (V)
	8.5'-10.0'	SS-5	16	83	SAME AS SS-3								16	A-4a (V)
	11.0'-12.5'	SS-6	44	94	SHALE, gray, highly to severely weathered, very weak								-	Rock (V)
	13.5'-15.0'	SS-7	-	82	SAME AS SS-6								-	Rock (V)
	16.0'-17.0'	SS-8	-	80	SAME AS SS-6								-	Rock (V)
	18.5'-19.0'	SS-9	-	83	SAME AS SS-6								-	Rock (V)
B-008-0-11 STA. 4+61, 148.0 LT NORTHING = 510218.002 EASTING = 2242147.400	1.0'-2.5'	SS-1	13	67	14" Black sand, cinders, rocks, slightly organic (FILL)								11	A-4a (V)
	3.5'-5.0'	SS-2	5	83	Very stiff, black SANDY SILT, little clay, stone fragments, moist (FILL)								16	A-4a (V)
	6.0'-7.5'	SS-3	5	72	Medium stiff, brown to black, SILT and CLAY, some rock fragments, sand, little cinders, moist (FILL) @8.5' Slag								21	A-6a (V)
	8.5'-10.0'	SS-4	13	94	SAME AS SS-3								20	A-6a (V)
	11.0'-12.5'	SS-5	96	89	SHALE, gray, highly weathered, very weak								8	Rock (V)
	13.5'-15.0'	SS-6	-	88	SAME AS SS-5								9	Rock (V)
	16.0'-17.0'	SS-7	-	91	SAME AS SS-5								7	Rock (V)
	18.5'-19.5'	SS-8	-	78	SAME AS SS-5								5	Rock (V)

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SOIL PROFILE
SUMMARY OF SOIL TEST DATA

SUM-76/77-11.27/12.12

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SUMMARY OF SOIL TEST DATA - W.B. I-76

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-010-0-11 STA. 5+45, 108.0 LT NORTHING = 510115.849 EASTING = 2241983.440	1.0'-2.5'	SS-1	9	67	Loose, black GRAVEL, CINDERS & SAND (FILL)								21	A-1-b (V)
	3.5'-5.0'	SS-2	5	39	Very stiff to medium stiff, damp, brown SANDY SILT, trace gravel, roots, organic								16	A-4a (V)
	6.0'-7.5'	SS-3	5	33	15	6	21	31	27	26	16	10	16	A-4a (5)
	8.5'-10.0'	SS-4	4	28	SAME AS SS-3								17	A-4a (V)
	11.5'-12.5'	SS-5	3	22	SAME AS SS-3								14	A-4a (V)
	13.5'-15.0'	SS-6	3	11	Very loose, wet, brown GRAVEL with sand and silt								46	A-2-4 (V)
	16.0'-17.5'	SS-7	1	72	0	43	57	-	41	-	22	16	6	14	A-4a (1)
	18.5'-20.0'	SS-8	16	0	Loose to medium dense, moist, olive and brown SANDY SILT, little clay								-	(VISUAL)
	21.0'-22.0'	SS-9	-	91	SHALE, gray, severely weathered, very weak								-	Rock (V)
B-011-0-11 STA. 5+55, 25.0 RT NORTHING = 509982.472 EASTING = 2241982.955	1.0'-2.5'	SS-1	67	17	PAVER, RED BRICK								8	A-1-b (V)
	3.5'-5.0'	SS-2	1	56	Very loose, moist, brown FINE SAND, trace to little gravel, (Possible FILL)								17	A-3 (V)
	6.0.'-7.5'	SS-3	17	78	Medium dense, damp, brown FINE SAND, little gravel, (Possible FILL)								14	A-3 (V)
	8.5'-10.0'	SS-4	19	67	SAME AS SS-3								13	A-3 (V)
	10.0'-12.0'	ST-5		100	SAME AS SS-3								-	A-3 (V)
	12.0'-13.5'	SS-6	98	89	SHALE, brown, severely weathered, very weak								-	Rock (V)
	13.5'-14.0'	SS-7	-	83	SAME AS SS-6								-	Rock (V)
	16.0'-16.5'	SS-8	-	83	SHALE, gray, severely weathered, very weak								-	Rock (V)
	18.5'-20.0'	SS-9	90	94	SAME AS SS-8								-	Rock (V)
B-012-0-11 STA. 5+61, 47.0 LT NORTHING = 510053.973 EASTING = 2241994.291	1.0'-2.5'	SS-1	44	67	Hard to stiff, damp, brown SANDY SILT, little gravel, (FILL)								15	A-4a (V)
	3.5'-5.0'	SS-2	12	0	SAME AS SS-1								-	(VISUAL)
	6.0'-8.0'	ST-3		0	SAME AS SS-1								-	(VISUAL)
	8.0'-9.5'	SS-4	7	33	Medium stiff, damp, brown and gray SILTY CLAY, little gravel and organic, (POSSIBLE FILL)								17	A-6b (V)
	10.0'-12.0'	ST-5		38	SAME AS SS-4								17	A-6b (V)
	12.0'-13.5'	SS-6	5	50	SAME AS SS-4								16	A-6b (V)
	13.5'-15.0'	SS-7	3	67	Medium stiff, damp, dark brown SANDY SILT, trace gravel, organic								20	A-4a (V)
	16.0'-17.5'	SS-8	12	89	Medium dense, damp, brown COARSE and FINE SAND								-	A-3a (V)
	18.5'-20.0'	SS-9	42	89	SHALE, gray, severely weathered, very weak								-	Rock (V)
B-013-0-11 STA. 6+50, 47.0 LT NORTHING = 510046.930 EASTING = 2242082.903	1.0'-2.5'	SS-1	4	56	Stiff, damp, brown SANDY SILT, little organic, trace gravel (FILL)								20	A-2-4 (V)
	3.5'-5.0'	SS-2	26	56	Medium dense, brown, GRAVEL with sand (FILL)								-	A-1-b (V)
	6.0'-7.5'	SS-3	7	56	Medium stiff, damp, brown SANDY SILT, trace gravel (POSSIBLE FILL)								16	A-4a (V)
	8.5'-10.0'	SS-4	4	67	Soft, moist, brown SILT and CLAY, trace gravel								20	A-6a (V)
	11.0'-12.5'	SS-5	56	78	SHALE, brown, severely weathered, very weak								-	Rock (V)
	13.5'-15.0'	SS-6	34	0	SAME AS SS-5								-	(VISUAL)

SUMMARY OF SOIL TEST DATA - W.B. I-76

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-013-0-11 (CONTD.)	16.0'-17.5'	SS-7	47	11	SHALE, gray, severely weathered, very weak								-	Rock (V)
	18.5'-20.0'	SS-8	110	78	SAME AS SS-7								-	Rock (V)
B-014-0-11 STA. 6+58, 123.0 LT NORTHING = 510122.243 EASTING = 2242096.544	1.0'-2.5'	SS-1	17	33	Stiff, damp, brown, SANDY SILT, some gravel, Trace organic (FILL)								15	A-4a (V)
	3.5'-5.0'	SS-2	8	28	SAME AS SS-1								11	A-4a (V)
	6.0'-7.5'	SS-3	5	56	Medium stiff to soft, moist, dark brown and olive SANDY SILT, little sandstone fragments, organic								17	A-4a (V)
	8.0'-10.0'	ST-4		38	SAME AS SS-3								-	A-4a (V)
	11.0'-12.5'	SS-5	4	0	SAME AS SS-3								-	(VISUAL)
	13.5'-15.0'	SS-6	3	67	16	7	20	37	20	23	16	7	19	A-4a (4)
	16.0'-17.5'	SS-7	4	89	Soft to medium stiff, moist-wet, brown SANDY SILT, trace gravel								28	A-4a (V)
	18.5'-20.0'	SS-8	60	56	Stiff, damp, brown and gray mottled SANDY SILT, trace gravel								17	A-4a (V)
B-015-0-11 STA. 6+80, 24.0 RT NORTHING = 509974.140 EASTING = 2242107.782	1.0'-2.5'	SS-1	77	56	Very dense to medium dense, damp, brown GRAVEL with silt, sand, slag, (gas odor, FILL)								14	A-2-4 (V)
	3.5'-5.0'	SS-2	21	22	SAME AS SS-1								-	A-2-4 (V)
	6.0'-7.5'	SS-3	24	-	Hard, brown, SILT & CLAY (SHALE LIKE)								-	A-6a (V)
	8.5'-10.0'	SS-4	44	100	SAME AS SS-3								-	A-6a (V)
	13.5'-14.0'	SS-5	-	80	SHALE, gray, severely weathered, very weak								-	Rock (V)
B-016-0-11 STA. 7+61, 142.0 LT NORTHING = 510132.691 EASTING = 2242201.675	1.0'-2.5'	SS-1	27	67	Very stiff, damp, brown, SANDY SILT, some gravel, brick (FILL)								11	A-4a (V)
	3.5'-5.0'	SS-2	16	11	SAME AS SS-1								-	A-4a (V)
	6.0'-7.5'	SS-3	4	22	Soft to medium stiff, moist to wet, brown SILT & CLAY, little gravel, sand, trace organic (organic odor, possible FILL)								20	A-6a (V)
	8.5'-10.0'	SS-4	4	0	SAME AS SS-3								-	(VISUAL)
	11.0'-12.5'	SS-5	5	33	SAME AS SS-3								18	A-6a (V)
	13.5'-15.0'	SS-6	3	83	SAME AS SS-3								29	A-6a (V)
	16.0'-17.5'	SS-7	19	83	Stiff, damp, brown SANDY SILT, little gravel								15	A-4a (V)
	18.5'-20.0'	SS-8	45	72	SHALE, gray, severely weathered, very weak								-	Rock (V)
B-017-0-11 STA. 7+79, 68.0 LT NORTHING = 510058.214 EASTING = 2242213.723	1.0'-2.5'	SS-1	7	44	Very stiff to stiff, damp, brown SANDY SILT, trace clay, gravel (POSSIBLE FILL)								18	A-4a (V)
	3.5'-5.0'	SS-2	9	67	12	8	33	29	18	21	15	6	11	A-4a (2)
	6.0'-7.5'	SS-3	16	89	SAME AS SS-2								16	A-4a (V)
	8.5'-10.0'	SS-4	15	100	3	9	7	44	37	31	20	11	-	A-6a (8)
	13.5'-14.0'	SS-5	-	75	SHALE, brown, severely weathered, very weak								-	Rock (V)

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SOIL PROFILE
SUMMARY OF SOIL TEST DATA

SUM-76/77-11.27/12.12

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SUMMARY OF SOIL TEST DATA - W.B. I-76

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-018-0-11 STA. 8+99, 164.0 LT NORTHING = 510142.779 EASTING = 2242343.153	1.0'-2.5'	SS-1	24	78	Hard to very stiff, damp, brown, SANDY SILT, little gravel (possible FILL)								11	A-4a (V)
	3.5'-5.0'	SS-2	23	100	SAME AS SS-1								11	A-4a (V)
	6.0'-7.5'	SS-3	8	89	Medium stiff, moist, light brown, SANDY SILT, trace gravel, organic (organic/coal lens)								15	A-4a (V)
	8.5'-10.0'	SS-4	7	100	6	5	25	40	24	26	20	6	19	A-4a (6)
	13.5'-15.0'	SS-5	13	100	SAME AS SS-4								24	A-4a (V)
	18.5'-20.0'	SS-6	71	100	Hard, damp, brown SANDY SILT, trace gravel								13	A-4a (V)

SUMMARY OF SOIL TEST DATA - E.B. I-76

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-001-0-11 STA. 523+55, 142.0 RT NORTHING = 509889.335 EASTING = 2241646.465	1.0'-2.5'	SS-1	12	83	Stiff, damp, brown SANDY SILT, trace clay, gravel (FILL)								15	A-4a (V)
	3.5'-5.0'	SS-2	12	89	Very stiff, damp, brown SILT and CLAY, some sand, little shale, gravel								17	A-6a (V)
	6.0'-7.5'	SS-3	13	83	15	5	38	29	13	17	14	3	15	A-4a (1)
	8.5'-10.0'	SS-4	12	67	8	17	51	14	10	NP	NP	NP	10	A-3a (V)
	11.0'-12.5'	SS-5	12	56	Medium dense, damp, brown COARSE and FINE SAND, little silt, clay, trace gravel								9	A-3a (V)
	13.5'-15.0'	SS-6	12	78	1	3	30	58	8	21	19	2	22	A-4b (6)
	16.0'-17.5'	SS-7	15	78	Medium dense, moist, light brown to brown SAND, little silt								23	A-3 (V)
	18.5'-20.0'	SS-8	-	75	SANDSTONE, little clay,silt, gray, severely weathered, very weak								11	Rock (V)
	23.5'-25.0'	SS-9	-	100	SHALE, gray, severely weathered, very weak								7	Rock (V)
B-006-0-11 STA. 4+52, 135.0 RT NORTHING = 509879.737 EASTING = 2241872.611	1.0'-2.5'	SS-1	11	56	Medium dense to loose, damp, brown, FINE SAND, little cinders, trace roots, (FILL)								19	A-3 (V)
	3.5'-5.0'	SS-2	8	78	SAME AS SS-1								17	A-3 (V)
	6.0'-7.5'	SS-3	11	67	Stiff to very stiff, damp, brown SILT and CLAY, little gravel, trace organic, slag (FILL)								20	A-6a (V)
	8.5'-10.0'	SS-4	24	6	SAME AS SS-3								-	A-6a (V)
	11.0'-12.5'	SS-5	12	39	Very stiff, damp, brown SANDY SILT, little clay, gravel, (FILL)								13	A-4a (V)
	13.5'-15.0'	SS-6	7	83	13	10	21	38	18	22	NP	NP	16	A-4a (4)
	16.0'-16.5'	SS-7	-	100	SHALE, gray, severely weathered, very weak								-	Rock (V)
	18.5'-19.0'	SS-8	-	50	SAME AS SS-7								-	Rock (V)
B-009-0-11 STA. 5+36, 153.0 RT NORTHING = 509855.805 EASTING = 2241955.214	1.0'-2.5'	SS-1	20	61	Very stiff, moist, mottled brown with gray SANDY SILT, trace gravel								14	A-4a (V)
	3.5'-5.0'	SS-2	4	78	2	2	15	42	39	24	18	6	25	A-4a (8)
	6.0'-7.5'	SS-3	32	83	Dense to medium dense, moist, brown SANDY SILT, trace gravel								14	A-4a (V)
	8.5'-10.0'	SS-4	20	83	SAME AS SS-3								14	A-4a (V)
	11.0'-12.5'	SS-5	11	83	Medium dense, moist, brown, coarse FINE SAND								-	A-3a (V)
	13.5'-15.0'	SS-6	12	78	Medium dense, moist, brown SANDY SILT, little clay								17	A-4a (V)
	16.0'-16.5'	SS-7	-	83	SHALE, gray, severely weathered, very weak								-	Rock (V)
	18.5'-19.0'	SS-8	-	80	SAME AS SS-7								-	Rock (V)

SUMMARY OF SOIL TEST DATA - HISTORIC BORINGS

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-026-59 STA. 4+40, 33.0 LT	1.0'-2.5'	SS-1	10	-	concrete, cinders, brick, clay, topsoil (etc.) fill, moist, loose.								-	
	5.0'-6.5'	SS-2	3	-	SAME AS SS-1								-	
	12.0'-13.5'	SS-3	6	-	Brown, sandy clay, fine gravel and weathered shale, moist, medium stiff.								-	
B-027-59 STA. 5+10, 70.0 LT	6.0'-7.5'	SS-1	3	-	Topsoil, cinders, brown sandy clay, gravel and broken stone,fill, moist - soft to medium stiff.								-	
	10.0'-11.5'	SS-2	5	-	SAME AS SS-1								-	
	15.0'-16.5'	SS-3	64	-	Brown and gray sandy clay and weathered shale, moist to dry - stiff to hard.								-	
B-028-59 STA. 5+70, 78.0 LT					Brown and gray sandy clay, sand, gravel and cinders fill, moist to wet - soft to medium stiff Black, weathered shale, moist to dry - hard.									
B-029-59 STA. 6+65, 90.0 LT					Topsoil, brown sandy clay, brick, gravel, broken stone and sand fill, moist to wet - soft to medium stiff. Gray weathered shale, moist to dry - hard. Black shale, dry - hard.									
B-030-59 STA. 7+35, 107.0 LT	0.0'-1.5'	SS-1	5	-	Topsoil, brown sand, clay and broken stone fill, moist to wet - medium stiff to soft.								-	
	5.0'-6.5'	SS-2	7	-	SAME AS SS-1								-	
	10.0'-11.5'	SS-3	6	-	SAME AS SS-1								-	
	15.0'-16.5'	SS-4	4	-	SAME AS SS-1								-	
	18.0'-19.5'	SS-5	72	-	Black, weathered shale, dry - hard.								-	
	20.0'-21.5'	SS-6	116	-	SAME AS SS-5								-	
B-031-59 STA. 8+35, 121.0 LT	0.0'-1.5'	SS-1	6	-	Topsoil, brown sandy clay, cinders, gravel and broken stone fill, moist to wet - soft.								-	
	3.5'-5.0'	SS-2	2	-	SAME AS SS-1								-	
	10.0'-11.5'	SS-3	4	-	SAME AS SS-1								-	
	16.0'-17.5'	SS-4	21	-	Brown and gray sandy clay, weathered shale, moist - stiff.								-	
	18.5'-20.0'	SS-5	106	-	Gray weathered shale, dry - hard.								-	
B-032-59 STA. 9+21, 136.0 LT	1.0'-2.5'	SS-1	8	-	Brown and gray sandy clay, cinders and gravel fill, moist - soft.								-	
	5.0'-6.5'	SS-2	3	-	SAME AS SS-1								-	
	11.0'-12.5'	SS-3	4	-	SAME AS SS-1								-	
	17.5'-18.5'	SS-4	22	-	Brown and gray sandy clay, weathered shale and sandstone fragments - stiff.								-	
B-033-59 STA. 5+10, 5.0 LT	1.0'-2.5'	SS-1	5	-	Cinders, topsoil and clay fill, moist - loose.								-	
	6.0'-7.5'	SS-2	11	-	Brown, clayey sand, some find gravel, moist to wet - medium dense.								-	
	12.0'-13.5'	SS-3	28	-	Brown and gray weathered, sandy shale, dry - hard.								-	
	13.5'-14.5'	SS-4	56	-	SAME AS SS-3								-	

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
SUMMARY OF SOIL TEST DATA

SUM-76/77-11.27/12.12

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SUMMARY OF SOIL TEST DATA - HISTORIC BORINGS

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-034-59 STA. 5+70, 12.0 LT	1.0'-2.5'	SS-1	7	-	Topsoil, brown, sandy clay, gravel, cinders and broken stone fill, moist - soft to medium dense - stiff.								-	
	5.0'-6.5'	SS-2	11	-	SAME AS SS-1								-	
	10.0'-11.5'	SS-3	22	-	Brown, silty fine sand with sandstone fragments, moist to dry - dense to very dense.								-	
	15.0'-16.5'	SS-4	125	-	SAME AS SS-3								-	
	18.5'-19.5'	SS-5	176	-	Gray, weathered shale, dry - hard.								-	
B-035-59 STA. 6+30, 14.0 LT	1.0'-2.5'	SS-1	4	-	Topsoil, brown sandy clay, brick and gravel fill, moist - medium stiff.								-	
	6.5'-7.5'	SS-2	9	-	SAME AS SS-1								-	
	10.0'-11.5'	SS-3	20	-	Brown, sandy clay and broken stone, moist - stiff.								-	
	15.0'-16.5'	SS-4	125	-	Brown and gray, sandy clay and weathered shale, dry - hard.								-	
B-036-59 STA. 7+20, 10.0 LT	0.0'-1.5'	SS-1	15	-	Black top and concrete, cinders and clay fill, moist - medium dense.								-	
	4.0'-5.5'	SS-2	8	-	Brown, sandy clay and broken sandstone, moist - medium stiff.								-	
	8.5'-10.0'	SS-3	50	-	Brown and gray weathered shale, moist to dry - hard.								-	
	11.0'-12.5'	SS-4	100	-	SAME AS SS-3								-	
B-037-59 STA. 4+50, 71.0 RT	0.0'-1.5'	SS-1	17	-	Crushed stone, cinders, clay, topsoil fill, moist to wet - medium dense to loose.								-	
	6.0'-7.5'	SS-2	5	-	SAME AS SS-1								-	
	11.0'-12.5'	SS-3	14	-	Brown, clayey, sand with sandstone fragments, moist - medium dense.								-	
	15.0'-16.5'	SS-4		-	Brown, sandy, clay and weathered, sandy shale, moist to dry - hard.								-	
B-038-59 STA. 5+15, 78.0 RT	1.0'-2.5'	SS-1	5	-	Cinders, topsoil and clay (etc.) fill, moist - loose.								-	
	5.0'-6.5'	SS-2	4	-	Brown, sandy clay, moist - medium stiff.								-	
	11.0'-12.5'	SS-3	7	-	Brown, clayey sand with sandstone fragments, moist to wet - loose.								-	
B-039-59 STA. 6+15, 92.5 RT	1.0'-2.5'	SS-1	16	-	Brown, sandy clay with sand seams, moist - medium stiff.								-	
	5.0'-6.5'	SS-2	8	-	SAME AS SS-1								-	
	11.0'-12.5'	SS-3	45	-	Brown and gray, weathered shale, moist to dry - hard.								-	
B-041-59 STA. 523+42, 47.0 LT	0.0'-1.5'	SS-1	4	-	Brown, sandy clay, topsoil, fill, moist - soft.								-	
	3.5'-5.0'	SS-2	16	-	Brown, sandy clay with fine gravel, moist - medium stiff.								-	
	8.0'-9.5'	SS-3	7	-	Brown, fine to medium sand, some clay, moist to wet - loose to medium dense.								-	
	15.0'-16.5'	SS-4	13	-	SAME AS SS-3								-	
	22.0'-23.5'	SS-5	9	-	SAME AS SS-3								-	
	33.0'-34.5'	SS-6	46	-	Gray, weathered shale, dry - hard.								-	

SUMMARY OF SOIL TEST DATA - HISTORIC BORINGS

EXPLORATION NO., STATION & OFFSET	FROM-TO	SAMPLE ID	N_{60}	REC (%)	% GR	% CS	% FS	% SI	% CL	LL	PL	PI	% WC	ODOT CLASS (GI)
B-043-59 STA. 522+80, 33.0 RT	1.0'-2.5'	SS-1	9	-	Brown, sandy clay, cinders and gravel fill, moist - medium stiff.								-	
	5.0'-6.5'	SS-2	30	-	Brown and gray, sandy clay with fine gravel, moist - hard.								-	
	11.0'-12.5'	SS-3	6	-	Brown, fine and medium sand, some fine gravel, moist to wet - loose and medium dense.								-	
	15.0'-16.5'	SS-4	13	-	SAME AS SS-3								-	
	21.5'-23.0'	SS-5	10	-	SAME AS SS-3								-	
	31.0'-33.5'	SS-6	153	-	Gray, sandy clay, weathered shale and sandstone fragments, moist - hard.								-	
B-044-59 STA. 523+30, 45.0 RT	0.0'-1.5'	SS-1	12	-	Brown, sandy clay, cinders, bricks and gravel fill, moist - medium stiff.								-	
	5.0'-6.5'	SS-2	6	-	SAME AS SS-1								-	
	10.0'-11.5'	SS-3	13	-	Brown, fine and medium sand, some clay and fine gravel, moist to wet - medium dense.								-	
	15.0'-16.5'	SS-4	13	-	SAME AS SS-3								-	
	20.0'-21.5'	SS-5	12	-	SAME AS SS-3								-	
	25.0'-26.0'	SS-6	9	-	SAME AS SS-3								-	
	30.0'-30.5'	SS-7		-	Black, weathered shale, dry - hard.								-	

CALCULATED B.R.U. CHECKED MK

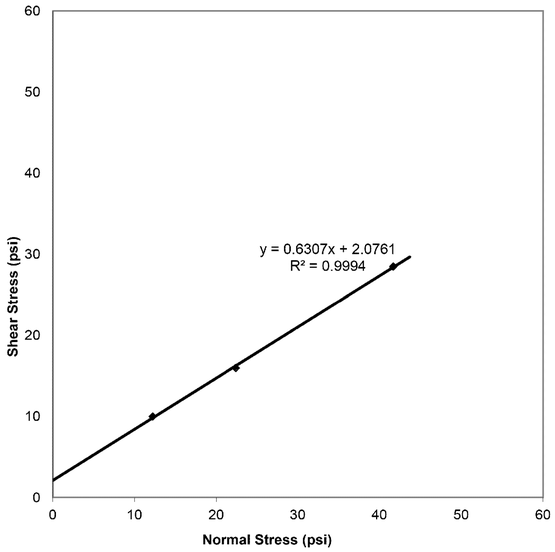
SOIL PROFILE

SUMMARY OF SOIL TEST DATA

SUM-76/77-11.27/12.12

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DIRECT SHEAR TEST
AASHTO T 236



Client: GPD Group, Inc.
Project: SUM- 76/77 - 11.37/12.12
Project Number: 11050034CLE
Lab Code: 11050799COL
Sample ID: B-007-0-11: 3-5'

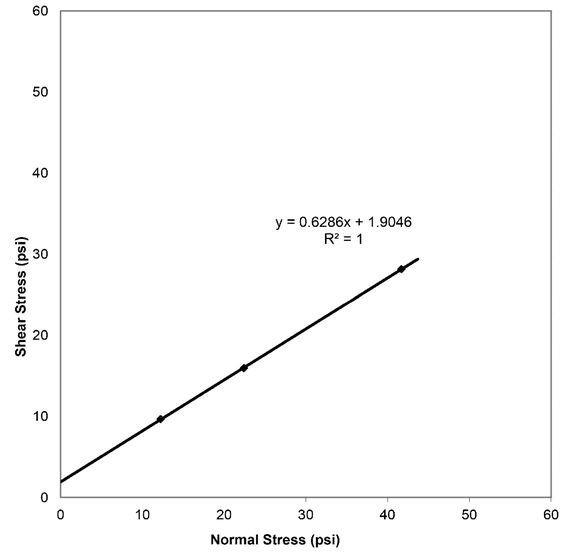
Angle of Friction = 32.2 Degrees
Cohesion = 2.1 psi

Dry Density = 115.2 pcf
Initial Moisture Content = 15.6 %
Final Moisture Content = 16.2 %

Reviewed by: DM/HMK

MATERIAL: Black SANDY SILT (A-4a)

DIRECT SHEAR TEST
AASHTO T 236



Client: GPD Group, Inc.
Project: SUM- 76/77 - 11.37/12.12
Project Number: 11050034CLE
Lab Code: 11050799COL
Sample ID: B-011-0-11: 10-12.0'

Angle of Friction = 32.2 Degrees
Cohesion = 1.9 psi

Dry Density = 104.8 pcf
Initial Moisture Content = 20.9 %
Final Moisture Content = 21.6 %

Reviewed by: DM/HMK

MATERIAL: Brown FINE SAND (A-3)

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

7
42

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One Dimensional Consolidation and Swell Properties of Soil - ASTM D 2435

CTL ENGINEERING, INC.

