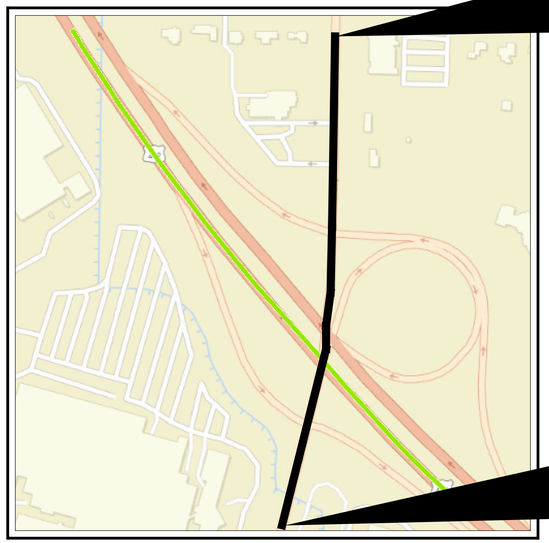

LOCATION MAP

LATITUDE: 41°24'22.04" LONGITUDE: 81°28'0.74"

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

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
CUY-422-16.20
INTERCHANGE

CITY OF SOLON
CUYAHOGA COUNTY

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FEDERAL PROJECT NUMBER

E251 (056)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

PROJECT CONSISTS OF THE RECONFIGURATION OF THE U.S. 422 / HARPER ROAD INTERCHANGE TO A DIVERGING DIAMOND INTERCHANGE. PROJECT ELIMINATES THE EXISTING NORTHBOUND TO WESTBOUND LOOP RAMP AND LENGTHENS THE EXISTING TURN LANES ON THE U.S. 422 WESTBOUND EXIT RAMP. PROJECT ALSO INCLUDES TRAFFIC SIGNAL, LIGHTING AND DRAINAGE IMPROVEMENTS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	13.2 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	14.2 ACRES

LIMITED ACCESS

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

2023 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR HARPER RD. AND THE U.S. 422 RAMPS AS DESCRIBED ON SHEETS 40 -45 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

John Picuri, P.E., P.S.
District 12 Deputy Director

Pamela Boratyn
Director, Department of Transportation

DESIGN DESIGNATION

	HARPER ROAD (CR-18)
CURRENT YEAR ADT (2024)	28,950
DESIGN YEAR ADT (2044)	31,760
DESIGN HOURLY VOLUME (2044)	3,740
DIRECTIONAL DISTRIBUTION	73%
TRUCKS (24 HOUR B & C)	12%
TD	4%
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	05 MAJOR COLLECTOR (URBAN)
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:

GPD GROUP*
Glaus, Pyle, Schomer, Burns & Dehaven, Inc.
520 South Main Street
Akron, OH 44311
330.572.2100 Fax 330.572.2101

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ENGINEER'S SEAL	ENGINEER'S SEAL
BRIDGE CUY-422-1627L/R	ENTIRE PLAN EXCEPT SHEETS OTHERWISE NOTED
STATE OF OHIO · DAVIN GIM NG · E-56972 · REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO · MARK R. GROSSMAN · E-61120 · REGISTERED PROFESSIONAL ENGINEER

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	1/19/24	MGS-2.1	7/18/25	HW-2.1	7/15/22	MT-99.20	4/19/19	TC-41.30	4/21/23	800-2023	7/18/25	FLOOD HAZ DEV
BP-4.1	7/19/13	MGS-3.1	7/18/25	HW-2.2	7/20/18	MT-101.60	1/17/25	TC-41.40	10/18/13	804	7/18/25	7/9/25
BP-5.1	7/18/25	MGS-4.2	7/18/25			MT-101.70	7/19/24	TC-41.50	10/18/13	809	7/18/25	WATERWAY
BP-7.1	7/18/25	MGS-4.3	7/18/25	HL-10.11	7/21/23	MT-101.75	7/21/23	TC-42.10	10/18/13	813	7/21/23	11/22/24
BP-9.1	1/18/19	MGS-5.2	7/15/16	HL-10.12	7/21/23	MT-101.90	7/17/20	TC-42.20	10/18/13	816	10/18/19	
		MGS-5.3	7/15/16	HL-10.13	1/20/23	MT-102.10	7/21/23	TC-51.11	7/18/25	821	4/20/12	
CB-4	7/19/24			HL-20.11	7/18/25	MT-102.20	4/19/19	TC-51.12	7/18/25	825	7/19/24	
CB-5	7/19/24			HL-30.11	7/21/23	MT-105.10	1/17/20	TC-52.10	10/18/13	832	7/18/25	
CB-6	7/19/24	MH-1	7/15/22	HL-30.21	4/17/20	MT-110.10	7/19/13	TC-52.20	1/15/21	836	1/19/24	
		MH-3	7/19/24	HL-30.22	1/17/25			TC-61.10	4/21/23	904	7/15/22	
DM-1.1	1/17/25			HL-40.20	7/18/25	TC-9.31	7/21/23	TC-65.10	1/17/14	907	10/18/19	
DM-1.2	1/17/25	RM-1.1	1/20/23	HL-60.11	7/21/17	TC-12.31	7/18/25	TC-65.11	1/17/25	909	7/18/25	
DM-2.1	1/18/13	RM-3.1	7/20/18	HL-60.31	7/19/24	TC-15.116	7/18/25	TC-71.10	7/18/25	913	4/16/21	
DM-4.2	7/20/12	RM-4.2	7/18/25			TC-16.22	7/18/25	TC-74.10	7/21/23	916	7/19/24	
DM-4.3	1/15/16	RM-4.3	7/18/25	MT-95.31	7/18/25	TC-21.11	7/16/21	TC-81.22	1/17/25	921	7/19/24	
DM-4.4	1/15/16	RM-4.4	1/17/25	MT-95.32	7/18/25	TC-21.21	7/18/25	TC-83.10	1/17/20			
		RM-4.5	7/18/25	MT-95.45	7/21/23	TC-22.10	1/17/25	TC-83.20	7/18/25			
F-1.1	7/18/25	RM-4.6	7/18/25	MT-96.20	7/18/25	TC-22.20	7/18/25	TC-85.10	1/19/24			
F-3.3	7/19/13	RM-5.2	7/21/23	MT-96.26	1/17/25	TC-41.10	7/19/13	TC-85.20	4/21/23			
				MT-98.29	1/17/20	TC-41.20	10/18/13					

TITLE SHEET

DESIGN AGENCY
GPD GROUP*
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 1 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/22/2025 TIME: 12:24:51 PM USER: diuzier
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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
- HR-# HEADWALL REMOVED
- HW-# HEADWALL
- 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
- SR-# SANITARY REMOVAL
- U-# UNDERDRAINS
- W-# WATER WORK
- WJ-# WATER WORK ADJUSTED TO GRADE
- WR-# WATER WORK REMOVALS

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 = Electric
- P = Propane Line
- T = Telephone
- D = Diesel
- CATV = Cable TV.
- TR = Signal Wiring

PLAN LEGEND AND DESIGN DESIGNATION

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:06:36 AM USER: cluzier
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GPD GROUP

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DESIGNER ATR

REVIEWER CWL 09/02/21

PROJECT ID 113889

SHEET 2 TOTAL 481

SCHEMATIC PLAN

HORIZONTAL SCALE IN FEET
0 50 100 200

BEGIN WORK
STA. 55+05.15
℄ CONST. HARPER RD

℄ CONST. HARPER ROAD

STORM WATER DET. BASIN 1

℄ EX. RAMP 3

℄ CONST. RAMP 3A

E251 (056)
BEGIN PROJECT
STA. 57+35.00
℄ CONST. HARPER RD

℄ EX. R/W HARPER ROAD

℄ CONST. RAMP 1A

WETLAND 2

℄ EX. RAMP 1

℄ EX. R/W CANNON ROAD

℄ CONST. RAMP 1B

BEGIN WORK
STA. 437+66.64
℄ CONST. RAMP 1B

STREAM 2

STREAM 1

WETLAND 1

℄ EX. R/W US-422

WETLAND 3

STREAM 1

℄ EX. RAMP 2

WETLAND 4

WETLAND 5

END WORK
STA. 654+00.00
℄ CONST. RAMP 3A

℄ EX. RAMP 5
TO BE REMOVED

CUY-422-1627L/R

℄ CONST. RAMP 3B

END WORK
STA. 850+65.24
℄ EX. RAMP 5

℄ CONST. RAMP 4B

℄ CONST. RAMP 2B

℄ CONST. RAMP 2A

STREAM 3

BEGIN WORK
STA. 647+32.79
℄ CONST. RAMP 2A

WETLAND 6

℄ CONST. RAMP 4

END WORK
STA. 858+37.00
℄ CONST. RAMP 4

℄ CONST. RAMP 4A

℄ EX. RAMP 4

℄ CONST. HARPER RD NB

℄ CONST. HARPER RD SB

E251 (056)
END PROJECT
END WORK
STA. 74+25.00
℄ CONST. HARPER RD

℄ EX. R/W BAINBRIDGE ROAD

STREAM 1

℄ CONST. & R/W HARPER ROAD

DESIGN AGENCY
GPD GROUP®

DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 3 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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GEOMETRIC PLAN

HORIZONTAL SCALE IN FEET
0 50 100 200

℄ EX. R/W US-422
℄ EX. RAMP 5
℄ EX. RAMP 4
℄ CONST. RAMP 4
℄ EX. R/W BAINBRIDGE ROAD
℄ CONST. RAMP 4A
℄ CONST. HARPER ROAD NB
℄ CONST. RAMP 3B
℄ EX. RAMP 3
℄ CONST. RAMP 3A
℄ CONST. RAMP 4B
℄ CONST. HARPER ROAD
℄ CONST. & R/W HARPER ROAD
℄ EX. R/W HARPER ROAD
℄ CONST. HARPER ROAD SB
℄ CONST. RAMP 2B
℄ CONST. RAMP 2A
℄ EX. R/W CANNON ROAD
℄ CONST. RAMP 1A
℄ EX. RAMP 1
℄ CONST. RAMP 1B
℄ EX. RAMP 2

PT NO. 80
POT 861+57.74
PT NO. 85
POT 861+50.00
PT NO. 86
POT 12+47.76
PT NO. 84
PCC 857+53.91
PT NO. 79
PT NO. 83
PC 852+86.60
PT NO. 78
PT NO. 82
PC 850+84.30
PT NO. 77
PT NO. 76
PC 846+61.21
PT NO. 81
SC 851+04.06
CS 861+03.76
SC 862+53.76
POT 863+68.68
POT 545+64.90
PT 645+53.92
POT 543+48.24
POT 849+04.06
PRC 267+40.88
POT 449+61.69
POT 451+58.03
POT 452+19.45
PT 852+45.23
POT 352+19.45
PC 851+47.33
POT 350+27.57
PRC 171+50.22
PT 172+12.15
POT 174+45.60
PT NO. 61
POT 160+16.12
POT 643+41.26
PT NO. 57
POT 54+64.86
POT 54+64.09
PT NO. 55
POT 257+35.00
PT NO. 59
PC 62+00.00
61+75.75
POT 550+76.80
PT 850+08.80
PT 849+06.67
PT 71+55.00
POT 274+50.58
PT NO. 60
PT NO. 56
PC 82+99.40
PT NO. 58
PI 19+96.30
POT 346+22.52
PT 844+67.89
PC 260+98.39
PRC 445+07.11
PRC 164+55.36
POT 447+13.05
PCC 165+17.35
PRC 265+63.02
PCC 167+84.30
PT NO. 67
PC 847+32.79
PT NO. 62
POT 548+46.75
PT NO. 66
PC 649+81.28
POT 651+57.25
PRC 271+29.61
PT 271+30.75
PT 271+78.58
PT NO. 69
POT 343+59.80
PC 843+13.96
PT NO. 70
POT 644+69.83
PT NO. 68
PT 844+69.83
PT NO. 63
PCC 843+41.65
PT NO. 64
PT NO. 74
PT 838+31.25
PT 838+35.28
PT NO. 71
PC 839+37.25
PT NO. 73
POT 836+00.00
PT NO. 72
POT 838+00.00
PT NO. 75
POT 839+74.92
PT NO. 65

S89°39'06"E
S87°39'29"E
S87°39'29"E
S89°39'06"E
S00°30'47"W
S00°30'47"W
S03°07'10"W
S03°07'10"W
S52°29'52"E
S52°29'52"E
S56°44'21"E
S62°17'16"E
S14°50'17"W
S14°50'17"W
S14°50'17"W
S69°24'33"E
S45°38'53"E
S17°49'37"E
S17°49'37"E
S44°46'50"E
S44°46'50"E
S89°50'55"E

FOR INTERSECTION DATA TABLE, SEE SHEET 8
FOR REFERENCE POINT TABLE, SEE SHEET 8
FOR CURVE DATA, SEE SHEET 7

CUY-422-16.20 (HARPER ROAD)

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DESIGN AGENCY
GPD GROUP
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 4 TOTAL 481

ENLARGED GEOMETRIC PLAN

HORIZONTAL SCALE IN FEET
0 10 20 40

℄ CONST. RAMP 4
POT 452+19.45 PT NO. 44
POT 852+19.45 PT NO. 51
PT 852+45.23 PT NO. 50
POT 352+19.45 PT NO. 39
452
S52°29'52"E
852
352
PT 451+58.03 PT NO. 43
44
℄ EX. RAMP 5
45
850
851
49
℄ EX. R/W US-422
850
℄ CONST. RAMP 4B
451
31
POT 449+61.69 PT NO. 42
450
PC 851+47.33 PT NO. 49
851
S62°17'16"E
℄ CONST. RAMP 4A
351
32
POT 350+27.57 PT NO. 38
℄ EX. RAMP 4
POT 863+68.68 PT NO. 54
4.06
PRC 267+40.68 PT NO. 7
267.849
6
268
℄ CONST. HARPER RD SB
269
PT 269+20.70 PT NO. 9
S32°15'38"W
PRC 268+13.19 PT NO. 8
7
℄ CONST. HARPER RD NB
171
PRC 171+50.22 PT NO. 23
18
PT 172+12.15 PT NO. 24
172
5
67
33
℄ CONST. HARPER ROAD
68
69
PT NO. 47
POT 851+04.89
40°00'00"
170
40°00'00"
PC 170+30.12 PT NO. 22
17
67
68
69
℄ EX. R/W HARPER ROAD
35
167
168
169
PT 169+12.80 PT NO. 21
S07°44'22"E
B
851
270
70
70
71
71
72
72
PCC 167+84.30 PT NO. 19
PRC 168+35.18 PT NO. 20
16
14
15
PC 270+36.15 PT. NO 10
8
271
PT 71+30.75 PT NO. 26
PT 71+55.00 PT NO. 28
272
POT 550+76.80 PT NO. 35
℄ CONST. RAMP 2B
℄ EX. RAMP 2
S61°59'19"E
651
25
℄ CONST. RAMP 2A
POT 651+57.25 PT NO. 32
PRC 271+29.61 PT NO. 11
6
PT 271+78.58 PT NO. 12
550
23
PT 850+08.80 PT NO. 46
850
650
PC 649+81.28 PT NO. 31
S45°38'53"E
549
PT 649+06.67 PT NO. 30
649
40
24

FOR REFERENCE POINT TABLE, SEE SHEET 8
FOR INTERSECTION DATA TABLE, SEE SHEET 8
FOR CURVE DATA, SEE SHEET 7

CUY-422-16.20 (HARPER ROAD)

MODEL: Design PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:06:59 AM USER: cluzier
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DESIGN AGENCY
GPD GROUP*
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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	5
TOTAL	481

ENLARGED GEOMETRIC PLAN

CUY-HARPER RD

HORIZONTAL SCALE IN FEET
0 10 20 40

POT 545+64.90
PT NO. 41
PT 645+53.92
PT NO. 37
POT 643+41.26
PT NO. 36
℄ CONST. RAMP 3A
℄ EX. RAMP 3
S87°39'29"E
℄ EX. RAMP 5
CS 861+03.76
PT NO. 52
℄ CONST. RAMP 3B
POT 543+48.24
PT NO. 40
SC 862+53.76
PT NO. 53
PRC 264+85.79
PT NO. 5
PRC 265+63.02
PT NO. 6
PC 263+50.57
PT NO. 4
S17°52'01"E
40°00'00"
℄ CONST. HARPER ROAD
℄ EX. R/W HARPER ROAD
PRC 161+13.57
PT NO. 14
PT 162+54.00
PT NO. 15
POT 160+16.12
PT NO. 13
POT 843+63.38
PT NO. 48
PC 61+75.75
PT NO. 25
PRC 261+36.62
PT NO. 2
PC 62+00.00
PT NO. 27
PT 262+46.27
PT NO. 3
PC 163+55.85
PT NO. 16
S22°07'59"W
℄ CONST. HARPER RD NB
PRC 164+55.36
PT NO. 17
POT 447+13.05
PT NO. 34
PCC 165+17.35
PT NO. 18
PC 260+68.39
PT NO. 1
℄ CONST. HARPER RD SB
POT 346+22.52
PT NO. 29
℄ EX. RAMP 1
℄ CONST. RAMP 1B
S69°24'33"E
℄ CONST. RAMP 1A
PT 844+67.89
PT NO. 45
PRC 445+07.11
PT NO. 33
℄ EX. R/W US-422

FOR INTERSECTION DATA TABLE, SEE SHEET 8
FOR REFERENCE POINT TABLE, SEE SHEET 8
FOR CURVE DATA, SEE SHEET 7

DESIGN AGENCY
GPD GROUP*
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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	6
TOTAL	481

MODEL: Design PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:02 AM USER: cluzier
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CURVE DATA

1 ℄ CONST. HARPER RD SB
P.I. = Sta. 261+02.65
Δ = 13°01'51" RT
Dc = 19°05'55"
R = 300.00'
T = 34.26'
L = 68.23'
E = 1.95'
emax. = N.C.
D.S. = 25 MPH
PC Sta. 260+68.39
PRC Sta. 261+36.62

2 ℄ CONST. HARPER RD SB
P.I. = Sta. 261+92.86
Δ = 31°24'39" LT
Dc = 28°38'52"
R = 200.00'
T = 56.24'
L = 109.64'
E = 7.76'
emax. = N.C.
D.S. = 25 MPH
PRC Sta. 261+36.62
PT Sta. 262+46.27

3 ℄ CONST. HARPER RD SB
P.I. = Sta. 264+20.88
Δ = 38°44'24" RT
Dc = 28°38'52"
R = 200.00'
T = 70.31'
L = 135.23'
E = 12.00'
emax. = N.C.
D.S. = 25 MPH
PC Sta. 263+50.57
PRC Sta. 264+85.79

4 ℄ CONST. HARPER RD SB
P.I. = Sta. 265+24.62
Δ = 14°44'57" LT
Dc = 19°05'55"
R = 300.00'
T = 38.83'
L = 77.23'
E = 2.50'
emax. = N.C.
D.S. = 25 MPH
PRC Sta. 264+85.79
PRC Sta. 265+63.02

5 ℄ CONST. HARPER RD SB
P.I. = Sta. 266+51.87
Δ = 02°39'11" RT
Dc = 01°29'36"
R = 3,836.72'
T = 88.85'
L = 177.66'
E = 1.03'
emax. = N.C.
D.S. = 25 MPH
PRC Sta. 265+63.02
PRC Sta. 267+40.68

6 ℄ CONST. HARPER RD SB
P.I. = Sta. 267+77.11
Δ = 13°50'56" LT
Dc = 19°05'55"
R = 300.00'
T = 36.43'
L = 72.51'
E = 2.20'
emax. = N.C
D.S. = 25 MPH
PRC Sta. 267+40.68
PRC Sta. 268+13.19

7 ℄ CONST. HARPER RD SB
P.I. = Sta. 268+68.93
Δ = 37°19'57" RT
Dc = 34°43'29"
R = 165.00'
T = 55.74'
L = 107.51'
E = 9.16'
emax = N.C.
D.S. = 20 MPH
PRC Sta. 268+13.19
PT Sta. 269+20.70

8 ℄ CONST. HARPER RD SB
P.I. = Sta. 270+83.75
Δ = 26°46'28" LT
Dc = 28°38'52"
R = 200.00'
T = 47.60'
L = 93.46'
E = 5.59'
emax. = N.C.
D.S. = 25 MPH
PC Sta. 270+36.15
PRC Sta. 271+29.61

9 ℄ CONST. HARPER RD SB
P.I. = Sta. 271+54.15
Δ = 09°21'07" RT
Dc = 19°05'55"
R = 300.00'
T = 24.54'
L = 48.97'
E = 1.00'
emax. = N.C.
D.S. = 25 MPH
PRC Sta. 271+29.61
PT Sta. 271+78.58

10 ℄ CONST. HARPER RD NB
P.I. = Sta. 160+65.28
Δ = 18°36'42" LT
Dc = 19°05'55"
R = 300.00'
T = 49.16'
L = 97.45'
E = 4.00'
emax = N.C.
D.S. = 25 MPH
PC Sta. 160+16.12
PRC Sta. 161+13.57

11 ℄ CONST. HARPER RD NB
P.I. = Sta. 161+86.82
Δ = 40°13'53" RT
Dc = 28°38'52"
R = 200.00'
T = 73.25'
L = 140.43'
E = 12.99'
emax = N.C.
D.S. = 25 MPH
PRC Sta. 161+13.57
PT Sta. 162+54.00

12 ℄ CONST. HARPER RD NB
P.I. = Sta. 164+06.66
Δ = 28°30'21" LT
Dc = 28°38'52"
R = 200.00'
T = 50.80'
L = 99.50'
E = 6.35'
emax. = N.C.
D.S. = 25 MPH
PC Sta. 163+55.85
PRC Sta. 164+55.36

13 ℄ CONST. HARPER RD NB
P.I. = Sta. 164+86.46
Δ = 11°50'23" RT
Dc = 19°05'55"
R = 300.00'
T = 31.11'
L = 61.99'
E = 1.61'
emax = N.C.
D.S. = 25 MPH
PRC Sta. 164+55.36
PCC Sta. 165+17.35

14 ℄ CONST. HARPER RD NB
P.I. = Sta. 166+50.88
Δ = 04°01'42" RT
Dc = 01°30'32"
R = 3,796.87'
T = 133.53'
L = 266.95'
E = 2.35'
emax. = N.C.
D.S. = 25 MPH
PCC Sta. 165+17.35
PCC Sta. 167+84.30

15 ℄ CONST. HARPER RD NB
P.I. = Sta. 168+09.80
Δ = 09°43'04" RT
Dc = 19°05'55"
R = 300.00'
T = 25.50'
L = 50.88'
E = 1.08'
emax. = N.C.
D.S. = 25 MPH
PCC Sta. 167+84.30
PRC Sta. 168+35.18

16 ℄ CONST. HARPER RD NB
P.I. = Sta. 168+74.72
Δ = 26°57'08" LT
Dc = 34°43'29"
R = 165.00'
T = 39.54'
L = 77.62'
E = 4.67'
emax. = N.C.
D.S. = 20 MPH
PRC Sta. 168+35.18
PT Sta. 169+12.80

17 ℄ CONST. HARPER RD NB
P.I. = Sta. 170+92.04
Δ = 34°24'22" RT
Dc = 28°38'52"
R = 200.00'
T = 61.92'
L = 120.10'
E = 9.37'
emax. = N.C.
D.S. = 25 MPH
PC Sta. 170+30.12
PRC Sta. 171+50.22

18 ℄ CONST. HARPER RD NB
P.I. = Sta. 171+81.30
Δ = 11°49'43" LT
Dc = 19°05'55"
R = 300.00'
T = 31.08'
L = 61.93'
E = 1.61'
emax. = N.C.
D.S. = 25 MPH
PRC Sta. 171+50.22
PT Sta. 172+12.15

19 ℄ CONST. RAMP 1A
P.I. = Sta. 345+78.15
Δ = 120°25'14" LT
Dc = 45°50'12"
R = 125.00'
T = 218.35'
L = 262.72'
E = 126.60'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 343+59.80
PT Sta. 346+22.52

20 ℄ CONST. RAMP 1B
P.I. = Sta. 437+18.89
Δ = 09°24'40" LT
Dc = 03°58'00"
R = 1,444.39'
T = 118.89'
L = 237.25'
E = 4.88'
emax. = EX.
D.S. = 55 MPH
PC Sta. 436+00.00
PT Sta. 438+37.25

21 ℄ CONST. RAMP 1B
P.I. = Sta. 442+22.39
Δ = 05°24'49" LT
Dc = 00°57'00"
R = 6,031.13'
T = 285.14'
L = 569.86'
E = 6.74'
emax. = N.C.
D.S. = 45 MPH
PC Sta. 439+37.25
PRC Sta. 445+07.11

22 ℄ CONST. RAMP 1B
P.I. = Sta. 446+16.33
Δ = 47°11'49" RT
Dc = 22°55'06"
R = 250.00'
T = 109.21'
L = 205.94'
E = 22.81'
emax. = 0.016
D.S. = 25 MPH
PRC Sta. 445+07.11
PT Sta. 447+13.05

23 ℄ CONST. RAMP 2B
P.I. = Sta. 550+70.34
Δ = 131°48'27" LT
Dc = 57°17'45"
R = 100.00'
T = 223.59'
L = 230.05'
E = 144.94'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 548+46.75
PT Sta. 550+76.80

24 ℄ CONST. RAMP 2A
P.I. = Sta. 648+21.48
Δ = 27°49'16" LT
Dc = 16°00'00"
R = 358.10'
T = 88.69'
L = 173.88'
E = 10.82'
emax. = 0.055
D.S. = 30 MPH
PC Sta. 647+32.79
PT Sta. 649+06.67

25 ℄ CONST. RAMP 2A
P.I. = Sta. 650+77.52
Δ = 57°36'50" RT
Dc = 32°44'26"
R = 175.00'
T = 96.23'
L = 175.97'
E = 24.72'
emax. = 0.016
D.S. = 25 MPH
PC Sta. 649+81.28
PT Sta. 651+57.25

26 ℄ CONST. RAMP 3A
P.I. = Sta. 644+69.90
Δ = 81°13'59" LT
Dc = 38°11'50"
R = 150.00'
T = 128.64'
L = 212.67'
E = 47.61'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 643+41.26
PT Sta. 645+53.92

27 ℄ CONST. RAMP 3A
P.I. = Sta. 649+31.93
Δ = 90°47'29" RT
Dc = 21°27'33"
R = 267.00'
T = 270.71'
L = 423.09'
E = 113.23'
emax. = 0.059
D.S. = 30 MPH
PC Sta. 646+61.21
PT Sta. 650+84.30

28 ℄ CONST. RAMP 3A
P.I. = Sta. 655+28.91
Δ = 37°23'05" LT
Dc = 08°00'00"
R = 716.20'
T = 242.31'
L = 467.31'
E = 39.88'
emax. = EX.
D.S. = 45 MPH
PC Sta. 652+86.60
PCC Sta. 657+53.91

29 ℄ CONST. RAMP 3A
P.I. = Sta. 659+57.17
Δ = 16°09'12" LT
Dc = 04°00'00"
R = 1,432.39'
T = 203.26'
L = 403.83'
E = 14.35'
PCC Sta. 657+53.91
PT Sta. 661+57.74

30 ℄ CONST. RAMP 3B
P.I. = Sta. 544+80.39
Δ = 82°45'26" RT
Dc = 38°11'50"
R = 150.00'
T = 132.14'
L = 216.66'
E = 49.90'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 543+48.24
PT Sta. 545+64.90

31 ℄ CONST. RAMP 4B
P.I. = Sta. 450+68.59
Δ = 56°14'51" LT
Dc = 28°38'52"
R = 200.00'
T = 106.90'
L = 196.34'
E = 26.78'
emax. = 0.016
D.S. = 25 MPH
PC Sta. 449+61.69
PT Sta. 451+58.03

32 ℄ CONST. RAMP 4A
P.I. = Sta. 351+70.22
Δ = 109°56'04" RT
Dc = 57°17'45"
R = 100.00'
T = 142.64'
L = 191.87'
E = 74.20'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 350+27.57
PT Sta. 352+19.45

33 ℄ CONST. HARPER ROAD
P.I. = Sta. 66+55.75
Δ = 14°19'30" RT
Dc = 01°30'00"
R = 3,819.72'
T = 480.00'
L = 955.00'
E = 30.04'
emax. = N.C.
D.S. = 35 MPH
PC Sta. 61+75.75
PT Sta. 71+30.75

34 ℄ CONST. HARPER ROAD
P.I. = Sta. 87+92.03
Δ = 14°41'52" LT
Dc = 01°30'00"
R = 3,819.72'
T = 492.63'
L = 979.85'
E = 31.64'
emax. = N.C.
D.S. = 35 MPH
PC Sta. 82+99.40
PT Sta. 92+79.25

35 ℄ EX. R/W HARPER ROAD
P.I. = Sta. 66+80.00
Δ = 14°19'30" RT
Dc = 01°30'00"
R = 3,819.72'
T = 480.00'
L = 955.00
E = 30.04'
PC Sta. 62+00.00
PT Sta. 71+55.00

36 ℄ EX. RAMP 1
P.I. = Sta. 837+17.91
Δ = 09°24'40" LT
Dc = 04°00'00"
R = 1,432.39'
T = 117.91'
L = 235.28'
E = 4.84'
PC Sta. 836+00.00
PT Sta. 838+35.28

37 ℄ EX. RAMP 1
P.I. = Sta. 843+92.13
Δ = 24°37'44" LT
Dc = 16°00'00"
R = 358.10'
T = 78.17'
L = 153.93'
E = 8.43'
PC Sta. 843+13.96
PT Sta. 844+67.89

38 ℄ EX. RAMP 2
P.I. = Sta. 841+58.85
Δ = 11°00'07" RT
Dc = 03°00'00"
R = 1,909.86'
T = 183.93'
L = 366.73'
E = 8.84'
PC Sta. 839+74.92
PCC Sta. 843+41.65

39 ℄ EX. RAMP 2
P.I. = Sta. 844+05.84
Δ = 07°41'27" RT
Dc = 06°00'00"
R = 954.93'
T = 64.19'
L = 128.18'
E = 2.15'
PCC Sta. 843+41.65
PT Sta. 844+69.83

40 ℄ EX. RAMP 2
P.I. = Sta. 848+78.06
Δ = 44°09'42" LT
Dc = 16°00'00"
R = 358.10'
T = 145.27'
L = 276.01'
E = 28.34'
PC Sta. 847+32.79
PT Sta. 850+08.80

41 ℄ EX. RAMP 3
P.I. = Sta. 849+31.93
Δ = 90°47'29" RT
Dc = 21°27'33"
R = 267.00'
T = 270.71'
L = 423.09'
E = 113.23'
PC Sta. 846+61.21
PT Sta. 850+84.30

42 ℄ EX. RAMP 3
P.I. = Sta. 855+28.91
Δ = 37°23'05" LT
Dc = 08°00'00"
R = 716.20'
T = 242.31'
L = 467.31'
E = 39.88'
PC Sta. 852+86.60
PCC Sta. 857+53.91

43 ℄ EX. RAMP 3
P.I. = Sta. 859+57.17
Δ = 16°09'12" LT
Dc = 04°00'00"
R = 1,432.39'
T = 203.26'
L = 403.83'
E = 14.35'
PCC Sta. 857+53.91
PT Sta. 861+57.74

44 ℄ EX. RAMP 4
P.I. = Sta. 851+96.40
Δ = 09°47'24" RT
Dc = 10°00'00"
R = 572.96'
T = 49.07'
L = 97.90'
E = 2.10'
PC Sta. 851+47.33
PT Sta. 852+45.23

45 ℄ EX. RAMP 5
P.I. = Sta. 850+38.74
Ls = 200.00'
θs = 24°54'40"
LT = 134.68'
ST = 67.89'
x = 196.25'
y = 28.60'
k = 99.37'
p = 7.20'
C = 198.32'
Start = Sta. 849+04.06
End = Sta. 851+04.06
C.B. = S52°21'12"E

46 ℄ EX. RAMP 5
P.I. = Sta. 854+38.48
Δ = 249°02'14" LT
Dc = 24°54'40"
R = 230.00'
T = 334.42'
L = 999.70'
E = 175.88'
SC Sta. 851+04.06
CS Sta. 861+03.76

47 ℄ EX. RAMP 5
P.I. = Sta. 861+65.07
Ls = 150.00'
θs = 23°33'30"
LT = 90.69'
ST = 61.31'
x = 144.44'
y = 36.25'
k = -207.87'
p = -1299.94'
C = 148.92'
Start = Sta. 861+03.76
End = Sta. 862+53.76
C.B. = S27°54'05"W

48 ℄ EX. RAMP 5
P.I. = Sta. 863+11.30
Δ = 07°28'11" LT
Dc = 06°30'00"
R = 881.47'
T = 57.54'
L = 114.92'
E = 1.88'
SC Sta. 862+53.76
PT Sta. 863+68.68

49 ℄ EX. R/W US-422
P.I. = Sta. 846+55.39
Δ = 28°39'30" LT
Dc = 00°40'00"
R = 8,594.37'
T = 2,195.34'
L = 4,298.75'
E = 275.96'
D.S. = 65 MPH
PC Sta. 824+60.05
PT Sta. 867+58.80

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:07 AM USER: dluzier
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DESIGN AGENCY
GPD GROUP
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DESIGNER
ATR

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 7 TOTAL 481

REFERENCE POINT TABLE

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	636079.1296	2252129.8878		PC STA. 260+68.39, BL CONST. HARPER RD SB
2	636011.5590	2252121.5571		PRC STA. 261+36.62, BL CONST. HARPER RD SB
3	635903.3595	2252125.6410		PT STA. 262+46.27, BL CONST. HARPER RD SB
4	635804.0886	2252157.6414		PC STA. 263+50.57, BL CONST. HARPER RD SB
5	635671.4678	2252154.1617		PRC STA. 264+85.79, BL CONST. HARPER RD SB
6	635596.5821	2252136.1855		PRC STA. 265+63.02, BL CONST. HARPER RD SB
7	635420.4393	2252113.1511		PRC STA. 267+40.68, BL CONST. HARPER RD SB
8	635348.1414	2252110.8127		PRC STA. 268+13.19,BL CONST. HARPER RD SB
9	635245.4822	2252085.9876		PT STA. 269+20.70, BL CONST. HARPER RD SB
10	635147.8517	2252024.3620		PC STA. 270+36.15, BL CONST. HARPER RD SB
11	635060.2185	2251994.4040		PRC STA. 271+29.61, BL CONST. HARPER RD SB
12	635012.0735	2251985.7742		PT STA. 271+78.58, BL CONST. HARPER RD SB
13	636131.2924	2252142.3555		POT STA. 160+16.12, BL CONST.HARPER RD NB
14	636035.4107	2252157.1862		PRC STA. 161+13.57, BL CONST. HARPER RD NB
15	635897.9288	2252152.3437		PT STA. 162+54.00, BL CONST. HARPER RD NB
16	635803.5874	2252113.9722		PC STA. 163+55.85, BL CONST. HARPER RD NB
17	635706.0358	2252100.4705		PRC STA. 164+55.36, BL CONST. HARPER RD NB
18	635644.1558	2252100.9598		PCC STA. 165+17.35, BL CONST. HARPER RD NB
19	635379.5291	2252066.2107		PCC STA. 167+84.30, BL CONST. HARPER RD NB
20	635330.2943	2252053.6115		PRC STA. 168+35.18, BL CONST. HARPER RD NB
21	635253.7761	2252045.9244		PT STA. 169+12.80, BL CONST. HARPER RD NB
22	635137.5260	2252061.7234		PC STA. 170+30.12, BL CONST. HARPER RD NB
23	635020.8326	2252042.2717		PRC STA. 171+50.22, BL CONST. HARPER RD NB
24	634963.0192	2252020.3654		PT STA. 172+12.15, BL CONST. HARPER NB
25	635971.6685	2252140.9260		PC STA. 61+75.75, CL CONST. HARPER ROAD
26	635027.6879	2252013.7042		PT STA. 71+30.75, CL CONST. HARPER ROAD
27	635948.2271	2252134.7158		PC STA. 62+00.00, CL EX. R/W HARPER ROAD
28	635004.2465	2252007.4940		PT STA. 71+55.00, CL EX. R/W HARPER ROAD
29	636042.7659	2252113.3423		POT STA. 346+22.52, BL CONST. RAMP 1A
30	635296.1368	2251895.6225		PT STA. 649+06.67, BL CONST. RAMP 2A
31	635243.9810	2251948.9719		PC STA. 649+81.28, BL CONST. RAMP 2A
32	635082.5630	2251997.8335		POT STA. 651+57.25, BL CONST. RAMP 2A
33	635867.4050	2252012.3029		PRC STA. 445+07.11, BL CONST. RAMP 1B
34	635688.4220	2252101.9140		POT STA. 447+13.05, BL CONST. RAMP 1B
35	635393.3822	2252054.4789		POT STA. 550+76.80, BL CONST. RAMP 2B
36	635997.3393	2252180.7310		POT STA. 643+41.26, BL CONST. RAMP 3A
37	635864.2498	2252323.6595		PT STA. 645+53.92, BL CONST. RAMP 3A
38	635042.0770	2252079.9583		POT STA. 350+27.57, BL CONST. RAMP 4A
39	635091.2270	2252236.1736		POT STA. 352+19.45, BL CONST. RAMP 4A
40	635706.9288	2252179.2859		POT STA. 543+48.24, BL CONST. RAMP 3B
41	635831.8279	2252333.3215		POT STA. 545+64.90, BL CONST. RAMP 3B
42	635321.7827	2252126.0734		POT STA. 449+61.69, BL CONST. RAMP 4B
43	635150.0369	2252203.8871		PT STA. 451+58.03, BL CONST. RAMP 4B
44	635112.6469	2252252.6109		POT STA. 452+19.45, BL CONST. RAMP 4B
45	635909.0286	2251995.8985		PT STA. 844+67.89, BL EX. RAMP 1
46	635232.3765	2251966.3518		PT STA. 850+08.80, BL EX. RAMP 2
47	635187.2497	2252051.1822		POT STA. 851+04.89, BL EX. RAMP 2
48	635872.0361	2252133.2733		POT STA. 843+63.38, BL EX. RAMP 3
49	635136.9485	2252180.9560		PC STA. 851+47.33, BL EX. RAMP 4
50	635084.2567	2252263.3253		PT STA. 852+45.23, BL EX. RAMP 4
51	635099.9537	2252242.8703		POT STA. 852+19.45, BL CONST. RAMP 4
52	635746.9542	2252248.9930		CS STA. 861+03.76, BL EX. RAMP 5
53	635615.3439	2252179.3052		SC STA. 862+53.76, BL EX. RAMP 5
54	635504.2610	2252150.1734		POT STA. 863+68.68, BL EX. RAMP 5
55	636683.3011	2252147.2989		POT STA. 54+64.09, CL CONST. HARPER ROAD
56	633898.0084	2251714.4264		PC STA. 82+99.40, CL CONST. HARPER ROAD
57	636683.3376	2252141.2990		POT STA. 54+64.86, CL R/W HARPER ROAD
58	633898.0084	2251714.4264		PC STA. 82+99.40, CL R/W HARPER ROAD
59	636412.5082	2252132.8734		POT STA. 257+35.00, BL CONST. HARPER RD SB
60	634749.1405	2251916.1172		POT STA. 274+50.58, BL CONST. HARPER RD SB
61	634737.3604	2251960.5833		POT STA.174+45.60, BL CONST. HARPER RD NB
62	635438.8957	2251793.6273		PC STA. 847+32.79, BL EX. RAMP 2
63	635689.2298	2251713.1238		PT STA. 844+69.83, BL EX. RAMP 2
64	635808.2595	2251665.8226		PCC STA. 843+41.65, BL EX. RAMP 2
65	636122.0641	2251477.1302		POT STA. 839+74.92, BL EX. RAMP 2
66	635355.5343	2251875.8727		POT STA. 548+46.75, BL CONST. RAMP 2B
67	635442.5695	2251805.0511		PC STA. 647+32.79, BL CONST. RAMP 2A
68	635692.9035	2251724.5476		POT STA. 644+69.83, BL CONST. RAMP 2A
69	635972.1113	2251908.2053		POT STA. 343+59.80, BL CONST. RAMP 1A
70	635992.0086	2251867.6559		PC STA. 843+13.96, BL EX. RAMP 1

REFERENCE POINT TABLE

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
71	636331.7808	2251530.4773		PT STA. 838+35.28, BL EX. RAMP 1
72	636511.6156	2251379.1770		POT STA. 836+00.00, BL EX. RAMP 1
73	636252.3470	2251592.3988		PC STA. 439+37.25, BL CONST. RAMP 1B
74	636323.3281	2251521.9596		PT STA. 438+37.25, BL CONST. RAMP 1B
75	636504.6694	2251369.3917		POT STA. 436+00.00, BL CONST. RAMP 1B
76	635859.8657	2252430.8579		PC STA. 846+61.21, BL EX. RAMP 3
77	635578.4951	2252686.5483		PT STA. 850+84.30, BL EX. RAMP 3
78	635376.4970	2252675.5397		PC STA. 852+86.60, BL EX. RAMP 3
79	634935.7191	2252803.8161		PCC STA. 857+53.91, BL EX. RAMP 3
80	634641.3306	2253078.2917		PT STA. 861+57.74, BL EX. RAMP 3
81	635859.8657	2252430.8579		PC STA. 646+61.21, BL CONST. RAMP 3A
82	635578.4951	2252686.5483		PT STA. 650+84.30, BL CONST. RAMP 3A
83	635376.4970	2252675.5397		PC STA.652+86.60, BL CONST. RAMP 3A
84	634935.7191	2252803.8161		PCC STA. 657+53.91, BL CONST. RAMP 3A
85	634641.3306	2253078.2917		PT STA. 661+57.74, BL CONST. RAMP 3A
86	634533.4410	2252981.1072		POT STA. 861+50.00, BL EX. RAMP 4

CONTROL POINT TABLE

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP01	633475.5643	2251587.3860	1055.87	3/4" REBAR IN CONC. W/ ALUM CAP "AZIMUTH MARK"
CP02	634011.6836	2251785.2970	1061.38	3/4" REBAR IN CONC. W/ ALUM CAP "AZIMUTH MARK"
CP03	635581.4576	2252536.5540	1063.22	3/4" REBAR IN CONC. W/ ALUM CAP "AZIMUTH MARK"
CP04	635996.0018	2252017.8840	1066.54	3/4" REBAR IN CONC. W/ ALUM CAP "AZIMUTH MARK"
CP05	636553.7619	2252108.2150	1078.51	5/8" x 30" REBAR WITH CAP "GPD"
CP06	635925.4871	2252193.2700	1063.83	5/8" x 30" REBAR WITH CAP "GPD"
CP07	635154.8221	2251979.7140	1060.23	5/8" x 30" REBAR WITH CAP "GPD"
CP08	634652.5778	2251996.1460	1060.11	5/8" x 30" REBAR WITH CAP "GPD"
CP09	634105.7094	2251724.2520	1061.94	5/8" x 30" REBAR WITH CAP "GPD"
CP10	635652.6635	2252693.8300	1068.44	5/8" x 30" REBAR WITH CAP "GPD"
CP11	635258.5121	2252653.9040	1071.17	5/8" x 30" REBAR WITH CAP "GPD"
CP12	634878.0544	2252867.1460	1068.63	5/8" x 30" REBAR WITH CAP "GPD"
CP13	635475.3236	2252226.5510	1074.41	5/8" x 30" REBAR WITH CAP "GPD"
CP14	636278.5113	2251548.2450	1081.03	5/8" x 30" REBAR WITH CAP "GPD"
CP15	635802.3726	2251702.8270	1078.93	5/8" x 30" REBAR WITH CAP "GPD"
CP16	634879.4946	2252509.3050	1066.49	5/8" x 30" REBAR WITH CAP "GPD"

INTERSECTION DATA TABLE	
A	STA. 62+83.75 CL CONST. HARPER RD
	STA. 262+87.93 BL CONST. HARPER RD SB
	STA. 162+90.95 BL CONST. HARPER RD NB
B	STA. 69+58.92 CL CONST. HARPER RD
	STA. 269+80.72 BL CONST. HARPER RD SB
	STA. 169+72.39 BL CONST. HARPER RD NB

CONTROL POINT TABLE

CUY-422-16.20 (HARPER ROAD)

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DESIGN AGENCY

GPD GROUP®

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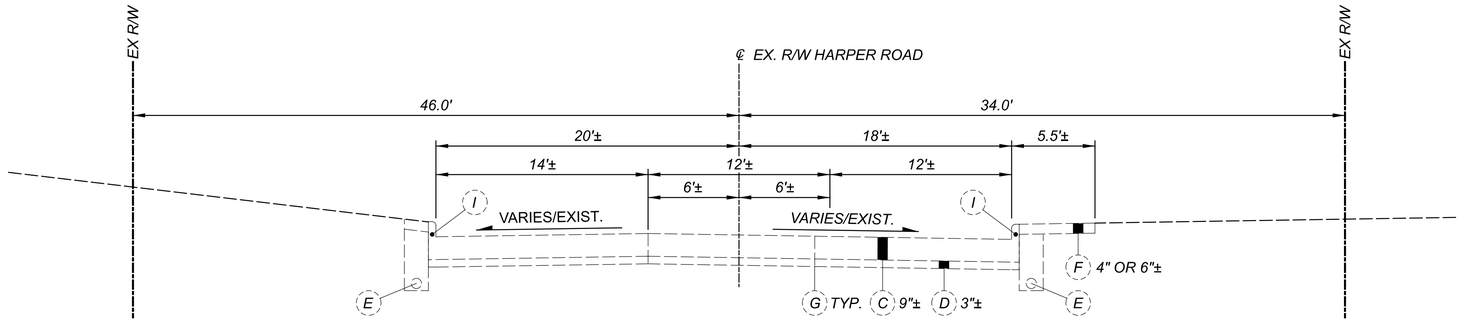
DESIGNER ATR

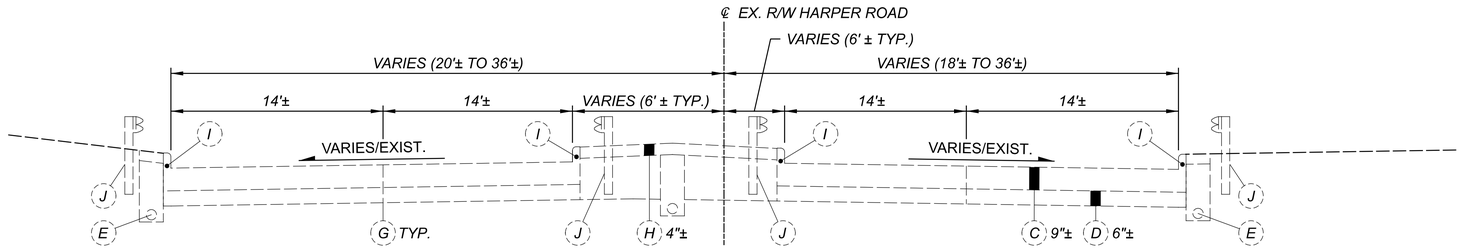
REVIEWER CWL 09/02/21

PROJECT ID 113889

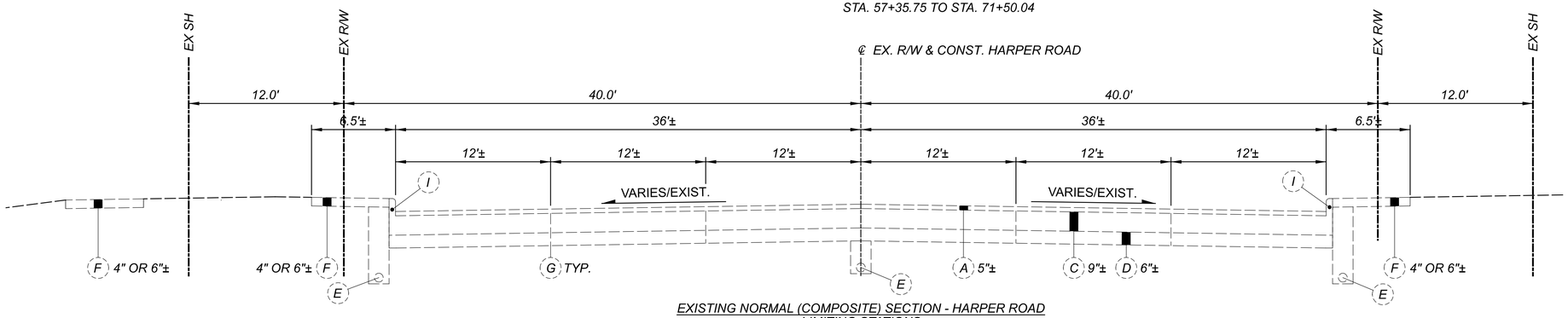
SHEET 8 TOTAL 481



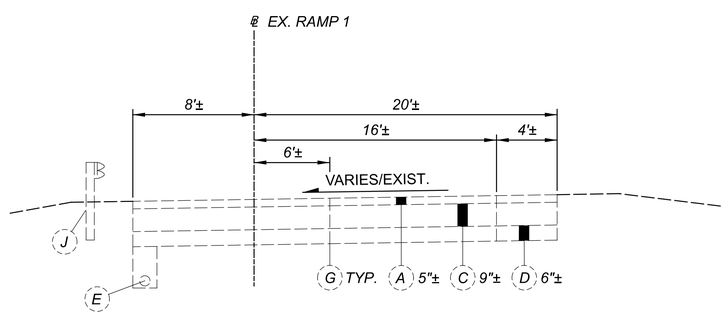
EXISTING NORMAL (CONCRETE) SECTION - HARPER ROAD
LIMITING STATIONS
BEGIN TO STA. 57+35.75



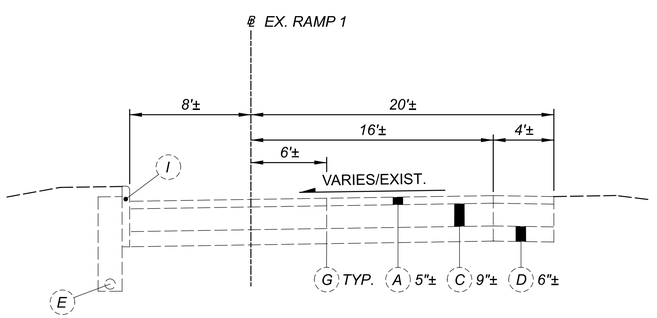
EXISTING NORMAL (CONCRETE) SECTION - HARPER ROAD
LIMITING STATIONS
STA. 57+35.75 TO STA. 71+50.04



EXISTING NORMAL (COMPOSITE) SECTION - HARPER ROAD
LIMITING STATIONS
STA. 71+50.04 TO END



EXISTING (COMPOSITE) SECTION - RAMP 1
LIMITING STATIONS
BEGIN TO STA. 844+85.11



EXISTING (COMPOSITE) SECTION - RAMP 1
LIMITING STATIONS
844+85.11 TO END

- (A) *EXISTING ASPHALT (SURFACE AND INTERMEDIATE COURSE)*
- (B) *NOT USED*
- (C) *EXISTING REINFORCED CONCRETE*
- (D) *EXISTING AGGREGATE BASE*
- (E) *EXISTING UNDERDRAIN*
- (F) *EXISTING CONCRETE WALK*
- (G) *LONGITUDINAL JOINT WITH TIE BARS*
- (H) *EXISTING CONCRETE MEDIAN*
- (I) *EXISTING CONCRCETE CURB*
- (J) *EXISTING GUARDRAIL*

EXISTING TYPICAL SECTIONS

CUY-422-16.20 (HARPER ROAD)

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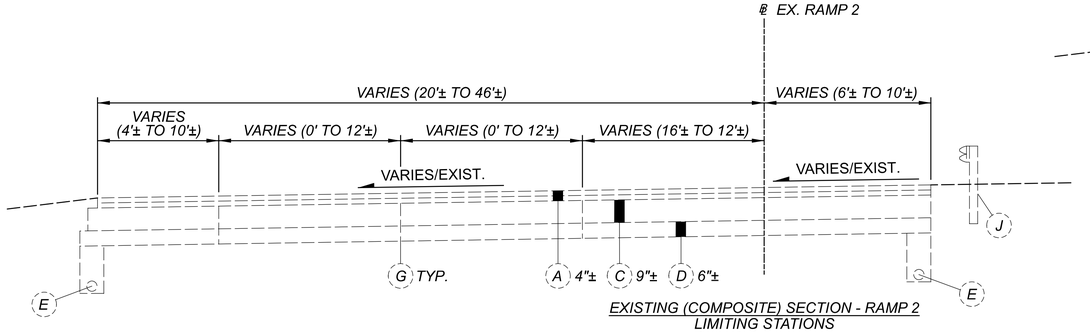
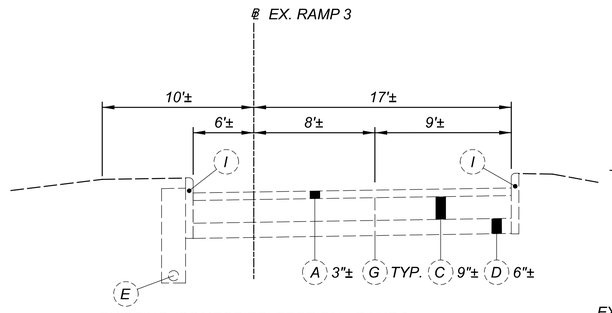
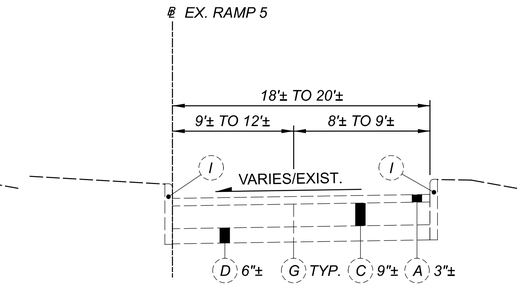
DESIGNER	
KRM	
REVIEWER	
CWL	09/02/21
PROJECT ID	
113889	
SHEET	TOTAL
9	481



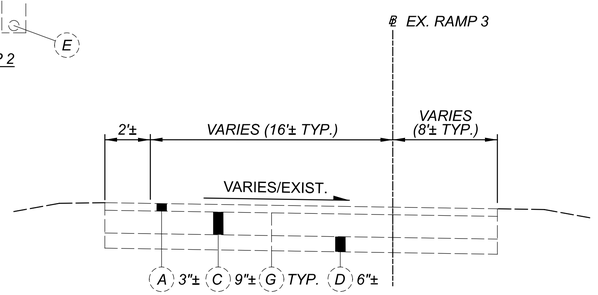
EXISTING (COMPOSITE) SECTION - RAMP 2
LIMITING STATIONS
BEGIN TO STA. 849+52.32



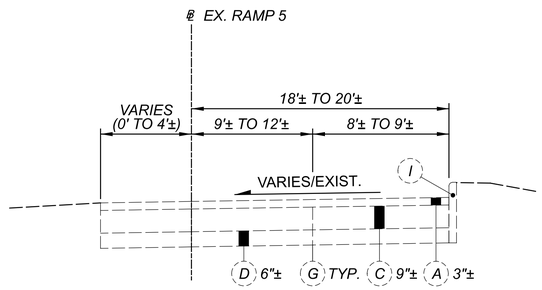
EXISTING (COMPOSITE) SECTION - RAMP 3
LIMITING STATIONS
BEGIN TO STA. 845+94.62



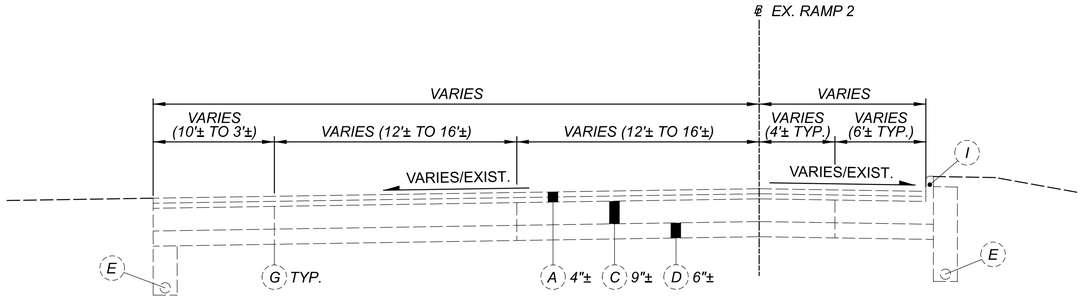
EXISTING (COMPOSITE) SECTION - RAMP 5
LIMITING STATIONS
STA. 861+84.51 TO END



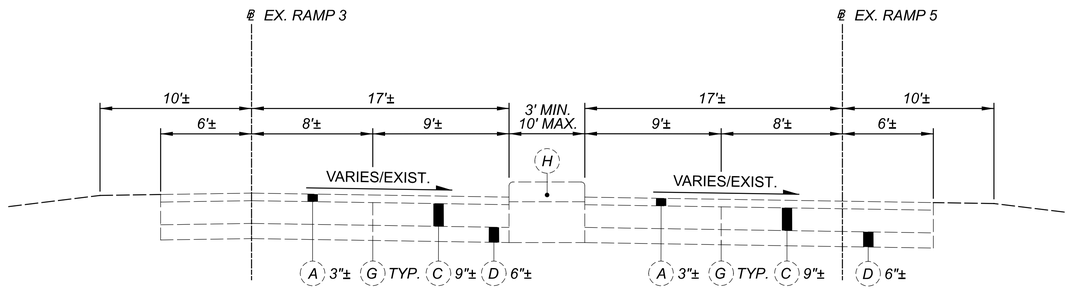
EXISTING (COMPOSITE) SECTION - RAMP 3
LIMITING STATIONS
STA. 851+36.60 TO END



EXISTING (COMPOSITE) SECTION - RAMP 5
LIMITING STATIONS
STA. 859+63.30 TO STA. 861+84.51

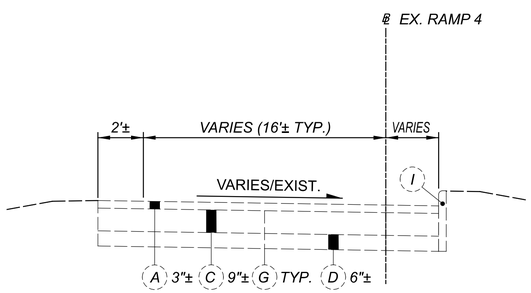


EXISTING (COMPOSITE) SECTION - RAMP 2
LIMITING STATIONS
STA. 849+52.32 TO END

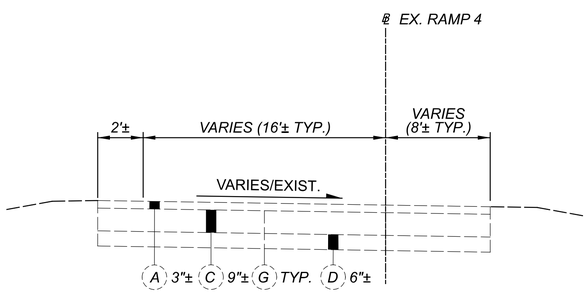


EXISTING (COMPOSITE) SECTION - RAMP 3
LIMITING STATIONS
STA. 845+94.62 TO STA. 851+36.60

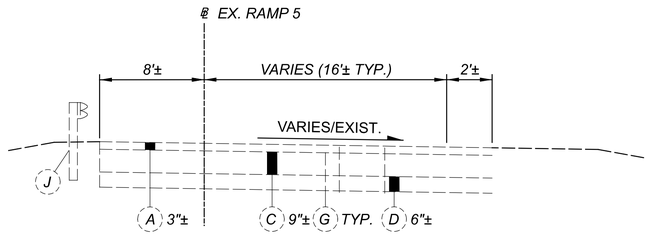
EXISTING (COMPOSITE) SECTION - RAMP 5
LIMITING STATIONS
STA. 854+87.73 TO STA. 859+63.30



EXISTING (COMPOSITE) SECTION - RAMP 4
LIMITING STATIONS
BEGIN TO STA. 851+11.79



EXISTING (COMPOSITE) SECTION - RAMP 4
LIMITING STATIONS
STA. 851+11.79 TO END



EXISTING (COMPOSITE) SECTION - RAMP 5
LIMITING STATIONS
BEGIN TO STA. 854+87.73

FOR EXISTING LEGEND SEE SHEET 9

EXISTING TYPICAL SECTIONS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:10 AM USER: cluzier
O:\Clients\ORD\2020\20203361\113889\400-Engineering\Roadway\Sheets\113889_GY002.dgn

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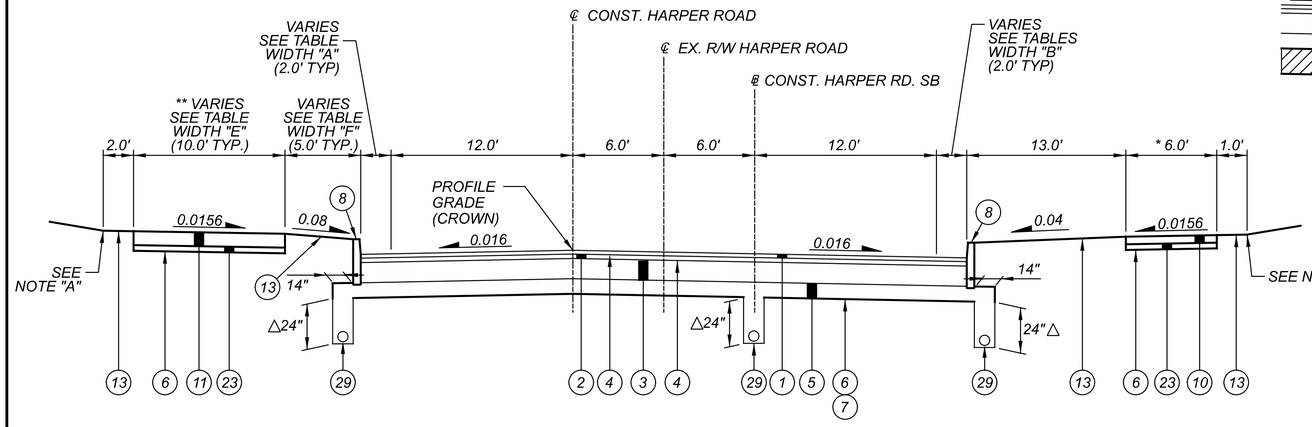
DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 10 TOTAL 481

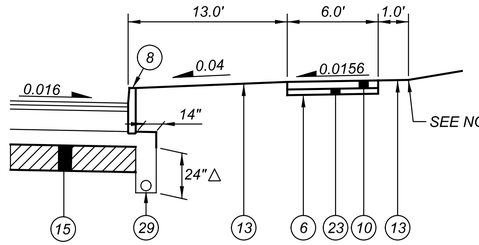
NOTE "A"
4.0' ROUNDING

* BEGIN SIDEWALK AT STA. 55+50.00 RT

** BEGIN DUAL USE PATH AT STA. 55+05.15 LT



NORMAL ASPHALT SECTION - HARPER ROAD
STA. 57+35.00 TO STA. 60+16.12

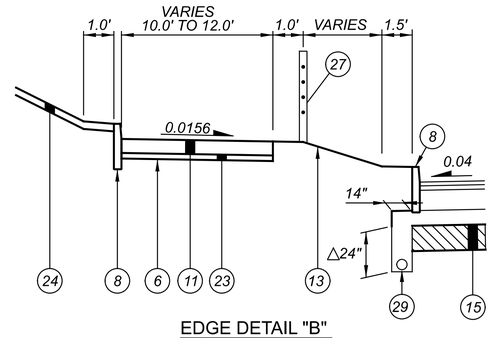


EDGE DETAIL "A"
STA. 60+16.12 TO STA. 61+62.61

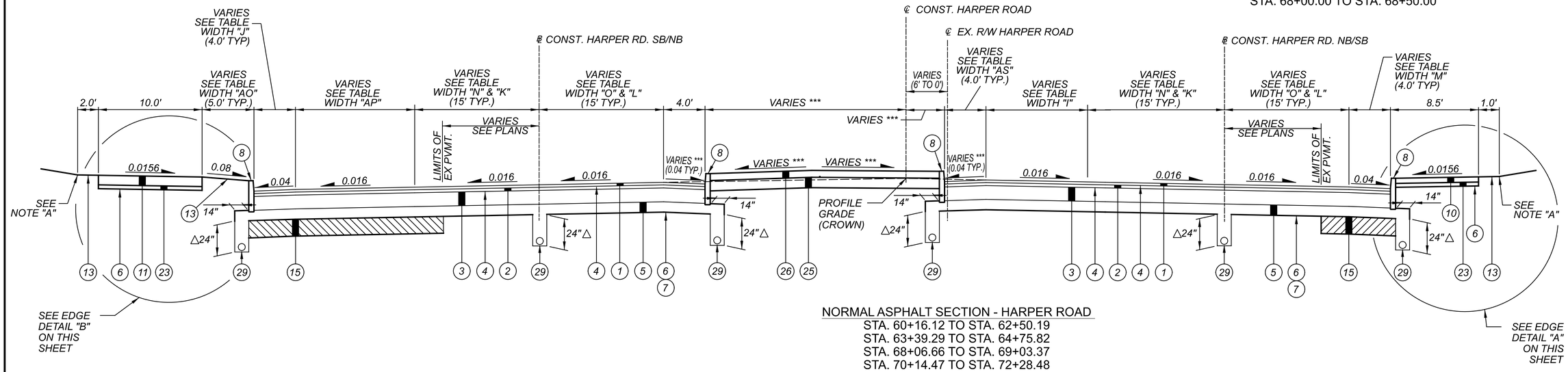
*** SEE INTERSECTION & ISLAND DETAILS FOR ADDITIONAL INFORMATION ON SHEETS 341 - 348

FOR EXISTING LEGEND, SEE SHEET 9 .
FOR SUPERELEVATION TABLES, SEE SHEETS 331 - 339.
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344 .
FOR ISLAND DETAILS, SEE SHEETS 345 - 348 .
FOR WIDTH TABLES, SEE SHEET 13 .

△ OR AS SHOWN IN UNDERDRAIN PLAN ON SHEETS 368 - 369



EDGE DETAIL "B"
STA. 68+00.00 TO STA. 68+50.00



NORMAL ASPHALT SECTION - HARPER ROAD
STA. 60+16.12 TO STA. 62+50.19
STA. 63+39.29 TO STA. 64+75.82
STA. 68+06.66 TO STA. 69+03.37
STA. 70+14.47 TO STA. 72+28.48

PROPOSED LEGEND

1. ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
2. ITEM 442 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
3. ITEM 302 - 7" ASPHALT CONCRETE BASE, PG64-22, (449)
4. ITEM 407 - NON-TRACKING TACK COAT
5. ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN "A"
6. ITEM 204 - SUBGRADE COMPACTION
7. ITEM 204 - PROOF ROLLING
8. ITEM 609 - CURB, TYPE 6
9. ITEM 609 - 6" CONCRETE TRAFFIC ISLAND, AS PER PLAN
10. ITEM 608 - 4" CONCRETE WALK
11. ITEM 608 - 6" CONCRETE WALK
12. ITEM 605 - 6" BASE PIPE UNDERDRAINS, AS PER PLAN
13. ITEM 659 - SEEDING AND MULCHING, CLASS 1
14. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1
15. SUBGRADE STABILIZATION, SEE SHEET 22 FOR LIMITS AND DETAILS
16. ITEM 617 - COMPACTED AGGREGATE
    ITEM 617 - SHOULDER PREPARATION
    ITEM 617 - WATER
17. ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN
18. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
19. ITEM 609 - CURB, TYPE 7
20. ITEM 606 - GUARDRAIL, TYPE MGS
21. ITEM 441 - 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), (UNDER GUARDRAIL), AS PER PLAN
22. ITEM 209 - LINEAR GRADING, AS PER PLAN
23. ITEM 304 - 3" AGGREGATE BASE, AS PER PLAN "B"
24. ITEM 601 - CONCRETE SLOPE PROTECTION
25. ITEM 304 - 4" AGGREGATE BASE, AS PER PLAN "A"
26. ITEM 609 - 4" CONCRETE TRAFFIC ISLAND
27. ITEM 607 - FENCE, MISC.: WOOD FENCE
28. ITEM 606 - GUARDRAIL, TYPE MGS, AS PER PLAN
29. ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN
30. ITEM 659 - SEEDING AND MULCHING

PROPOSED TYPICAL SECTIONS

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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 11 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2024 TIME: 11:29:04 AM USER: dluzier
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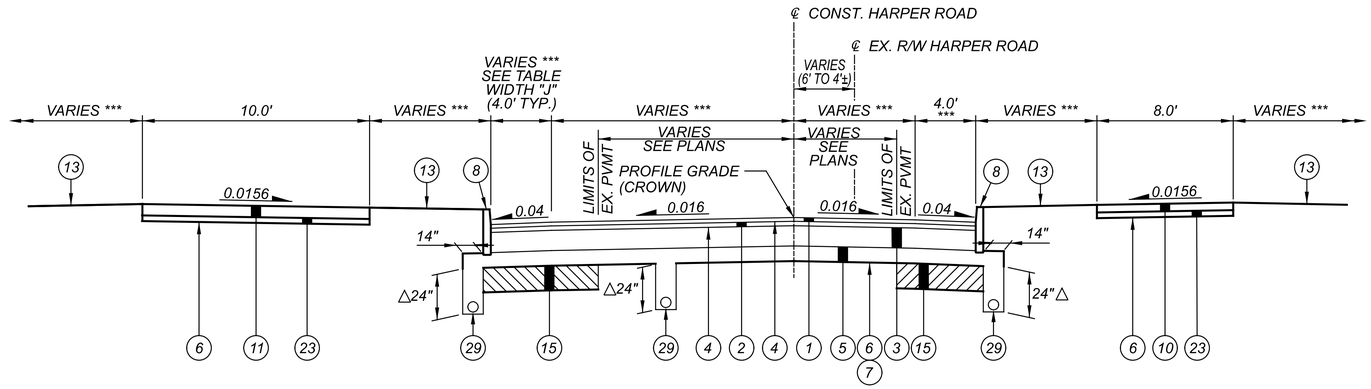
NOTE "A"
4.0' ROUNDING



* 0.04 OR RATE OF PAVEMENT SLOPE IF GREATER

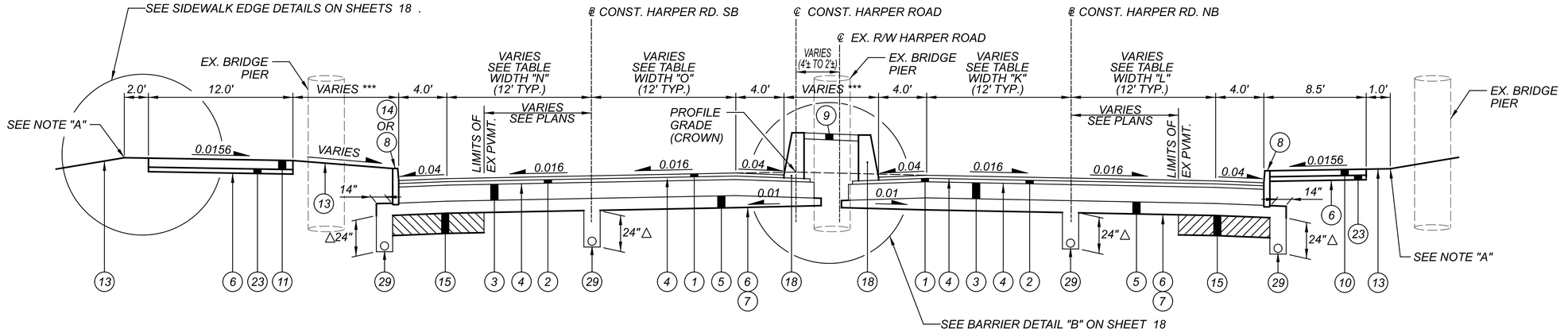
** FOR HIGH SIDE SHOULDER SLOPES, SEE SHOULDER DETAIL "A" ON SHEET 18

*** SEE INTERSECTION & ISLAND DETAILS FOR ADDITIONAL INFORMATION ON SHEETS 341 - 348

FOR PROPOSED LEGEND, SEE SHEET 11 .
FOR EXISTING LEGEND, SEE SHEET 9 .
FOR SUPERELEVATION TABLES, SEE SHEETS 331 - 339.
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344.
FOR ISLAND DETAILS, SEE SHEETS 345 - 348.
FOR WIDTH TABLES, SEE SHEET 13 .