2860 Fisher Road

Columbus, OH 43204

Project No.: 11050034CLE
Project: SUM- 76/77 - 11.37/12.12
Boring No.: B-012-0-11
Sample No.: ST-5
Test No.:

Client: GPD Group
Tested By: DM
Test Date: 12/5/2011
Sample Type: Shelby Tube

Location: 5+61, 47.4' Lt
Checked By: HMK
Depth: 10-12.0
Elevation: 1041.3 feet

Soil Description: Brown Silty Clay
Remarks:

Step No.	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft^2/sec	Mv 1/tsf	k ft/day
1	0.125	0.006107	0.376	0.61	4.1	5.96E-06	4.89E-02	7.85E-04
2	0.25	0.01059	0.37	1.06	4	6.01E-06	3.58E-02	5.81E-04
3	0.5	0.01629	0.362	1.63	3.7	6.52E-06	2.28E-02	4.01E-04
4	1	0.02396	0.351	2.4	2.4	9.77E-06	1.53E-02	4.04E-04
5	2	0.03269	0.339	3.27	0.9	2.55E-05	8.73E-03	5.99E-04
6	4	0.04516	0.322	4.52	0.9	2.55E-05	6.24E-03	4.30E-04
7	8	0.05964	0.302	5.96	0.3	7.39E-05	3.62E-03	7.22E-04
8	16	0.07915	0.275	7.91	0.3	7.02E-05	2.44E-03	4.62E-04
9	4	0.06912	0.289	6.91	0.1	2.77E-04	8.36E-04	6.23E-04
10	1	0.06272	0.298	6.27	0.3	6.87E-05	2.13E-03	3.95E-04
11	0.25	0.05511	0.308	5.51	4	5.47E-06	1.01E-02	1.50E-04

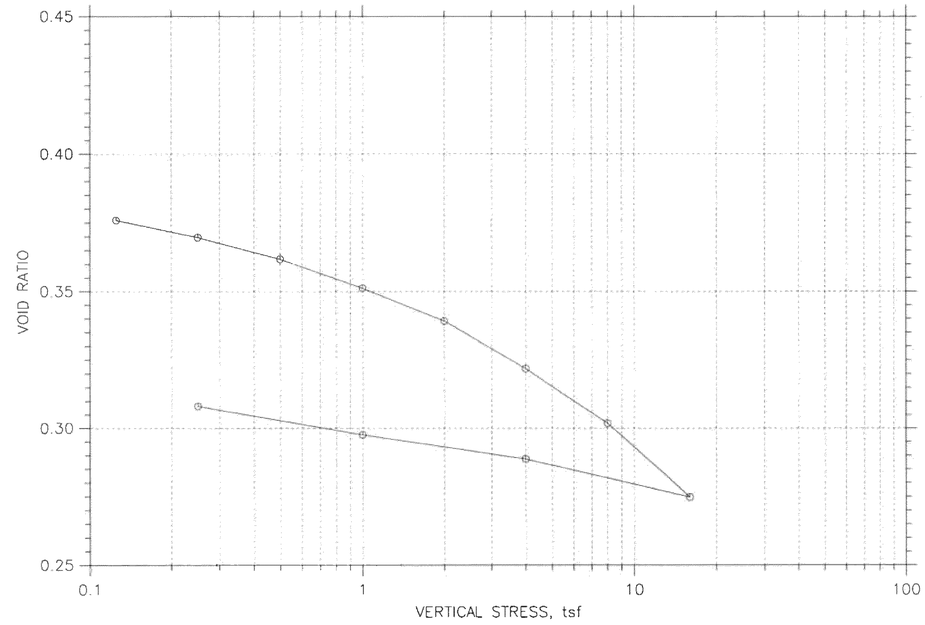
Step No.	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log. T50 min	Cv ft^2/sec	Mv 1/tsf	k ft/day	Ca %
1	0.125	0.006107	0.376	0.61	0.2	2.35E-05	4.89E-02	3.10E-03	0.00E+00
2	0.25	0.01059	0.37	1.06	0.4	1.49E-05	3.58E-02	1.44E-03	0.00E+00
3	0.5	0.01629	0.362	1.63	0	0.00E+00	2.28E-02	0.00E+00	0.00E+00
4	1	0.02396	0.351	2.4	0.2	3.63E-05	1.53E-02	1.50E-03	0.00E+00
5	2	0.03269	0.339	3.27	0.1	5.40E-05	8.73E-03	1.27E-03	0.00E+00
6	4	0.04516	0.322	4.52	0.1	6.65E-05	6.24E-03	1.12E-03	0.00E+00
7	8	0.05964	0.302	5.96	0	1.14E-04	3.62E-03	1.11E-03	0.00E+00
8	16	0.07915	0.275	7.91	0	1.20E-04	2.44E-03	7.92E-04	0.00E+00
9	4	0.06912	0.289	6.91	0	1.81E-04	8.36E-04	4.08E-04	0.00E+00
10	1	0.06272	0.298	6.27	0	1.04E-04	2.13E-03	6.00E-04	0.00E+00
11	0.25	0.05511	0.308	5.51	0.4	1.38E-05	1.01E-02	3.78E-04	0.00E+00

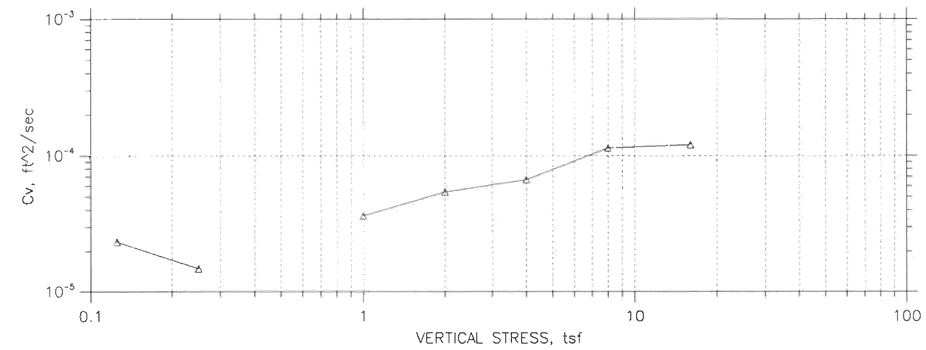
CONSOLIDATION PARAMETERS	
Preconsolidation Pressure (tsf): 3.0	Initial Void Ratio: 0.42
Compression Index (C_c): 0.09	Compression Ratio : 0.06
Recompression Index (C_r): 0.03	Recompression Ratio: 0.02

GTL ENGINEERING INC

CONSOLIDATION TEST DATA

SUMMARY REPORT





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

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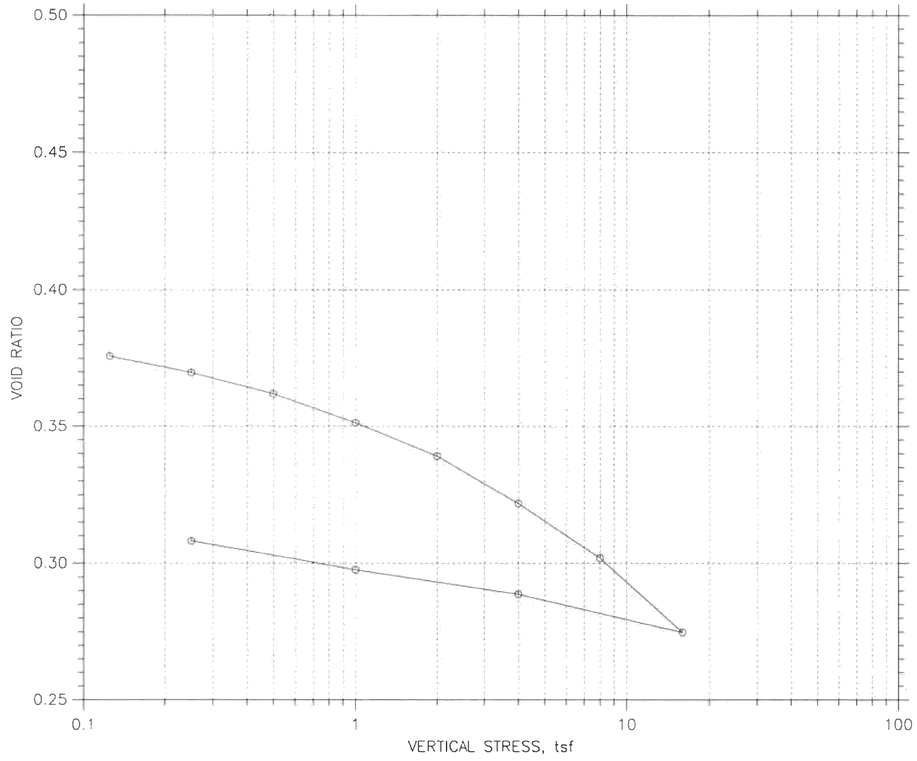
CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE & LABORATORY TEST DATA

SUM-76/77-11.27/12.12

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CONSOLIDATION TEST DATA
SUMMARY REPORT

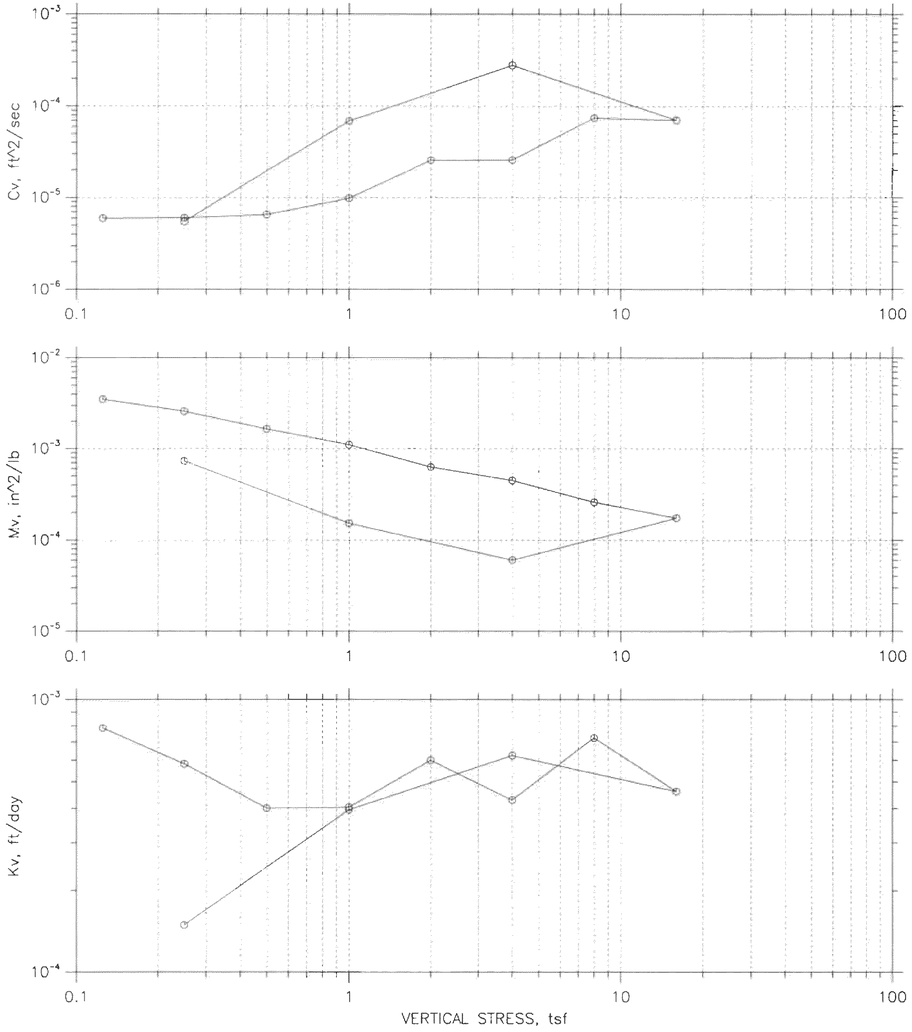


				Before Test	After Test
Overburden Pressure, tsf:				Water Content, %	14.36	13.25
Preconsolidation Pressure, tsf:				Dry Unit Weight, pcf	119.5	124.24
Compression Index:				Saturation, %	99.04	105.88
Diameter: 2.5 in		Height: 1 in		Void Ratio	0.38	0.33
LL: ---	PL: ---	PI: ---	GS: 2.65	Back Pressure, tsf	0	0

Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

Fri, 08-MAR-2013 16:01:53

CONSOLIDATION TEST DATA
ROOT of TIME COEFFICIENTS



Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

Fri, 08-MAR-2013 16:01:54

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

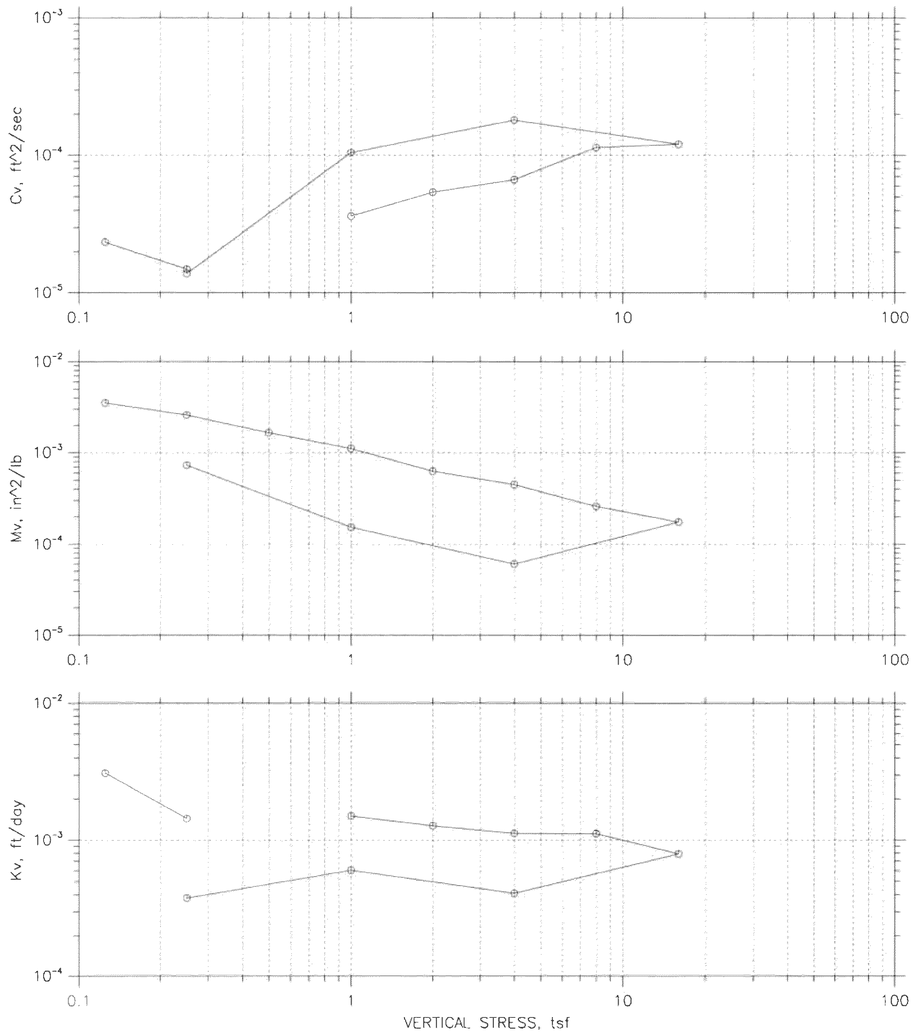
SUM-76/77-11.27/12.12

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CONSOLIDATION TEST DATA

LOG of TIME COEFFICIENTS



Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

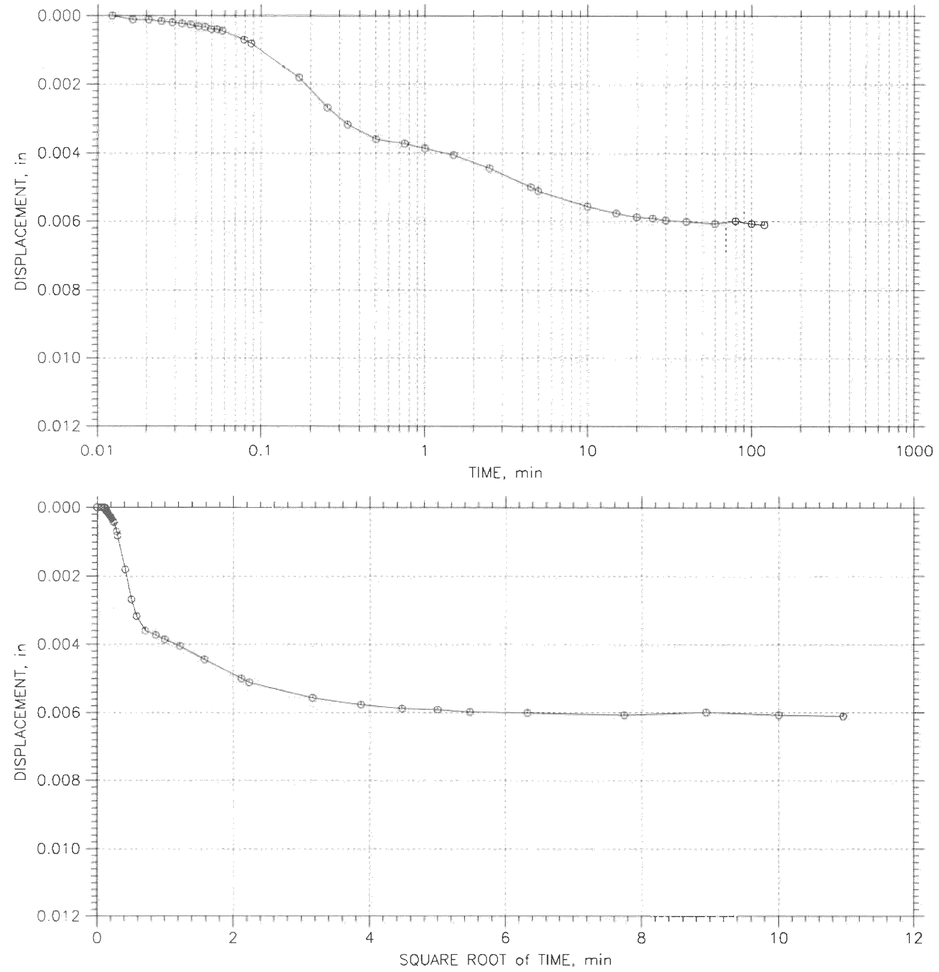
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CONSOLIDATION TEST DATA

TIME CURVES

Step: 1 of 11

Stress: 0.125 tsf



Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

Fri, 08-MAR-2013 16:01:56

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

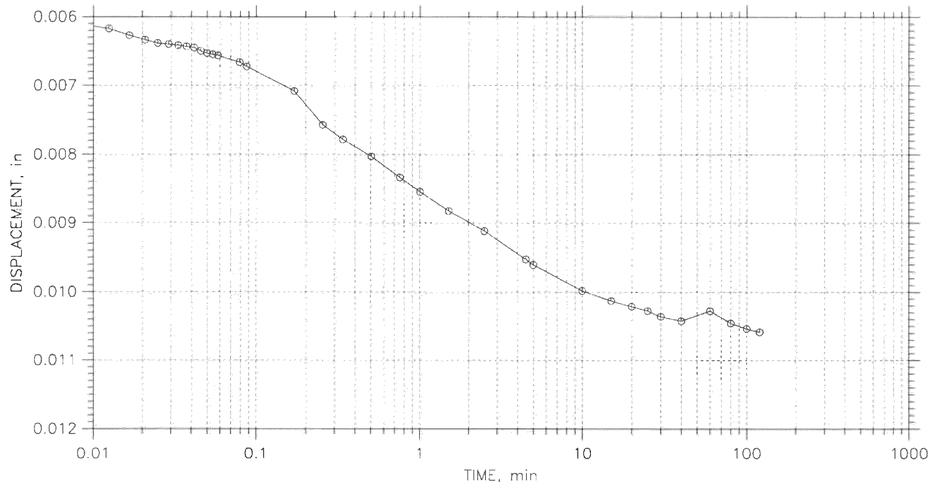
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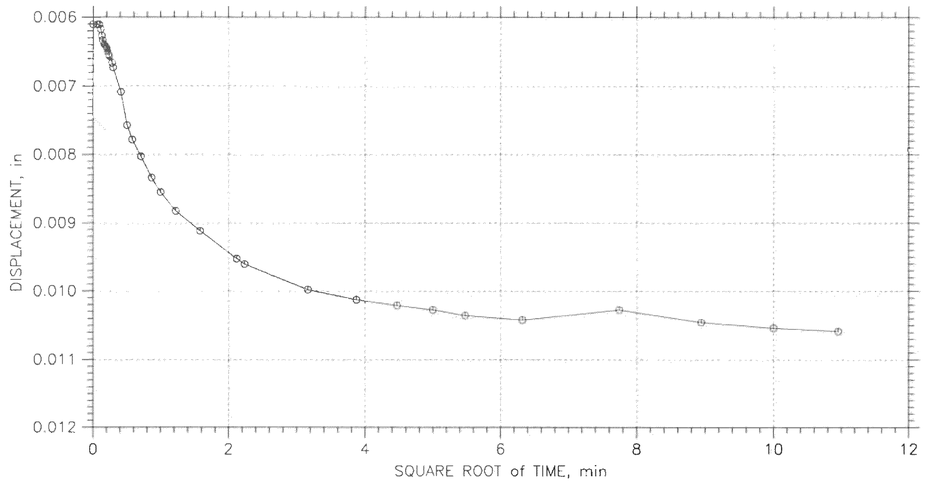
CONSOLIDATION TEST DATA

TIME CURVES

Step: 2 of 11

Stress: 0.25 tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

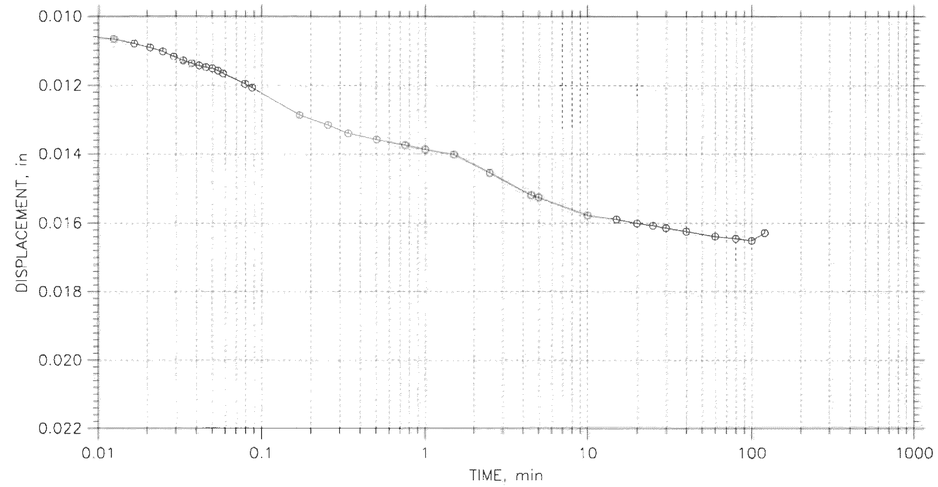
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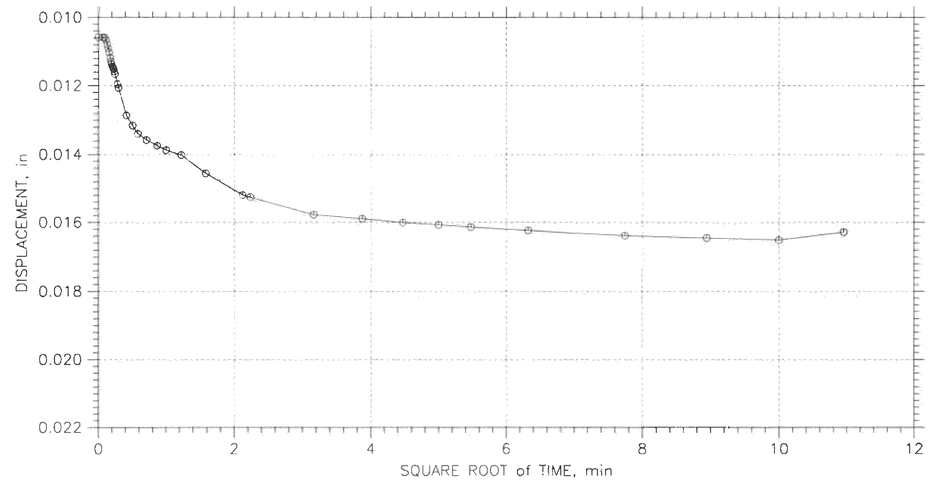
CONSOLIDATION TEST DATA