△ OR AS SHOWN IN UNDERDRAIN PLAN ON SHEETS 368 - 369

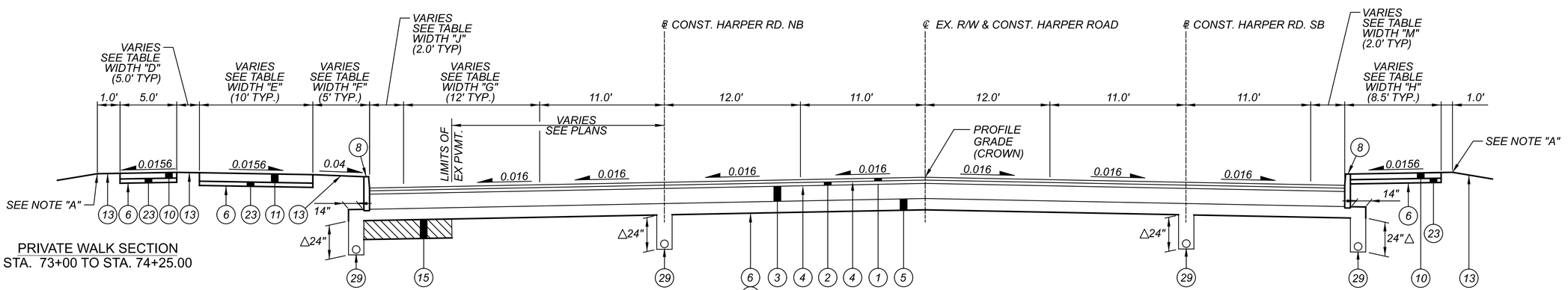
NORMAL ASPHALT SECTION - HARPER ROAD
STA. 62+50.19 TO STA. 63+39.29
STA. 69+03.37 TO STA. 70+14.47



NORMAL ASPHALT SECTION - HARPER ROAD SB
STA. 264+92.92 TO STA. 268+16.73

NORMAL ASPHALT SECTION - HARPER ROAD NB
STA. 164+89.19 TO STA. 168+14.05

NORMAL ASPHALT SECTION - HARPER ROAD
STA. 64+75.82 TO STA. 68+06.66



PRIVATE WALK SECTION
STA. 73+00 TO STA. 74+25.00

NORMAL ASPHALT SECTION - HARPER ROAD
STA. 72+28.48 TO STA. 74+25.00

PROPOSED TYPICAL SECTIONS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:11 AM USER: clazier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GY011.dgn

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 12 TOTAL 481

HARPER ROAD WIDTH TABLE

	WIDTH "A"				WIDTH "B"				WIDTH "D"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
HARPER RD.	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	57+35.00	57+55.00	1.2	2.0	57+35.00	57+55.00	1.2	2.0	73+00.00	73+04.98	5.8	5.0
	57+55.00	60+16.12	2.0	2.0	57+55.00	60+68.39	2.0	2.0	73+04.98	73+75.00	5.0	5.0
									73+75.00	74+25.00	5.0	17.1

HARPER ROAD WIDTH TABLE

	WIDTH "E"				WIDTH "F"				WIDTH "G"				WIDTH "H"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
HARPER RD.	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	59+38.63	59+43.63	10.0	9.5	59+38.63	59+43.63	5.0	5.5	72+11.29	73+75.00	12.0	12.0	74+15.00	74+25.00	8.5	6.5
	59+43.63	59+48.63	9.5	10.0	59+43.63	59+48.63	5.5	5.0	73+75.00	74+25.00	12.0	0.0				
	72+59.97	72+69.97	10.0	8.5	72+59.97	72+69.97	5.0	6.5								
	72+69.97	72+89.97	8.5	8.5	72+69.97	72+89.97	6.5	6.5								
	72+89.97	72+99.97	8.5	10.0	72+89.97	72+99.97	6.5	5.0								
	72+99.97	73+75.00	10.0	10.0	72+99.97	73+75.00	5.0	5.0								
	73+75.00	74+25.00	10.0	5.9	73+75.00	74+25.00	5.0	0.0								

HARPER ROAD NB WIDTH TABLE

	WIDTH "J"				WIDTH "K"				WIDTH "L"				WIDTH "AO"				WIDTH "AP"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
HARPER RD NB	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	160+16.12	160+77.37	2.0	4.0	160+16.12	160+77.37	12.0	15.0	160+16.12	164+73.03	0.0	0.0	171+85.33	172+01.94	5.0	6.5	171+18.46	171+50.22	15.0	15.0
	160+77.37	161+54.32	4.0	4.0	160+77.37	164+75.00	15.0	15.0	164+73.03	164+75.00	15.0	15.0	172+01.94	173+05.98	6.5	6.5	171+50.22	172+31.89	15.0	12.0
	169+77.85	170+17.53	4.0	4.0	164+75.00	165+36.25	15.0	12.0	164+75.00	165+36.25	15.0	12.0	173+05.98	173+20.98	6.5	5.0				
	170+17.53	170+41.76	4.0	5.0	165+36.25	167+35.00	12.0	12.0	165+36.25	167+35.05	12.0	12.0								
	170+41.76	170+66.61	5.0	5.0	167+35.00	167+96.25	12.0	15.0	167+35.05	167+96.25	12.0	15.0								
	171+18.46	171+50.22	4.0	4.0	167+96.25	171+50.22	15.0	15.0	167+96.25	171+50.22	15.0	15.0								
	171+50.22	172+31.89	4.0	2.0	171+50.22	172+31.89	15.0	11.0	171+50.22	172+11.47	15.0	12.0								
	172+31.89	173+95.60	2.0	2.0																
	173+95.6	174+45.6	2.0	2.1																

HARPER ROAD SB WIDTH TABLE

	WIDTH "I"				WIDTH "M"				WIDTH "N"				WIDTH "O"				WIDTH "AS"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
HARPER RD SB	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	271+90.86	272+40.86	0.0	12.0	260+68.39	261+06.78	2.0	3.3	260+68.39	261+36.62	12.0	15.0	260+68.39	261+36.62	12.0	15.0	261+19.94	261+51.68	SEE INT. DETAIL	
									261+36.62	265+25.00	15.0	15.0	261+36.62	265+25.00	15.0	15.0	261+51.68	261+65.45	6.4	6.4
					271+07.00	271+29.61	4.0	4.0	265+25.00	265+86.25	15.0	12.0	265+25.00	265+86.25	15.0	12.0	261+65.45	262+28.96	6.4	4.0
					271+29.61	272+11.28	4.0	2.0	265+86.25	267+40.68	12.0	12.0	265+86.25	267+40.68	12.0	12.0	262+28.96	262+53.53	4.0	4.0
					272+11.28	274+40.58	2.0	2.0	267+40.68	268+01.93	12.0	15.0	267+40.68	268+01.93	12.0	15.0	262+53.53	262+70.05	SEE INT. DETAIL	
					274+40.58	274+50.58	2.0	1.9	268+01.93	271+29.61	15.0	15.0	268+01.93	271+29.61	15.0	15.0				
									271+29.61	271+90.86	15.0	12.0	271+29.61	272+11.28	15.0	11.0				

PROPOSED TYPICAL SECTIONS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:12 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GY012.dgn

DESIGN AGENCY
GPD GROUP*
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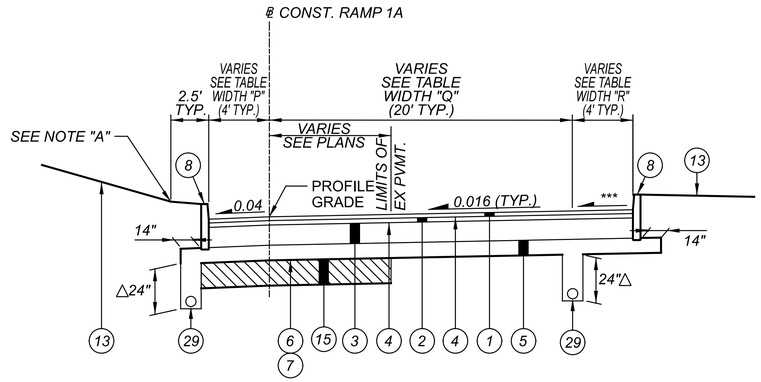
DESIGNER
KRM

REVIEWER
CWL 09/02/21

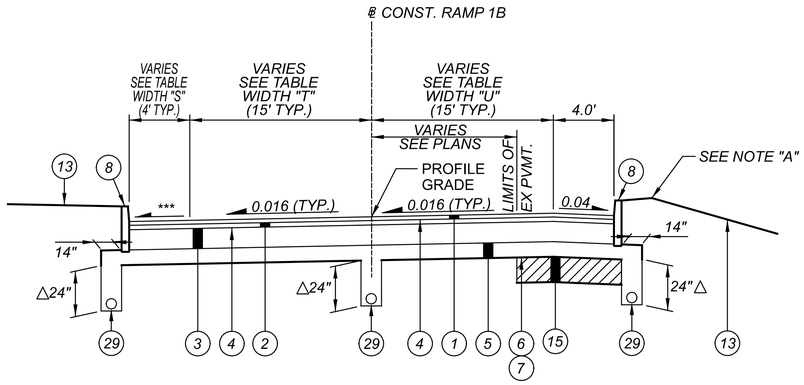
PROJECT ID
113889

SHEET 13 TOTAL 481

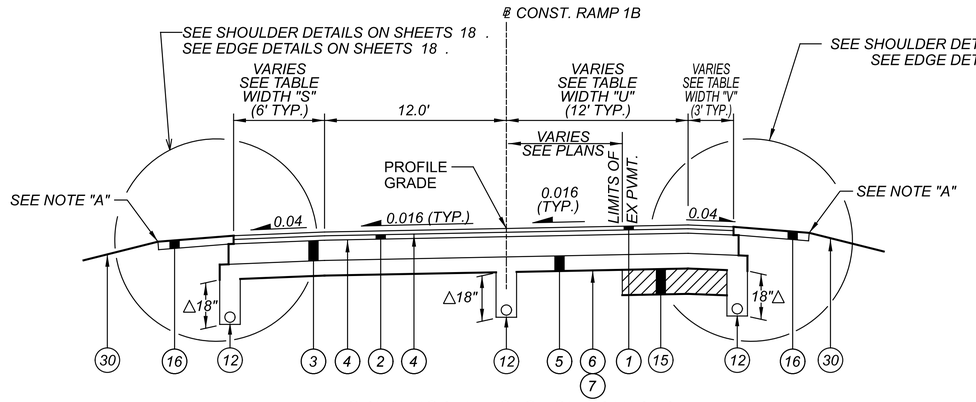
NOTE "A"
4.0' ROUNDING



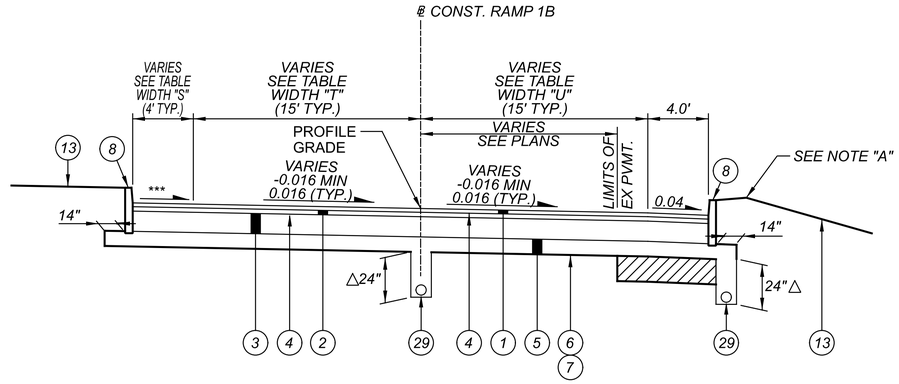
NORMAL ASPHALT SECTION - RAMP 1A
STA. 343+59.80 TO STA. 346+22.52



NORMAL ASPHALT SECTION - RAMP 1B
STA. 443+59.80 TO STA. 444+75.00



NORMAL ASPHALT SECTION - RAMP 1B
STA. 437+66.64 TO STA. 443+59.80



SUPERELEVATED ASPHALT SECTION - RAMP 1B
STA. 444+75.00 TO STA. 447+13.05

RAMP 1A WIDTH TABLE

RAMP 1A	WIDTH "P"				WIDTH "Q"				WIDTH "R"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	343+59.80	345+99.49	4.0	4.0	343+59.80	344+27.01	SEE INT. DETAIL		344+27.01	344+44.26	SEE INT. DETAIL	
	345+99.49	346+22.52	4.0	3.3	344+27.01	345+58.12	20.0	20.0	344+44.26	345+45.32	4.0	4.0
					345+58.12	346+22.52	SEE INT. DETAIL		345+45.32	345+58.12	SEE INT. DETAIL	

RAMP 1B WIDTH TABLE

RAMP 1B	WIDTH "S"				WIDTH "T"				WIDTH "U"				WIDTH "V"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	437+66.64	438+16.64	8.0	6.0	437+66.64	444+45.86	12.0	12.0	437+66.64	441+66.64	4.0	12.0	437+66.64	438+16.64	1.4	3.0
	438+16.64	443+49.80	6.0	6.0	444+45.86	445+07.11	12.0	15.0	441+66.64	444+45.86	12.0	12.0	438+16.64	443+34.80	3.0	3.0
	443+49.80	443+59.80	6.0	4.0	445+07.11	446+41.73	15.0	15.0	444+45.86	445+07.11	12.0	15.0	443+34.80	443+59.80	3.0	4.0
	443+59.80	444+54.63	SEE INT. DETAIL		446+41.73	447+13.05	SEE INT. DETAIL		445+07.11	447+13.05	15.0	15.0				
	444+54.63	446+23.56	4.0	4.0												
	446+23.56	446+41.73	SEE INT. DETAIL													

* 0.04 OR RATE OF PAVEMENT SLOPE IF GREATER

** FOR HIGH SIDE SHOULDER SLOPES, SEE SHOULDER DETAIL "A" ON SHEET 18

*** SHOULDER SLOPE VARIES, SEE TRANSITION DETAILS ON SHEETS 345 - 348

FOR PROPOSED LEGEND, SEE SHEET 11 .
FOR EXISTING LEGEND, SEE SHEET 9 .
FOR SUPERELEVATION TABLES, SEE SHEETS 331 - 339.
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344.
FOR ISLAND DETAILS, SEE SHEETS 345 - 348.
FOR WIDTH TABLES, SEE SHEET 13 .

△ OR AS SHOWN IN UNDERDRAIN PLAN ON SHEETS 368 - 369

PROPOSED TYPICAL SECTIONS

DESIGN AGENCY
GPD GROUP
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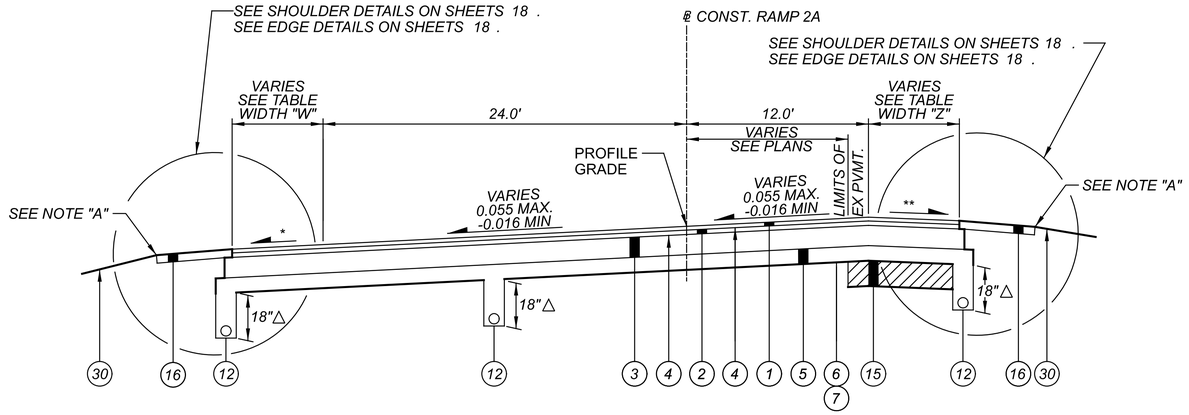
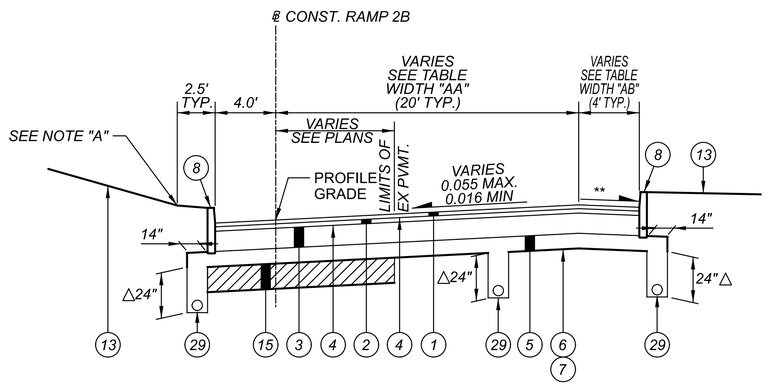
DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 14 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:12 AM USER: cluzier
O:\Clients\ORD\2020\20203361113889\400-Engineering\Roadway\Sheets\113889_GY013.dgn

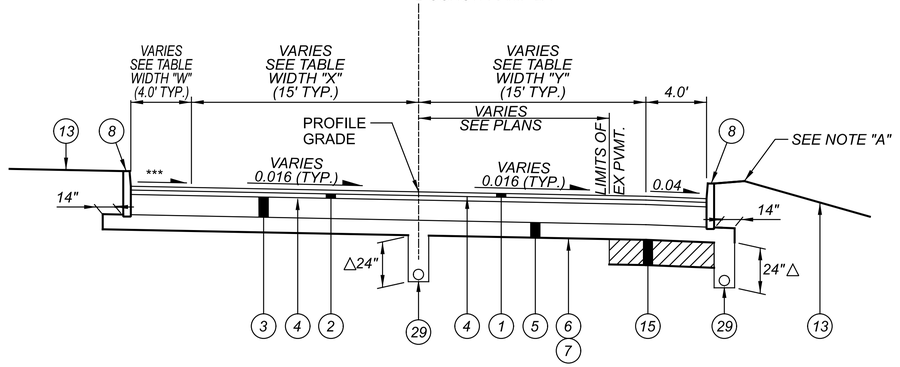
NOTE "A"
4.0' ROUNDING



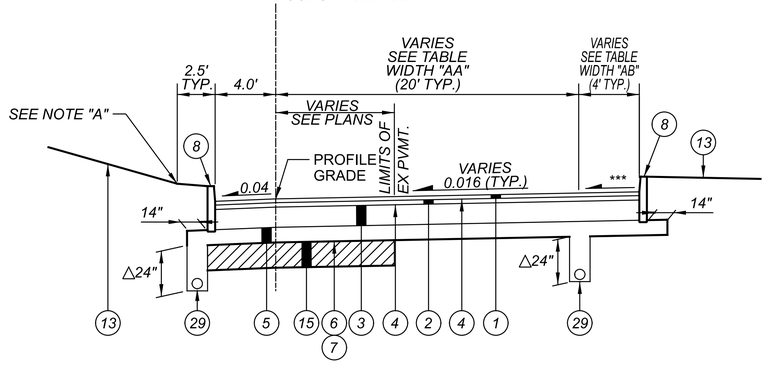
SUPERELEVATED ASPHALT SECTION - RAMP 2A
STA. 647+32.79 TO STA. 650+02.73



SUPERELEVATED ASPHALT SECTION - RAMP 2B
STA. 548+46.75 TO STA. 549+64.45



NORMAL ASPHALT SECTION - RAMP 2A
STA. 650+02.73 TO STA. 651+57.25



NORMAL ASPHALT SECTION - RAMP 2B
STA. 549+64.45 TO STA. 550+76.80

RAMP 2B WIDTH TABLE

RAMP 2B	WIDTH "AA"				WIDTH "AB"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	548+46.76	548+99.59	SEE INT. DETAIL		548+99.59	549+20.20	SEE INT. DETAIL	
	548+99.59	550+13.12	20.0	20.0	549+20.20	549+99.55	4.0	4.0
	550+13.12	550+76.80	SEE INT. DETAIL		549+99.55	550+13.12	SEE INT. DETAIL	

RAMP 2A WIDTH TABLE

RAMP 2A	WIDTH "W"				WIDTH "X"				WIDTH "Y"				WIDTH "Z"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	647+32.79	648+46.75	6.6	4.0	648+46.75	649+08.00	12.0	15.0	648+46.75	649+08.00	12.0	15.0	647+32.79	648+46.75	7.2	4.0
	648+46.75	649+35.38	SEE INT. DETAIL		649+08.00	650+84.91	15.0	15.0	649+08.00	651+57.25	15.0	15.0	648+46.75	651+57.25	4.0	4.0
	649+35.38	350+72.12	4.0	4.0	650+84.91	651+57.25	SEE INT. DETAIL									
	350+72.12	650+84.91	SEE INT. DETAIL													

* 0.04 OR RATE OF PAVEMENT SLOPE IF GREATER

** FOR HIGH SIDE SHOULDER SLOPES, SEE SHOULDER DETAIL "A" ON SHEET 18

*** SHOULDER SLOPE VARIES, SEE TRANSITION DETAILS ON SHEETS 345 - 348

FOR PROPOSED LEGEND, SEE SHEET 11 .
FOR EXISTING LEGEND, SEE SHEET 9 .
FOR SUPERELEVATION TABLES, SEE SHEETS 331 - 339.
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344.
FOR ISLAND DETAILS, SEE SHEETS 345 - 348.
FOR WIDTH TABLES, SEE SHEET 13 .

△ OR AS SHOWN IN UNDERDRAIN PLAN ON SHEETS 368 - 369

PROPOSED TYPICAL SECTIONS

DESIGN AGENCY
GPD GROUP
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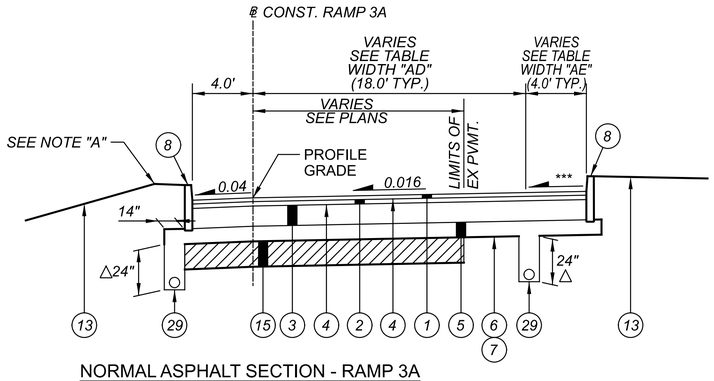
DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 15 TOTAL 481

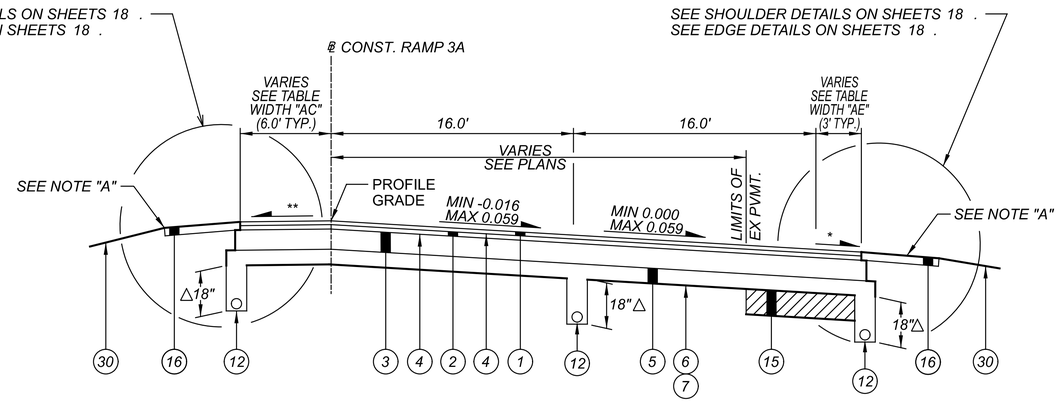
CUY-422-16.20 (HARPER ROAD)
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:13 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GY014.dgn

NOTE "A"
4.0' ROUNDING

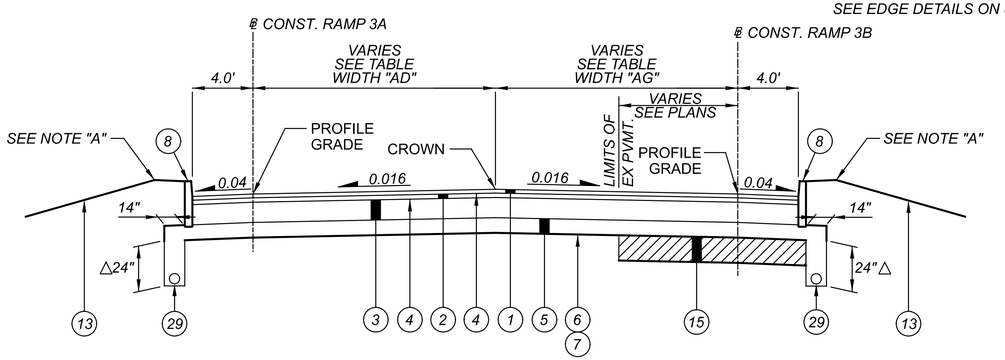


NORMAL ASPHALT SECTION - RAMP 3A
STA. 643+41.26 TO STA. 645+19.45

SEE SHOULDER DETAILS ON SHEETS 18 .
SEE EDGE DETAILS ON SHEETS 18 .



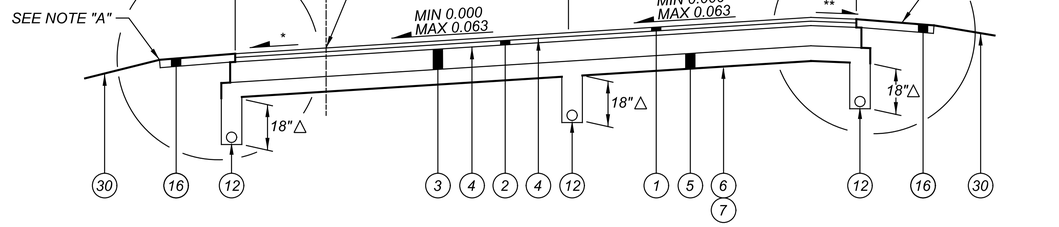
SUPERELEVATED ASPHALT SECTION - RAMP 3A
STA. 645+64.90 TO STA. 651+84.87



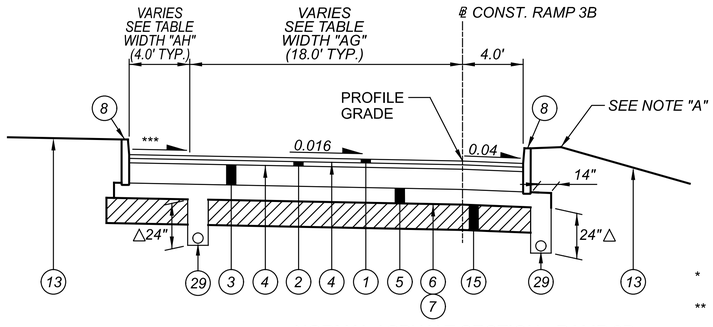
NORMAL ASPHALT SECTION - RAMP 3A
STA. 645+19.45 TO STA. 645+64.90

NORMAL ASPHALT SECTION - RAMP 3B
STA. 545+20.51 TO STA. 545+64.90

SEE SHOULDER DETAILS ON SHEETS 18 .
SEE EDGE DETAILS ON SHEETS 18 .



SUPERELEVATED ASPHALT SECTION - RAMP 3A
STA. 651+84.87 TO STA. 654+00.00



NORMAL ASPHALT SECTION - RAMP 3B
STA. 543+48.24 TO STA. 545+20.51

RAMP 3B WIDTH TABLE

RAMP 3B	WIDTH "AG"				WIDTH "AH"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	543+48.24	544+00.67	SEE INT. DETAIL		544+00.67	544+14.96	SEE INT. DETAIL	
	544+00.67	545+37.31	18.0	18.0	544+14.96	545+14.54	4.0	4.0
	545+37.31	545+64.90	18.0	16.0	545+14.54	545+37.31	SEE INT. DETAIL	

RAMP 3A WIDTH TABLE

RAMP 3A	WIDTH "AC"				WIDTH "AD"				WIDTH "AE"				WIDTH "AF"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	645+64.90	646+14.90	4.0	6.0	643+41.26	643+93.69	SEE INT. DETAIL		643+93.69	644+07.98	SEE INT. DETAIL		653+00.00	653+50.00	16.0	0.0
	646+14.90	653+50.00	6.0	6.0	643+93.69	645+36.20	18.0	18.0	644+07.98	645+13.48	4.0	4.0				
	653+50.00	654+00.00	6.0	8.0	645+36.20	645+64.90	18.0	16.0	645+13.48	645+64.90	SEE INT. DETAIL					
					645+64.90	654+00.00	16.0	16.0	645+64.90	645+89.90	4.0	3.0				
									645+89.90	653+90.00	3.0	3.0				
									653+90.00	654+00.00	3.0	1.7				

* 0.04 OR RATE OF PAVEMENT SLOPE IF GREATER

** FOR HIGH SIDE SHOULDER SLOPES, SEE SHOULDER DETAIL "A" ON SHEET 18

*** SHOULDER SLOPE VARIES, SEE TRANSITION DETAILS ON SHEETS 345 - 348

FOR PROPOSED LEGEND, SEE SHEET 11 .
FOR EXISTING LEGEND, SEE SHEET 9 .
FOR SUPERELEVATION TABLES, SEE SHEETS 331 - 339.
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344 .
FOR ISLAND DETAILS, SEE SHEETS 345 - 348 .
FOR WIDTH TABLES, SEE SHEET 13 .

△ OR AS SHOWN IN UNDERDRAIN PLAN ON SHEETS 368 - 369

PROPOSED TYPICAL SECTIONS

CUY-422-16.20 (HARPER ROAD)
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:13 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GY015.dgn

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 16 TOTAL 481

NOTE "A"
4.0' ROUNDING

RAMP 4 WIDTH TABLE

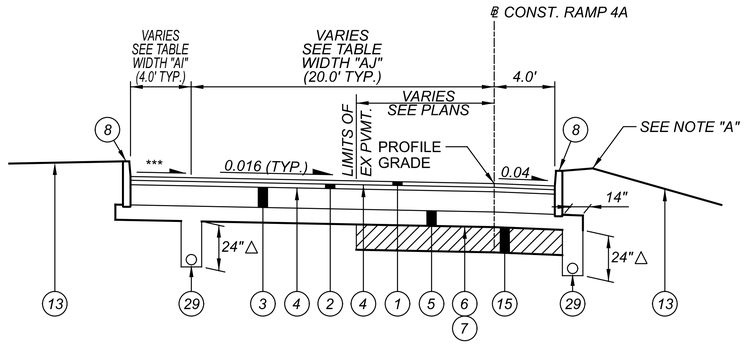
RAMP 4	WIDTH "AK"				WIDTH "AQ"				WIDTH "AR"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	852+19.45	852+29.45	4.0	6.0	852+19.45	852+80.70	11.0	8.0	852+19.45	852+44.45	4.0	3.0
	852+29.45	858+12.00	6.0	6.0	852+80.70	854+37.00	8.0	8.0	852+44.45	858+12.00	3.0	3.0
	858+12.00	858+37.00	6.0	7.0	854+37.00	858+37.00	8.0	0.0	858+12.00	858+37.00	3.0	3.8

RAMP 4A WIDTH TABLE

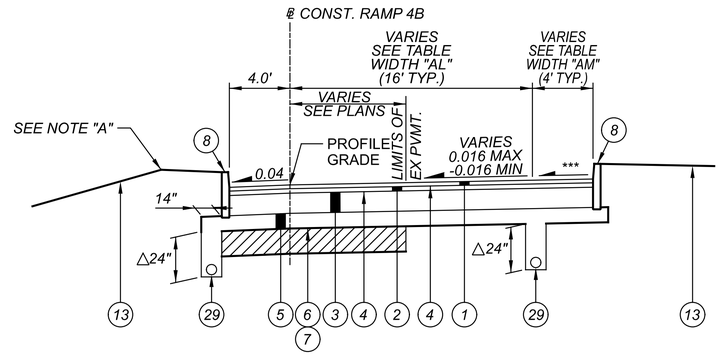
RAMP 4A	WIDTH "AI"				WIDTH "AJ"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	350+57.01	350+74.43	SEE INT. DETAIL		350+27.57	350+57.01	SEE INT. DETAIL	
	350+74.43	351+61.09	4.0	4.0	350+57.01	352+19.45	20.0	20.0
	351+61.09	352+19.45	SEE INT. DETAIL					

RAMP 4B WIDTH TABLE

RAMP 4B	WIDTH "AL"				WIDTH "AM"			
	STATION		WIDTH (FT.)		STATION		WIDTH (FT.)	
	FROM	TO	FROM	TO	FROM	TO	FROM	TO
	449+61.69	450+13.62	SEE INT. DETAIL		450+13.62	450+29.59	SEE INT. DETAIL	
	450+13.62	451+73.85	16.0	16.0	450+29.59	451+50.81	4.0	4.0
	451+73.85	452+19.45	SEE INT. DETAIL		451+50.81	451+73.85	SEE INT. DETAIL	

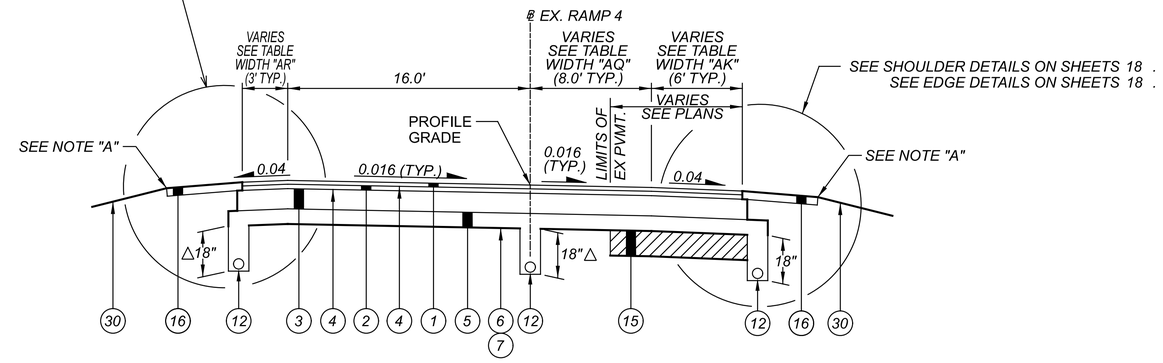


NORMAL ASPHALT SECTION - RAMP 4A
STA. 350+27.57 TO STA. 352+19.45



SUPERELEVATED ASPHALT SECTION - RAMP 4B
STA. 449+61.69 TO STA. 452+19.45

SEE SHOULDER DETAILS ON SHEETS 18 .
SEE EDGE DETAILS ON SHEETS 18 .



NORMAL ASPHALT SECTION - RAMP 4
STA. 852+19.44 TO STA. 858+37.00

* 0.04 OR RATE OF PAVEMENT SLOPE IF GREATER

** FOR HIGH SIDE SHOULDER SLOPES, SEE SHOULDER DETAIL "A" ON SHEET 18

*** SHOULDER SLOPE VARIES, SEE TRANSITION DETAILS ON SHEETS 345 - 348

FOR PROPOSED LEGEND, SEE SHEET 11 .
FOR EXISTING LEGEND, SEE SHEET 9 .
FOR SUPERELEVATION TABLES, SEE SHEETS 331 - 339.
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344.
FOR ISLAND DETAILS, SEE SHEETS 345 - 348.
FOR WIDTH TABLES, SEE SHEET 13 .

△ OR AS SHOWN IN UNDERDRAIN PLAN ON SHEETS 368 - 369

PROPOSED TYPICAL SECTIONS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:14 AM USER: cluzier
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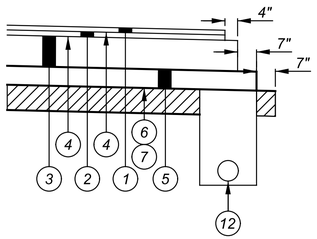
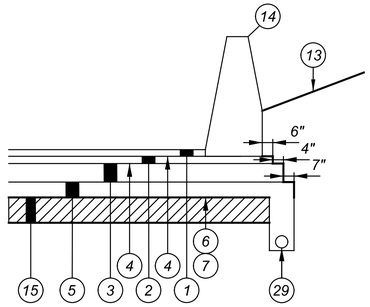
DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 17 TOTAL 481



FLEXIBLE PAVEMENT

EDGE DETAILS

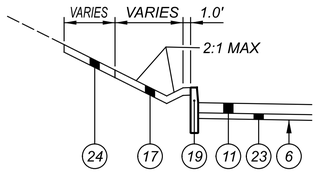
N.T.S.

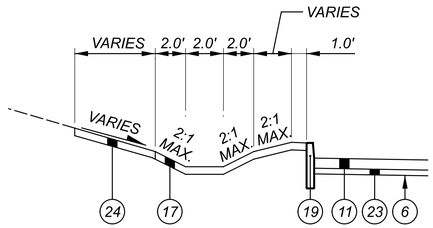


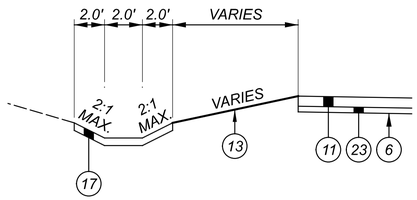
BARRIER DETAIL "A"

N.T.S.
LIMITING STATIONS

HARPER RD. SB:
STA. 267+45.00 LT. TO STA. 268+27.47 LT.



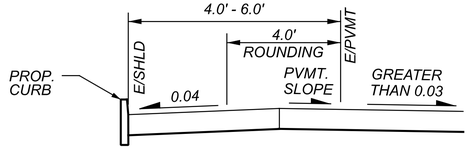




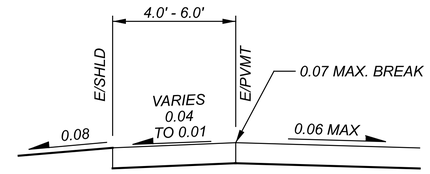
SIDEWALK EDGE DETAIL "A"

N.T.S.
LIMITING STATIONS

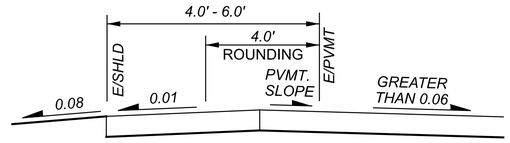
HARPER RD. SB:
STA. 265+68.72 TO STA. 266+53.53



LANE SUPERELEVATION >0.03 (WITH CURB)



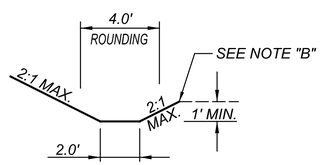
LANE SUPERELEVATION 0.06 MAX (W/O BARRIER)



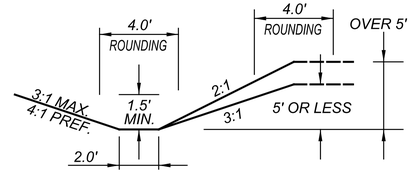
LANE SUPERELEVATION >0.06 (W/O BARRIER)

SHOULDER DETAIL "A"

N.T.S.



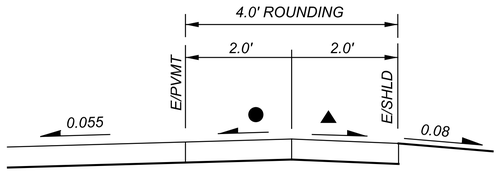
FILL



CUT

NORMAL DITCH DETAILS

N.T.S.



SHOULDER DETAIL "B"

N.T.S.
STA. 648+21.75 TO STA. 649+43.83 (RAMP 2A RT)

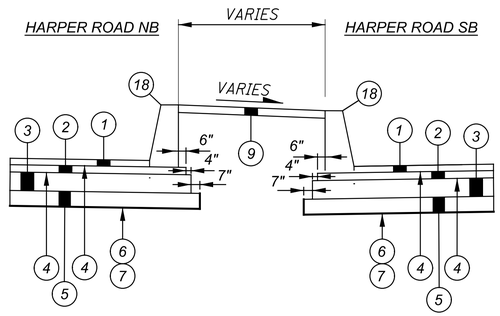
● RAMP 2A:
STA. 648+21.75 @ -0.015
STA. 648+46.75 @ 0.055

STA. 648+73.23 @ 0.055
STA. 649+18.83 @ 0.030

STA. 649+18.83 @ 0.030
STA. 649+43.83 @ -0.040

▲ RAMP 2A:
STA. 648+21.75 @ -0.015
STA. 648+46.75 @ -0.040

FOR PROPOSED LEGEND, SEE SHEET 11 .

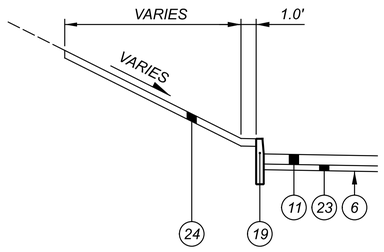


BARRIER DETAIL "B"

N.T.S.
LIMITING STATIONS

HARPER RD. NB:
STA. 164+89.17 LT. TO STA. 168+14.05 LT.

HARPER RD. SB:
STA. 264+92.92 RT. TO STA. 268+16.73 RT.



SIDEWALK EDGE DETAIL "B"

N.T.S.
LIMITING STATIONS

HARPER RD. SB:
STA. 266+53.53 TO STA. 268+53.16

PROPOSED TYPICAL SECTIONS

CUY-422-16.20 (HARPER ROAD)
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GPD GROUP
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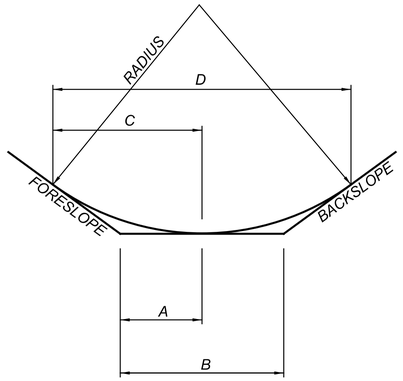
DESIGNER
KRM
REVIEWER
CWL 09/02/21
PROJECT ID
113889
SHEET 18 TOTAL 481



FORESLOPE	20' RADIUS		BACKSLOPE 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"				

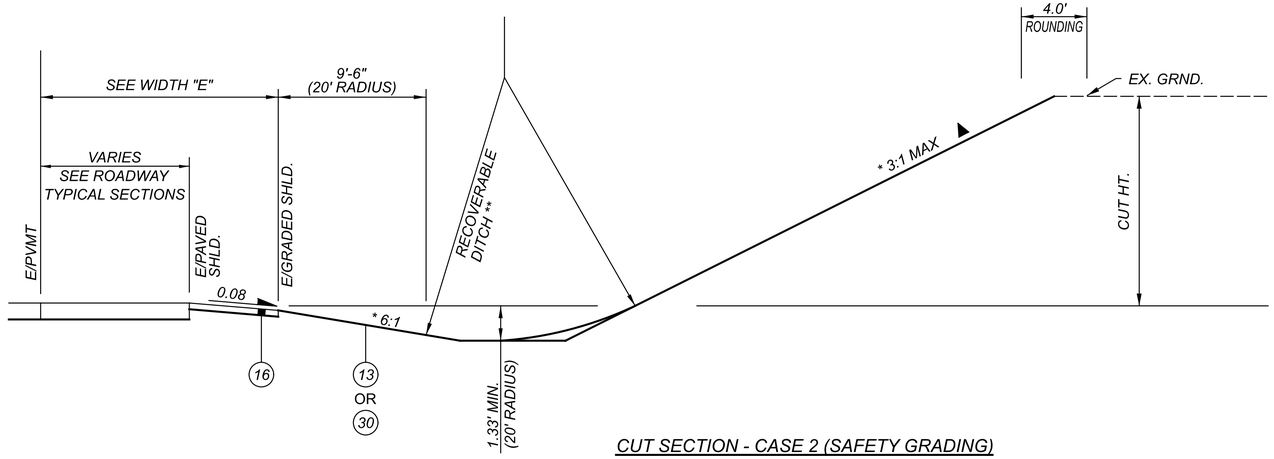
RECOVERABLE DITCH DETAIL

NOTE "A"

ALL DIMENSIONS ARE DEFINED LOOKING IN DIRECTION OF TRAVEL

NOTE "B"

SEE CROSS SECTIONS FOR GRADING TRANSITIONS FROM MAINLINE TO RAMP WIDTHS



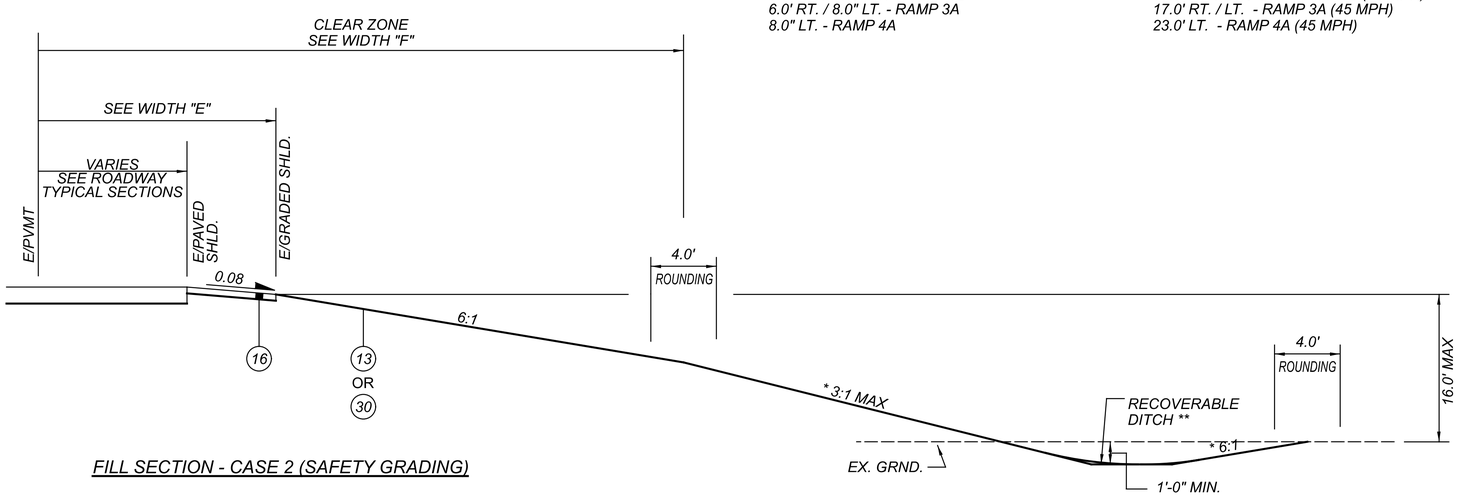
CUT SECTION - CASE 2 (SAFETY GRADING)

WIDTH "E" (SEE NOTE "A")

6.0' RT. / 11.0" LT. - RAMP 1B
6.0' RT. / 8.0" LT. - RAMP 3A
8.0" LT. - RAMP 4A

WIDTH "F"

17.0' RT. / 23.0' LT. - RAMP 1B (45 MPH)
17.0' RT. / LT. - RAMP 3A (45 MPH)
23.0' LT. - RAMP 4A (45 MPH)



FILL SECTION - CASE 2 (SAFETY GRADING)

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

FOR PROPOSED LEGEND, SEE SHEET 11

PROPOSED TYPICAL SECTIONS

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GPD GROUP
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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 19 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:15 AM USER: cluzier
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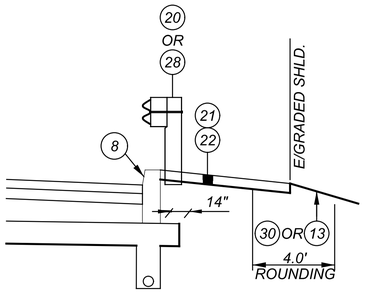
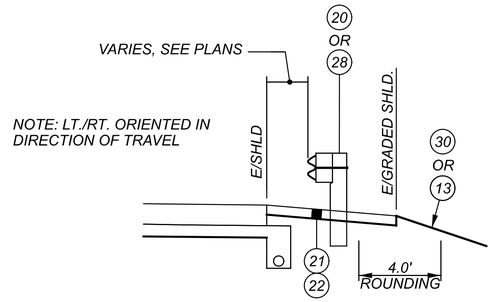


CURBED ROADWAY
GUARDRAIL INSTALLATION DETAIL

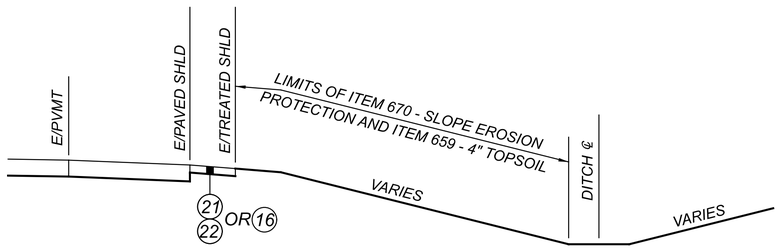
SEE PLANS FOR LOCATIONS



NOTE: LT./RT. ORIENTED IN DIRECTION OF TRAVEL

UNCURBED ROADWAY
GUARDRAIL INSTALLATION DETAIL

SEE PLANS FOR LOCATIONS



VEGETATED FILTER STRIPS DETAIL

FOR LOCATIONS, SEE PROJECT SITE PLANS ON SHEET 188

NOTE "A"

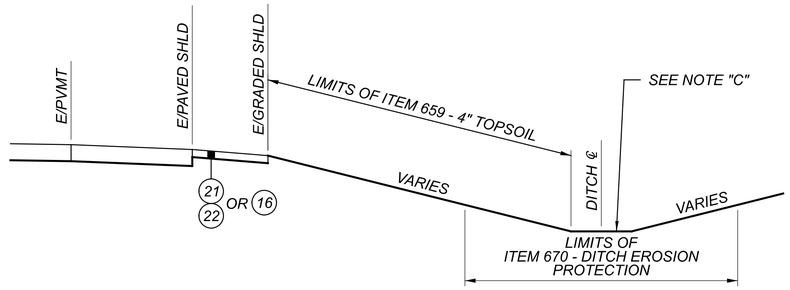
ALL DIMENSIONS ARE DEFINED LOOKING IN DIRECTION OF TRAVEL

NOTE "B"

4.0' ROUNDING

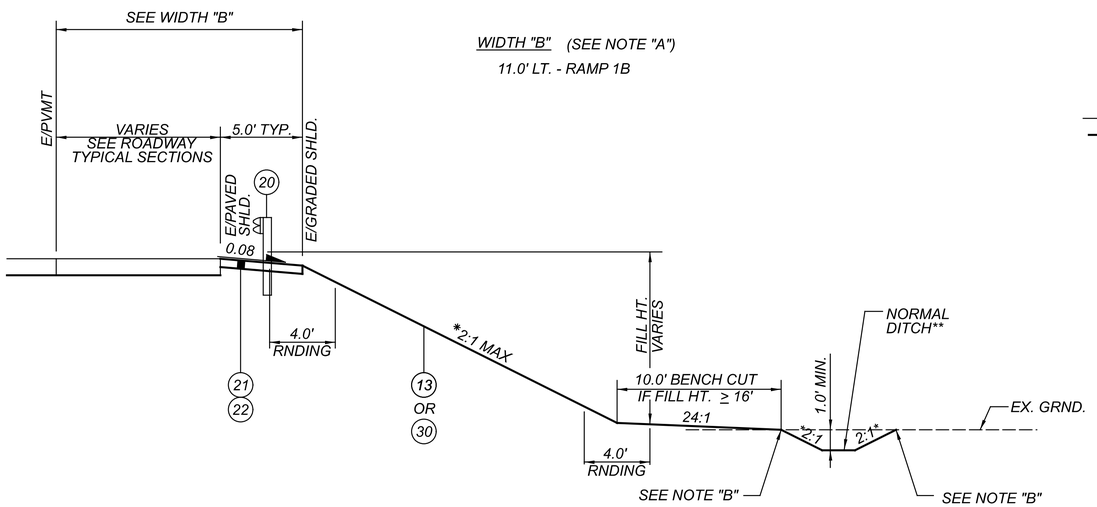
NOTE "C"

ALL DITCHES LOCATED WITHIN LIMITS OF VBF SHALL BE TRAPEZOIDAL AND NOT HAVE ROUNDING



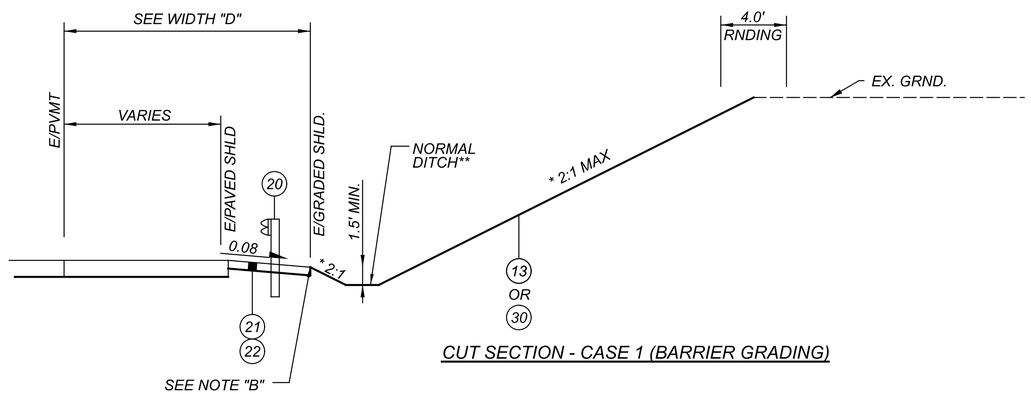
VEGETATED BIOFILTER DETAIL

FOR LOCATIONS, SEE PROJECT SITE PLANS ON SHEETS 188



WIDTH "B" (SEE NOTE "A")
11.0' LT. - RAMP 1B

FILL SECTION - CASE 1 (BARRIER GRADING)



CUT SECTION - CASE 1 (BARRIER GRADING)

WIDTH "D" (SEE NOTE "A")
11.0' LT. - RAMP 1B
11.0' RT. - RAMP 2A

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

FOR PROPOSED LEGEND, SEE SHEET 11

PROPOSED TYPICAL SECTIONS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:07:16 AM USER: cluzier
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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 20 TOTAL 481

GENERAL

UTILITIES

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

AT&T - OHIO
13630 LORAIN AVE.
2ND FLOOR
CLEVELAND, OH 44111
ATTN: JAMES JANIS
PHONE: 216-534-7285
FAX: 216-476-6013
EMAIL: pj8191@att.com

BUCKEYE PARTNERS, LP
110 TEXACO ROAD
MECHANICSBURG, PA 17050
ATTN: BRIAN BARR
OFFICE: 610-904-4156
PHONE: 717-215-7028
EMAIL: BBarr@buckeye.com

CITY OF CLEVELAND (DIVISION OF WATER)
1201 LAKESIDE AVE.
CLEVELAND, OH 44114
ATTN: FRED ROBERTS
PHONE: 216-664-2444 EXT. 75590
EMERGENCY: 216-664-3060
INSPECTION: 216-664-2342
EMAIL: fred_roberts@ClevelandWater.com

CITY OF SOLON (ENGINEERING DEPT.)
34200 BAINBRIDGE RD.
SOLON, OH 44139
ATTN: JOHN J. BUSCH, CITY ENGINEER
PHONE: 440-349-6745
EMAIL: JBusch@solonohio.org

CHARTER COMMUNICATIONS
7820 DIVISION DR.
MENTOR, OH 44060
ATTN: EMIL SYMISTER
OFFICE: 216-575-8016 Opt. 1
Ext. 12165551158
PHONE: 440-343-1530
EMAIL: Emil.Symister@charter.com

DOMINION ENERGY OHIO
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OH 44333
ATTN: DOUGLAS REIBEL
PHONE: 330-664-2409
EMAIL: douglas.h.reibel@dominionenergy.com
relocation@dominionenergy.com

CEI FIRST ENERGY (ILLUMINATING CO.)
6896 MILLER RD., SUITE 101
BRECKSVILLE, OH 44141
ATTN: JOHN M. ZASSICK
OFFICE: 440-546-8706
EMAIL: jmzassick@firstenergycorp.com

VERIZON
120 RAVINE ST.
AKRON, OH 44303
ATTN: AL GUEST
OFFICE: 330-622-5967
PHONE: 330-329-5495
EMAIL: allan.guest@verizon.com

ODOT DISTRICT 12
5500 TRANSPORTATION BLVD
GARFIELD HEIGHTS, OH 44125
ATTN: CURTIS WILLS
OFFICE: 216-584-2109
EMAIL: curtis.wills@dot.ohio.gov
ATTN: KEITH HAMILTON
OFFICE: 216-584-2106
EMAIL: keith.hamilton@dot.ohio.gov
ATTN: DAVID NIMRICHTER
OFFICE: 216-584-2106
EMAIL: david.nimrichter@dot.ohio.gov

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

ROUNDING

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

SURVEY PARAMETERS - OHIO STATE PLANE (NORTH)

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 8 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: ODOT VRS
MONUMENT TYPE: 5/8" x 30" REBAR WITH RED "GPD" CAP

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: 12B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE, 3401
COMBINED SCALE FACTOR: 1.000088925
METHOD OF OBTAINING SCALE FACTOR: TRIMBLE BUSINESS CENTER
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.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

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

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

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

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

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

AFTER COMPLETION OF ALL WORK, BUT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, AN OHIO PROFESSIONAL SURVEYOR SHALL DETERMINE THE MINIMUM VERTICAL CLEARANCES OF ALL EXISTING AND NEW BRIDGES WITHIN THE PROJECT LIMITS. AT A MINIMUM, MEASUREMENTS SHALL TAKEN ALONG EACH FASCIA BEAM AT THE EDGE OF SHOULDERS, EDGE LINES, LANE LINES, AND CROWN OF THE ROADWAY BELOW. THE ODOT DISTRICT 12 VERTICAL CLEARANCE SURVEY FORM SHALL BE USED, WHERE APPLICABLE, TO DOCUMENT THE MEASUREMENTS. WHERE THE ODOT DISTRICT 12 VERTICAL CLEARANCE SURVEY FORM IS NOT APPLICABLE, THE MEASUREMENTS SHALL BE DOCUMENTED ON A CONTRACTOR-DEVELOPED FORM THAT CLOSELY RESEMBLES THE ODOT DISTRICT 12 VERTICAL CLEARANCE SURVEY FORM AND ACCURATELY DEPICTS THE BRIDGE AND BELOW LANE AND SHOULDER CONFIGURATION. THE COMPLETED FORM SHALL BEAR THE STAMP OR SEAL OF THE OHIO PROFESSIONAL SURVEYOR WHO HAS TAKEN THE MEASUREMENTS AND SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

THE ODOT DISTRICT 12 VERTICAL CLEARANCE SURVEY FORM CAN BE DOWNLOADED FROM THE FOLLOWING FTP SITE:

ftp://ftp.dot.state.oh.us/pub/Contracts/Attach/CUY-113889

ITEM 623 - MONUMENT ASSEMBLY, TYPE C, AS PER PLAN

THIS ITEM SHALL CONFORM TO ITEM 623 AND THE CITY OF SOLON STANDARD CONSTRUCTION DRAWING MONUMENT ASSEMBLY (P-10) AS SHOWN ON SHEET 361.

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 CITY OF SOLON WILL PERFORM THE TREE CLEARING PRIOR TO THE SALE DATE. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF REMAINING STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"		8	8
30"		2	2
48"			
60"			

ITEM SPECIAL - SURVEY CONTROL VERIFICATION

THE CONTRACTOR SHALL PERFORM THIS WORK TO VERIFY THE PROVIDED SURVEY CONTROL. THE CONTRACTOR WILL PERFORM THE VERIFICATION USING ONE OF THE TWO METHODS BELOW DEPENDENT UPON THE CONTRACTOR'S CHOSEN MEANS OF SURVEY CONTROL TO BE USED ON THE PROJECT. THE WORK SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF AN OHIO LICENSED SURVEYOR.

1) IF USING GPS DEVICES TO ESTABLISH AND OR PROVIDE SUPPLEMENTAL HORIZONTAL AND VERTICAL SURVEY CONTROL
   a. LOCATE VERTICAL CONTROL POINTS PROVIDED IN THE PLANS AND PERFORM A DIFFERENTIAL LEVEL CIRCUIT.
   b. PERFORM A SITE CALIBRATION UTILIZING THE AVAILABLE HORIZONTAL AND VERTICAL CONTROL POINTS PROVIDED IN THE PLAN.
   c. PROVIDE A REPORT, SIGNED BY AN OHIO LICENSED SURVEYOR, TO THE PROJECT ENGINEER COMPARING THE OBSERVED DATA TO THE PLAN DATA ALONG WITH A NARRATIVE DETAILING ANY DISCREPANCIES FOUND.
2) IF USING CONVENTIONAL SURVEY INSTRUMENTATION TO ESTABLISH AND OR PROVIDE SUPPLEMENTAL HORIZONTAL AND VERTICAL SURVEY CONTROL
   a. LOCATE VERTICAL CONTROL POINTS PROVIDED IN THE PLANS AND PERFORM A DIFFERENTIAL LEVEL CIRCUIT.
   b. LOCATE AND OBSERVE ANGLE AND DISTANCE TO ALL AVAILABLE HORIZONTAL CONTROL POINTS PROVIDE IN THE PLAN.
   c. PROVIDE A REPORT, SIGNED BY AN OHIO LICENSED SURVEYOR, TO THE PROJECT ENGINEER COMPARING THE OBSERVED DATA TO THE PLAN DATA ALONG WITH A NARRATIVE DETAILING ANY DISCREPANCIES FOUND.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID ITEM.

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.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN IN THE RIGHT-OF-WAY PLANS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED:

ITEM 623 - MONUMENT ASSEMBLY, TYPE C, AS PER PLAN 1 EACH

ITEM 623 - REFERENCE MONUMENT, TYPE A 5 EACH

ITEM 623 - RIGHT-OF-WAY MONUMENT, TYPE B 21 EACH

ITEM SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE

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

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14.

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

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

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

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

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

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

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

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

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

PROJECT COORDINATION

THE CONTRACTOR SHALL COORDINATE WORK WITH ODOT AND THE CONTRACTOR ON THE ADJACENT PROJECTS:

CUY/GEA BH FY2027 MISC. (PID 119485) - INVOLVING MISCELLANEOUS STRUCTURE REPAIRS

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 26

GENERAL NOTES

DESIGN AGENCY
GPD GROUP*
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 21 TOTAL 481

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/27/2025 TIME: 7:43:47 AM USER: cluzier
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ROADWAY

ITEM 606 - GUARDRAIL, TYPE MGS, AS PER PLAN

THIS ITEM SHALL INCLUDE LOCATING THE ADJACENT ELECTRICAL LINE BEFORE THE INSTALLATION OF THE GUARDRAIL POSTS. HAND DIG POSTS IF NECESSARY TO AVOID EXISTING ELECTRICAL LINE.

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 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), 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 POSTS 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, (449), (UNDER GUARDRAIL), AS PER PLAN

ITEM 607 - FENCE, MISC.: WOOD FENCE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A WOODEN BIKE RAIL PER ODOT STANDARD DRAWING RM-5.2 AT THE LOCATIONS SHOWN IN THE PLANS. ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR FABRICATION, DELIVERY, AND INSTALLATION OF THE RAILING SHALL BE INCLUDED IN THE UNIT BID FOR ITEM 607 - FENCE, MISC.: WOOD FENCE.

THE CONTRACTOR SHOULD BE AWARE OF ALL EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED FENCE TO BE INSTALLED AND SHOULD TAKE ANY NECESSARY PRECAUTIONS TO AVOID DISTUPTING THEM. POST DEPTH AND SPACING MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER IN ORDER TO AVOID ANY EXISTING UTILITIES.

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 357 .

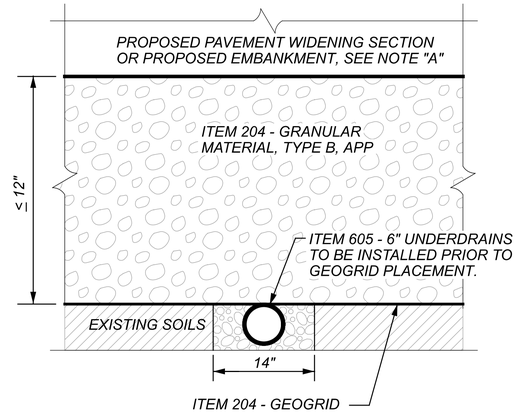
SUBGRADE STABILIZATION
ITEM 204 - GRANULAR MATERIAL, TYPE B, AS PER PLAN

THE GEOTECHNICAL INVESTIGATION REVEALED AREAS OUTSIDE OF EXISTING PAVEMENT THAT MAYBE UNSTABLE. FOR ESTIMATION PURPOSES THE PLANS INCLUDE UNDERCUT AND REPLACEMENT OUTSIDE OF EXISTING PAVEMENT .

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.

ITEM 204 - GEOGRID

IN AREAS BUILT VIA PART-WIDTH CONSTRUCTION, THE GEOGRID SHALL OVERLAP AS PER CMS 204.07.B.

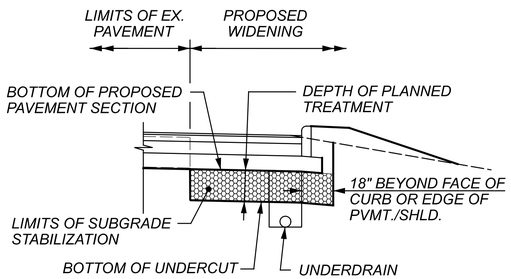


NOTE "A":

BASED ON GEOTECHNICAL SUBSURFACE INVESTIGATION, UNDERCUT AND REPLACEMENT IS PROPOSED IN THE AREAS OF PROPOSED WIDENING/OUTSIDE THE LIMITS OF EXISTING PAVEMENT ONLY.

DETAIL - UNDERCUT/ REPLACEMENT TREATMENT METHOD

NOT TO SCALE



TYPICAL PAVEMENT SUBGRADE CROSS SECTION

PAVEMENT SUBGRADE IMPROVEMENT SCHEDULE

ALIGNMENT	BEGIN STATION	END STATION	SUBGRADE METHOD	DEPTH OF TREATMENT	SIDE	UNDERCUT REASON
HARPER RD	AREA OF WIDENING - SEE PLANS		UNDERCUT	12"	LT/RT	UNSTABLE
RAMP 1A	AREA OF WIDENING - SEE PLANS		UNDERCUT	12"	LT/RT	UNSTABLE
RAMP 1B	AREA OF WIDENING - SEE PLANS		UNDERCUT	12"	LT/RT	UNSTABLE
RAMP 2B	AREA OF WIDENING - SEE PLANS		UNDERCUT	12"	LT/RT	UNSTABLE
RAMP 3A	AREA OF WIDENING - SEE PLANS		UNDERCUT	12"	LT/RT	UNSTABLE
RAMP 3B	AREA OF WIDENING - SEE PLANS		UNDERCUT	12"	LT/RT	UNSTABLE
RAMP 4A	AREA OF WIDENING - SEE PLANS		UNDERCUT	12"	LT/RT	UNSTABLE
RAMP 4B	AREA OF WIDENING - SEE PLANS		UNDERCUT	12"	LT/RT	UNSTABLE

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 UNSUITABLE SUBGRADE. 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 SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). 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 C&MS 204.03.

4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ONTHE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS. PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 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 C&MS 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 - IMPACT ATTENUATOR, TYPE 2, (BIDIRECTIONAL), (35 MPH, 24" WIDTH)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE MASH 2016 TYPE 2 IMPACT ATTENUATORS AS LISTED UNDER "PRODUCTS ACCEPTED FOR NEW, PERMANENT INSTALLATIONS" ON ROADWAY APPROVED PRODUCTS LIST POSTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

TYPE 2 IMPACT ATTENUATORS ARE NECESSARY AT THE FOLLOWING LOCATIONS:

1. SB HARPER RD AT MEDIAN BARRIER
2. NB HARPER RD AT MEDIAN BARRIER

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 (35 MPH, 24" WIDTH), (BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

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

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE MASH 2016 TYPE B FLARED END TREATMENTS FOR TYPE MGS GUARDRAIL AS LISTED UNDER "PRODUCTS ACCEPTED FOR NEW INSTALLATIONS" ON THE ROADWAY APPROVED PRODUCTS LIST POSTED ON ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS.

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. ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE. 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.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH SOLID FLUORESCENT YELLOW REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

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

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE MASH 2016 TYPE E TANGENTIAL END TREATMENTS FOR TYPE MGS GUARDRAIL AS LISTED UNDER "PRODUCTS ACCEPTED FOR NEW INSTALLATIONS" ON THE APPROVED PRODUCTS LIST POSTED ON ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS.

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. ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE. 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.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH SOLID FLUORESCENT YELLOW REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

WHEN THE FACE OF THE ADJACENT (ATTACHED) GUARDRAIL IS LESS THAN 4' OFFSET FROM THE PROPOSED EDGE LINE, AND PERMITTING SITE CONDITIONS EXIST: THE PROPOSED TYPE E ANCHOR ASSEMBLY SHALL BE INSTALLED AT A CONSISTENT FLARE RATE THROUGH THE FULL LENGTH OF THE SYSTEM. THE FLARE RATE SHALL BE A MAXIMUM OF 25:1 (RESULTING IN A 2' OFFSET). THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE SHOP DRAWINGS, PRODUCT INSTALLATION MANUAL/GUIDANCE, AND AS DIRECTED BY THE ENGINEER.

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, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 26

GENERAL NOTES

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DESIGN AGENCY
GPD GROUP*
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 22 TOTAL 481

PAVEMENT

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

THIS ITEM SHALL CONFORM TO ITEM 304 WITH THE EXCEPTION THAT THE AGGREGATE SHALL BE LIMESTONE AND MEET THE FOLLOWING GRADATIONS: PAVEMENT SUBBASE SHALL BE ITEM 304. NO RECYCLED MATERIALS WILL BE PERMITTED.

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

THIS ITEM SHALL CONFORM TO ITEM 304 WITH THE EXCEPTION THAT THE AGGREGATE SHALL BE LIMESTONE AND MEET THE FOLLOWING GRADATIONS: SIDEWALKS, DRIVEWAYS AND MULTI-USE PATHS SHALL BE #57. NO RECYCLED MATERIALS WILL BE PERMITTED.

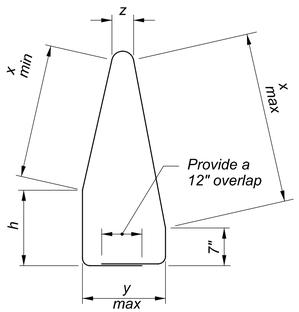
ITEM 609 - 6" CONCRETE TRAFFIC ISLAND, AS PER PLAN

THIS ITEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 609 WITH THE ADDITION OF 1" THICK CMS 705.03 PREFORMED FILLER AT THE INTERFACE OF THE EXISTING BRIDGE PIERS AND ITEM 609 - 6" CONCRETE TRAFFIC ISLAND, AS PER PLAN.

ITEM 622 - CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1

CUY-422 END ANCHORAGES

STATION	LENGTH (FEET)	"h" (INCH)	"y" (INCH)
268+12.47	15.00	29.37	33.94
268+27.47		29.42	33.95



Y401 #4

DRAINAGE

ROTATE MANHOLE COVERS

THE CONTRACTOR SHALL ROTATE/ORIENT THE MANHOLE RISER SO THAT THE COVER IS IN THE SHOULDER AT THE FOLLOWING STRUCTURES:

D-18 AND D-63

THE CONTRACTOR SHALL ROTATE/ORIENT THE MANHOLE RISER SO THAT THE COVER IS OUTSIDE THE LIMIT OF THE DUAL-USE PATH AT THE FOLLOWING STRUCTURES:

D-18, D-54, D-56 AND D-60

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.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. THE CONRACTOR IS RESPONSIBILE TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. FURNISH MATERIALS PER ITEM 611 WITH PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 500 POUNDS

REPLACE CASTINGS DAMAGED BY THE CONTRACTOR NEGLIGENCE, AS DETERMINED BY THE ENGINEER, AT THE EXPENSE OF THE CONTRACTOR.

REVIEW OF DRAINAGE FACILITIES

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

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ITEM 611 - CATCH BASIN, MISC.: CITY OF SOLON STANDARD 2-2B CATCH BASIN (ST-6B)

CATCH BASINS DESIGNATED UNDER THIS ITEM SHALL BE IN ACCORDANCE WITH CITY OF SOLON STANDARD CONSTRUCTION DRAWING ST-6B, AS SHOWN ON SHEET 370 .

ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS INCLUDING EXCAVATION AND BACKFILL USING CRUSHED LIMESTONE SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 611 - CATCH BASIN, MISC.: CITY OF SOLON STANDARD CATCH BASIN (ST-6B).

EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS 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 PROVIDED FOR THE WORK NOTED ABOVE:

601, TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	8 SQ. YD.
611, 6" CONDUIT, TYPE F	40 FT.
611, PRECAST REINFORCED CONCRETE OUTLET	4 EACH
605, 6" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN	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 PROVIDED 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 605 - 6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN
ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN
ITEM 605 - 6" BASE PIPE UNDERDRAINS, AS PER PLAN

THIS ITEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 605 WITH THE EXCEPTION THAT CONDUIT MATERIAL SHALL CONFORM TO CMS 707.41 AND BACKFILL CONFORM TO CMS 703.01.

ITEM 611 - MANHOLE, NO. 3, AS PER PLAN

MANHOLES UNDER THIS ITEM HAVE A BASE LARGER THAN 60" AND ARE NOT ADDRESSED IN THE CITY OF SOLON STANDARD CONSTRUCTION DRAWINGS. THUS THIS ITEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CITY OF SOLON STANDARD CONSTRUCTION DRAWING ST-3 EXCEPT THAT THE MANHOLE BASE SIZE AND TRANSITION FOLLOW ODOT ITEM 611 AND STANDARD CONSTRUCTION DRAWING MH-3. IN ADDITION, A SLOTTED ROUND GRATE SHALL BE INSTALLED WHERE NOTED IN THE PLANS AND SHALL BE EAST JORDAN GRATE 1251M OR GRATE 1450M OR APPROVED EQUIVALENT.

ITEM 611 - " CONDUIT, TYPE , AS PER PLAN, 707.65

THIS ITEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 611 AND ODOT CMS 707.65 WITH ALL PIPES FROM 30" TO 60" DIAMETERS TO BE TRIPLE WALL PIPE.

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 26

ITEM 611 - MANHOLE, MISC.: CITY OF SOLON STANDARD MANHOLE, TYPE "C" (ST-3)

MANHOLES DESIGNATED UNDER THIS ITEM SHALL BE IN ACCORDANCE WITH CITY OF SOLON STANDARD CONSTRUCTION DRAWING ST-3, AS SHOWN ON SHEET 370 .

SEE ITEM SPECIAL - UTILITY COORDINATION AND RELOCATION FOR ADDITIONAL COORDINATION REQUIREMENTS WITH CEI FIRST ENERGY FOR THE CONSTRUCTION OF THE PROPOSED STORM SEWER FROM STA. 61+31 TO STA. 71+03.

ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS INCLUDING EXCAVATION AND BACKFILL USING CRUSHED LIMESTONE SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 611 - MANHOLE, MISC.: CITY OF SOLON STANDARD MANHOLE, TYPE "C" (ST-3).

ITEM 611 - CATCH BASIN, MISC.: CITY OF SOLON STANDARD VERTICAL CURB INLET (ST-5B)

CATCH BASINS DESIGNATED UNDER THIS ITEM SHALL BE IN ACCORDANCE WITH CITY OF SOLON STANDARD CONSTRUCTION DRAWING ST-5B, AS SHOWN ON SHEET 370 . OFFSETS LISTED IN PLANS ARE TO FACE OF CURB.

SEE ITEM SPECIAL - UTILITY COORDINATION AND RELOCATION FOR ADDITIONAL COORDINATION REQUIREMENTS WITH CEI FIRST ENERGY FOR THE CONSTRUCTION OF THE PROPOSED STORM SEWER FROM STA. 61+31 TO STA. 71+03.

ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS INCLUDING EXCAVATION AND BACKFILL USING CRUSHED LIMESTONE SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 611 - CATCH BASIN, MISC.: CITY OF SOLON STANDARD VERTICAL CURB INLET (ST-5B).

ITEM 611 - CATCH BASIN, NO. 6, AS PER PLAN

THIS ITEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 611 AND STANDARD CONSTRUCTION DRAWING CB-6 WITH THE FOLLOWING EXCEPTIONS FROM THE CITY OF SOLON:

1. ALL BRICK SHALL BE RED SHALE BRICK CONFORMING TO ODOT ITEM 704.01 (ASTM C32), UNLESS APPROVED IN WRITTING BY THE ENGINEER
2. THE ENTIRE AREA AROUND THE BASIN SHALL BE BACKFILLED WITH ODOT ITEM #304 CRUSHED LIMESTONE, MECHANICALLY COMPACTED IN 12" LIFTS.
3. PRECAST UNITS SHALL BE SET ON 6" - #57 CRUSHED LIMESTONE.
4. ALL SEWER PIPES SHALL HAVE BOOTED CONNECTIONS CAST INTO THE STRUCTURE.

ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS INCLUDING EXCAVATION AND BACKFILL USING CRUSHED LIMESTONE SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 611 - CATCH BASIN, NO. 6, AS PER PLAN

ITEM SPECIAL - UTILITY COORDINATION AND RELOCATION

THIS ITEM SHALL BE IN CONFORMANCE WITH ODOT CMS 107 AND THE 4a UTILITY NOTE FOR UTILITY COORDINATION AND RELOCATION WITH CEI FIRST ENERGY FOR THE CONSTRUCTION OF THE PROPOSED STORM SEWER FROM STA. 61+31 TO STA. 71+03.

EXISTING CEI DUCTS WILL REMAIN IN PLACE AND THE FOLLOWING COORDINATION WILL BE REQUIRED FOR CEI TO DE-ENERGIZE AND PULL THEIR CABLE AND THE ODOT CONTRACTOR TO CONSTRUCT THE PROPOSED STORM SEWER WITHIN THIS AREA.

CEI REQUIRES 30-DAY NOTICE FROM THE ODOT CONTRACTOR TO DE-ENERGIZE THEIR FACILITIES AND TO PULL CABLE FROM THE UNDERGROUND DUCTS.

ODOT CONTRACTOR SHALL FIELD LOCATE (I.E. POTHOLE, EXCAVATE, ETC.) THE EXISTING CEI DUCTS PRIOR TO ORDERING MATERIALS AND ANY STORM SEWER ADJUSTMENTS SHALL BE COORDINATED WITH THE FIELD ENGINEER TO AVOID ANY CONFLICTS WITH THE CEI DUCTS.

ODOT CONTRACTOR SHALL USE CAUTION WHILE CONSTRUCTING STORM SEWER TO MINIMIZE IMPACTS AND DAMAGE TO THE EXISTING UNDERGROUND DUCTS. CEI TO HOLD HARMLESS ODOT AND ODOT'S CONTRACTOR FOR ANY DAMAGE TO THE UNDERGROUND CONDUITS.

ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS INCLUDING THE PRELIMINARY INVESTIGATION AND COORDINATION SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM SPECIAL - UTILITY COORDINATION AND RELOCATION.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR THE WORK NOTED ABOVE:

ITEM SPECIAL - UTILITY COORDINATION AND RELOCATION LS

GENERAL NOTES

DESIGN AGENCY
GPD GROUP*
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 23 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GN003 PAPERSIZE: 34x22 (in.) DATE: 1/22/2026 TIME: 9:47:32 AM USER: dluzier
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EROSION CONTROL

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

THIS ITEM SHALL CONSIST OF CONSTRUCTING CONCRETE PAVED GUTTER AS PER STANDARD CONSTRUCTION DRAWING DM-2.1 AND THE DETAILS AS SHOWN ON SHEET NO. 18 AT THE LOCATIONS SHOWN IN THE PLANS. THE GUTTER SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN THE DETAIL. PEJF (PREFORMED EXPANSION JOINT FILLER) SHALL BE PER CMS 516 AND IS INCLUDED IN THE COST OF THE PAVED GUTTER.

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

ITEM 659 - SEEDING AND MULCHING

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

ITEM 659, SOIL ANALYSIS TEST	2 EACH
ITEM 659, TOPSOIL	2890 CU. YD.
ITEM 659, SEEDING AND MULCHING, CLASS 1	14259 SQ. YD.
ITEM 659, SEEPING AND MULCHING	11775 SQ. YD.
ITEM 659, REPAIR SEEDING AND MULCHING	1302 SQ. YD.
ITEM 659, INTER-SEEDING	1302 SQ. YD.
ITEM 659, COMMERCIAL FERTILIZER	3.64 TON
ITEM 659, LIME	5.38 ACRES
ITEM 659, WATER	145 M. GAL.
ITEM 659, MOWING	59 MSF.

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. ANY ADDITIONAL AREAS OUTSIDE OF THE AREAS INDENTIFIED THAT ARE DISTURBED BY CONTRACTOR TO FACILITATE CONSTRUCTION MUST BE RESTORED IN ACCORDANCE WITH C&MS 107.10 AND CONSIDERED INCIDENTAL TO THE WORK. NO ADDITIONAL COMPENSATION WILL BE MADE FOR THESE AREAS.

EARTHWORK SUBSUMMARY

THE FOLLOWING IS A SUMMARY OF ALL EARTHWORK QUANTITES. EARTHWORK END AREA CALCULATIONS HAVE BEEN PROVIDED ON SHEETS 187A-187E FOR REFERENCE ONLY.

HARPER RD	
203, EXCAVATION	5180 CU. YD.
203, EMBANKMENT	1428 CU. YD.
204, EXCAVATION OF SUBGRADE	830 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	830 CU. YD.
204, GEOGRID	2491 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	4814 SQ. YD.
RAMP 1A	
203, EXCAVATION	543 CU. YD.
203, EMBANKMENT	129 CU. YD.
204, EXCAVATION OF SUBGRADE	189 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	189 CU. YD.
204, GEOGRID	566 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	2332 SQ. YD.
RAMP 1B	
203, EXCAVATION	1469 CU. YD.
203, EMBANKMENT	229 CU. YD.
204, EXCAVATION OF SUBGRADE	443 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	443 CU. YD.
204, GEOGRID	1329 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	861 SQ. YD.
659, SEEDING AND MULCHING	2608 SQ. YD.
RAMP 2A	
203, EXCAVATION	314 CU. YD.
203, EMBANKMENT	60 CU. YD.
204, EXCAVATION OF SUBGRADE	74 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	74 CU. YD.
204, GEOGRID	221 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	226 SQ. YD.
659, SEEDING AND MULCHING	601 SQ. YD.