TIME CURVES

Step: 3 of 11

Stress: 0.5 tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

Fri, 08-MAR-2013 16:01:59

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE

LABORATORY TEST DATA

SUM-76/77-11.27/12.12

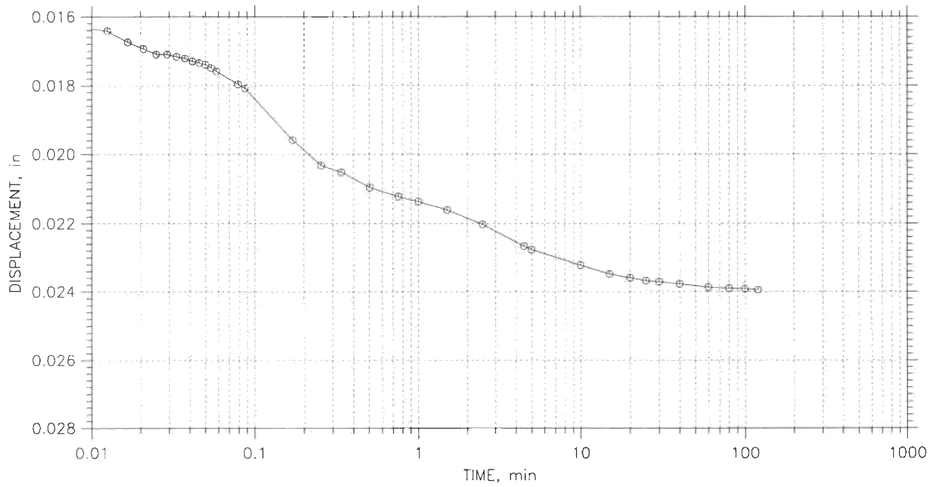
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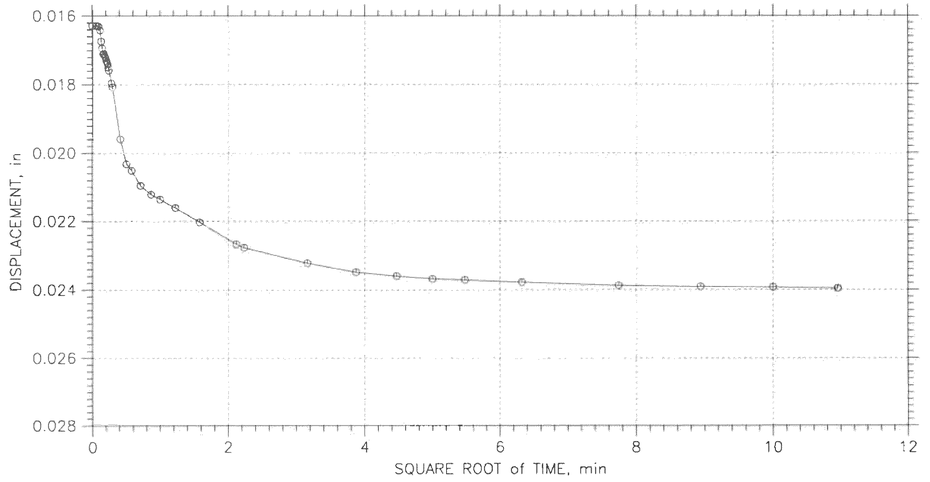
CONSOLIDATION TEST DATA

TIME CURVES

Step: 4 of 11

Stress: 1. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

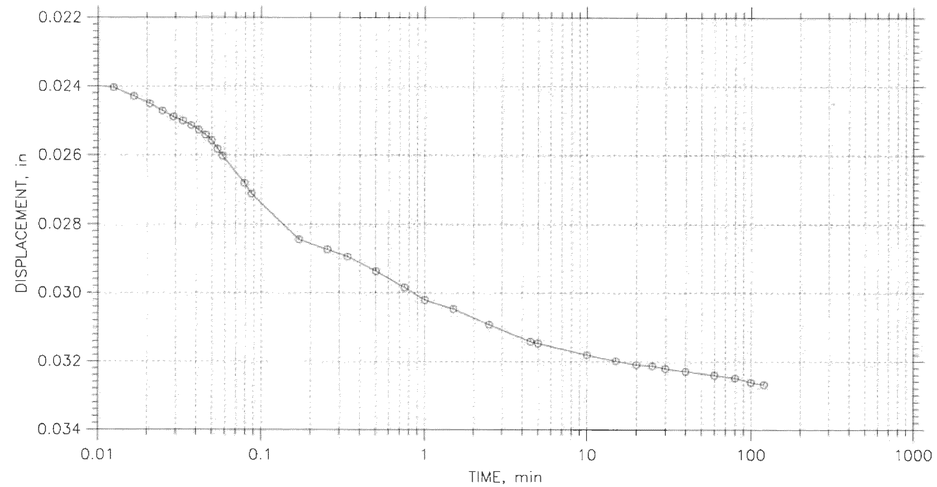
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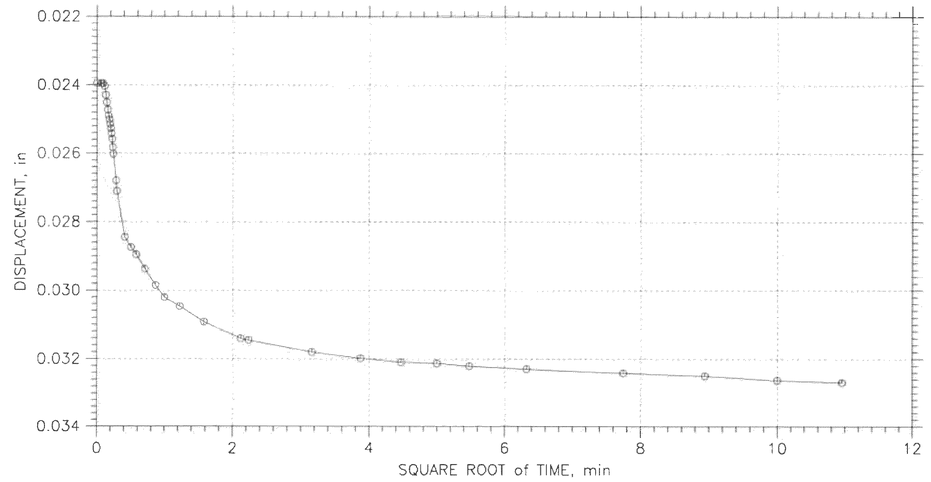
CONSOLIDATION TEST DATA

TIME CURVES

Step: 5 of 11

Stress: 2. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

Fri, 08-MAR-2013 16:02:02

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

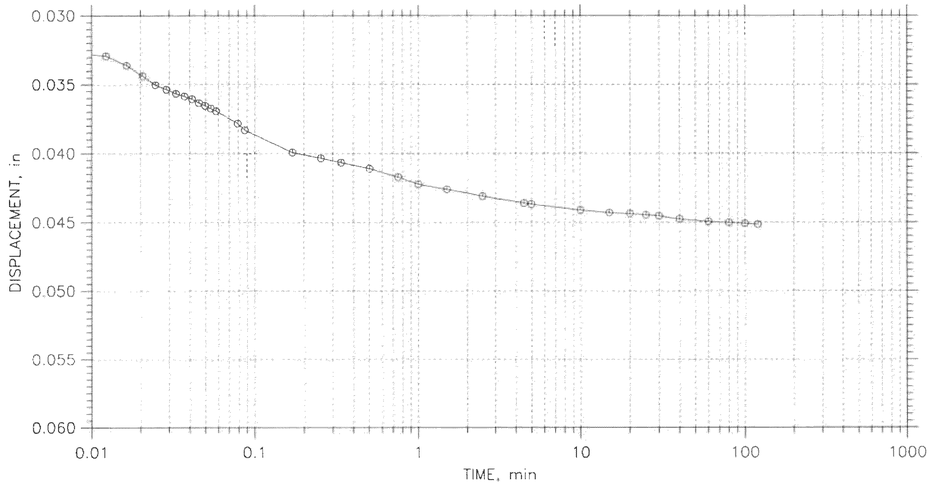
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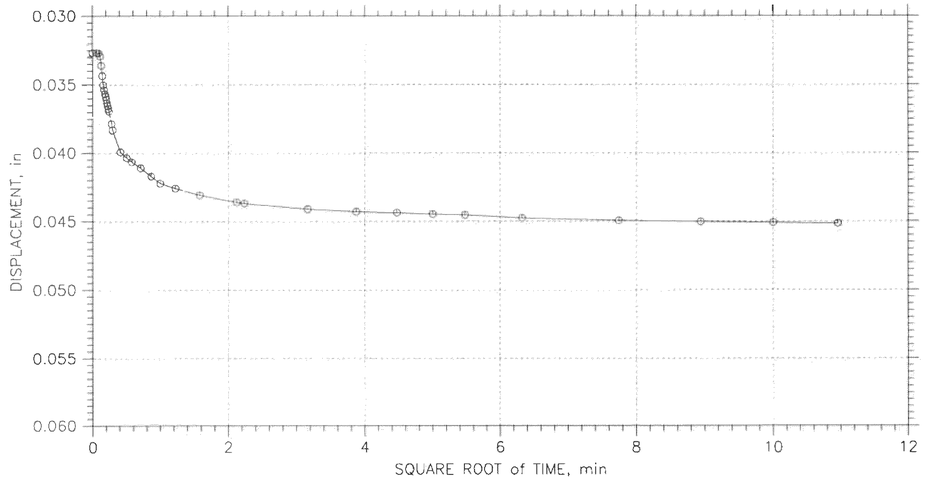
CONSOLIDATION TEST DATA

TIME CURVES

Step: 6 of 11

Stress: 4. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

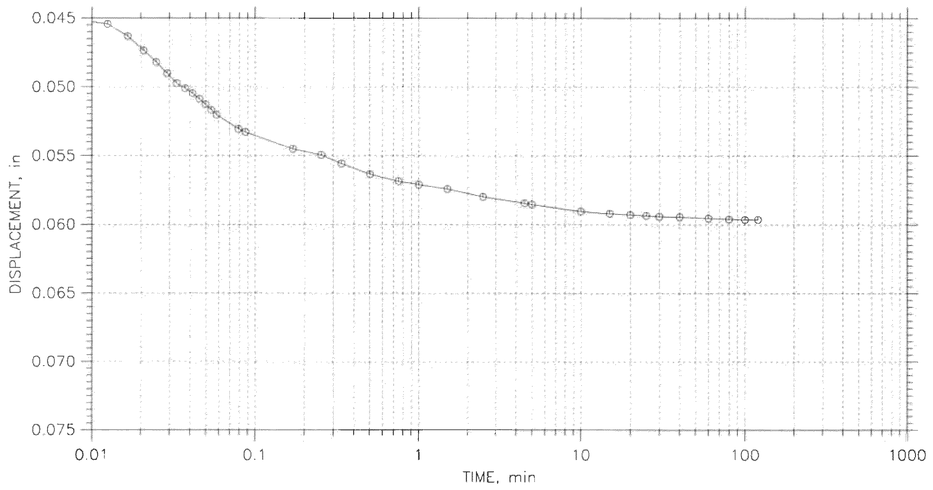
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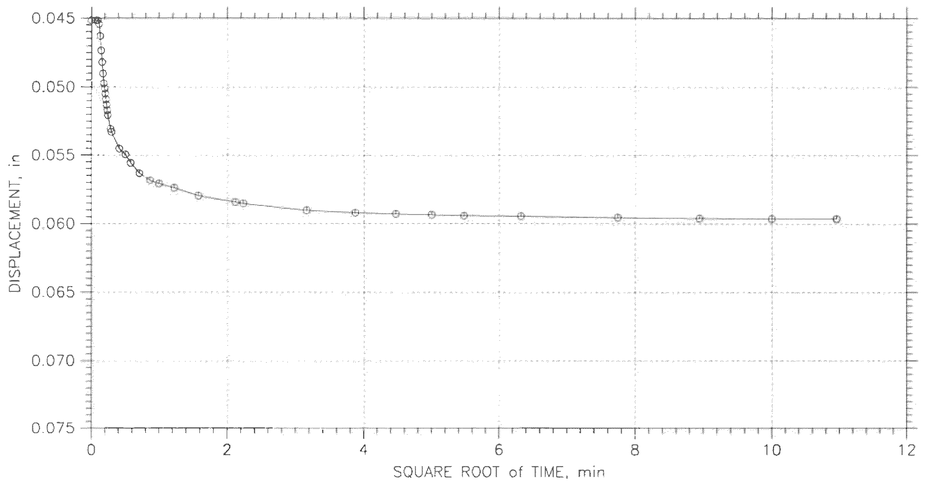
CONSOLIDATION TEST DATA

TIME CURVES

Step: 7 of 11

Stress: 8. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

Fri, 08-MAR-2013 16:02:05

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

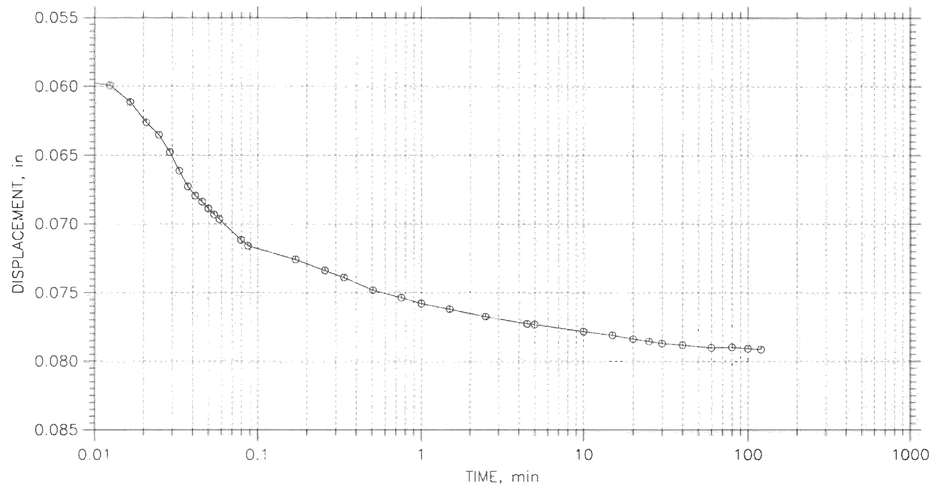
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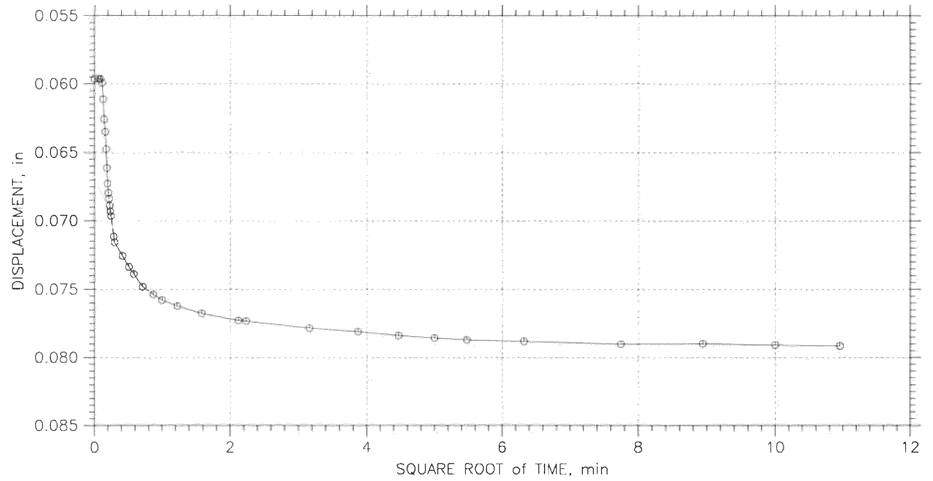
CONSOLIDATION TEST DATA

TIME CURVES

Step: 8 of 11

Stress: 16. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

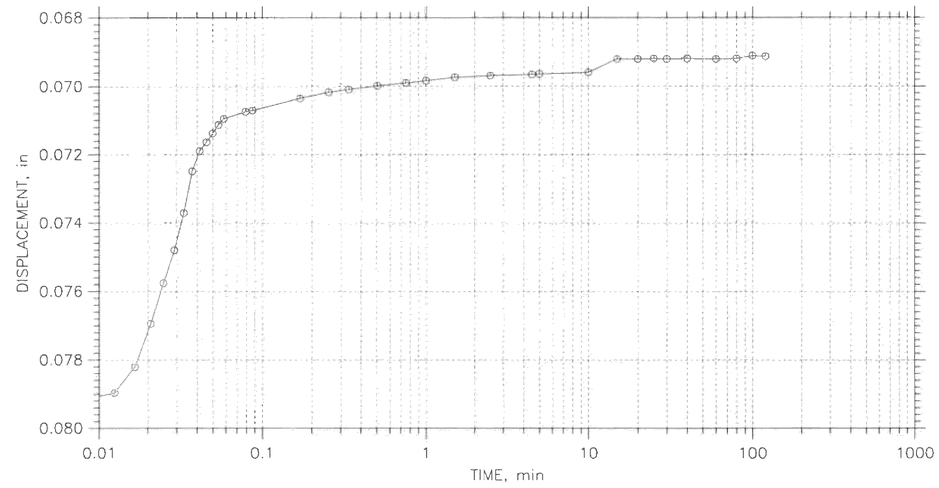
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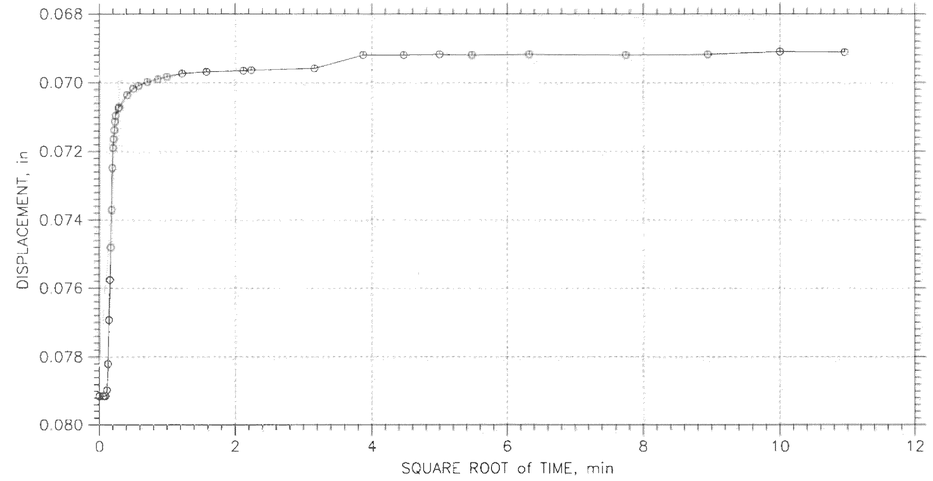
CONSOLIDATION TEST DATA

TIME CURVES

Step: 9 of 11

Stress: 4. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

Fri, 08-MAR-2013 16:02:08

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

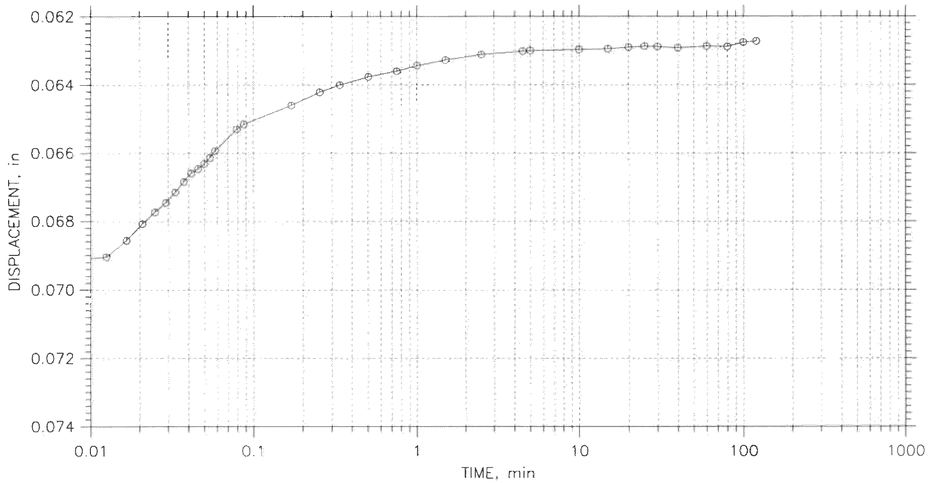
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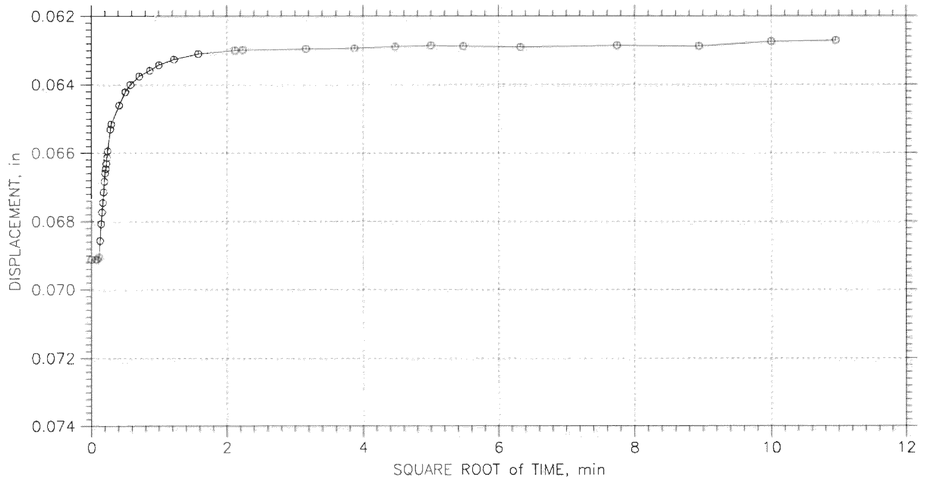
CONSOLIDATION TEST DATA

TIME CURVES

Step: 10 of 11

Stress: 1. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

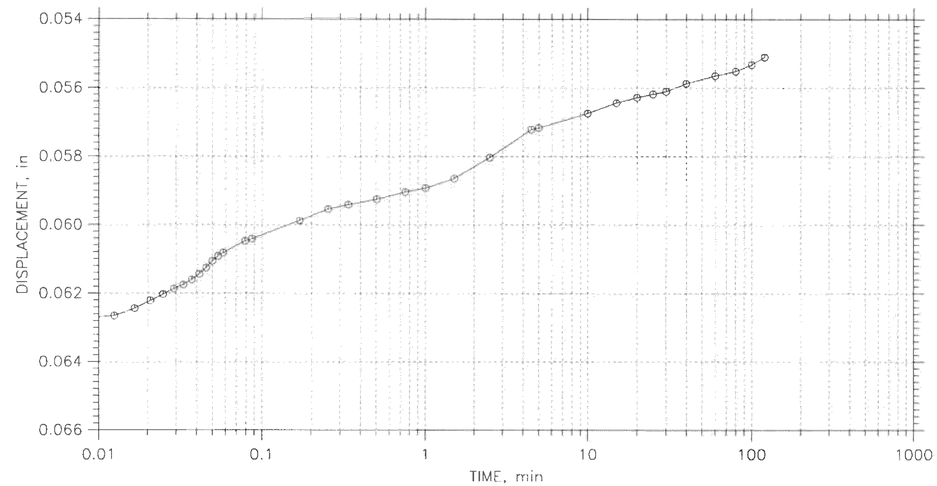
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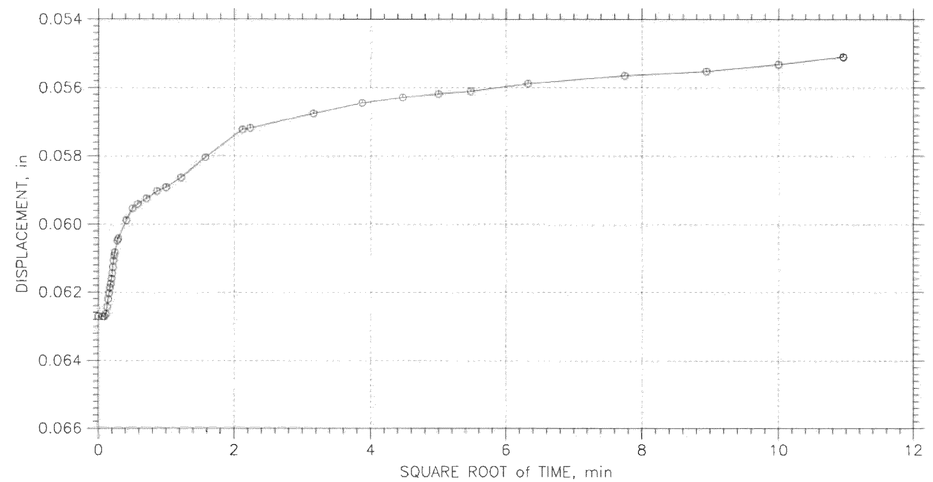
CONSOLIDATION TEST DATA

TIME CURVES

Step: 11 of 11

Stress: 0.25 tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-012-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-5	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1041.3 feet
Description: Brown Silty Clay		
Remarks:		

Fri, 08-MAR-2013 16:02:11

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

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One Dimensional Consolidation and Swell Properties of Soil - ASTM D 2435

CTL ENGINEERING, INC.