EARTHWORK SUBSUMMARY - CONTINUED

RAMP 2B	
203, EXCAVATION	216 CU. YD.
203, EMBANKMENT	80 CU. YD.
204, EXCAVATION OF SUBGRADE	120 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	120 CU. YD.
204, GEOGRID	359 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	1289 SQ. YD.
RAMP 3A / EX. RAMP 5	
203, EXCAVATION	1670 CU. YD.
203, EMBANKMENT	794 CU. YD.
204, EXCAVATION OF SUBGRADE	318 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	318 CU. YD.
204, GEOGRID	955 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	314 SQ. YD.
659, SEEDING AND MULCHING	6580 SQ. YD.
RAMP 3B	
203, EXCAVATION	431 CU. YD.
203, EMBANKMENT	125 CU. YD.
204, EXCAVATION OF SUBGRADE	174 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	174 CU. YD.
204, GEOGRID	523 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	1953 SQ. YD.
RAMP 4A	
203, EXCAVATION	139 CU. YD.
203, EMBANKMENT	757 CU. YD.
204, EXCAVATION OF SUBGRADE	153 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	153 CU. YD.
204, GEOGRID	458 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	606 SQ. YD.
RAMP 4B	
203, EXCAVATION	251 CU. YD.
203, EMBANKMENT	337 CU. YD.
204, EXCAVATION OF SUBGRADE	136 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	136 CU. YD.
204, GEOGRID	408 SQ. YD.
659, SEEDING AND MULCHING, CLASS 1	1864 SQ. YD.
RAMP 4	
203, EXCAVATION	474 CU. YD.
203, EMBANKMENT	158 CU. YD.
204, EXCAVATION OF SUBGRADE	159 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	159 CU. YD.
204, GEOGRID	478 SQ. YD.
659, SEEDING AND MULCHING	1986 SQ. YD.

THE FOLLOWING GRAND TOTAL HAS BEEN CARRIED TO THE GENERAL NOTES SUBSUMMARY:

203, EXCAVATION	10687 CU. YD.
203, EMBANKMENT	4097 CU. YD.
204, EXCAVATION OF SUBGRADE	2596 CU. YD.
204, GRANULAR MATERIAL,TYPE B AS PER PLAN	2596 CU. YD.
204, GEOGRID	7788 SQ. YD.

ENVIRONMENTAL

WETLAND AND ENVIRONMENTAL IMPACTS/AVOIDANCE

THIS PROJECT WILL IMPACT A TOTAL OF 0.20 ACRES OF WETLANDS, 0 LINEAR FEET OF STREAMS AND 0.00 ACRES OF IMPOUNDMENTS. THIS PROJECT WILL IMPACT WETLAND/STREAM/IMPOUNDMENTS AT THE FOLLOWING LOCATION:

WETLAND 1:	
US 422 STA. 825+41	0.00 ACRES
WETLAND 2:	
RAMP 1B STA. 441+54	0.00 ACRES
WETLAND 3:	
RAMP 1B STA. 446+16	0.05 ACRES
WETLAND 4:	
RAMP 3A STA. 650+67	0.00 ACRES
WETLAND 5:	
RAMP 3A STA. 656+46	0.00 ACRES
WETLAND 6:	
RAMP 4A STA. 351+00	0.15 ACRES
	0.20 ACRES TOTAL
STREAM 1:	
RAMP 2A STA. 646+15	0 LIN. FT.
STREAM 2:	
RAMP 1B STA. 437+59	0 LIN. FT.
STREAM 3:	
HARPER RD STA. 70+58	0 LIN. FT.
	0 LIN. FT. TOTAL
IMPOUNDMENT 1:	
HARPER RD STA. 57+02	0.00 ACRES
	0.00 ACRES TOTAL

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT THE REMAINING WETLANDS/STREAMS/IMPOUNDMENTS INDICATED ON THE PLAN. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS WITHIN THESE WETLANDS.

TO PROTECT AND DELINEATE THE BOUNDARY OF THE EXISTING REMAINING WETLANDS, TEMPORARY CONSTRUCTION FENCE AND FILTER FABRIC FENCE 1500 LINEAR FEET, PAYMENT FOR THIS ITEM WILL BE MADE UNDER ITEM 832, EROSION CONTROL) SHALL BE INSTALLED ALONG THE PROPOSED CONSTRUCTION LIMITS WITHIN THE WETLANDS AREA BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THESE LIMITS AND ADJACENT AREA AND MAINTAINED BY CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION.

BEST MANAGEMENT PRACTICES/SOIL EROSION AND SEDIMENTATION CONTROL

ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE IN PLACE PRIOR TO ANY CLEARING AND GRUBBING EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER.

ENDANGERED BAT HABITAT REMOVAL

NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM MARCH 16 THROUGH NOVEMBER 14. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM NOVEMBER 15 THROUGH MARCH 15. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO FEDERALLY AND STATE LISTED BAT SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSE OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

WATER QUALITY

POST CONSTRUCTION STORM WATER TREATMENT

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

VEGETATED FILTER STRIPS

THIS PLAN UTILIZES VEGETATED FILTER STRIPS FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AND ITEM 670, SLOPE EROSION PROTECTION TO ALL DISTURBED AREAS DESIGNATED AS VEGETATED FILTER STRIPS, THE EDGE OF SHOULDER, AND FORESLOPE AS SPECIFIED IN THE PLANS.

VEGETATED BIOFILTER

THIS PLAN UTILIZES VEGETATED BIOFILTER(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AS SHOWN IN THE PLANS TO ANY DISTURBED AREA ON THE SHOULDER AND FORESLOPE DRAINING TO A VEGETATED BIOFILTER. THE DITCH FOR EACH VEGETATED BIOFILTER IS TRAPEZOIDAL, AS SHOWN IN THE PLAN CROSS SECTIONS. PROVIDE ITEM 670 AS SPECIFIED IN THE PLANS.

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 26

GENERAL NOTES

DESIGN AGENCY

GPD GROUP*

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DESIGNER ATR

REVIEWER CWL 09/02/21

PROJECT ID 113889

SHEET 24 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GN003 PAPERSIZE: 34x22 (in.) DATE: 2/16/2024 TIME: 10:44:23 AM USER: duzler
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WATER WORK

CLEVELAND WATER DEPARTMENT FEES AND CHARGES

THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CLEVELAND WATER DEPARTMENT FEES AND CHARGES ASSOCIATED WITH THIS PROJECT. A LINE ITEM WITH A FIXED AMOUNT HAS BEEN ADDED TO THE BID FORM. A COPY OF THE CHARGE LETTER WILL BE PROVIDED UPON RECEIPT. PAYMENT WILL BE BASED ON THE CONTRACTOR'S PAID INVOICE TO CLEVELAND WATER DEPARTMENT. FOR BIDDING PURPOSES, THE FOLLOWING FEES AND CHARGES HAVE BEEN ESTIMATED: $61.00. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 638 - WATER WORK, MISC. CLEVELAND WATER DEPARTMENT FEES AND CHARGES 61 EACH

CLEVELAND WATER DEPARTMENT AS-BUILTS

THIS ITEM SHALL INCULDE ALL NECESSARY LABOR AND MATERIAL TO PROVIDE THE CITY OFFICIALS AND THE CITY OF CLEVELAND DIVISION OF WATER WITH ACCURATE AS-BUILT DRAWINGS. THESE DRAWINGS SHALL INCLUDE THE EXACT LOCATION OF ALL NEW VALVES AND HYDRANTS INSTALLED. THE DATE OF VALVE AND HYDRANT INSTALLATION SHALL BE INDICATED ON THE DRAWINGS. THE DRAWINGS SHALL SHOW THE EXACT LIMITS OF THE PIPE THAT WAS INSTALLED. ALL EXCAVATIONS SHALL BE RECORDED WITH LOCATION AND DIMENSIONS, DATE OPENED, DATE BACKFILLED, DATE PAVED AND SHALL BE SHOWN ON THE AS-BUILTS. A REGISTERED PROFESSIONAL ENGINEER SHALL SEAL THE DRAWINGS. AS-BUILTS WILL BE REQUIRED PRIOR TO DISINFECTING THE WATER MAIN. ALL WORK REQUIRED SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR "AS-BUILT DRAWINGS." THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 638 - WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT AS-BUILT DRAWINGS LS

ITEM SPECIAL - 6" FIRE HYDRANT (CLEVELAND)

ALL HYDRANTS SHALL BE "MUELLER-CENTURION", "KENNEDY-GUARDIAN", OR AN APPROVED EQUAL (PAINTED YELLOW). THIS ITEM SHALL INCLUDE ALL NECESSARY EXCAVATION, EMBANKMENT, DEWATERING, SHEETING, PREPARATION OF THE TRENCH BOTTOM, ROCK EXCAVATION, VALVE, VALVE BOX, HYDRANT, 12"x6" TEE, JOINT MATERIAL, BLOCKING, ADJUSTMENT, BEDDING, BACKFILL, TESTING, DISPOSAL OF WASTE AND ALL OTHER EXPENSES WHETHER SPECIFICALLY MENTIONED OR NOT, FOR THE INSTALLATION OF A 6" HYDRANT ASSEMBLY IN ACCORDANCE WITH CLEVELAND WATER DEPARTMENT STANDARDS. SEE SHEETS 373 AND 374 FOR CLEVELAND WATER DEPARTMENT STANDARD CONSTRUCTION DRAWING STD-H06 AND STD-H08.

HYDRANT ASSEMBLIES SHALL BE EQUIPPED WITH A 4" HPHA HARRINGTON PERMANENT HYDRANT STORZ COUPLING AS MANUFACTURED BY HARRINGTON, INC.

THREADS ON HYDRANTS MUST BE CLEVELAND STANDARD THREAD AND MUST BE APPROVED BY THE FIRE CHIEF. THE CONTRACTOR IS REQUIRED TO SCHEDULE AN INSPECTION WITH THE FIRE CHIEF TO REVIEW FUNCTIONALITY OF ALL HYDRANTS PRIOR TO RECEIVING FINAL APPROVAL.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH HYDRANT ASSEMBLY INSTALLED COMPLETE, TESTED, DISINFECTED, AND READY FOR SERVICE INCLUDING PERMANENT ADAPTERS.

TEMPORARY WATER CONNECTIONS AT STOUFFER'S-NESTLE / WATER SERVICE COORDINATION

THE CONTRACTOR SHALL SUBMIT A TEMPORARY WATER SERVICE PLAN TO THE CITY OF SOLON ENGINEER AND THE CITY OF CLEVELAND WATER DEPARTMENT AS APPLICABLE PRIOR TO ANY WORK ON THE WATER SYSTEMS THAT MAY AFFECT CONTINUOUS WATER SERVICE TO THE STOUFFER'S/NESTLE COMPLEX. ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PROVIDE TEMPORARY CONNECTION IS CONSIDERED INCIDENTAL TO THE PROPOSED WORK.

WORK THAT MAY INTERRUPT ANY OTHER WATER SERVICE CONNECTION SHALL BE COORDINATED WITH THE PROPERTY OWNER, CITY OF SOLON ENGINEER AND CITY OF CLEVELAND WATER DEPARTMENT PRIOR TO STARTING THE WORK WITH SERVICE DISRUPTIONS HELD TO A MINIMUM.

ITEM 638 - WATER WORK, MISC.: METER REMOVED AND RESET (CLEVELAND)

REMOVE AND RESET THE EXISTING WATER METER PER CITY OF CLEVELAND SPECIFICATIONS AND STANDARDS. CONTRACTOR SHALL INCLUDE 20' OF 2" TYPE K COPPER AND ALL COUPLERS TO RECONNECT TO THE SERVICE LINE.

ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS INCLUDING EXCAVATION AND BACKFILL SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: METER REMOVED AND RESET (CLEVELAND)

ITEM SPECIAL - FIRE HYDRANT SERVICE LINE EXTENDED AND ADJUSTED TO GRADE (CLEVELAND)
ITEM SPECIAL - FIRE HYDRANT SERVICE LINE SHORTENED AND ADJUSTED TO GRADE (CLEVELAND)

ALL HYDRANTS SHALL BE "MUELLER-CENTURION", "KENNEDY-GUARDIAN", OR AN APPROVED EQUAL (PAINTED YELLOW). THIS ITEM SHALL INCLUDE ALL NECESSARY EXCAVATION, EMBANKMENT, DEWATERING, SHEETING, PREPARATION OF THE TRENCH BOTTOM, ROCK EXCAVATION, HYDRANT, JOINT MATERIAL, BLOCKING, ADJUSTMENT, BEDDING, BACKFILL, TESTING, DISPOSAL OF WASTE AND ALL OTHER EXPENSES WHETHER SPECIFICALLY MENTIONED OR NOT, FOR THE INSTALLATION OF A 6" HYDRANT ASSEMBLY IN ACCORDANCE WITH CLEVELAND WATER DEPARTMENT STANDARDS. SEE SHEET 373 FOR CLEVELAND WATER DEPARTMENT STANDARD CONSTRUCTION DRAWING STD-H02.

HYDRANT ASSEMBLIES SHALL BE EQUIPPED WITH A 4" HPHA HARRINGTON PERMANENT HYDRANT STORZ COUPLING AS MANUFACTURED BY HARRINGTON, INC.

THREADS ON HYDRANTS MUST BE CLEVELAND STANDARD THREAD AND MUST BE APPROVED BY THE FIRE CHIEF. THE CONTRACTOR IS REQUIRED TO SCHEDULE AN INSPECTION WITH THE FIRE CHIEF TO REVIEW FUNCTIONALITY OF ALL HYDRANTS PRIOR TO RECEIVING FINAL APPROVAL.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH HYDRANT ASSEMBLY EXTENDED, SHORTENED AND ADJUSTED TO GRADE COMPLETE, TESTED, DISINFECTED, AND READY FOR SERVICE INCLUDING PERMANENT ADAPTERS.

ITEM 638 - 12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, MECHANICAL JOINTS AND FITTINGS (CLEVELAND)

THIS ITEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH CLEVELAND WATER DEPARTMENT STANDARDS. SEE SHEET 373 FOR CLEVELAND WATER DEPARTMENT STANDARD CONSTRUCTION DRAWING STD-008 FOR SPOOL PIECE INSTALLATION.

ITEM 638 - FIRE HYDRANT REMOVED, AS PER PLAN

EXISTING HYDRANT(S) MAY BE ENCASED IN APPROXIMATELY SIX (6) FEET OF CONCRETE. THIS ITEM SHALL BE INCLUDE THE REMOVAL OF THE EXISTING HYDRANT AND CONCRETE ENCASEMENT AND THE NECESSARY BACKFILL. ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS INCLUDING THE EXCAVATION AND BACKFILL NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 638 - FIRE HYDRANT REMOVED, AS PER PLAN.

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 26

GENERAL NOTES

CUY-422-16.20 (HARPER ROAD)
MODEL: GN003 PAPERSIZE: 34x22 (in.) DATE: 7/27/2025 TIME: 8:32:52 AM USER: dluzier
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DESIGN AGENCY
GPD GROUP
DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 25 TOTAL 481

SHEET NO.	201 CLEARING AND GRUBBING LS	SPECIAL UTILITY COORDINATION AND RELOCATION LS		203 EXCAVATION CY	203 EMBANKMENT CY	204 EXCAVATION OF SUBGRADE CY	204 GRANULAR MATERIAL, TYPE B, AS PER PLAN CY	204 GEOGRID SY		601 TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT SY		605 6" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN FT		611 6" CONDUIT, TYPE B FT	611 6" CONDUIT, TYPE C FT	611 6" CONDUIT, TYPE E FT	611 6" CONDUIT, TYPE F FT		611 PRECAST REINFORCED CONCRETE OUTLET EACH		SPECIAL MISCELLANEOUS METAL LB	
21	LS																				
23		LS								8		40		200	200	200	240		4		500
24				10687	4097	2596	2596	7788													
TOTALS CARRIED TO GENERAL SUMMARY	LS	LS		10687	4097	2596	2596	7788		8		40		200	200	200	240		4		500

SHEET NO.	638 WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT FEES AND CHARGES EACH	638 WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT AS-BUILT DRAWINGS LS				659 SEEDING AND MULCHING, CLASS 1 SY	659 SEEDING AND MULCHING SY	659 SOIL ANALYSIS TEST EACH	659 TOPSOIL CY	659 REPAIR SEEDING AND MULCHING SY	659 INTER-SEEDING SY	659 COMMERCIAL FERTILIZER TON	659 LIME ACRE	659 WATER MGAL	659 MOWING MSF			SPECIAL SURVEY CONTROL VERIFICATION LS		623 MONUMENT ASSEMBLY, TYPE C, AS PER PLAN EACH	623 REFERENCE MONUMENT, TYPE A EACH	623 RIGHT-OF-WAY MONUMENT, TYPE B EACH
21																		LS		1	5	21
24						14259	11775	2	2890	1302	1302	3.64	5.38	145	59							
25	61	LS																				
TOTALS CARRIED TO GENERAL SUMMARY	61	LS				14259	11775	2	2890	1302	1302	3.64	5.38	145	59			LS		1	5	21

GENERAL NOTES SUBSUMMARY

DESIGN AGENCY

GPD GROUP

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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 26 TOTAL 481

CUY-422-16.20 (HARPER RD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/22/2026 TIME: 9:59:21 AM USER: dluzier
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NOTIFICATIONS AND CONTACTS

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ENTITIES AT LEAST FOURTEEN (14) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION ACTIVITIES. INCLUDED IN THE NOTIFICATION SHALL BE THE PROJECTED DATES AND TIME FRAMES OF ANY ROAD CLOSURES OR DETOURS.

1. ODOT DISTRICT 12
   5500 TRANSPORTATION BLVD.
   GARFIELD HEIGHTS, OHIO 44125
   PHONE: 216-581-2100
2. SOLON ENGINEERING DEPARTMENT
   34200 BAINBRIDGE RD.
   SOLON, OHIO 44139
   PHONE: 440-349-6745
3. SOLON POLICE DEPARTMENT
   33000 SOLON RD.
   SOLON, OHIO 44139
   PHONE: 440-248-1234
4. SOLON FIRE DEPARTMENT
   5595 HARPER RD.
   SOLON, OHIO 44139
   PHONE: 440-349-6333
5. SOLON CITY SCHOOL DISTRICT
   33800 INWOOD RD.
   SOLON, OHIO 44139
   PHONE: 440-349-0250

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

SEQUENCE OF CONSTRUCTION

SEE SHEETS 59-67 FOR DETAILED SEQUENCE OF CONSTRUCTION.

NOTIFICATION OF TRAFFIC RESTRICTIONS

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

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

NOTIFICAION OF TRAFFIC RESTRICTION		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
ROAD CLOSURES	>= 2 WEEKS > 12 HOURS & < 2 WEEKS < = 12 HOURS	21 CALENDAR DAYS PRIOR TO CLOSURE 14 CALENDAR DAYS PRIOR TO CLOSURE 4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE 5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTI0N & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

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

WORK HOUR DESCRIPTION

1. OFF-PEAK HOURS ARE DEFINED AS ANY PERIOD OTHER THAN 6:00-9:00 AM AND 3:00-6:00 PM (MONDAY THRU FRIDAY) AND LEGAL HOLIDAYS.
2. NIGHTTIME HOURS ARE DEFINED AS 8:00 PM-6:00 AM.
3. WEEKEND HOURS ARE DEFINED AS FRIDAY 9:00 PM TO MONDAY 5:00 AM.

ACCESS TO PROPERTIES

ACCESS SHALL BE MAINTAINED TO ALL RESIDENTIAL AND COMMERCIAL PROPERTIES EXCEPT WHEN A DRIVEWAY MUST BE CLOSED FOR CONSTRUCTION. ALL RESIDENTS AND PROPERTY OWNERS SHALL BE PROVIDED WRITTEN NOTIFICATION BY THE CONTRACTOR A MINIMUM OF 24 HOURS PRIOR TO THE CLOSURE. THE NOTICE SHALL LIST THE TIME THE CLOSURE WILL BE IN EFFECT AND SHALL LIST 24-HOUR EMERGENCY PHONE NUMBERS OF THE CONTRACTOR RESPONSIBLE FOR THE CLOSURE. THE TIMES SHALL BE COORDINATED WITH EACH RESIDENT AND PROPERTY OWNER. INDIVIDUAL DRIVE CLOSURES SHALL BE KEPT TO THE MINIMUM TIME NEEDED FOR CONSTRUCTION ACTIVITIES. EVERY EFFORT MUST BE MADE TO ACCOMMODATE THE RESIDENT OR OWNER'S NEED FOR ACCESS. ACCESS MAY BE MAINTAINED WITH THE USE OF AGGREGATE OR STEEL PLATES.

WHERE A DRIVEWAY IS WIDE ENOUGH, THE CONTRACTOR SHALL CONSTRUCT THE DRIVEWAY PART-WIDTH WHILE MAINTAINING TWO-WAY TRAFFIC. WHERE A PROPERTY HAS MORE THAN ONE DRIVEWAY, DRIVES SHALL BE CONSTRUCTED ONE AT A TIME.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES AT CHABAD JEWISH CENTER OF SOLON. ACCESS TO AND FROM THIS BUSINESS SHALL BE MADE FROM THE NORTH BETWEEN CANNON ROAD AND THE BUSINESS ENTRANCES.

ALL LABOR AND MATERIALS REQUIRED FOR THE WORK DESCRIBED ABOVE SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

MAINTAINING OF SOLON FIRE DEPARTMENT ACCESS OF HARPER ROAD

THE CONTRACTOR SHALL MAINTAIN BOTH NORTHBOUND AND SOUTHBOUND ACCESS FOR EMERGENCY VEHICLES IN AND OUT OF THE FIRE STATION DRIVE LOCATED AT 5595 HARPER RD AT ALL TIMES THROUGHOUT THE DURATION OF THE PROJECT. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO, TEMPORARY PAVEMENT AND INCIDENTALS.

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

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 3 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED OR PLATED AT THE DIRECTION OF THE ENGINEER.

EARTHWORK FOR MAINTAINING TRAFFIC

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

EXCAVATION FOR MAINTAINING TRAFFIC 29 CY
EMBANKMENT FOR MAINTAINING TRAFFIC 726 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.

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.

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

ITEM SPECIAL - WORK ZONE TRAFFIC SIGNAL

UNDER THIS ITEM OF WORK, THE CONTRACTOR SHALL FURNISH, INSTALL, RELOCATE, MODIFY AND SUBSEQUENTLY REMOVE: TEMPORARY SIGNAL SUPPORTS, DOWN GUYS, GROUND RODS, SIGNAL CABLE, POWER CABLE, SERVICE CABLE, CONDUIT RISERS, MESSENGER WIRE, SIGNAL HEADS, COVERING OF VEHICULAR SIGNAL HEADS AND A TEMPORARY CONTROLLER AS NEEDED TO RENDER A FULLY FUNCTIONAL TEMPORARY SIGNALIZED INTERSECTION.

ALL METHODS OF TRAFFIC CONTROL SHALL BE APPROVED BY THE ENGINEER AND SHALL BE IN PLACE AND OPERATION PRIOR TO THE DEACTIVATION AND REMOVAL AND/OR RELOCATION OF ANY EXISTING SIGNAL EQUIPMENT. REFERENCE IS MADE TO THE REQUIREMENTS OF ITEM 614. ALL MODIFICATIONS TO SIGNALIZATION SHALL BE DONE UNDER THE PROTECTION OF A LAW ENFORCEMENT OFFICER.

THIS ITEM OF WORK SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE POWER TO THE TRAFFIC SIGNAL CONTROLLER FROM THE PROPOSED OR EXISTING POWER SOURCES AS DETERMINED BY CONSTRUCTION SEQUENCING. IT SHALL ALSO INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO FURNISH, INSTALL, MODIFY, REMOVE, STORE, ERECT, RELOCATE, ADJUST AND REPAIR TEMPORARY TRAFFIC SIGNAL ITEMS AS DESCRIBED ABOVE.

ALL EMERGENCY PREEMPTION EQUIPMENT SHALL BE INCLUDED IN THE COST OF THE WORK ZONE TRAFFIC SIGNAL. THE SIGNAL SHALL OPERATE WITH A LIGHT-BASED SYSTEM. ALL EMERGENCY VEHICLES AT FIRE STATION NO. 1 SHALL BE EQUIPPED WITH THE NECESSARY EQUIPMENT (INCLUDING EMITTERS, TRANSMITTERS, SWITCHES AND WIRING) TO PROVIDE A FULLY OPERATIONAL SYSTEM. IF THE CONTRACTOR CHOOSES, THE PERMANENT EMITTERS TO BE INSTALLED UNDER ITEM 809- PREEMPTION, AS PER PLAN, MAY BE UTILIZED FOR THE TEMPORARY CONDITION. ALL VEHICLE EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ITEM 809- PREEMPTION, AS PER PLAN.

ALL COSTS FOR THE ABOVE WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM SPECIAL - WORK ZONE TRAFFIC SIGNAL AND SHALL BE PER EACH SECTION.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM SPECIAL - WORK ZONE TRAFFIC SIGNAL 3 EACH

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 100 MGAL

NIGHT WORK

THE OPERATION OF NOISE PRODUCING EQUIPMENT BETWEEN THE HOURS OF 9:00 PM TO 8:00 AM IS IN VIOLATION OF THE CITY OF SOLON NOISE ORDINANCE. IF THE CONTRACTOR MUST OPERATE MACHINERY DURING THIS TIME THE CONTRACTOR SHALL SEEK A NOISE ORDINANCE WAIVER FROM THE CITY OF SOLON.

ITEM 614 - DETOUR SIGNING

ALL REQUIRED SIGNS AND SUPPORTS 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.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - DETOUR SIGNING LS

SAWCUT LOCATION FOR TEMPORARY PAVEMENT

WHEN TEMPORARY PAVEMENT IS TO BE INSTALLED ADJACENT TO EXISTING PAVEMENT, THE CONTRACTOR SHALL SAWCUT AND REMOVE THE EXISTING PAVEMENT A MINIMUM 2' FROM THE EDGE TO ALLOW A SMOOTH AND CLEAN JOINT BETWEEN THE EXISTING AND TEMPORARY PAVEMENT.

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 FLUORESCENT ORANGE RETROREFLECTIVE 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 OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

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 GENERAL SUMMARY FOR THIS ITEM.

ITEM 614 - BUSINESS ENTRANCE SIGN, AS PER PLAN 1 EACH

PROPOSED SIGNAL INSTALLATION

THE CONTRACTOR SHALL PERFORM ALL SIGNAL FOUNDATION TEST HOLES AND ORDER SIGNAL SUPPORTS DURING THE FIRST CONSTRUCTION SEASON. SIGNAL SUPPORTS NOT INTERFERRING WITH TRAFFIC DURING ALL MAINTENANCE OF TRAFFIC PHASES SHALL BE INSTALLED IN THE FIRST CONSTRUCTION SEASON.

MAINTENANCE OF TRAFFIC NOTES

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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 27 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
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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 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.

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 SOLON 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 (CONTINUED)

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 6-9 AM TO 3-6 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 SOLON POLICE, HIRED BY THE CONTRACTOR:

1. HARPER RD./CANNON RD.
2. HARPER RD./RAMP 1/RAMP 3
3. HARPER RD./RAMP 2/RAMP 4
4. HARPER RD./BAINBRIDGE RD.

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.

ITEM 614 - MAINTAINING TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS 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 ONE (1) 10' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410 AND 614.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (216)-584-2006, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. 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 MAINTENANCEOF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ITEM 614 - MAINTAINING TRAFFIC (CONTIUNED)

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

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

NOTIFICATION OF CLOSURE TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	≤ 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

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

5. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES UTILIZING SCD MT-110.10.

6. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS ADJACENT TO MAINTAINED LANES 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.

7. ONLY DURING OFF-PEAK PERIODS SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

8. PRIOR TO OPENING 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 FOLLOWING QUANTITY IS INCLUDED IN GENERAL SUMMARY:

   ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 20 CY

9. TRUCK MOUNTED ATTENUATORS (TMA'S) SHALL BE USED AS SHOWN IN THE STANDARD CONSTRUCTION DRAWINGS.

10. 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.

11. FOR ROUTES NOT ON THE PERMITTED LANE CLOSURE CHART, ONLY DURING OFFPEAK PERIODS (ie ANY PERIOD OTHER THAN 6:00-9:00AM AND 3:00-6:00PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

12. 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.

13. THE CONTRACTOR SHALL PLACE THE SIGNS: W8-1 [BUMP] PER OMUTCD 2C.28; W8-11 [UNEVEN LANES] PER OMUCTD 6F.45; AND W6-3 [TWO-WAY TRAFFIC] PER OMUTCD 6F.32. PAYMENT FOR THESE SIGNS SHALL BE INCIDENTAL TO THE LUMP SUM ITEM 614-MAINTAINING TRAFFIC. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGNS HAS BEEN INCLUDED IN THE PLANS PER CMS 614.04.

ITEM 614 - MAINTAINING TRAFFIC (CONTINUED)

14. THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.

15. NO WORK SHALL BE PERFORMED AND ALL EXISTING MAINLINE US -422. LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEAR'S	LABOR DAY
TOTAL SOLAR ECLIPSE (4/8/24)	THANKSGIVING
GENERAL/REGULAR ELECTION DAY (NOV.)	MEMORIAL DAY
(OTHER HOLIDAY OR SPECIAL EVENT)	

   THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR SPECIAL EVENT	TIME ALL MAINLINE I-490 LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
MONDAY (TOTAL SOLAR ECLIPSE)	12:00N FRIDAY THROUGH 6:00 AM WEDNESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
TUESDAY (GEN./REG. ELECTION)	5:00 AM TUESDAY THROUGH 12:00 AM WEDNSDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

   DURING THE SAME PERIOD, MAINTAIN PEDESTRIAN ACCESS IF PEDESTRIAN ACCESS WAS PRESENT PRIOR TO CONSTRUCTION.

   NEWLY CONSTRUCTED LANE ADDITIONS, ONCE COMPLETED AND INITIALLY OPENED TO TRAFFIC, SHALL BE OPEN TO TRAFFIC DURING ALL SUBSEQUENT DESIGNATED HOLIDAYS AND SPECIAL EVENTS, AND RELATED PERIODS OF TIME, SPECIFIED ABOVE.

   SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION. 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.

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DESIGN AGENCY
GPD GROUP*
DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 28 TOTAL 481

TIME LIMITATION ON A DETOUR

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED THE CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEETS 40-45. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT (SEE THE TABLE BELOW) PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

TIME LIMITATION ON A DETOUR

CLOSURE	TIME LIMITATION (CALENDAR DAYS)	DISINCENTIVE (PER CALENDAR DAY)	FOR DETAILED PLAN, SEE SHEET
HARPER RD. - PHASE 1-4	210	$ 10,000	40
HARPER RD. WEEKEND CLOSURE	3 (SEE WORK HOUR DESCRIPTION NOTE ON SHEET 27)	$ 10,000	41
RAMP 1A & RAMP 1B PHASES 1 - 2B	140	$ 200	42
RAMP 1A & RAMP 1B WEEKEND CLOSURE	3 (SEE WORK HOUR DESCRIPTION NOTE ON SHEET 27)	$ 200	42
RAMP 2A & RAMP 2B WEEKEND CLOSURE	3 (SEE WORK HOUR DESCRIPTION NOTE ON SHEET 27)	$ 400	43
RAMP 3A & RAMP 3B WEEKEND CLOSURE	3 (SEE WORK HOUR DESCRIPTION NOTE ON SHEET 27)	$ 700	44
RAMP 4A & RAMP 4B WEEKEND CLOSURE	3 (SEE WORK HOUR DESCRIPTION NOTE ON SHEET 27)	$ 700	45

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

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

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

- 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).
- FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:
- ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY;
- AND AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION;
- AND AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

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

"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED.

IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:

- THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR
- THE ACTIVE WORK AREA LATERALLY CLOSEST TO THE OPEN TRAVELED LANE; OR
- OTHER LOCATION AS APPROVED BY THE ENGINEER.

THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

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

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

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

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. 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 THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 140 HOURS

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

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

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

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

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONTINUED)

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

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

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

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN FOUR (4) HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

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

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

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT. THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. 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 DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

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

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

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 17 SNMT

ASSUMING 2 PCMS SIGN(S) FOR 8.5 MONTH(S)

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

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.

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 615, THIS ITEM SHALL INCLUDE RESTORATION OF ALL SURFACES AND SIGNS DISTURBED BY THE PLACEMENT AND REMOVAL OF PAVEMENT FOR MAINTAINING TRAFFIC OUTSIDE THE PROJECT LIMITS, INCLUDING BUT NOT LIMITED TO, THE REPLACEMENT OF CURB, PAVEMENT AND SHOULDER ON HARPER RD. AND RAMP 3.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC, AS PER PLAN LS

WORK ZONE PAVEMENT MARKINGS

THE CONTRACTOR SHALL PLACE TEMPORARY PAVEMENT MARKING DURING THE FIRST WEEKEND CLOSURE FOR PHASE 5 ON THE PROPOSED SURFACE COURSE. THE CONTRACTOR SHALL PLACE THE PAVEMENT MARKINGS IN THE PERMANENT CONDITION. THE FOLLOWING QUANTITES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - WORK ZONE LANE LINE, CLASS III, 4", 642 PAINT 0.30 MILE

ITEM 614 - WORK ZONE CENTER LINE, CLASS III, 642 PAINT 0.15 MILE

ITEM 614 - WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT 2.60 MILE

ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT 3494 FT

ITEM 614 - WORK ZONE DOTTED LINE, CLASS III, 4", 642 PAINT 2118 FT

ITEM 614 - WORK ZONE STOP LINE, CLASS III, 642 PAINT 229 FT

ITEM 614 - WORK ZONE ARROW, CLASS III, 642 PAINT 101 EACH

MAINTENANCE OF TRAFFIC NOTES

CUY-422-16.20 (HARPER ROAD)

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GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 29 TOTAL 481

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 TRAVELED LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. 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 PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR 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.

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 TRAVELED LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVELED 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 MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET WITH A 25 FOOT OFFSET FROM THE BARRIER REFLECTORS.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEMS.

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.

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A PREQUALIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE TRAINED IN ACCORDANCE WITH CMS 614.03, SHALL HAVE SUCCESSFULLY COMPLETED ODOT ADMINISTERED WTS TESTING (AND RE-TESTING WHEN APPLICABLE) AND BE LISTED ON THE ODOT PREQUALIFIED WTS ROSTER. PREQUALIFICATION EXPIRES EVERY 5 YEARS. RE-TESTING SHALL BE SUCCESSFULLY REPEATED EVERY 5 YEARS TO REMAIN PREQUALIFIED.

THE NAME OF THE PREQUALIFIED WTS AND RELATED 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 AN ALTERNATE (SECONDARY) WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY; HOWEVER THE PRIMARY WTS SHALL REMAIN THE POINT OF CONTACT AT ALL TIMES. ANY ALTERNATE (SECONDARY) WTS IS SUBJECT TO THE SAME TRAINING, PREQUALIFICATION AND OTHER REQUIREMENTS OUTLINED WITHIN THIS PLAN NOTE. AT ALL TIMES THE ENGINEER, OR ENGINEE'S REPRESENTATIVES,MUST BE INFORMED OF WHO THE PRIMARY WTS (AND SECONDARY WTS, IF APPLICABLE) IS AT THE CURRENT TIME.

THE WTS POSITION HAS THE PRIMARY RESPONSIBILITY OF IMPLEMENTING THE TRAFFIC MANAGEMENT PLAN (TMP), MONITORING THE SAFETY AND MOBILITY OF THE ENTIRE WORK ZONE, AND CORRECTING TEMPORARY TRAFFIC CONTROL (TTC) DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE WTS, AND ALTERNATE WTS WHEN ON DUTY, SHALL HAVE SUFFICIENT AUTHORITY TO EFFECTIVELY CARRY OUT THE IDENTIFIED WTS RESPONSIBILITIES AND DUTIES. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS.
2. BE ON SITE FOR ALL EMERGENCY TTC NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF, AND EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TTC DEVICES.
3. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TTC MANAGEMENT IS DISCUSSED.
4. BE AVAILABLE ON SITE FOR OTHER MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST.
5. BE AWARE OF ALL EXISTING AND PROPOSED TTC OPERATIONS OF THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS, AND ENSURE COORDINATION OCCURS BETWEEN THEM TO ELIMINATE CONFLICTING TEMPORARY AND/OR PERMANENT TRAFFIC CONTROL.
6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). THE WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE LEOS ARE ON THE PROJECT.
7. COORDINATE AND FACILITATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS THE WORK ZONE TTC FOR IMPLEMENTING THE PHASE SWITCH. SUBMIT A WRITTEN DETAIL OF MOT OPERATIONS AND SCHEDULE OF EVENTS TO IMPLEMENT THE SWITCH BETWEEN PHASE PLANS TO THE ENGINEER 5 CALENDAR DAYS PRIOR TO THIS MEETING.
8. BE PRESENT, ON SITE FOR, AND INVOLVED WITH, EACH TTC SET UP/TAKE DOWN AND EACH PHASE CHANGE IN ACCORDANCE WITH CMS 614.03.
9. ON A CONTINUAL BASIS ENSURE THAT THE TTC ZONE AND ALL RELATED DEVICES ARE INSTALLED, MAINTAINED AND REMOVED IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
10. ON A CONTINUAL BASIS FACILITATE CORRECTIVE ACTION(S) NECESSARY TO BRING DEFICIENT TTC ZONES AND ALL RELATED DEVICES INTO COMPLIANCE WITH CONTRACT DOCUMENTS IN THE TIMEFRAME DETERMINED BY THE ENGINEER.

WORKZONE TRAFFIC SUPERVISOR

11. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TTC DEVICES AND TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, PERFORM ONE WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIMEINSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:
    A. INITIAL TTC SETUP (DAY AND NIGHT REVIEW)
    B. DAILY TTC SETUP AND REMOVAL.
    C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TTC SETUP.
    D. CRASH OCCURRENCES WITHIN THE CONSTRUCTIO AREA AND WITHIN THE INFLUENCE AREA(S) APPROACHING THE WORK ZONE.
    E. REMOVAL OF TTC DEVICES AT THE END OF A PHASE OR PROJECT.
    F. ALL OTHER EMERGENCY TTC NEEDS.
12. COMPLETE THE DEPARTMENT APPROVED (CA-D-8) WITHIN GOFORMZ AFTER EACH INSPECTION AS REQUIRED IN # 11 AND SUBMIT IT TO THE ENGINEER BY THE END OF THE WORKDAY IN WHICH THE INSPECTION OCCURRED. THE CA-D-8 INCLUDES A CHECKLIST OF ALL TTC MAINTENANCE ITEMS TO BE REVIEWED. CONTACT GOFORMZ.HELP@DOT.OHIO.GOV TO OBTAIN A USER ACCOUNT. ANY DEFICIENCIES OBSERVED SHALL BE NOTED ON THE CA-D-8, ALONG WITH RECOMMENDED OR COMPLETED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THE CURRENT CA-D-8 DOCUMENT CAN BE FOUND ON THE OFFICE OF CONSTRUCTION ADMINISTRATION'S INSPECTION FORMS WEBSITE.
13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL DEDUCT:

A. THE PRORATED DAILY AMOUNT OF ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY IN WHICH THE WTS FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. THE PRORATED DAILY AMOUNT WILL BE EQUAL TO THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC DIVIDED BY THE DIFFERENCE BETWEEN THE ORIGINAL COMPLETION DATE AND THE FIRST DAY OF WORK, IN CALENDAR DAYS.

B. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A TTC ISSUE IS IDENTIFIED IN THE FIELD AND IS NOT CORRECTED IN THE GIVEN TIMEFRAME PER THE ENGINEER. DEDUCTION B SHALL NOT APPLY TO SITUATIONS COVERED BY DEDUCTION C.

C. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A LANE OR RAMP IS BLOCKED (FULLY OR PARTIALLY) WITHOUT TTC, AS DETERMINED BY THE ENGINEER. THIS DEDUCTION SHALL BE IN ADDITION TO ANY OTHER DISINCENTIVES ESTABLISHED FOR UNAUTHORIZED LANE USE.

FOR DAYS IN WHICH MORE THAN ONE DEDUCTION LISTED ABOVE OCCUR,THE HIGHEST DEDUCTION AMOUNT WILL APPLY.

IF THREE OR MORE TOTAL DAYS RESULT IN TTC ISSUES DESCRIBED IN DEDUCTION B OR C ABOVE, THE PRIMARY WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05. UPON REMOVAL THE ENGINEER SHALL NOTIFY ODOT CENTRAL OFFICE (WTSPREQUALIFICATION@DOT.OHIO.GOV) TO REGISTER A REMOVAL AGAINST THE STATEWIDE PREQUALIFICATION FOR THE PRIMARY WTS. THREE REMOVALS SHALL CAUSE STATEWIDE DISQUALIFICATION FOR ANY PREVIOUSLY PREQUALIFIED WTS.

PAYMENT FOR THE ABOVE REQUIREMENTS, RESPONSIBILITIES AND DUTIES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

LANE VALUE CONTRACT (PN 127)

THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES AS DESIGNATED IN THE LANE VALUE CONTRACT TABLE FOR EACH UNIT OF TIME THE DESCRIBED CRITICAL LANE/RAMP IS RESTRICTED FROM FULL USE BY THE TRAVELING PUBLIC WITHIN THE RESTRICTED TIME PERIOD. THE LANE VALUE CONTRACT TABLE IS LOCATED BELOW. THE DISINCENTIVES WILL BE ASSESSED FOR ALL RESTRICTIONS OF THE CRITICAL WORK.

CRITICAL WORK IS SHOWN IN THE LANE VALUE CONTRACT TABLE.

CRITICAL WORK IS DEFINED AS HAVING THE DESIGNATED SECTIONS 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 WITH SPECIFIED STRIPING AND SAFETY FEATURES IN PLACE.

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/ RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE $ PER TIME PERIOD
US-422	PER PLCS	PER LANE/ PER MINUTE	$125

PORTABLE BARRIER PLACEMENT - US 422

DURING THE PLACEMENT OF THE PORTABLE BARRIER ON US 422, TRAFFIC SHALL BE PROHIBITED FROM OCCUPYING THE TRAVEL LANE ADJACENT TO THE BARRIER. THE BARRIER SHALL BE PLACED IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE SCHEDULE ON ODOT DISTRICT 12'S WEBSITE. THE CLOSURE OF THE ADJACENT LANE SHALL BE PER THE STANDARD DRAWING MT-95.30.

THE CONTRACTOR SHALL 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 BARRIER, UNANCHORED.

MAINTENANCE OF TRAFFIC NOTES

CUY-422-16.20 (HARPER ROAD)

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DESIGN AGENCY

GPD GROUP

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DESIGNER KRM

REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 30 TOTAL 481

STORM SEWER CONSTRUCTION

THE CONTRACTOR SHALL INSTALL ALL OF THE PROPOSED STORM SEWERS LOCATED OUTSIDE OF THE EXISTING PAVEMENT LIMITS AHEAD OF PHASE 1 TO ENSURE THE TIME NECESSARY TO CONSTRUCT THE ENTIRE DDI IN PHASES 1 THRU 5 IN CONSTRUCTION SEASON 2. THE DDI CONSTRUCTION SHALL NOT SPAN TWO CONSTRUCTION SEASONS. ANY NECESSARY TEMPORARY GRADING REQUIRED TO MAINTAIN POSITIVE DRAINAGE SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614 - MAINTAINING TRAFFIC. THE FOLLOWING PIPES (AND ASSOCIATED DRAINAGE STRUCTURES) ARE TO BE CONSTRUCTED IN CONSTRUCTION SEASON 1:

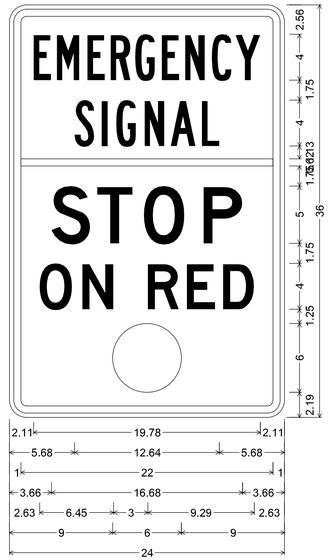
DJ-59, 91

HW-36

D-6, 7, 9, 10, 13, 16, 18, 25, 26, 28, 29, 31, 32, 34, 35, 36, 37, 38, 39, 42, 44, 47, 48, 51, 52, 53, 54, 56, 57, 60, 61, 62, 63, 64, 65, 67, 69, 71, 72

P-5, 6, 7, 9, 10, 13, 18, 25, 26, 28, 29, 32, 34, 35, 36A, 36B, 37, 39, 42, 43, 44, 47, 48, 50, 51, 52, 53, 54, 56, 57, 59, 60, 62, 63, 64, 65, 67, 69, 71, 72

***P-5, 18, 50 AND 63 TO BE CONSTRUCTED OUTSIDE EX RAMP PAVEMENT LIMITS*



1.50" Radius, 0.63" Border, 0.38" Indent, Black on White;
"EMERGENCY", B 2K 80% spacing;
"SIGNAL", B 2K;
"STOP", D 2K specified length;
"ON", D 2K specified length;
"RED", D 2K specified length;
Table of widths and spaces

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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	411 STABILIZED CRUSHED AGGREGATE	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, 1-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, 4"	614 WORK ZONE LANE LINE, CLASS I, 6"	614 WORK ZONE CENTER LINE, CLASS I, DOUBLE SOLID	614 WORK ZONE EDGE LINE, CLASS I, 4", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	614 WORK ZONE EDGE LINE, CLASS I, 6", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 6", YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8"	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12"	614 WORK ZONE DOTTED LINE, CLASS I, WHITE	614 WORK ZONE DOTTED LINE, CLASS I, YELLOW	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, YELLOW	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE ISLAND MARKING, CLASS I, YELLOW	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE BARRIER, UNANCHORED	622 PORTABLE BARRIER, ANCHORED
						CY	EACH	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	SF	SY	FT	FT
		PHASE 1																												
69	EW	EX. RAMP 3 / HARPER RD.	845+00	63+02	LT/LT												119													
69	EW	HARPER RD.	63+02	67+00	LT										398															
69	EY	EX. RAMP 3 / HARPER RD.	845+00	63+63	RT/LT													155												
69	EY	HARPER RD.	63+63	66+64	LT											301														
69	EW	EX. RAMP 5 / HARPER RD.	862+27	66+64	RT/LT												168													
69	EW	HARPER RD.	66+64	67+00	LT										36															
69	EY	EX. RAMP 5 / HARPER RD.	862+27	66+64	RT/LT											168														
69	CDS	HARPER RD.	66+64	67+00	LT									36																
69		EX. RAMP 3	843+97	845+00	RT	5																						306		
69		HARPER RD.	63+42	65+77	LT/RT																							278		
70	EW	HARPER RD.	67+00	67+59	LT										59															
70	EW	HARPER RD.	67+00	67+59	LT										59															
70	CDS	HARPER RD.	67+00	72+00	LT									500																
70	SL	HARPER RD.	68+70		LT																					16				
70	EW	HARPER RD.	68+70	69+42	LT										72															
70	EW	HARPER RD.	70+27	72+00	LT										173															
70	SL	EX. RAMP 2	850+96		LT/RT																					28				
70	EW	EX. RAMP 2 / HARPER RD.	849+50	70+27	LT/LT												206													
70	EY	EX. RAMP 2 / HARPER RD.	849+50	69+42	LT/LT													154												
70	SL	HARPER RD.	70+18		LT																					19				
70	IY	HARPER RD.	70+15		LT																						48			
70	TY	HARPER RD.	70+20	70+70	LT																				25					
70	CDS	HARPER RD.	70+20	70+70	LT									50																
70	CH	HARPER RD.	70+80	72+00	LT														120											
70	LA	HARPER RD.	70+95		LT																						1			
70	LA	HARPER RD.	71+61		LT																						1			
70		HARPER RD.	69+67	71+50	LT																							84		
71	LA	HARPER RD.	72+27		LT																						1			
71	LA	HARPER RD.	72+93		LT																						1			
71	LA	HARPER RD.	73+59		LT																						1			
71	LA	HARPER RD.	74+25		LT																						1			
71	LA	HARPER RD.	76+29		LT																						1			
71	LA	HARPER RD.	76+85		LT																						1			
71	CDS	HARPER RD.	72+00	77+00	LT									500																
71	CH	HARPER RD.	72+00	74+33	LT														233											
71	SL	HARPER RD.	74+35		LT																					21				
71	SL	HARPER RD.	76+19		LT																					33				
71	EW	HARPER RD.	72+00	74+84	LT										321															
71	EW	HARPER RD.	75+47	77+00	LT										174															
71	CH	HARPER RD.	76+21	77+00	LT														79											
72	EW	HARPER RD.	77+00	80+87	LT/RT										387															
72	CDS	HARPER RD.	77+00	80+37	LT									337																
72	CDS	HARPER RD.	78+22	82+00	LT									378																
72	CH	HARPER RD.	77+00	78+13	LT														113											
72	LA	HARPER RD.	77+51		LT																						1			
72	TY	HARPER RD.	78+22	82+00	LT																				126					
		TOTAL FEET				5								1801	1679	469	493	309	545					151	117	9	48	668		
		TOTAL MILES												0.35	0.32	0.09	0.10	0.06												
		TOTALS CARRIED TO THE GENERAL SUMMARY				5								0.35	0.41		0.16		545					151	117	9	48	668		

MAINTENANCE OF TRAFFIC SUBSUMMARY 1 OF 8

CUY-422-16.20 (HARPER ROAD)

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DESIGNER
KRM

REVIEWER
AKF 6-8-23

PROJECT ID
113889

SHEET 32 | TOTAL 481

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	411 STABILIZED CRUSHED AGGREGATE	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, 1-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, 4"	614 WORK ZONE LANE LINE, CLASS I, 6"	614 WORK ZONE CENTER LINE, CLASS I, DOUBLE SOLID	614 WORK ZONE EDGE LINE, CLASS I, 4", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	614 WORK ZONE EDGE LINE, CLASS I, 6", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 6", YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8"	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12"	614 WORK ZONE DOTTED LINE, CLASS I, WHITE	614 WORK ZONE DOTTED LINE, CLASS I, YELLOW	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, YELLOW	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE ISLAND MARKING, CLASS I, YELLOW	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE BARRIER, UNANCHORED	622 PORTABLE BARRIER, ANCHORED
						CY	EACH	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	SF	SY	FT	FT
		PHASE 1 (CONTINUED)																												
73	TY	HARPER RD.	82+00	82+92	LT																			14						
73	CDS	HARPER RD.	82+00	82+92	LT									92																
74	EW	US 422	835+26	837+00	RT												174													
75	PB	US 422	837+50	842+00	LT					10	10																		450	
75	EW	US 422 / EX. RAMP 2	837+00	842+00	RT/LT												500													
76	PB	US 422	842+00	845+00	LT				1	6	6																		300	
76	EW	EX. RAMP 2	842+00	847+00	LT												500													
76	EY	EX. RAMP 2	844+87	847+00	LT													213												
77	EW	EX. RAMP 2	847+00	849+50	LT												250													
77	EY	EX. RAMP 2	847+00	849+50	LT													250												
78	EY	EX. RAMP 3	845+00	847+67	RT													267												
78	SL	EX. RAMP 3	845+25		LT/RT																						14			
78	EW	EX. RAMP 3	845+00	846+00	LT												100													
78		EX. RAMP 3	845+00	848+46	RT	3																						330		
		PHASE 1A																												
79	EW	HARPER RD.	69+18	71+45	LT										227															
79	EW	EX. RAMP 2 / HARPER RD.	649+50	71+45	RT/RT												270													
79	EW	HARPER RD.	71+45	72+00	RT										55															
79	EY	EX. RAMP 2 / HARPER RD.	649+50	70+87	LT/RT													230												
79	CH	HARPER RD.	70+87	72+00	LT														113											
79	IY	HARPER RD.	70+16		LT																					30				
79	CDS	HARPER RD.	70+20	70+70	LT									50																
79		HARPER RD.	69+02	69+94	RT																							111		
80	CH	HARPER RD.	72+00	72+05	LT														5											
80	LA	HARPER RD.	72+27		RT																						1			
80	LA	HARPER RD.	72+93		RT																						1			
80	LA	HARPER RD.	73+59		RT																						1			
80	LA	HARPER RD.	74+25		RT																						1			
80	LL	HARPER RD.	72+05	77+00	LT							495																		
80	EW	HARPER RD.	72+00	74+77	RT										290															
80	EW	HARPER RD.	75+46	77+00	RT										167															
80	CH	HARPER RD.	72+05	74+33	RT														228											
80	SL	HARPER RD.	74+35		LT/RT																					25				
81	EW	HARPER RD.	77+00	80+37	LT/RT										337															
81	LL	HARPER RD.	77+00	80+37	RT							337																		
82	EW	US 422	835+26	837+00	RT												174													
83	EW	US 422 / EX. RAMP 2	837+00	842+00	RT/CEN												500													
84	EW	EX. RAMP 2A	842+00	847+00	CEN												500													
84	EY	EX. RAMP 2A	842+91	847+00	LT													409												
85	EW	EX. RAMP 2A	647+00	649+50	RT												250													
85	EY	EX. RAMP 2A	647+00	649+50	CEN/RT													250												
		TOTAL FEET				3			1	16	16	832		142	1076		3218	1619	346				14	39	4	30	441	750		
		TOTAL MILES										0.16		0.03	0.21		0.61	0.31												
		TOTALS CARRIED TO THE GENERAL SUMMARY				3			1	16	16	0.16		0.03	0.21		0.92		346				14	39	4	30	441	750		

MAINTENANCE OF TRAFFIC SUBSUMMARY 2 OF 8

DESIGN AGENCY

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DESIGNER KRM

REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 33 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	411 STABILIZED CRUSHED AGGREGATE	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, 1-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, 4"	614 WORK ZONE LANE LINE, CLASS I, 6"	614 WORK ZONE CENTER LINE, CLASS I, DOUBLE SOLID	614 WORK ZONE EDGE LINE, CLASS I, 4", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	614 WORK ZONE EDGE LINE, CLASS I, 6", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 6", YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8"	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12"	614 WORK ZONE DOTTED LINE, CLASS I, WHITE	614 WORK ZONE DOTTED LINE, CLASS I, YELLOW	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, YELLOW	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE ISLAND MARKING, CLASS I, YELLOW	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE BARRIER, UNANCHORED	622 PORTABLE BARRIER, ANCHORED
						CY	EACH	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	SF	SY	FT	FT
		PHASE 2																												
86	EW	EX. RAMP 3 / HARPER RD.	845+00	64+33	LT/RT												263													
86	EW	EX. RAMP 3 / HARPER RD.	845+00	64+33	RT/RT												214													
86	EW	HARPER RD.	64+33	65+28	RT										95															
86	EW	HARPER RD.	64+33	65+77	RT										144															
86	CDS	EX. RAMP 3 / HARPER RD.	845+00	67+00	RT/RT									503																
86		HARPER RD.	65+77		RT		1																							
87	EW	HARPER RD.	67+35	70+50	RT										315															
87	EW	HARPER RD.	67+34	69+14	RT										180															
87	EW	HARPER RD. / EX. RAMP 4	70+11	851+50	RT/LT												177													
87	EY	HARPER RD. / EX. RAMP 4	69+14	851+50	RT/LT													162												
87	CDS	HARPER RD.	67+00	72+00	RT									500																
87	CDS	HARPER RD.	67+35	71+31	RT									396																
87	TY	HARPER RD.	67+35	69+18	RT																			68						
87	SL	HARPER RD.	69+20		RT																				22					
87	SL	HARPER RD.	70+47		RT																				11					
87	IY	HARPER RD.	70+41		RT																						48			
87	DW	HARPER RD.	70+50	71+47	RT																97									
87	TY	HARPER RD.	70+47	71+31	RT																			59						
87	CH	HARPER RD.	71+41	72+00	RT														59											
87	EW	HARPER RD.	71+47	72+00	RT										53															
87	EW	HARPER RD.	70+11	72+00	RT										189															
87	LA	HARPER RD.	71+90		RT																					1				
87	SL	RAMP 2A	650+29		RT																				12					
87	EW	RAMP 2A / HARPER RD.	649+50	71+47	RT/RT												257													
87	EY	RAMP 2A / HARPER RD.	649+50	70+50	RT/RT													173												
87		EX. RAMP 4	850+34	851+50	LT																							127		
88	LA	HARPER RD.	72+56		RT																					1				
88	LA	HARPER RD.	73+22		RT																					1				
88	LA	HARPER RD.	73+88		RT																					1				
88	LA	HARPER RD.	74+44		RT																					1				
88	LA	HARPER RD.	76+30		RT																					1				
88	LA	HARPER RD.	76+96		RT																					1				
88	EW	HARPER RD.	72+00	75+64	RT/LT										357															
88	CDS	HARPER RD.	72+00	77+00	RT									500																
88	CH	HARPER RD.	72+00	74+52	RT														252											
88	CH	HARPER RD.	76+22	77+00	RT														78											
88	EW	HARPER RD.	75+21	77+00	LT/RT										196															
88	SL	HARPER RD.	74+54		RT																				21					
88	SL	HARPER RD.	76+20		LT/RT																				30					
89	LA	HARPER RD.	77+62		RT																					1				
89	CH	HARPER RD.	77+00	78+13	RT														113											
89	LL	HARPER RD.	78+73	80+37	RT							164																		
89	CDS	HARPER RD.	77+00	80+37	RT									337																
89	EW	HARPER RD.	77+00	82+00	RT/LT										500															
90	EW	HARPER RD.	82+00	86+20	LT										420															
91	EW	EX. RAMP 2	844+50	845+00	CEN												50													
91	EY	EX. RAMP 2	844+50	845+00	LT													50												
92	EW	EX. RAMP 2	845+00	849+56	LT												456													
92	EY	EX. RAMP 2	845+00	849+56	CEN/RT													456												
		TOTAL FEET					1					164		2236	2449		1417	841	502		97		127	96	8	48	127		
		TOTAL MILES										0.04		0.43	0.47		0.27	0.16											
		TOTALS CARRIED TO THE GENERAL SUMMARY					1					0.04		0.43	0.47		0.43		502		97		127	96	8	48	127		

MAINTENANCE OF TRAFFIC SUBSUMMARY 3 OF 8

DESIGN AGENCY

GPD GROUP

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DESIGNER KRM

REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 34 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:38 PM USER: aford
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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	411 STABILIZED CRUSHED AGGREGATE	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, 1-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, 4"	614 WORK ZONE LANE LINE, CLASS I, 6"	614 WORK ZONE CENTER LINE, CLASS I, DOUBLE SOLID	614 WORK ZONE EDGE LINE, CLASS I, 4", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	614 WORK ZONE EDGE LINE, CLASS I, 6", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 6", YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8"	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12"	614 WORK ZONE DOTTED LINE, CLASS I, WHITE	614 WORK ZONE DOTTED LINE, CLASS I, YELLOW	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, YELLOW	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE ISLAND MARKING, CLASS I, YELLOW	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE BARRIER, UNANCHORED	622 PORTABLE BARRIER, ANCHORED
						CY	EACH	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	SF	SY	FT	FT
		PHASE 2 (CONTINUED)																												
93	SL	EX. RAMP 3	845+25		LT/RT																				16					
93	CDS	EX. RAMP 3	845+00	846+79	RT									179																
93	CDS	EX. RAMP 3 / EX. RAMP 5	845+62	858+60	RT/RT									145																
93	EW	EX. RAMP 3	845+00	846+79	LT												179													
93	EW	EX. RAMP 3 / EX. RAMP 5	845+00	858+60	RT/RT												203													
93		EX. RAMP 3	845+57	846+33	LT	3																						29		
94	EW	EX. RAMP 4	851+50	856+50	LT												500													
94	EY	EX. RAMP 4	851+50	856+50	LT													500												
94	PB	EX. RAMP 4	852+50	856+50	LT				1	9	9																			400
94		EX. RAMP 4	851+50	856+50	LT	19																						590		
95	EW	EX. RAMP 4	856+50	861+50	LT												500													
95	EY	EX. RAMP 4	856+50	859+46	LT													296												
95	CH	EX. RAMP 4	859+46	861+50	LT															204										
95	CH	EX. RAMP 4	859+47	860+92	LT															145										
95	PB	EX. RAMP 4	856+50	858+47	LT					4	4																			197
95		EX. RAMP 4	856+50	858+43	LT	8																						225		
96	EW	US 422	861+50	865+47	RT												397													
96	CH	US 422	861+50	861+61	RT															11										
		PHASE 2A																												
97	EW	MOT ALIGNMENT #1 / HARPER RD.	303+50	65+77	LT/RT												315													
97	CDS	MOT ALIGNMENT #1 / HARPER RD.	303+50	65+29	CEN/RT									286																
97	EW	MOT ALIGNMENT #1 / HARPER RD.	303+50	65+14	RT/RT												289													
97		HARPER RD. SB / MOT ALIGNMENT #1	264+65	305+00	LT/RT	10																						567		
98	EW	HARPER RD.	68+35	70+11	RT										176															
98	EW	RAMP 4A / HARPER RD.	351+50	72+00	CEN/LT												231													
98	EY	RAMP 4A / HARPER RD.	351+50	72+00	LT/LT													246												
99	EW	HARPER RD. / BAINBRIDGE RD.	72+00	00+34	LT/LT												324													
99	EY	HARPER RD.	72+00	72+90	LT													90												
99	CH	HARPER RD.	72+90	73+58	LT/RT														68											
99	CH	HARPER RD.	72+90	74+52	RT														162											
99	EW	BAINBRIDGE RD. / HARPER RD.	00+06	77+00	RT/LT										181															
99	SL	HARPER RD.	76+20		LT/RT																				13					
99	LL	HARPER RD.	76+22	77+00	RT							78																		
100	EW	HARPER RD.	77+00	80+37	LT										337															
100	LL	HARPER RD.	77+00	82+00	LT/RT							500																		
101	LL	HARPER RD.	82+00	86+20	LT							420																		
102	SL	MOT ALIGNMENT #1	303+60		RT																				16					
102	EW	EX. RAMP 3 / MOT ALIGNMENT #1	848+46	303+50	RT/RT												322													
102	EW	EX. RAMP 3 / MOT ALIGNMENT #1	857+61	303+50	LT/LT												264													
102	CDS	EX. RAMP 3 / MOT ALIGNMENT #1	857+61	302+74	RT/RT									205																
102	CDS	EX. RAMP 3 / MOT ALIGNMENT #1	848+46	303+50	RT/CEN									304																
102		EX. RAMP 5 / MOT ALIGNMENT #1	857+93	303+50	LT/LT	9																						327		
103	EW	EX. RAMP 4	851+35	856+50	RT												515													
103	EY	EX. RAMP 4	851+35	856+50	LT													515												
103	PB	EX. RAMP 4	852+20	856+50	LT				1	10	10																			430
		TOTAL FEET				49			2	23	23	998		1119	694		4039	1647	230	360				45			1738		1027
		TOTAL MILES										0.19		0.22	0.14		0.77	0.32												
		TOTALS CARRIED TO THE GENERAL SUMMARY				49			2	23	23	0.19		0.22	0.14		1.09		230	360				45			1738		1027

MAINTENANCE OF TRAFFIC SUBSUMMARY 4 OF 8

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:38 PM USER: alord
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DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 35 TOTAL 481

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	411 STABILIZED CRUSHED AGGREGATE	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, 1-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, 4"	614 WORK ZONE LANE LINE, CLASS I, 6"	614 WORK ZONE CENTER LINE, CLASS I, DOUBLE SOLID	614 WORK ZONE EDGE LINE, CLASS I, 4", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	614 WORK ZONE EDGE LINE, CLASS I, 6", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 6", YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8"	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12"	614 WORK ZONE DOTTED LINE, CLASS I, WHITE	614 WORK ZONE DOTTED LINE, CLASS I, YELLOW	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, YELLOW	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE ISLAND MARKING, CLASS I, YELLOW	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE BARRIER, UNANCHORED	622 PORTABLE BARRIER, ANCHORED
						CY	EACH	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	SF	SY	FT	FT
		PHASE 2A (CONTINUED)																												
104	PB	US 422	856+80	858+80	RT				1	5	5																		200	
104	EW	EX. RAMP 4	856+50	861+50	RT												500													
104	EY	EX. RAMP 4	856+50	861+50	LT													500												
104	EW	US 422	859+47	861+50	RT												203													
95	PB	EX. RAMP 4	856+50	858+50	LT					4	4																			200
105	EW	US 422	861+50	861+61	RT												11													
105	EW	US 422	861+50	865+47	RT												397													
105	EY	US 422	861+50	861+61	RT													11												
105	CH	US 422	861+61	862+98	RT															137										
105	CH	US 422	861+61	862+98	RT															137										
		PHASE 2B																												
106	EW	MOT ALIGNMENT #1 / HARPER RD.	304+21	67+00	LT/LT										344															
106	EW	MOT ALIGNMENT #1 / HARPER RD.	304+21	67+00	RT/LT										376															
106	CDS	MOT ALIGNMENT #1 / HARPER RD.	304+21	67+00	CEN/LT									360																
106		HARPER RD.	65+00		LT		1																							
107	EW	HARPER RD.	67+00	70+90	LT/RT										390															
107	EW	HARPER RD.	67+00	70+47	LT/RT										347															
107	CDS	HARPER RD.	67+00	70+61	LT/RT									361																
107	CDS	HARPER RD.	69+83	70+40	RT									57																
107	DW	HARPER RD.	70+47	71+47	RT																100									
107	TY	HARPER RD.	69+83	70+40	RT																			45						
107	SL	HARPER RD.	69+73		LT/RT																				12					
		PHASE 3																												
108	EW	RAMP 1B / HARPER RD. NB	445+00	164+73	CEN/CEN												213													
108	EY	RAMP 1B / HARPER RD. NB	445+00	164+73	RT/RT													213												
108	EW	HARPER RD. NB	164+73	167+10	CEN										237															
108	EY	HARPER RD. NB	164+73	167+10	RT											237														
108	EW	RAMP 3B / HARPER RD. SB	545+00	264+48	LT/CEN												168													
108	EY	RAMP 3B / HARPER RD. SB	545+00	264+48	CEN/LT													152												
108	EW	HARPER RD. SB	264+48	267+14	CEN										266															
108	EY	HARPER RD. SB	264+48	267+14	LT											266														
		TOTAL FEET					1		1	9	9			778	1960	503	1492	876		274	100		45	12				200	200
		TOTAL MILES												0.15	0.38	0.10	0.29	0.17											
		TOTALS CARRIED TO THE GENERAL SUMMARY					1		1	9	9			0.15	0.48		0.46			274	100		45	12				200	200

MAINTENANCE OF TRAFFIC SUBSUMMARY 5 OF 8

DESIGN AGENCY

GPD GROUP

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DESIGNER KRM

REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 36 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:39 PM USER: alord
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SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	411 STABILIZED CRUSHED AGGREGATE	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, 1-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, 4"	614 WORK ZONE LANE LINE, CLASS I, 6"	614 WORK ZONE CENTER LINE, CLASS I, DOUBLE SOLID	614 WORK ZONE EDGE LINE, CLASS I, 4", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	614 WORK ZONE EDGE LINE, CLASS I, 6", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 6", YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8"	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12"	614 WORK ZONE DOTTED LINE, CLASS I, WHITE	614 WORK ZONE DOTTED LINE, CLASS I, YELLOW	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, YELLOW	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE ISLAND MARKING, CLASS I, YELLOW	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE BARRIER, UNANCHORED	622 PORTABLE BARRIER, ANCHORED
						CY	EACH	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	SF	SY	FT	FT
		PHASE 3 (CONTINUED)																												
109	EW	HARPER RD. SB	267+14	270+58	CEN/RT										344															
109	EY	HARPER RD. SB	267+14	268+40	LT											126														
109	DY	HARPER RD. SB	268+40	268+90	LT																	50								
109	EW	HARPER RD. SB / RAMP 4B	268+90	451+50	LT/RT												148													
109	EY	HARPER RD. SB / RAMP 4B	268+40	451+50	LT/CEN													187												
109	SL	HARPER RD. SB	269+46		LT/RT																					15				
109	EY	HARPER RD. SB	268+90	272+26	LT/CEN											336														
109	EW	HARPER RD. NB	167+10	170+86	CEN/LT										376															
109	EY	HARPER RD. NB	167+10	172+19	CEN/RT											509														
109	DY	HARPER RD. SB	270+58	271+07	RT																	49								
109	EW	RAMP 2A	649+50	271+07	RT/RT												189													
109	EY	RAMP 2A / HARPER RD. SB	649+50	651+05	CEN													155												
109	DW	HARPER RD. SB	270+58	271+07	RT																49									
109	SL	RAMP 2A	650+27		RT																				15					
109	SL	HARPER RD. NB	170+57		LT																				15					
109	LA	RAMP 4A	350+77		LT																					1				
109	LA	HARPER RD. NB	171+32		LT																					1				
109	LA	HARPER RD. NB	171+99		LT																					1				
109	CH	HARPER RD. NB	170+86	172+19	LT														133											
109	CH	HARPER RD. NB / RAMP 4A	171+18	350+57	LT/LT														40											
109	EW	RAMP 4A / HARPER RD. NB	351+50	172+19	CEN/LT												244													
109	EY	RAMP 4A	350+57	351+50	LT													93												
109	EW	HARPER RD. SB	271+07	272+26	RT										119															
110	LA	HARPER RD. NB	172+66		LT																					1				
110	LA	HARPER RD. NB	173+32		LT																					1				
110	LA	HARPER RD. SB	273+37		LT																					1				
110	LA	HARPER RD. SB	273+37		LT																					1				
110	LA	HARPER RD. SB	274+03		LT																					1				
110	LA	HARPER RD. SB	274+03		LT																					1				
110	LA	HARPER RD.	74+44		RT																					1				
110	LA	HARPER RD.	74+44		RT																					1				
110	LA	HARPER RD.	76+29		LT																					1				
110	LA	HARPER RD.	76+95		LT																					1				
110	EW	HARPER RD.	72+00	74+52	RT										252															
110	EY	HARPER RD.	72+00	77+00	RT											500														
110	EW	HARPER RD.	72+00	74+52	LT										252															
110	EY	HARPER RD.	72+00	77+00	LT											500														
110	CH	HARPER RD. SB / HARPER RD.	273+14	74+52	LT/RT														164											
110	CH	HARPER RD. SB / HARPER RD.	273+14	74+52	CEN/RT														164											
110	CH	HARPER RD. NB	172+19	173+85	LT														166											
110	CH	HARPER RD.	76+21	77+00	LT														79											
110	LL	HARPER RD.	76+21	77+00	RT							79																		
110	SL	HARPER RD.	74+54		RT																				35					
110	SL	HARPER RD.	76+19		LT																				37					
111	LA	HARPER RD.	77+61		LT																					1				
111	CH	HARPER RD.	77+00	78+13	LT														113											
111	EY	HARPER RD.	77+00	82+00	LT											500														
111	EY	HARPER RD.	77+00	80+37	RT											337														
111	LL	HARPER RD.	77+00	80+37	RT									337																
112	EY	HARPER RD.	82+00	82+92	LT											92														
		TOTAL FEET										79	337	1343	2900	581	435	859		49	99		117	14					
		TOTAL MILES										0.02	0.07	0.26	0.55	0.12	0.09													
		TOTALS CARRIED TO THE GENERAL SUMMARY										0.02	0.07	0.81		0.21		859		148			117	14						

MAINTENANCE OF TRAFFIC SUBSUMMARY 6 OF 8

DESIGN AGENCY

GPD GROUP

DESIGNER KRM

REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 37 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:39 PM USER: alord
O:\Clients\ORD\2020\20203361\113889\400-Engineering\MOT\Sheets\113889_MS006.dgn

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	411 STABILIZED CRUSHED AGGREGATE	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, 1-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, 4"	614 WORK ZONE LANE LINE, CLASS I, 6"	614 WORK ZONE CENTER LINE, CLASS I, DOUBLE SOLID	614 WORK ZONE EDGE LINE, CLASS I, 4", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	614 WORK ZONE EDGE LINE, CLASS I, 6", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 6", YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8"	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12"	614 WORK ZONE DOTTED LINE, CLASS I, WHITE	614 WORK ZONE DOTTED LINE, CLASS I, YELLOW	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, YELLOW	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE ISLAND MARKING, CLASS I, YELLOW	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE BARRIER, UNANCHORED	622 PORTABLE BARRIER, ANCHORED
						CY	EACH	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	SF	SY	FT	FT
		PHASE 3 (CONTINUED)																												
113	EW	RAMP 1B	437+68	440+00	LT												232													
113	EY	RAMP 1B	437+68	440+00	RT													232												
114	EW	RAMP 1B	440+00	445+00	LT												500													
114	EY	RAMP 1B	440+00	445+00	RT													500												
116	EW	RAMP 2A	645+00	649+50	CEN/RT												450													
116	EY	RAMP 2A	645+00	649+50	LT													450												
117	SL	RAMP 3B	545+27		LT																			16						
117	EW	RAMP 3B / RAMP 3A	545+00	648+46	LT/LT												358													
117	EY	RAMP 3B / RAMP 3A	545+00	648+46	CEN/RT													340												
118	EW	RAMP 4B / RAMP 4	451+50	852+81	RT/LT												132													
118	EY	RAMP 4B / RAMP 4	451+50	856+50	CEN/LT													500												
118	EW	RAMP 4A / RAMP 4	351+50	856+50	CEN/RT												500													
118	EY	RAMP 4A / RAMP 4	351+50	852+81	LT/LT													139												
118	CH	RAMP 4	852+81	854+37	LT															156										
118	DW	RAMP 4	854+37	856+50	LT																213									
119	EW	RAMP 4	856+50	861+50	RT/CEN												500													
119	EY	RAMP 4	856+50	861+50	LT													500												
119	DW	RAMP 4	856+50	858+37	LT																187									
120	EY	US 422	861+48	861+61	RT													13												
120	CH	US 422	861+61	862+98	RT															137										
120	CH	US 422	861+61	862+98	RT															137										
120	EW	US 422	861+48	865+47	RT												399													
		PHASE 3A																												
121	EW	RAMP 3B / HARPER RD. SB	544+15	267+14	RT/RT										345															
121	EY	RAMP 3B / HARPER RD. SB	545+00	267+14	CEN/RT													302												
121	EY	HARPER RD. SB	265+86	267+14	CEN											128														
122	EY	HARPER RD. SB	267+14	267+87	CEN/LT													73												
122	SL	HARPER RD. NB	170+55																					30						
123	EW	RAMP 3B / RAMP 3A	545+15	646+53	LT/CEN												147													
123	EY	RAMP 3B / RAMP 3A	545+00	646+53	RT/RT													158												
123	SL	RAMP 3B	545+24		LT																			13						
	*	HARPER RD. AND RAMPS										300	750	267	1760	886	2320	2148	1836	314	1378	301		90	58				
		* QUANTITES PULLED FROM TRAFFIC CONTROL PLANS																												
		TOTAL FEET				300	750	267	2105	1014	5538	5355	1836	744	1778	301		149	58											
		TOTAL MILES				0.06	0.15	0.06	0.40	0.20	1.05	1.02																		
		TOTALS CARRIED TO THE GENERAL SUMMARY				0.06	0.15	0.06	0.60		2.07		1836	744	2079			149	58											

MAINTENANCE OF TRAFFIC SUBSUMMARY 7 OF 8

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:40 PM USER: aford
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DESIGNER
KRM

REVIEWER
AKF 6-8-23

PROJECT ID
113889

SHEET 38 TOTAL 481

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	411 STABILIZED CRUSHED AGGREGATE	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1, 1-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE LANE LINE, CLASS I, 4"	614 WORK ZONE LANE LINE, CLASS I, 6"	614 WORK ZONE CENTER LINE, CLASS I, DOUBLE SOLID	614 WORK ZONE EDGE LINE, CLASS I, 4", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 4", YELLOW	614 WORK ZONE EDGE LINE, CLASS I, 6", WHITE	614 WORK ZONE EDGE LINE, CLASS I, 6", YELLOW	614 WORK ZONE CHANNELIZING LINE, CLASS I, 8"	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12"	614 WORK ZONE DOTTED LINE, CLASS I, WHITE	614 WORK ZONE DOTTED LINE, CLASS I, YELLOW	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, YELLOW	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE ISLAND MARKING, CLASS I, YELLOW	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE BARRIER, UNANCHORED	622 PORTABLE BARRIER, ANCHORED
						CY	EACH	FT	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	SF	SY	FT	FT
		PHASE 4																												
124	EW	RAMP 3B	543+48	545+00	LT												152													
124	EY	RAMP 3B	543+48	545+00	CEN													152												
124	EW	HARPER RD. SB	264+46	266+37	CEN/LT										191															
126	SL	RAMP 3B	545+24		LT/RT																				12					
126	EW	RAMP 3B / RAMP 3A	545+00	650+00	LT/RT												473													
126	EY	RAMP 3B / RAMP 3A	545+00	650+00	RT/RT													473												
126	PB	RAMP 3A	645+82	650+00	RT			350		10	10																			418
127	EW	RAMP 3A	650+00	655+00	RT												500													
127	EY	RAMP 3A	650+00	655+00	RT													500												
127	PB	RAMP 3A	650+00	654+50	RT			155	1	10	10																			450
127		RAMP 3A	650+10	655+00	RT	14																						551		
128	EW	RAMP 3A	655+00	659+14	RT												414													
128	EY	RAMP 3A	655+00	658+65	RT													365												
128	CH	RAMP 3A	658+65	659+14	RT															49										
128		RAMP 3A	655+00	658+61	RT	14																						388		
	*	HARPER RD. AND RAMPS										154				338														
		PHASE 4A																												
130	EW	RAMP 3B	543+48	545+00	LT												152													
130	EY	RAMP 3B	543+48	545+00	CEN													152												
131	SL	RAMP 3B	545+25		LT																				14					
131	EW	RAMP 3B / RAMPS 3A	545+00	650+00	LT/LT												539													
131	EY	RAMP 3B / RAMPS 3A	545+00	650+00	LT/RT													497												
131	PB	RAMP 3A	646+61	650+00	LT					8	8																			339
132	EW	RAMP 3A	650+00	655+00	LT												500													
132	EY	RAMP 3A	650+00	655+00	RT													500												
132	PB	RAMP 3A	650+00	654+50	LT				1	10	10																			450
133	EW	RAMP 3A	655+00	660+00	LT/CEN												500													
133	EY	RAMP 3A	655+00	658+63	RT													363												
133	CH	RAMP 3A	658+63	659+14	RT															51										
134	EW	RAMP 3A	660+00	661+57	CEN												157													
135	PB	US 422	850+10	853+60	LT				1	8	8																	350		
		* QUANTITES PULLED FROM TRAFFIC CONTROL PLANS																												
		TOTAL FEET				28		505	3	46	46	154			191	338	3387	3002		100				26			939	350	1657
		TOTAL MILES										0.03			0.04	0.07	0.65	0.57												
		TOTALS CARRIED TO THE GENERAL SUMMARY				28		505	3	46	46	0.03			0.11		1.22			100				26			939	350	1657

MAINTENANCE OF TRAFFIC SUBSUMMARY 8 OF 8

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:40 PM USER: aford
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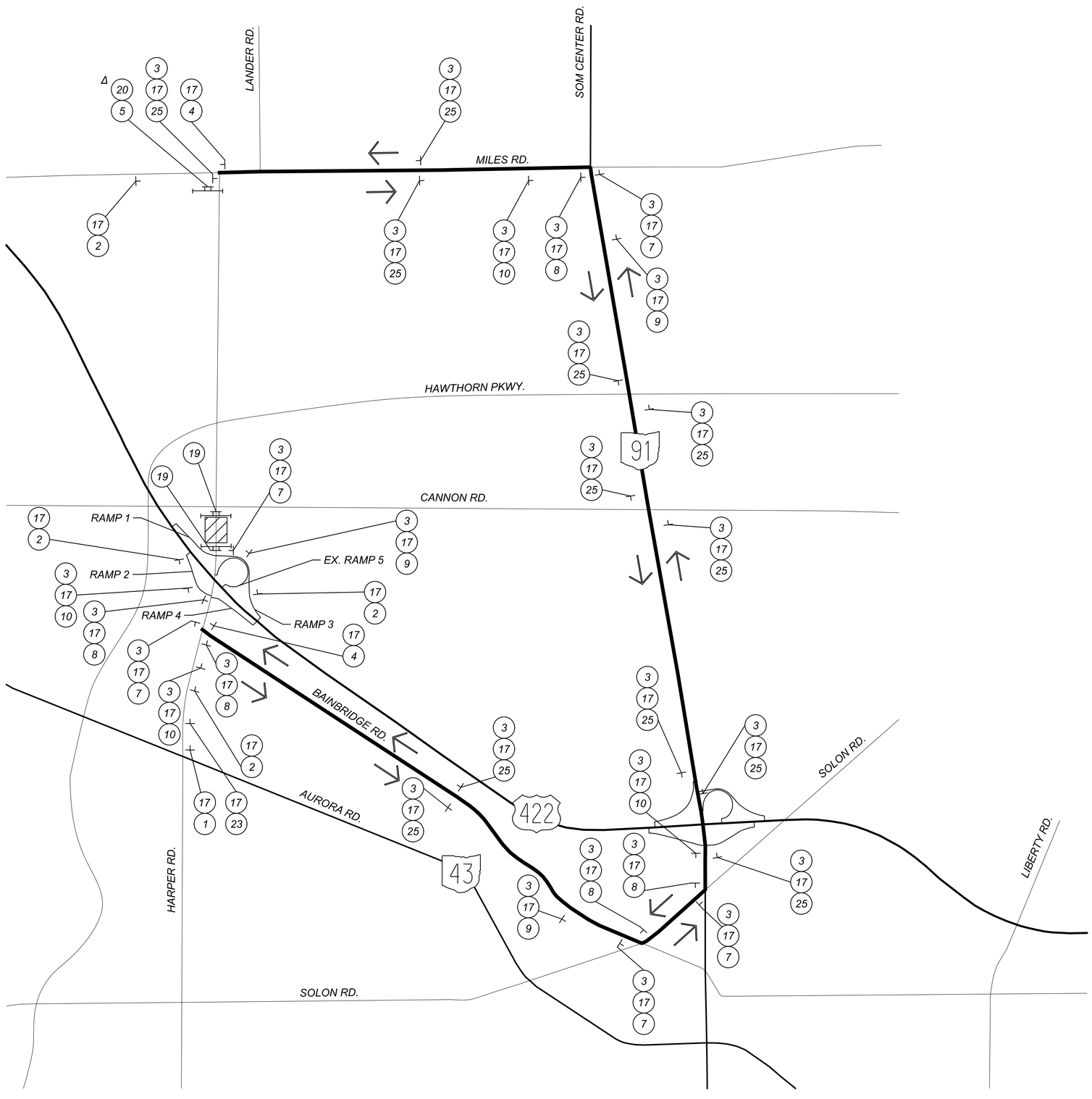
DESIGN AGENCY
GPD GROUP

DESIGNER KRM

REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 39 TOTAL 481



Δ BARRICADE SHALL BE PLACED ADJACENT TO THE ROAD.

LEGEND	
	SIGN
	TYPE 3 BARRICADE
	DETOUR ROUTE
	TRAFFIC FLOW ARROW
	CLOSED AREA

FOR DETOUR SIGNING KEY, SEE SHEETS 46 - 47.

DETOUR PLAN - HARPER RD.

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:16:41 PM USER: aford
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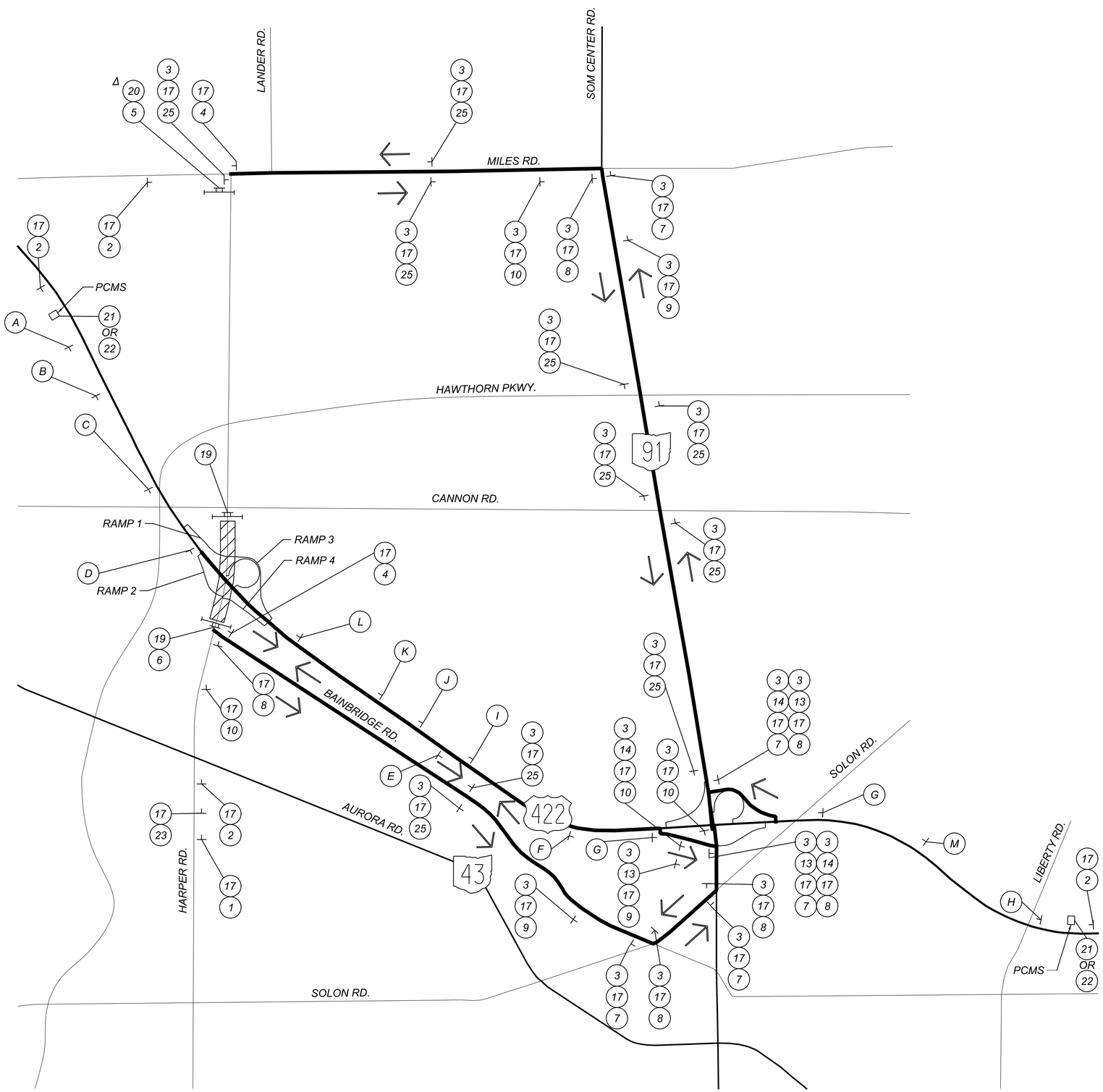
DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	40
TOTAL	481

DETOUR PLAN - HARPER RD. - WEEKEND CLOSURE



Δ BARRICADE SHALL BE PLACED ADJACENT TO THE ROAD.

LEGEND

- SIGN
- TYPE 3 BARRICADE
- DETOUR ROUTE
- TRAFFIC FLOW ARROW
- CLOSED AREA

FOR DETOUR SIGNING KEY, SEE SHEETS 46 - 47.

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:16:42 PM USER: aford
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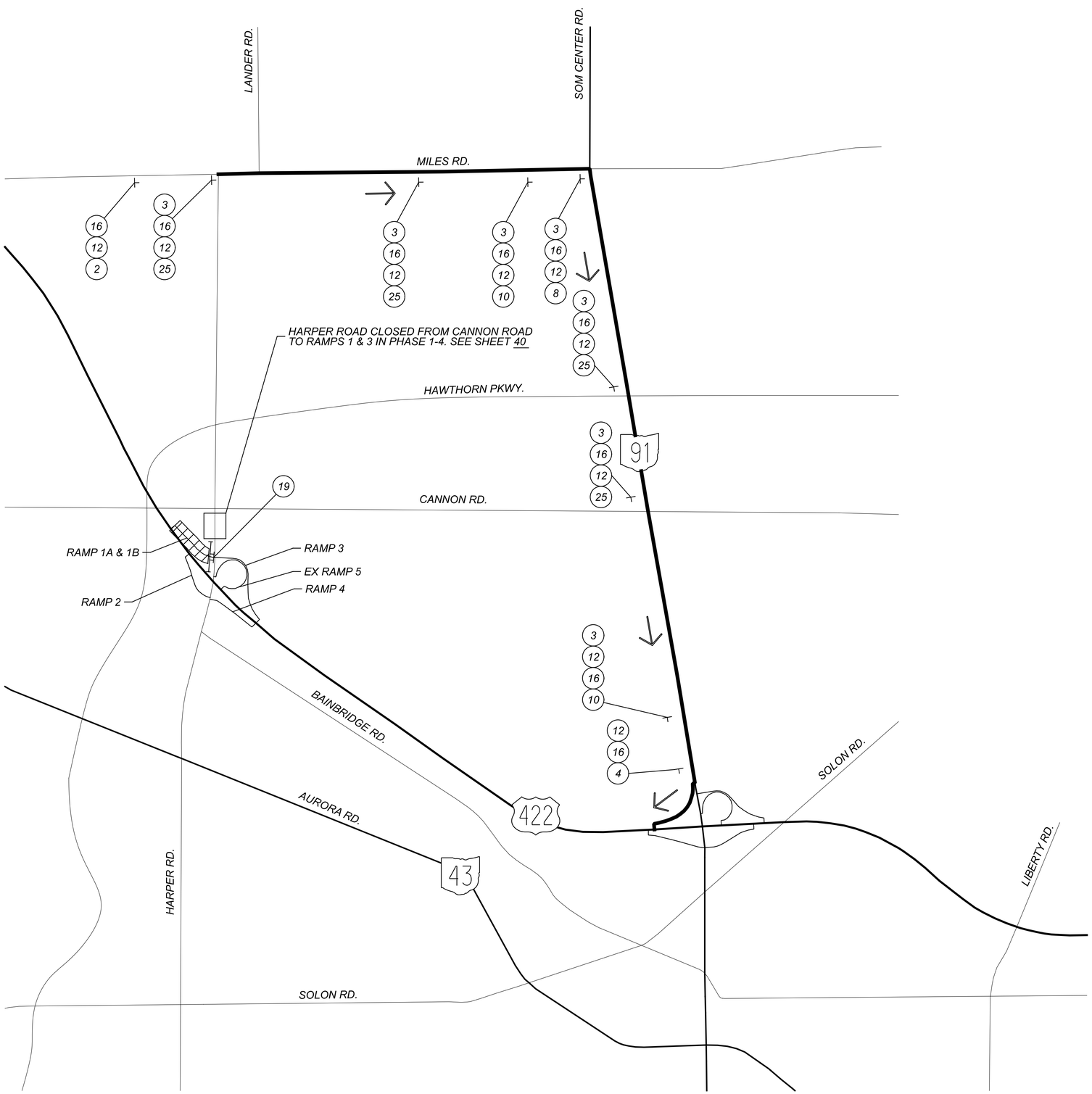
DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	41
TOTAL	481



Δ BARRICADE SHALL BE PLACED ADJACENT TO THE ROAD.

LEGEND	
	SIGN
	TYPE 3 BARRICADE
	DETOUR ROUTE
	TRAFFIC FLOW ARROW
	CLOSED AREA

FOR DETOUR SIGNING KEY, SEE SHEETS 46 - 47.

DETOUR PLAN - RAMPS 1A & 1B

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:43 PM USER: aford
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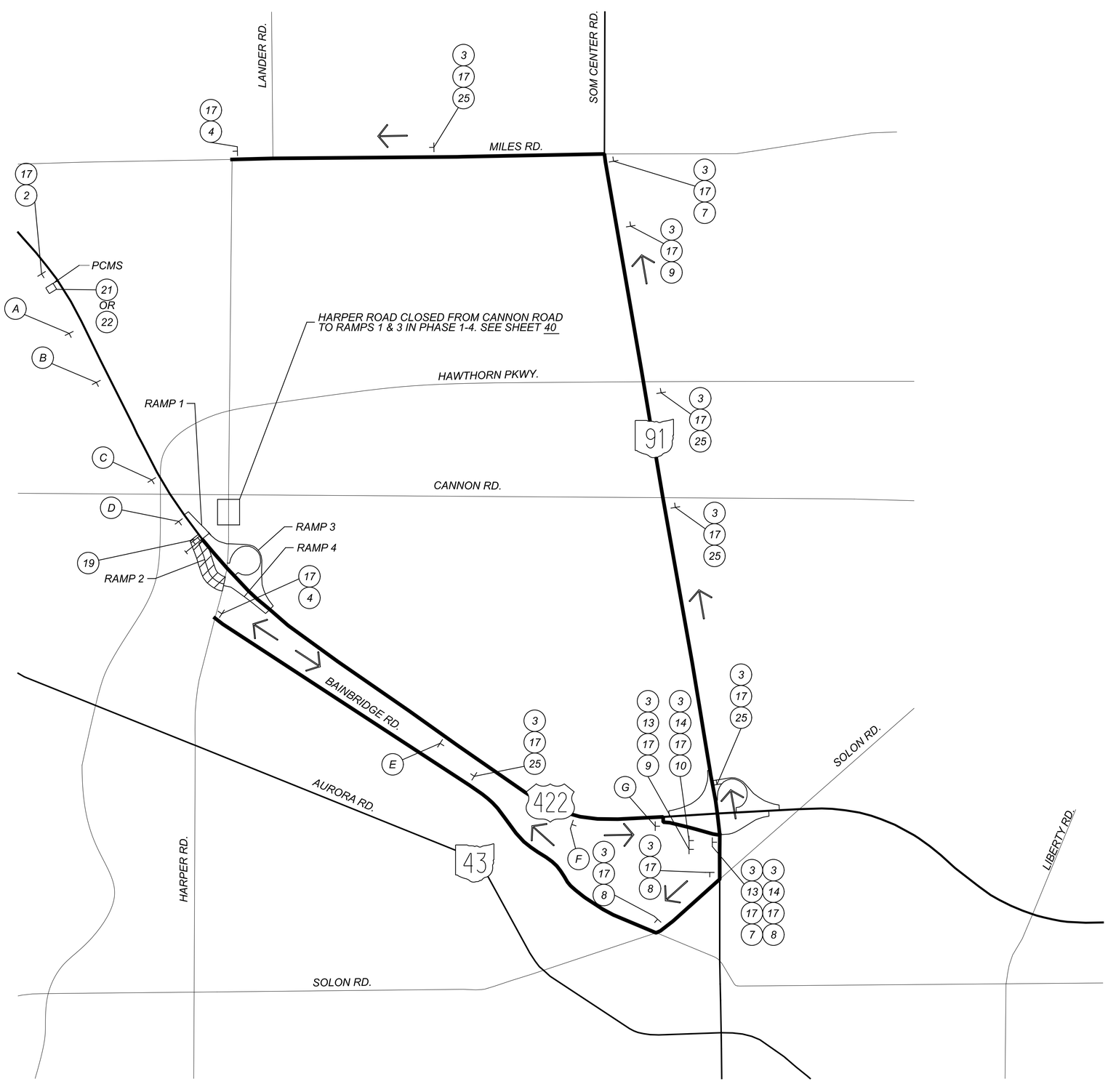
AKF 6-8-23

PROJECT ID
113889

SHEET 42 TOTAL 481

DETOUR PLAN - RAMPS 2A & 2B



Δ BARRICADE SHALL BE PLACED ADJACENT TO THE ROAD.

LEGEND	
	SIGN
	TYPE 3 BARRICADE
	DETOUR ROUTE
	TRAFFIC FLOW ARROW
	CLOSED AREA

FOR DETOUR SIGNING KEY, SEE SHEETS 46 - 47.

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:43 PM USER: aford
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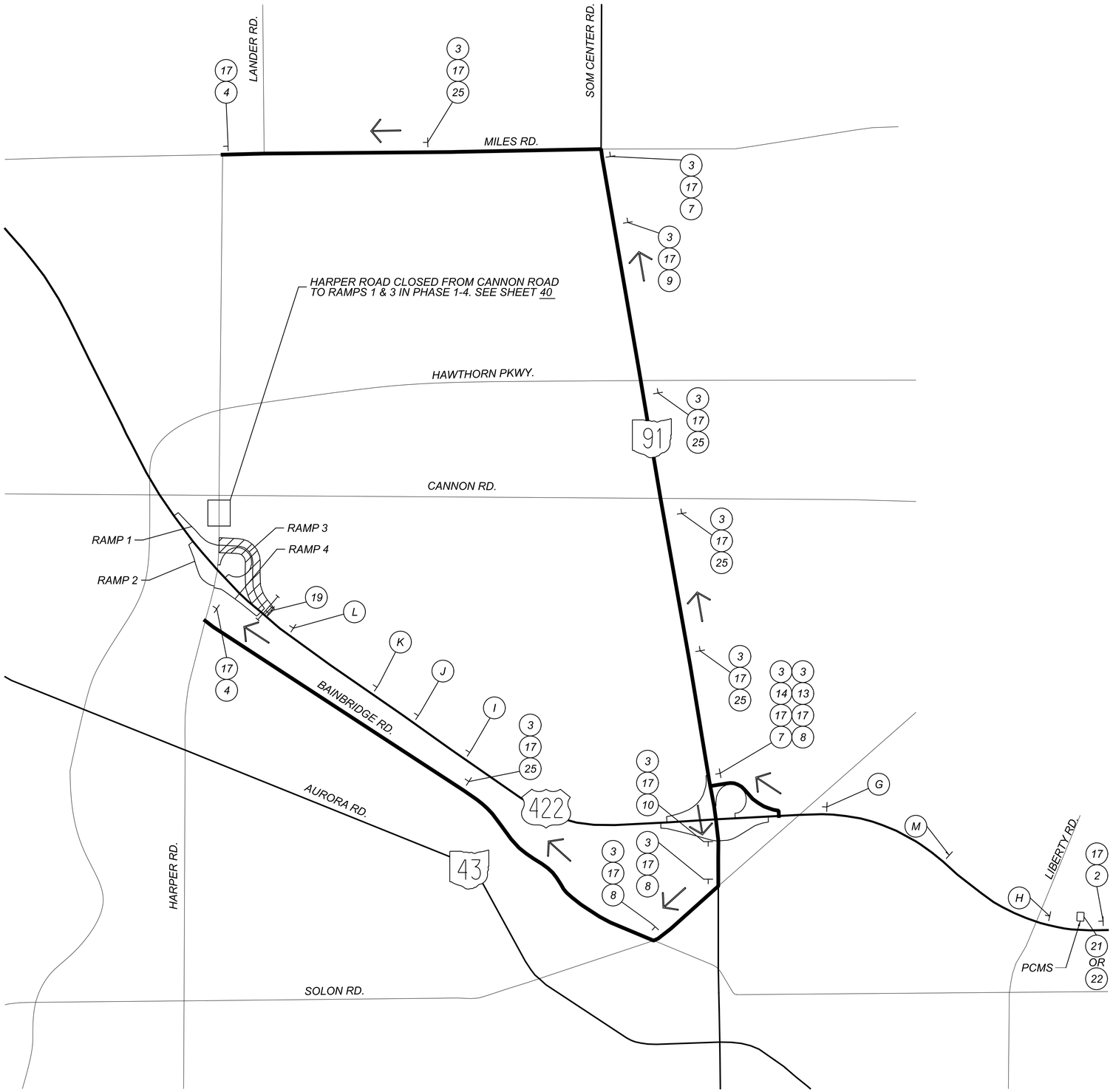
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	43
TOTAL	481

DETOUR PLAN - RAMPS 3A & 3B



Δ BARRICADE SHALL BE PLACED ADJACENT TO THE ROAD.

LEGEND

- SIGN
- TYPE 3 BARRICADE
- DETOUR ROUTE
- TRAFFIC FLOW ARROW
- CLOSED AREA

FOR DETOUR SIGNING KEY, SEE SHEETS 46 - 47.

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:44 PM USER: aford
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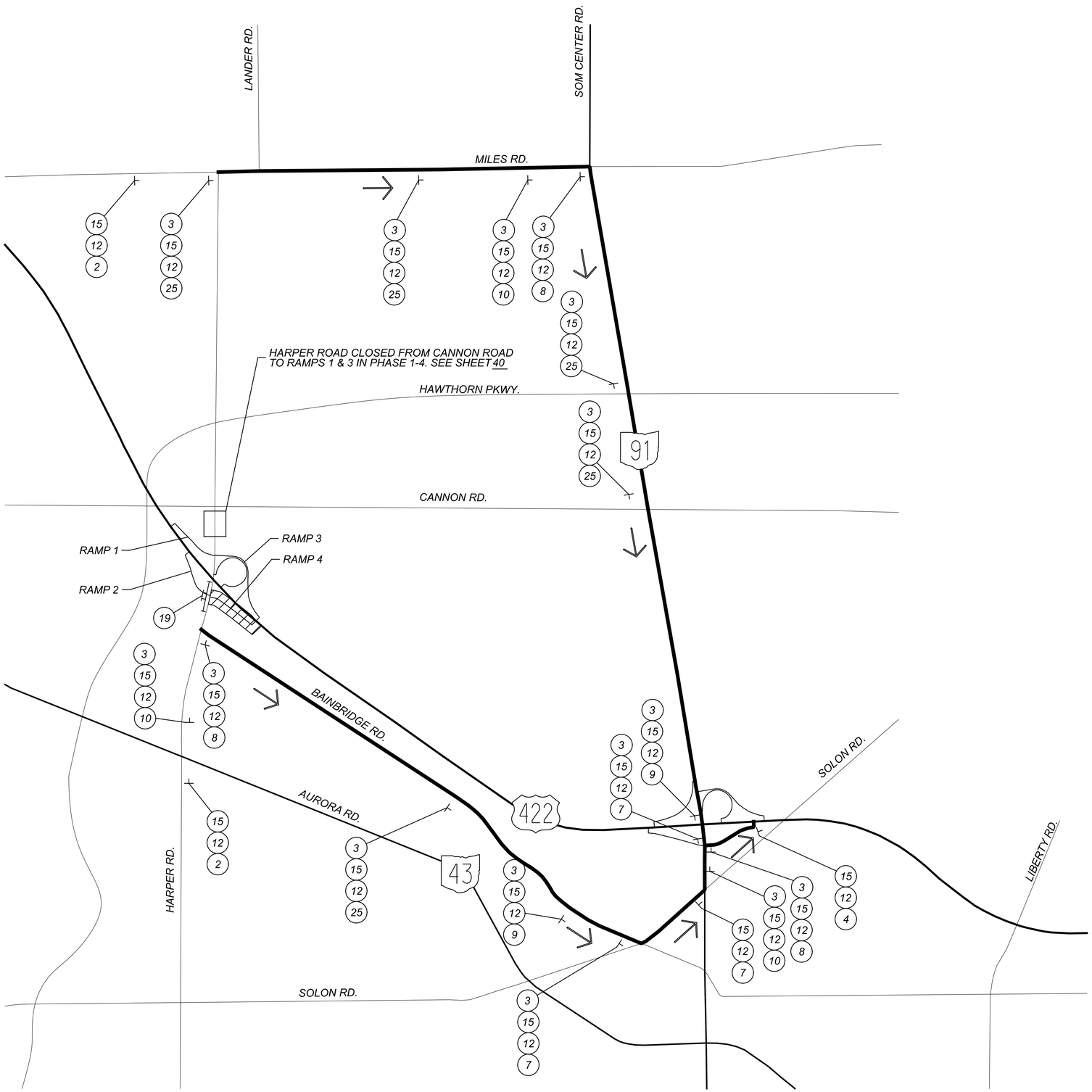
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	44
TOTAL	481



Δ BARRICADE SHALL BE PLACED ADJACENT TO THE ROAD.

LEGEND

- SIGN
- TYPE 3 BARRICADE
- DETOUR ROUTE
- TRAFFIC FLOW ARROW
- CLOSED AREA

FOR DETOUR SIGNING KEY, SEE SHEETS 46 - 47.

DETOUR PLAN - RAMPS 4A & 4B

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:44 PM USER: aford
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	45
TOTAL	481

W20-1-36
TYPE 'A' WARNING LIGHT

(1)

W20-2-36
TYPE 'A' WARNING LIGHT

(2)

M4-8-24

(3)

M4-8a-24

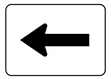
(4)

M4-10L-48

(5)

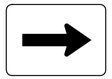
M4-10R-48

(6)



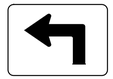
M6-1L-21

(7)



M6-1R-21

(8)



M5-1L-21

(9)

M5-1R-21

(10)

NOT USED

(11)

M1-4-30-3

(12)

M3-1-24

(13)

M3-3-24

(14)

M3-2-24

(15)

M3-4-24

(16)

D3-1-36

(17)

W20-H15-96

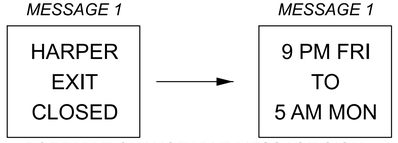
(18)

R11-2-48
MOUNTED ON
TYPE 3 BARRICADE

(19)

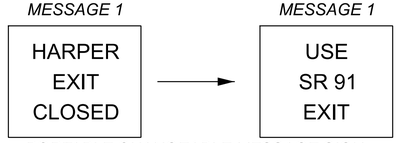
R11-4-60
MOUNTED ON
TYPE 3 BARRICADE

(20)



PORTABLE CHANGEABLE MESSAGE SIGN
ONE WEEK PRIOR TO RAMP CLOSURE

(21)



PORTABLE CHANGEABLE MESSAGE SIGN
DURING RAMP CLOSURE

(22)

W20-3-36
TYPE 'A' WARNING LIGHT

(23)

W20-H15a-72

(24)

M6-3-30

(25)

M6-2R-30

(26)

MAINTENANCE OF TRAFFIC DETOUR SIGNING KEY

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:45 PM USER: aford
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REVIEWER
AKF 6-8-23

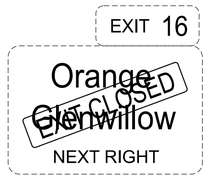
PROJECT ID
113889

SHEET 46 | TOTAL 481

EXISTING SIGN AND BEAM SUPPORTS TO REMAIN WITH "EXIT CLOSED" OVERLAY

(18)

SIGN (A)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN WITH "EXIT CLOSED" OVERLAY

(18)

SIGN (B)

EXISTING SIGN AND BEAM SUPPORTS TO REMAIN WITH "EXIT CLOSED" OVERLAY

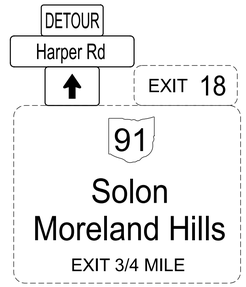
(18)

SIGN (C)

EXISTING SIGN AND BEAM SUPPORTS TO REMAIN WITH "EXIT CLOSED" OVERLAY

(18)

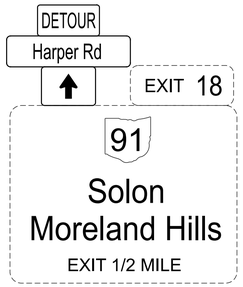
SIGN (D)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN

(3) (17) (25)

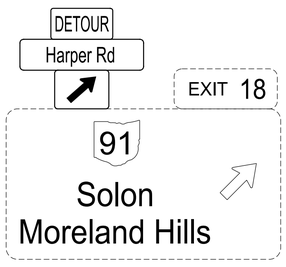
SIGN (E)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN

(3) (17) (25)

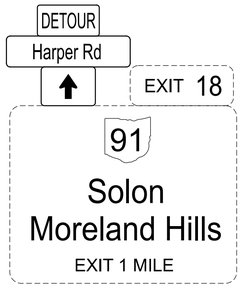
SIGN (F)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN

(3) (17) (26)

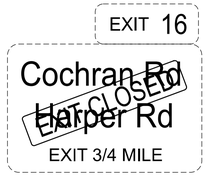
SIGN (G)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN

(3) (17) (25)

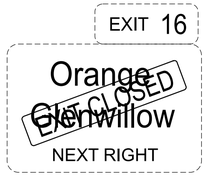
SIGN (H)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN WITH "EXIT CLOSED" OVERLAY

(18)

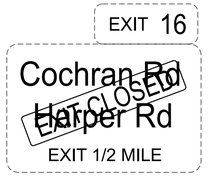
SIGN (I)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN WITH "EXIT CLOSED" OVERLAY

(18)

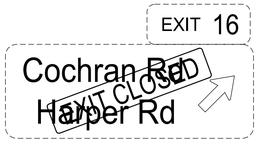
SIGN (J)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN WITH "EXIT CLOSED" OVERLAY

(18)

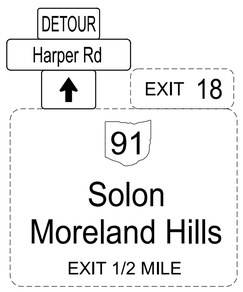
SIGN (K)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN WITH "EXIT CLOSED" OVERLAY

(18)

SIGN (L)



EXISTING SIGN AND BEAM SUPPORTS TO REMAIN

(3) (17) (25)

SIGN (M)

MAINTENANCE OF TRAFFIC DETOUR SIGNING KEY

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:15:46 PM USER: aford
O:\Clients\ORD\2020\2020336\113889400-Engineering\MOT\Sheets\113889_MD010.dgn

DESIGN AGENCY

GPD GROUP

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DESIGNER KRM

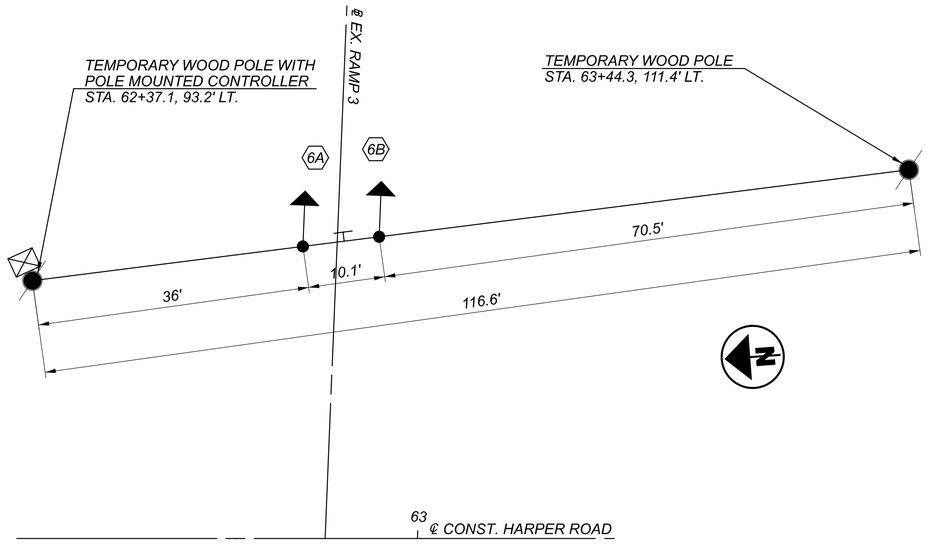
REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 47 TOTAL 481

SPAN WIRE DIAGRAM

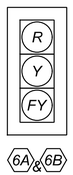
NOT TO SCALE



SIGNAL INDICATION AND TIMING CHART

SIGNAL PHASE	Ø6	INTERVAL DURATION
RECALL	FLASH YELLOW	REST IN FLASH
CHANGE INERVAL	SOLID YELLOW	4.3 SECONDS
CLEARANCE INTERVAL	SOLID RED	4.2 SECONDS

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.
4. ALL SIGNAL HEADS SHALL BE TETHERED.

PREEMPTION NOTES

1. SIGNAL SHALL REST IN FLASH UNTIL RECEIPT OF PREEMPTION SIGNAL.
2. UPON RECEIPT OF PREEMPTION, THE SIGNAL SHALL IMMEDIATELY TIME ITS YELLOW AND ALL RED CLEARANCE INTERVALS.
3. AFTER RELEASE FROM PREEMPT, THE SIGNAL SHALL RETURN TO RECALL PHASE (REST IN FLASH).

TEMPORARY SIGNAL DETAIL - PHASE 1, 1A & 2
HARPER RD. / EX. RAMP 3

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:16:51 PM USER: dford
G:\Clients\ORD\2020\202033G\113889\400-Engineering\MOT\Sheets\113889_MH00.dgn

DESIGN AGENCY
GPD GROUP
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DESIGNER
JAH

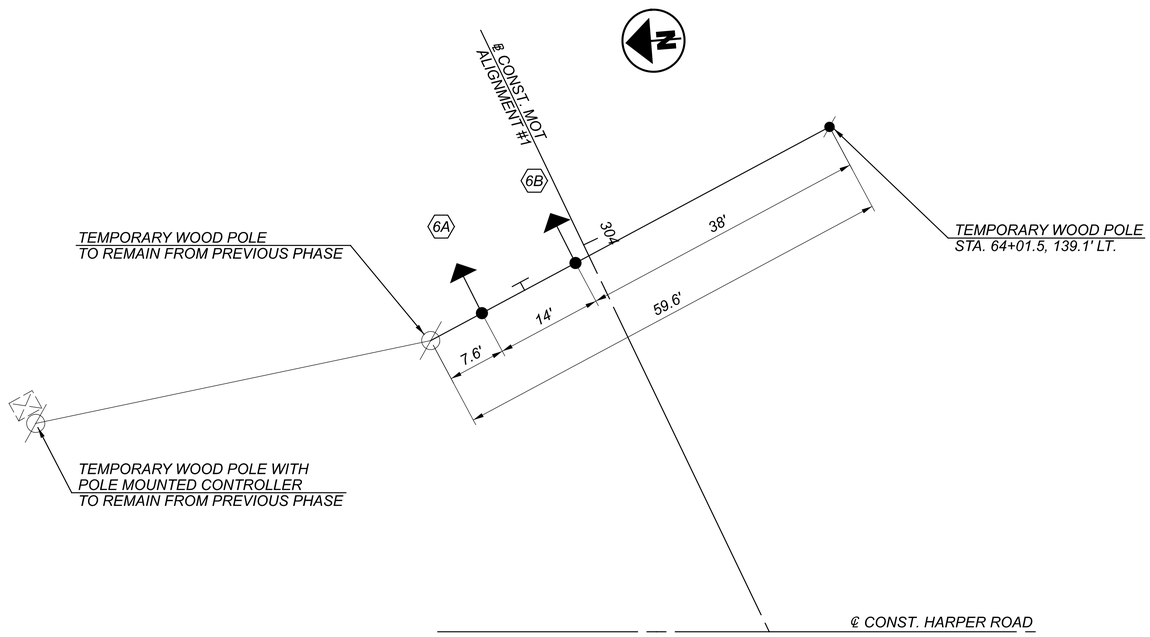
REVIEWER
AKF 6-8-23

PROJECT ID
113889

SHEET 48 TOTAL 481

SPAN WIRE DIAGRAM

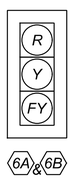
NOT TO SCALE



SIGNAL INDICATION AND TIMING CHART

SIGNAL PHASE	Ø6	INTERVAL DURATION
RECALL	FLASH YELLOW	REST IN FLASH
CHANGE INERVAL	SOLID YELLOW	4.3 SECONDS
CLEARANCE INTERVAL	SOLID RED	4.2 SECONDS

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.
4. ALL SIGNAL HEADS SHALL BE TETHERED.

PREEMPTION NOTES

1. SIGNAL SHALL REST IN FLASH UNTIL RECEIPT OF PREEMPTION SIGNAL.
2. UPON RECEIPT OF PREEMPTION, THE SIGNAL SHALL IMMEDIATELY TIME ITS YELLOW AND ALL RED CLEARANCE INTERVALS.
3. AFTER RELEASE FROM PREEMPT, THE SIGNAL SHALL RETURN TO RECALL PHASE (REST IN FLASH).

TEMPORARY SIGNAL DETAIL - PHASES 2A & 2B
HARPER RD. / EX. RAMP 3

DESIGN AGENCY
GPD GROUP
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DESIGNER JAH
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 49 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:16:56 PM USER: aford
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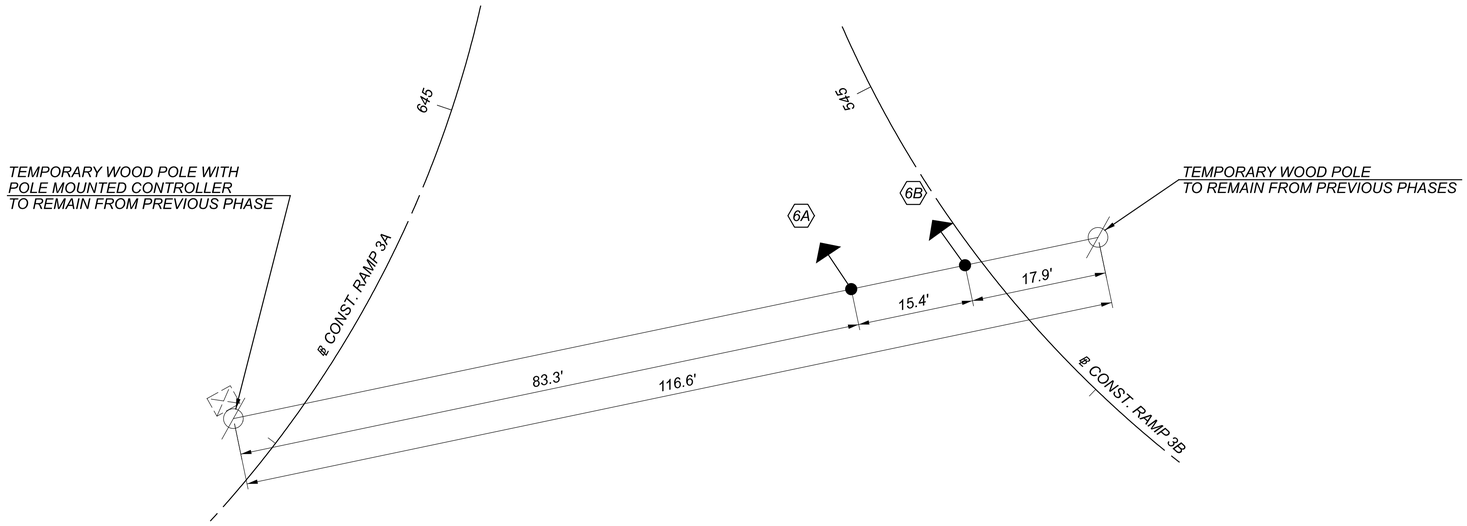
SPAN WIRE DIAGRAM

NOT TO SCALE



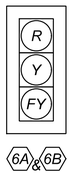
SIGNAL INDICATION AND TIMING CHART

SIGNAL PHASE	Ø6	INTERVAL DURATION
RECALL	FLASH YELLOW	REST IN FLASH
CHANGE INERVAL	SOLID YELLOW	4.3 SECONDS
CLEARANCE INTERVAL	SOLID RED	4.2 SECONDS

PREEMPTION NOTES

1. SIGNAL SHALL REST IN FLASH UNTIL RECEIPT OF PREEMPTION SIGNAL.
2. UPON RECEIPT OF PREEMPTION, THE SIGNAL SHALL IMMEDIATELY TIME ITS YELLOW AND ALL RED CLEARANCE INTERVALS.
3. AFTER RELEASE FROM PREEMPT, THE SIGNAL SHALL RETURN TO RECALL PHASE (REST IN FLASH).

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.
4. ALL SIGNAL HEADS SHALL BE TETHERED.

TEMPORARY SIGNAL DETAIL - PHASES 3, 3A, 4 & 4A
HARPER RD. / RAMP 3B / EX. RAMP 5

DESIGN AGENCY

GPD GROUP

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DESIGNER	JAH
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	50
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:17:02 PM USER: aford
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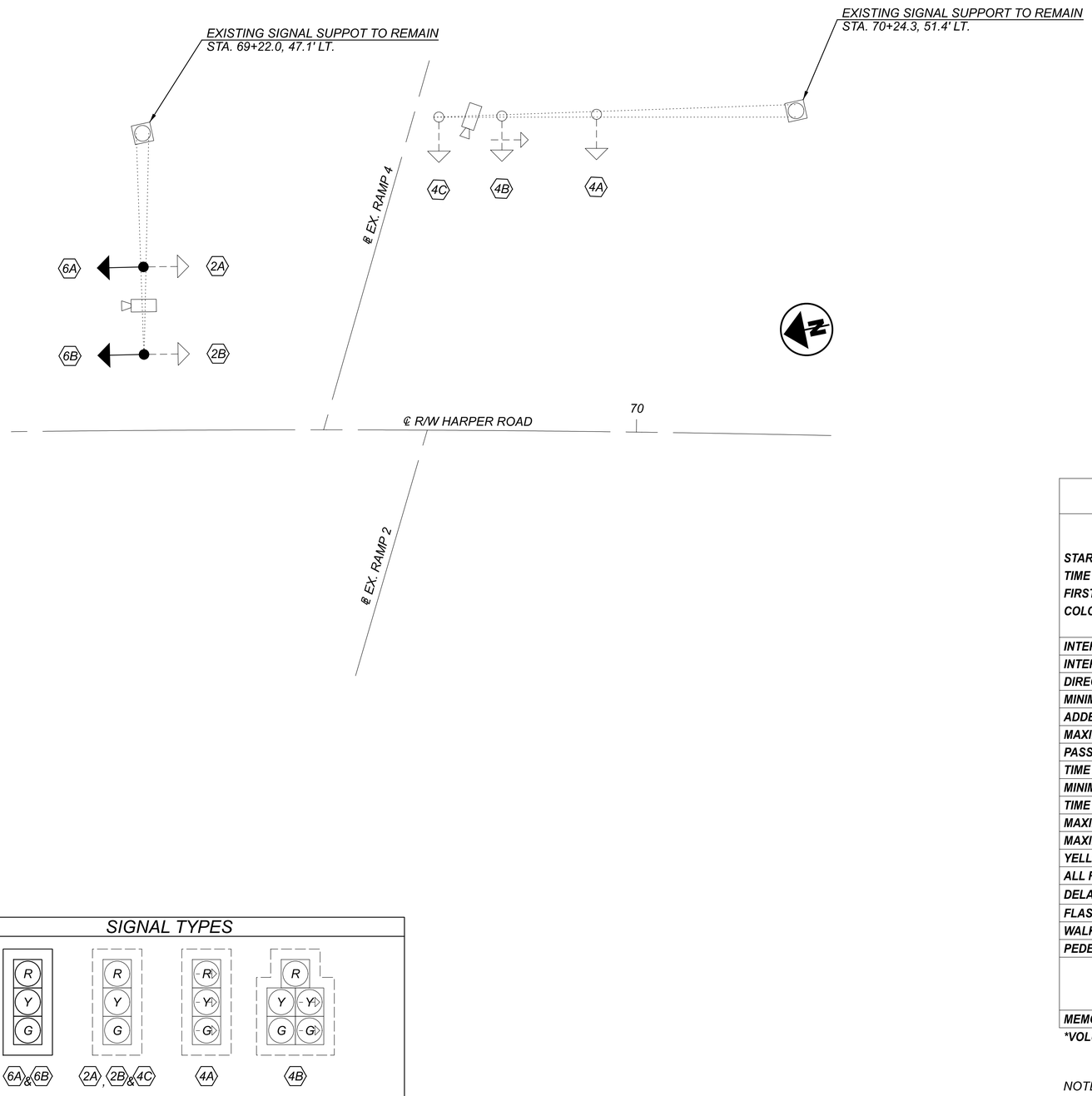
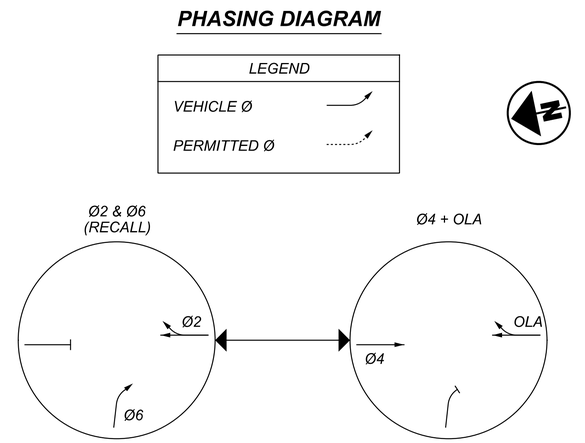
TEMPORARY SIGNAL DIAGRAM

NOT TO SCALE



PHASING DIAGRAM



SIGNAL TIMING CHART

INTERSECTION: HARPER RD. / RAMP 2A									
MAINTAINING AGENCY: CITY OF SOLON									
START UP		DUAL ENTRY: -		PHASES:			2,6		
		REST IN RED:		RING 1 -			RING 2 -		
START IN: ALL-RED FLASH		OVERLAP			A	B	C	D	
TIME FOR: FLASH , ALL RED (SEC.): 9, 6									
FIRST PHASE(S): 2+6		PHASES			2	-	-	-	
COLOR DISPLAYED: GREEN									
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		-	NB	-	SB	-	EB	-	-
MINIMUM GREEN (INITIAL)	(SEC.)	-	20	-	20	-	20	-	-
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	-	-	-	3.0	-	3.0	-	-
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	-	60	-	60	-	60	-	-
MAXIMUM GREEN II	(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE	(SEC.)	-	4.3	-	4.1	-	4.3	-	-
ALL RED CLEARANCE	(SEC.)	-	1.0	-	2.0	-	1.0	-	-
DELAYED GREEN (LPI) #	(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^	(SEC.)	-	-	-	-	-	-	-	-
WALK	(SEC.)	-	-	-	-	-	-	-	-
PEDESTRIAN CLEARANCE	(SEC.)	-	-	-	-	-	-	-	-
RECALL — MAXIMUM	(ON/OFF)	-	-	-	-	-	-	-	-
RECALL — MINIMUM	(ON/OFF)	-	ON	-	-	-	ON	-	-
RECALL — PEDESTRIAN	(ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

*VOLUME DENSITY CONTROLS

NOTE:

THE CONTRACTOR SHALL PROVIDED A GPS TIME CLOCK FOR THE TEMPORARY SIGNALS FOR THE HARPER RD. / RAMP 2 AND HARPER RD. / BAINBRIDGE RD. TO ALLOW COORDINATED TIMINGS DURING CONSTRUCTION.

SIGNAL TYPES

1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.

TEMPORARY SIGNAL DETAIL - PHASE 1
HARPER RD. / EX. RAMP 2

DESIGN AGENCY
GPD GROUP
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DESIGNER JAH
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 51 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:17:03 PM USER: aford
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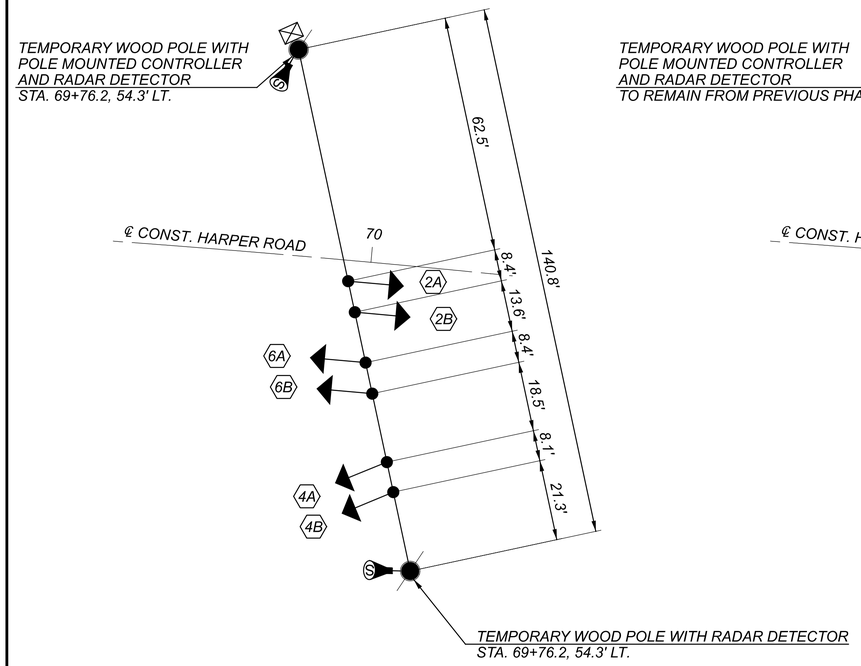
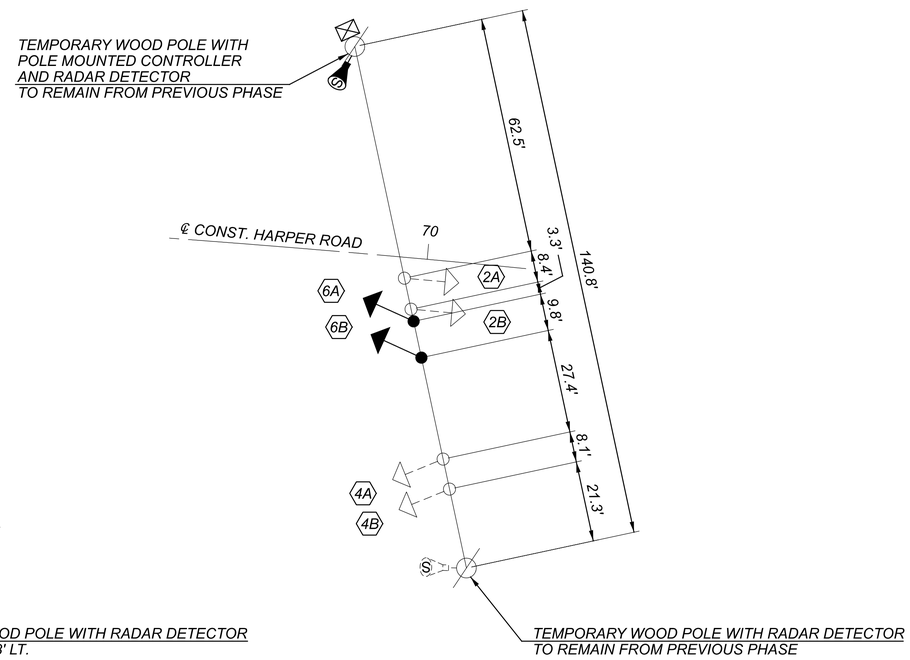
PHASES 2 & 2A

NOT TO SCALE

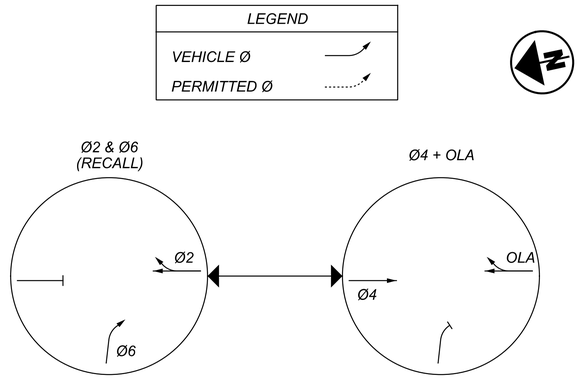


PHASE 2B

NOT TO SCALE



PHASING DIAGRAM



SIGNAL TIMING CHART

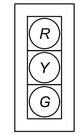
INTERSECTION: HARPER RD. / RAMP 2A									
MAINTAINING AGENCY: CITY OF SOLON									
START UP		DUAL ENTRY: -		PHASES:		2,6			
		REST IN RED:		RING 1	-		RING 2	-	
START IN: ALL-RED FLASH		OVERLAP			A	B	C	D	
TIME FOR: FLASH , ALL RED (SEC.): 9, 6									
FIRST PHASE(S): 2+6		PHASES			2	-	-	-	
COLOR DISPLAYED: GREEN									
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		-	NB	-	SB	-	EB	-	-
MINIMUM GREEN (INITIAL)	(SEC.)	-	20	-	20	-	20	-	-
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	-	-	-	3.0	-	3.0	-	-
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	-	60	-	60	-	60	-	-
MAXIMUM GREEN II	(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE	(SEC.)	-	4.3	-	4.0	-	4.3	-	-
ALL RED CLEARANCE	(SEC.)	-	2.3	-	3.0	-	2.3	-	-
DELAYED GREEN (LPI) #	(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^	(SEC.)	-	-	-	-	-	-	-	-
WALK	(SEC.)	-	-	-	-	-	-	-	-
PEDESTRIAN CLEARANCE	(SEC.)	-	-	-	-	-	-	-	-
RECALL — MAXIMUM	(ON/OFF)	-	-	-	-	-	-	-	-
RECALL — MINIMUM	(ON/OFF)	-	ON	-	-	-	ON	-	-
RECALL — PEDESTRIAN	(ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

*VOLUME DENSITY CONTROLS

NOTE:

THE CONTRACTOR SHALL PROVIDED A GPS TIME CLOCK FOR THE TEMPORARY SIGNALS FOR THE HARPER RD. / RAMP 2 AND HARPER RD. / BAINBRIDGE RD. TO ALLOW COORDINATED TIMINGS DURING CONSTRUCTION.

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.
4. ALL SIGNAL HEADS SHALL BE TETHERED.

TEMPORARY SIGNAL DETAIL - PHASE 2, 2A & 2B
HARPER RD. / RAMP 2A

DESIGN AGENCY
GPD GROUP*

DESIGNER JAH
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 52 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:17:04 PM USER: aford
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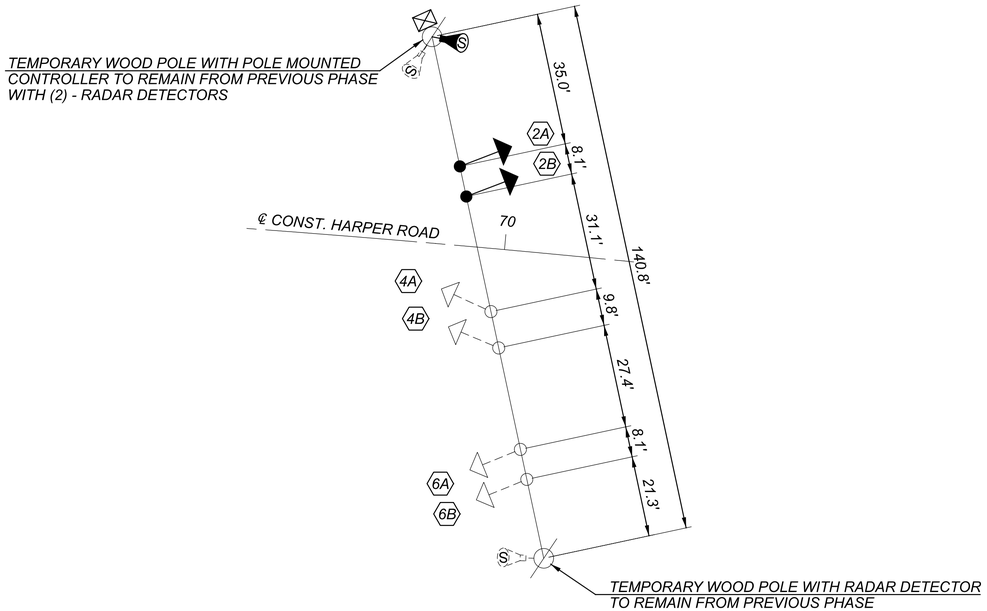
PHASE 3, 3A & 4

NOT TO SCALE

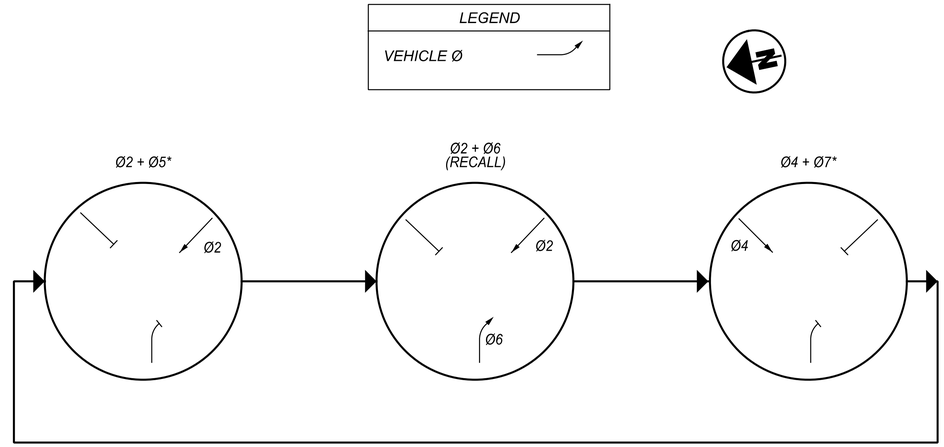


SIGNAL TIMING CHART

INTERSECTION: HARPER RD. / RAMP 2A									
MAINTAINING AGENCY: CITY OF SOLON									
START UP		DUAL ENTRY: -			PHASES:			2,6	
		REST IN RED:			RING 1	-		RING 2	-
START IN: ALL-RED FLASH		OVERLAP				A	B	C	D
TIME FOR: FLASH , ALL RED (SEC.): 9, 6									
FIRST PHASE(S): 2									
COLOR DISPLAYED: GREEN		PHASES				-	-	-	-
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5*	6	7	8
DIRECTION		-	NB	-	SB	-	EB	-	-
MINIMUM GREEN (INITIAL)	(SEC.)	-	20	-	20	-	20	-	-
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	-	3.0	-	3.0	-	3.0	-	-
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	-	60	-	60	1	60	-	-
MAXIMUM GREEN II	(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE	(SEC.)	-	4.0	-	4.0	1.0	4.0	-	-
ALL RED CLEARANCE	(SEC.)	-	2.4	-	2.4	2.0	2.4	-	-
DELAYED GREEN (LPI) #	(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^	(SEC.)	-	-	-	-	-	-	-	-
WALK	(SEC.)	-	-	-	-	-	-	-	-
PEDESTRIAN CLEARANCE	(SEC.)	-	-	-	-	-	-	-	-
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	-	-	-	-
	MINIMUM (ON/OFF)	-	-	-	-	-	-	-	-
	PEDESTRIAN (ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

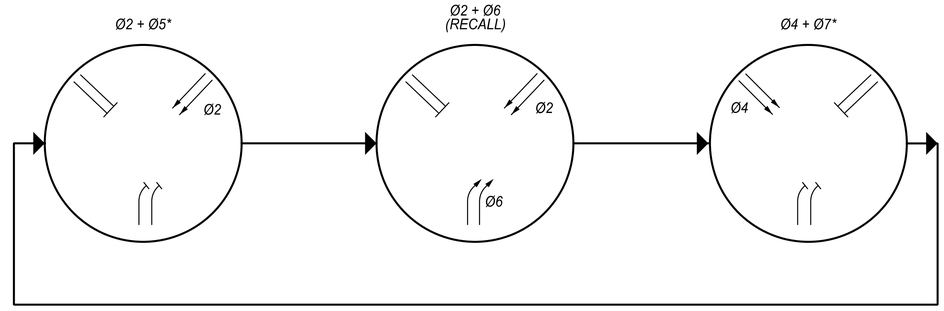
*VOLUME DENSITY CONTROLS

PHASING DIAGRAM



* Ø5 TO BE UTILIZED FOR CROSSOVER CLEARANCE TIME.

PHASE 3



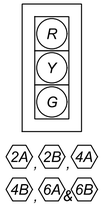
* Ø5 TO BE UTILIZED FOR CROSSOVER CLEARANCE TIME.

PHASES 3A & 4

NOTE:

THE CONTRACTOR SHALL PROVIDED A GPS TIME CLOCK FOR THE TEMPORARY SIGNALS FOR THE HARPER RD. / RAMP 2 AND HARPER RD. / BAINBRIDGE RD. TO ALLOW COORDINATED TIMINGS DURING CONSTRUCTION.

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.
4. ALL SIGNAL HEADS SHALL BE TETHERED.

TEMPORARY SIGNAL DETAIL - PHASES 3, 3A, 4 & 4A
HARPER RD. / RAMP 2A

DESIGN AGENCY
GPD GROUP*
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DESIGNER JAH
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 53 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:17:05 PM USER: afford
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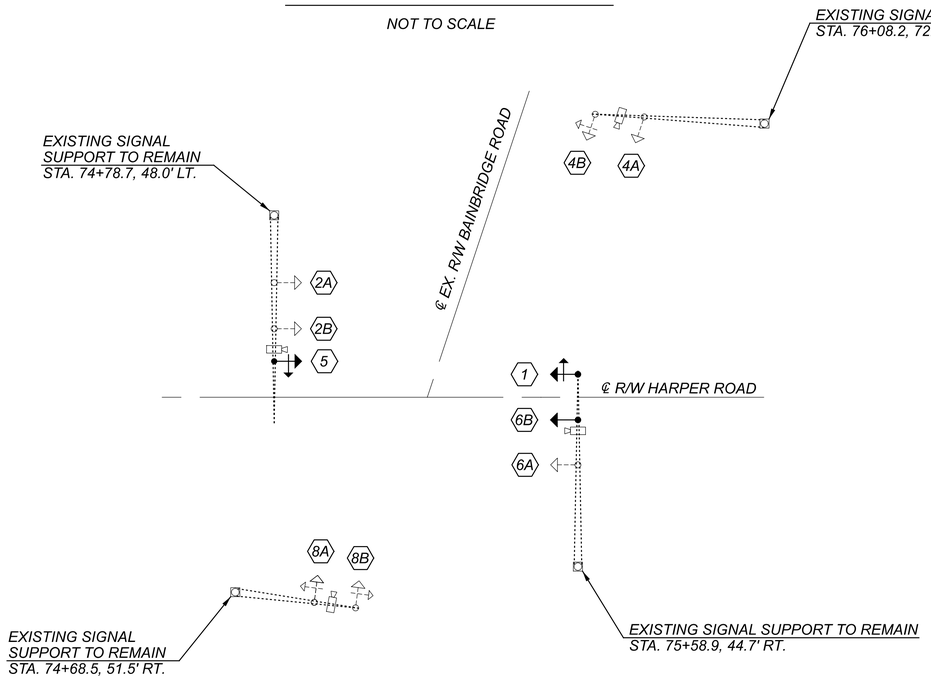
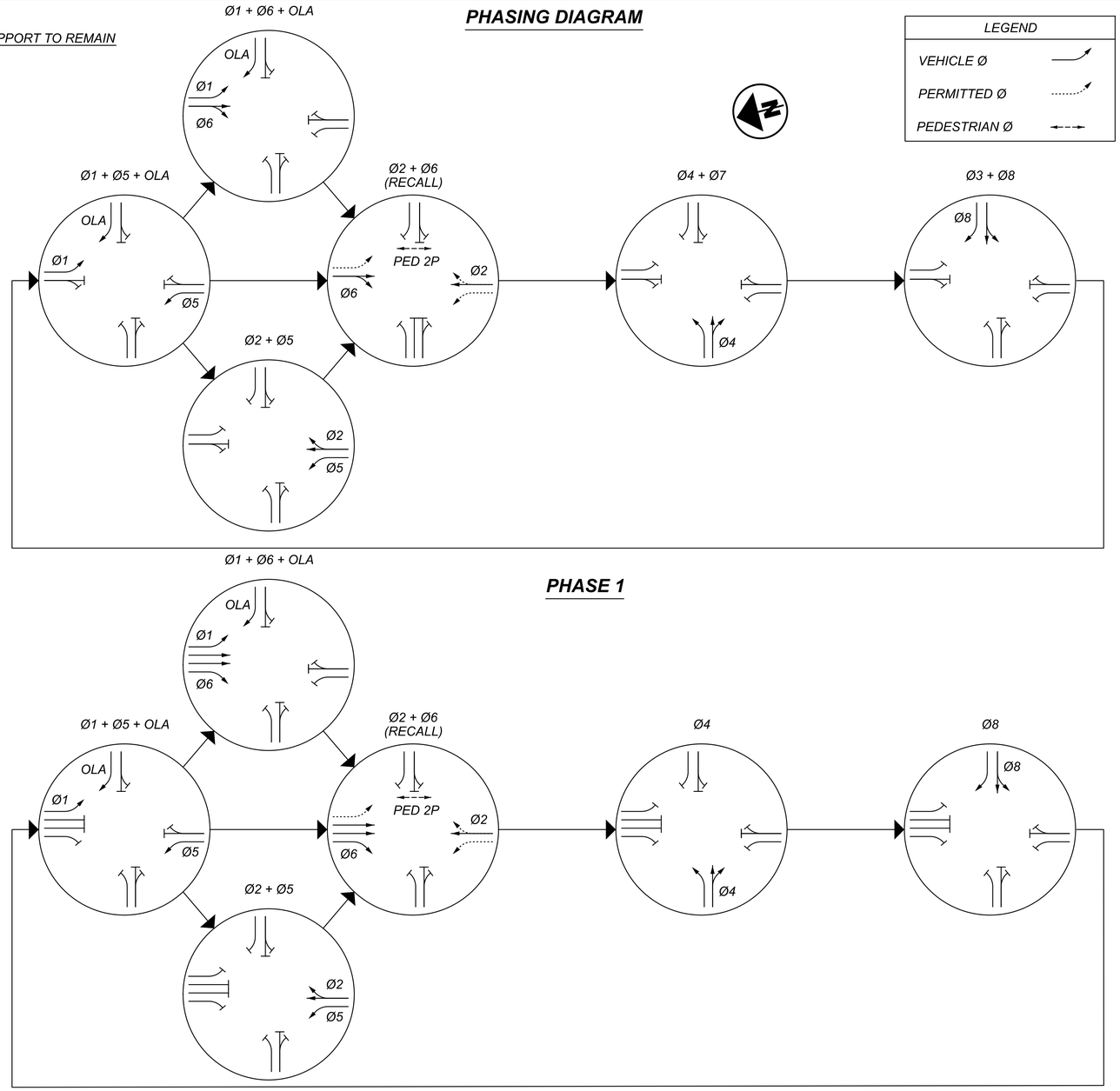
TEMPORARY SIGNAL DIAGRAM

NOT TO SCALE



PHASING DIAGRAM



SIGNAL TIMING CHART

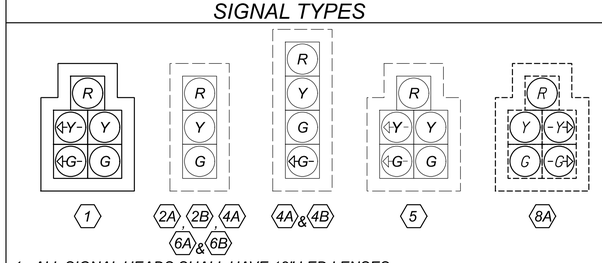
INTERSECTION: HARPER RD. / BAINBRIDGE RD.									
MAINTAINING AGENCY: CITY OF SOLON									
START UP		DUAL ENTRY: -			PHASES:			2, 4, 6, 8	
		REST IN RED:			RING 1 -			RING 2 -	
START IN: ALL-RED FLASH		OVERLAP				A	B	C	D
TIME FOR: FLASH , ALL RED (SEC.): 9, 6									
FIRST PHASE(S): 2+6		PHASES				1	-	-	-
COLOR DISPLAYED: GREEN									
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		SB LT	NB	-	EB	NB LT	SB	-	WB
MINIMUM GREEN (INITIAL)	(SEC.)	7	20	-	10	7	20	-	10
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	3	3	-	3	3	3	-	3
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	20	60	-	30	20	60	-	30
MAXIMUM GREEN II	(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE	(SEC.)	3.2	4.1	-	3.2	3.2	4.1	-	3.2
ALL RED CLEARANCE	(SEC.)	3.6	1.0	-	2.0	3.9	1.0	-	2.3
DELAYED GREEN (LPI) #	(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^	(SEC.)	-	-	-	-	-	-	-	-
WALK	(SEC.)	-	-	-	-	-	-	-	-
PEDESTRIAN CLEARANCE	(SEC.)	-	-	-	-	-	-	-	-
RECALL — MAXIMUM	(ON/OFF)	-	-	-	-	-	-	-	-
RECALL — MINIMUM	(ON/OFF)	-	ON	-	-	-	ON	-	-
RECALL — PEDESTRIAN	(ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

*VOLUME DENSITY CONTROLS

NOTE:

THE CONTRACTOR SHALL PROVIDED A GPS TIME CLOCK FOR THE TEMPORARY SIGNALS FOR THE HARPER RD. / RAMP 2 AND HARPER RD. / BAINBRIDGE RD. TO ALLOW COORDINATED TIMINGS DURING CONSTRUCTION.

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.

TEMPORARY SIGNAL DETAIL - PHASES 1 & 1A
HARPER RD. / BAINBRIDGE RD.

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:17:07 PM USER: dford
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GPD GROUP
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DESIGNER JAH

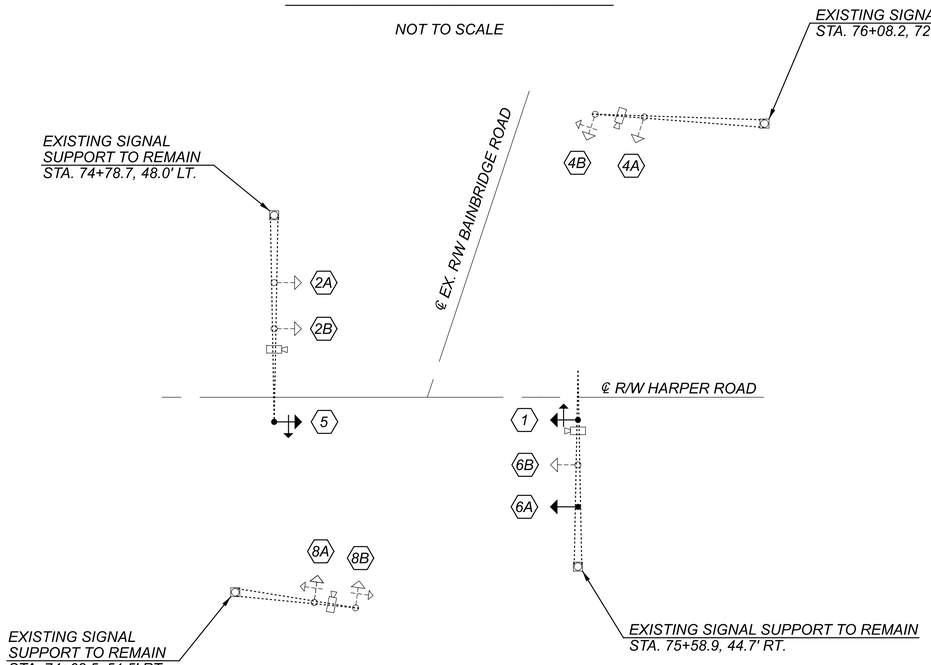
REVIEWER AKF 6-8-23

PROJECT ID 113889

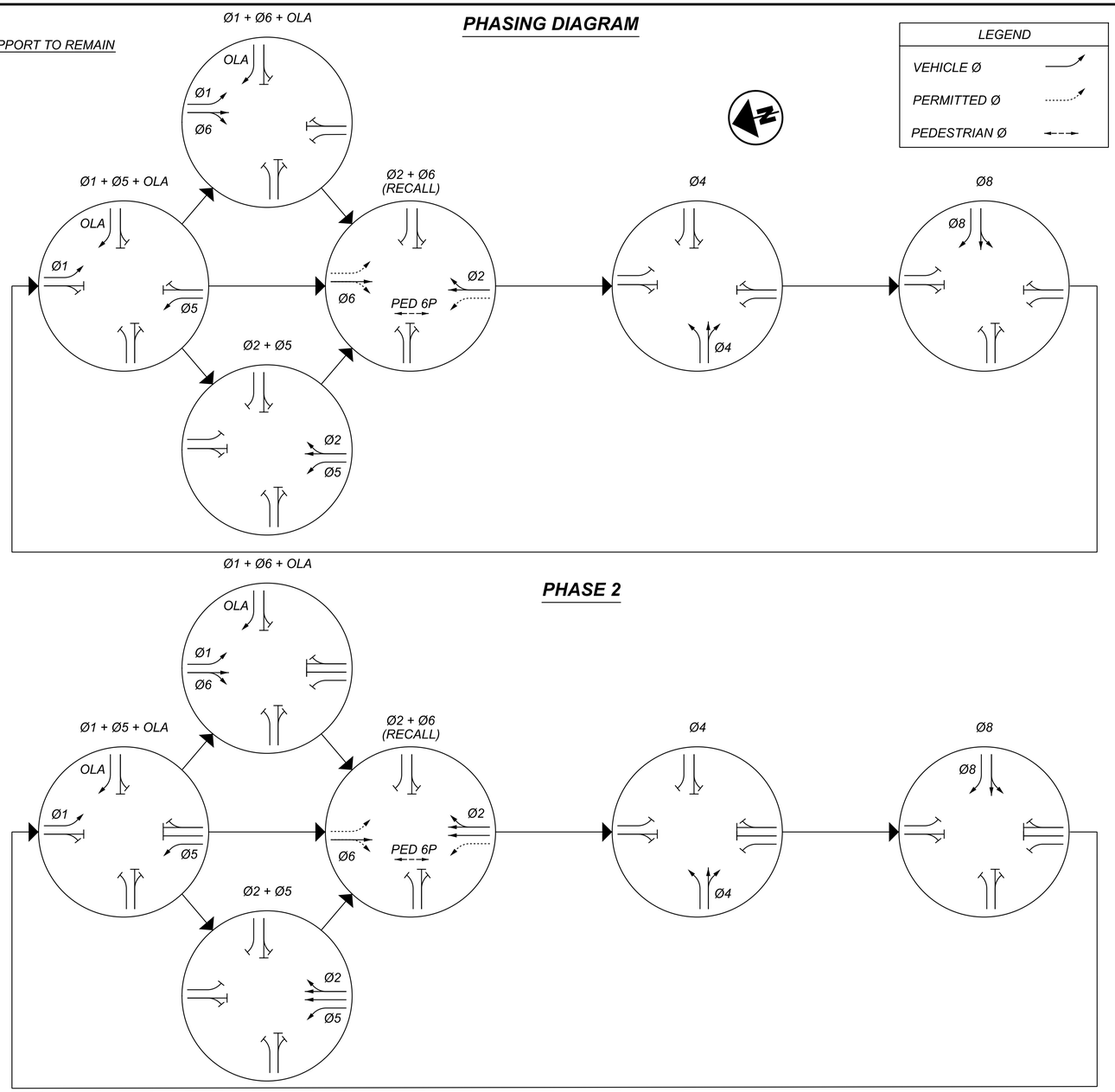
SHEET 54 TOTAL 481

TEMPORARY SIGNAL DIAGRAM

NOT TO SCALE



PHASING DIAGRAM



SIGNAL TIMING CHART

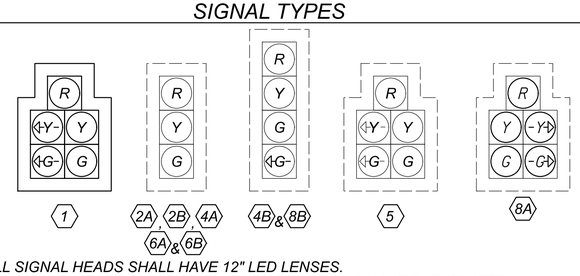
INTERSECTION: HARPER RD. / BAINBRIDGE RD.									
MAINTAINING AGENCY: CITY OF SOLON									
START UP		DUAL ENTRY: -			PHASES:		2, 4, 6, 8		
		REST IN RED:			RING 1 -		RING 2 -		
START IN: ALL-RED FLASH		OVERLAP				A	B	C	D
TIME FOR: FLASH , ALL RED (SEC.): 9, 6									
FIRST PHASE(S): 2+6		PHASES				1	-	-	-
COLOR DISPLAYED: GREEN									
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		SB LT	NB	-	EB	NB LT	SB	-	WB
MINIMUM GREEN (INITIAL)	(SEC.)	7	20	-	10	7	20	-	10
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	3	3	-	3	3	3	-	3
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	20	60	-	30	20	60	-	30
MAXIMUM GREEN II	(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE	(SEC.)	3.2	4.1	-	3.2	3.2	4.1	-	3.2
ALL RED CLEARANCE	(SEC.)	3.6	1.0	-	2.0	3.9	1.0	-	2.3
DELAYED GREEN (LPI) #	(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^	(SEC.)	-	-	-	-	-	-	-	-
WALK	(SEC.)	-	-	-	-	-	-	-	-
PEDESTRIAN CLEARANCE	(SEC.)	-	-	-	-	-	-	-	-
RECALL MAXIMUM	(ON/OFF)	-	-	-	-	-	-	-	-
RECALL MINIMUM	(ON/OFF)	-	ON	-	-	-	ON	-	-
RECALL PEDESTRIAN	(ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

*VOLUME DENSITY CONTROLS

NOTE:

THE CONTRACTOR SHALL PROVIDED A GPS TIME CLOCK FOR THE TEMPORARY SIGNALS FOR THE HARPER RD. / RAMP 2 AND HARPER RD. / BAINBRIDGE RD. TO ALLOW COORDINATED TIMINGS DURING CONSTRUCTION.