2860 Fisher Road

Columbus, OH 43204

Project No.: 110500034CLE
Client: GPD Group
Project: SUM- 76/77 - 11.37/12.12
Location: 523+95, 165.9' Lt
Boring No.: B-022-0-11
Tested By: DM
Checked By: HMK
Sample No.: ST-6
Test Date: 12/7/2011
Depth: 10-12.0
Test No.:
Sample Type: Shelby Tube
Elevation: 1025.5 feet

Soil Description: Gray/Brown Silty Clay, Little Gravel, With Organics
Remarks:

Step No.	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft^2/sec	Mv 1/tsf	k ft/day
1	0.125	0.01334	0.416	1.33	13.8	1.76E-06	1.07E-01	5.06E-04
2	0.25	0.01896	0.408	1.9	9.3	2.55E-06	4.49E-02	3.10E-04
3	0.5	0.02703	0.397	2.7	4.3	5.49E-06	3.23E-02	4.79E-04
4	1	0.03739	0.382	3.74	4.9	4.73E-06	2.07E-02	2.65E-04
5	2	0.05081	0.363	5.08	2.4	9.16E-06	1.34E-02	3.31E-04
6	4	0.06804	0.338	6.8	2.4	9.01E-06	8.62E-03	2.09E-04
7	8	0.08933	0.307	8.93	2.3	9.07E-06	5.32E-03	1.30E-04
8	16	0.1134	0.273	11.34	2.4	8.11E-06	3.01E-03	6.57E-05
9	4	0.1021	0.289	10.21	0.1	2.31E-04	9.39E-04	5.84E-04
10	1	0.09397	0.301	9.4	1.4	1.38E-05	2.71E-03	1.01E-04
11	0.25	0.08451	0.314	8.45	9.9	2.05E-06	1.26E-02	6.98E-05

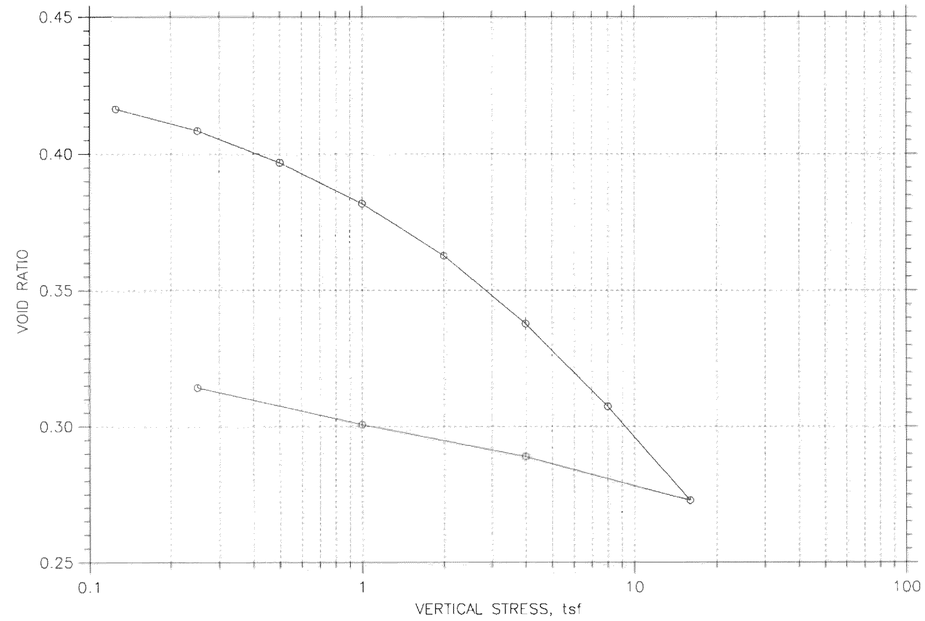
Step No.	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log. T50 min	Cv ft^2/sec	Mv 1/tsf	k ft/day	Ca %
1	0.125	0.01334	0.416	1.33	0	0.00E+00	1.07E-01	0.00E+00	0.00E+00
2	0.25	0.01896	0.408	1.9	2.2	2.48E-06	4.49E-02	3.00E-04	0.00E+00
3	0.5	0.02703	0.397	2.7	0.7	7.42E-06	3.23E-02	6.47E-04	0.00E+00
4	1	0.03739	0.382	3.74	1.3	4.15E-06	2.07E-02	2.32E-04	0.00E+00
5	2	0.05081	0.363	5.08	0.5	1.15E-05	1.34E-02	4.17E-04	0.00E+00
6	4	0.06804	0.338	6.8	0.4	1.39E-05	8.62E-03	3.23E-04	0.00E+00
7	8	0.08933	0.307	8.93	0.3	1.84E-05	5.32E-03	2.64E-04	0.00E+00
8	16	0.1134	0.273	11.34	0.2	1.95E-05	3.01E-03	1.58E-04	0.00E+00
9	4	0.1021	0.289	10.21	0	1.43E-04	9.39E-04	3.62E-04	0.00E+00
10	1	0.09397	0.301	9.4	0.2	2.37E-05	2.71E-03	1.74E-04	0.00E+00
11	0.25	0.08451	0.314	8.45	0	0.00E+00	1.26E-02	0.00E+00	0.00E+00

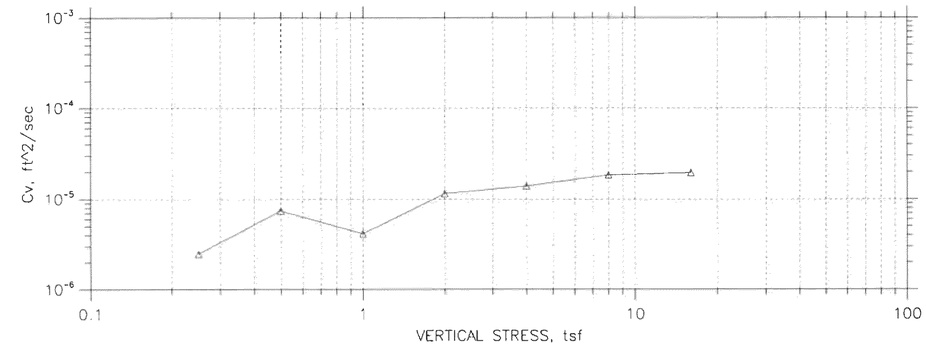
CONSOLIDATION PARAMETERS	
Preconsolidation Pressure (tsf): 2.0	Initial Void Ratio: 0.42
Compression Index (C_c): 0.11	Compression Ratio : 0.08
Recompression Index (C_r): 0.04	Recompression Ratio: 0.03

CTL ENGINEERING INC

CONSOLIDATION TEST DATA

SUMMARY REPORT





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 110500034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:12

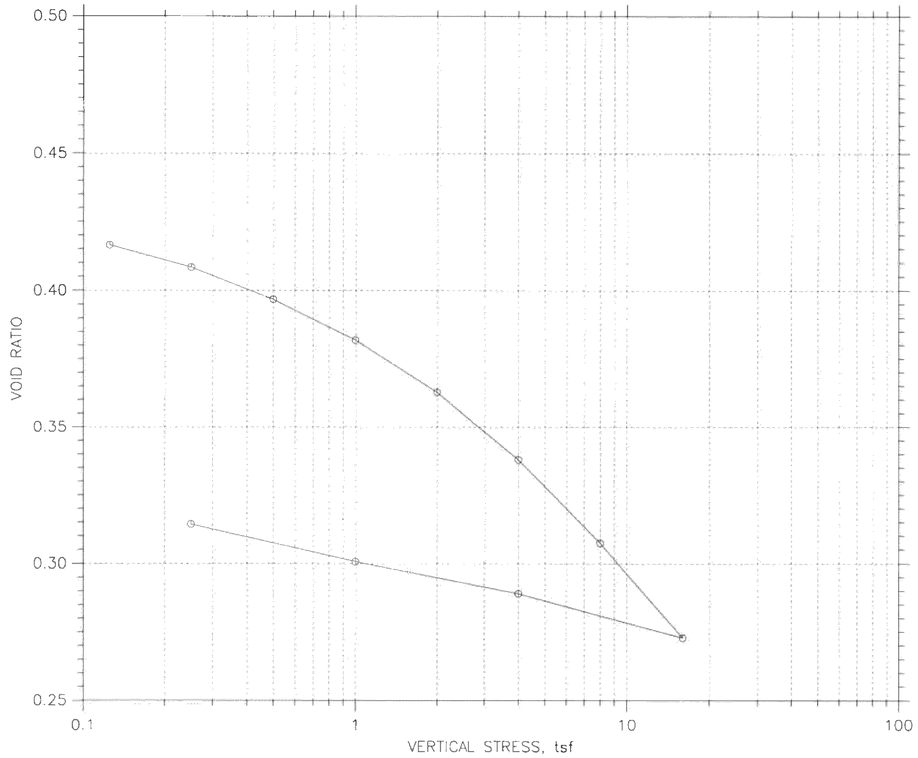
CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

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CONSOLIDATION TEST DATA
SUMMARY REPORT

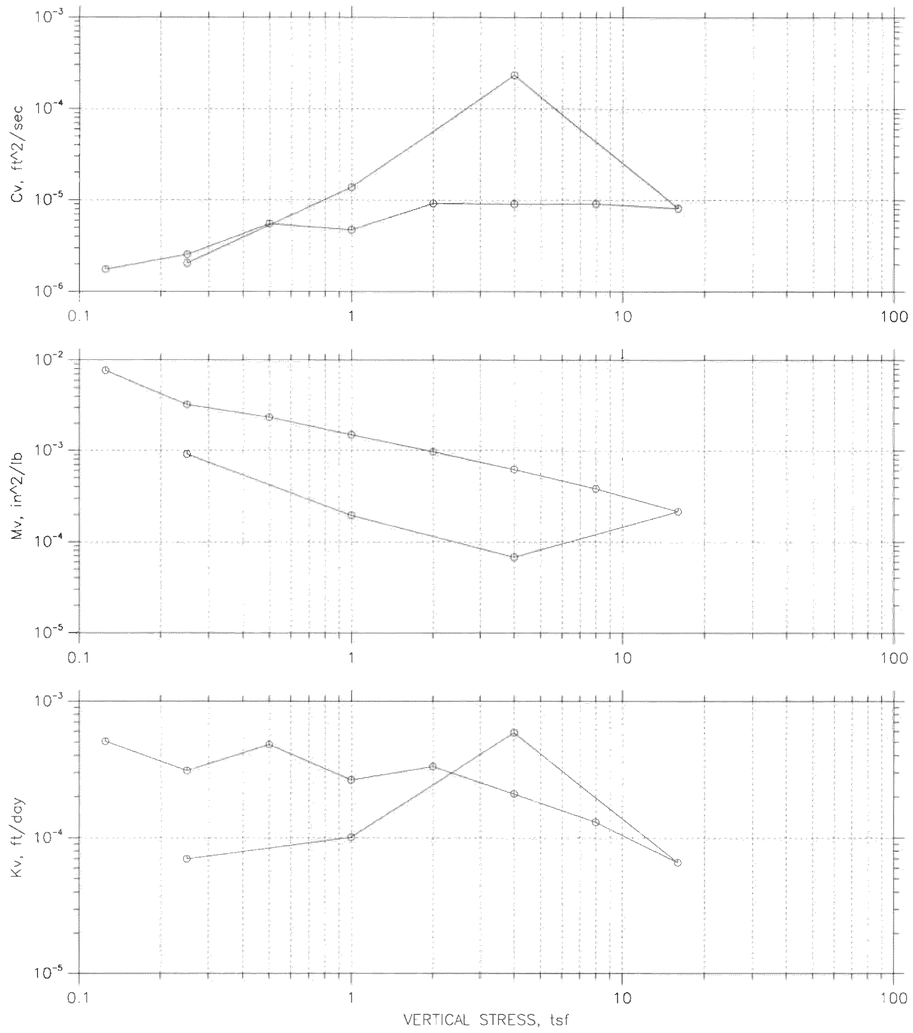


					Before Test	After Test
Overburden Pressure, tsf:				Water Content, %	17.39	14.22
Preconsolidation Pressure, tsf:				Dry Unit Weight, pcf	113.5	121.72
Compression Index:				Saturation, %	104.20	109.64
Diameter: 2.5 in		Height: 1 in		Void Ratio	0.44	0.34
LL: ---	PL: ---	PI: ---	GS: 2.61	Back Pressure, tsf	0	0

Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:13

CONSOLIDATION TEST DATA
ROOT of TIME COEFFICIENTS



Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:14

CALCULATED B.R.U.
CHECKED MK

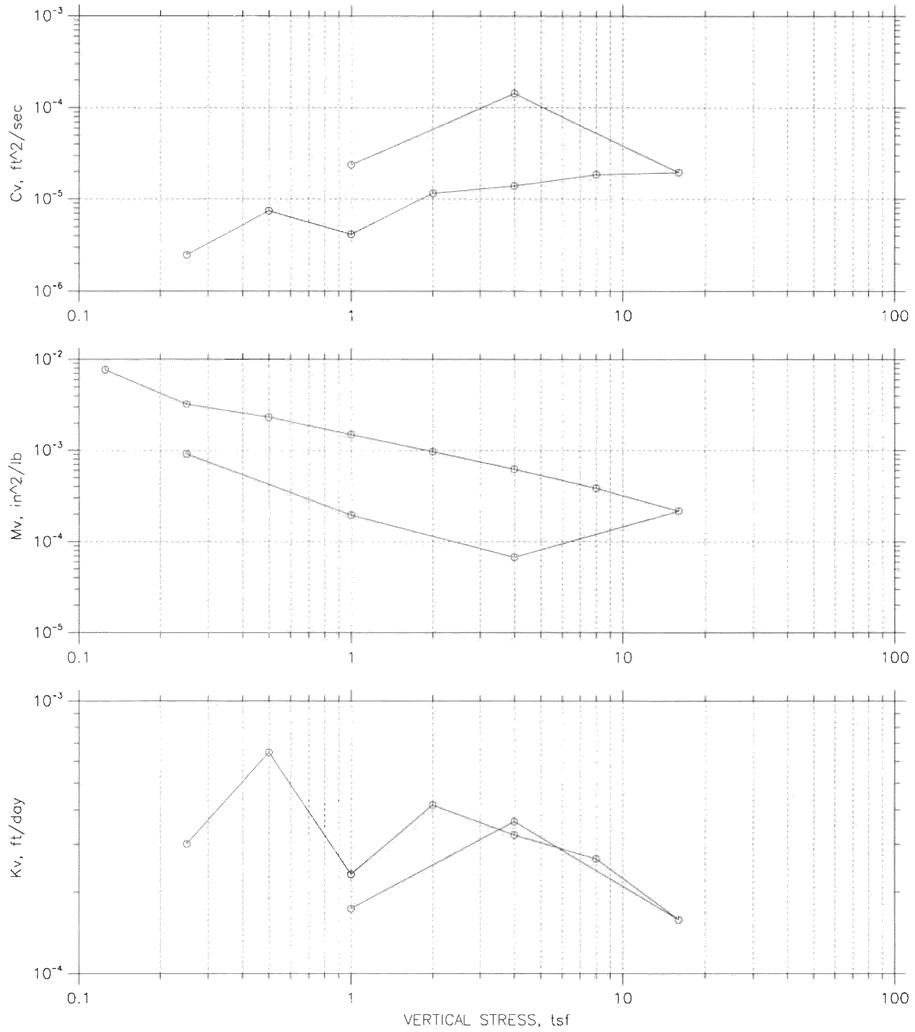
SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

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CONSOLIDATION TEST DATA

LOG of TIME COEFFICIENTS



Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

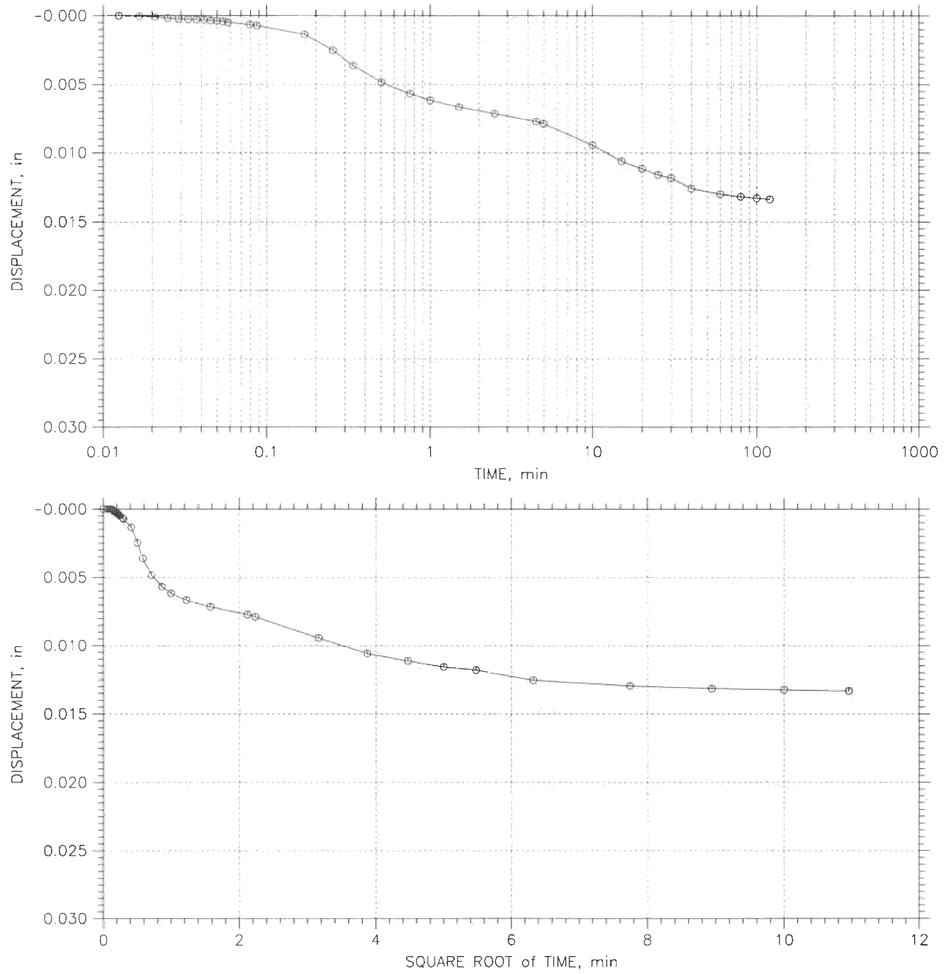
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CONSOLIDATION TEST DATA

TIME CURVES

Step: 1 of 11

Stress: 0.125 tsf



Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:16

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE

LABORATORY TEST DATA

SUM-76/77-11.27/12.12

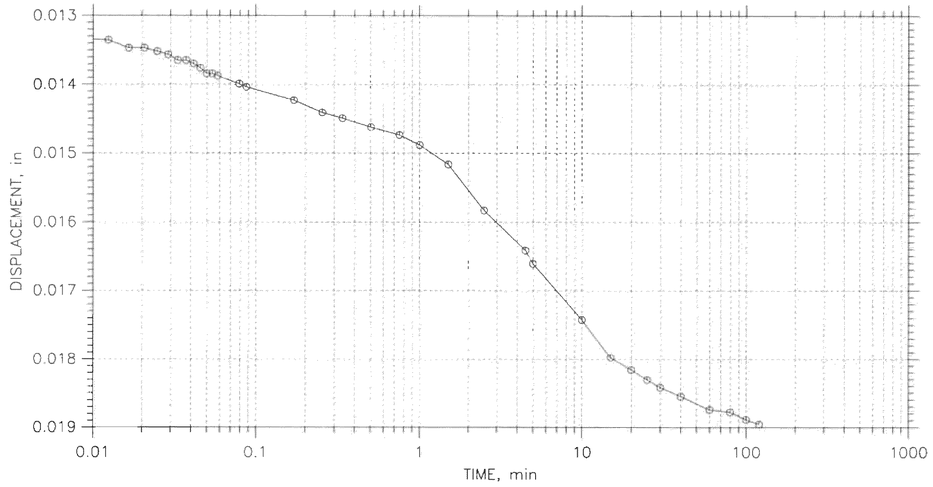
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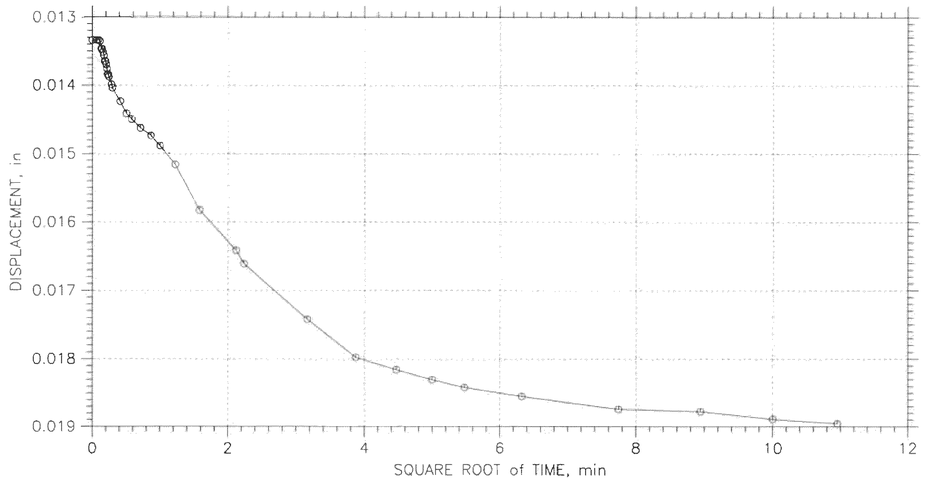
CONSOLIDATION TEST DATA

TIME CURVES

Step: 2 of 11

Stress: 0.25 tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

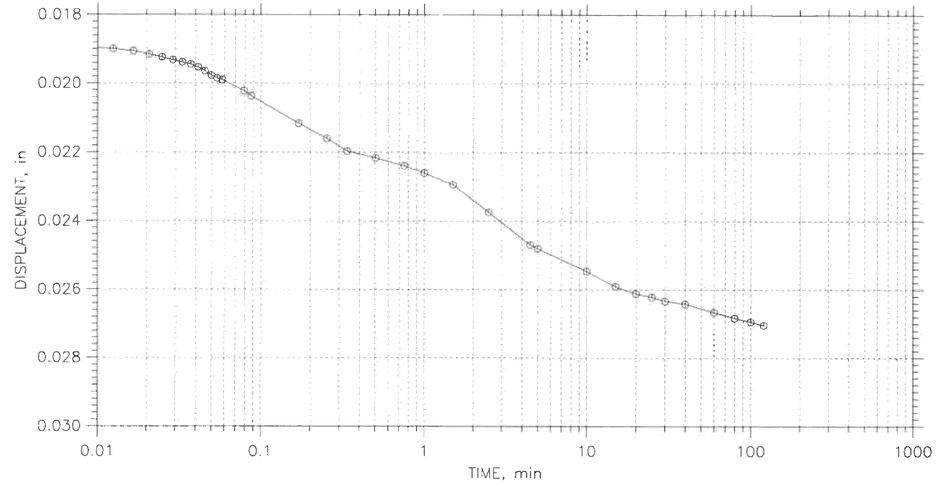
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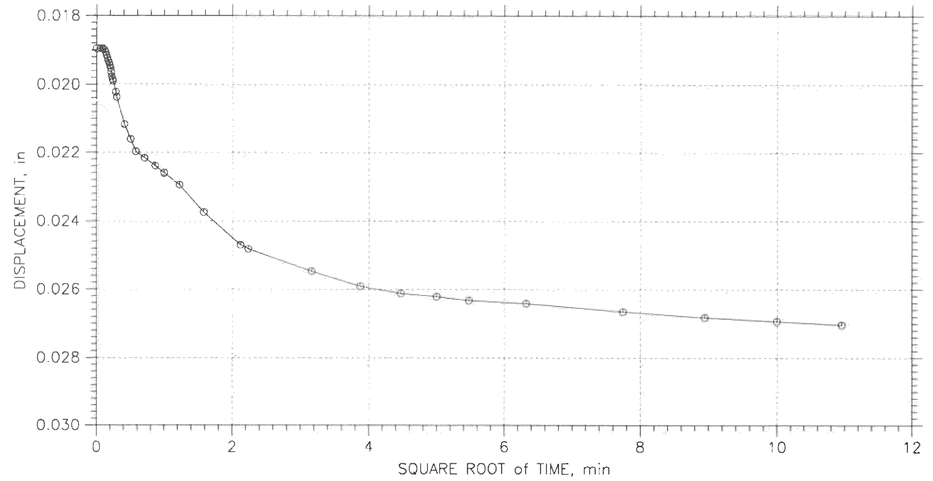
CONSOLIDATION TEST DATA

TIME CURVES

Step: 3 of 11

Stress: 0.5 tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:19

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CALCULATED B.R.U. CHECKED MK