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.

TEMPORARY SIGNAL DETAIL - PHASES 2, 2A & 2B
HARPER RD. / BAINBRIDGE RD.

DESIGN AGENCY
GPD GROUP*
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DESIGNER JAH
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 55 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:17:08 PM USER: aford
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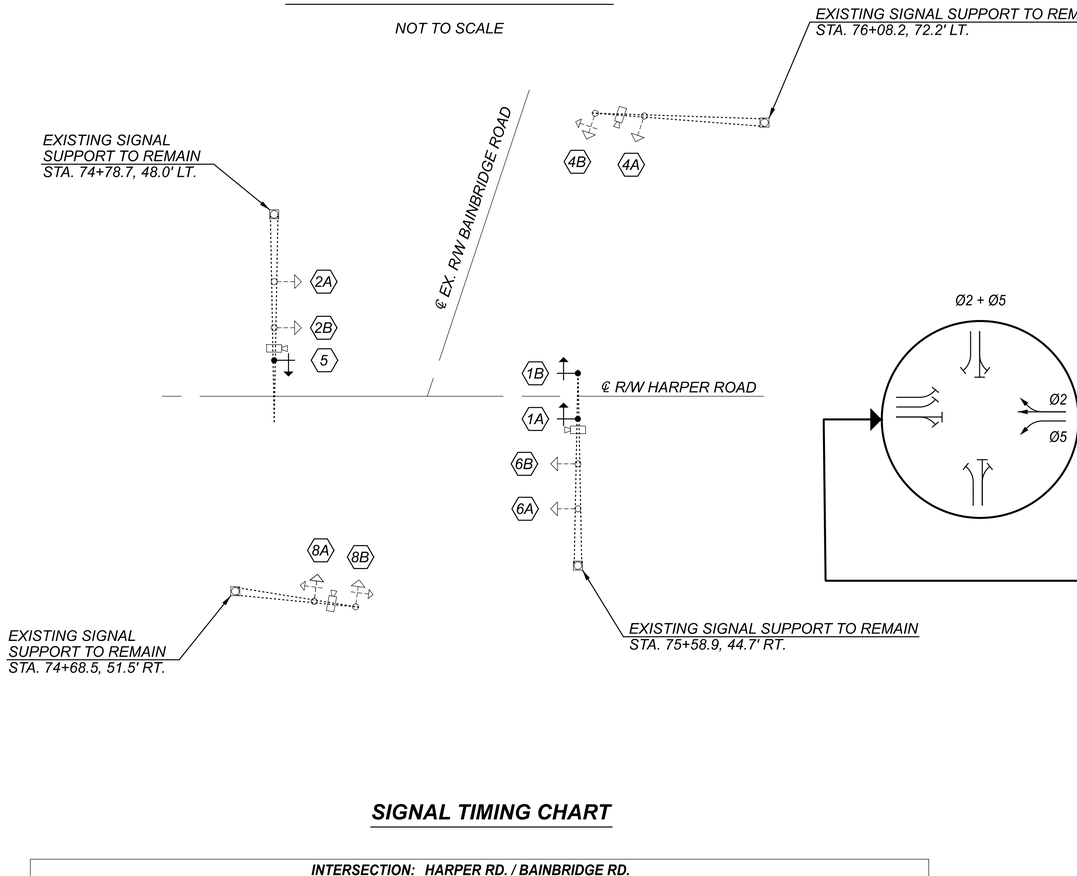
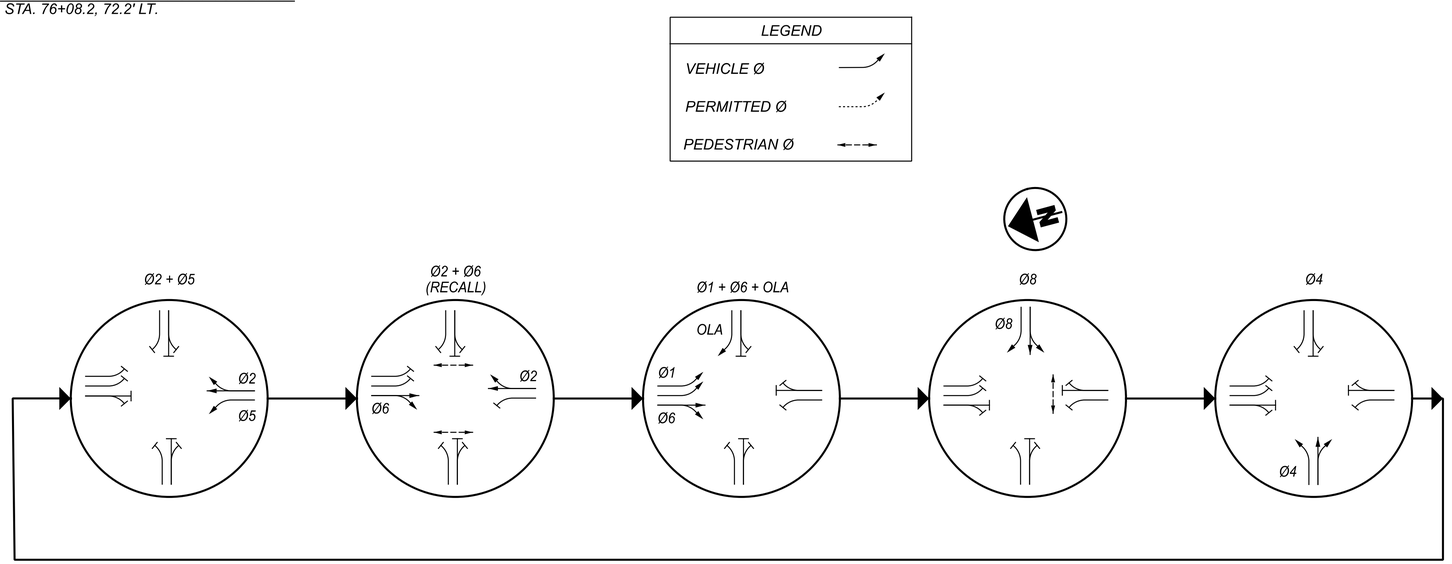
TEMPORARY SIGNAL DIAGRAM

NOT TO SCALE



PHASING DIAGRAM



SIGNAL TIMING CHART

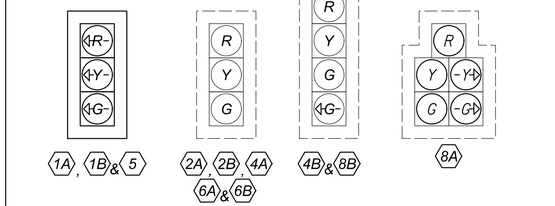
INTERSECTION: HARPER RD. / BAINBRIDGE RD.									
MAINTAINING AGENCY: CITY OF SOLON									
START UP		DUAL ENTRY: -			PHASES:			2, 4, 6, 8	
		REST IN RED:			RING 1	-		RING 2	-
START IN: ALL-RED FLASH		OVERLAP				A	B	C	D
TIME FOR: FLASH , ALL RED (SEC.): 9, 6									
FIRST PHASE(S): 2+6		PHASES				1	-	-	-
COLOR DISPLAYED: GREEN									
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5	6	7	8
DIRECTION		SB LT	NB	-	EB	NB LT	SB	-	WB
MINIMUM GREEN (INITIAL)	(SEC.)	7	20	-	10	7	20	-	10
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	3	3	-	3	3	3	-	3
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	20	60	-	30	20	60	-	30
MAXIMUM GREEN II	(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE	(SEC.)	3.2	4.1	-	3.2	3.2	4.1	-	3.2
ALL RED CLEARANCE	(SEC.)	3.6	1.0	-	2.0	3.9	1.0	-	2.3
DELAYED GREEN (LPI) #	(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^	(SEC.)	-	-	-	-	-	-	-	-
WALK	(SEC.)	-	-	-	-	-	-	-	-
PEDESTRIAN CLEARANCE	(SEC.)	-	-	-	-	-	-	-	-
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	-	-	-	-
	MINIMUM (ON/OFF)	-	ON	-	-	-	ON	-	-
	PEDESTRIAN (ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

*VOLUME DENSITY CONTROLS

NOTE:

THE CONTRACTOR SHALL PROVIDED A GPS TIME CLOCK FOR THE TEMPORARY SIGNALS FOR THE HARPER RD. / RAMP 2 AND HARPER RD. / BAINBRIDGE RD. TO ALLOW COORDINATED TIMINGS DURING CONSTRUCTION.

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE CUTAWAY TYPE.

TEMPORARY SIGNAL DETAIL - PHASE 3
HARPER RD. / BAINBRIDGE RD.

DESIGN AGENCY
GPD GROUP
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DESIGNER JAH
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 56 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:17:08 PM USER: aford
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COORDINATION TIMING CHART
(PHASES 1, 1A & 2)

HARPER RD. / RAMP 2									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	-	-	-	-	-	-	-	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	-	85	-	15	-	85	-	-	80
12	-	85	-	15	-	85	-	-	35
13	-	85	-	15	-	85	-	-	45

HARPER RD. / BAINBRIDGE RD.									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	-	-	-	-	-	-	-	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	30	48	-	11	9	69	-	11	0
12	20	56	-	12	10	66	-	12	0
13	15	62	-	10	8	69	-	13	30

COORDINATION TIMING PLANS
(PHASES 1, 1A & 2)

COORDINATION TIMING PLANS			
DAY(S) OF WEEK	HOURS	PLAN NO.	CYCLE LENGTH (SEC)
MON - FRI	00:00 - 06:00	FREE	-
MON - FRI	06:00 - 09:00	11	150
MON - FRI	09:00 - 14:30	12	130
MON - FRI	14:30 - 18:00	13	160
MON - FRI	18:00 - 19:30	12	130
MON - FRI	19:30 - 24:00	FREE	-
SAT - SUN	00:00 - 08:00	FREE	-
SAT - SUN	08:00 - 20:00	12	130
SAT - SUN	20:00 - 24:00	FREE	-

COORDINATION TIMING CHART
(PHASES 2A & 2B)

HARPER RD. / RAMP 2									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	-	-	-	-	-	-	-	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	-	85	-	15	-	85	-	-	80
12	-	80	-	20	-	80	-	-	70
13	-	85	-	15	-	85	-	-	20

HARPER RD. / BAINBRIDGE RD.									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	-	-	-	-	-	-	-	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	30	48	-	11	9	69	-	11	0
12	20	48	-	16	13	55	-	16	0
13	20	50	-	12	10	60	-	18	0

COORDINATION TIMING PLANS
(PHASES 2A & 2B)

COORDINATION TIMING PLANS			
DAY(S) OF WEEK	HOURS	PLAN NO.	CYCLE LENGTH (SEC)
MON - FRI	00:00 - 06:00	FREE	-
MON - FRI	06:00 - 09:00	11	150
MON - FRI	09:00 - 14:30	12	100
MON - FRI	14:30 - 18:00	13	140
MON - FRI	18:00 - 19:30	12	100
MON - FRI	19:30 - 24:00	FREE	-
SAT - SUN	00:00 - 08:00	FREE	-
SAT - SUN	08:00 - 20:00	12	100
SAT - SUN	20:00 - 24:00	FREE	-

TEMPORARY TRAFFIC SIGNAL COORDINATION PLAN

DESIGN AGENCY

GPD GROUP

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DESIGNER
BEB

REVIEWER
AKF 6-8-23

PROJECT ID
113889

SHEET 57 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:17:09 PM USER: aford
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COORDINATION TIMING CHART (PHASE 3)

HARPER RD. / RAMP 2									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	-	-	-	-	-	-	-	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	-	85	-	15	4	81	-	-	15
12	-	80	-	20	4	76	-	-	60
13	-	85	-	15	4	81	-	-	60

HARPER RD. / BAINBRIDGE RD.									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	-	-	-	-	-	-	-	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	25	53	-	11	9	69	-	11	0
12	20	50	-	15	12	58	-	15	0
13	15	62	-	10	8	69	-	13	30

COORDINATION TIMING PLANS (PHASE 3)

COORDINATION TIMING PLANS			
DAY(S) OF WEEK	HOURS	PLAN NO.	CYCLE LENGTH (SEC)
MON - FRI	00:00 - 06:00	FREE	-
MON - FRI	06:00 - 09:00	11	150
MON - FRI	09:00 - 14:30	12	110
MON - FRI	14:30 - 18:00	13	160
MON - FRI	18:00 - 19:30	12	110
MON - FRI	19:30 - 24:00	FREE	-
SAT - SUN	00:00 - 08:00	FREE	-
SAT - SUN	08:00 - 20:00	12	110
SAT - SUN	20:00 - 24:00	FREE	-

COORDINATION TIMING CHART (PHASES 3A, 4 & 4A)

HARPER RD. / RAMP 2									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	-	-	-	-	-	-	-	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	-	80	-	20	4	76	-	-	70
12	-	75	-	25	5	70	-	-	90
13	-	80	-	20	4	76	-	-	50

HARPER RD. / BAINBRIDGE RD.									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	-	-	-	-	-	-	-	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	31	40	-	13	16	55	-	16	0
12	22	39	-	17	15	46	-	22	15
13	21	45	-	13	11	55	-	21	0

COORDINATION TIMING PLANS (PHASES 3A, 4 & 4A)

COORDINATION TIMING PLANS			
DAY(S) OF WEEK	HOURS	PLAN NO.	CYCLE LENGTH (SEC)
MON - FRI	00:00 - 06:00	FREE	-
MON - FRI	06:00 - 09:00	11	120
MON - FRI	09:00 - 14:30	12	90
MON - FRI	14:30 - 18:00	13	120
MON - FRI	18:00 - 19:30	12	90
MON - FRI	19:30 - 24:00	FREE	-
SAT - SUN	00:00 - 08:00	FREE	-
SAT - SUN	08:00 - 20:00	12	90
SAT - SUN	20:00 - 24:00	FREE	-

TEMPORARY TRAFFIC SIGNAL COORDINATION PLAN

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:17:10 PM USER: aford
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DESIGN AGENCY

GPD GROUP

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DESIGNER BEB

REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 58 TOTAL 481

PRE-PHASE 1 (CONSTRUCTION SEASON 1)

THE CONTRACTOR SHALL INSTALL AT A MINIMUM ALL OF THE PROPOSED STORM SEWERS WHICH ARE LOCATED OUTSIDE OF EXISTING PAVEMENT LIMITS. SEE "STORM SEWER CONSTRUCTION" NOTE ON SHEET 31 FOR MORE INFORMATION.

THE TEMPORARY PAVEMENT SHALL BE CONSTRUCTED ON THE SOUTH SIDE OF EXISTING RAMP 3 AND IN THE CENTER OF HARPER ROAD, DURING OFF-PEAK HOURS. RAMP TRAFFIC SHALL BE MAINTAINED BY THE USE OF MT-95.45 AND MT-102.20. HARPER ROAD TRAFFIC SHALL BE MAINTAINED BY THE USE OF MT-95.32. A MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PLAN TO EXCAVATE ONLY AS MUCH AS HE/SHE CAN SAFELY COMPLETE IN ONE WORKDAY. AT THE COMPLETION OF EACH WORKDAY, THE TRENCH SHALL BE BACKFILLED AND THE EXISTING TRAFFIC PATTERN SHALL BE RESTORED.

AT THE HARPER RD. / RAMP 2 / RAMP 4 INTERSECTION AND THE HARPER RD. / RAMP 1 / RAMP 3 INTERSECTION, THE CONTRACTOR SHALL INSTALL WORK ZONE TRAFFIC SIGNALS. AT NO TIME SHALL THE EXISTING SIGNAL BE OUT OF SERVICE BEFORE THE WORK ZONE TRAFFIC SIGNAL HAS BEEN INSTALLED AND IS IN WORKING ORDER AND PASSED ALL TESTING. THE CONSTRUCTION OF THE WORK ZONE TRAFFIC SIGNAL SHALL BE PERMITTED DURING NIGHTTIME HOURS WHERE TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH MT-95.31 AND MT-95.32.

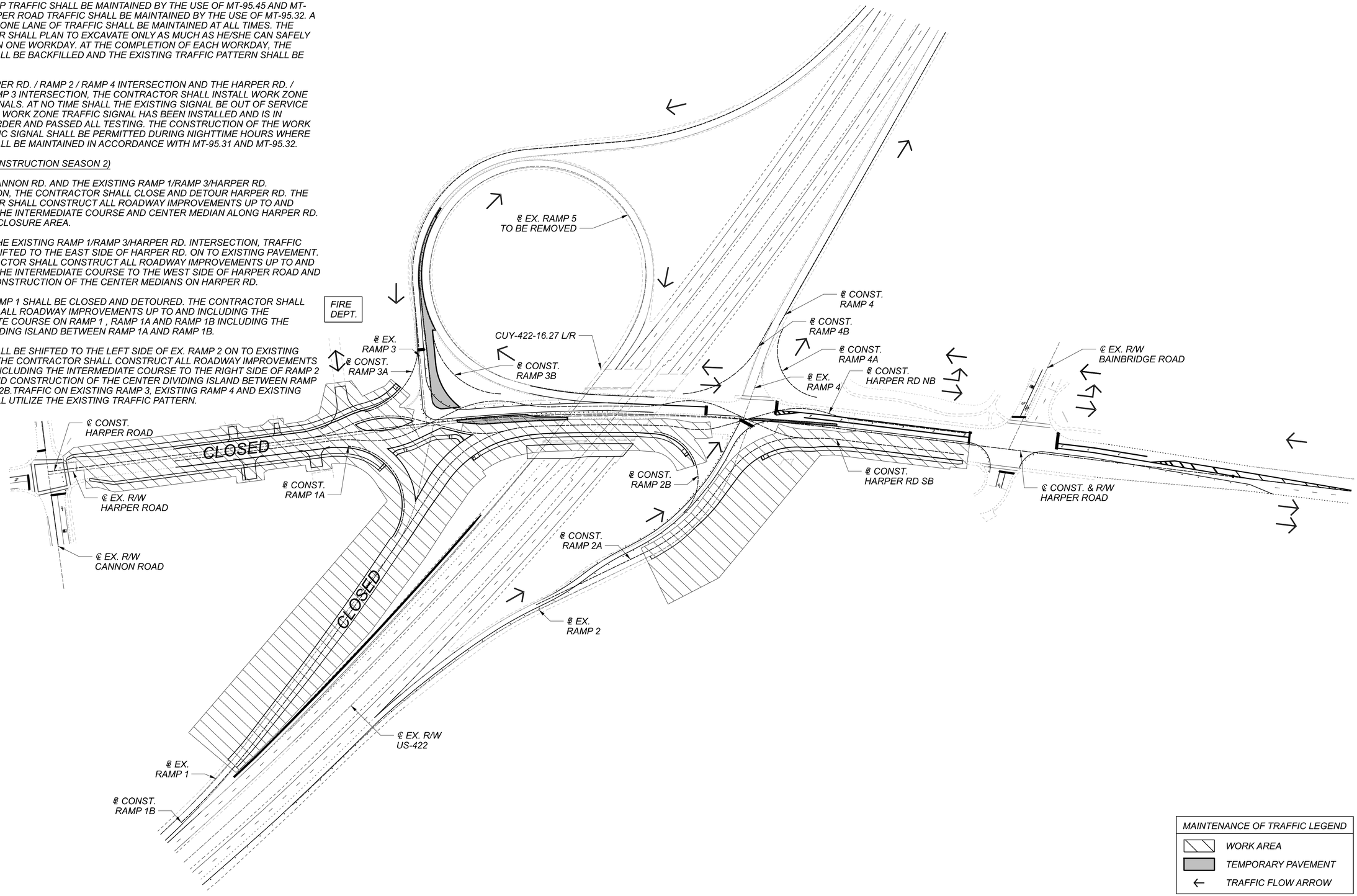
PHASE 1 (CONSTRUCTION SEASON 2)

BETWEEN CANNON RD. AND THE EXISTING RAMP 1/RAMP 3/HARPER RD. INTERSECTION, THE CONTRACTOR SHALL CLOSE AND DETOUR HARPER RD. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE AND CENTER MEDIAN ALONG HARPER RD. WITHIN THE CLOSURE AREA.

SOUTH OF THE EXISTING RAMP 1/RAMP 3/HARPER RD. INTERSECTION, TRAFFIC SHALL BE SHIFTED TO THE EAST SIDE OF HARPER RD. ON TO EXISTING PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE TO THE WEST SIDE OF HARPER ROAD AND SUSPEND CONSTRUCTION OF THE CENTER MEDIANS ON HARPER RD.

EXISTING RAMP 1 SHALL BE CLOSED AND DETOURED. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE ON RAMP 1 , RAMP 1A AND RAMP 1B INCLUDING THE CENTER DIVIDING ISLAND BETWEEN RAMP 1A AND RAMP 1B.

TRAFFIC SHALL BE SHIFTED TO THE LEFT SIDE OF EX. RAMP 2 ON TO EXISTING PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE TO THE RIGHT SIDE OF RAMP 2 AND SUSPEND CONSTRUCTION OF THE CENTER DIVIDING ISLAND BETWEEN RAMP 2 AND RAMP 2B.TRAFFIC ON EXISTING RAMP 3, EXISTING RAMP 4 AND EXISTING RAMP 5 SHALL UTILIZE THE EXISTING TRAFFIC PATTERN.



MAINTENANCE OF TRAFFIC LEGEND

- WORK AREA
- TEMPORARY PAVEMENT
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 1

CUY-422-16.20 (HARPER ROAD)

MODEL: Schematic-Phase 1 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:25 PM USER: aford
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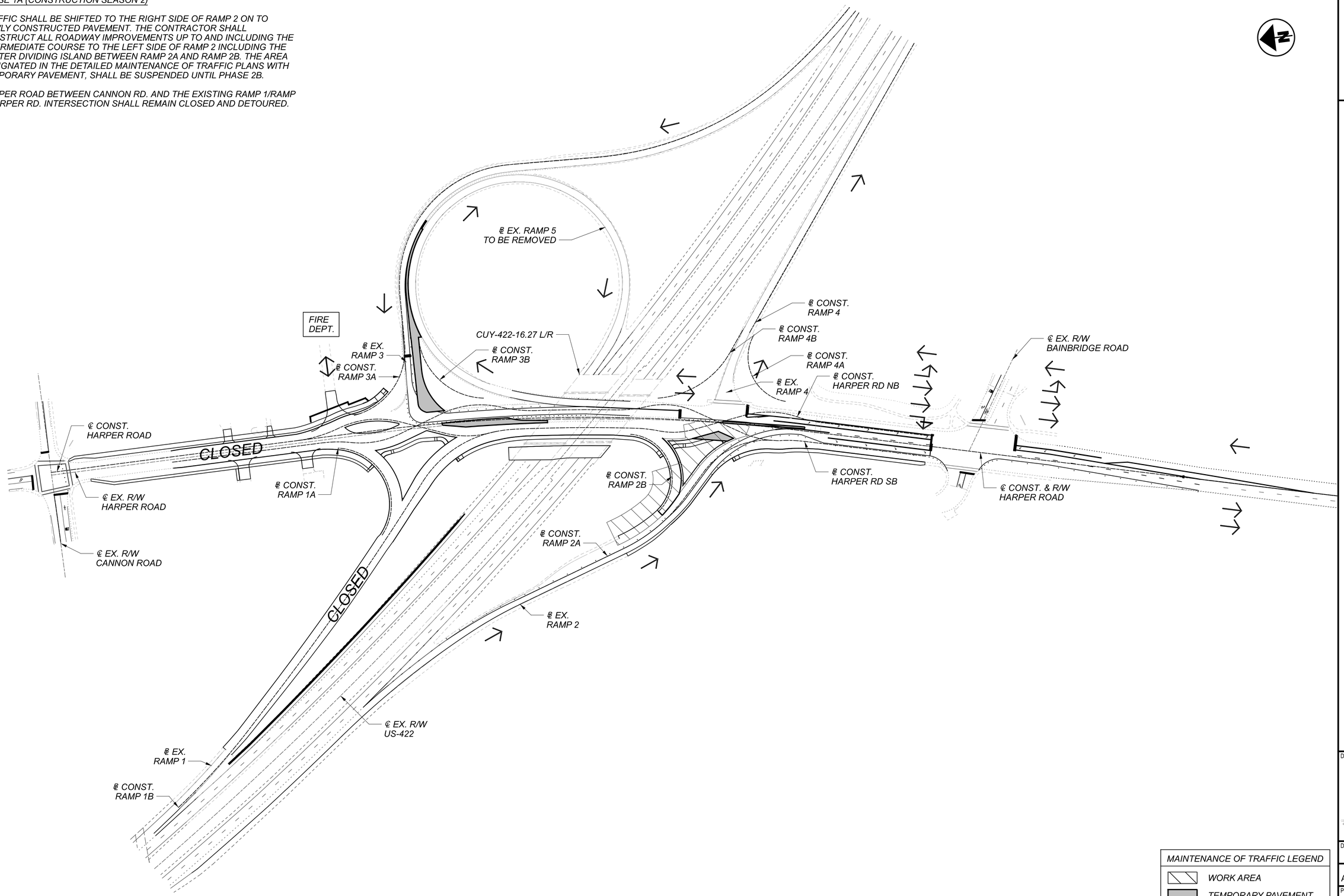
DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 59 TOTAL 481

PHASE 1A (CONSTRUCTION SEASON 2)

TRAFFIC SHALL BE SHIFTED TO THE RIGHT SIDE OF RAMP 2 ON TO NEWLY CONSTRUCTED PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE TO THE LEFT SIDE OF RAMP 2 INCLUDING THE CENTER DIVIDING ISLAND BETWEEN RAMP 2A AND RAMP 2B. THE AREA DESIGNATED IN THE DETAILED MAINTENANCE OF TRAFFIC PLANS WITH TEMPORARY PAVEMENT, SHALL BE SUSPENDED UNTIL PHASE 2B.

HARPER ROAD BETWEEN CANNON RD. AND THE EXISTING RAMP 1/RAMP 3/HARPER RD. INTERSECTION SHALL REMAIN CLOSED AND DETOURED.



HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 1A

MAINTENANCE OF TRAFFIC LEGEND
- WORK AREA
- TEMPORARY PAVEMENT
- ← TRAFFIC FLOW ARROW

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MODEL: Schematic-Phase 1A PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:31 PM USER: aford
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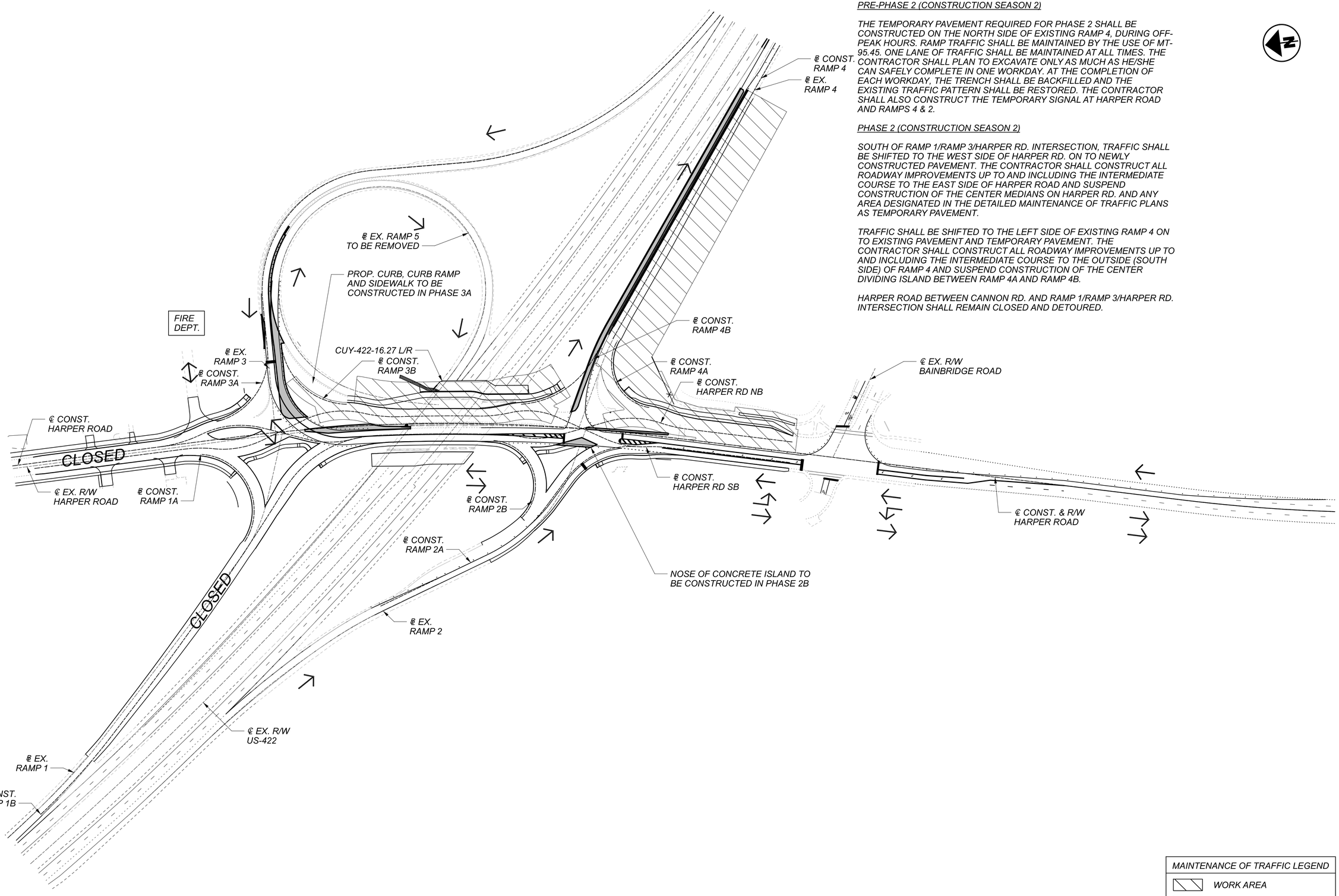

PRE-PHASE 2 (CONSTRUCTION SEASON 2)

THE TEMPORARY PAVEMENT REQUIRED FOR PHASE 2 SHALL BE CONSTRUCTED ON THE NORTH SIDE OF EXISTING RAMP 4, DURING OFF-PEAK HOURS. RAMP TRAFFIC SHALL BE MAINTAINED BY THE USE OF MT-95.45. ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PLAN TO EXCAVATE ONLY AS MUCH AS HE/SHE CAN SAFELY COMPLETE IN ONE WORKDAY. AT THE COMPLETION OF EACH WORKDAY, THE TRENCH SHALL BE BACKFILLED AND THE EXISTING TRAFFIC PATTERN SHALL BE RESTORED. THE CONTRACTOR SHALL ALSO CONSTRUCT THE TEMPORARY SIGNAL AT HARPER ROAD AND RAMPS 4 & 2.

PHASE 2 (CONSTRUCTION SEASON 2)

SOUTH OF RAMP 1/RAMP 3/HARPER RD. INTERSECTION, TRAFFIC SHALL BE SHIFTED TO THE WEST SIDE OF HARPER RD. ON TO NEWLY CONSTRUCTED PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE TO THE EAST SIDE OF HARPER ROAD AND SUSPEND CONSTRUCTION OF THE CENTER MEDIANS ON HARPER RD. AND ANY AREA DESIGNATED IN THE DETAILED MAINTENANCE OF TRAFFIC PLANS AS TEMPORARY PAVEMENT.

TRAFFIC SHALL BE SHIFTED TO THE LEFT SIDE OF EXISTING RAMP 4 ON TO EXISTING PAVEMENT AND TEMPORARY PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE TO THE OUTSIDE (SOUTH SIDE) OF RAMP 4 AND SUSPEND CONSTRUCTION OF THE CENTER DIVIDING ISLAND BETWEEN RAMP 4A AND RAMP 4B.

HARPER ROAD BETWEEN CANNON RD. AND RAMP 1/RAMP 3/HARPER RD. INTERSECTION SHALL REMAIN CLOSED AND DETOURED.

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 2

MAINTENANCE OF TRAFFIC LEGEND

- *WORK AREA*
- *TEMPORARY PAVEMENT*
- ← *TRAFFIC FLOW ARROW*

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CUY-422-16.20 (HARPER ROAD)

MODEL: Schematic-Phase 2 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:35 PM USER: aford
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PRE-PHASE 2A (CONSTRUCTION SEASON 2)

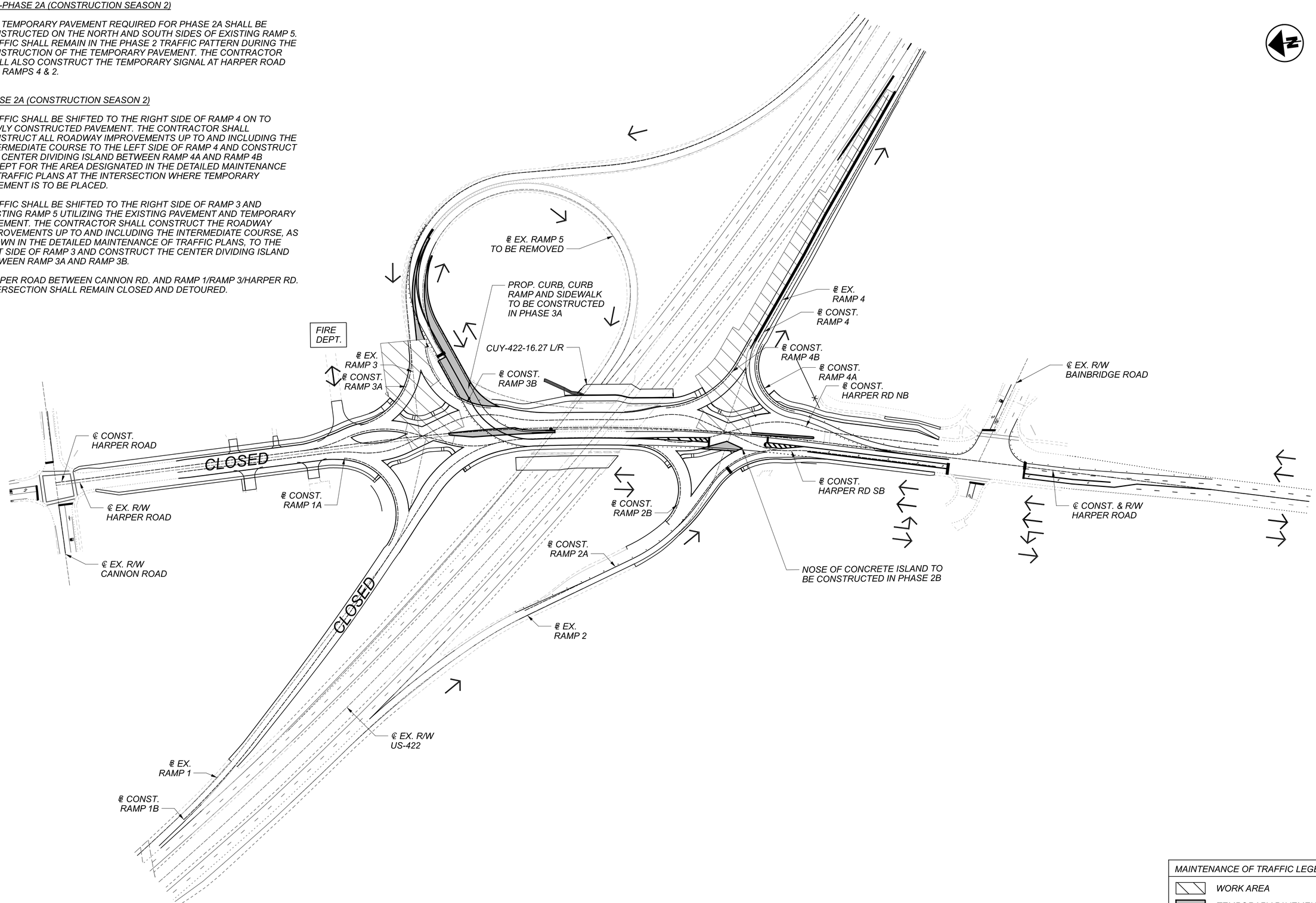
THE TEMPORARY PAVEMENT REQUIRED FOR PHASE 2A SHALL BE CONSTRUCTED ON THE NORTH AND SOUTH SIDES OF EXISTING RAMP 5. TRAFFIC SHALL REMAIN IN THE PHASE 2 TRAFFIC PATTERN DURING THE CONSTRUCTION OF THE TEMPORARY PAVEMENT. THE CONTRACTOR SHALL ALSO CONSTRUCT THE TEMPORARY SIGNAL AT HARPER ROAD AND RAMPS 4 & 2.

PHASE 2A (CONSTRUCTION SEASON 2)

TRAFFIC SHALL BE SHIFTED TO THE RIGHT SIDE OF RAMP 4 ON TO NEWLY CONSTRUCTED PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE TO THE LEFT SIDE OF RAMP 4 AND CONSTRUCT THE CENTER DIVIDING ISLAND BETWEEN RAMP 4A AND RAMP 4B EXCEPT FOR THE AREA DESIGNATED IN THE DETAILED MAINTENANCE OF TRAFFIC PLANS AT THE INTERSECTION WHERE TEMPORARY PAVEMENT IS TO BE PLACED.

TRAFFIC SHALL BE SHIFTED TO THE RIGHT SIDE OF RAMP 3 AND EXISTING RAMP 5 UTILIZING THE EXISTING PAVEMENT AND TEMPORARY PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT THE ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE, AS SHOWN IN THE DETAILED MAINTENANCE OF TRAFFIC PLANS, TO THE LEFT SIDE OF RAMP 3 AND CONSTRUCT THE CENTER DIVIDING ISLAND BETWEEN RAMP 3A AND RAMP 3B.

HARPER ROAD BETWEEN CANNON RD. AND RAMP 1/RAMP 3/HARPER RD. INTERSECTION SHALL REMAIN CLOSED AND DETOURED.



MAINTENANCE OF TRAFFIC LEGEND

- WORK AREA
- TEMPORARY PAVEMENT
- ← TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 2A

CUY-422-16.20 (HARPER ROAD)

MODEL: Schematic-Phase 2A PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:38 PM USER: aford
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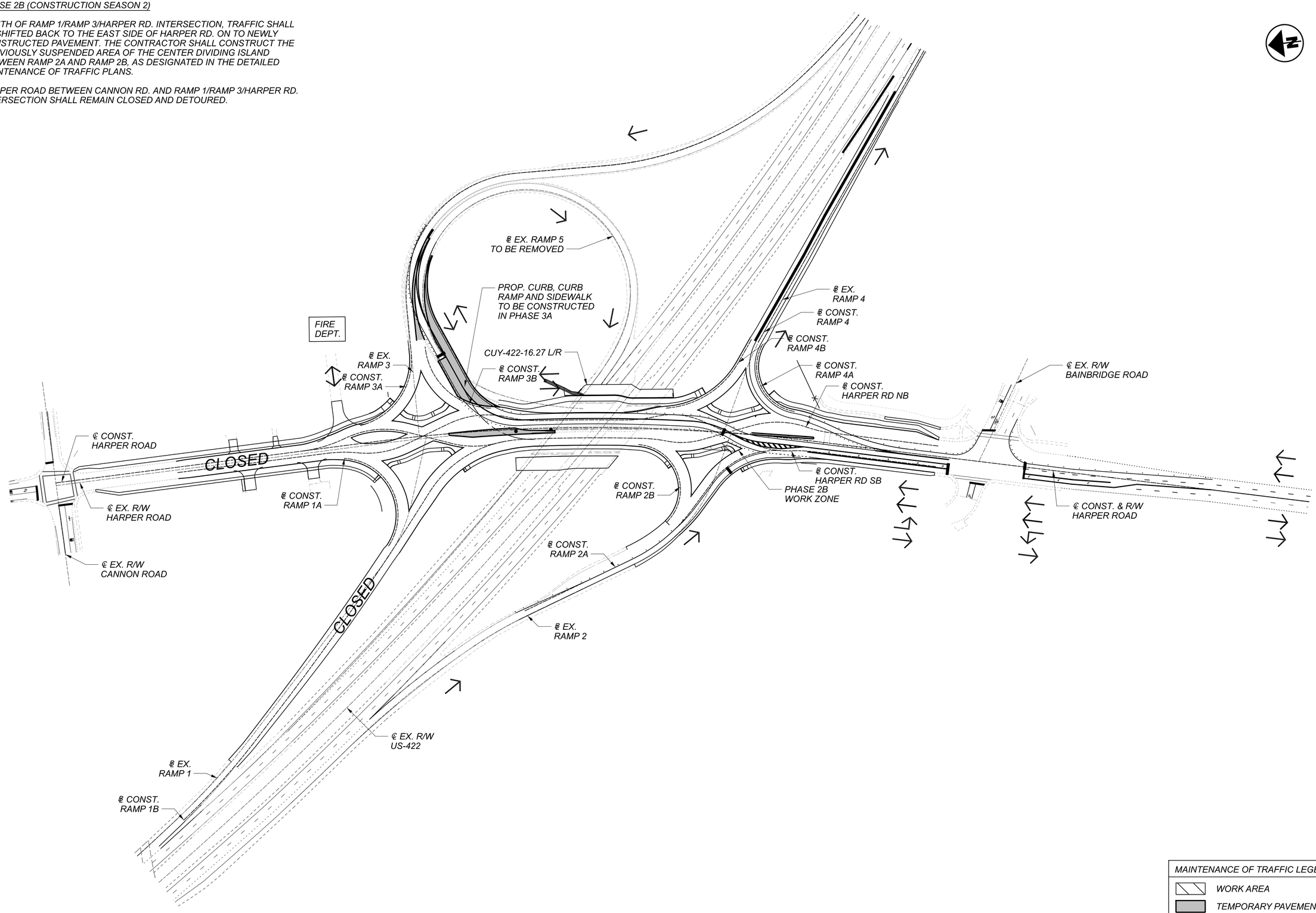
PROJECT ID	113889
SHEET	62
TOTAL	481

PHASE 2B (CONSTRUCTION SEASON 2)

SOUTH OF RAMP 1/RAMP 3/HARPER RD. INTERSECTION, TRAFFIC SHALL BE SHIFTED BACK TO THE EAST SIDE OF HARPER RD. ON TO NEWLY CONSTRUCTED PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT THE PREVIOUSLY SUSPENDED AREA OF THE CENTER DIVIDING ISLAND BETWEEN RAMP 2A AND RAMP 2B, AS DESIGNATED IN THE DETAILED MAINTENANCE OF TRAFFIC PLANS.

HARPER ROAD BETWEEN CANNON RD. AND RAMP 1/RAMP 3/HARPER RD. INTERSECTION SHALL REMAIN CLOSED AND DETOURED.



HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 2B

MAINTENANCE OF TRAFFIC LEGEND

- *WORK AREA*
- *TEMPORARY PAVEMENT*
- ← *TRAFFIC FLOW ARROW*

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PROJECT ID 113889
SHEET 63 TOTAL 481

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MODEL: Schematic-Phase 2B PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:40 PM USER: aford
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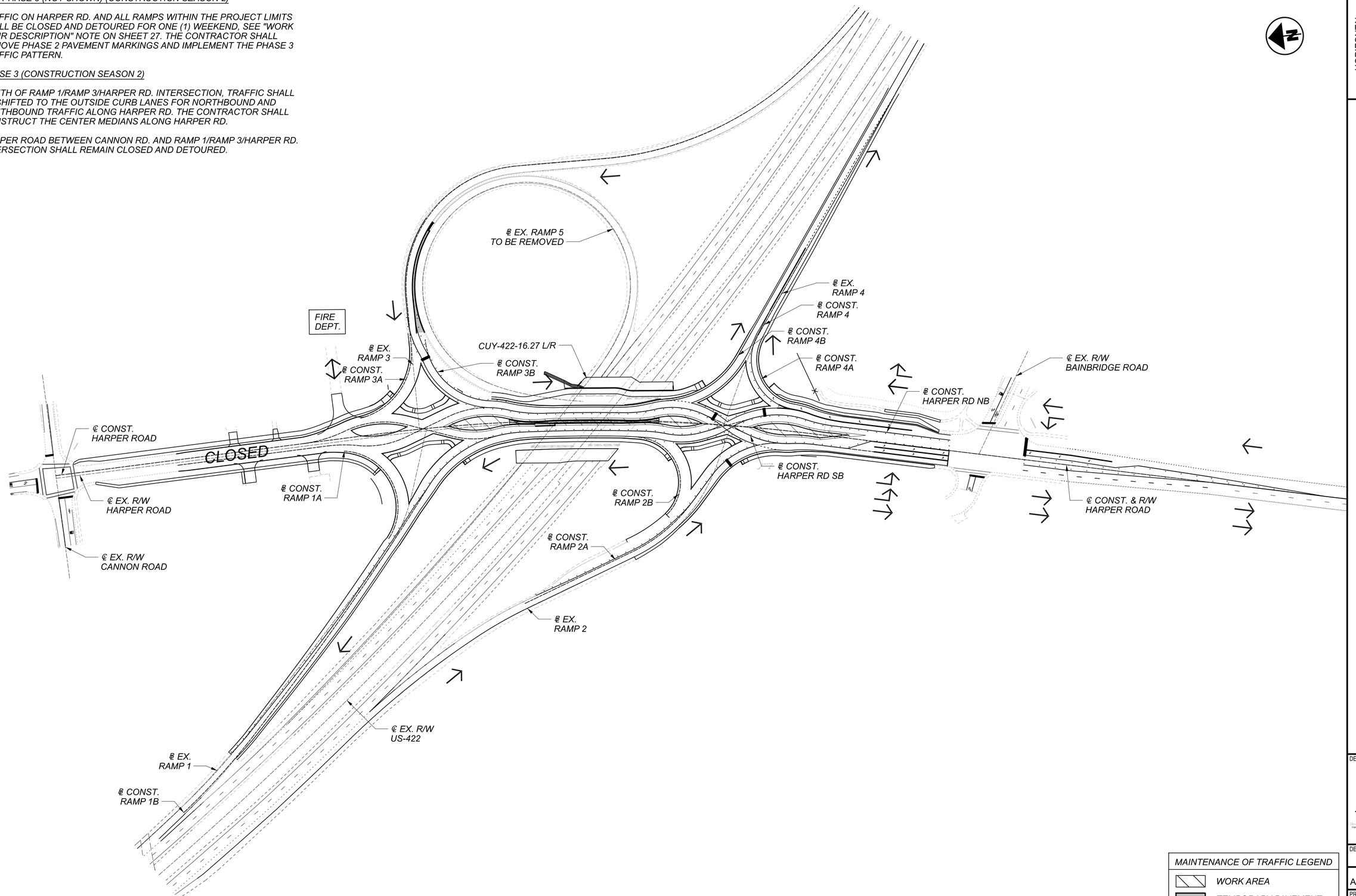
PRE-PHASE 3 (NOT SHOWN) (CONSTRUCTION SEASON 2)

TRAFFIC ON HARPER RD. AND ALL RAMPS WITHIN THE PROJECT LIMITS SHALL BE CLOSED AND DETOURED FOR ONE (1) WEEKEND, SEE "WORK HOUR DESCRIPTION" NOTE ON SHEET 27. THE CONTRACTOR SHALL REMOVE PHASE 2 PAVEMENT MARKINGS AND IMPLEMENT THE PHASE 3 TRAFFIC PATTERN.

PHASE 3 (CONSTRUCTION SEASON 2)

SOUTH OF RAMP 1/RAMP 3/HARPER RD. INTERSECTION, TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE CURB LANES FOR NORTHBOUND AND SOUTHBOUND TRAFFIC ALONG HARPER RD. THE CONTRACTOR SHALL CONSTRUCT THE CENTER MEDIANS ALONG HARPER RD.

HARPER ROAD BETWEEN CANNON RD. AND RAMP 1/RAMP 3/HARPER RD. INTERSECTION SHALL REMAIN CLOSED AND DETOURED.



HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 3

MAINTENANCE OF TRAFFIC LEGEND

- WORK AREA
- TEMPORARY PAVEMENT
- TRAFFIC FLOW ARROW

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PROJECT ID	113889
SHEET	64
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: Schematic-Phase 3 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:45 PM USER: aford
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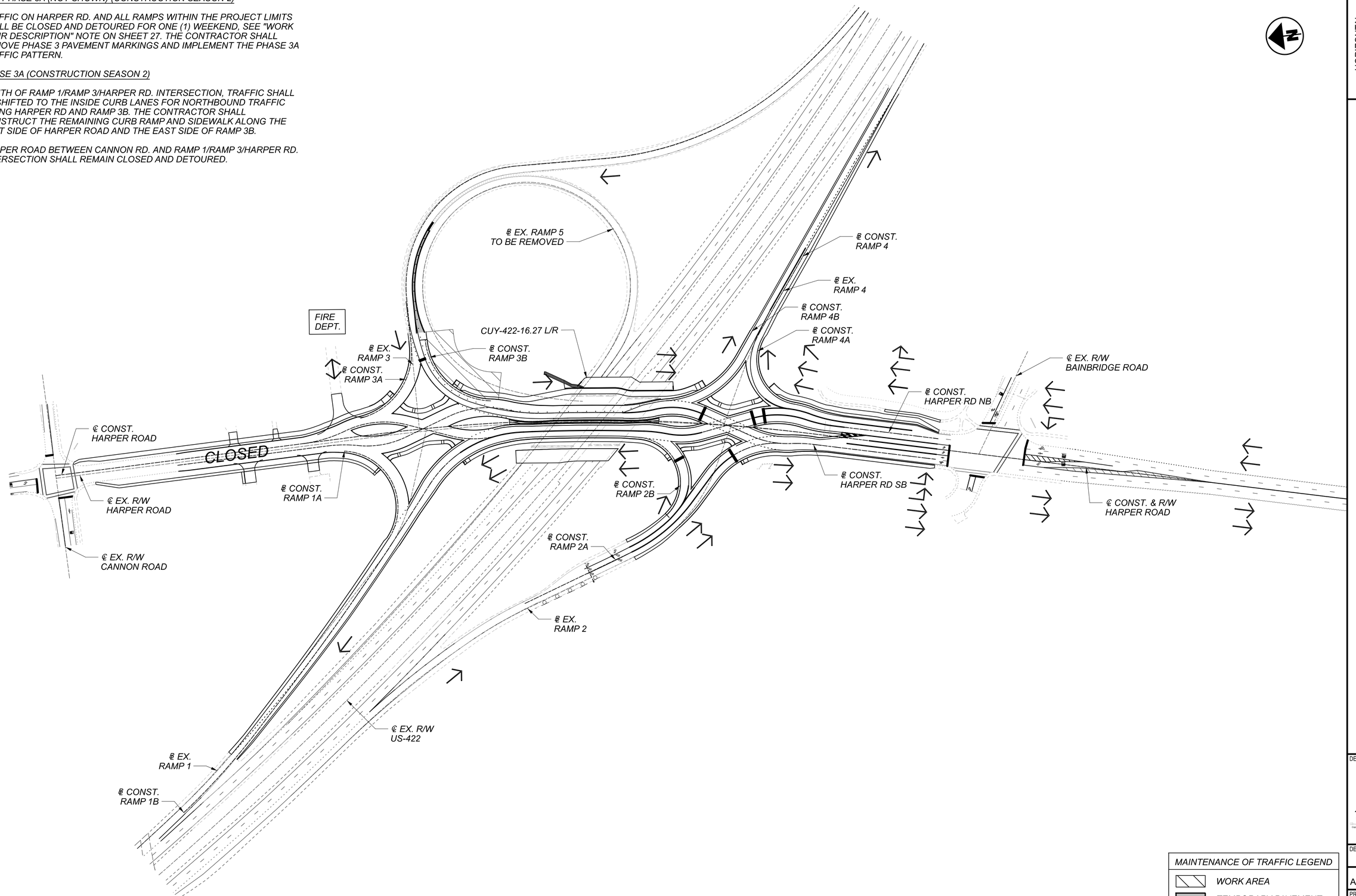
PRE-PHASE 3A (NOT SHOWN) (CONSTRUCTION SEASON 2)

TRAFFIC ON HARPER RD. AND ALL RAMPS WITHIN THE PROJECT LIMITS SHALL BE CLOSED AND DETOURED FOR ONE (1) WEEKEND, SEE "WORK HOUR DESCRIPTION" NOTE ON SHEET 27. THE CONTRACTOR SHALL REMOVE PHASE 3 PAVEMENT MARKINGS AND IMPLEMENT THE PHASE 3A TRAFFIC PATTERN.

PHASE 3A (CONSTRUCTION SEASON 2)

SOUTH OF RAMP 1/RAMP 3/HARPER RD. INTERSECTION, TRAFFIC SHALL BE SHIFTED TO THE INSIDE CURB LANES FOR NORTHBOUND TRAFFIC ALONG HARPER RD AND RAMP 3B. THE CONTRACTOR SHALL CONSTRUCT THE REMAINING CURB RAMP AND SIDEWALK ALONG THE EAST SIDE OF HARPER ROAD AND THE EAST SIDE OF RAMP 3B.

HARPER ROAD BETWEEN CANNON RD. AND RAMP 1/RAMP 3/HARPER RD. INTERSECTION SHALL REMAIN CLOSED AND DETOURED.



MAINTENANCE OF TRAFFIC LEGEND

- WORK AREA
- TEMPORARY PAVEMENT
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 3A

CUY-422-16.20 (HARPER ROAD)

MODEL: Schematic-Phase 3A PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:47 PM USER: aford
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PROJECT ID 113889
SHEET 65 TOTAL 481

PRE-PHASE 4 (NOT SHOWN) (CONSTRUCTION SEASON 2)

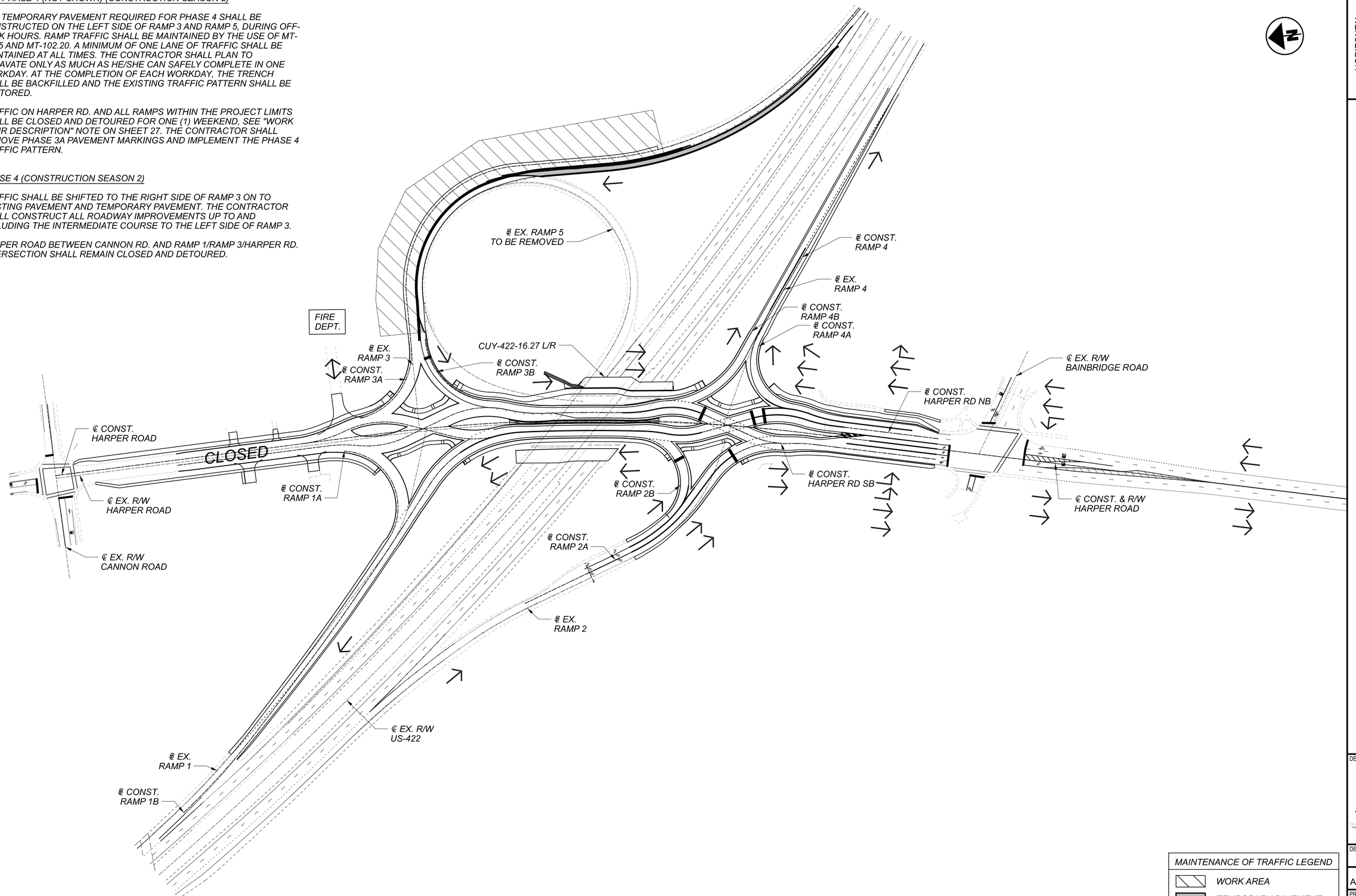
THE TEMPORARY PAVEMENT REQUIRED FOR PHASE 4 SHALL BE CONSTRUCTED ON THE LEFT SIDE OF RAMP 3 AND RAMP 5, DURING OFF-PEAK HOURS. RAMP TRAFFIC SHALL BE MAINTAINED BY THE USE OF MT-95.45 AND MT-102.20. A MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PLAN TO EXCAVATE ONLY AS MUCH AS HE/SHE CAN SAFELY COMPLETE IN ONE WORKDAY. AT THE COMPLETION OF EACH WORKDAY, THE TRENCH SHALL BE BACKFILLED AND THE EXISTING TRAFFIC PATTERN SHALL BE RESTORED.

TRAFFIC ON HARPER RD. AND ALL RAMPS WITHIN THE PROJECT LIMITS SHALL BE CLOSED AND DETOURED FOR ONE (1) WEEKEND, SEE "WORK HOUR DESCRIPTION" NOTE ON SHEET 27. THE CONTRACTOR SHALL REMOVE PHASE 3A PAVEMENT MARKINGS AND IMPLEMENT THE PHASE 4 TRAFFIC PATTERN.

PHASE 4 (CONSTRUCTION SEASON 2)

TRAFFIC SHALL BE SHIFTED TO THE RIGHT SIDE OF RAMP 3 ON TO EXISTING PAVEMENT AND TEMPORARY PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE TO THE LEFT SIDE OF RAMP 3.

HARPER ROAD BETWEEN CANNON RD. AND RAMP 1/RAMP 3/HARPER RD. INTERSECTION SHALL REMAIN CLOSED AND DETOURED.



MAINTENANCE OF TRAFFIC LEGEND

- WORK AREA
- TEMPORARY PAVEMENT
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 4

CUY-422-16.20 (HARPER ROAD)

MODEL: Schematic-Phase 4 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:50 PM USER: aford
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SHEET 66 TOTAL 481

PHASE 4A (CONSTRUCTION SEASON 2)

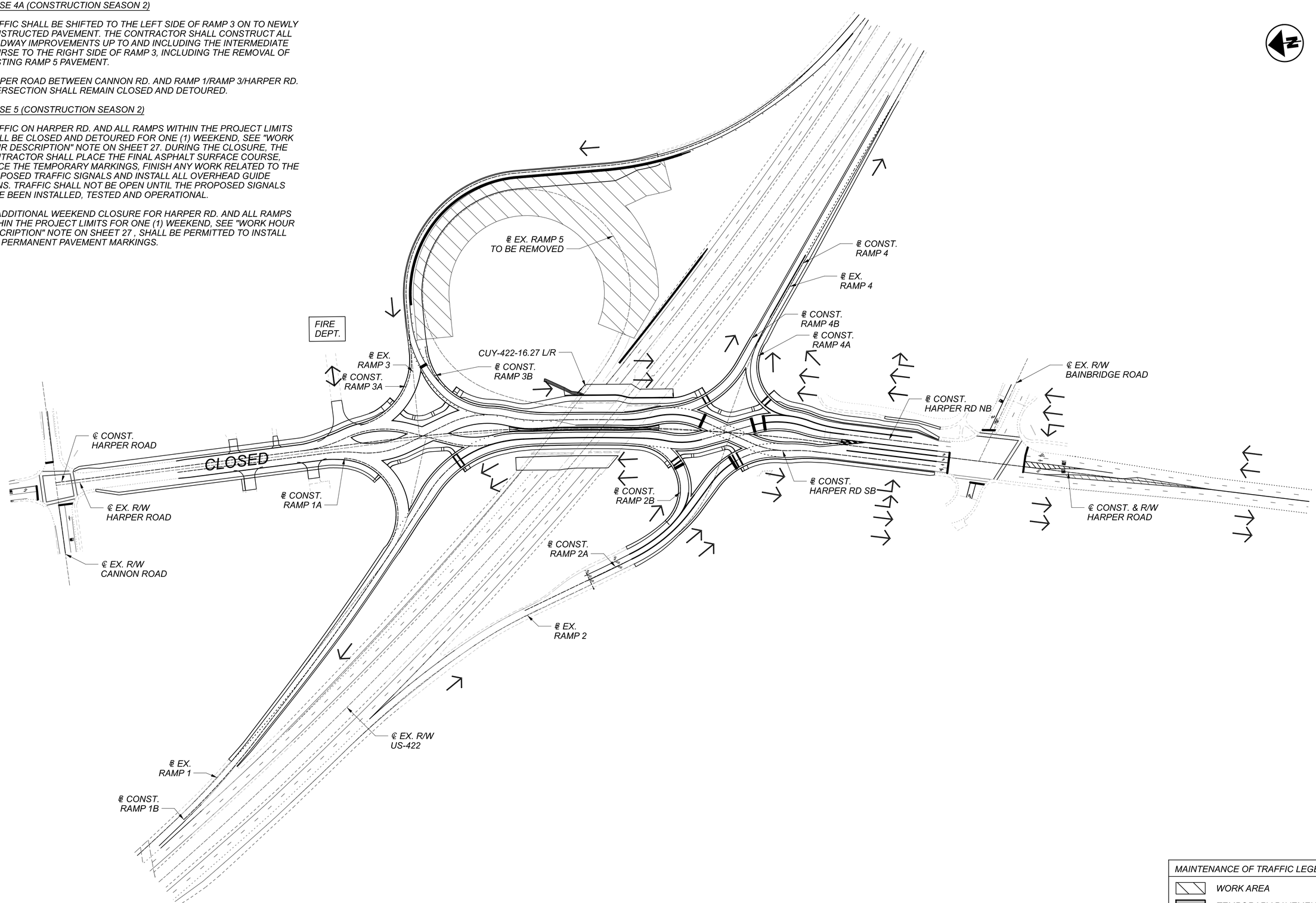
TRAFFIC SHALL BE SHIFTED TO THE LEFT SIDE OF RAMP 3 ON TO NEWLY CONSTRUCTED PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT ALL ROADWAY IMPROVEMENTS UP TO AND INCLUDING THE INTERMEDIATE COURSE TO THE RIGHT SIDE OF RAMP 3, INCLUDING THE REMOVAL OF EXISTING RAMP 5 PAVEMENT.

HARPER ROAD BETWEEN CANNON RD. AND RAMP 1/RAMP 3/HARPER RD. INTERSECTION SHALL REMAIN CLOSED AND DETOURED.

PHASE 5 (CONSTRUCTION SEASON 2)

TRAFFIC ON HARPER RD. AND ALL RAMPS WITHIN THE PROJECT LIMITS SHALL BE CLOSED AND DETOURED FOR ONE (1) WEEKEND, SEE "WORK HOUR DESCRIPTION" NOTE ON SHEET 27. DURING THE CLOSURE, THE CONTRACTOR SHALL PLACE THE FINAL ASPHALT SURFACE COURSE, PLACE THE TEMPORARY MARKINGS, FINISH ANY WORK RELATED TO THE PROPOSED TRAFFIC SIGNALS AND INSTALL ALL OVERHEAD GUIDE SIGNS. TRAFFIC SHALL NOT BE OPEN UNTIL THE PROPOSED SIGNALS HAVE BEEN INSTALLED, TESTED AND OPERATIONAL.

AN ADDITIONAL WEEKEND CLOSURE FOR HARPER RD. AND ALL RAMPS WITHIN THE PROJECT LIMITS FOR ONE (1) WEEKEND, SEE "WORK HOUR DESCRIPTION" NOTE ON SHEET 27 , SHALL BE PERMITTED TO INSTALL THE PERMANENT PAVEMENT MARKINGS.