SOIL PROFILE

LABORATORY TEST DATA

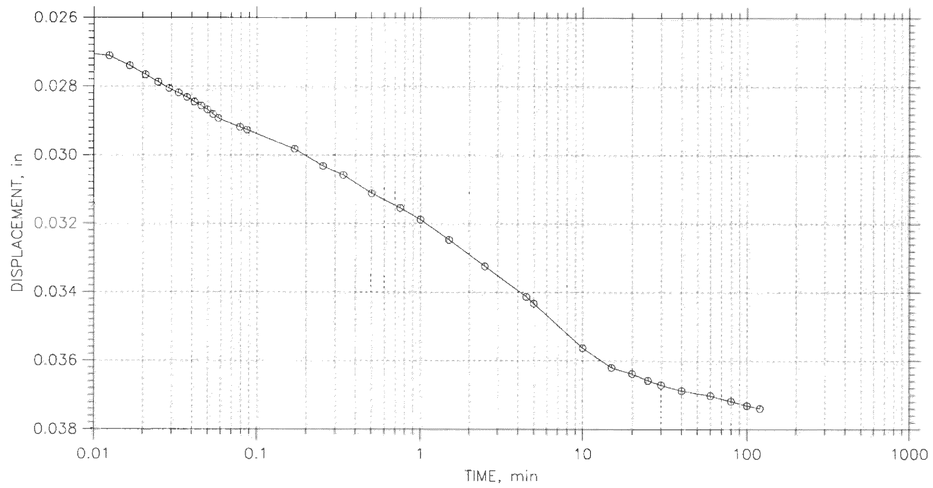
SUM-76/77-11.27/12.12

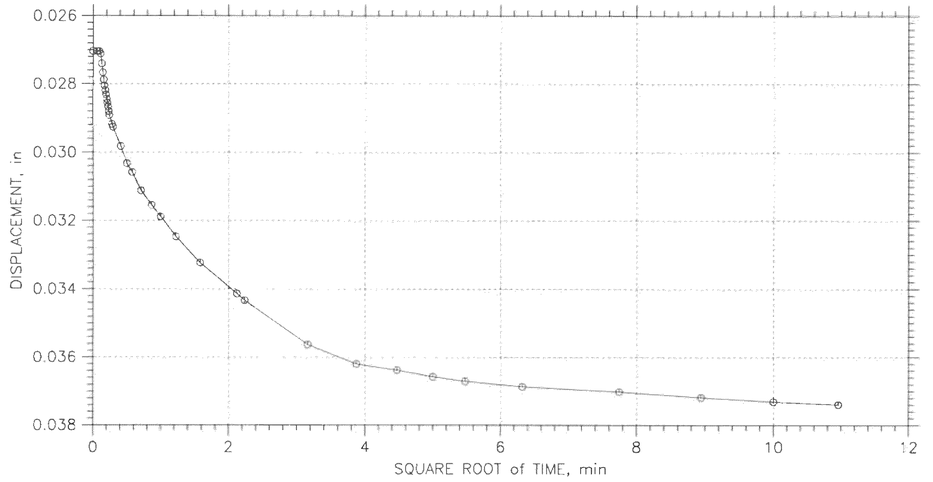
CONSOLIDATION TEST DATA

TIME CURVES

Step: 4 of 11

Stress: 1. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

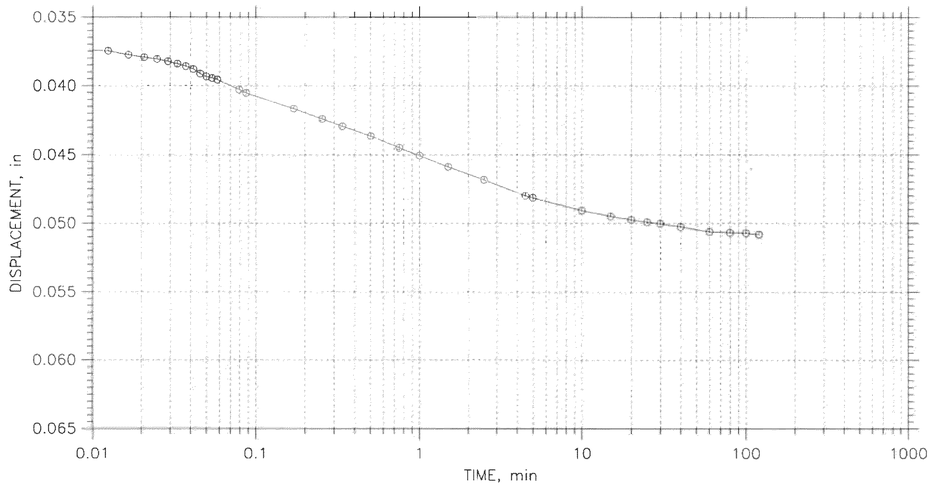
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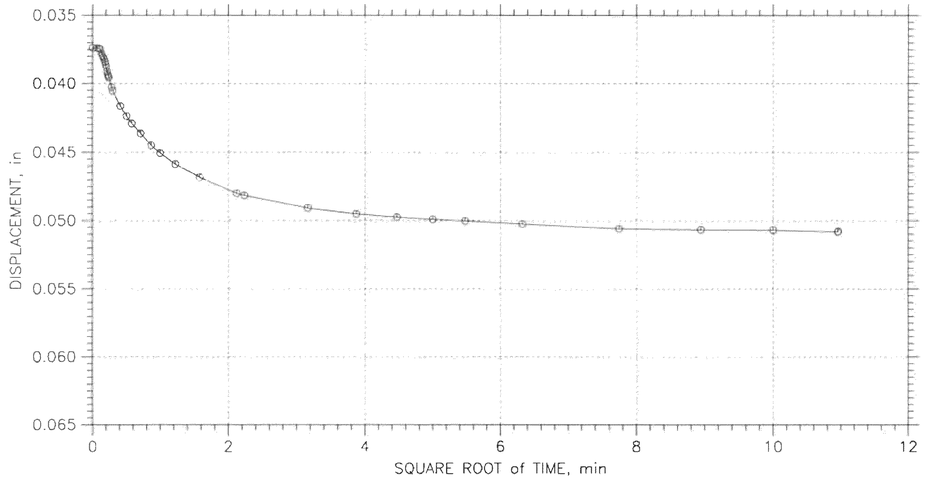
CONSOLIDATION TEST DATA

TIME CURVES

Step: 5 of 11

Stress: 2. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:22

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CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

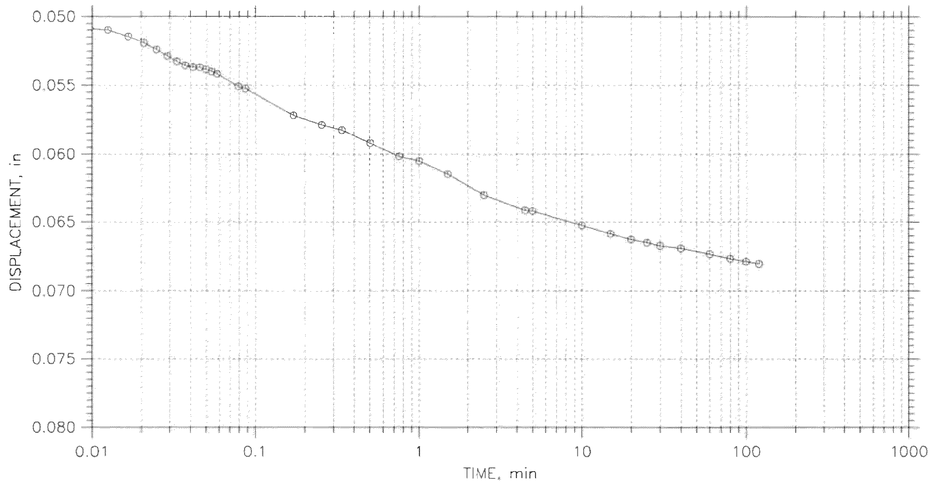
SUM-76/77-11.27/12.12

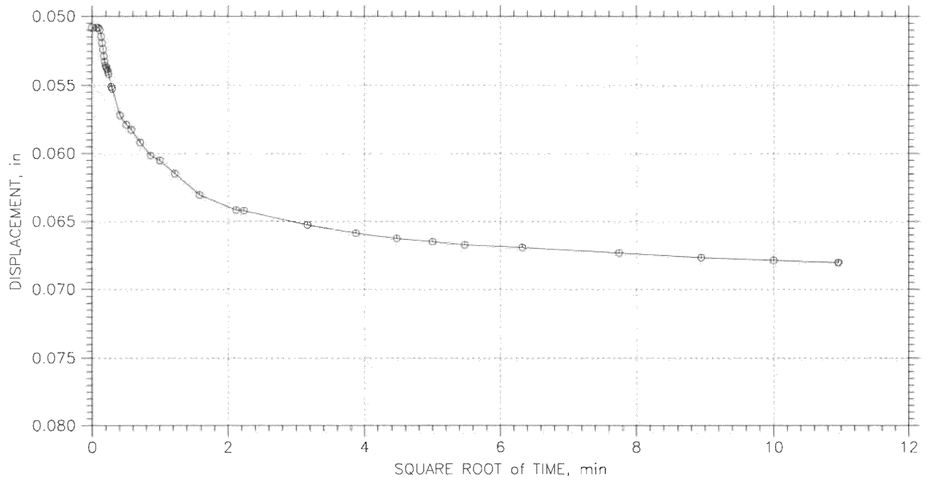
CONSOLIDATION TEST DATA

TIME CURVES

Step: 6 of 11

Stress: 4. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

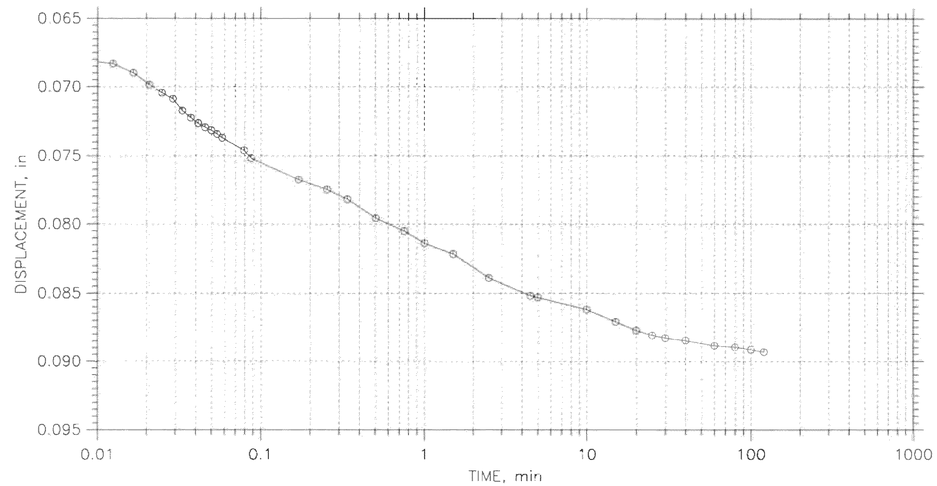
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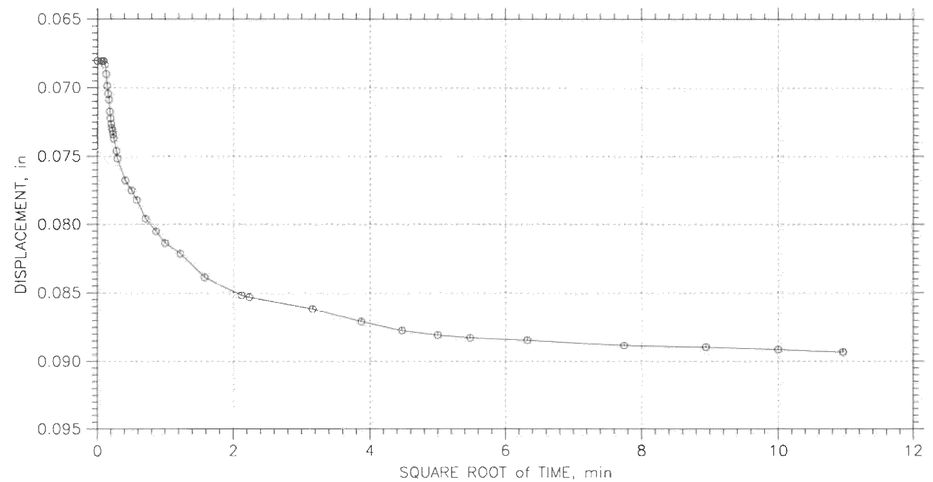
CONSOLIDATION TEST DATA

TIME CURVES

Step: 7 of 11

Stress: 8. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:25

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

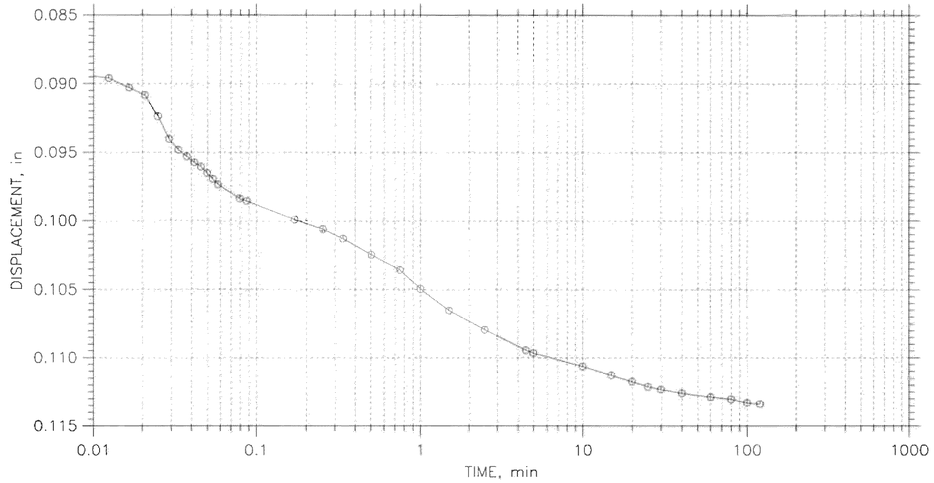
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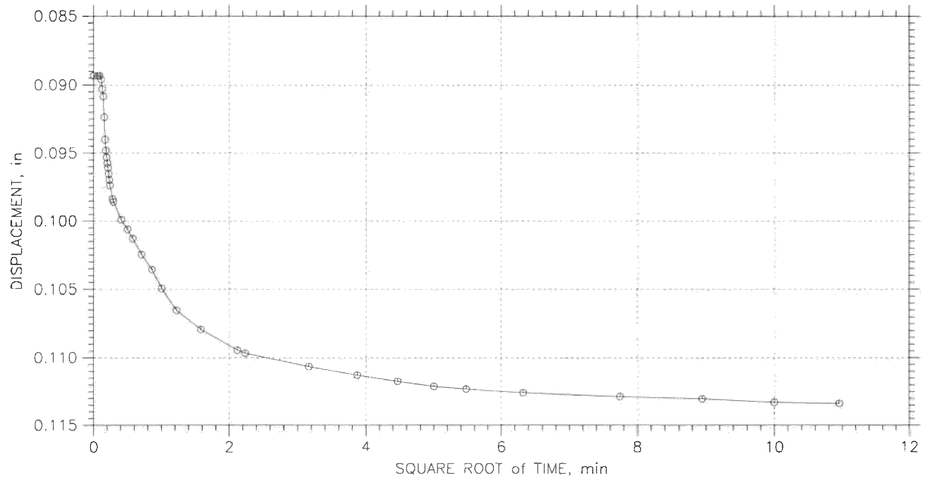
CONSOLIDATION TEST DATA

TIME CURVES

Step: 8 of 11

Stress: 16. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

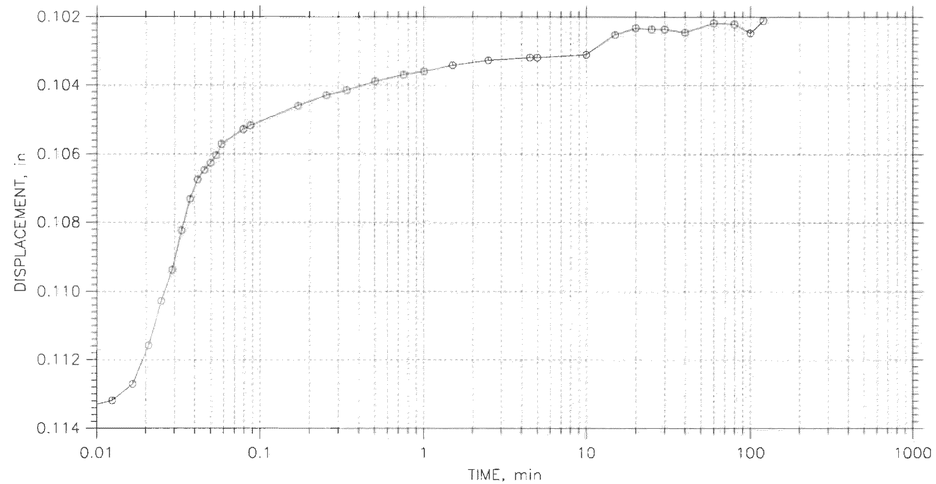
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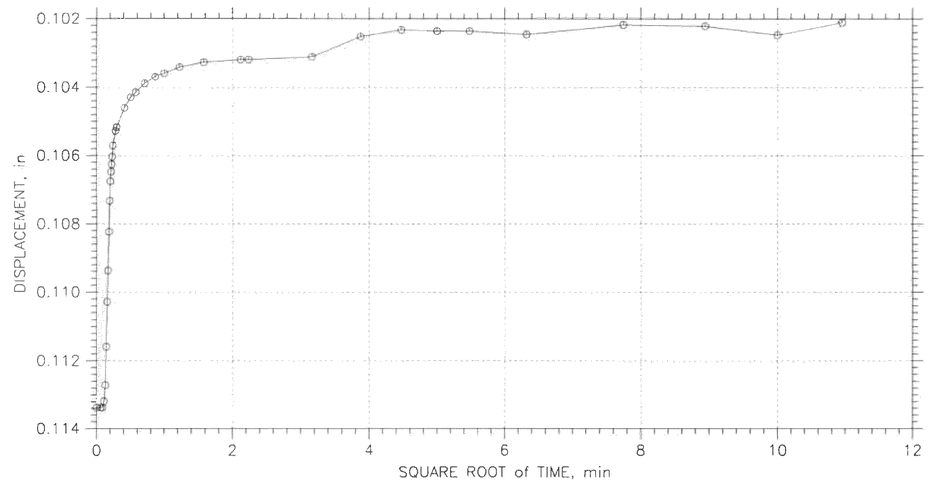
CONSOLIDATION TEST DATA

TIME CURVES

Step: 9 of 11

Stress: 4. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:28

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

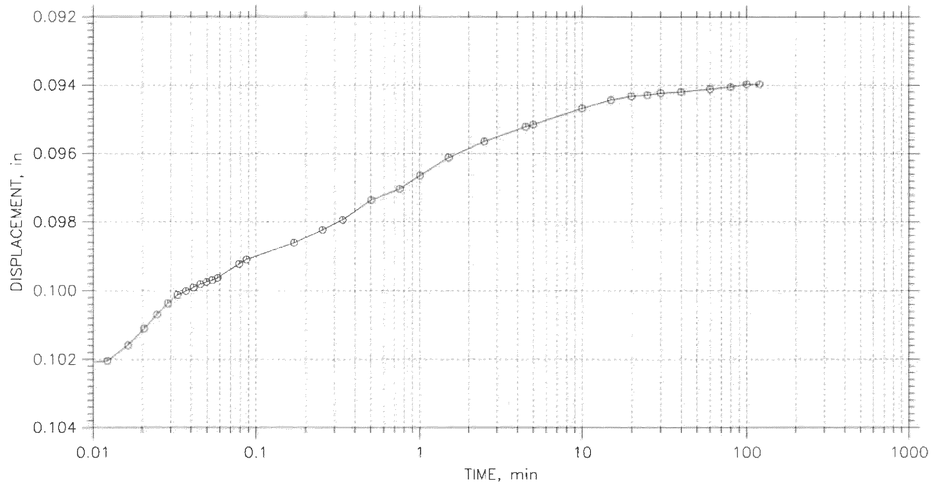
SUM-76/77-11.27/12.12

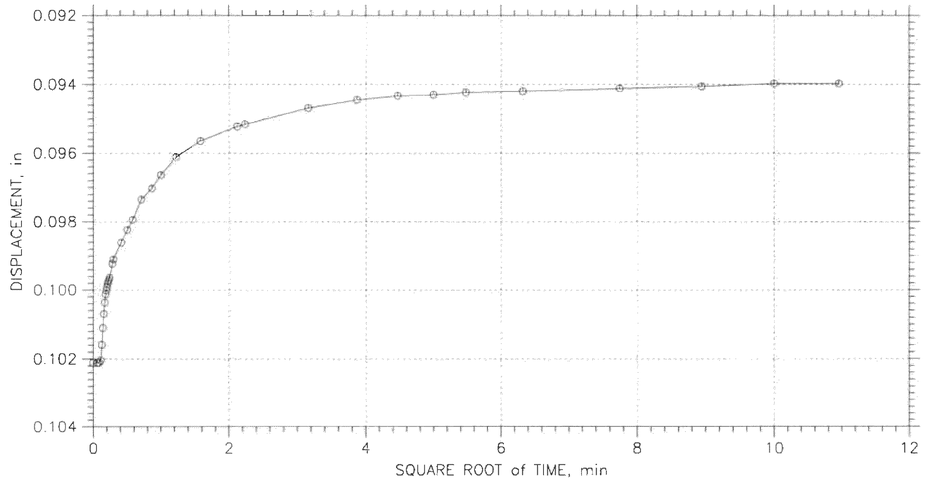
CONSOLIDATION TEST DATA

TIME CURVES

Step: 10 of 11

Stress: 1. tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

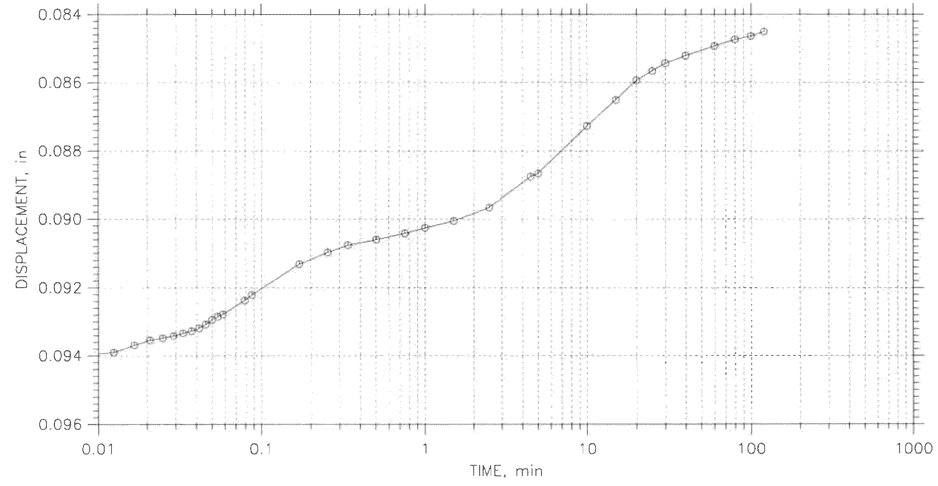
Fri, 08-MAR-2013 16:03:30

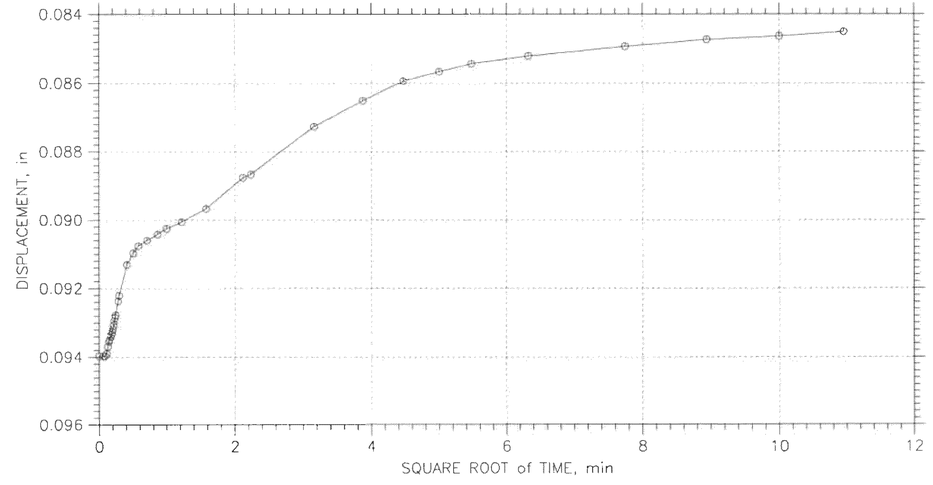
CONSOLIDATION TEST DATA

TIME CURVES

Step: 11 of 11

Stress: 0.25 tsf





Project: SUM- 76/77 - 11.27/ 12.12	Location: Summit County	Project No.: 11050034CLE
Boring No.: B-022-0-11	Tested By: DM	Checked By: HMK
Sample No.: ST-6	Test Date: 12/5/11	Depth: 10 to 12'
Test No.:	Sample Type: Shelby Tube	Elevation: 1025.5 feet
Description: Gray/Brown Silty Clay, Little Gravel, With Organics		
Remarks:		

Fri, 08-MAR-2013 16:03:31

CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

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CTL ENGINEERING, INC
2860 FISHER ROAD, COLUMBUS, OH 43204

Unconfined Compression Test
ASTM D 2166, D 5102

Client: GPD Group, Inc
Project: SUM- 76/77 - 11.27/12.12
Location: I-76 WB Alignment
Sample ID: B-012-0-11, ST-5: 10-12.0'
Station & Offset: STA 5+61; 47.41 LT
Project No: 11050034CLE
Date Tested: 12/4/2011

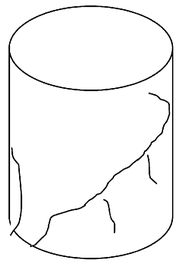
Specimen Data

Avg. Sample Height (in.): 5.6383 Wet Density (pcf): 134.1
Avg. Sample Diameter (in.): 2.841 Dry Density (pcf): 115.4
Visual Description: Gray Silty Clay With Sand (A-6b)

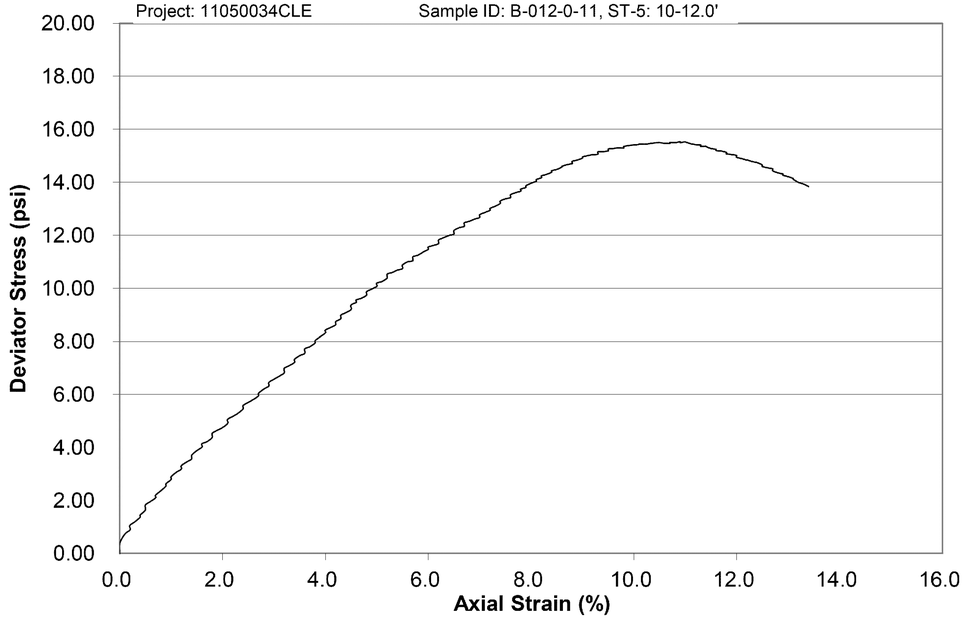
Physical Characteristics

% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.
							16.2

Failure Diagrams



Penetrometer:
Torvane:
Remarks: Qu @ 15.5 psi @ 10.9 STRAIN



CALCULATED B.R.U. CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

CTL ENGINEERING, INC
2860 FISHER ROAD, COLUMBUS, OH 43204

Unconfined Compression Test
ASTM D 2166, D 5102

Client: GPD Group, Inc
Project: SUM- 76/77 - 11.27/12.12
Location: I-76 WB Alignment
Sample ID: B-022-0-11, ST-6: 10-12.0'
Station & Offset: STA 523+95 ; 165.9 LT
Project No: 11050034CLE
Date Tested: 12/4/2011