MAINTENANCE OF TRAFFIC LEGEND

- WORK AREA
- TEMPORARY PAVEMENT
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN - PHASE 4A

CUY-422-16.20 (HARPER ROAD)

MODEL: Schematic-Phase 4A PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:19:52 PM USER: aford
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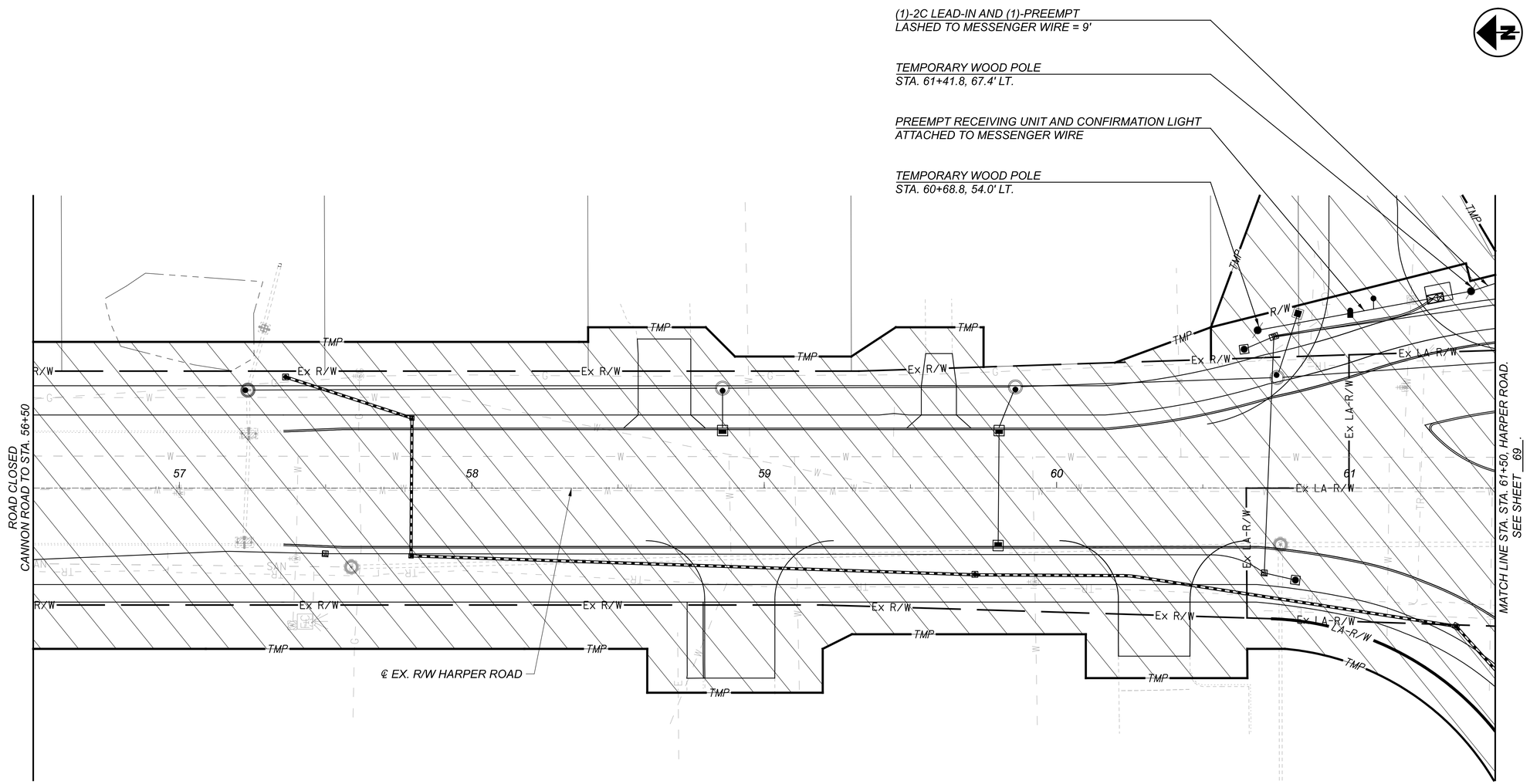

MAINTENANCE OF TRAFFIC LEGEND

- WORK AREA
- PAVEMENT FOR MAINTAINING TRAFFIC
- TRAFFIC FLOW
- SIGN SUPPORT
- TYPE 3 BARRICADE
- CONSTRUCTION DRUM SPACED AT 35' C/C UNLESS NOTED OTHERWISE (10' ON TAPER)
- MAINTENANCE OF TRAFFIC SIGN
- EXISTING SIGN OR PROPOSED SIGN
- WORK ZONE IMPACT ATTENUATOR
- ARROW BOARD
- VEHICLE DETECTION ZONE
- PREEMPTION RECEIVING UNIT
- CONFIRMATION LIGHT
- TEMPORARY WOOD POLE
- STOP-LINE RADAR DETECTION UNIT
- EW — WORK ZONE EDGE LINE, WHITE
- EY — WORK ZONE EDGE LINE, YELLOW
- LL — WORK ZONE LANE LINE
- CDS — WORK ZONE CENTER LINE, DOUBLE SOLID
- CH — WORK ZONE CHANNELIZING LINE
- SL — WORK ZONE STOP LINE
- TY — WORK ZONE TRANSVERSE/DIAGONAL LINE, YELLOW
- IY — WORK ZONE ISLAND MARKING, YELLOW
- LA — WORK ZONE ARROW
- DW — WORK ZONE DOTTED LINE, WHITE
- DY — WORK ZONE DOTTED LINE, YELLOW
- PB — PORTABLE BARRIER
- EX — EXISTING PAVEMENT MARKING TO REMAIN FROM THE PREVIOUS PHASE

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
HARPER RD. - STA. 56+50 TO 61+50

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MPOII PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:21:26 PM USER: aford
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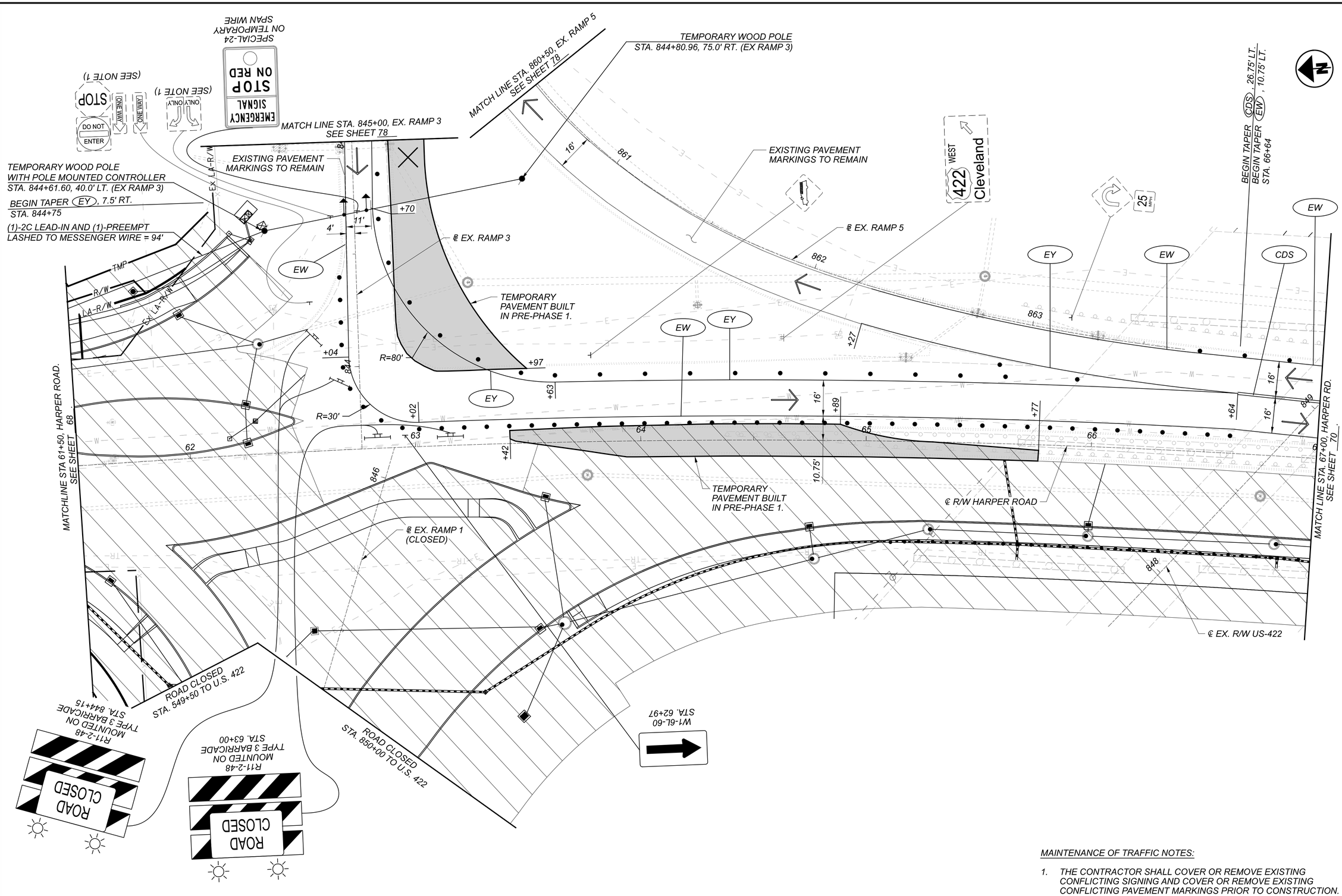
PROJECT ID 113889
SHEET 68 TOTAL 481



MAINTENANCE OF TRAFFIC PLAN - PHASE 1
HARPER RD. - STA. 61+50 TO STA. 67+00

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 48 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

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PROJECT ID	
113889	
SHEET	TOTAL
69	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP001 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:21:33 PM USER: aford
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CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_MP002 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:21:36 PM USER: aford
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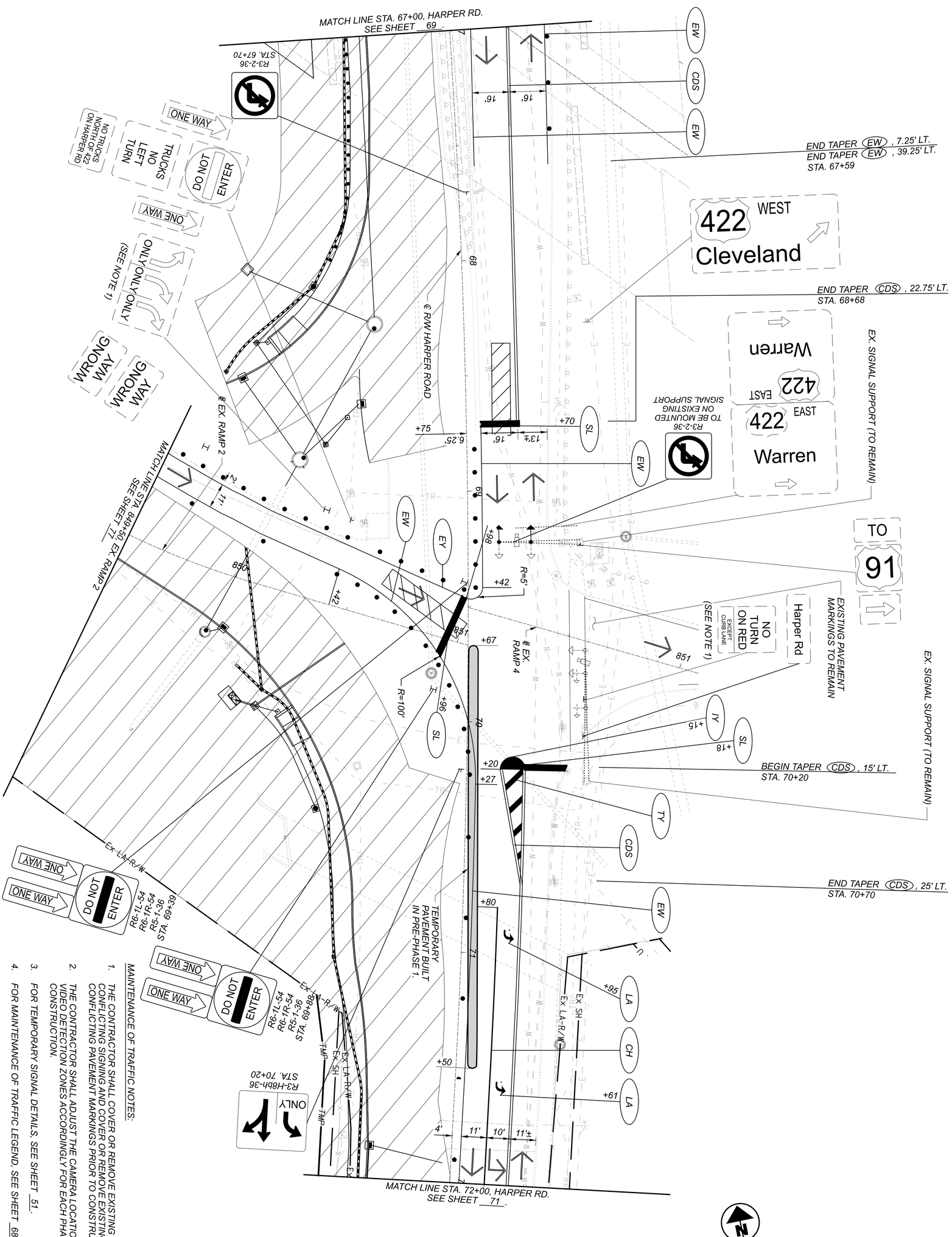


MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL ADJUST THE CAMERA LOCATION AND VIDEO DETECTION ZONES ACCORDINGLY FOR EACH PHASE OF CONSTRUCTION.
3. FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 51.
4. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

DESIGN AGENCY: GPD GROUP

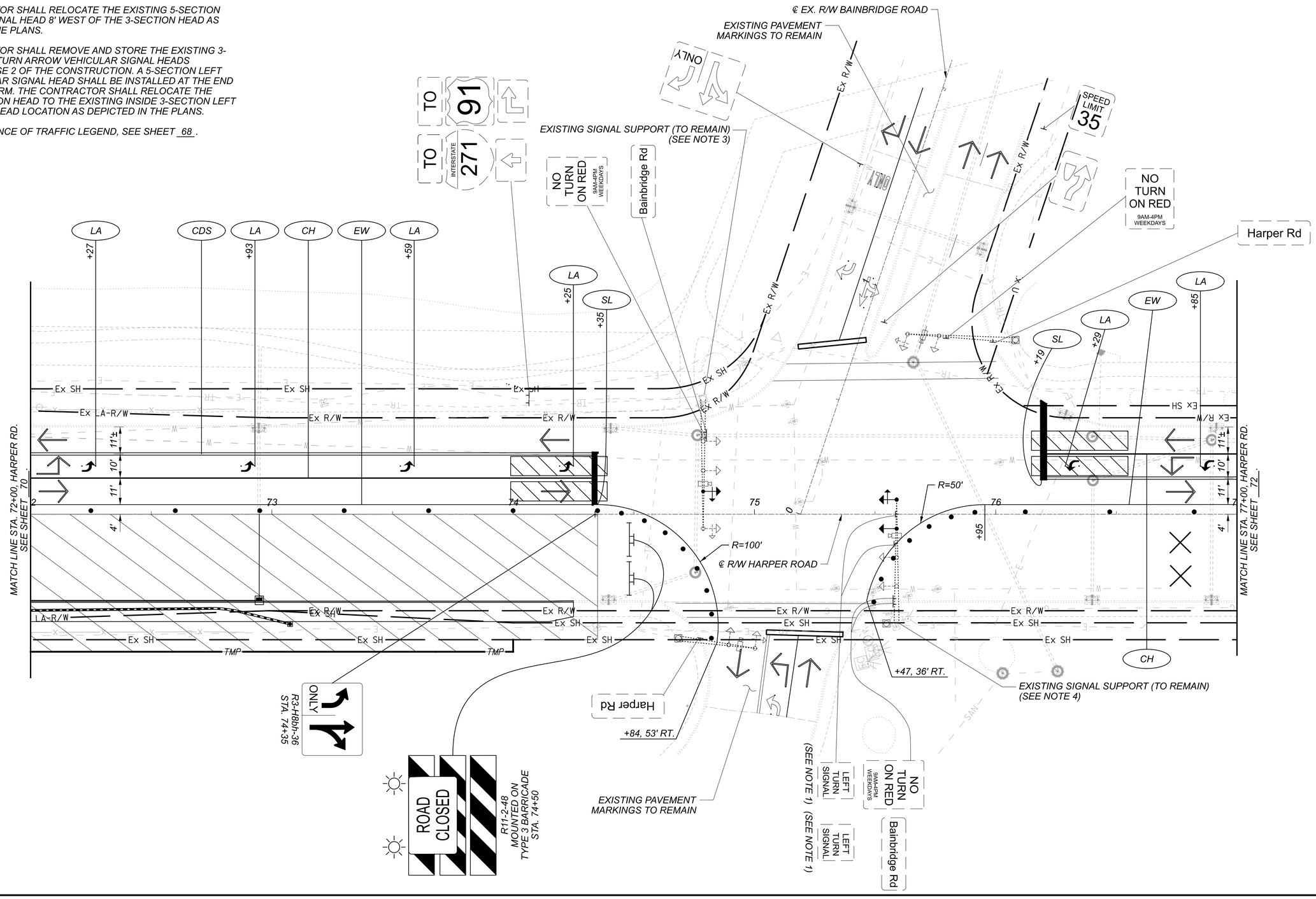
DESIGNER: KRM
REVIEWER: AKF 6-8-23
PROJECT ID: 113889
SHEET: 70 TOTAL: 481

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
HARPER RD. - STA. 67+00 TO STA. 72+00

HORIZONTAL SCALE IN FEET
0 20
10 40

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *THE CONTRACTOR SHALL ADJUST THE CAMERA LOCATION AND VIDEO DETECTION ZONES ACCORDINGLY FOR EACH PHASE OF CONSTRUCTION.*
3. *THE CONTRACTOR SHALL RELOCATE THE EXISTING 5-SECTION VEHICULAR SIGNAL HEAD 8' WEST OF THE 3-SECTION HEAD AS DEPICTED IN THE PLANS.*
4. *THE CONTRACTOR SHALL REMOVE AND STORE THE EXISTING 3-SECTION LEFT TURN ARROW VEHICULAR SIGNAL HEADS THROUGH PHASE 2 OF THE CONSTRUCTION. A 5-SECTION LEFT TURN VEHICULAR SIGNAL HEAD SHALL BE INSTALLED AT THE END OF THE MAST ARM. THE CONTRACTOR SHALL RELOCATE THE INSIDE 3-SECTION HEAD TO THE EXISTING INSIDE 3-SECTION LEFT TURN ARROW HEAD LOCATION AS DEPICTED IN THE PLANS.*
5. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 1 HARPER RD. - STA. 72+00 TO STA. 77+00

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP003 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:16:40 PM USER: dford
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DESIGN AGENCY
GPD GROUP
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	71
TOTAL	481

MODEL: ll3889_MP004 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:2k:42 PM USER: aford
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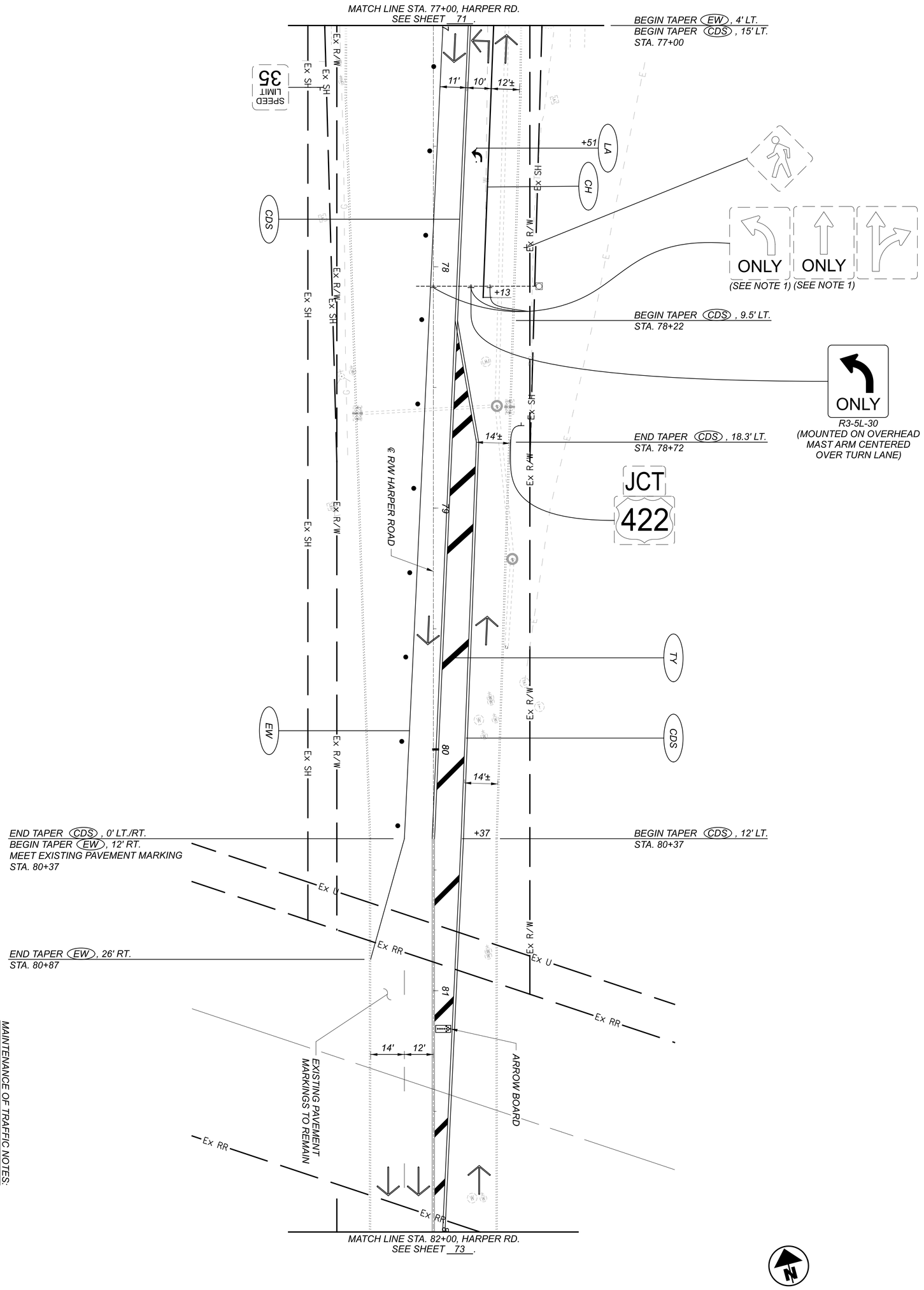

MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .

SHEET	TOTAL
72	481

PROJECT ID 113889

REVIEWER AKF 6-8-23

DESIGNER KRM

GPD GROUP

DESIGN AGENCY

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
HARPER RD. - STA. 77+00 TO STA. 82+00

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: II3889_MP005 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:2k45 PM USER: aford
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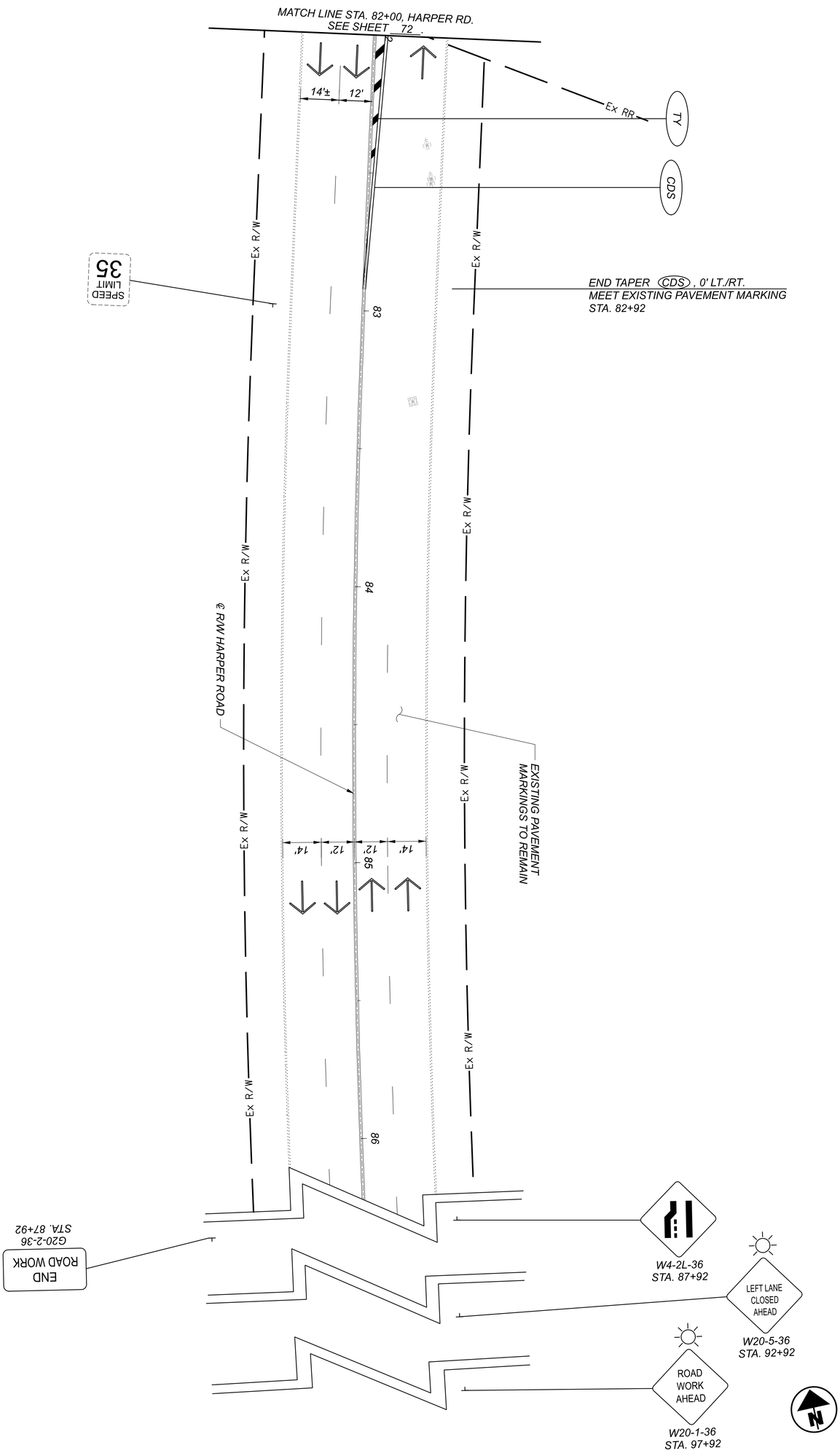

MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .

DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 73 TOTAL 481
DESIGN AGENCY GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
HARPER RD. - STA. 82+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: ll3889_MP006 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:2l:48 PM USER: aford
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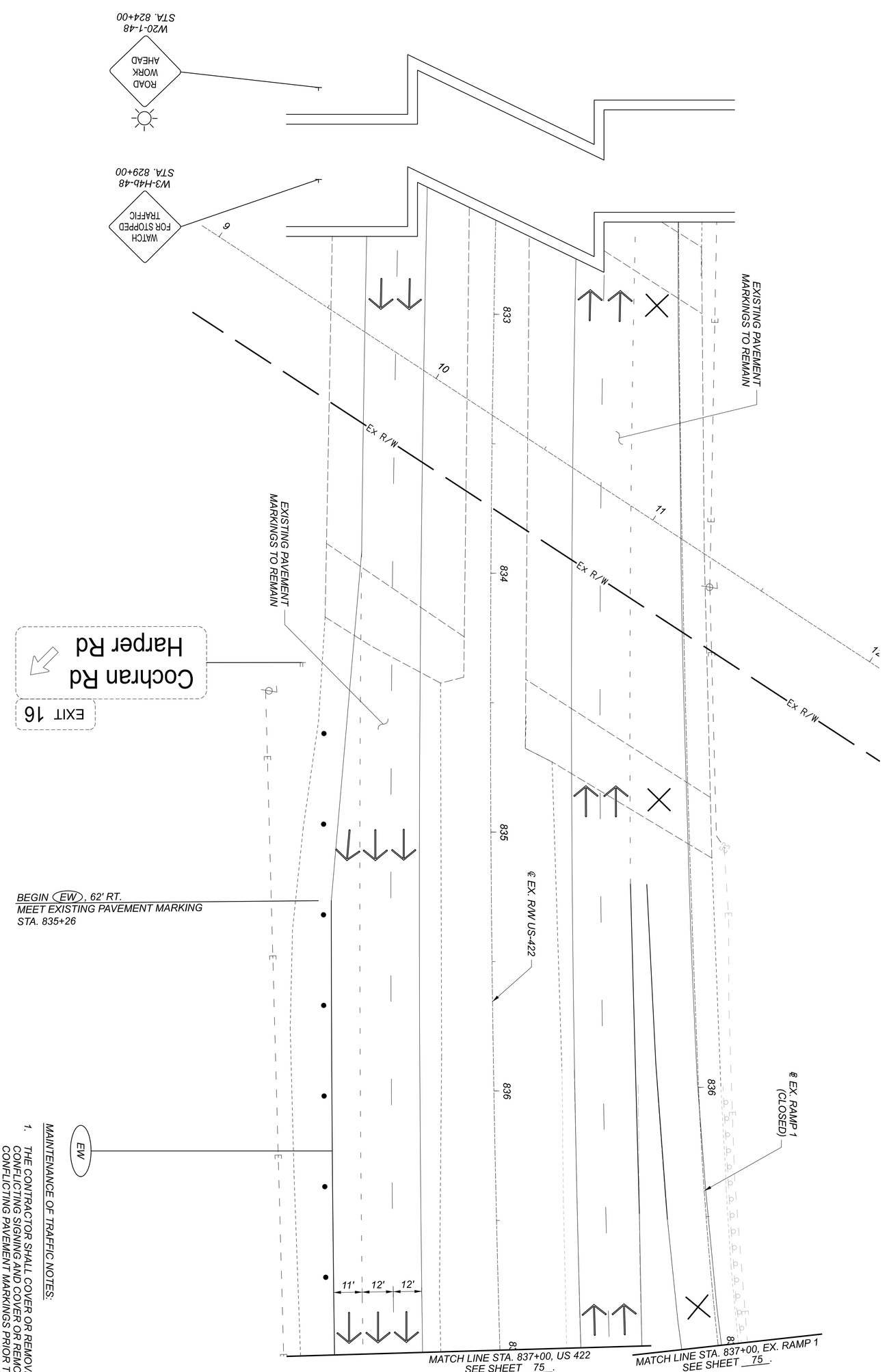


MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .

SHEET	TOTAL
74	481

PROJECT ID 113889

DESIGNER KRM

REVIEWER AKF 6-8-23

DESIGN AGENCY GPD GROUP

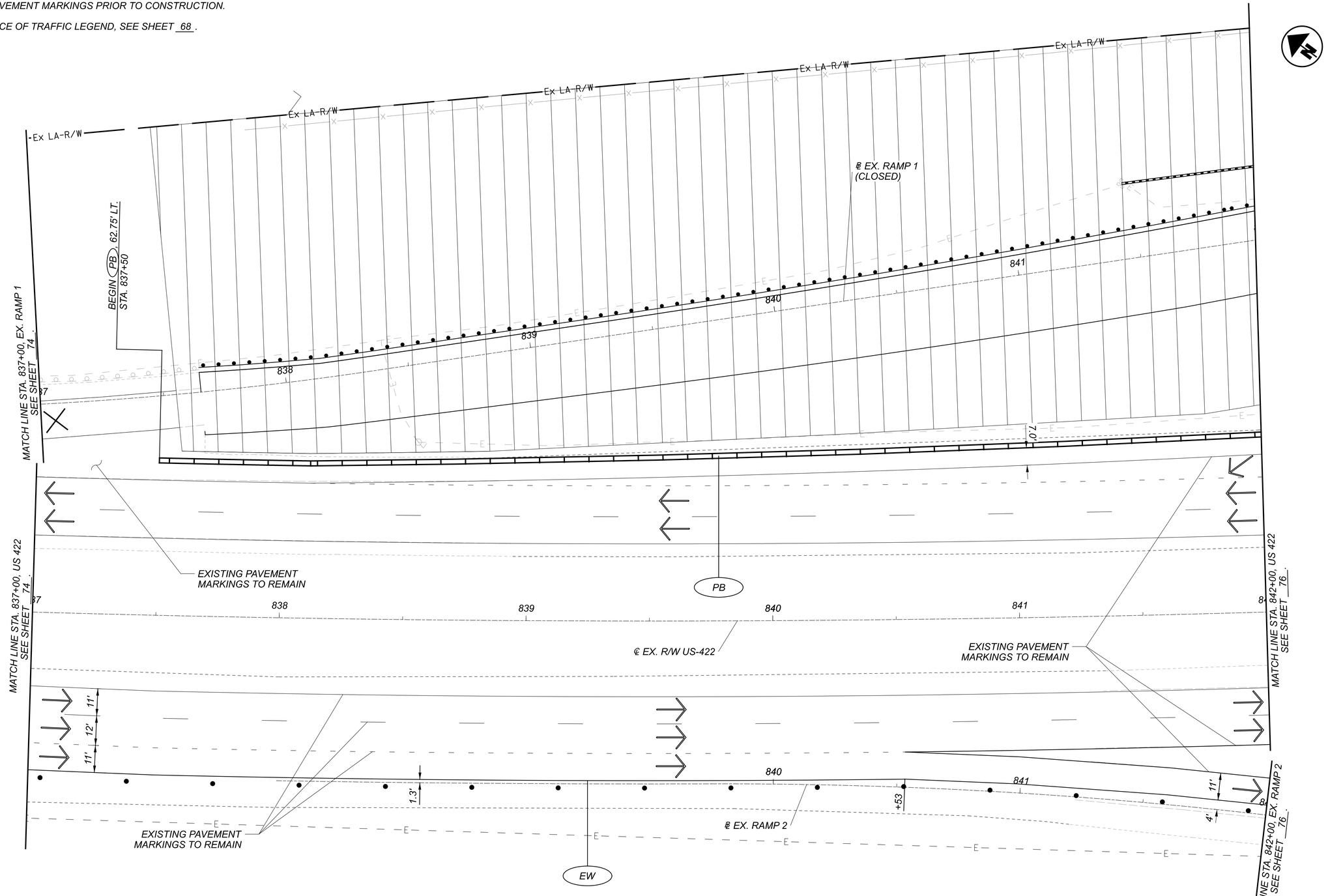
MAINTENANCE OF TRAFFIC PLAN - PHASE 1
S.R. 422 - BEGIN TO STA. 837+00

HORIZONTAL SCALE IN FEET
0 20
10 40

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*

2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
S.R. 422/EX. RAMP 2 - STA. 837+00 TO 842+00

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP007 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:21:52 PM USER: aford
O:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_MP007.dgn

DESIGN AGENCY
GPD GROUP*
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	75
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_MP008 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:2k55 PM USER: aford
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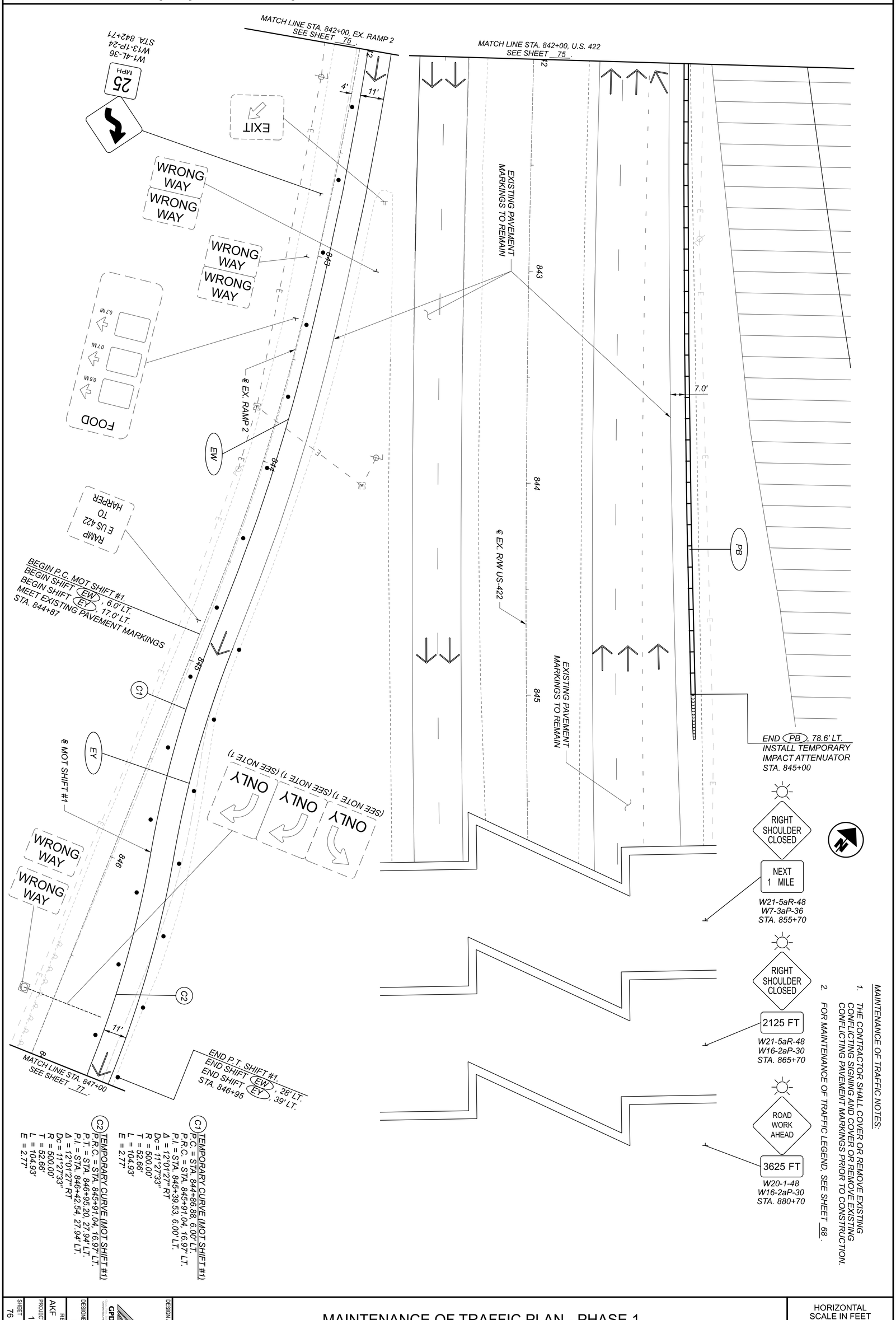

(C1) TEMPORARY CURVE (MOT SHIFT #1)
P.C. = STA. 844+86.88, 6.00' LT.
P.R.C. = STA. 845+91.04, 16.97' LT.
P.I. = STA. 845+39.53, 6.00' LT.
Δ = 12°01'27" RT
Dc = 11°27'33"
R = 500.00'
T = 52.66'
L = 104.93'
E = 2.77'

(C2) TEMPORARY CURVE (MOT SHIFT #1)
P.R.C. = STA. 845+91.04, 16.97' LT.
P.T. = STA. 846+95.20, 27.94' LT.
P.I. = STA. 846+42.54, 27.94' LT.
Δ = 12°01'27" RT
Dc = 11°27'33"
R = 500.00'
T = 52.66'
L = 104.93'
E = 2.77'

MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

SHEET 76 TOTAL 481	DESIGNER KRM	DESIGN AGENCY GPD GROUP	MAINTENANCE OF TRAFFIC PLAN - PHASE 1 S.R. 422/EX. RAMP 2 - STA. 842+00 TO STA. 847+00
PROJECT ID 113889	REVIEWER AKF 6-8-23		HORIZONTAL SCALE IN FEET 0 10 20 40

MODEL: ll3889_MP009 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:2k58 PM USER: aford
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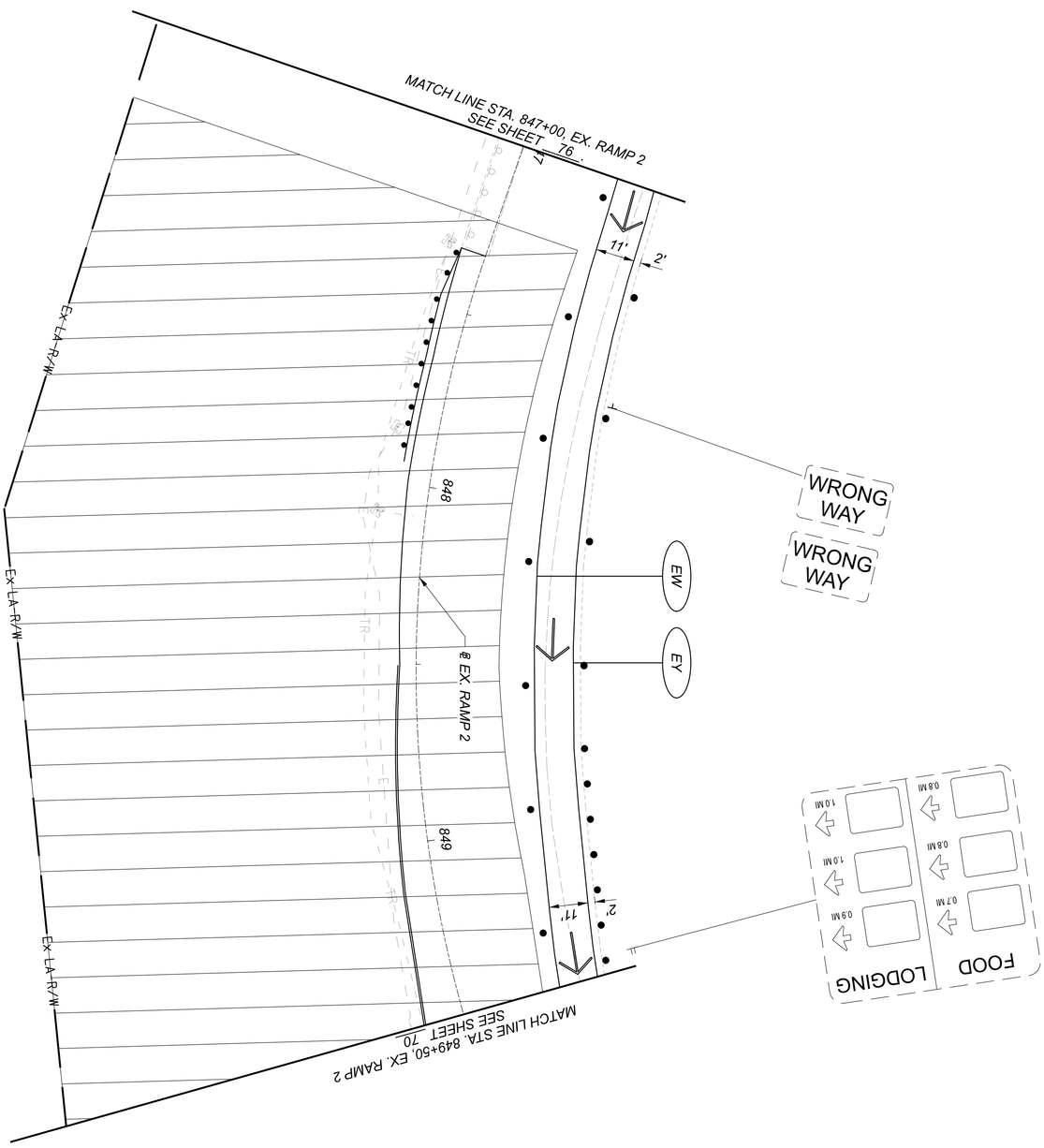


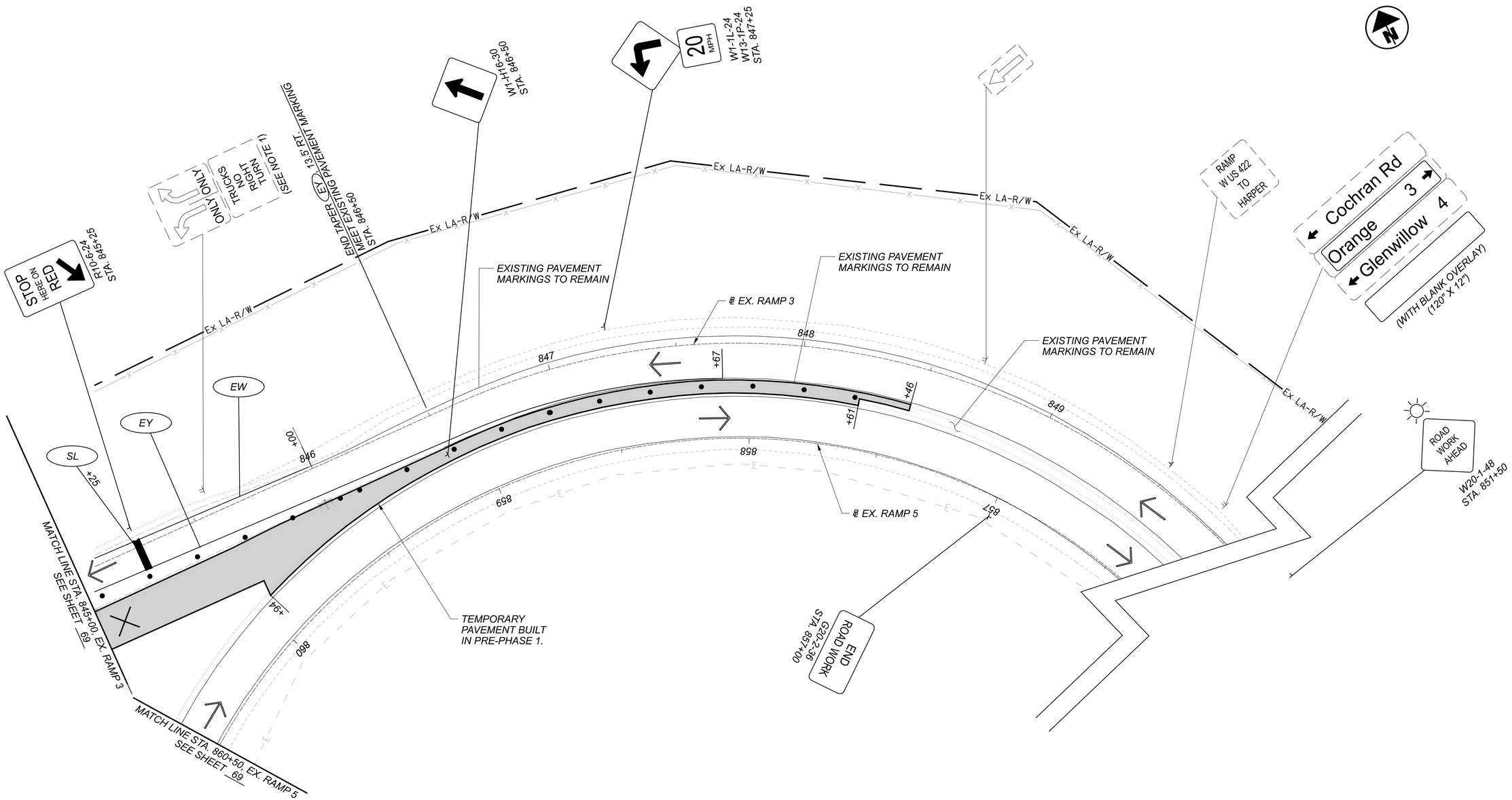
MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*

DESIGNER: KRM
REVIEWER: AKF 6-8-23
PROJECT ID: 113889
SHEET: 77 TOTAL: 481
DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
EX. RAMP 2 - STA. 847+00 TO STA. 849+50

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
EX. RAMP 3 - STA. 845+00 TO END

DESIGN AGENCY
GPD GROUP®
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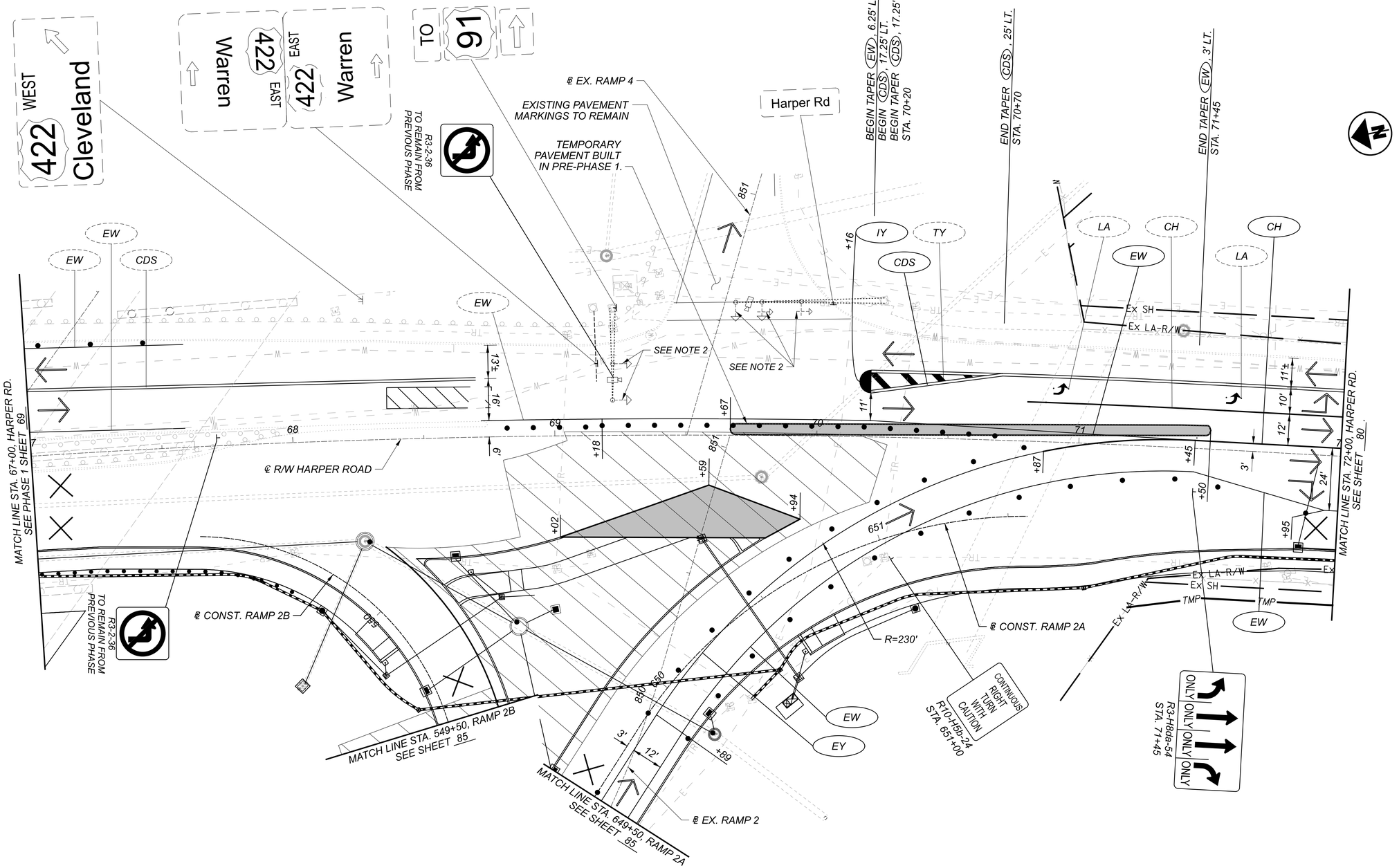
DESIGNER	
KRM	
REVIEWER	
AKF	6-8-23
PROJECT ID	
113889	
SHEET	TOTAL
78	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MPO10 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:22:00 PM USER: dford
O:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_MPO10.dgn

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
HARPER RD. - STA. 67+00 TO STA. 72+00



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *THE CONTRACTOR SHALL TURN OFF THE SIGNAL AND BAG SIGNAL HEADS TO PUT THE INTERSECTION INTO A FREE FLOW CONDITION.*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

DESIGN AGENCY
GPD GROUP*
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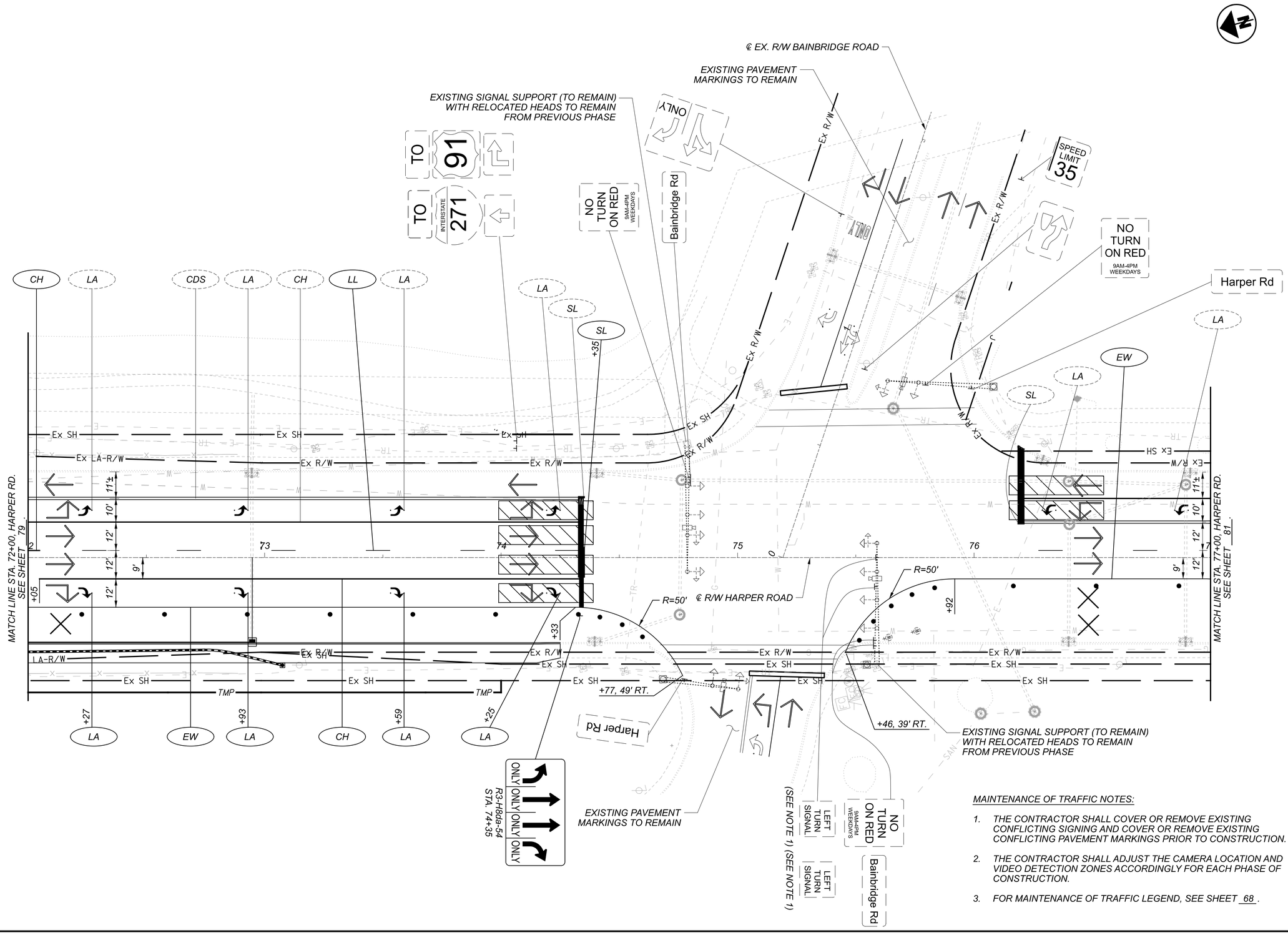
DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	79
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MPI2I PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:22:05 PM USER: aford
C:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_MPI2I.dgn

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
HARPER RD. - STA. 72+00 TO STA. 77+00

HORIZONTAL SCALE IN FEET
0 10 20 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *THE CONTRACTOR SHALL ADJUST THE CAMERA LOCATION AND VIDEO DETECTION ZONES ACCORDINGLY FOR EACH PHASE OF CONSTRUCTION.*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 80 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MPl22 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:22:09 PM USER: aford
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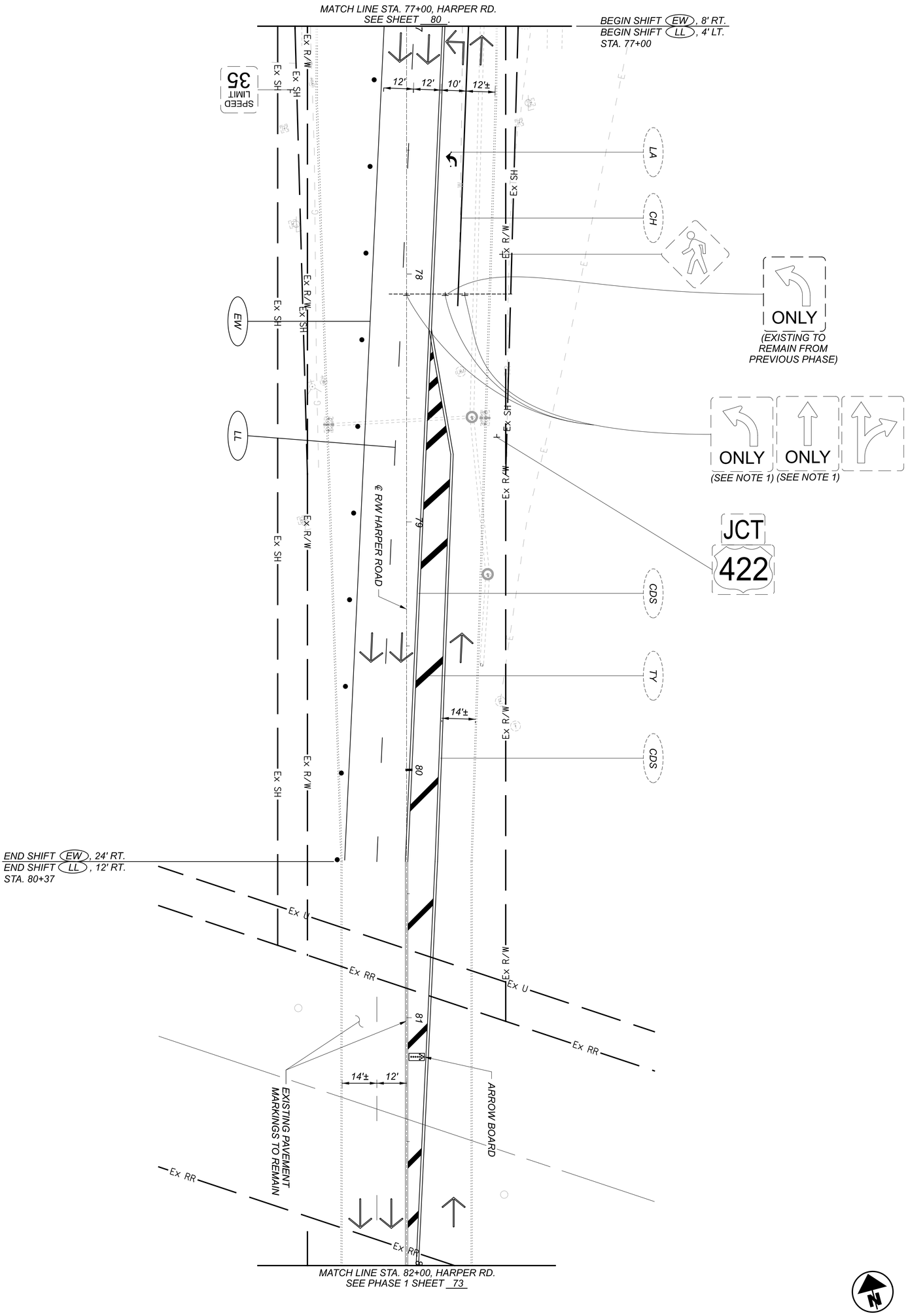


MAINTENANCE OF TRAFFIC NOTES:

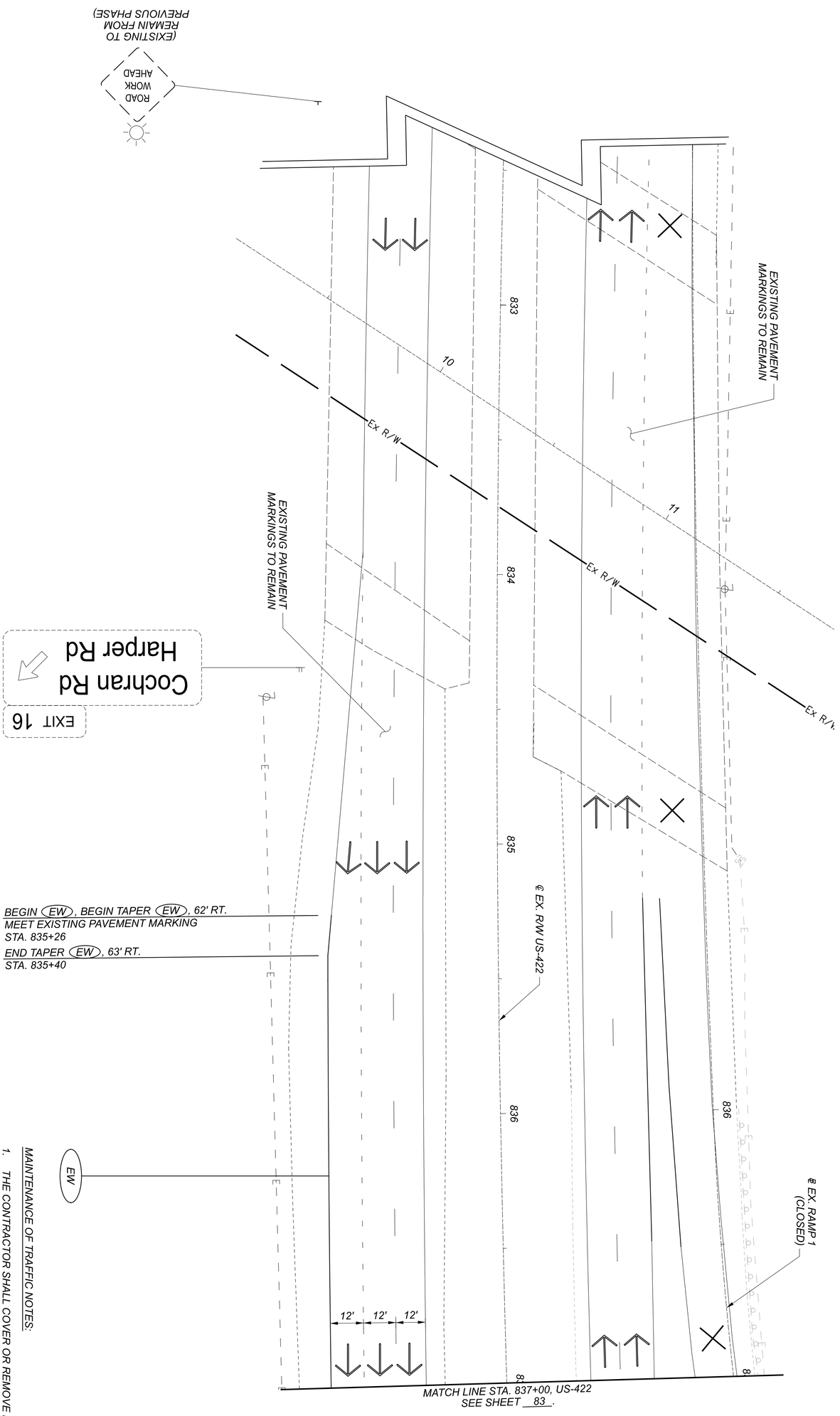
1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 81 TOTAL 481
DESIGN AGENCY GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
HARPER RD. - STA. 77+00 TO STA. 82+00

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: ll3889_MPl27 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:22:l6 PM USER: aford
O:\Clients\ORD\2020\2020336\ll3889\400-Engineering\MOT\Sheets\ll3889_MPl27.dgn



MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

DESIGN AGENCY: GPD GROUP

DESIGNER: KRM

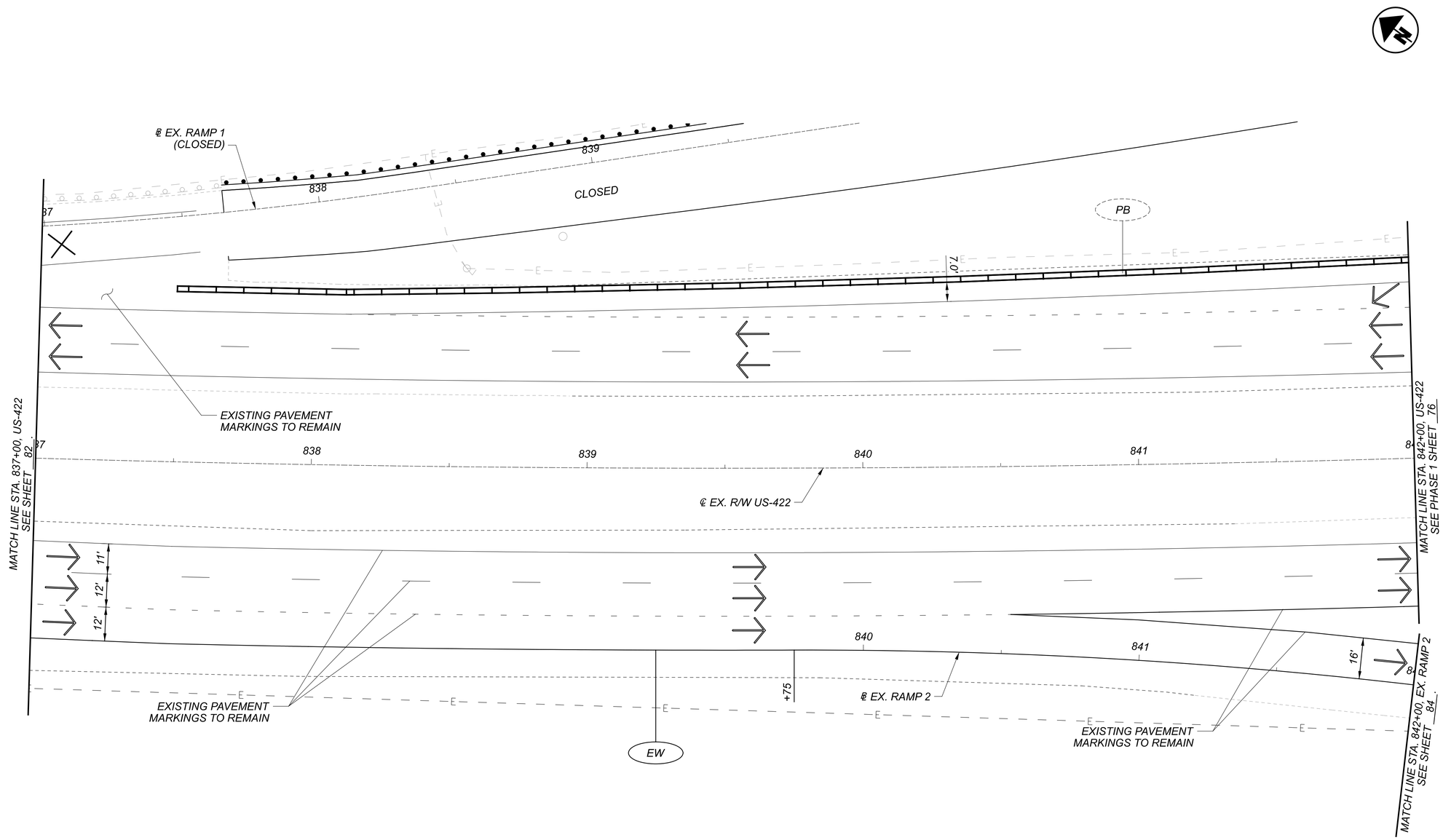
REVIEWER: AKF 6-8-23

PROJECT ID: 113889

SHEET 82 TOTAL 481

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
S.R. 422 - BEGIN TO STA. 837+00

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
S.R. 422/EX. RAMP 2 - STA. 837+00 TO 842+00

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 83 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MPI28 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:22:18 PM USER: aford
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MODEL: ll3889_MPI25 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:22:21 PM USER: aford
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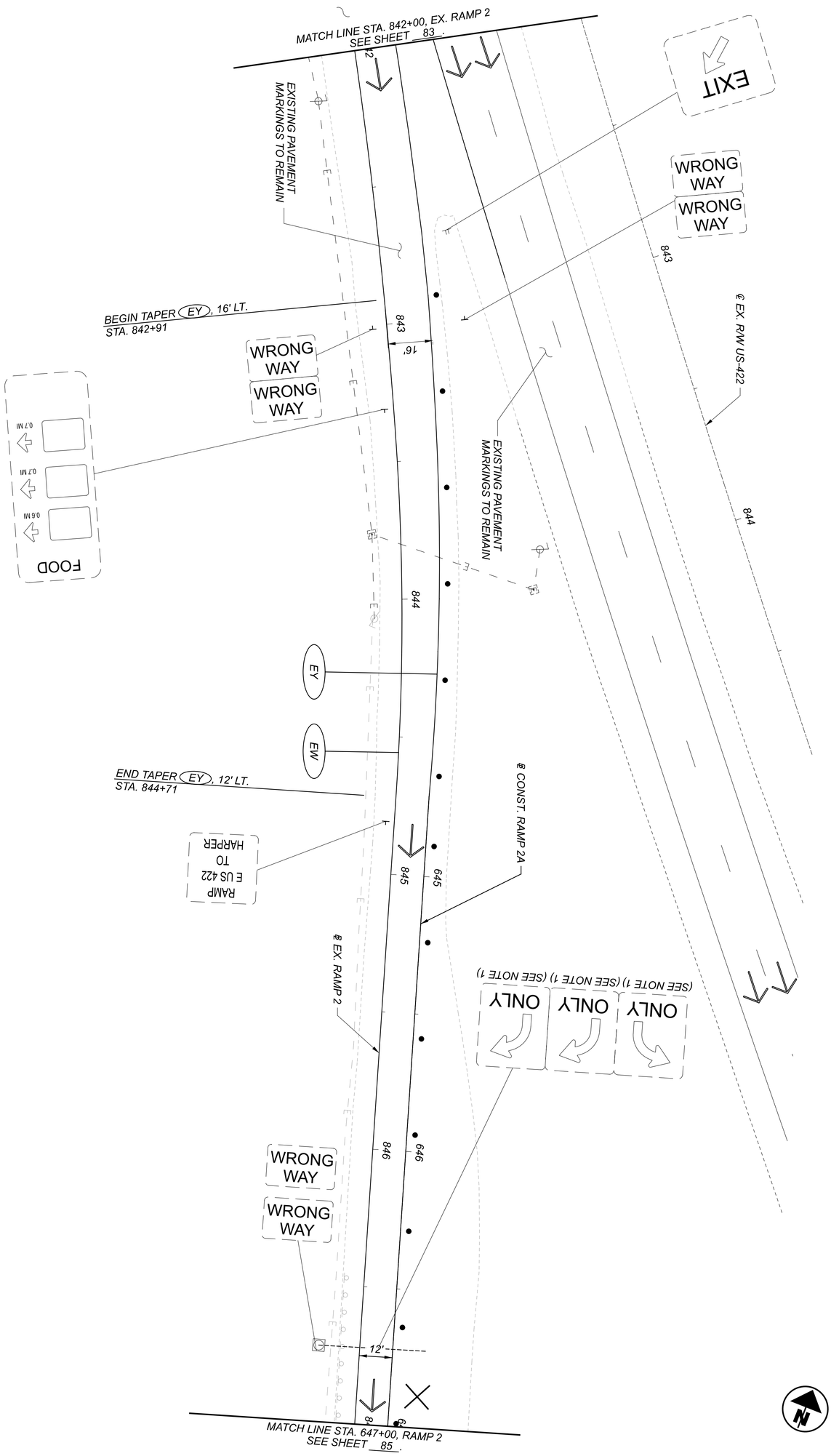


MAINTENANCE OF TRAFFIC NOTES:

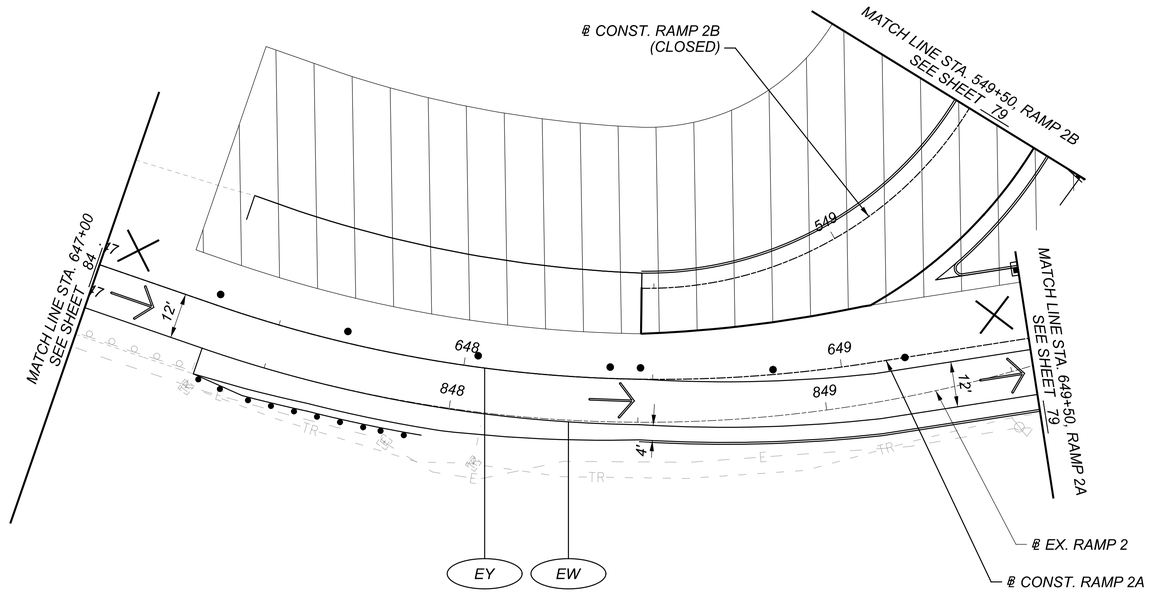
1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*

DESIGN AGENCY: GPD GROUP

DESIGNER: KRM
REVIEWER: AKF 6-8-23
PROJECT ID: 113889
SHEET: 84 TOTAL: 481

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
RAMP 2 - STA. 842+00 TO STA. 647+00

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
EX. RAMP 2 - STA. 647+00 TO STA. 649+50

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 85 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MPI26 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:22:24 PM USER: aford
G:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_MPI26.dgn

BEGIN SHIFT (EW), 4.0' LT.
BEGIN SHIFT (CDS), 12.0' RT.
BEGIN SHIFT (EW), 28.0' RT.
STA. 844+93

W1-8L-30
STA. 844+93

W1-8L-30
STA. 62+88

W1-8R-18
STA. 62+88

R11-2-48
MOUNTED ON
TYPE 3 BARRICADE
STA. 844+04

ROAD CLOSED

SPECIAL-24
TO REMAIN FROM
PREVIOUS PHASE

EMERGENCY SIGNAL
STOP ON RED

MATCH LINE STA. 845+00, EX. RAMP 3
MATCH LINE STA. 644+99, RAMP 3A
MATCH LINE STA. 544+98, RAMP 3B
SEE SHEET 93

MATCH LINE STA. 860+50, EX. RAMP 5
SEE SHEET 93

TEMPORARY WOOD POLE

TEMPORARY WOOD POLE

TEMPORARY PAVEMENT
BUILT IN PRE-PHASE 1

℄ CONST. RAMP 3B

℄ EX. RAMP 5
(CLOSED)

W1-8R-18
STA. 164+50

℄ EX.
RAMP 3

℄ CONST. RAMP 3A
(CLOSED)

TMP

R/W

LA-R/W

EX. LA-R/W

644

844

EW

R=150'

+97

+62

+88

+77

+42

℄ CONST. HARPER ROAD NB

℄ CONST. HARPER ROAD

℄ CONST. HARPER ROAD SB

ROAD CLOSED
CANNON ROAD TO STA. 61+50

℄ EX. RAMP 1
(CLOSED)

℄ CONST. RAMP 1A
(CLOSED)

℄ CONST. RAMP 1B
(CLOSED)

ROAD CLOSED
STA. 549+50 TO US-422

ROAD CLOSED
STA. 445+00 TO US-422

ROAD CLOSED

R11-2-48
MOUNTED ON
TYPE 3 BARRICADE
STA. 63+00

W1-8L-60
STA. 163+44

W1-8R-30
STA. 163+50

W1-8R-18
STA. 163+50

W1-8L-30
STA. 64+30

END SHIFT (EW), 39.85' RT.
END SHIFT (CDS), 23.85' RT.
END SHIFT (EW), BEGIN TAPER (EW), 7.85' RT.
STA. 64+33

EW

EW

CDS

TEMPORARY PAVEMENT
BUILT IN PRE-PHASE 1

END TAPER (EW), 9.85' RT.
INSTALL ANCHOR ASSEMBLY TYPE E
STA. 65+77

℄ EX. R/W US-422

MATCH LINE STA. 67+00, HARPER RD.
SEE SHEET 87

15'±

15'

16'

447

446

262

263

162

163

164

165

166

167

62

63

64

65

66

861

862

863

544

264

265

266

267

849

848

846

+28

HORIZONTAL
SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
HARPER RD. - STA. 61+50 TO STA. 67+00

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 48 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

DESIGN AGENCY
GPD GROUP*
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	86
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_MP20I PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:23:49 PM USER: dford
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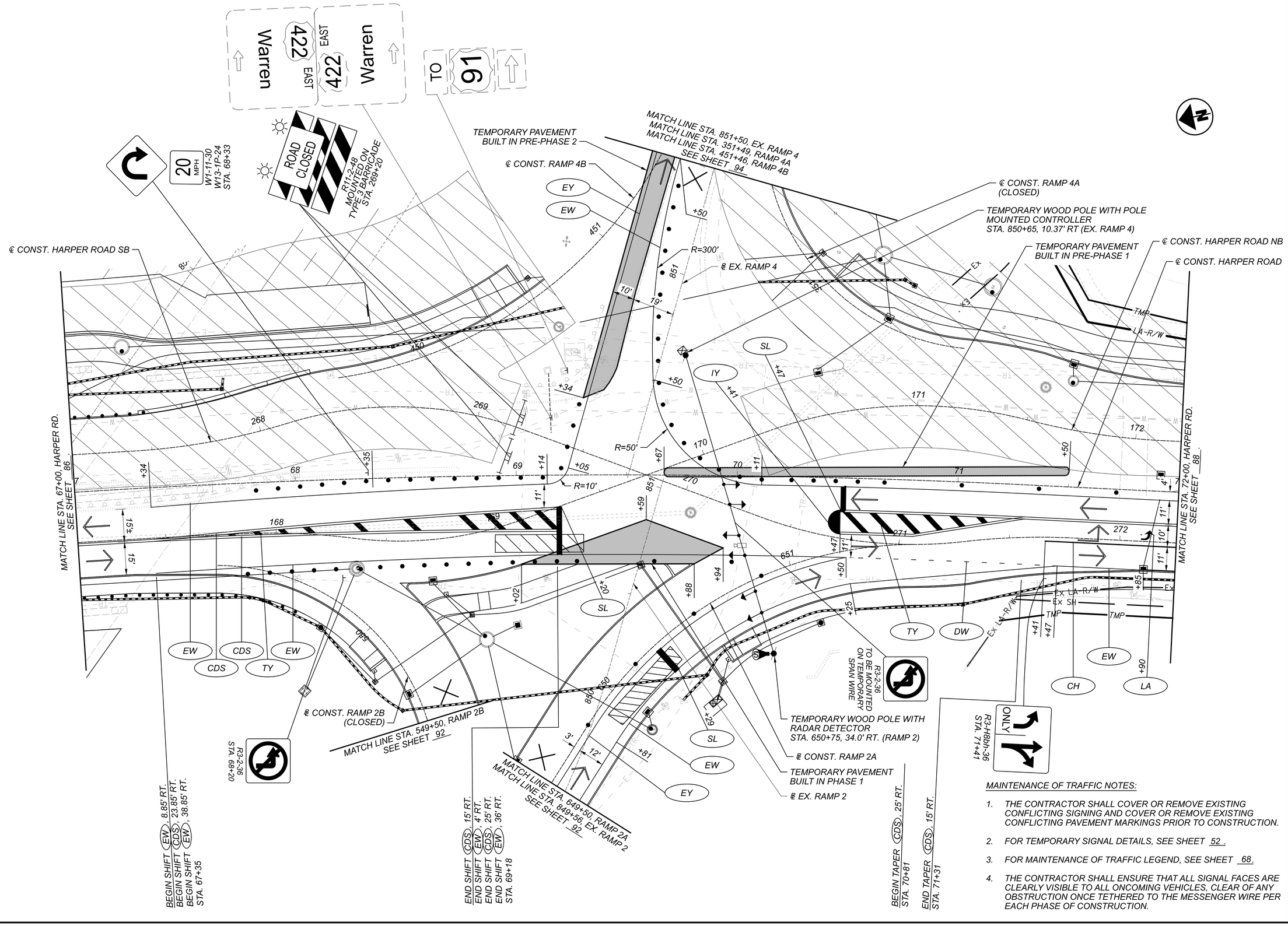
MAINTENANCE OF TRAFFIC PLAN - PHASE 2
HARPER RD. - STA. 67+00 TO STA. 72+00

HORIZONTAL SCALE IN FEET
0 10 20 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 52 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

DESIGN AGENCY
GPD GROUP*
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	87
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP202 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:24:01 PM USER: aford
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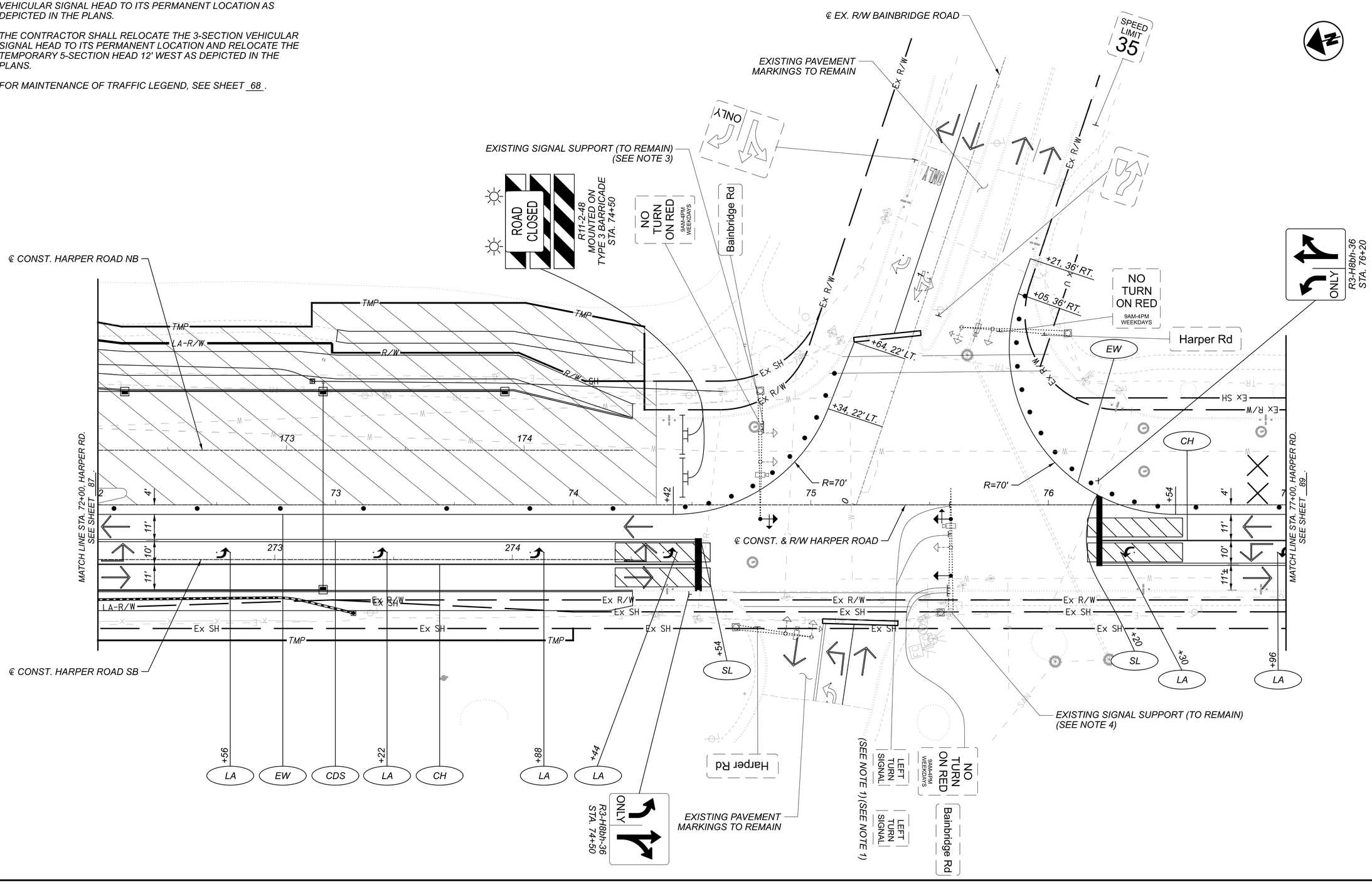
MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *THE CONTRACTOR SHALL ADJUST THE CAMERA LOCATION AND VIDEO DETECTION ZONES ACCORDINGLY FOR EACH PHASE OF CONSTRUCTION.*
3. *THE CONTRACTOR SHALL RELOCATE THE EXISTING 5-SECTION VEHICULAR SIGNAL HEAD TO ITS PERMANENT LOCATION AS DEPICTED IN THE PLANS.*
4. *THE CONTRACTOR SHALL RELOCATE THE 3-SECTION VEHICULAR SIGNAL HEAD TO ITS PERMANENT LOCATION AND RELOCATE THE TEMPORARY 5-SECTION HEAD 12' WEST AS DEPICTED IN THE PLANS.*
5. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2 HARPER RD. - STA. 72+00 TO STA. 77+00

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP203 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:24:06 PM USER: aford
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	88
TOTAL	481

MODEL: ll3889_MP204 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:24:13 PM USER: aford
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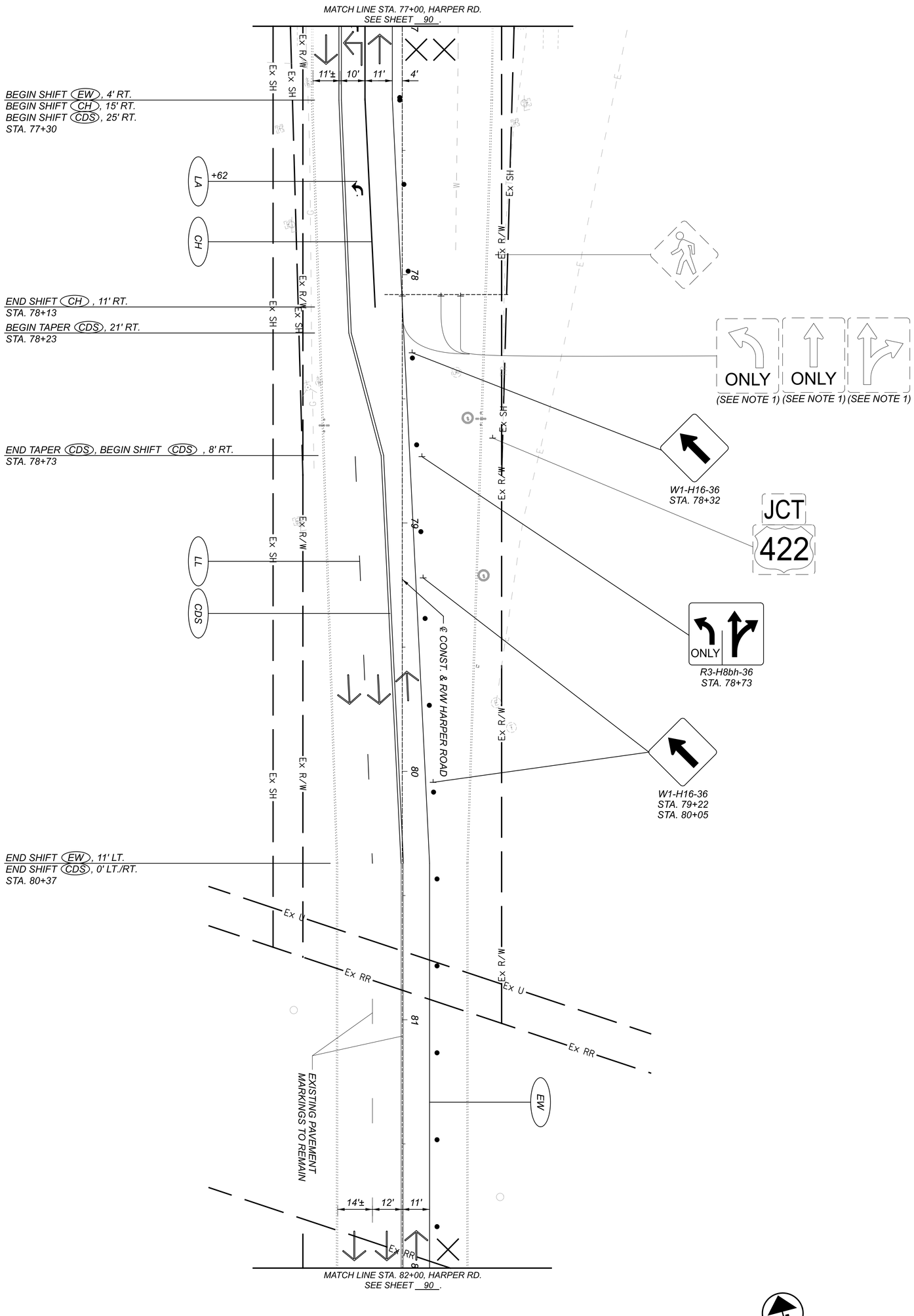

MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .

SHEET	TOTAL
89	481

PROJECT ID 113889

DESIGNER KRM

REVIEWER AKF 6-8-23

DESIGN AGENCY

GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
HARPER RD. - STA. 77+00 TO STA. 82+00

HORIZONTAL SCALE IN FEET

0 20
10 40

MODEL: II3889_MP205 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:24:15 PM USER: aford
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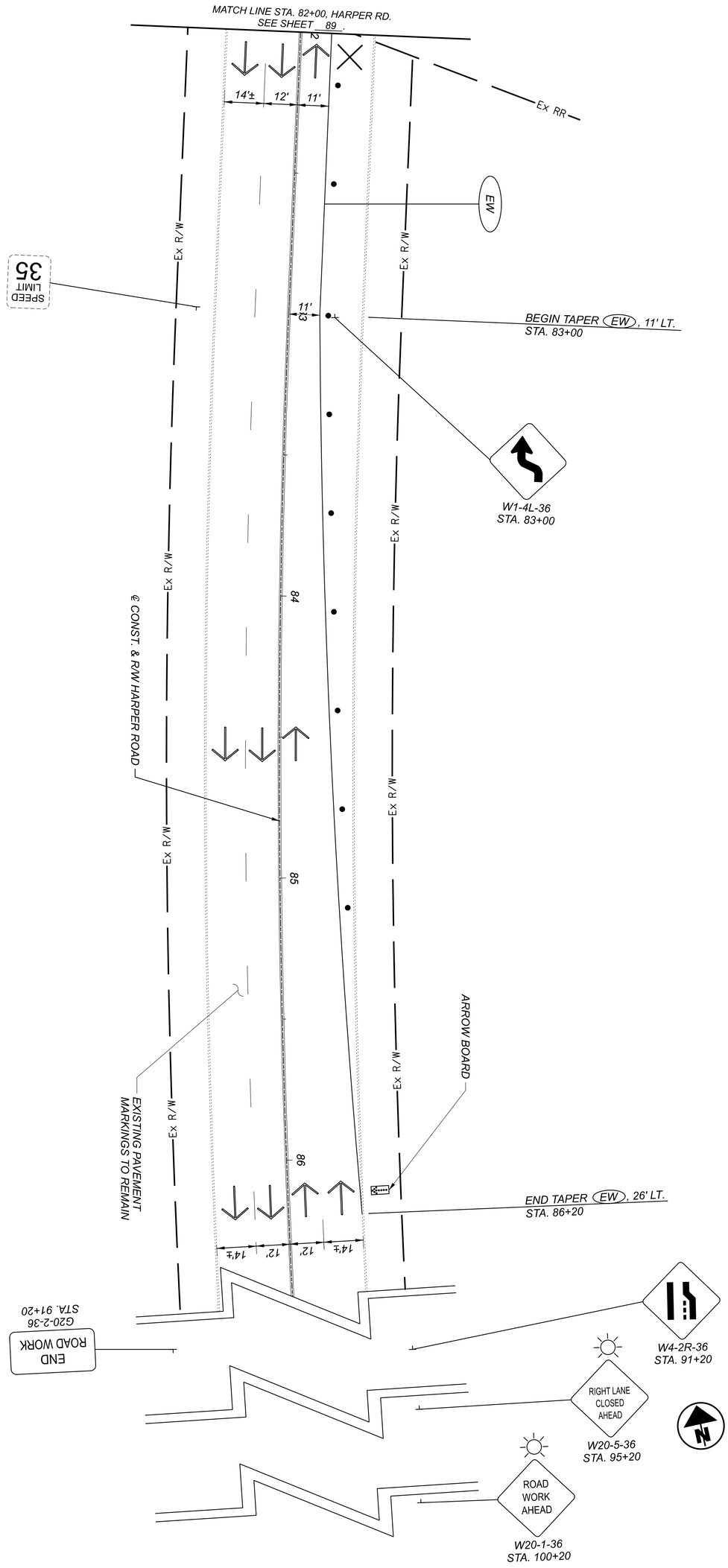


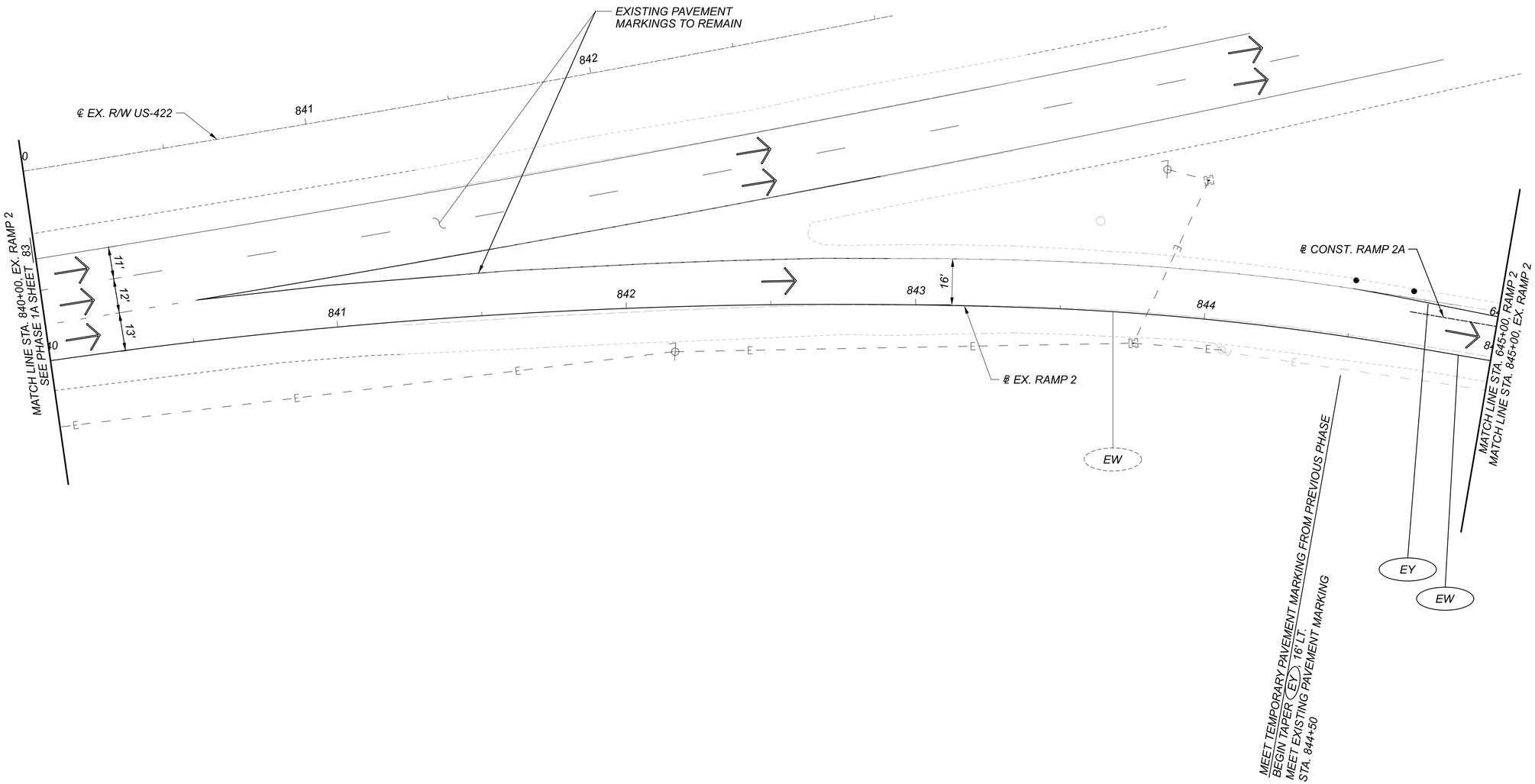
MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 90 TOTAL 481
DESIGN AGENCY GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
HARPER RD. - STA. 82+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
EX. RAMP 2 - STA. 840+00 TO STA. 645+00

DESIGN AGENCY
GPD GROUP*
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	91
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP206 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:24:19 PM USER: dford
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MODEL: ll3889_MP207 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:24:22 PM USER: aford
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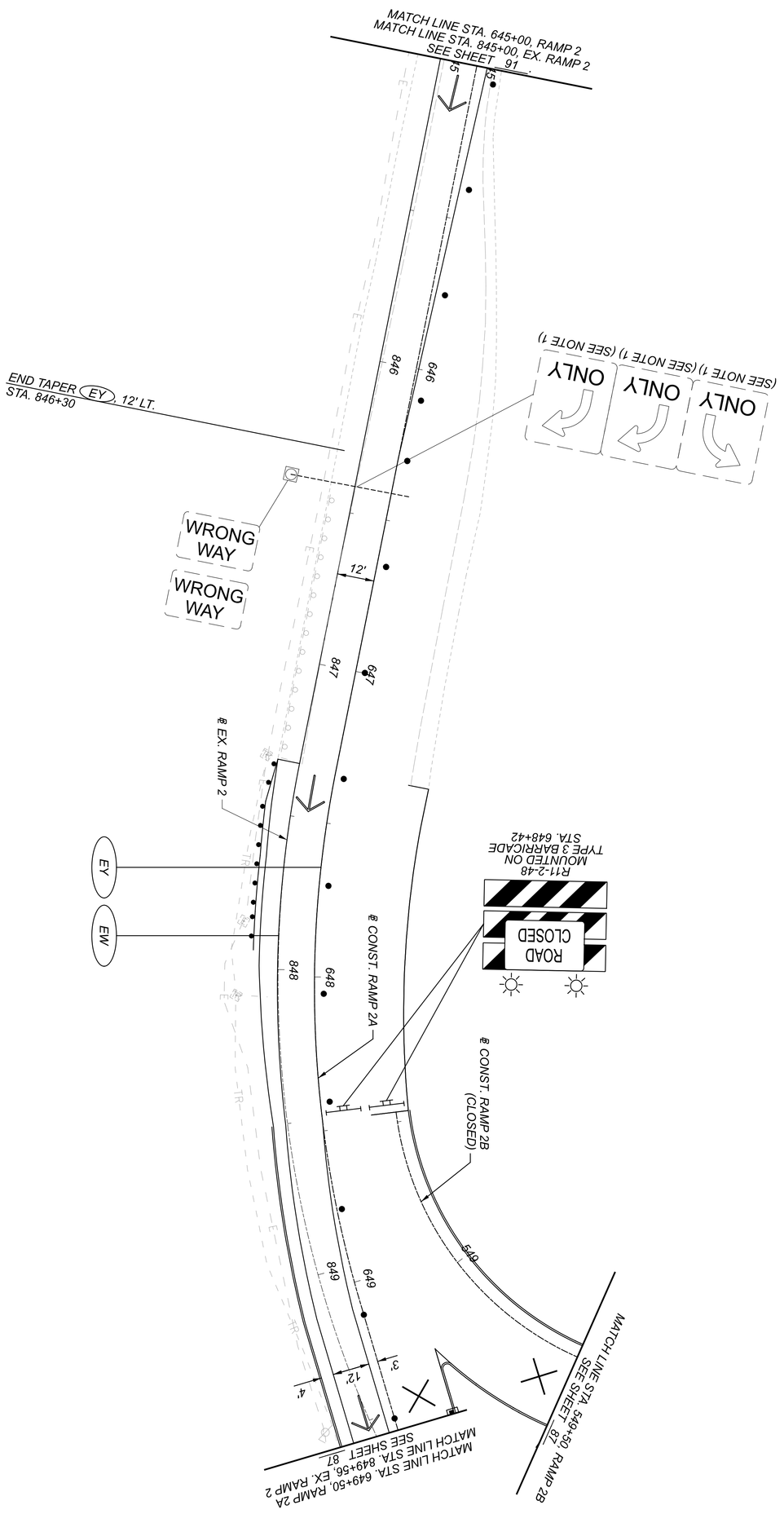


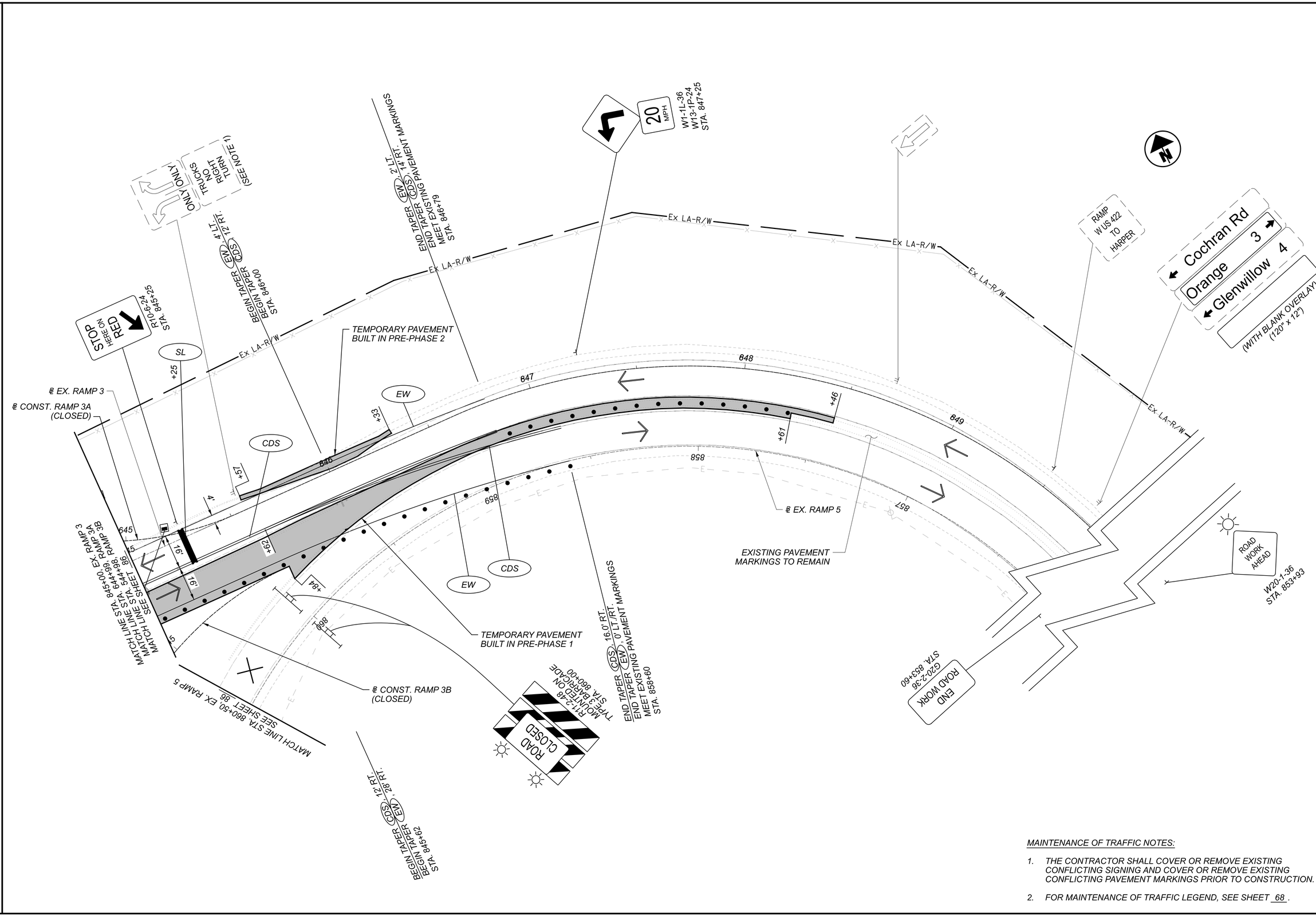
MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*

DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 92 TOTAL 481
DESIGN AGENCY
GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
EX. RAMP 2 - STA. 645+00 TO STA. 649+50

HORIZONTAL SCALE IN FEET
0 20
10 40



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
EX. RAMP 3 - STA. 845+00 TO END

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	93
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP208 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:24:29 PM USER: aford
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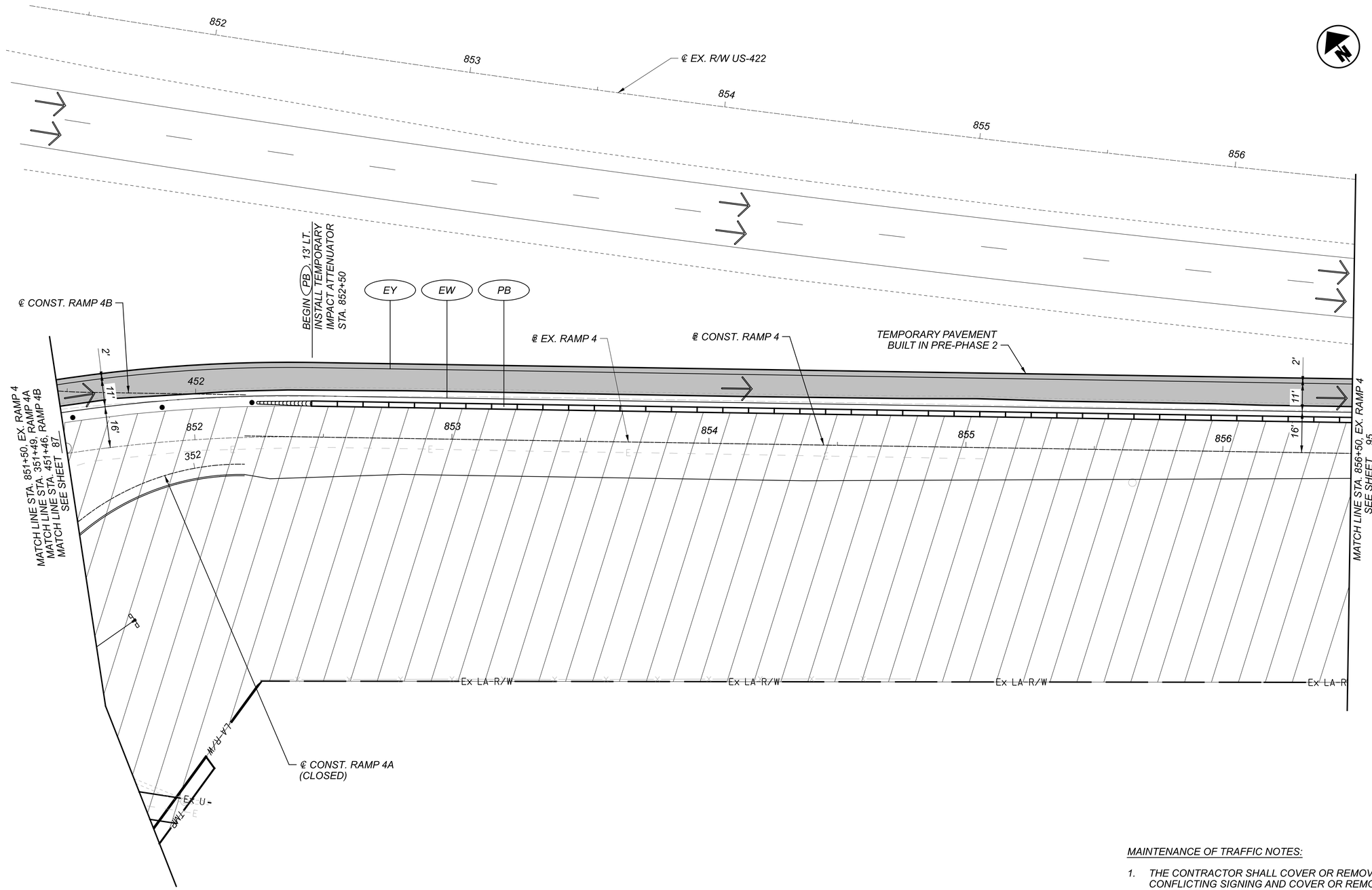

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
EX. RAMP 4 - STA. 851+50 TO STA. 856+50

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_MP209 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:24:32 PM USER: dford
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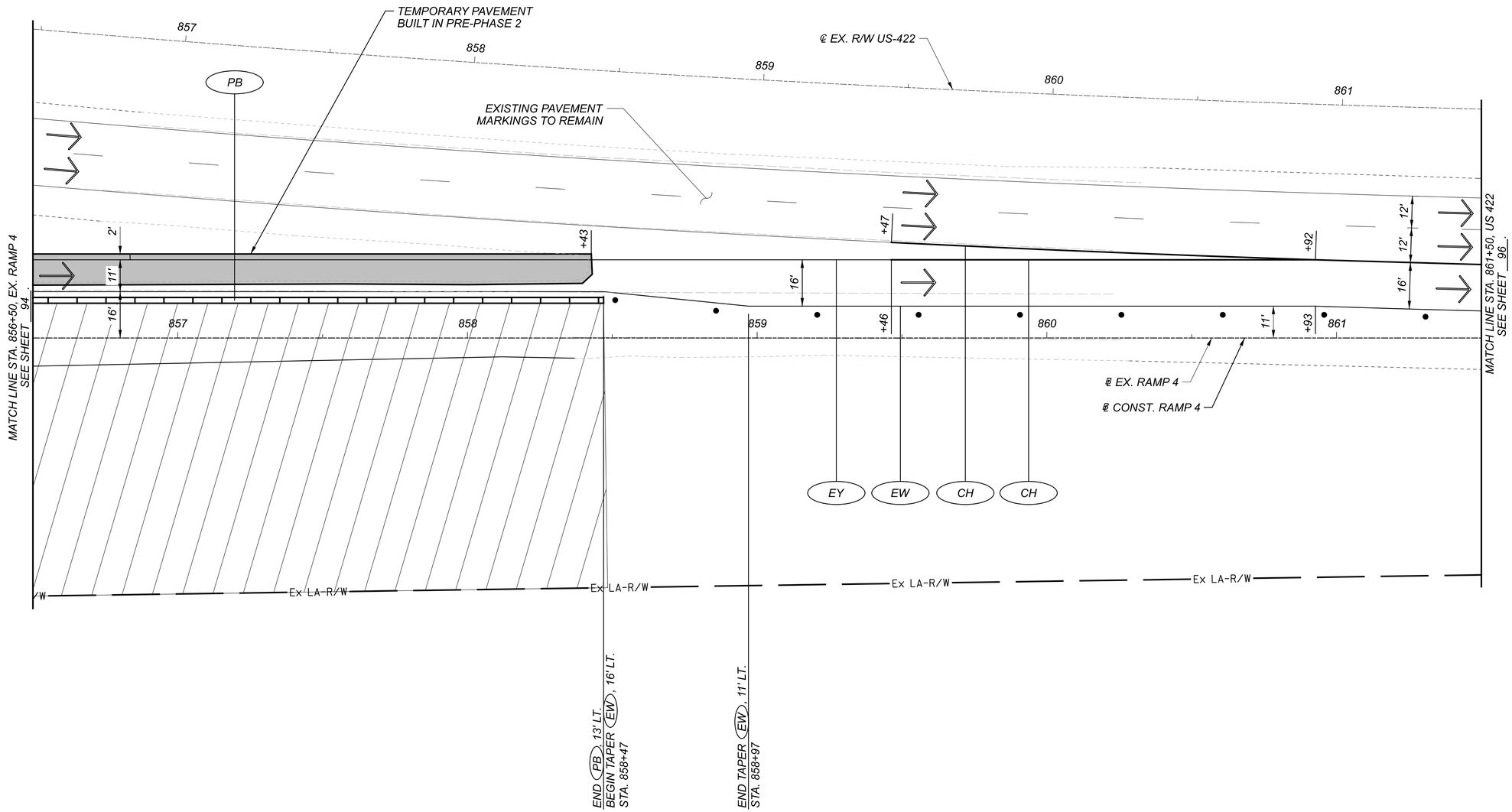
DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	94
TOTAL	481



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
EX. RAMP 4 - STA. 856+50 TO STA. 861+50

DESIGN AGENCY
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 95 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_MP210 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:24:36 PM USER: aford
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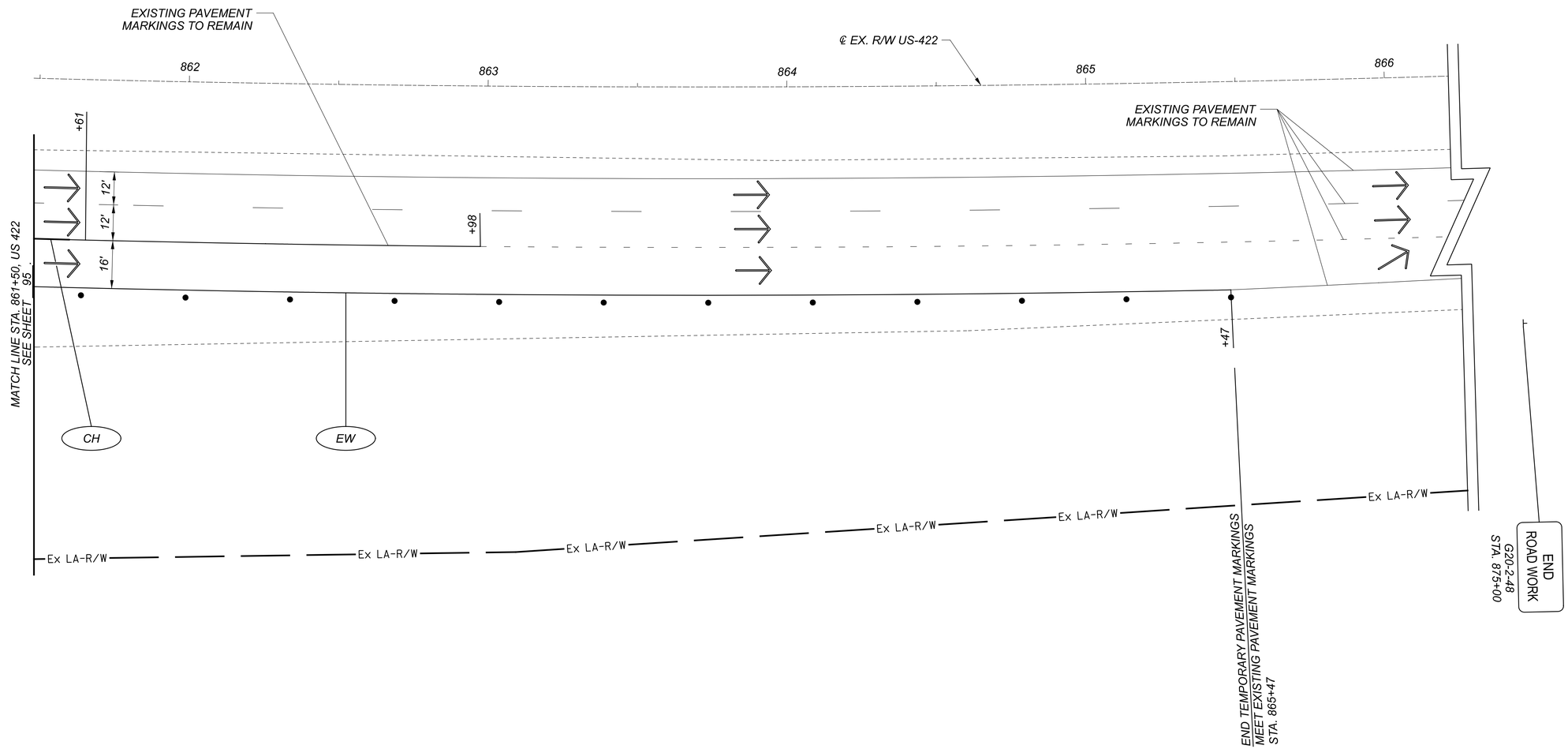

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
EX. RAMP 4 - STA. 861+50 TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: I3889_MP2II PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:24:38 PM USER: dford
O:\Clients\ORD\2020\2020336\II3889\400-Engineering\MOT\Sheets\II3889_MP2IIe.dgn

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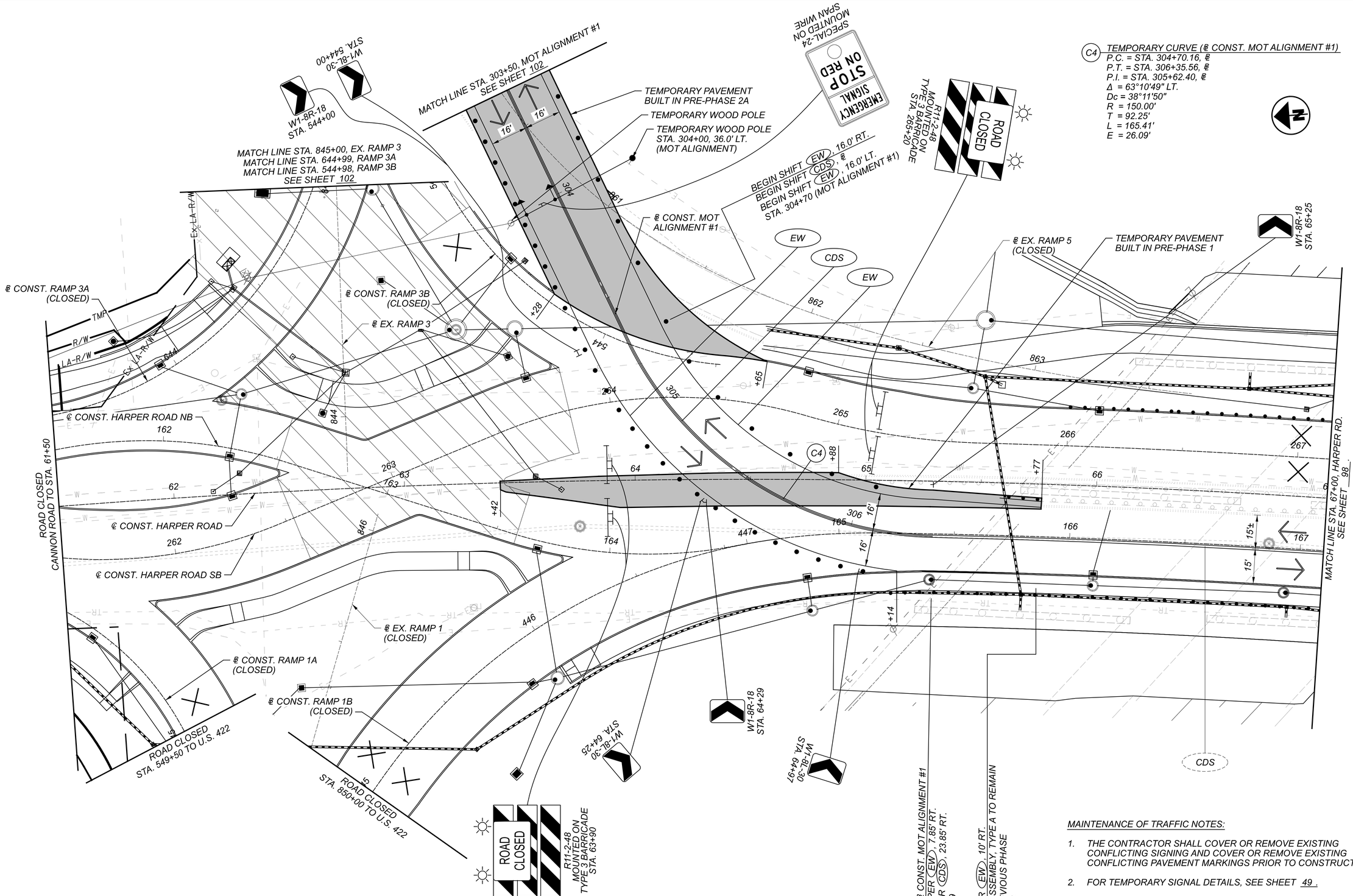
DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 96 TOTAL 481



MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
HARPER RD. - STA. 61+50 TO STA. 67+00

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 49 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

DESIGN AGENCY
GPD GROUP*
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	97
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_MP22I PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:24:47 PM USER: dford
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C5 *TEMPORARY CURVE (MOT SHIFT #2)*
P.C. = STA. 71+34.78, 52.88' LT. (HARPER RD.)
P.C. = STA. 171+50.22, 23.00' LT. (HARPER RD. NB)
P.R.C. = STA. 71+95.09, 35.25' LT. (HARPER RD.)
P.I. = STA. 71+65.46, 45.46' LT. (HARPER RD.)
P.I. = STA. 171+84.02, 21.23' LT. (HARPER RD. NB)
Δ = 07°10'28" RT.
Dc = 11°27'33"
R = 500.00'
T = 31.35'
L = 62.61'
E = 0.98'

20 MPH
W1-1-30
W13-1P-24
STA. 66+33

ROAD CLOSED
R11-2-48
MOUNTED ON
TYPE 3 BARRICADE
STA. 269+66

ROAD CLOSED
R11-2-48
MOUNTED ON
TYPE 3 BARRICADE
STA. 170+80

MATCH LINE STA. 451+50, RAMP 4B
SEE SHEET 103

℄ CONST. RAMP 4B
(CLOSED)

TEMPORARY
WOOD POLE

MATCH LINE STA. 351+50, RAMP 4A
MATCH LINE STA. 851+35, EX. RAMP 4
SEE SHEET 103

BEGIN SHIFT EY 11.0' LT.
BEGIN SHIFT EW 23.0' LT.
STA. 171+50

℄ CONST. RAMP 4A

℄ CONST. HARPER ROAD SB

TEMPORARY PAVEMENT
BUILT IN PHASE 1

℄ CONST. HARPER ROAD NB

℄ CONST. HARPER ROAD

℄ MOT SHIFT #2

TEMPORARY PAVEMENT
BUILT IN PRE-PHASE 1

MATCH LINE STA. 67+00, HARPER RD.
SEE SHEET 97

MATCH LINE STA. 72+00, HARPER RD.
SEE SHEET 99

℄ EX. RAMP 2

℄ CONST. RAMP 2B
(CLOSED)

MATCH LINE STA. 549+50, RAMP 2
SEE PHASE 2 SHEET 92

MATCH LINE STA. 649+50, RAMP 2
MATCH LINE STA. 849+56, EX. RAMP 2
SEE PHASE 2 SHEET 92

℄ CONST. RAMP 2A

R3-2-24
TO REMAIN FROM
PREVIOUS PHASE

TEMPORARY WOOD
POLE W/ RADAR
DETECTOR

R3-H8h-36
EXISTING TO REMAIN
FROM PREVIOUS PHASE

ONLY

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 52.*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

HORIZONTAL
SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
HARPER RD. - STA. 67+00 TO STA. 72+00

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 98 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP222 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:24:52 PM USER: dford
G:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_MP222.dgn

C6 *TEMPORARY CURVE (MOT SHIFT #2)*
P.R.C. = STA. 71+95.09, 35.25' LT.
P.T. = STA. 73+57.90, 8.00' LT.
P.I. = STA. 72+74.22, 8.00' LT.
Δ = 19° 00' 11" LT.
Dc = 11° 27' 33"
R = 500.00'
T = 83.69'
L = 165.83'
E = 6.95'

END SHIFT (EY), BEGIN SHIFT (CH), 0.50' LT.
STA. 72+90

END SHIFT (CH), 4.0' RT.
END SHIFT (EW), 8.0' LT.
STA. 73+58

EXISTING SIGNAL SUPPORT (TO REMAIN) WITH RELOCATED HEADS TO REMAIN FROM PREVIOUS PHASE

WEST 422 — *M3-4-24, M1-4-30-3, M6-2R-21, STA. 74+52*

EXISTING PAVEMENT MARKINGS TO REMAIN

℄ EX. R/W BAINBRIDGE ROAD

ONLY

EW

Bainbridge Rd

NO TURN ON RED 9AM-4PM WEEKDAYS

℄ MOT SHIFT #2

℄ CONST. HARPER ROAD NB

EY CH CH EW

TMP TMP TMP

LA-R/W R/W R/W-SH

Ex R/W Ex SH

C6

173 174 73 74 75 76

+23 +90 +52 +30

12' 4' 11' 10' 11' 8' 12' 11' 10' 11'±

273 274

LA-R/W Ex R/W Ex SH TMP

℄ CONST. HARPER ROAD SB

MATCH LINE STA. 72+00, HARPER RD. SEE SHEET 98

MATCH LINE STA. 77+00, HARPER RD. SEE SHEET 100

℄ CONST. & R/W HARPER ROAD

+34, 24' LT.

R=50'

+06, 36' RT.

+90, 36' RT.

+20

SPEED LIMIT 35

WEST 422 KEEP RIGHT — *M3-4-24, M1-4-30-3, M5-H6a-30, STA. 76+30*

ONLY ONLY — *R3-H8cg-48, STA. 76+30*

Harper Rd

NO TURN ON RED 9AM-4PM WEEKDAYS

LEFT TURN SIGNAL

(SEE NOTE 1)

LA EW CDS LA CH LA LA SL Harper Rd SL SL LA EW LL LA

ONLY — *R3-H8bh-36 TO REMAIN FROM PREVIOUS PHASE*

EXISTING PAVEMENT MARKINGS TO REMAIN

EXISTING SIGNAL SUPPORT (TO REMAIN) WITH RELOCATED HEADS TO REMAIN FROM PREVIOUS PHASE

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *THE CONTRACTOR SHALL ADJUST THE CAMERA LOCATION AND VIDEO DETECTION ZONES ACCORDINGLY FOR EACH PHASE OF CONSTRUCTION.*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
HARPER RD. - STA. 72+00 TO STA. 77+00

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 99 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: li3889_MP223 PAPERSIZE: 34x22 (ln.) DATE: 6/7/2023 TIME: 2:24:57 PM USER: oford
O:\Clients\ORD\2020\2020336\li3889\400-Engineering\MOT\Sheets\li3889_MP223.dgn

MODEL: ll3889_MP224 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:25:02 PM USER: aford
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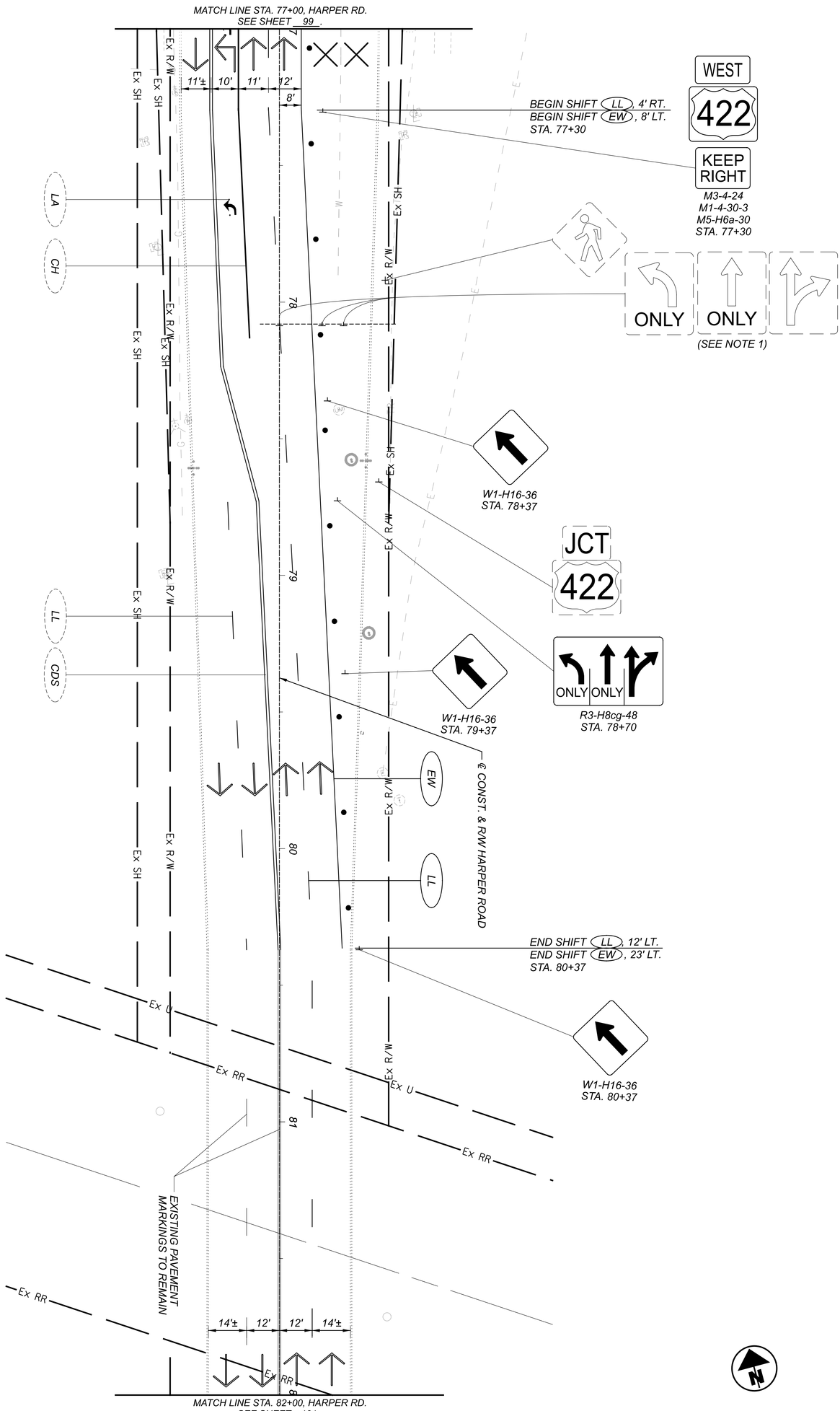


MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

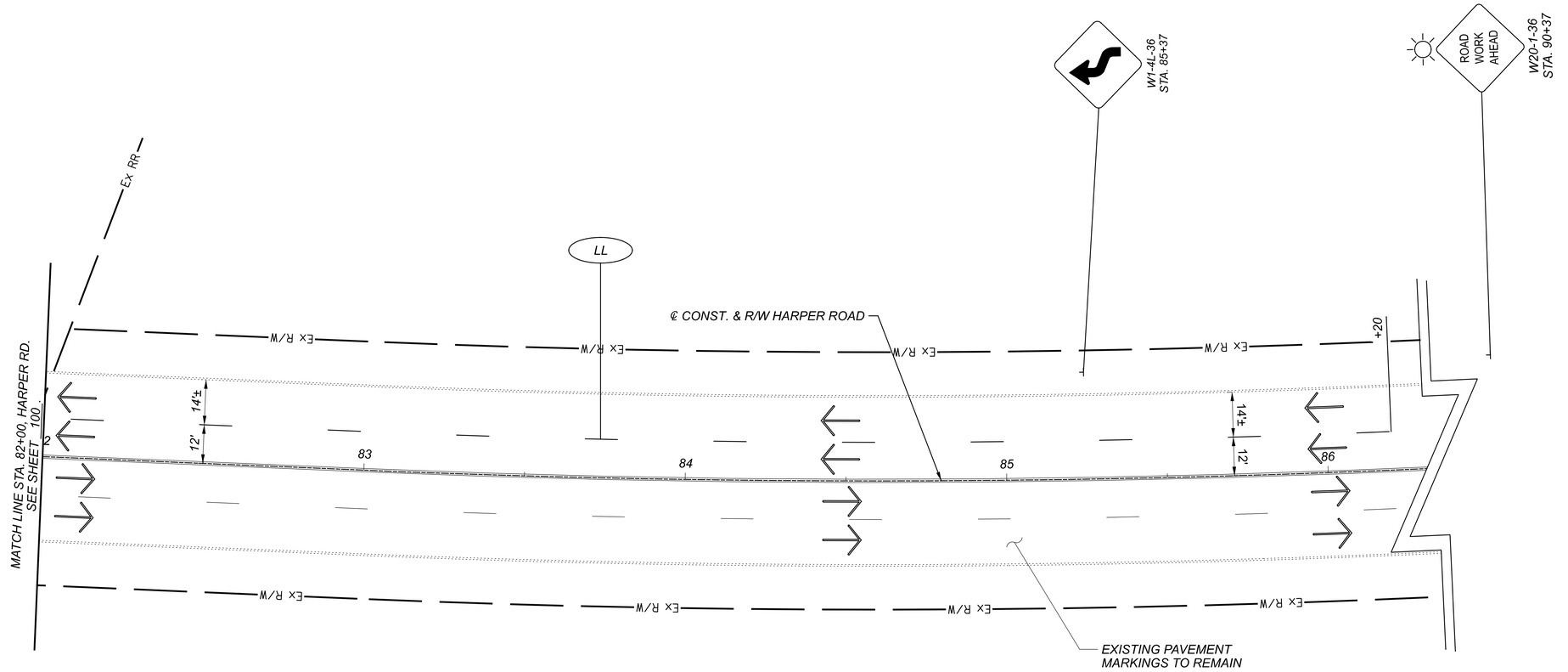
SHEET 100 | TOTAL 481	PROJECT ID 113889	REVIEWER AKF 6-8-23	DESIGNER KRM

GPD GROUP

DESIGN AGENCY

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
HARPER RD. - STA. 77+00 TO STA. 82+00

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
HARPER RD. - STA. 82+00 TO END

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 101 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_MP225 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:25:07 PM USER: aford
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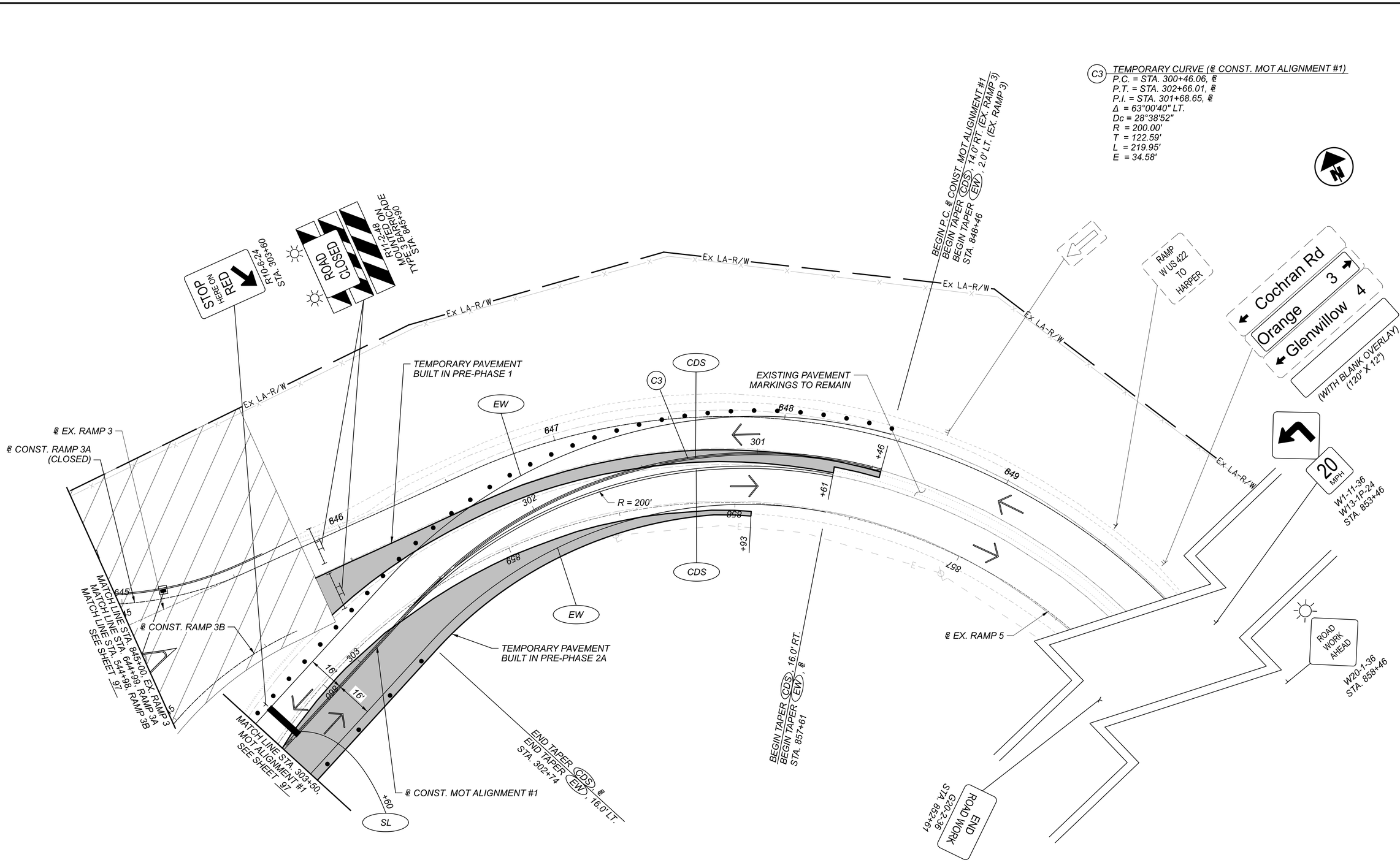

C3 *TEMPORARY CURVE (℄ CONST. MOT ALIGNMENT #1)*
P.C. = STA. 300+46.06, ℄
P.T. = STA. 302+66.01, ℄
P.I. = STA. 301+68.65, ℄
Δ = 63°00'40" LT.
Dc = 28°38'52"
R = 200.00'
T = 122.59'
L = 219.95'
E = 34.58'

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
RAMP 3 - STA. 845+00 TO END

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

DESIGN AGENCY
GPD GROUP*
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	102
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_MP226 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:25:10 PM USER: aford
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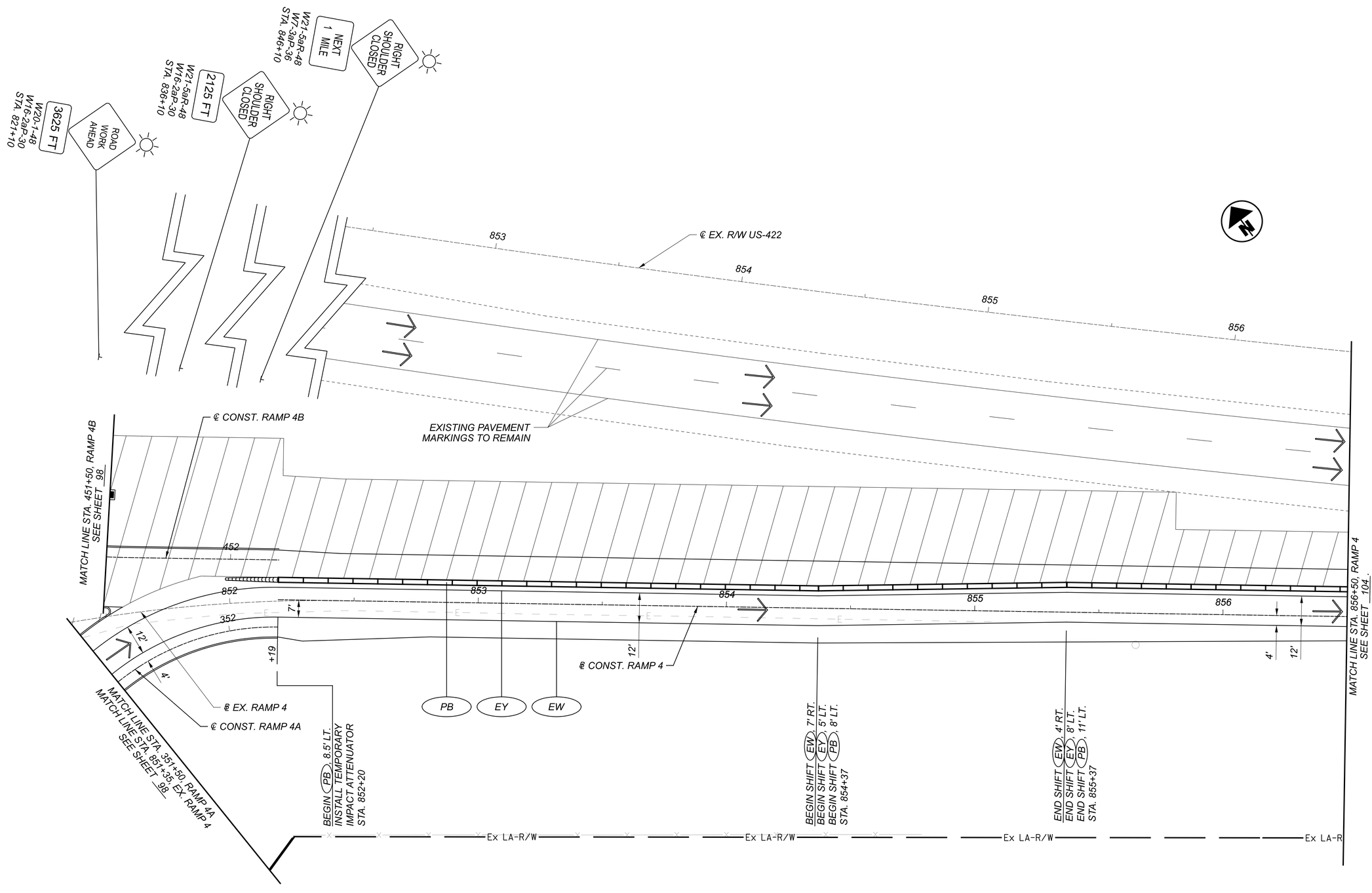

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
RAMP 4 - STA. 851+35 TO STA. 856+50

DESIGN AGENCY
GPD GROUP
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	103
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_MP227 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:25:15 PM USER: dford
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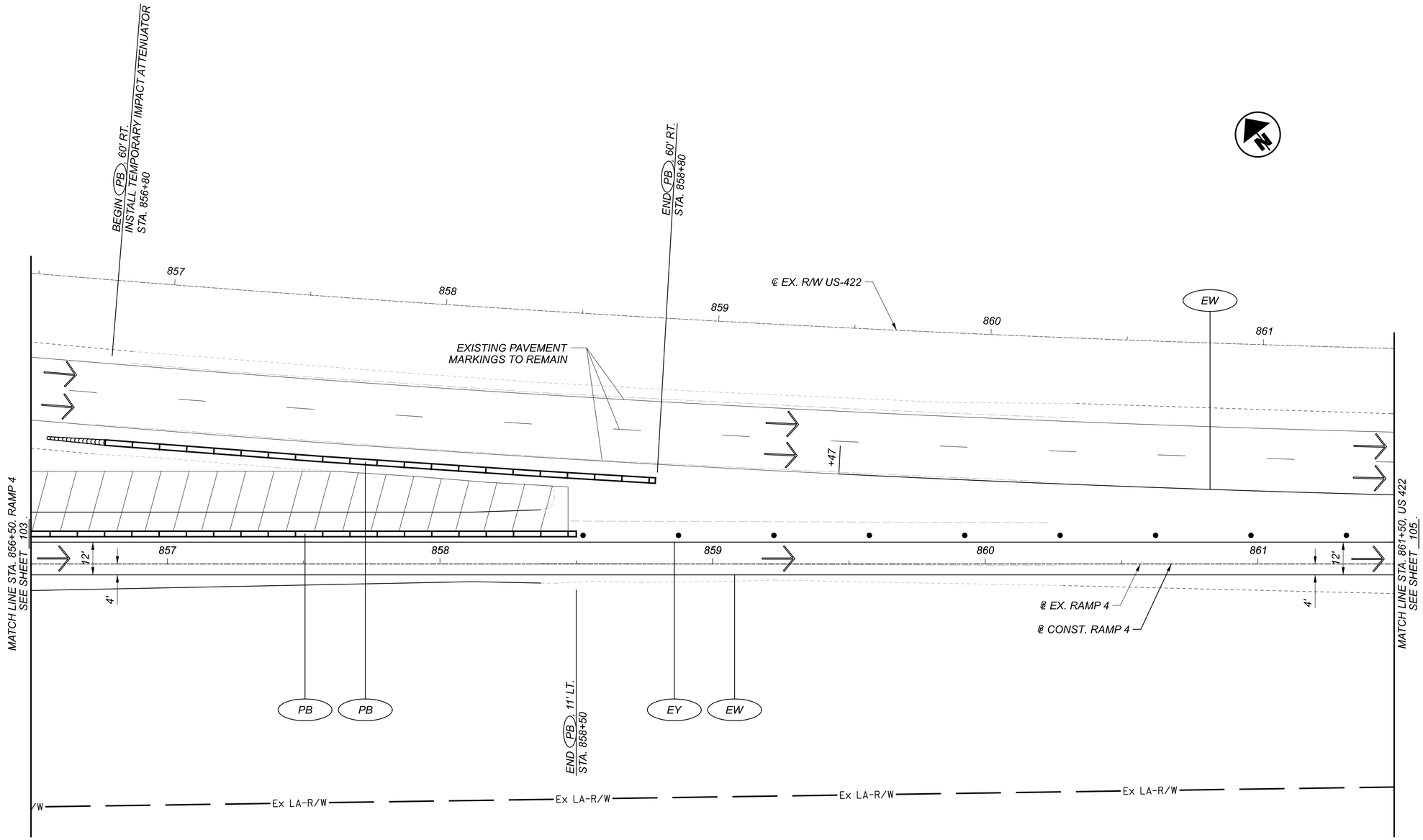

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
RAMP 4 - STA. 856+50 TO STA. 861+50

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 104 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP228 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:25:21 PM USER: aford
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MODEL: II3889_MP229 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:25:24 PM USER: aford
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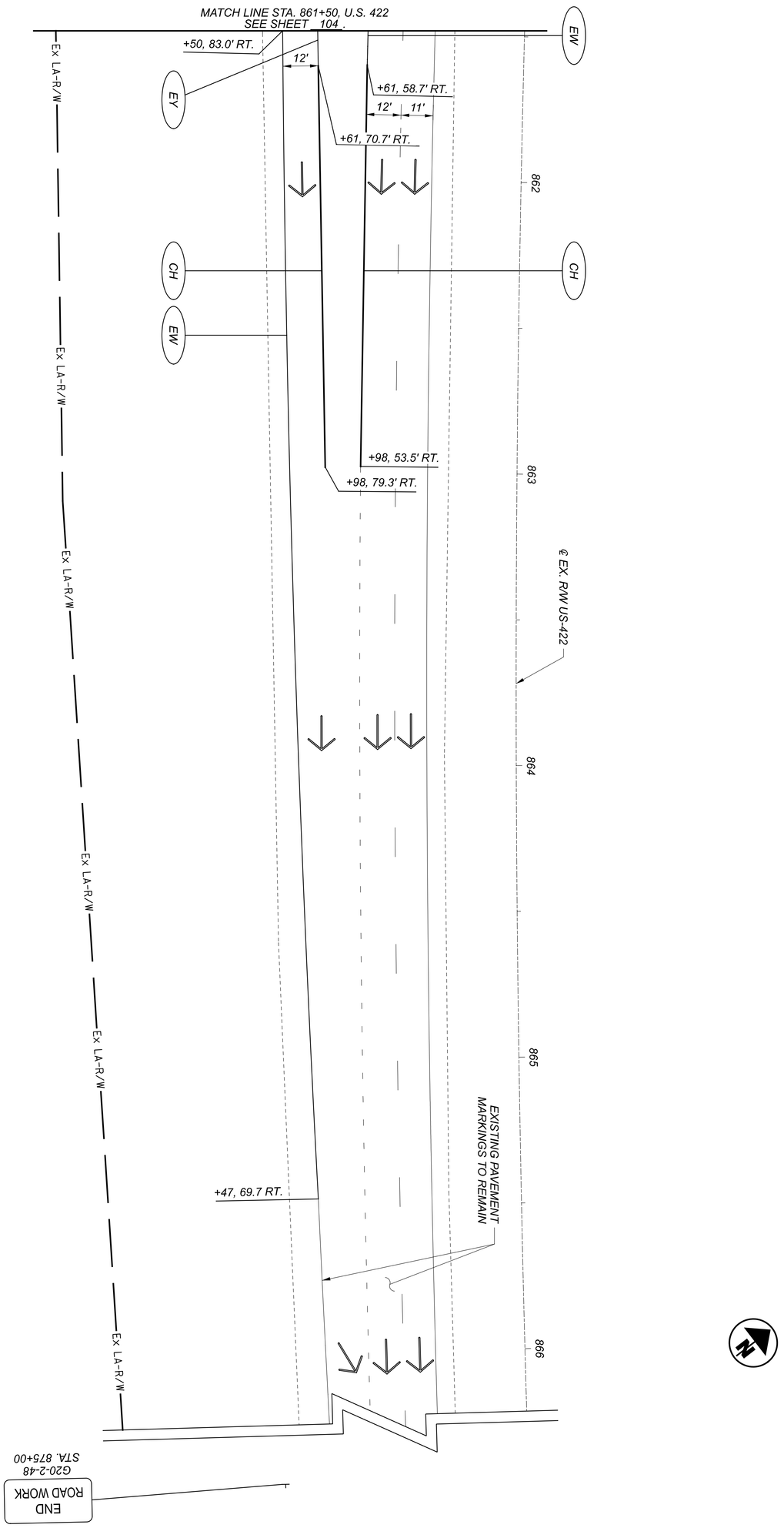


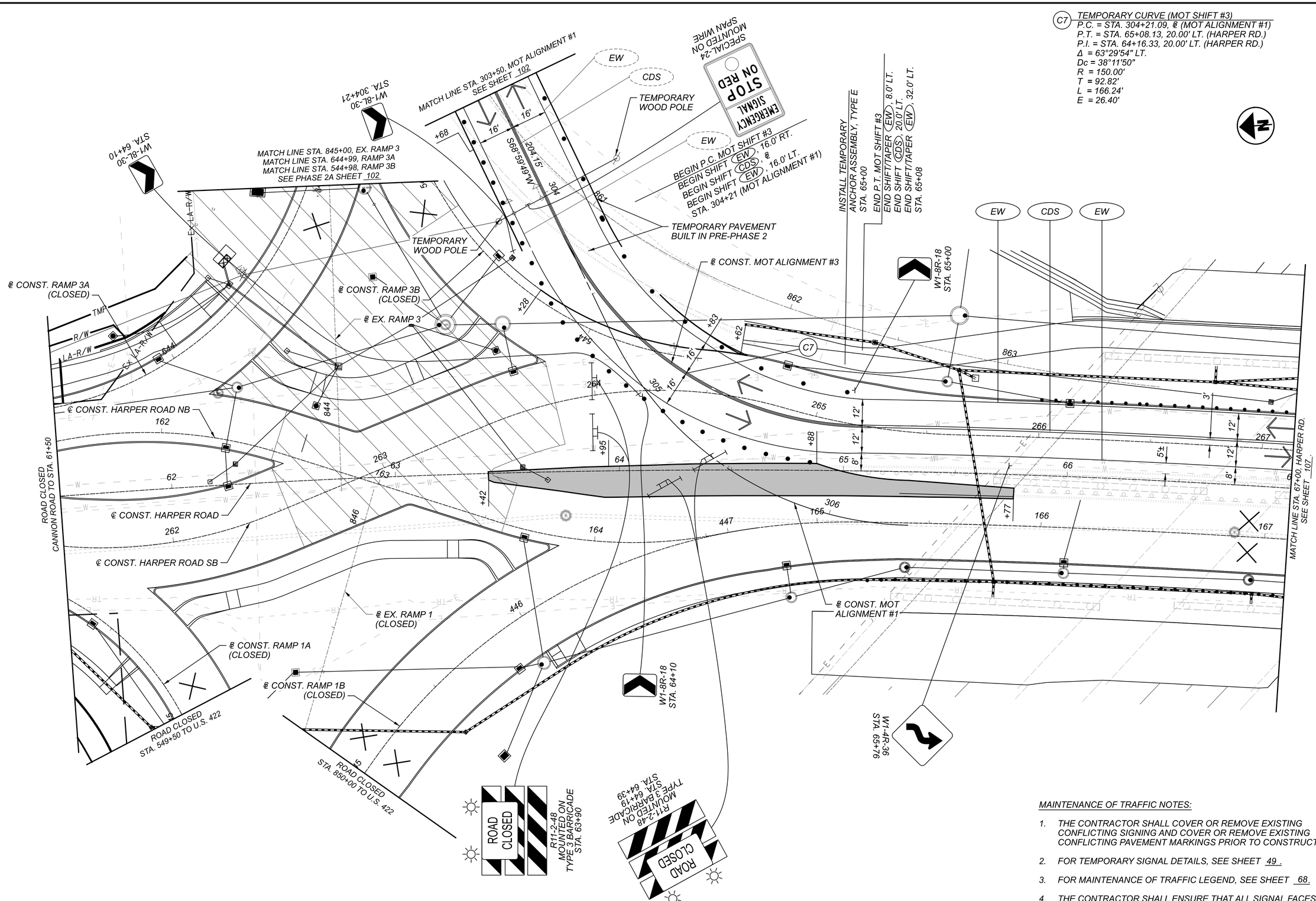
MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 105 TOTAL 481
DESIGN AGENCY
GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 2A
RAMP 4 - STA. 861+50 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 49 .
3. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.
4. THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.

MAINTENANCE OF TRAFFIC PLAN - PHASE 2B
HARPER RD. - STA. 61+50 TO STA. 67+00

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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	106
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP24I PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:25:30 PM USER: dford
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C8 TEMPORARY CURVE (MOT SHIFT #4A)
P.C. = STA. 68+75.89, 20.00' LT.
P.R.C. = STA. 69+72.52, 3.61' RT.
P.I. = STA. 69+27.72, 20.00' RT.
Δ = 28°51'23" RT.
Dc = 28°38'52"
R = 200.00'
T = 51.46'
L = 100.73'
E = 6.51'

C9 TEMPORARY CURVE (MOT SHIFT #4A)
P.R.C. = STA. 69+72.52, 3.61' RT.
P.T. = STA. 70+60.55, 25.00' RT.
P.I. = STA. 70+14.48, 25.00' RT.
Δ = 26°05'11" LT.
Dc = 28°38'52"
R = 200.00'
T = 46.33'
L = 91.06'
E = 5.31'

C10 TEMPORARY CURVE (MOT SHIFT #4B)
P.C. = STA. 69+61.66, 1.62' RT.
P.T. = STA. 70+39.62, 15.00 RT.
P.I. = STA. 69+99.36, 15.00' RT.
Δ = 22°56'54" LT.
Dc = 28°38'52"
R = 200.00'
T = 40.60'
L = 80.10'
E = 4.08'

MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 52 .
3. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.
4. THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 2B
HARPER RD. - STA. 67+00 TO STA. 72+00

DESIGN AGENCY
GPD GROUP®

DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 107 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
MODEL: I13889_MP242 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:25:36 PM USER: dford
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MAINTENANCE OF TRAFFIC PLAN - PHASE 3
HARPER RD. - STA. 61+50 TO STA. 67+00

HORIZONTAL SCALE IN FEET
0 10 20 40

MATCH LINE STA. 645+00, RAMP 3A
SEE SHEET 117

MATCH LINE STA. 545+00, RAMP 3B
SEE SHEET 117

TEMPORARY WOOD POLE

TEMPORARY WOOD POLE

SPECIAL-24 MOUNTED ON TEMPORARY SPAN WIRE
EMERGENCY SIGNAL
STOP ON RED

℄ CONST. RAMP 3A (CLOSED)

℄ CONST. RAMP 3B

℄ EX. RAMP 5

℄ CONST. HARPER ROAD NB

℄ CONST. HARPER ROAD

℄ CONST. HARPER ROAD SB

℄ CONST. RAMP 1A (CLOSED)

℄ CONST. RAMP 1B

ROAD CLOSED
CANNON ROAD TO STA. 61+50

MATCH LINE STA. 345+00, RAMP 1A
SEE SHEET 114

MATCH LINE STA. 445+00, RAMP 1B
SEE SHEET 114

MATCH LINE STA. 67+00, HARPER RD.
MATCH LINE STA. 167+10, HARPER RD. NB
MATCH LINE STA. 267+14, HARPER RD. SB
SEE SHEET 109

ROAD CLOSED
R11-2-48
MOUNTED ON
BARRICADE
TYPE 3
STA. 446+30

TO INTERSTATE 271
M4-5-21
M1-1-30-3
M6-2L-21
STA. 446+18

WEST 422
SPECIAL
STA. 446+18

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 50 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

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GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 108 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_MP30l PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:32:04 PM USER: aford
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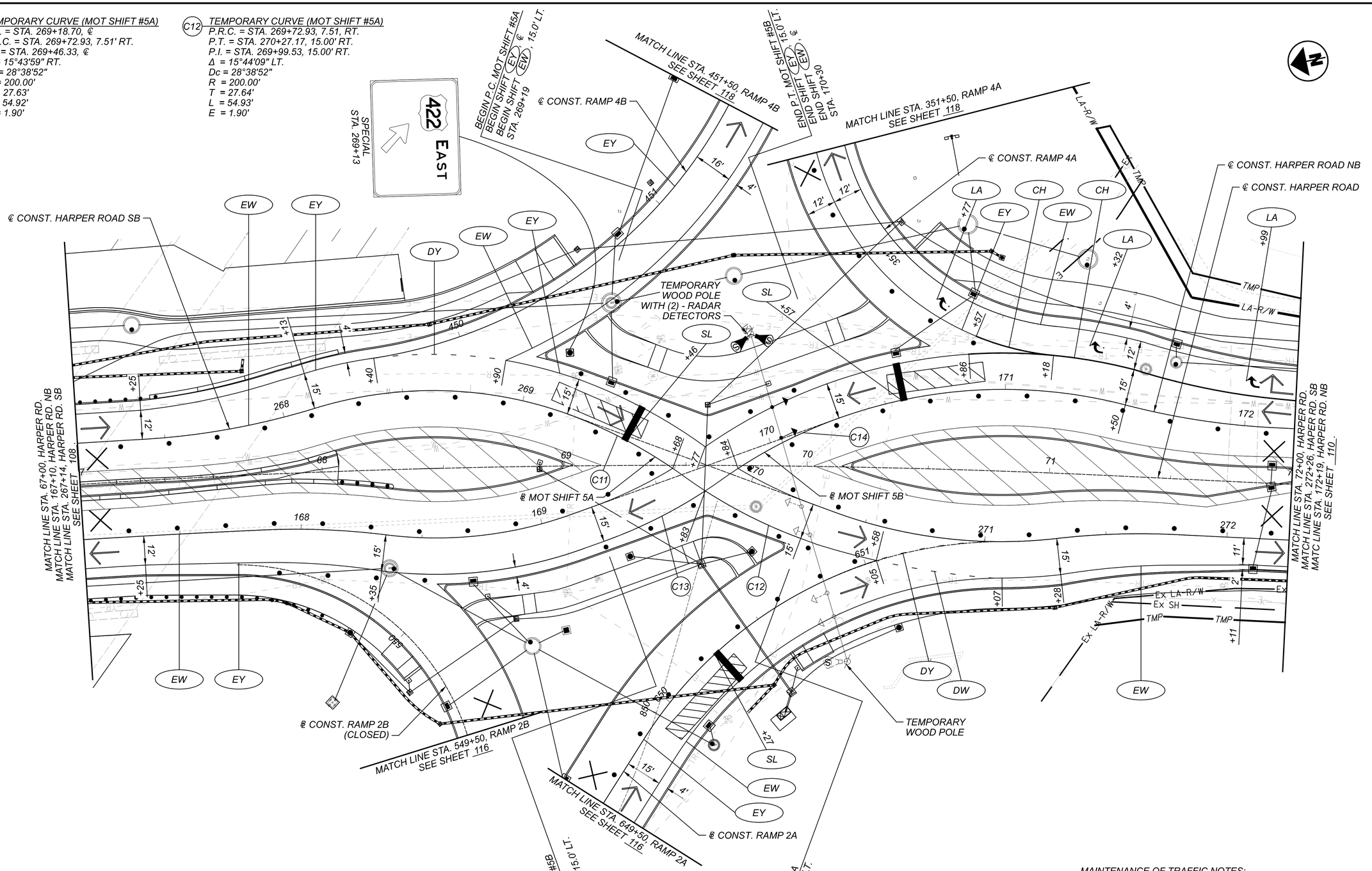
C11 *TEMPORARY CURVE (MOT SHIFT #5A)*
P.C. = STA. 269+18.70, ℄
P.R.C. = STA. 269+72.93, 7.51' RT.
P.I. = STA. 269+46.33, ℄
Δ = 15°43'59" RT.
Dc = 28°38'52"
R = 200.00'
T = 27.63'
L = 54.92'
E = 1.90'

C12 *TEMPORARY CURVE (MOT SHIFT #5A)*
P.R.C. = STA. 269+72.93, 7.51, RT.
P.T. = STA. 270+27.17, 15.00' RT.
P.I. = STA. 269+99.53, 15.00' RT.
Δ = 15°44'09" LT.
Dc = 28°38'52"
R = 200.00'
T = 27.64'
L = 54.93'
E = 1.90'

C13 *TEMPORARY CURVE (MOT SHIFT #5B)*
P.C. = STA. 169+21.61,15.00' RT.
P.R.C. = STA. 169+75.86, 7.50' RT.
P.I. = STA. 169+49.26, 15.00' RT.
Δ = 15°44'26" RT.
Dc = 28°38'52"
R = 200.00'
T = 27.65'
L = 54.94'
E = 1.90'

C14 *TEMPORARY CURVE (MOT SHIFT #5B)*
P.R.C. = STA. 169+75.86, 7.50, RT.
P.T. = STA. 170+30.12, ℄
P.I. = STA. 170+02.47, ℄
Δ = 15°44'26" LT.
Dc = 28°38'52"
R = 200.00'
T = 27.65'
L = 54.94'
E = 1.90'



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 52.*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
HARPER RD. - STA. 67+00 TO STA. 72+00

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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 109 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP302 PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 2:32:12 PM USER: aford
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CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_MP303 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:32:17 PM USER: aford
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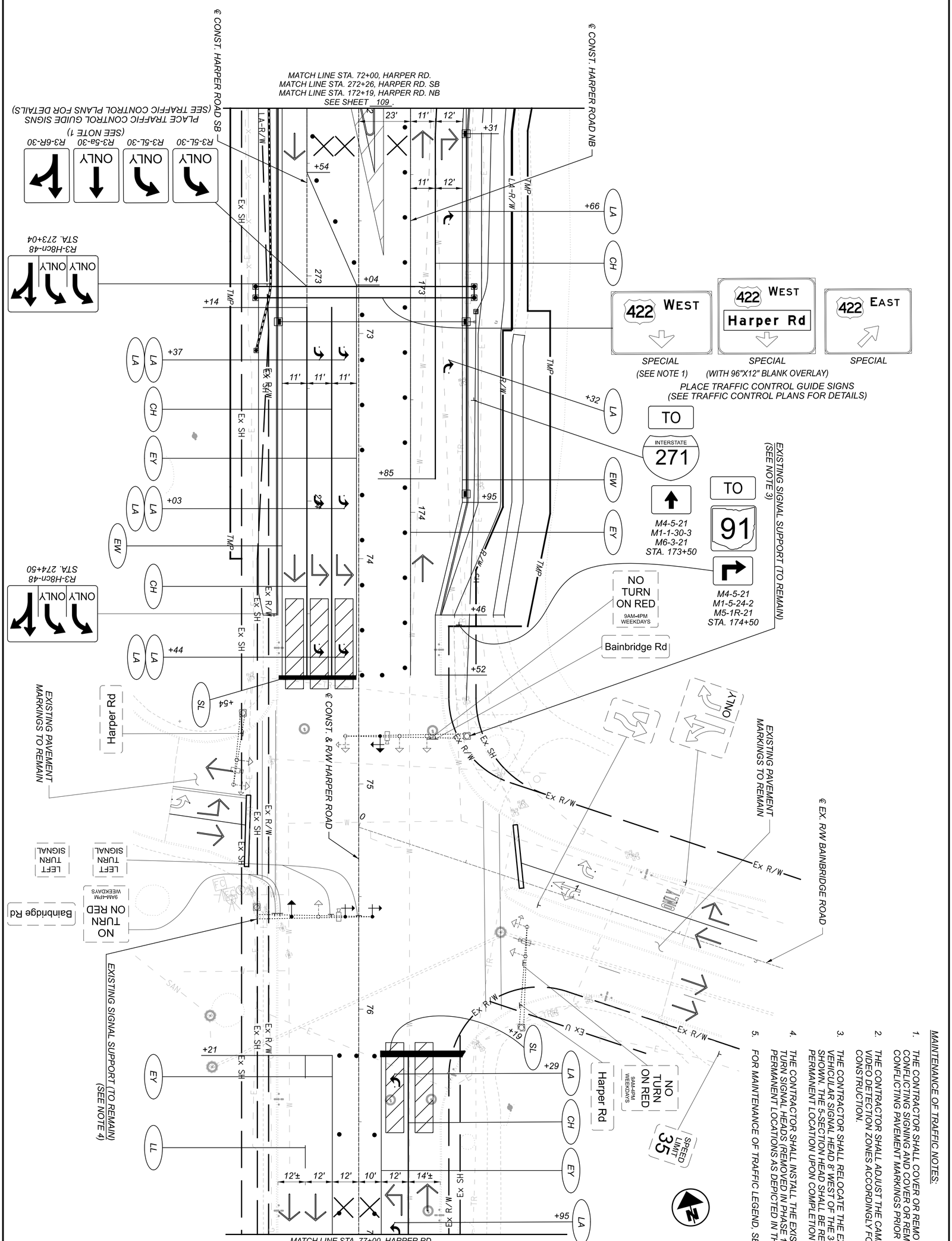

MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL ADJUST THE CAMERA LOCATION AND VIDEO DETECTION ZONES ACCORDINGLY FOR EACH PHASE OF CONSTRUCTION.
3. THE CONTRACTOR SHALL RELOCATE THE EXISTING 5-SECTION VEHICULAR SIGNAL HEAD 8' WEST OF THE 3-SECTION HEAD AS SHOWN. THE 5-SECTION HEAD SHALL BE RETURNED TO ITS PERMANENT LOCATION UPON COMPLETION OF PHASE 3
4. THE CONTRACTOR SHALL INSTALL THE EXISTING 3-SECTION LEFT TURN SIGNAL HEADS (REMOVED IN PHASE 1) AT THEIR PERMANENT LOCATIONS AS DEPICTED IN THE PLANS.
5. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

DESIGNER KRM	REVIEWER AKF 6-8-23	PROJECT ID 113889	SHEET 110 TOTAL 481

DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
HARPER RD. - STA. 72+00 TO STA. 77+00

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: ll3889_MP304 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:32:22 PM USER: aford
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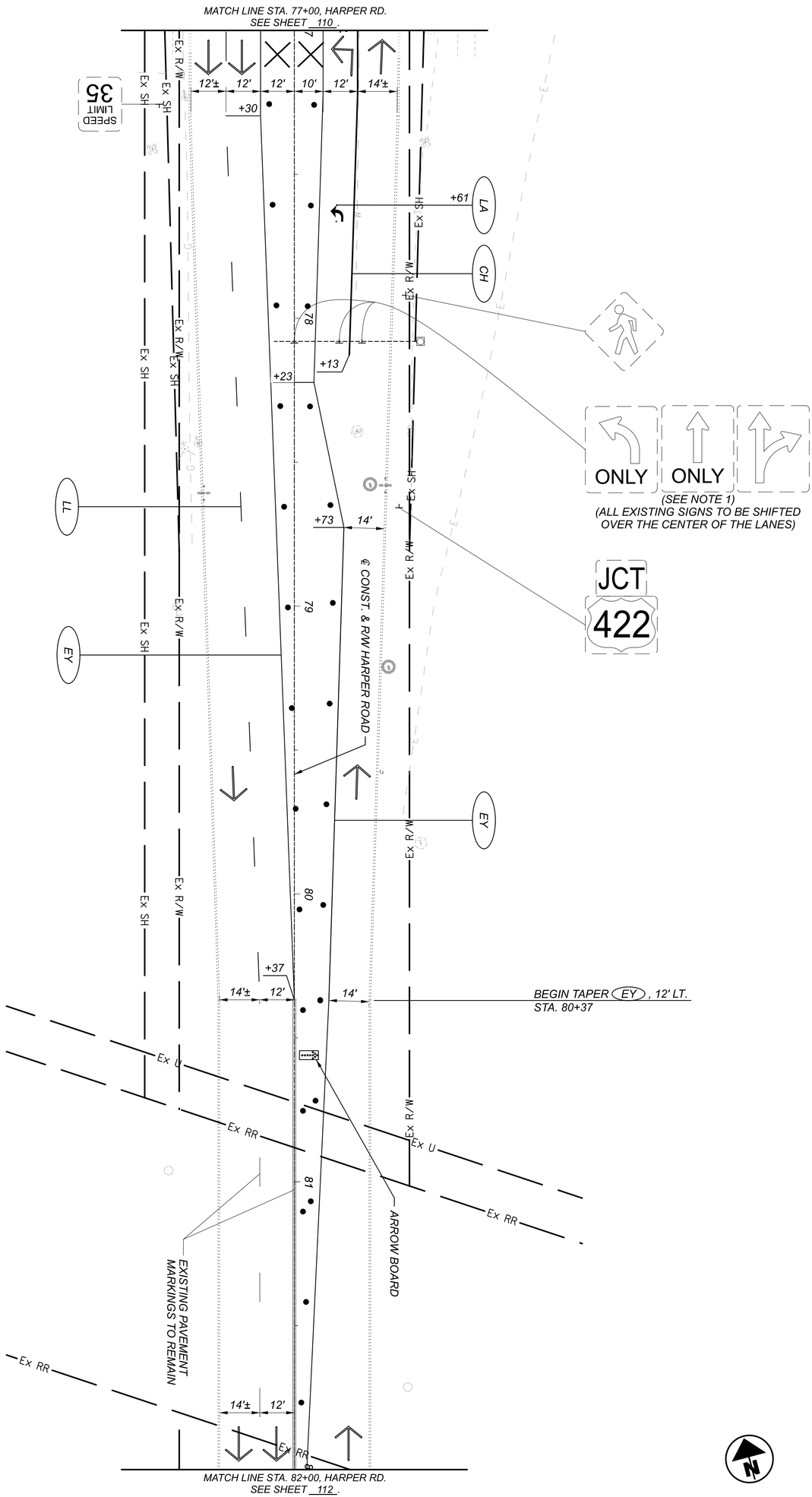

MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .