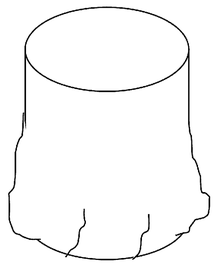
Specimen Data

Avg. Sample Height (in.): 5.6150 Wet Density (pcf): 137.5
Avg. Sample Diameter (in.): 2.808 Dry Density (pcf): 113.2
Visual Description: Gray SANDY SILT (A-4a)

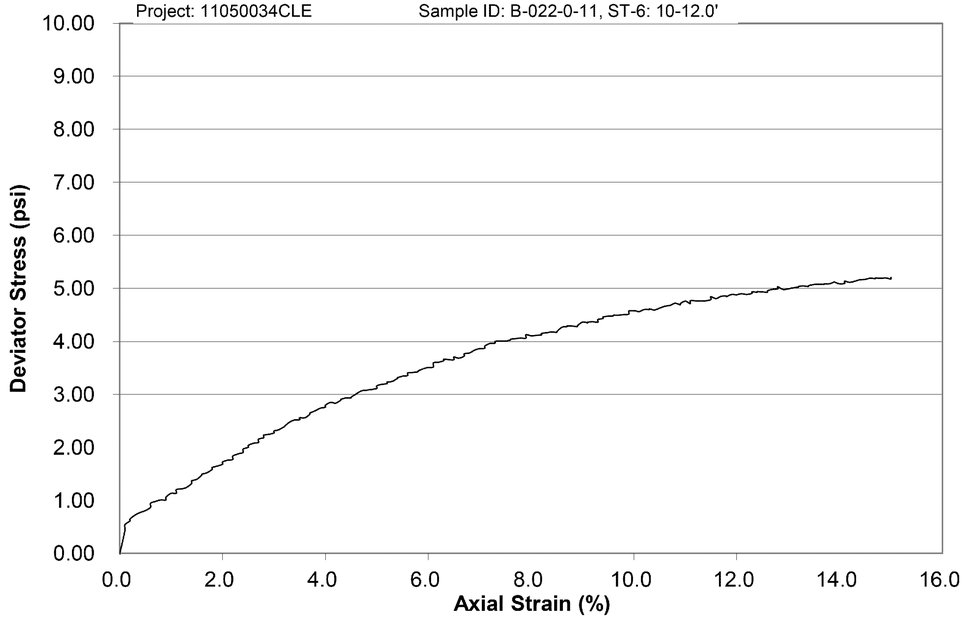
Physical Characteristics

% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.
							21.4

Failure Diagrams



Penetrometer:
Torvane:
Remarks: Qu @ 5.2 psi @ 15 STRAIN



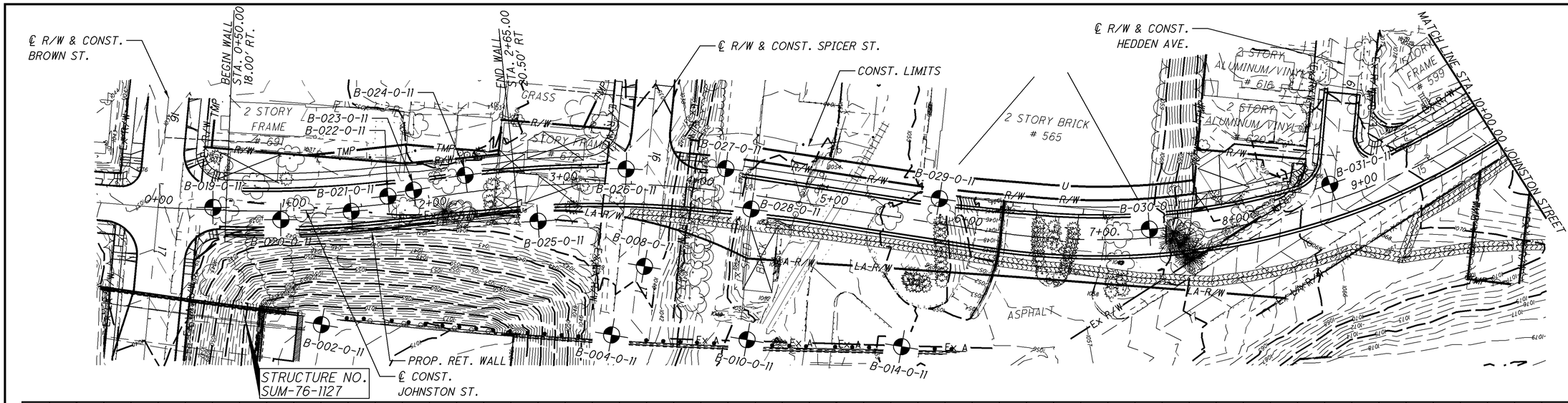
CALCULATED B.R.U.
CHECKED MK

SOIL PROFILE
LABORATORY TEST DATA

SUM-76/77-11.27/12.12

25
42

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LOGS OF OFFSET BORINGS

NOTE:
SEE SHEET 28 OF 42 FOR BORING B-002-0-11 SOIL PROFILE
SEE SHEET 35 OF 42 FOR BORINGS B-004-0-11 AND B-008-0-11 SOIL PROFILE
SEE SHEET 36 OF 42 FOR BORING B-010-0-11 SOIL PROFILE
SEE SHEET 37 OF 42 FOR BORING B-014-0-11 SOIL PROFILE

B-021-0-11 2.9' RT. RED BRICK(DRIVE)=0.5'
B-023-0-11 7.5' LT. TOPSOIL=0.5'
B-025-0-11 26.2' RT.
B-026-0-11 11.1' LT. ASPHALT=0.4' BASE=0.6'
B-028-0-11 10.4' RT.
B-031-0-11 12.3' LT.
B-030-0-11 6.5' LT. TOPSOIL=0.7'
B-029-0-11 18.3' LT. TOPSOIL=0.7'
B-027-0-11 16.7' LT.
B-019-0-11 1.8' LT. TOPSOIL=0.7'
B-020-0-11 6.4' RT. TOPSOIL=0.9'
B-022-0-11 5.5' LT. GRAVEL BASE=0.2'
B-024-0-11 12.7' LT. TOPSOIL=0.5'

STIFF, DAMP, BROWN SANDY SILT(FILL)
VERY LOOSE, MOIST, BLACK SANDY SILT WITH WOOD, TRACE SHALE FRAGMENTS, MODERATELY ORGANIC (FILL) SS-2: ORGANIC CONTENT=9.0%
VERY LOOSE, WET, BROWN FINE SAND, TRACE CLAY, GRAVEL (FILL)
SANDSTONE OVER SOLIDIFIED SLAG (FILL)
RED BRICK (FILL)
MEDIUM STIFF TO STIFF, DAMP, BROWN SANDY SILT, TRACE CINDERS, GRAVEL, ROOTS, MODERATELY TO HIGH ORGANIC (FILL) SS-3: ORGANIC CONTENT: 9.8% ST-4: ORGANIC CONTENT: 13.0% SS-5: ORGANIC CONTENT: 8.4%
LOOSE DAMP, BLACK TO BROWN SANDY SILT, LITTLE CLAY, MODERATELY ORGANIC (FILL) SS-1: ORGANIC CONTENT=5.8%
LOOSE, DAMP, BLACK CINDER, TRACE CLAY, ORGANIC (FILL)
COBBLE AND BOULDERS
SHALE, GRAY, SEVERELY WEATHERED VERY WEAK
SHALE, LITTLE GRAVEL, SEVERELY WEATHERED, VERY WEAK
SHALE, BROWN, SEVERELY WEATHERED, VERY WEAK
SHALE, GRAY, SEVERELY WEATHERED, VERY WEAK
SHALE, BROWN, SEVERELY TO HIGHLY WEATHERED, VERY WEAK
SHALE, GRAY, SEVERELY WEATHERED VERY WEAK (CLAY LIKE)
SHALE, DARK GREY, SEVERELY WEATHERED VERY WEAK
SHALE, BLACK, SEVERELY WEATHERED, VERY WEAK
SHALE WITH LIMESTONE FRAGMENTS, DARK GRAY, SEVERELY WEATHERED, VERY WEAK
SHALE, DARK GRAY, MODERATELY WEATHERED, SLIGHTLY STRONG
SHALE, GRAY, SEVERELY WEATHERED VERY WEAK
LIMESTONE WITH SAND, GRAY, SEVERELY WEATHERED, MOIST, VERY WEAK
EXISTING GRADE
PROPOSED GRADE

N60 WC TR W

1100 1090 1080 1070 1060 1050 1040 1030 1020 1010 1000 990 980

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00

HORIZONTAL SCALE IN FEET
0 40 80

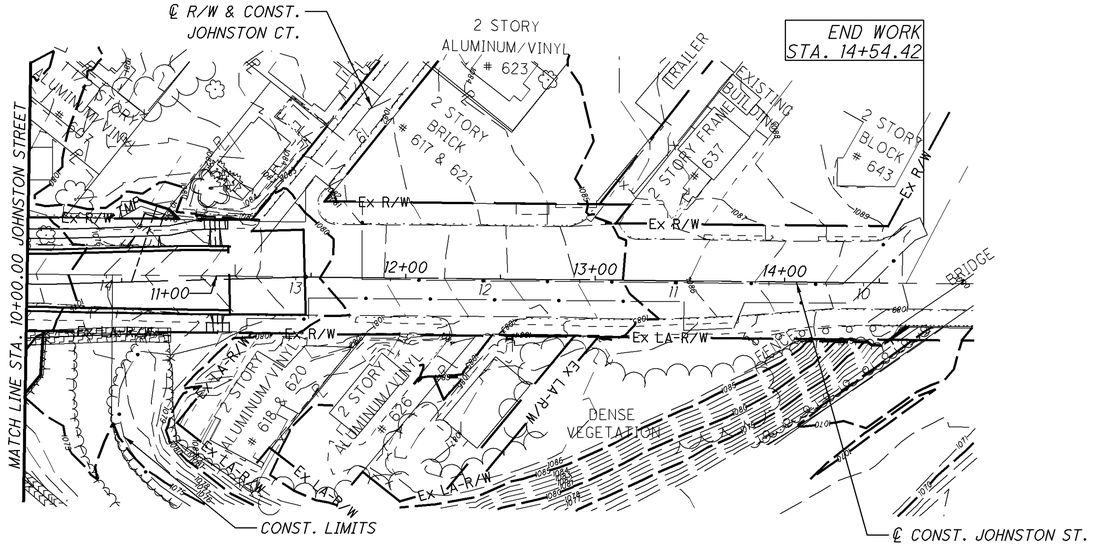
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CHECKED MK

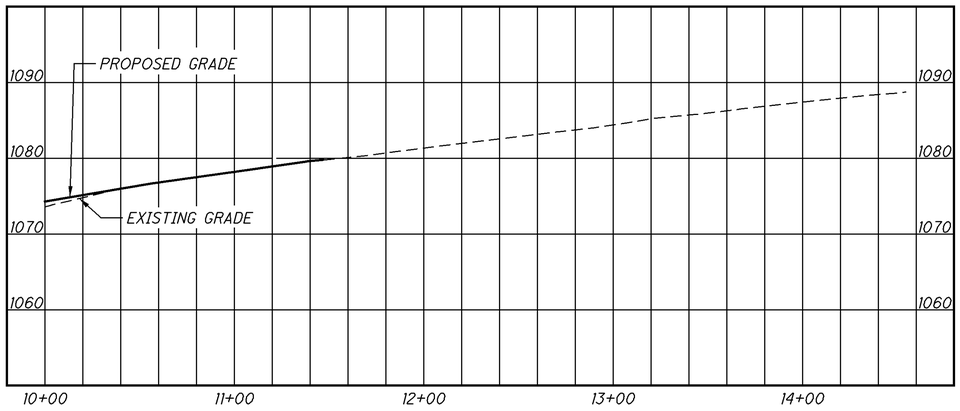
SOIL PROFILE - JOHNSTON STREET STA. 0+00.00 TO STA. 10+00.00

SUM-76/77-11.27/12.12

26
42

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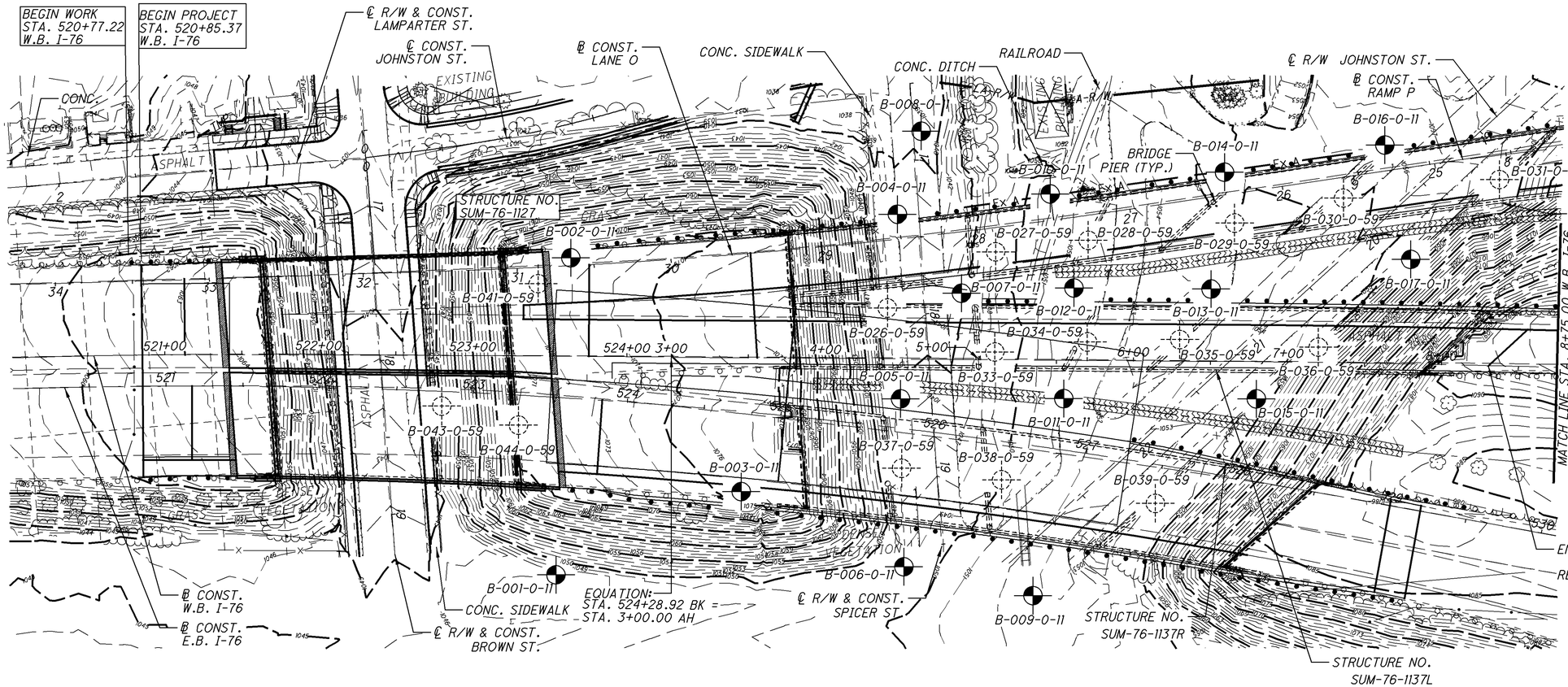
HORIZONTAL SCALE IN FEET
0 40 80

DRAWN N.K.S.
CHECKED MK

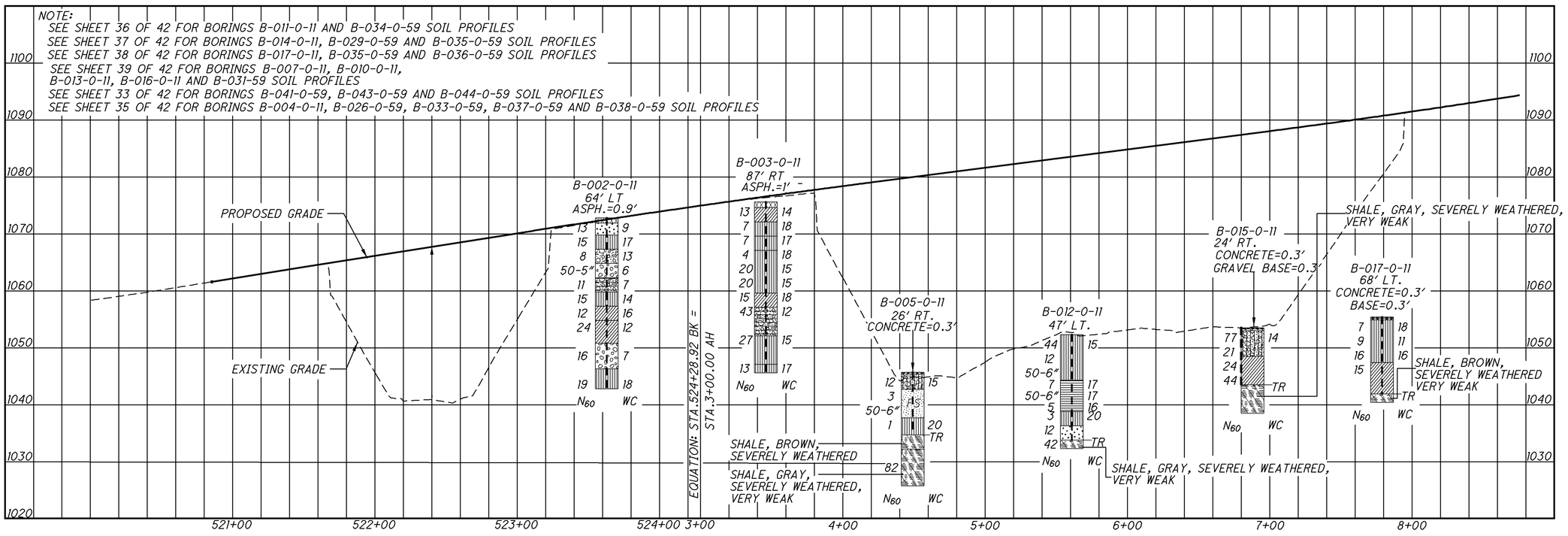
SOIL PROFILE - JOHNSTON STREET
STA. 10+00.00 TO END

SUM-76 / 77-11.27 / 12.12

27
42



NOTE:
SEE SHEET 36 OF 42 FOR BORINGS B-011-0-11 AND B-034-0-59 SOIL PROFILES
SEE SHEET 37 OF 42 FOR BORINGS B-014-0-11, B-029-0-59 AND B-035-0-59 SOIL PROFILES
SEE SHEET 38 OF 42 FOR BORINGS B-017-0-11, B-035-0-59 AND B-036-0-59 SOIL PROFILES
SEE SHEET 39 OF 42 FOR BORINGS B-007-0-11, B-010-0-11, B-013-0-11, B-016-0-11 AND B-031-59 SOIL PROFILES
SEE SHEET 33 OF 42 FOR BORINGS B-041-0-59, B-043-0-59 AND B-044-0-59 SOIL PROFILES
SEE SHEET 35 OF 42 FOR BORINGS B-004-0-11, B-026-0-59, B-033-0-59, B-037-0-59 AND B-038-0-59 SOIL PROFILES



HORIZONTAL SCALE IN FEET
0 40 80

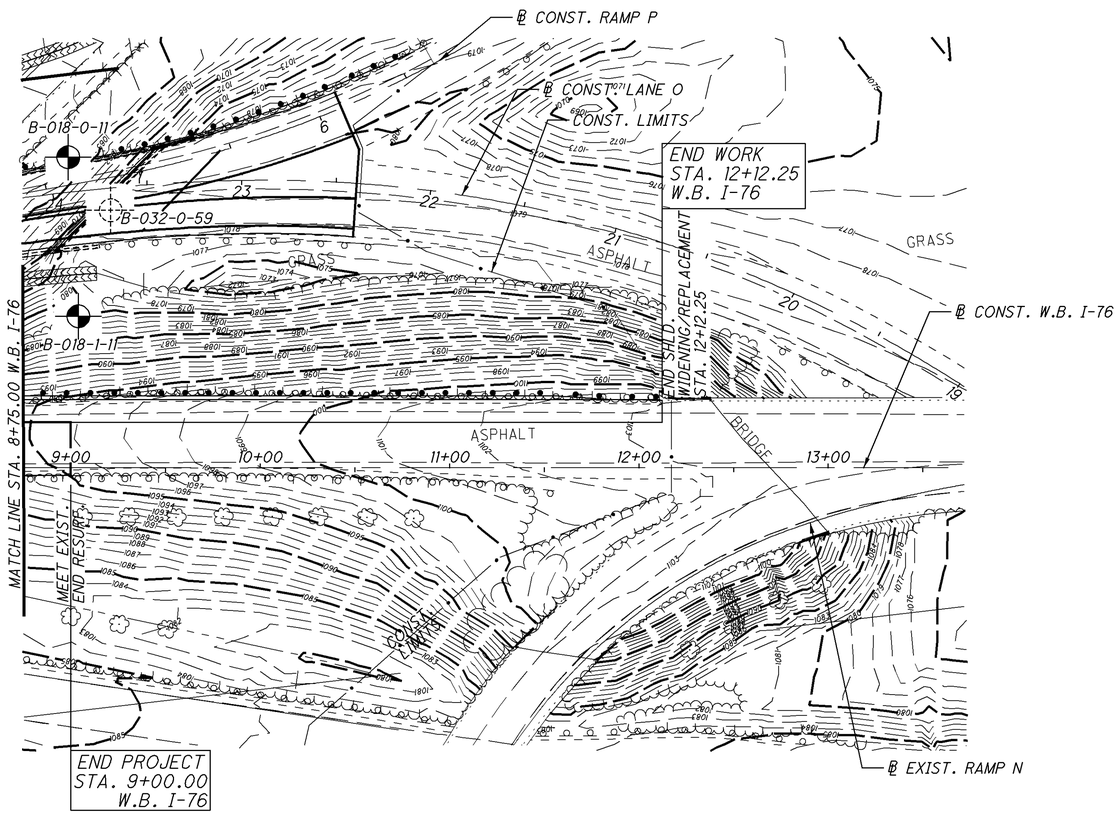
DRAWN N.K.S.
CHECKED MK

SOIL PROFILE - W.B. I-76
STA. 520+00.79 TO STA. 8+75.00

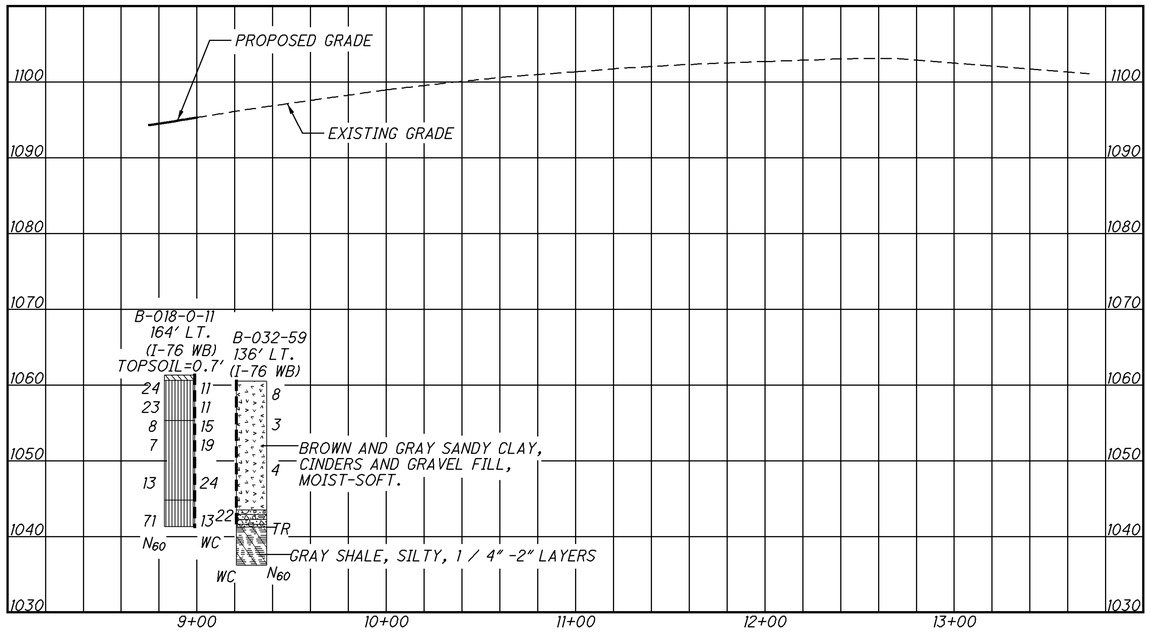
SUM-76/77-11.27/12.12

28
42

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NOTE: SEE SHEET 31 OF 42 FOR BORING B-018-1-11 SOIL PROFILE



SOIL PROFILE - W.B. I-76
STA. 8+75.00 TO END STA. 12+12.25

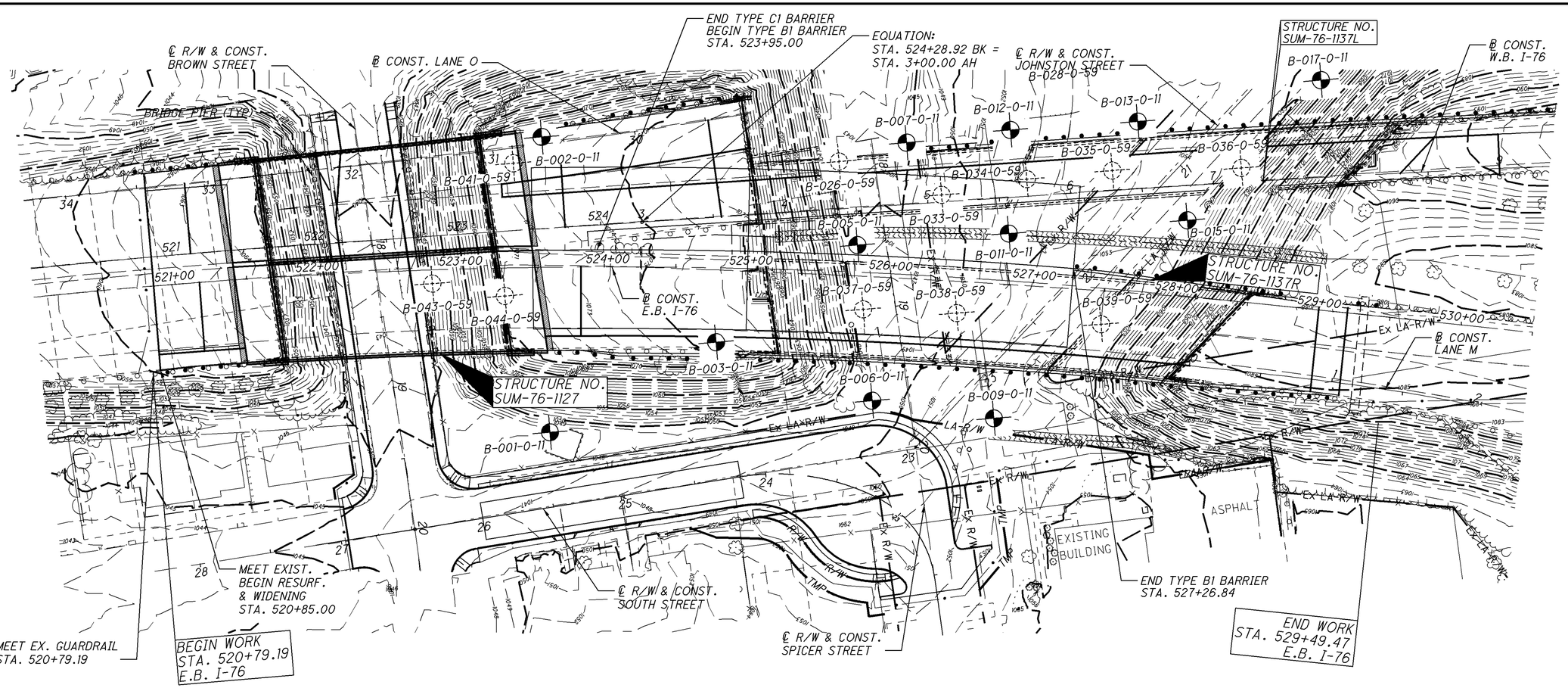
SUM-76/77-11.27/12.12

29
42

DRAWN N.K.S.
CHECKED MK

HORIZONTAL SCALE IN FEET
0 40 80

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NOTE:

SEE SHEET 35 OF 42 FOR BORINGS B-037-0-59, B-037-0-59,B-038-0-59 AND B-038-0-59 SOIL PROFILES

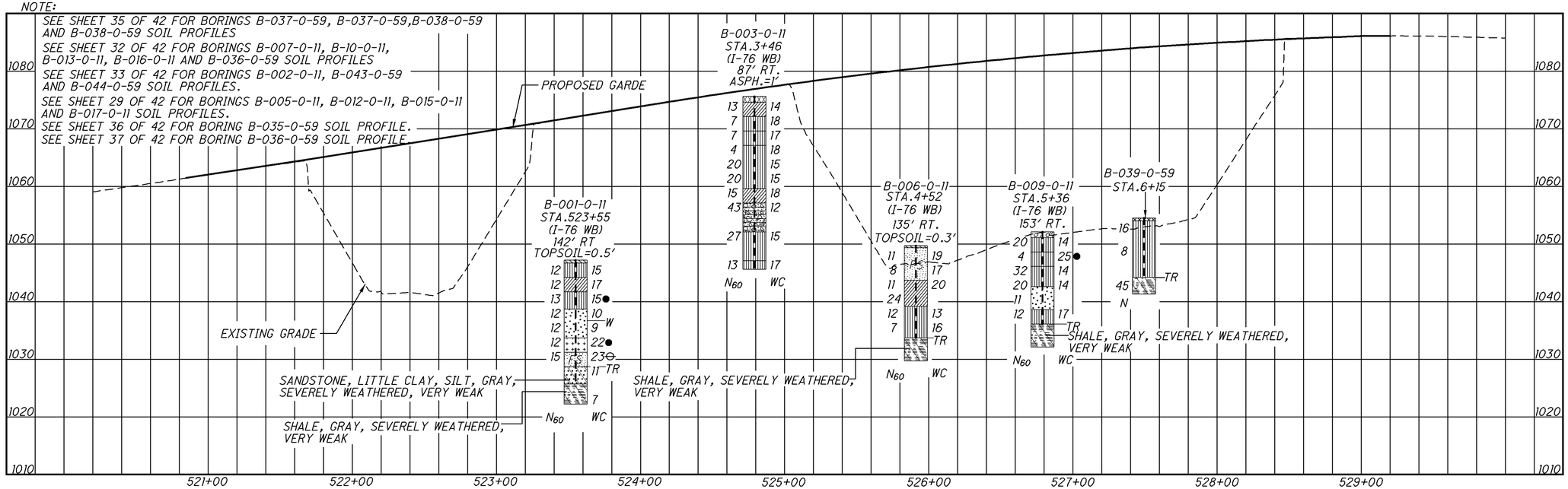
SEE SHEET 32 OF 42 FOR BORINGS B-007-0-11, B-10-0-11, B-013-0-11, B-016-0-11 AND B-036-0-59 SOIL PROFILES

SEE SHEET 33 OF 42 FOR BORINGS B-002-0-11, B-043-0-59 AND B-044-0-59 SOIL PROFILES.

SEE SHEET 29 OF 42 FOR BORINGS B-005-0-11, B-012-0-11, B-015-0-11 AND B-017-0-11 SOIL PROFILES.

SEE SHEET 36 OF 42 FOR BORING B-035-0-59 SOIL PROFILE.

SEE SHEET 37 OF 42 FOR BORING B-036-0-59 SOIL PROFILE.



HORIZONTAL SCALE IN FEET
0 40 80

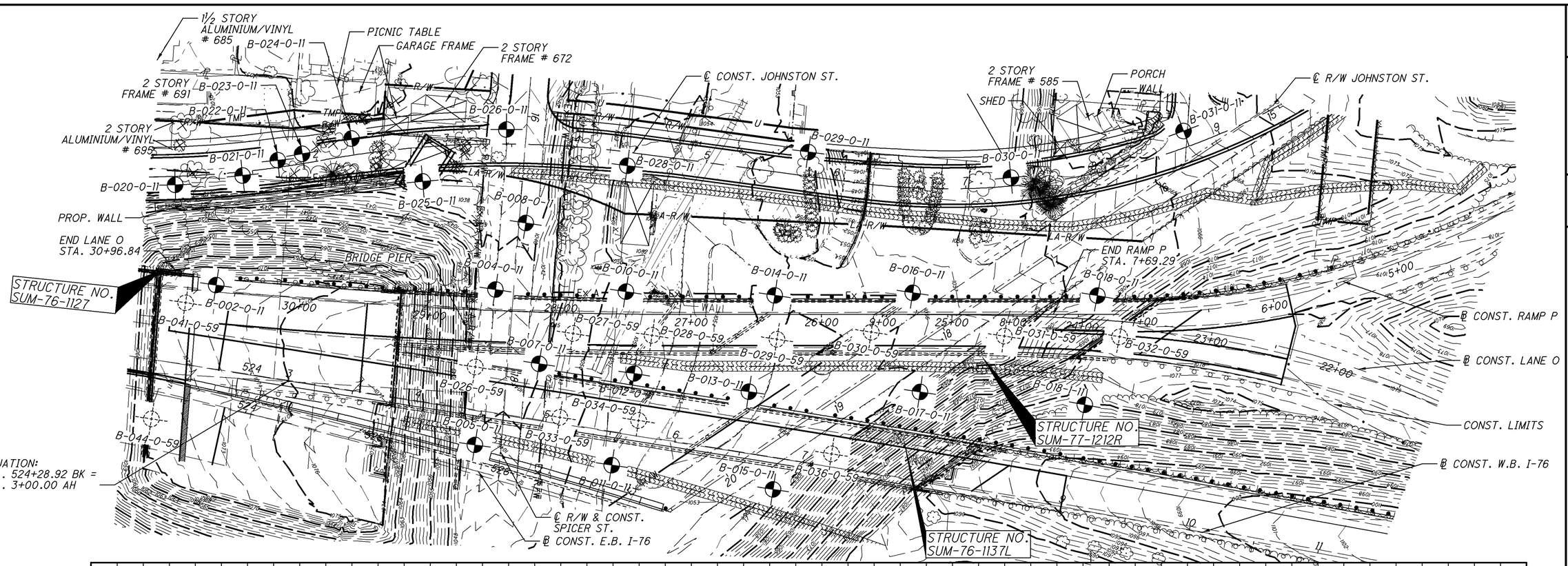
DRAWN N.K.S.
CHECKED MK

SOIL PROFILE - E.B. I-76
STA. 520+00.79 TO END

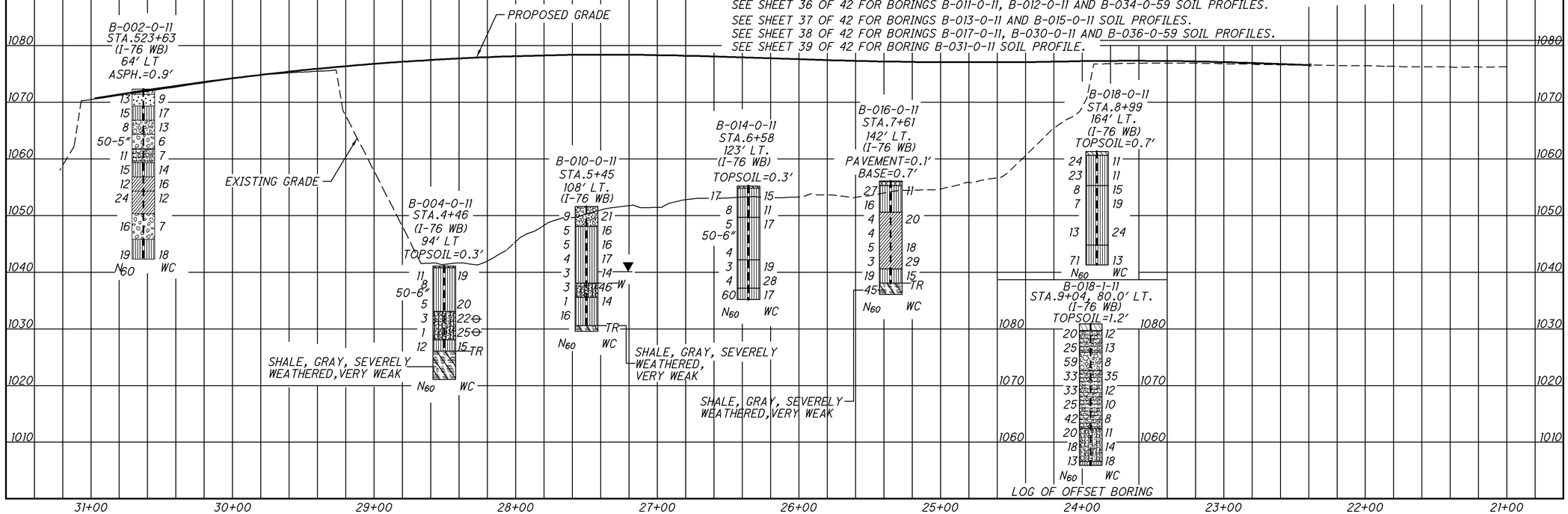
SUM-76 / 77-11.27 / 12.12

30
42

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NOTE:
SEE SHEET 33 OF 42 FOR BORINGS B-20-0-11 THROUGH B-23-0-11 AND B-044-0-59 SOIL PROFILES.
SEE SHEET 26 OF 42 FOR BORINGS B-24-0-11 THROUGH B-26-0-11 SOIL PROFILES.
SEE SHEET 35 OF 42 FOR BORINGS B-005-0-11, B-007-0-11, B-008-0-11, B-026-0-59 AND B-033-0-59 SOIL PROFILES.
SEE SHEET 36 OF 42 FOR BORINGS B-011-0-11, B-012-0-11 AND B-034-0-59 SOIL PROFILES.
SEE SHEET 37 OF 42 FOR BORINGS B-013-0-11 AND B-015-0-11 SOIL PROFILES.
SEE SHEET 38 OF 42 FOR BORINGS B-017-0-11, B-030-0-11 AND B-036-0-59 SOIL PROFILES.
SEE SHEET 39 OF 42 FOR BORING B-031-0-11 SOIL PROFILE.



SOIL PROFILE
STA. 31+25.00 - LANE O
STA. 7+69.29 - RAMP P

HORIZONTAL SCALE IN FEET
0 40 80

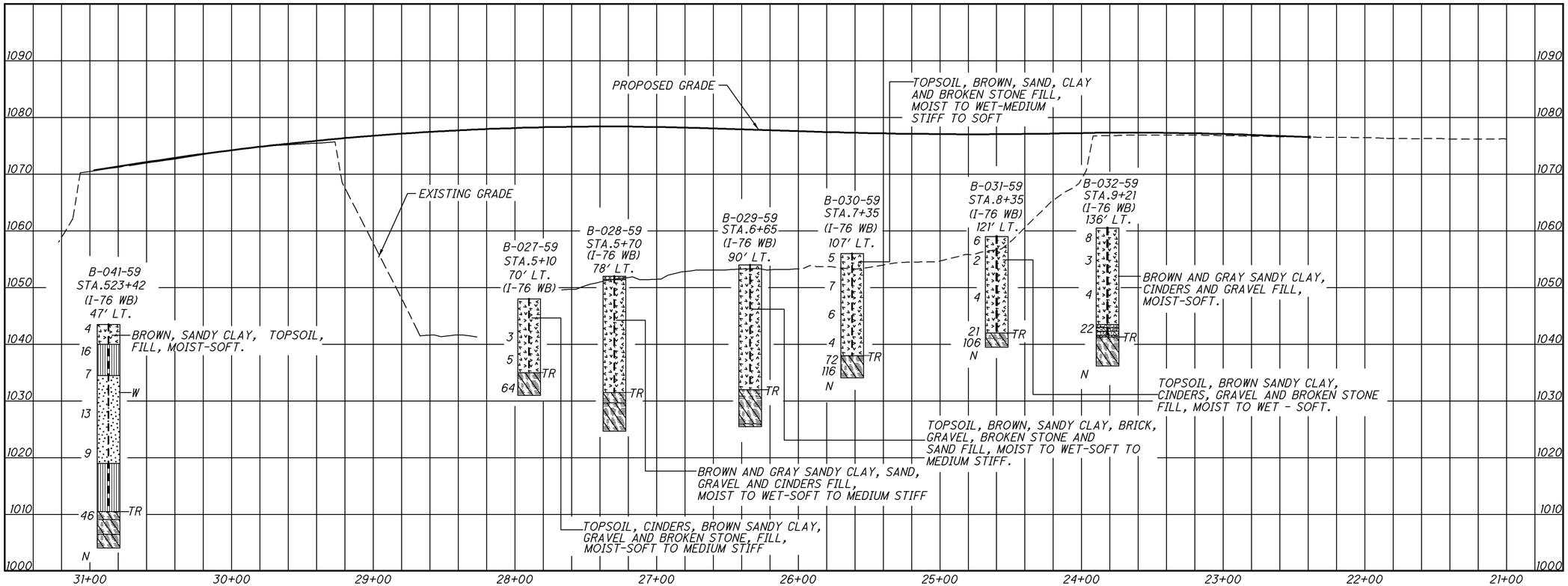
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CHECKED MK

SUM-76/77-11.27/12.12

31
42

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NOTE:
SEE SHEET 31 OF 42 FOR PLAN VIEW



N

HORIZONTAL SCALE IN FEET
0 40 80

DRAWN N.K.S.
CHECKED MK

SOIL PROFILE
STA. 31+25.00 - LANE O
STA. 7+69.29 - RAMP P
STA. 21+00.00 TO STA. 4+00.00

SUM-76/77-11.27/12.12

32
42

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℄ 523+50

LOGS OF OFFSET BORINGS

B-022-0-11
STA.1+70.3
(JOHNSON ST.
ALIGNMENT)

B-023-0-11
STA.1+89.7
(JOHNSON ST.
ALIGNMENT)
TOPSOIL=0.5'

SHALE, GRAY, SEVERELY WEATHERED,
VERY WEAK

SHALE, DARK GREY,
SEVERELY WEATHERED
VERY WEAK

SHALE WITH LIMESTONE FRAGMENTS,
DARK GRAY, SEVERELY WEATHERED,
VERY WEAK

SHALE, DARK GRAY, MODERATELY
WEATHERED, SLIGHTLY STRONG

SHALE, LITTLE GRAVEL, GRAY,
SEVERELY WEATHERED,
VERY WEAK

B-002-0-11
STA.523+63
ASPH.=0.9'

EXISTING GRADE

RAMP P
& LANE O

WB-76

EB-76

E. SOUTH ST.

B-021-0-11
2.9' RT.
RED BRICK
(DRIVE)=0.5'

B-020-0-11
6.4' RT.
TOPSOIL=0.9'

B-041-0-59
STA.523+42

B-043-0-59
STA.522+80
33' RT.

B-044-0-59
STA.523+30
45' RT.

BROWN, SANDY CLAY, CINDERS,
BRICKS AND GRAVEL FILL,
MOIST-MEDIUM STIFF.

STIFF, DAMP, BROWN
SANDY SILT(FILL)

VERY LOOSE, MOIST, BLACK SANDY SILT,
WITH WOOD, TRACE SHALE FRAGMENTS,
MODERATELY ORGANIC (FILL)
SS-2: ORGANIC CONTENT=9.0%

BROWN, SANDY CLAY, TOPSOIL,
FILL, MOIST-SOFT.

BROWN, SANDY CLAY, CINDERS
AND GRAVEL FILL,
MOIST, MEDIUM STIFF.

SHALE, BLACK,
SEVERELY WEATHERED,
VERY WEAK

VERY LOOSE, WET, BROWN FINE SAND,
TRACE CLAY, GRAVEL (FILL)

SANDSTONE OVER
SOLIDIFIED SLAG (FILL)

RED BRICK (FILL)

1130 1120 1110 1100 1090 1080 1070 1060 1050 1040 1030 1020 1010 1000 990 980 970

300+00 280+00 260+00 240+00 220+00 200+00 180+00 160+00 140+00 120+00 100+00 80+00 60+00 40+00 20+00 0+00 20+00 40+00 60+00 80+00 100+00 120+00 140+00 160+00 180+00 200+00 220+00 240+00

0 10 20 40
HORIZONTAL
SCALE IN FEET

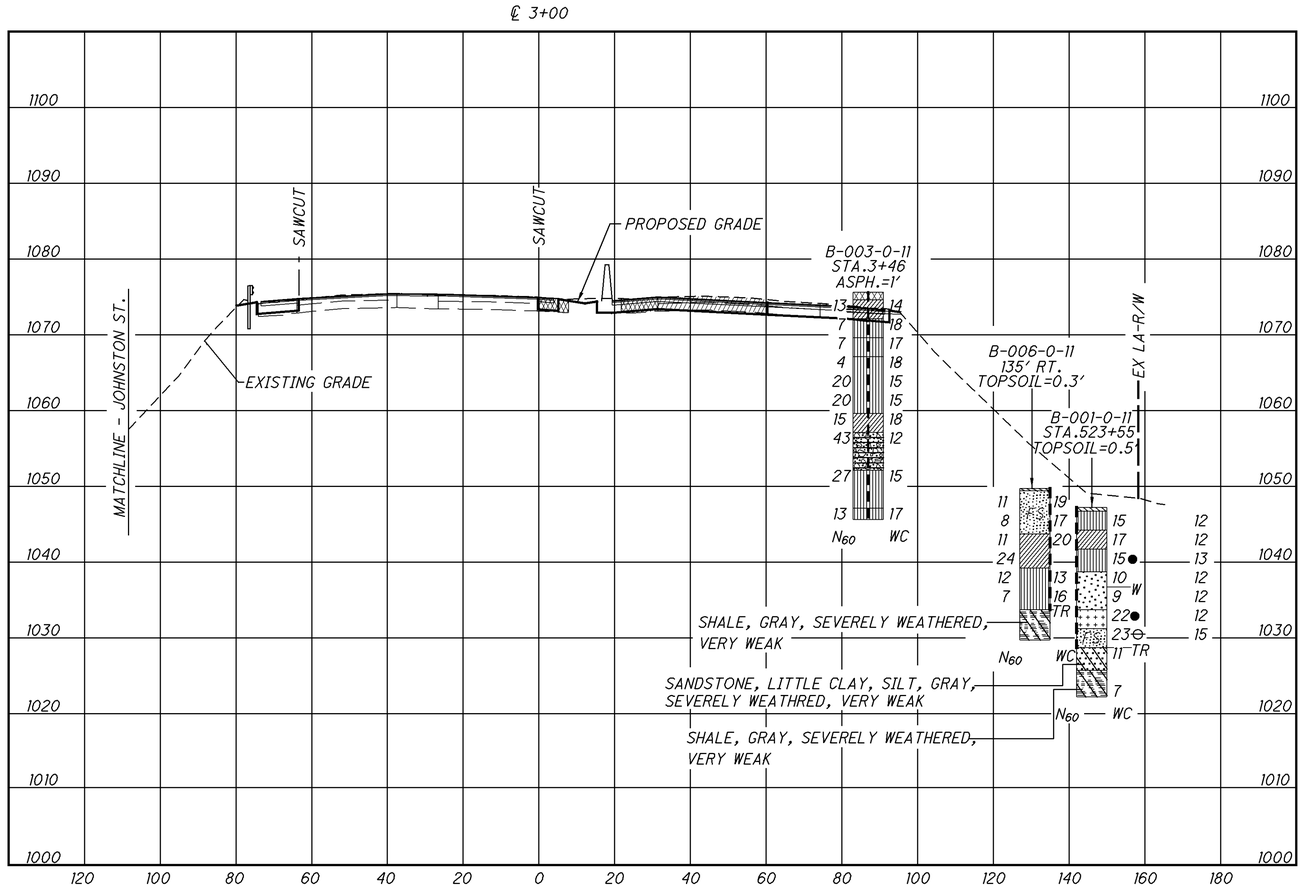
DRAWN C.L.
CHECKED MK

SOIL PROFILE - CROSS SECTION
W.B. I-76 - STA. 523+50

SUM-76/77-11.27/12.12

33
42

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HORIZONTAL SCALE IN FEET
0 10 20 40

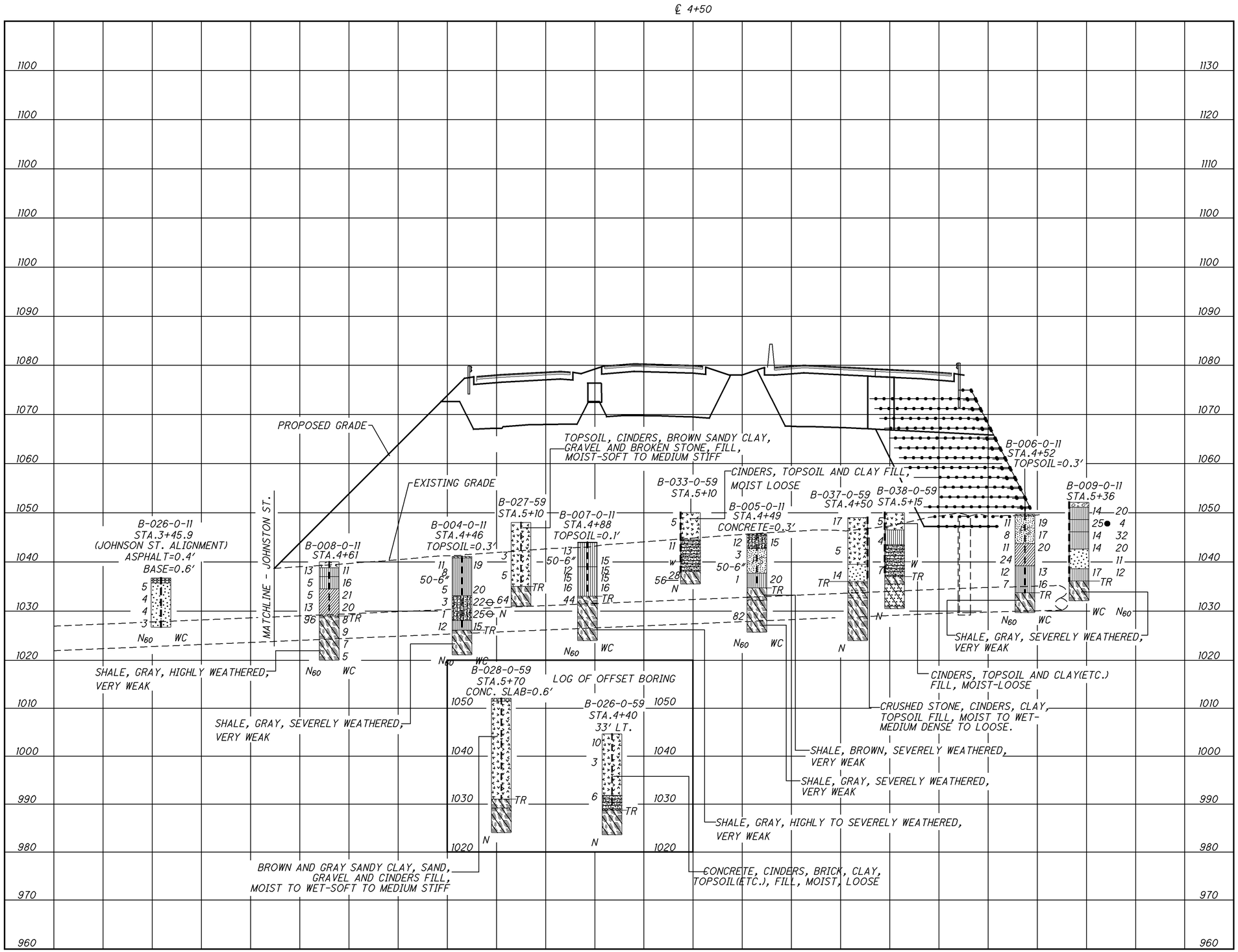
DRAWN C.L.
CHECKED MK

SOIL PROFILE - CROSS SECTION
W.B. I-76 - STA.3+00

SUM-76 / 77-11.27 / 12.12

34
42

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HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN C.L.
CHECKED MK

SOIL PROFILE - CROSS SECTION
W.B. I-76 - STA. 4+50

SUM-76 / 77-11.27 / 12.12

35
42

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℄ 5+50

SEE JOHNSTON ST.

PROPOSED GRADE

EX A

B-027-0-11
STA.4+17.8
(JOHNSON ST. ALIGNMENT)

B-028-0-11
STA.4+40.2
(JOHNSON ST. ALIGNMENT)

B-010-0-11
STA.5+45

B-028-0-59
STA.5+70
CONC. SLAB=0.6'

B-012-0-11
47' LT.

B-034-0-59
STA.5+70

B-011-0-11
STA.5+55

EX R/W

LA-R/W

B-009-0-11
STA.5+36

EX R/W

EXISTING GRADE

LOOSE, CINDER(FILL)

SHALE, BROWN, SEVERELY WEATHERED, VERY WEAK

SHALE, GRAY, SEVERELY WEATHERED, VERY WEAK

SHALE, GRAY, SEVERELY WEATHERED, VERY WEAK

SHALE, GRAY, SEVERELY WEATHERED, VERY WEAK

SHALE, BROWN, SEVERELY WEATHERED, VERY WEAK

SHALE, GRAY, SEVERELY WEATHERED, VERY WEAK

TOPSOIL, BROWN, SANDY CLAY, GRAVEL, CINDERS AND BROKEN STONE FILL, MOIST-SOFT TO MEDIUM DENSE-STIFF

BROWN AND GRAY SANDY CLAY, SAND, GRAVEL AND CINDERS FILL, MOIST TO WET-SOFT TO MEDIUM STIFF

SHALE, GRAY, SEVERELY WEATHERED, VERY WEAK

1090 1080 1070 1060 1050 1040 1030 1020 1010 1000 990 980 970 960

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

HORIZONTAL SCALE IN FEET
0 10 20 40

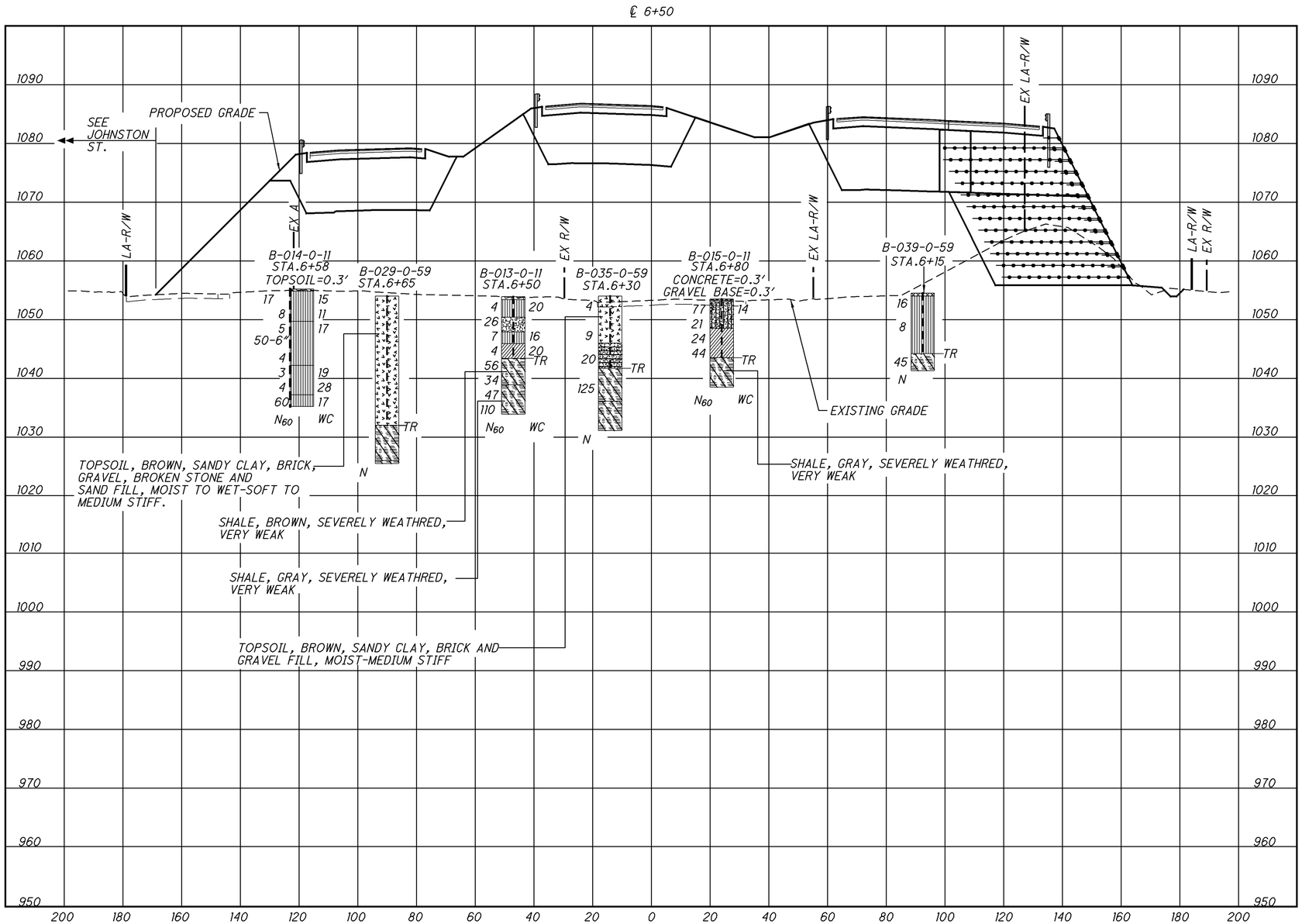
DRAWN C.L.
CHECKED MK

SOIL PROFILE - CROSS SECTION
W.B. I-76 - STA. 5+50

SUM-76 / 77-11.27 / 12.12

36
42

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HORIZONTAL SCALE IN FEET
0 10 20 40

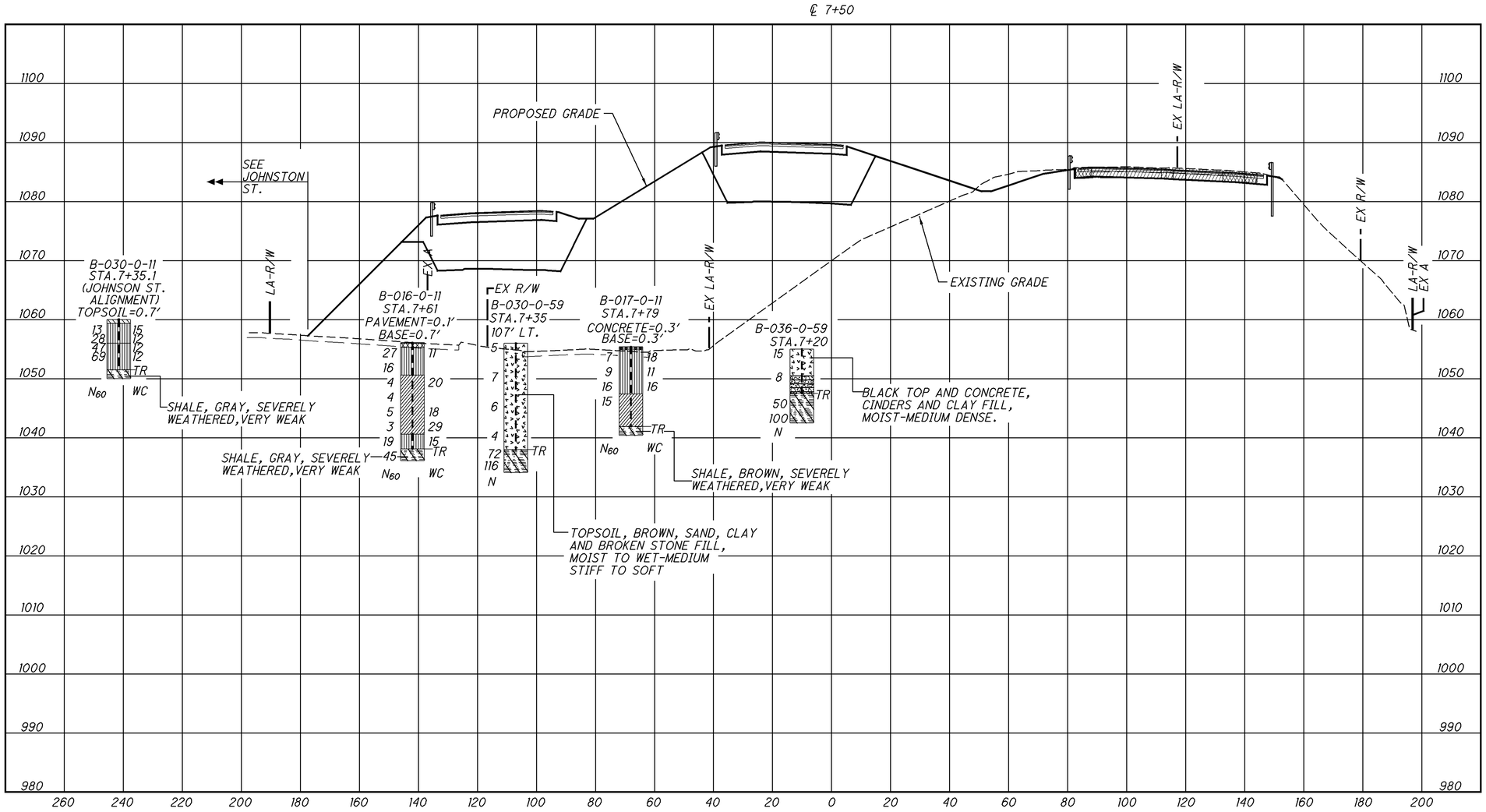
DRAWN C.L.
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SOIL PROFILE - CROSS SECTION
W.B. I-76 - STA. 6+50

SUM-76 / 77-11.27 / 12.12

37
42

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HORIZONTAL SCALE IN FEET
0 10 20 40

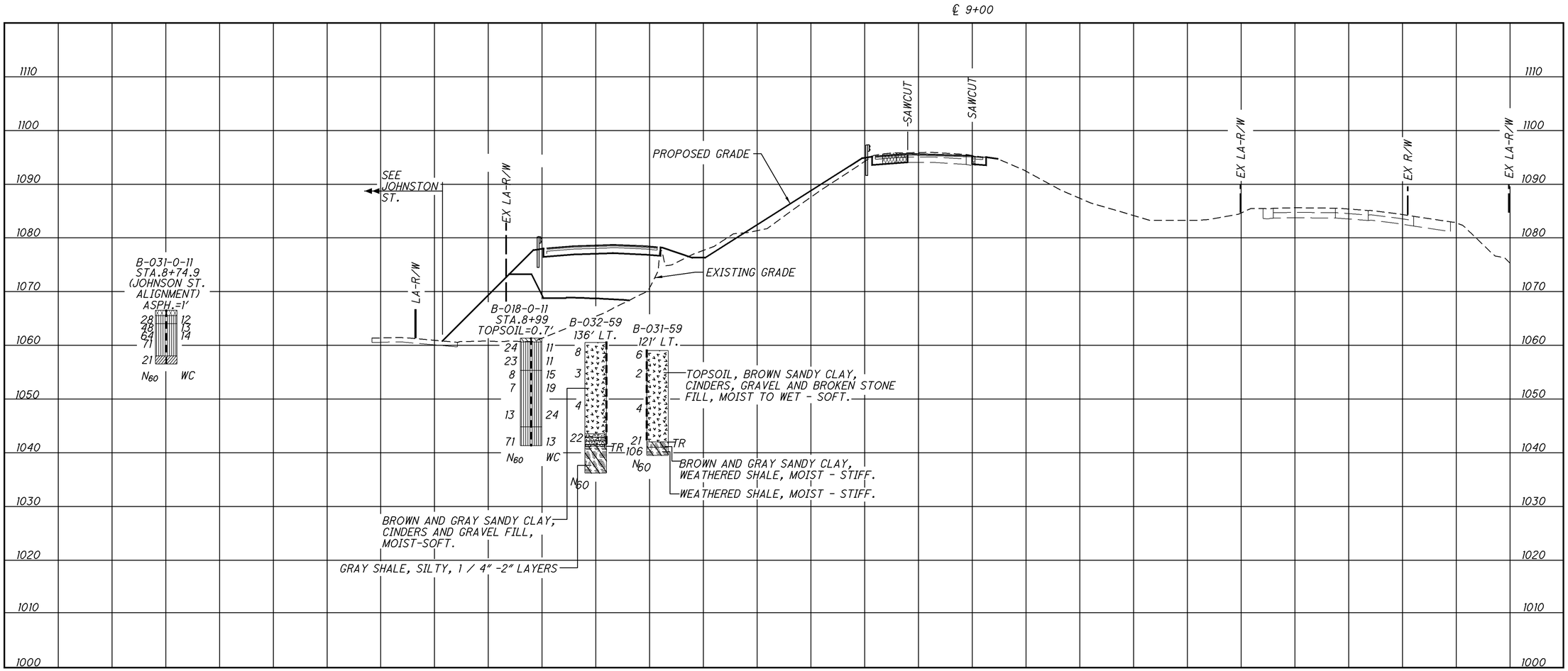
DRAWN C.L.
CHECKED MK

SOIL PROFILE - CROSS SECTION
W.B. I-76 - STA. 7+50

SUM-76/77-11.27/12.12

38
42

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HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN C.L.
CHECKED MK

SOIL PROFILE - CROSS SECTION
W.B. I-76 - STA. 9+00

SUM-76 / 77-11.27 / 12.12

39
42

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PROJECT: SUM I-77/I-76 INTERCHANGE	DRILLING FIRM / OPERATOR: RIDGEWAY / PS	DRILL RIG: D-50 TRACK	STATION / OFFSET: 9+04, 80.0 LT	EXPLORATION ID B-018-1-11
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: RIDGEWAY / PS	HAMMER: DIEDRICH AUTOMATIC	ALIGNMENT: I-76 WB	
PID: 86979 BR ID:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/26/13	ELEVATION: 1080.9 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 4/17/13 END: 4/17/13	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.8	COORD: 510058.320 N, 2242340.608 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1080.9	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
TOPSOIL, (14.0")	1079.7																	
MEDIUM DENSE, GRAY, STONE FRAGMENTS WITH SAND, SILT, AND CLAY, (SANDSTONE AND SHALE FRAGMENT FILL), TRACE CINDER, MODERATELY ORGANIC, DAMP SS-2; ORGANIC CONTENT = 5.5%	1075.9	1	17 7 7	20	78	SS-1	-	-	-	-	-	-	-	-	-	12	A-2-6 (V)	
		2																
		3																
		4	10 9 9	25	78	SS-2	-	34	14	23	29	-	27	16	11	13	A-2-6 (0)	
		5																
VERY DENSE, BROWN TO GRAY, STONE FRAGMENTS WITH SAND, (SANDSTONE FRAGMENT FILL), DAMP	1072.7	6																
		7	38 28 14	59	83	SS-3	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
DENSE, GRAY, STONE FRAGMENTS WITH SAND, SILT, AND CLAY, (SHALE FRAGMENT FILL), MOIST TO DAMP		8																
		9	5 8 15	33	67	SS-4	-	-	-	-	-	-	-	-	-	35	A-2-6 (V)	
@10.0'; SOME CLAY SEAMS		10																
		11	8 11 12	33	72	SS-5	-	-	-	-	-	-	-	-	-	12	A-2-6 (V)	
@13.5'; MEDIUM DENSE		12																
		13	4 7 11	25	44	SS-6	-	53	10	7	21	9	29	18	11	10	A-2-6 (0)	
@17.0'; SOME ASPHALT, TRACE SLAG	1062.4	14																
		15	20 13 17	42	89	SS-7	-	-	-	-	-	-	-	-	-	8	A-2-6 (V)	
MEDIUM DENSE, BROWN, STONE FRAGMENTS WITH SAND AND SILT, LITTLE CLAY, (SHALE FRAGMENT FILL), DAMP		16																
		17	9 7 7	20	83	SS-8	-	-	-	-	-	-	-	-	-	11	A-2-4 (V)	
		18																
		19	5 6 7	18	78	SS-9	-	-	-	-	-	-	-	-	-	14	A-2-4 (V)	
	1056.7	20																
VERY STIFF, BROWN, SANDY SILT, SOME CLAY, LITTLE ROCK FRAGMENTS, (POSSIBLE FILL), MOIST	1055.9	21	4 4 5	13	83	SS-10	2.50	-	-	-	-	-	-	-	-	18	A-4a (V)	
	EOB	22																
		23																
		24																
		25																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: SUM I-77/I-76 INTERCHANGE	DRILLING FIRM / OPERATOR: CTL / HESS	DRILL RIG: GEOPROBE	STATION / OFFSET: 0+40.3, 1.8 LT	EXPLORATION ID B-019-0-11
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: CTL / HESS	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: NEW JOHNSTON ST.	
PID: 86979 BR ID:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 10/17/11	ELEVATION: 1037.2 (MSL) EOB: 33.0 ft.	PAGE 1 OF 1
START: 11/11/11 END: 11/16/11	SAMPLING METHOD: SPT / ST	ENERGY RATIO (%): 80	COORD: 510172.477 N, 2241581.345 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1037.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
8" TOPSOIL	1036.5																	
Very stiff to medium stiff, damp, brown SANDY SILT, some gravel, trace roots, (FILL)		2.5	2 5 8	17	100	SS-1	2.25	16	8	25	31	20	22	17	5	15	A-4a (3)*	
			7 8 7	20	100	SS-2	4.50	-	-	-	-	-	-	-	-	10	A-4a (V)*	
		5.0	4 3 4	9	100	SS-3	0.50	-	-	-	-	-	-	-	-	16	A-4a (V)	
			5 5 5	13	100	SS-4	-	-	-	-	-	-	-	-	-	9	A-4a (V)	
	1028.7	7.5																
Loose to very loose, wet, brown GRAVEL with sand and silt (FILL)		10.0	1 1 3	5	100	SS-5	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	
					100	ST-6	-	-	-	-	-	-	-	-	-	20	A-2-4 (V)	
		12.5	WOH WOH WOH	0	100	SS-7	-	-	-	-	-	-	-	-	-	-		
		15.0	1 1 2	4	100	SS-8	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	
	1021.2																	
Very stiff, moist, gray SILT and CLAY, trace gravel		17.5	5 6 8	19	67	SS-9	2.75	-	-	-	-	-	-	-	-	14	A-6a (V)	
		20.0	6 7 10	23	100	SS-10	2.50	-	-	-	-	-	-	-	-	13	A-6a (V)	
	1014.7	22.5																
Medium dense, moist, gray GRAVEL with sand and silt		25.0	9 4 5	12	100	SS-11	1.00	6	3	71	20	-	24	17	7	17	A-2-4 (0)	
	1008.7	27.5																
SHALE, gray, severely weathered, very weak		TR 30.0	38 24 20	59	44	SS-12	-	-	-	-	-	-	-	-	-	8	Rock (V)	
	1005.7																	
LIMESTONE with sand, gray, severely weathered, moist, very weak	1004.2	32.5	41 50	-	61	SS-13	-	-	-	-	-	-	-	-	-	12	Rock (V)	
	EOB																	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED AUGER CUTTINGS

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PROJECT: SUM I-77/I-76 INTERCHANGE	DRILLING FIRM / OPERATOR: CTL / MF	DRILL RIG: R197	STATION / OFFSET: 0+90.4, 6.4 RT	EXPLORATION ID B-020-0-11
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: CTL / MF	HAMMER: AUTOMATIC HAMMER	ALIGNMENT: NEW JOHNSTON ST.	
PID: 86979 BR ID:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 4/19/12	ELEVATION: 1036.8 (MSL) EOB: 30.0 ft.	PAGE 1 OF 1
START: 3/7/12 END: 3/7/12	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.2	COORD: 510168.540 N, 2241632.077 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1036.8	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
11" TOPSOIL	1035.9																	
Loose to medium dense, moist, brown SANDY SILT (FILL)			4 3 5	11	100	SS-1	-	2	4	30	42	22	26	16	10	22	A-4a (6)*	
			2 2 2	5	67	SS-2	-	-	-	-	-	-	-	-	-	20	A-4a (V)*	
	1031.3																	
Very loose, moist, brown to black SILT, trace gravel, sand, Moderately Organic (FILL) SS-4: ORGANIC CONTENT = 5.2%			1 1 1	3	61	SS-3	-	-	-	-	-	-	-	-	-	32	A-4b (V)	
			WOH 1 1	3	67	SS-4	-	-	-	-	-	-	-	-	-	37	A-4b (V)	
	1023.8																	
Loose, wet, brown COARSE and FINE SAND			2 2 3	7	-	SS-5	-	-	-	-	-	-	-	-	-	-	A-3a (V)	
	1018.8																	
Medium dense, moist, grey SANDY SILT, little clay, trace gravel			4 6 6	16	-	SS-6	-	-	-	-	-	-	-	-	-	18	A-4a (V)	
			6 7 7	19	78	SS-7	-	-	-	-	-	-	-	-	-	19	A-4a (V)	
	1007.8																	
SHALE, black, severely weathered, very weak	1006.8	TR	12 50/4"	-	-	SS-8	-	-	-	-	-	-	-	-	-	11	Rock (V)	
		EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED AUGER CUTTINGS

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PROJECT: SUM I-77/I-76 INTERCHANGE
TYPE: ROADWAY
PID: 86979 BR ID:
START: 3/7/12 END: 3/7/12

DRILLING FIRM / OPERATOR: CTL / MF
SAMPLING FIRM / LOGGER: CTL / MF
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: R197
HAMMER: AUTOMATIC HAMMER
CALIBRATION DATE: 4/19/12
ENERGY RATIO (%): 81.2

STATION / OFFSET: 1+42.1, 2.9 RT
ALIGNMENT: NEW JOHNSTON ST.
ELEVATION: 1036.2 (MSL) EOB: 15.0 ft.
COORD: 510179.816 N, 2241683.041 E

EXPLORATION ID B-021-0-11
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 1036.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
Red BRICK (Drive)	1035.7																	
Stiff, damp, brown SANDY SILT (FILL)	1033.2	1	2 3 5	11	67	SS-1	2.75	-	-	-	-	-	-	-	-	16	A-4a (V)*	
Very loose, moist, black SANDY SILT, with wood, trace shale fragments, Moderately Organic (FILL) SS-2: ORGANIC CONTENT = 9.0%	1030.7	4	2 1 2	4	39	SS-2	-	-	-	-	-	-	-	-	-	20	A-4a (V)*	
Very loose, wet, brown FINE SAND, trace clay, gravel (FILL)	1027.7	7	1 1 2	4	56	SS-3	-	-	-	-	-	-	-	-	-	17	A-3 (V)	
SANDSTONE over solidified Slag (FILL)	1025.2	9	50/2"	-	-	SS-4	-	-	-	-	-	-	-	-	-	-	(VISUAL)	
		10	50/1"	-	-	SS-5	-	-	-	-	-	-	-	-	-	-	(VISUAL)	
RED BRICK (FILL)	1023.2	11	50/4"	-	-	SS-6	-	-	-	-	-	-	-	-	-	-	(VISUAL)	
Medium dense, dry, grey SANDY SILT	1021.2 EOB	14	5 6 7	18	-	SS-7	-	-	-	-	-	-	-	-	-	-	A-4a (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED AUGER CUTTINGS

PROJECT: SUM I-77/I-76 INTERCHANGE
TYPE: ROADWAY
PID: 86979 BR ID:
START: 11/10/11 END: 11/10/11

DRILLING FIRM / OPERATOR: CTL / JP
SAMPLING FIRM / LOGGER: CTL / JP
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

DRILL RIG: #333
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 10/4/11
ENERGY RATIO (%): 80.1

STATION / OFFSET: 2+79.5, 26.2 RT
ALIGNMENT: NEW JOHNSTON ST.
ELEVATION: 1038.6 (MSL) EOB: 25.0 ft.
COORD: 510186.783 N, 2241820.810 E

EXPLORATION ID B-025-0-11
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 1038.6	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	INST.
Stiff to medium stiff, damp, brown SANDY SILT, little gravel, trace roots, (Possible FILL)	1033.6	1	4 3 3	8	56	SS-1	1.25	-	-	-	-	-	-	-	-	12	A-4a (V)*	
		2	3 4 3	9	39	SS-2	1.50	6	4	39	29	22	20	15	5	14	A-4a (3)*	
		3	2 2 2	5	6	SS-3	-	-	-	-	-	-	-	-	-	21	A-4a (V)	
Dense to medium dense, damp, brown FINE SAND, little gravel	1028.1	5	3 5 8	17	100	SS-4	-	-	-	-	-	-	-	-	-	18	A-3 (V)	
		7	14 16 14	40	94	SS-5	-	-	-	-	-	-	-	-	-	-	A-3 (V)	
		9	6 4 6	13	100	SS-6	-	-	-	-	-	-	-	-	-	-	A-3 (V)	
Medium dense, moist, brown GRAVEL with sand and silt	1025.6	12	2 3 5	11	78	SS-7	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	
Very loose to loose, wet, brown, GRAVEL with sand and silt	1020.6	W 14	2 1 2	4	100	SS-8	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	
		17	1 2 4	8	89	SS-9	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	
Very stiff to hard, moist, gray SANDY SILT, trace gravel, organic	1015.6	19	2 4 10	19	56	SS-10	2.25	-	-	-	-	-	-	-	-	14	A-4a (V)	
		22	4 7 16	31	100	SS-11	4.25	-	-	-	-	-	-	-	-	14	A-4a (V)	
SHALE, gray, severely weathered, very weak	1013.6	TR 24	50/5"	-	100	SS-12	-	-	-	-	-	-	-	-	-	-	Rock (V)	
	EOB	25																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED AUGER CUTTINGS

STRUCTURE FOUNDATION EXPLORATION

DRAWN B.R.U.
CHECKED MK