DESIGNER	REVIEWER	PROJECT ID	SHEET	TOTAL
KRM	AKF 6-8-23	113889	111	481

DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
HARPER RD. - STA. 77+00 TO STA. 82+00

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: ll3889_MP305 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:32:29 PM USER: aford
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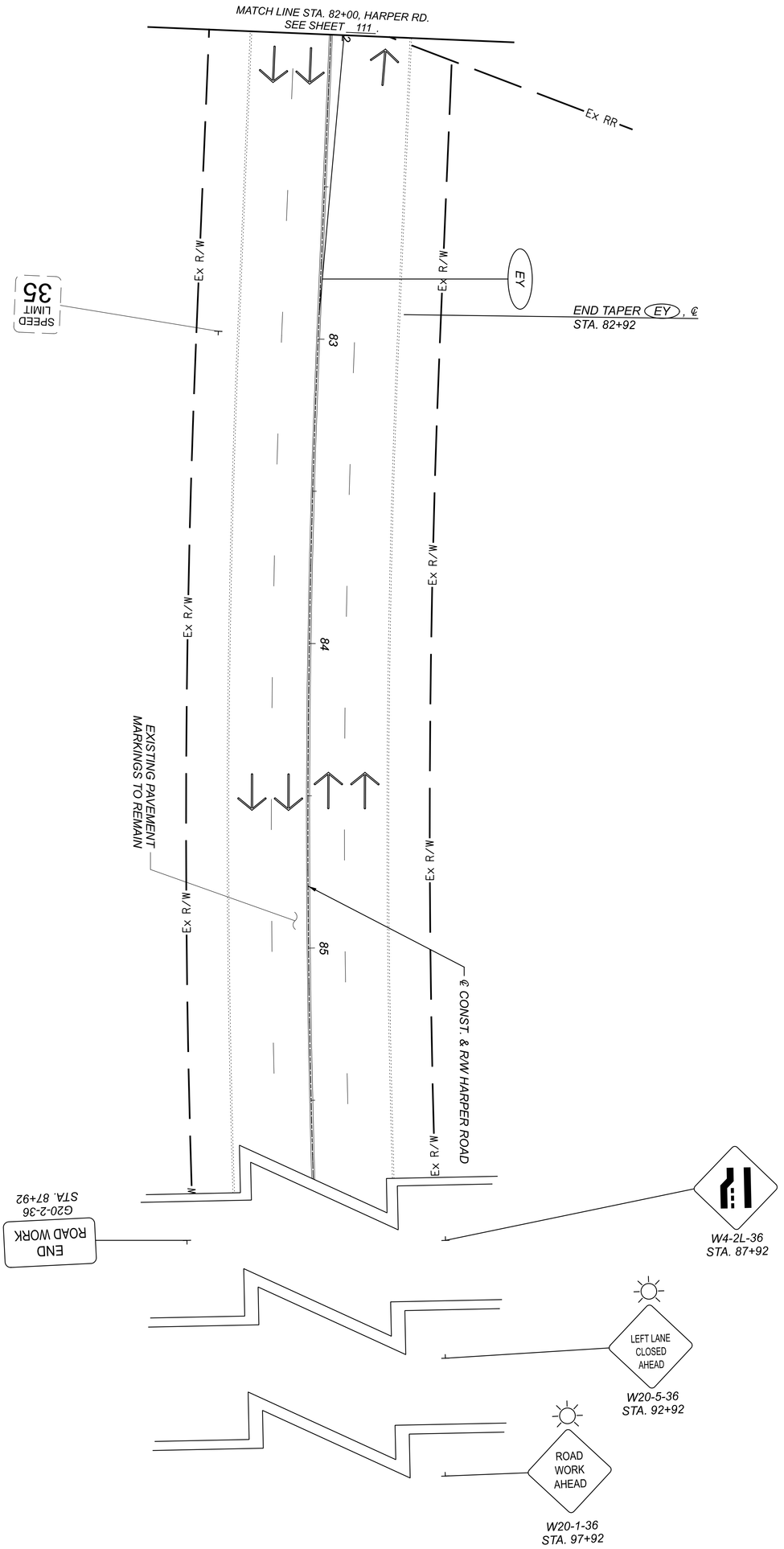


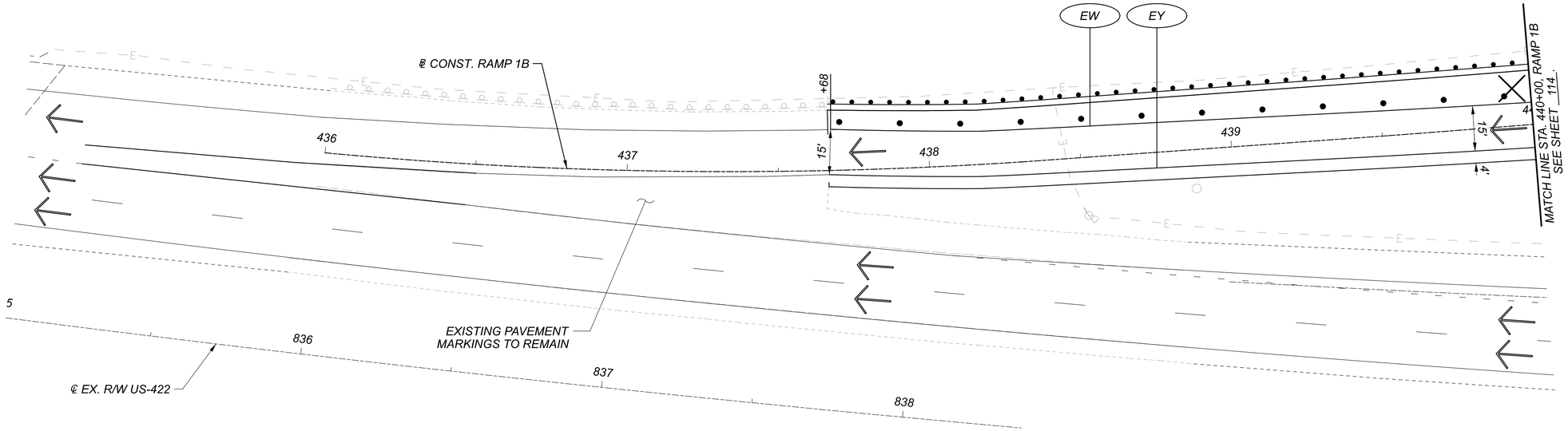
MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 112 TOTAL 481
DESIGN AGENCY GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
HARPER RD. - STA. 82+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
RAMP 1B - BEGIN TO STA. 440+00

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_MP3II PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:32:33 PM USER: afford
G:\Clients\ORD\2020\2020336\II3889\400-Engineering\MOT\Sheets\II3889_MP3ii.dgn

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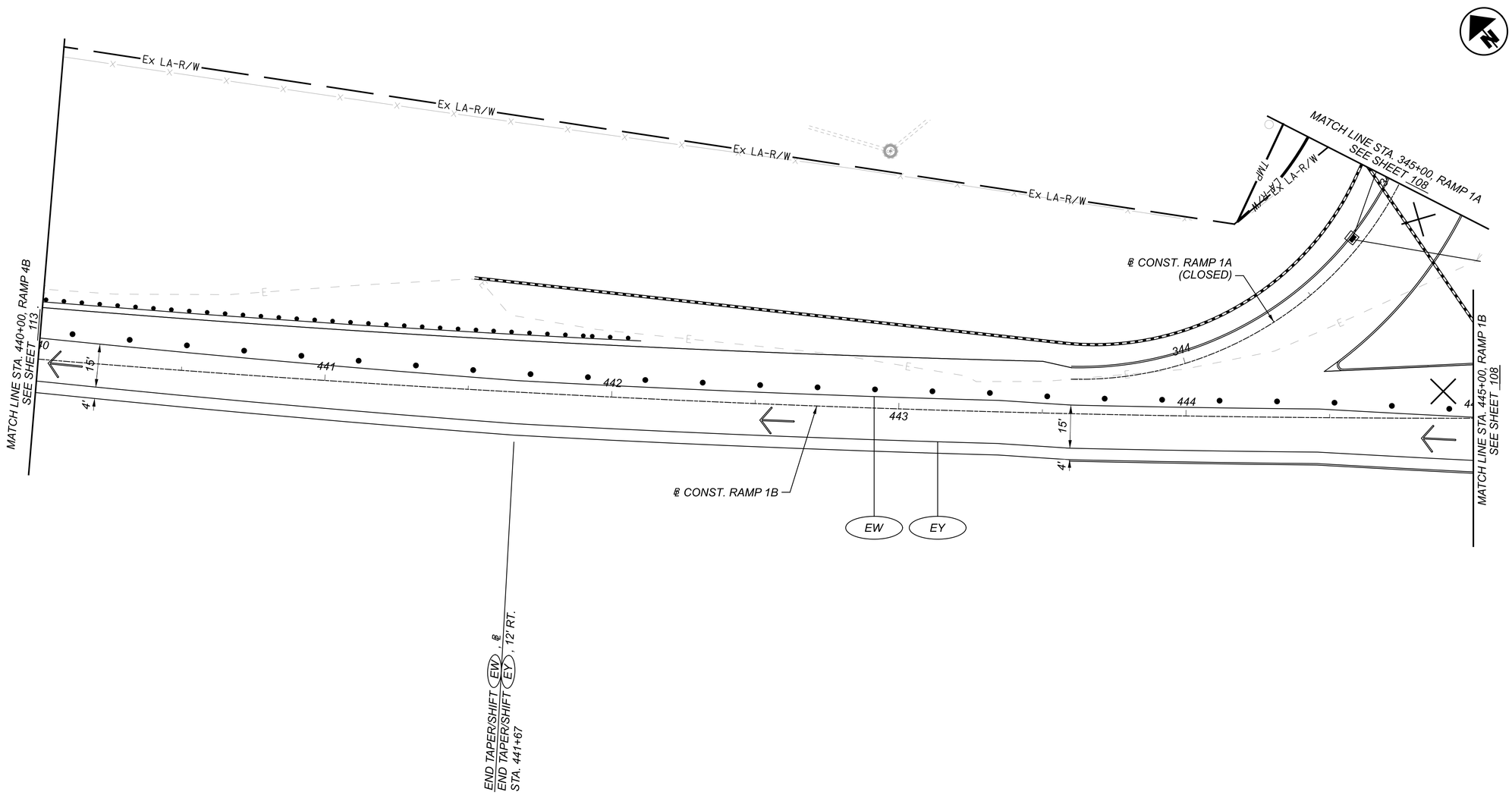
DESIGNER: KRM
REVIEWER: AKF 6-8-23
PROJECT ID: 113889
SHEET: 113 TOTAL: 481



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
RAMP 1B - STA. 440+00 TO STA. 445+00

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP3I2 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:32:35 PM USER: dford
O:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_MP3I2.dgn

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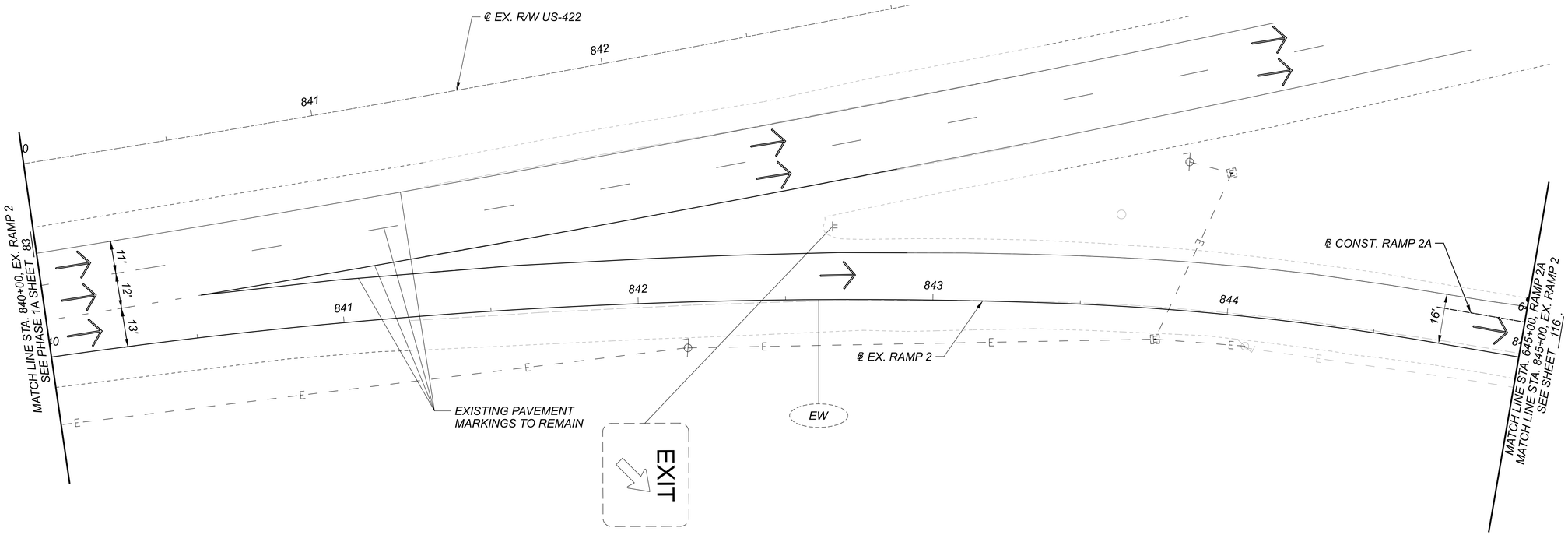
DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	114
TOTAL	481



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
EX. RAMP 2 - STA. 840+00 TO STA. 845+00

DESIGN AGENCY
GPD GROUP
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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 115 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_MP306 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:32:39 PM USER: aford
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MODEL: ll3889_MP307 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:32:47 PM USER: aford
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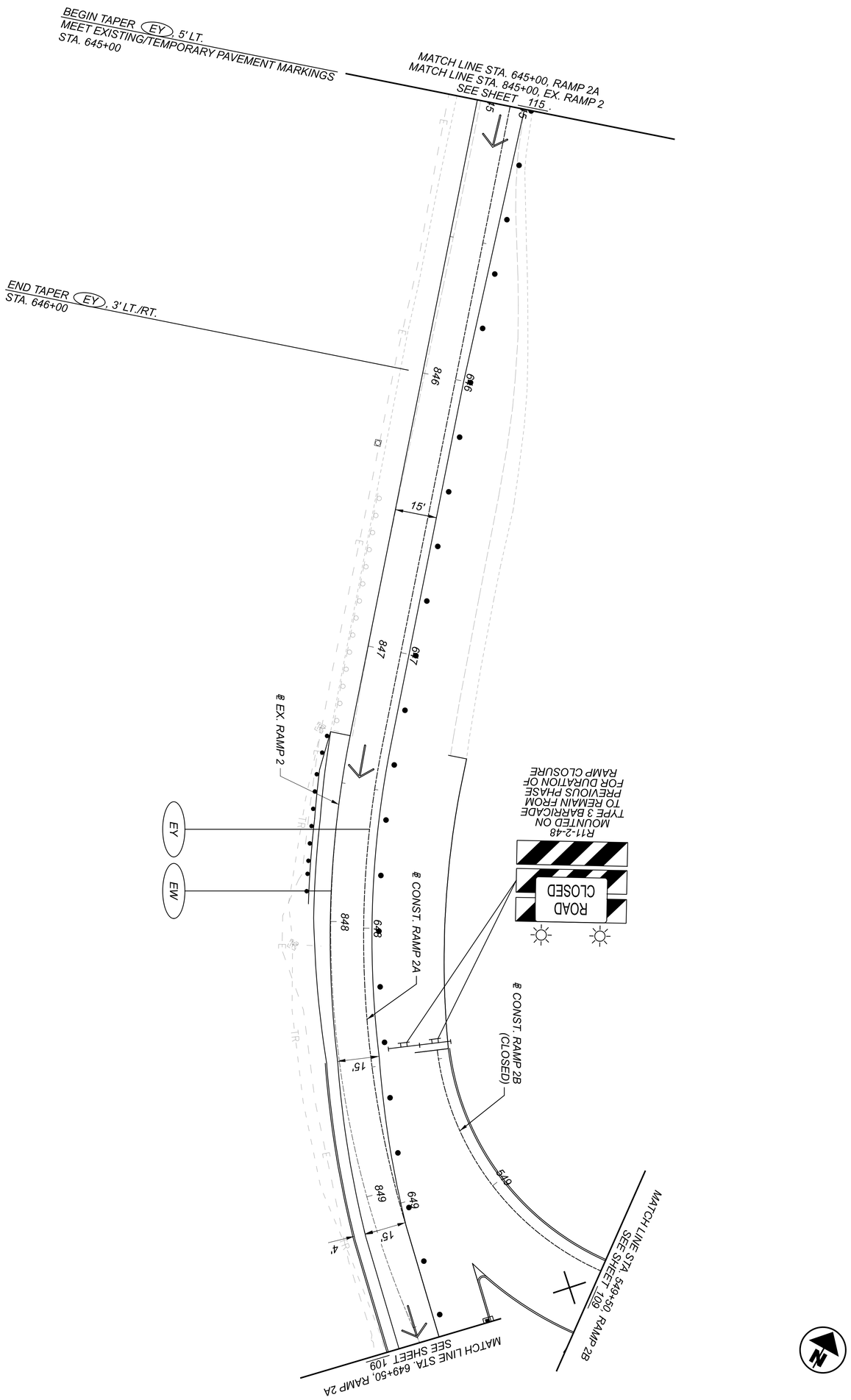


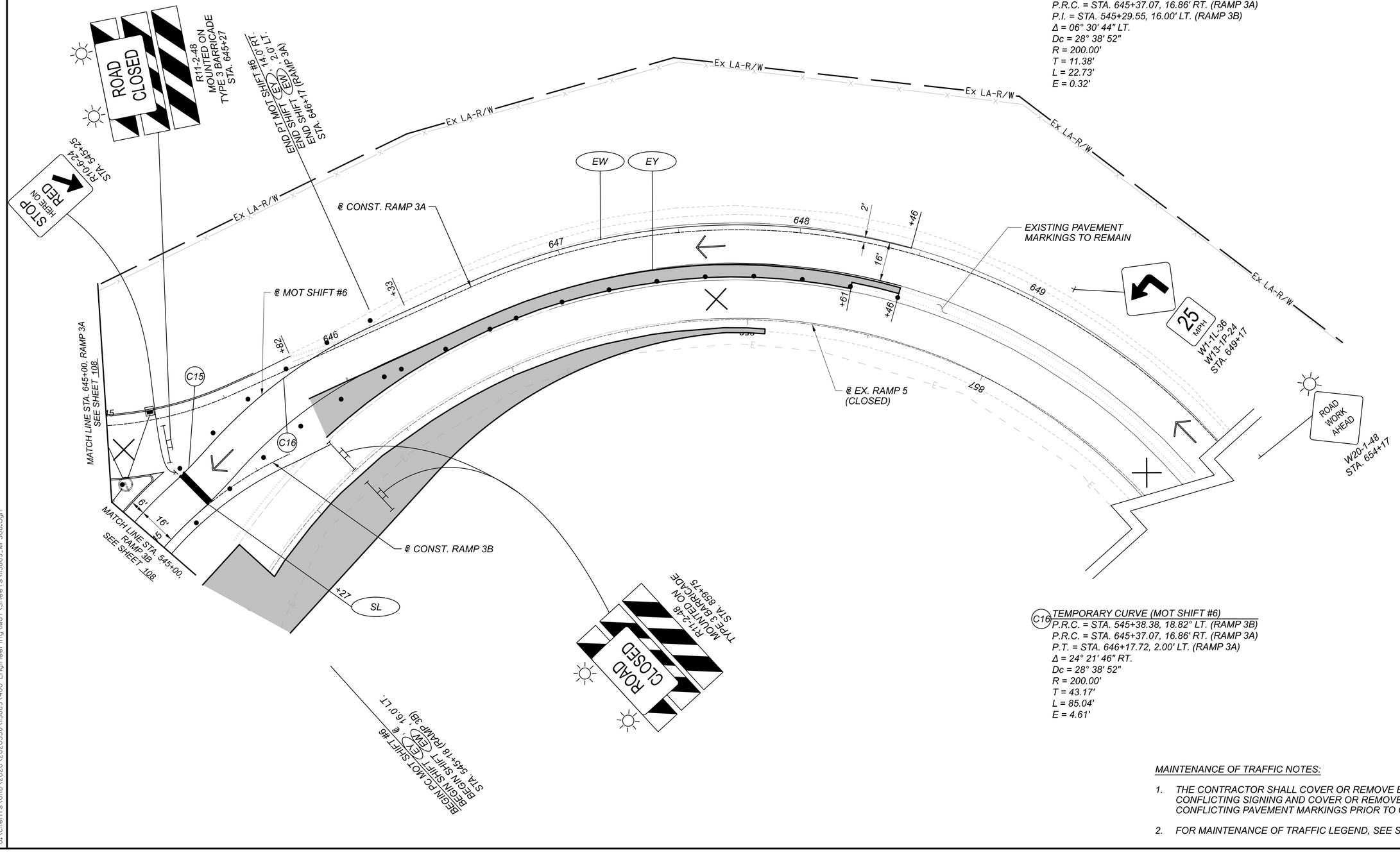
MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

DESIGNER: KRM
REVIEWER: AKF 6-8-23
PROJECT ID: 113889
SHEET: 116 TOTAL: 481
DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
RAMP 2A - STA. 645+00 TO STA. 649+50

HORIZONTAL SCALE IN FEET
0 20
10 40



C15 *TEMPORARY CURVE (MOT SHIFT #6)*
P.C. = STA. 545+18.17, 16.00' LT. (RAMP 3B)
P.R.C. = STA. 545+38.38, 18.82° LT. (RAMP 3B)
P.R.C. = STA. 645+37.07, 16.86' RT. (RAMP 3A)
P.I. = STA. 545+29.55, 16.00' LT. (RAMP 3B)
Δ = 06° 30' 44" LT.
Dc = 28° 38' 52"
R = 200.00'
T = 11.38'
L = 22.73'
E = 0.32'

C16 *TEMPORARY CURVE (MOT SHIFT #6)*
P.R.C. = STA. 545+38.38, 18.82° LT. (RAMP 3B)
P.R.C. = STA. 645+37.07, 16.86' RT. (RAMP 3A)
P.T. = STA. 646+17.72, 2.00' LT. (RAMP 3A)
Δ = 24° 21' 46" RT.
Dc = 28° 38' 52"
R = 200.00'
T = 43.17'
L = 85.04'
E = 4.61'

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
RAMP 3B - STA. 545+00 TO END

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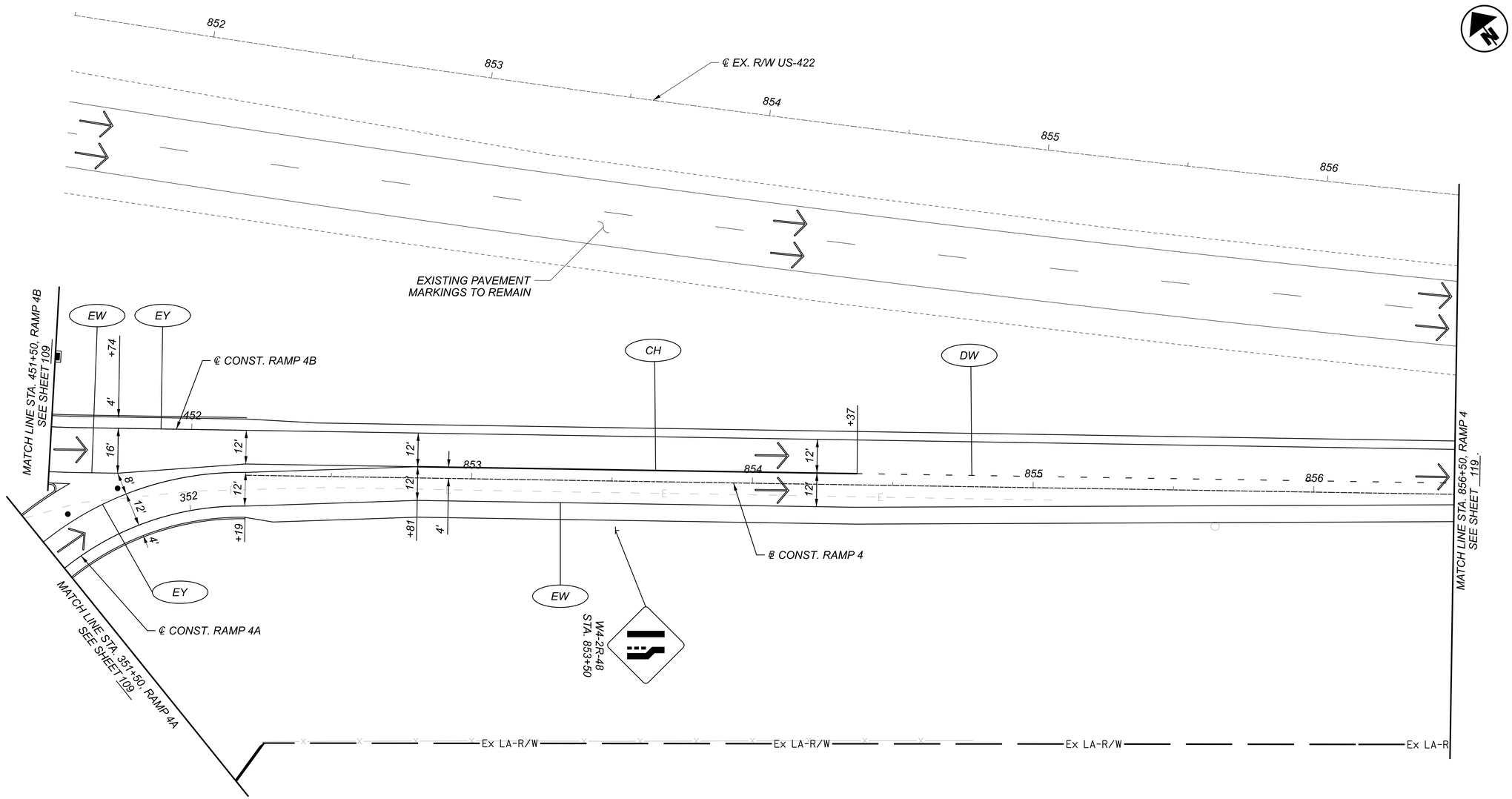
DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	117
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_MP308 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:32:51 PM USER: afford
O:\Clients\ORD\2020\2020336\II3889\400-Engineering\MOT\Sheets\II3889_MP308.dgn



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
RAMPS 4A & 4 - STA. 451+50 TO STA. 856+50

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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	118
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP309 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:32:54 PM USER: aford
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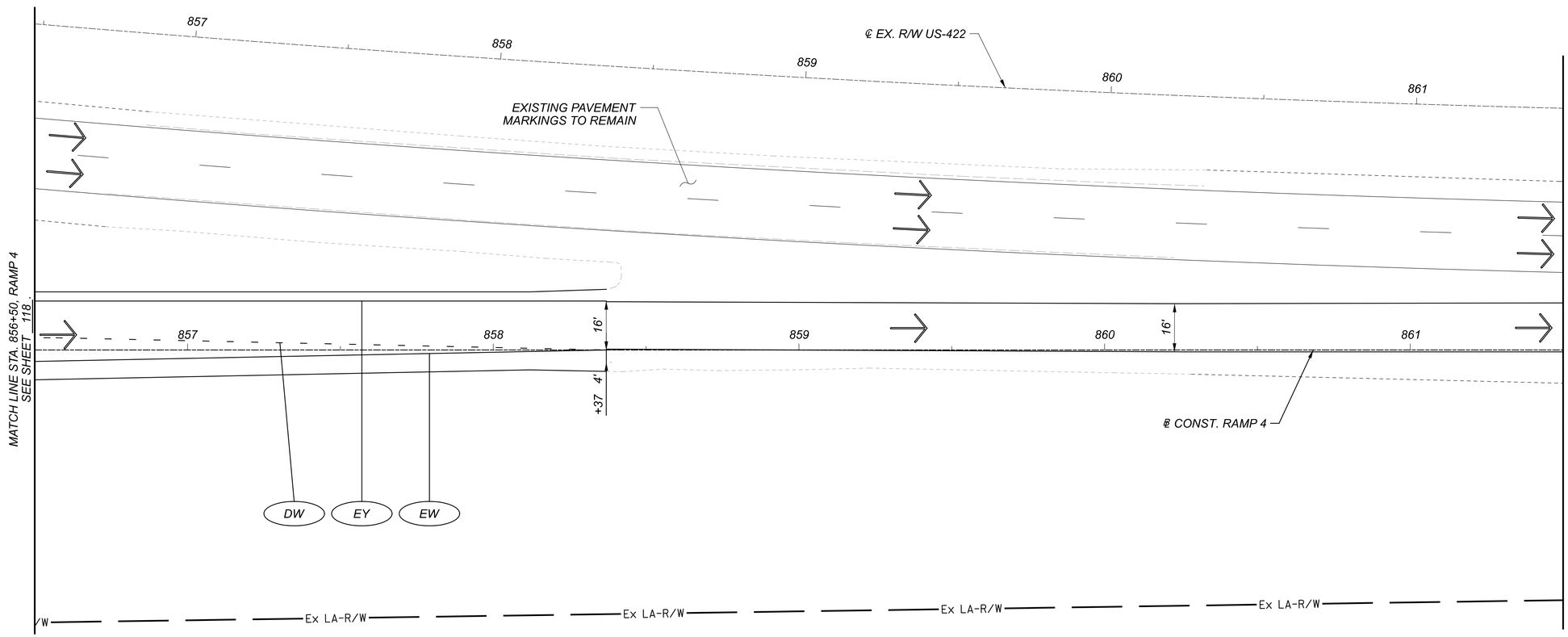

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
RAMP 4 - STA. 856+50 TO STA. 861+50

DESIGN AGENCY
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	119
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_MP310 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:33:01 PM USER: aford
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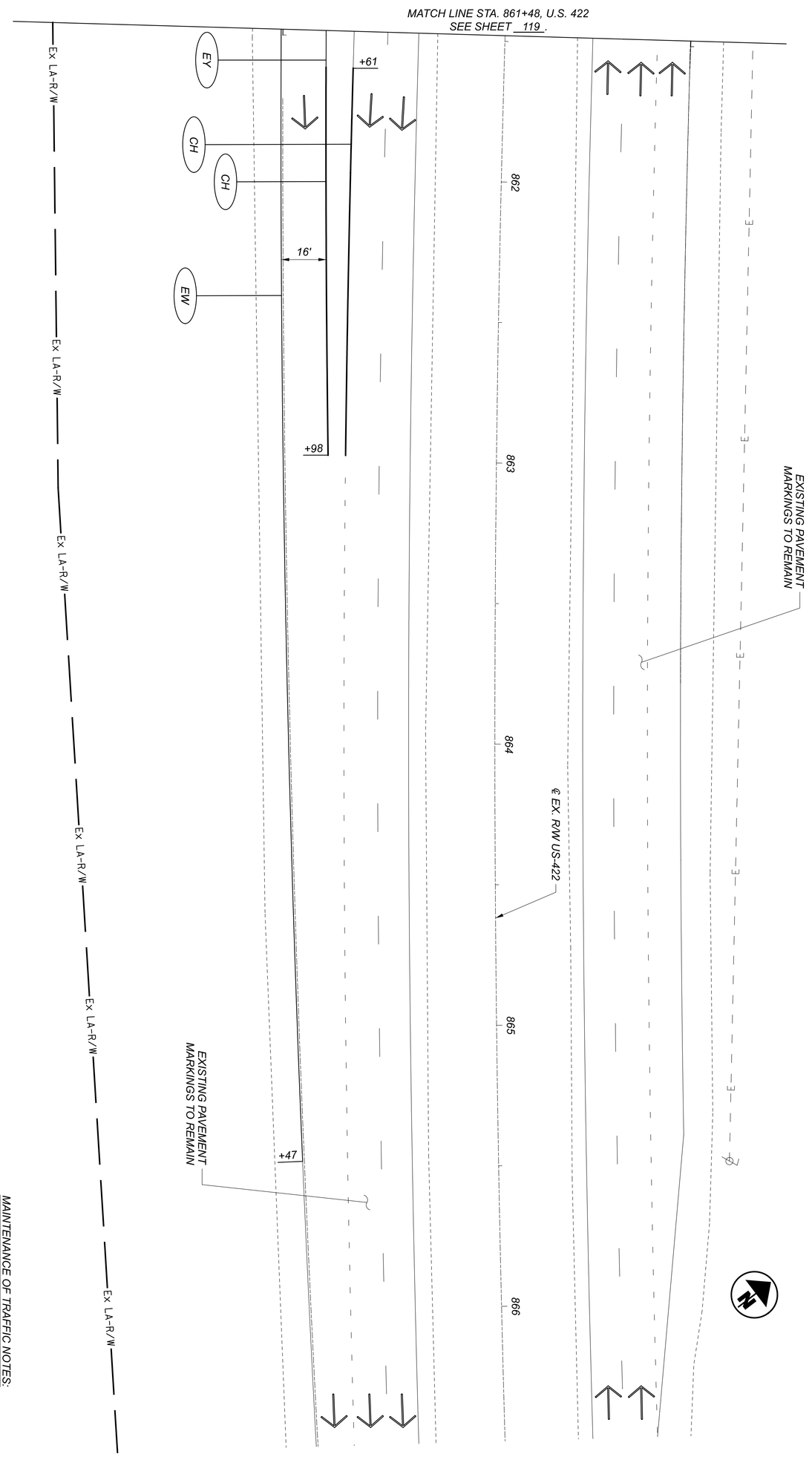


MAINTENANCE OF TRAFFIC NOTES:

1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .

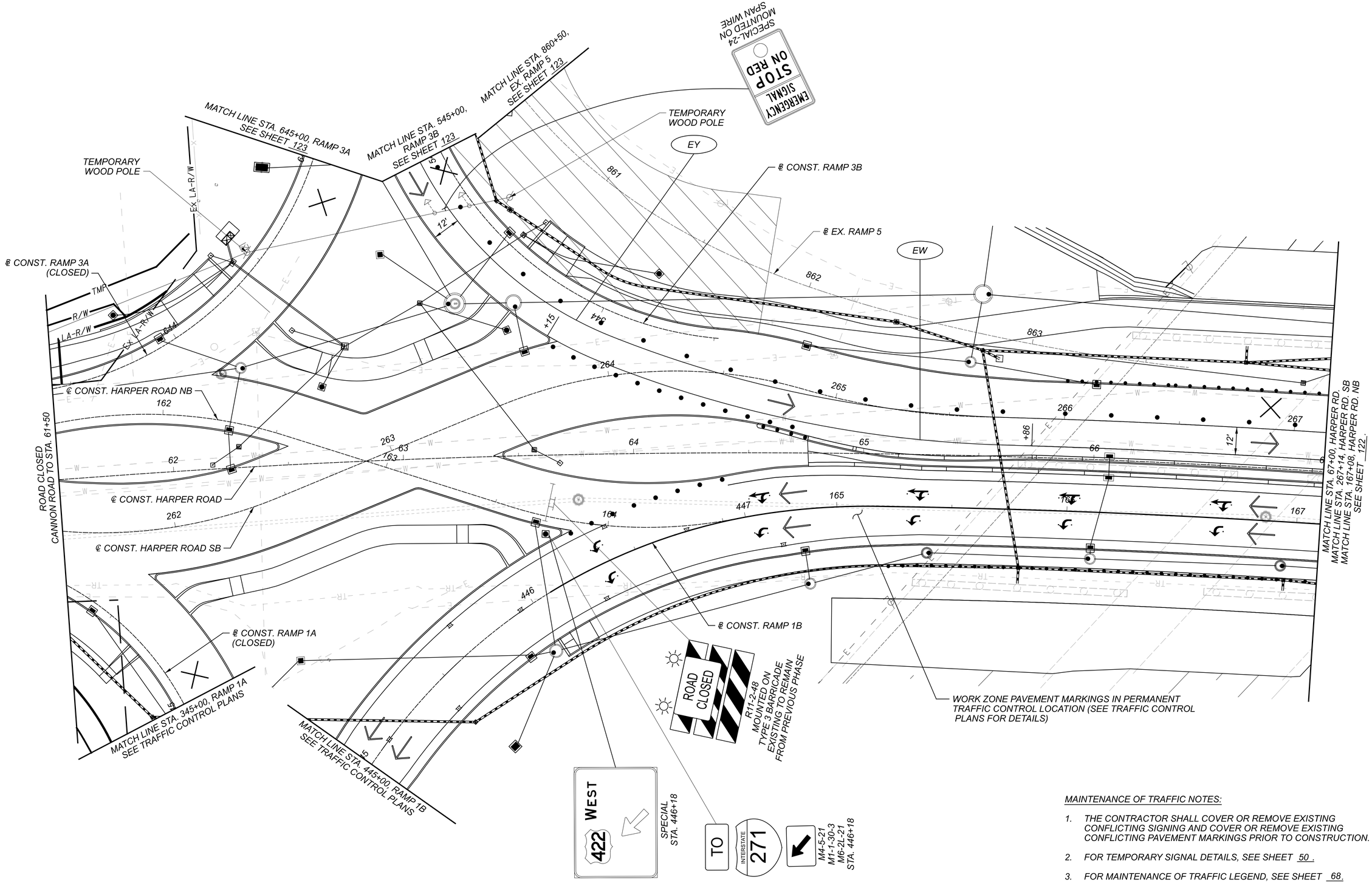
DESIGNER: BEB
REVIEWER: AKF 6-8-23
PROJECT ID: 113889
SHEET: 120 TOTAL: 481
DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
US 422 - STA. 861+48 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3A
HARPER RD. - STA. 61+50 TO STA. 67+00

HORIZONTAL SCALE IN FEET
0 10 20 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 50 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

DESIGN AGENCY
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	121
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: li3889_MP32l PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 2:33:10 PM USER: aford
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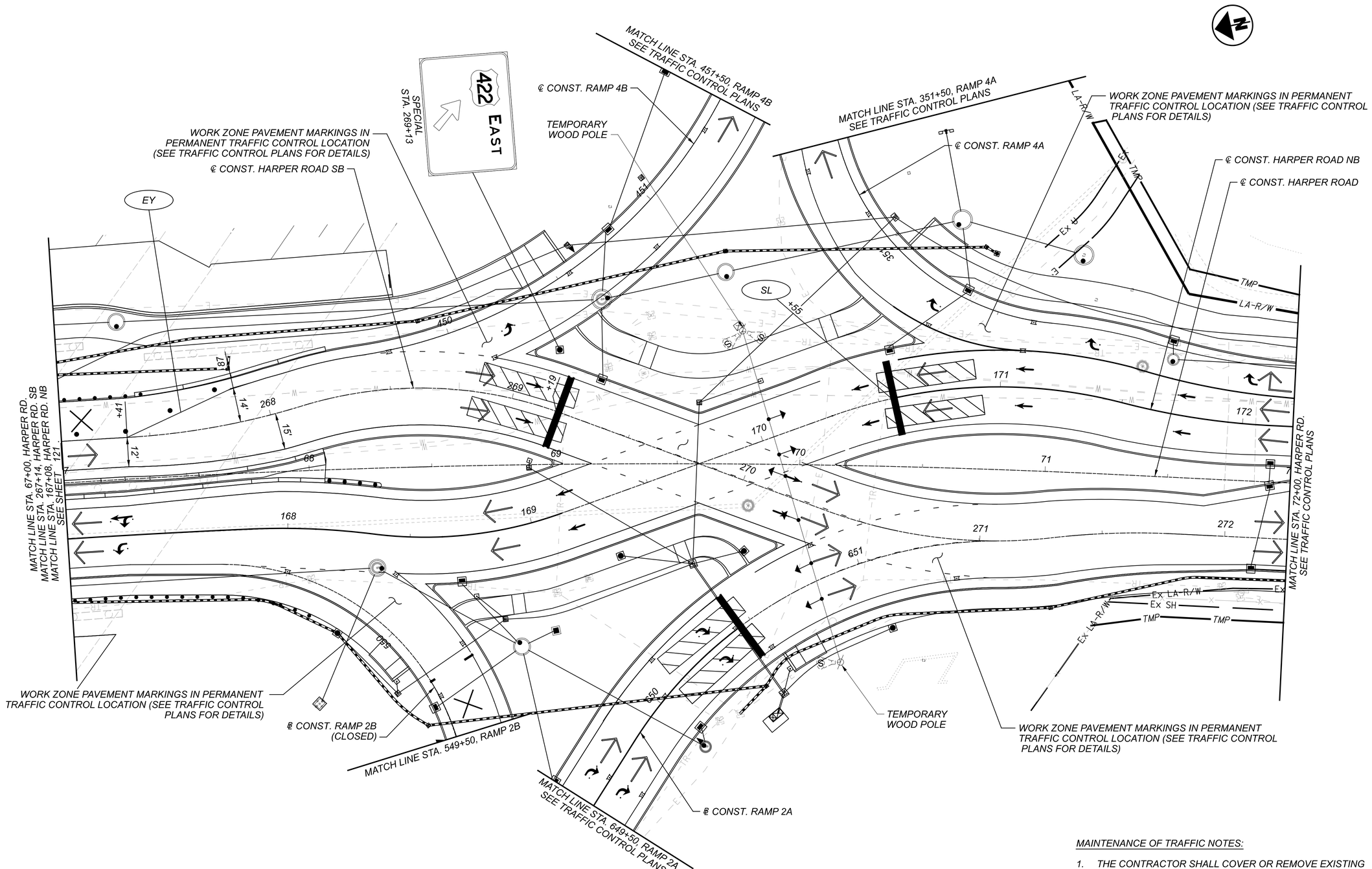

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 52 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*
5. *THE CONTRACTOR SHALL ADJUST THE RADAR DETECTION ZONES ACCORDINGLY FOR EACH PHASE OF CONSTRUCTION.*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 3A
HARPER RD. - STA. 67+00 TO STA. 72+00

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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	122
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP322 PAPERSIZE: 34x22 (In) DATE: 6/7/2023 TIME: 2:33:20 PM USER: dford
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MODEL: ll3889_MP323 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:33:25 PM USER: aford
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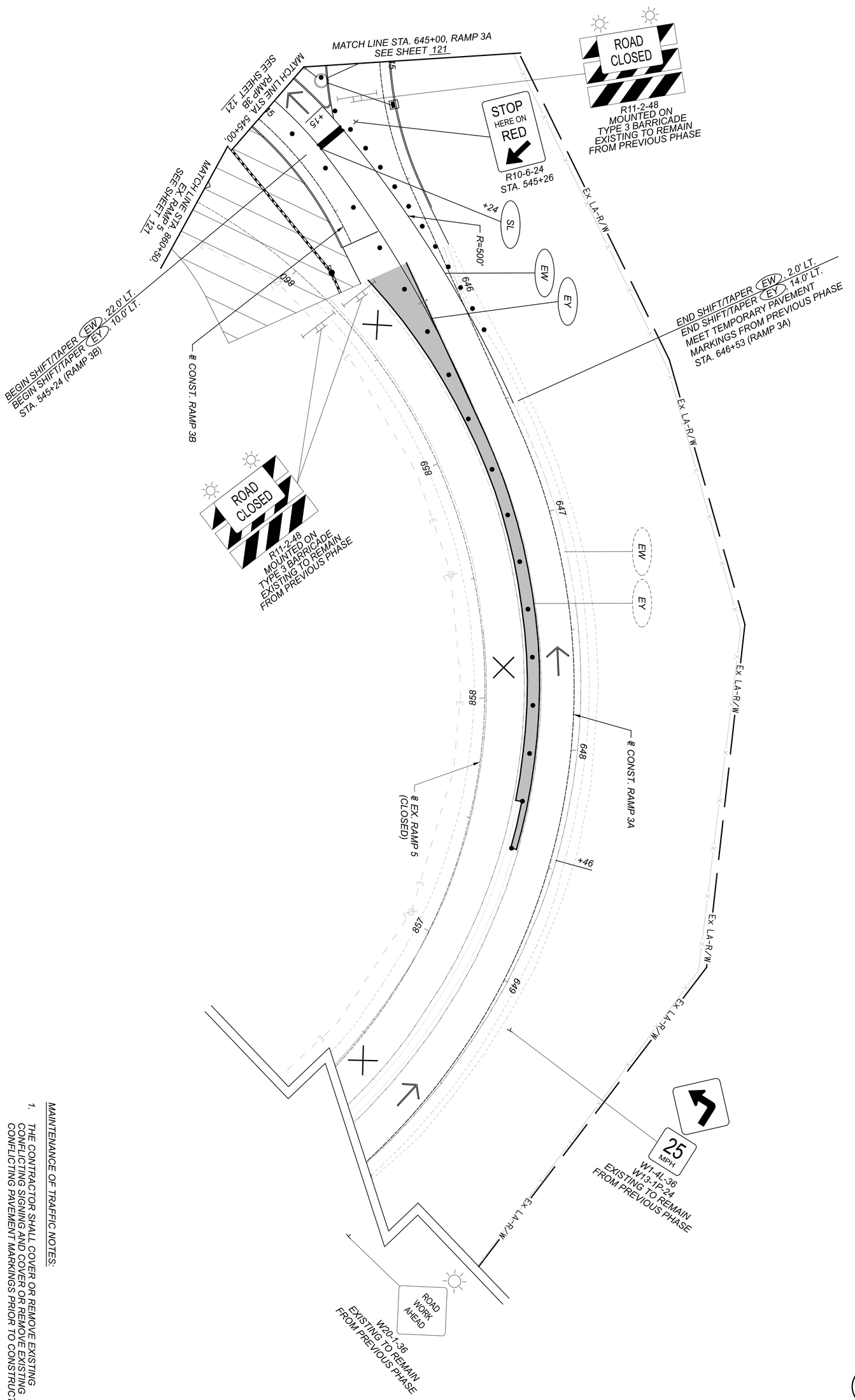


MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*

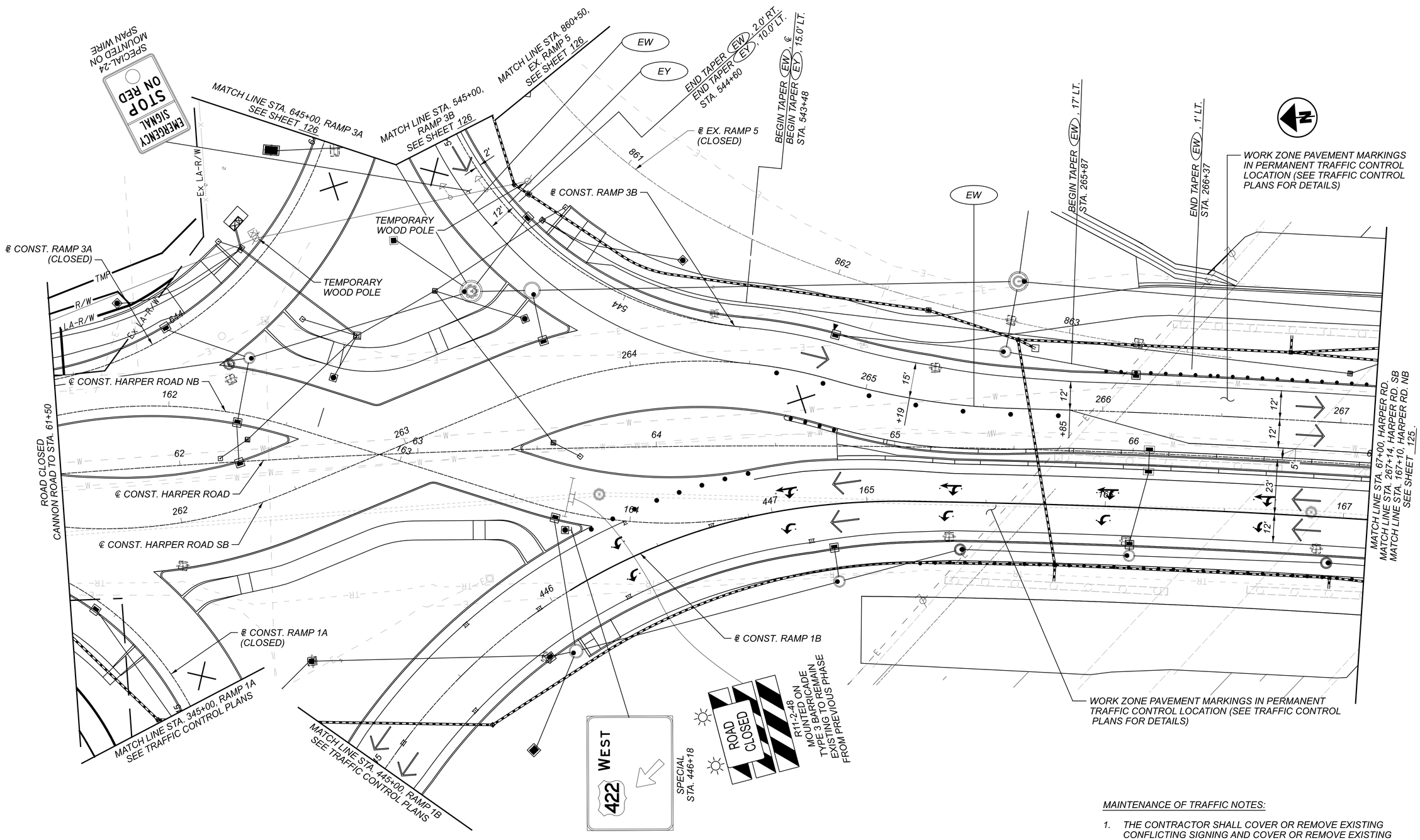
DESIGNER: KRM	REVIEWER: AKF 6-8-23	PROJECT ID: 113889	SHEET 123 TOTAL 481

GPD GROUP

DESIGN AGENCY

MAINTENANCE OF TRAFFIC PLAN - PHASE 3A
RAMP 3A - STA. 645+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 50 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
HARPER RD. - STA. 61+50 TO STA. 67+00

CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_MP40l PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:33:32 PM USER: aford
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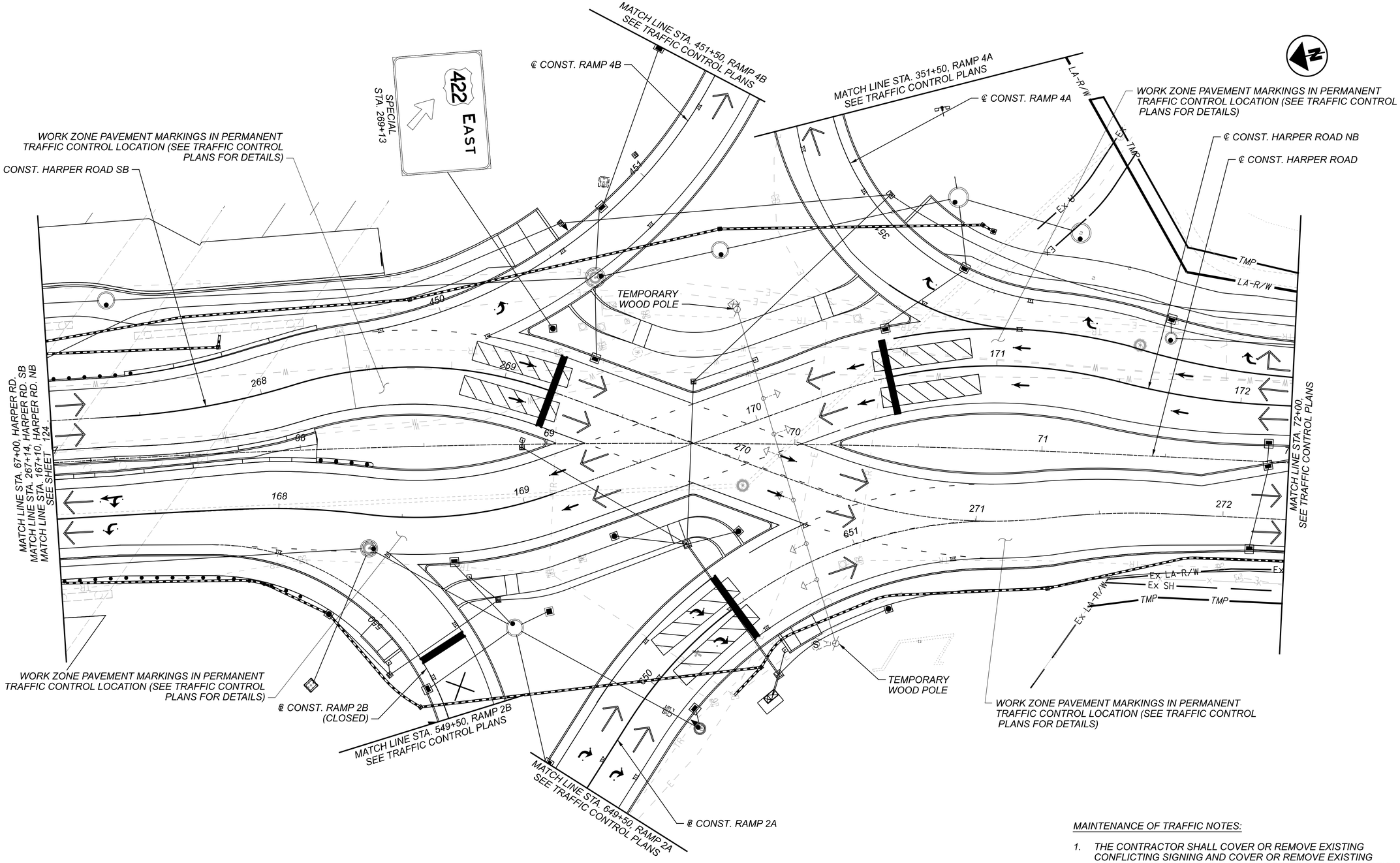
DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	124
TOTAL	481



MAINTENANCE OF TRAFFIC PLAN - PHASE 4
HARPER RD. - STA. 67+00 TO STA. 72+00

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 52 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*
5. *THE CONTRACTOR SHALL ADJUST THE RADAR DETECTION ZONES ACCORDINGLY FOR EACH PHASE OF CONSTRUCTION.*

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP402 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:33:38 PM USER: afford
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	125
TOTAL	481

MODEL: ll3889_MP403 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:33:42 PM USER: aford
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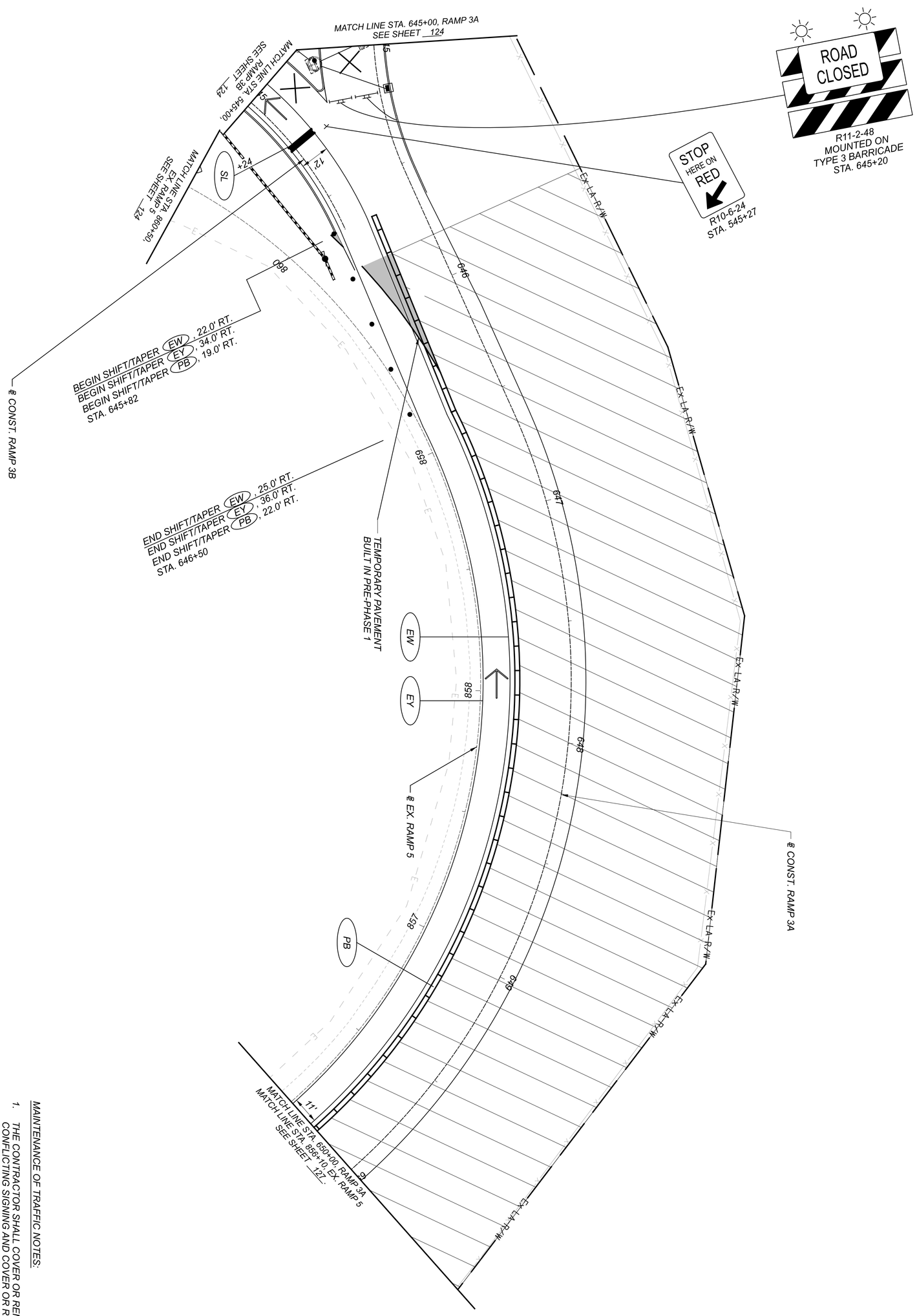


MAINTENANCE OF TRAFFIC NOTES:

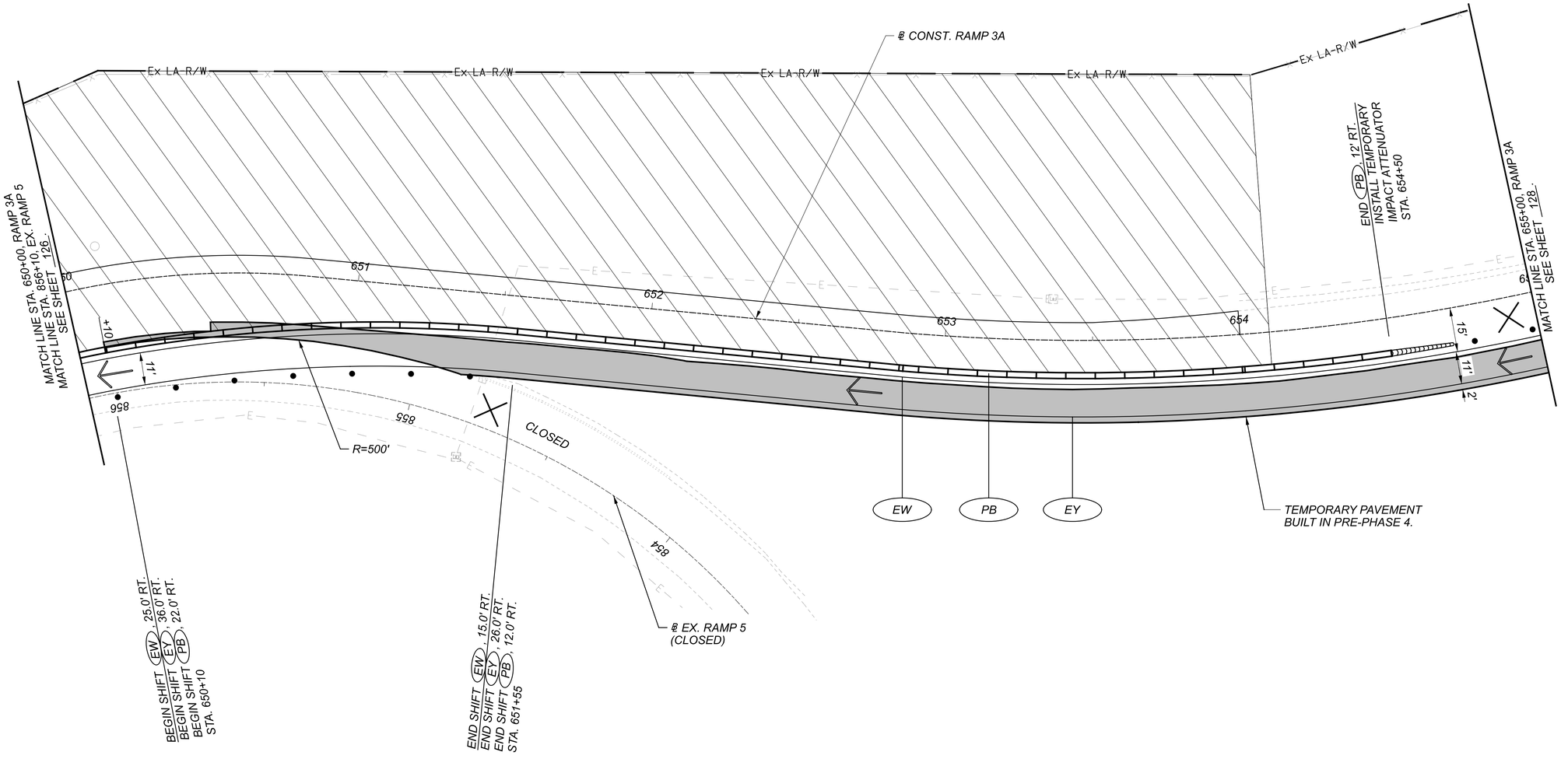
1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

DESIGNER	REVIEWER	PROJECT ID	SHEET	TOTAL
KRM	AKF 6-8-23	113889	126	481

DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
RAMP 3A- STA. 645+00 TO STA. 650+00

HORIZONTAL SCALE IN FEET
0 20
10 40



HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
RAMP 3A - STA. 650+00 TO STA. 655+00

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

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DESIGNER	
KRM	
REVIEWER	
AKF	6-8-23
PROJECT ID	
113889	
SHEET	TOTAL
127	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP404 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:33:45 PM USER: dford
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CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_MP405 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:33:51PM USER: aford
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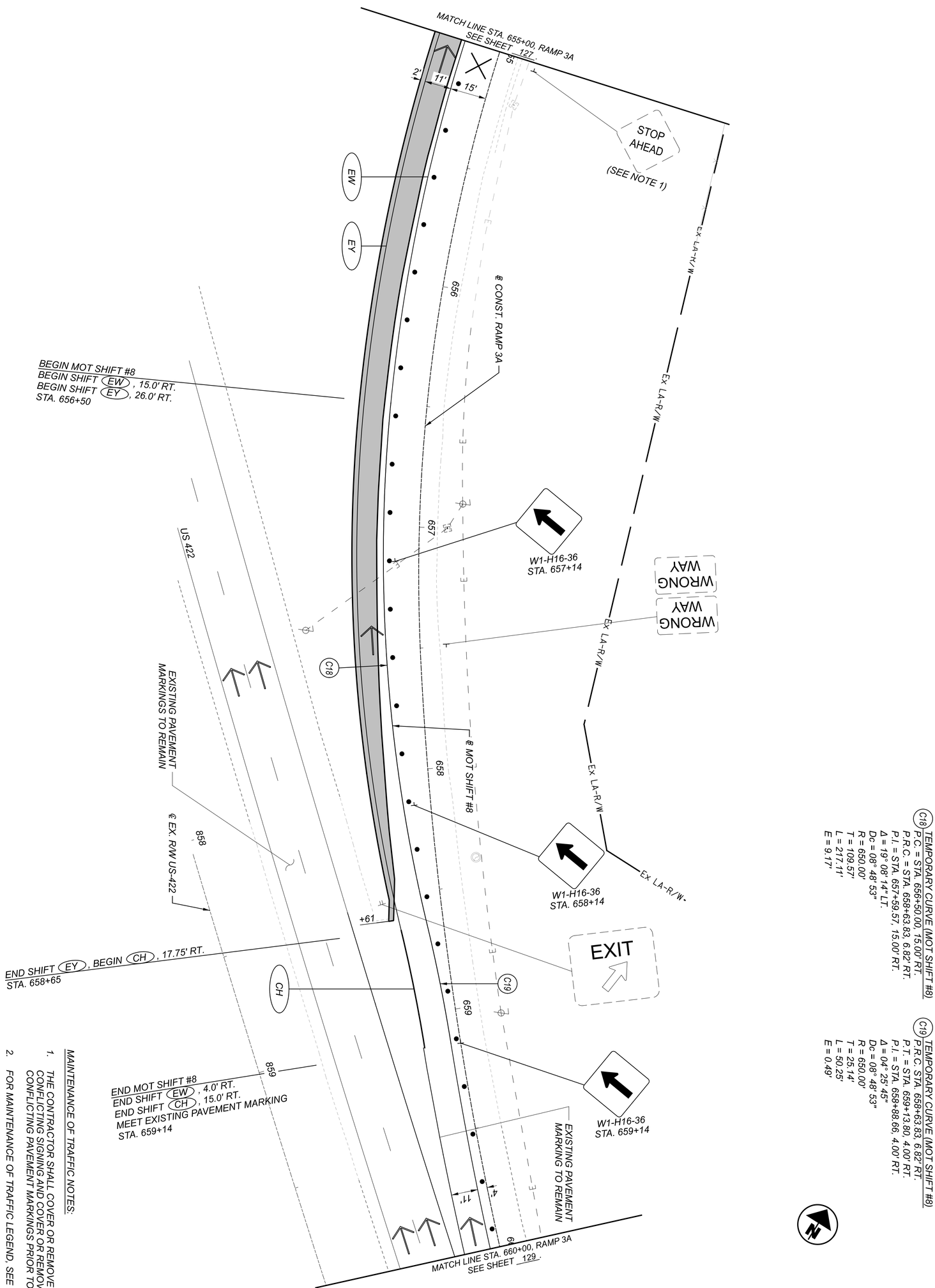


C18 TEMPORARY CURVE (MOT SHIFT #8)
P.C. = STA. 656+50.00, 15.00' RT.
P.R.C. = STA. 658+63.83, 6.82' RT.
P.I. = STA. 657+59.57, 15.00' RT.
Δ = 19° 08' 14" LT.
Dc = 08° 48' 53"
R = 650.00'
T = 109.57'
L = 217.11'
E = 9.17'

C19 TEMPORARY CURVE (MOT SHIFT #8)
P.R.C. STA. 658+63.83, 6.82' RT.
P.T. = STA. 659+13.80, 4.00' RT.
P.I. = STA. 658+88.66, 4.00' RT.
Δ = 04° 25' 45"
Dc = 08° 48' 53"
R = 650.00'
T = 25.14'
L = 50.25'
E = 0.49'

MAINTENANCE OF TRAFFIC NOTES:

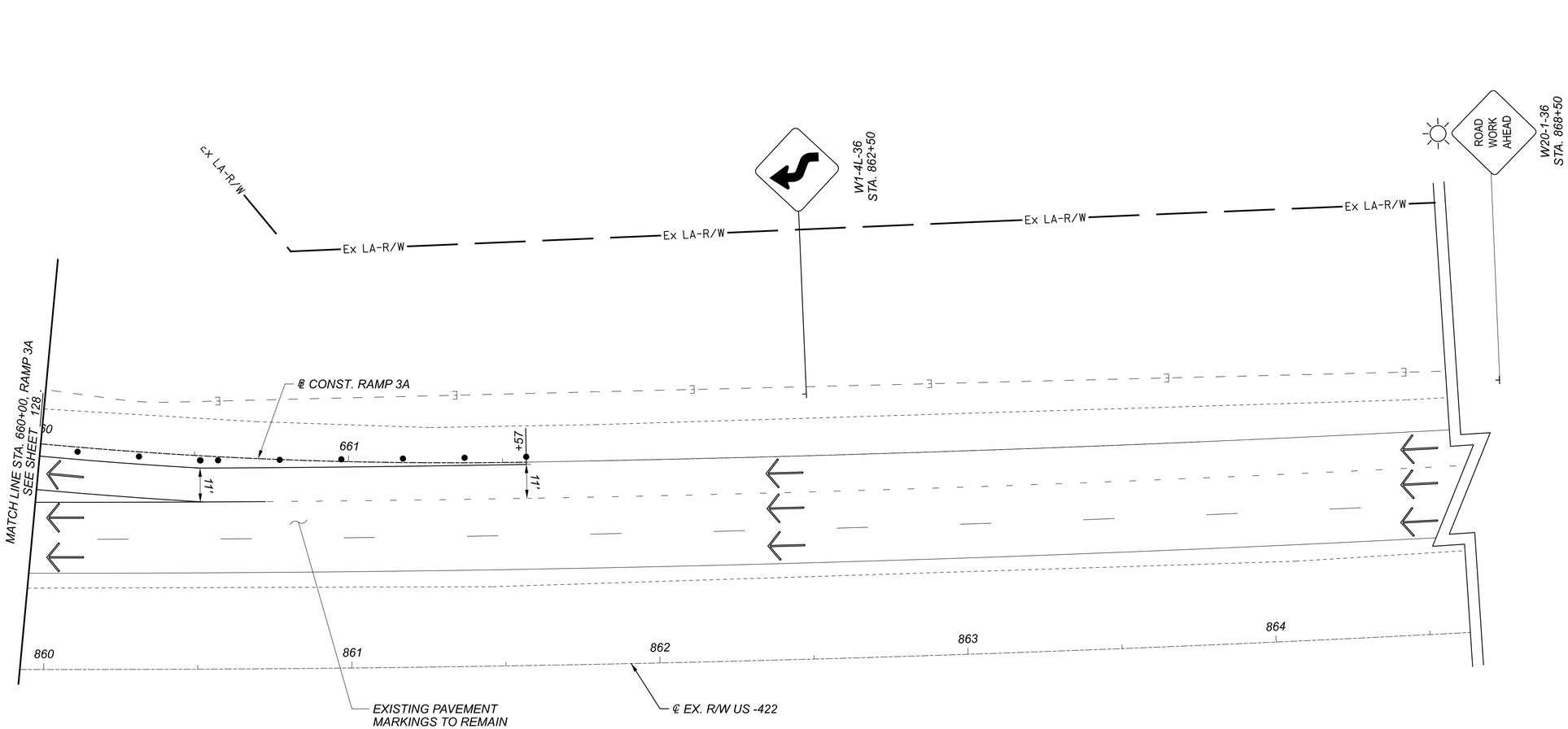
1. THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.

DESIGNER	REVIEWER	PROJECT ID	SHEET	TOTAL
KRM	AKF 6-8-23	113889	128	481

DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
RAMP 3A - STA. 655+00 TO STA. 660+00

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 4
RAMP 3A - STA. 660+00 TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP406 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:33:55 PM USER: aford
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DESIGN AGENCY
GPD GROUP*
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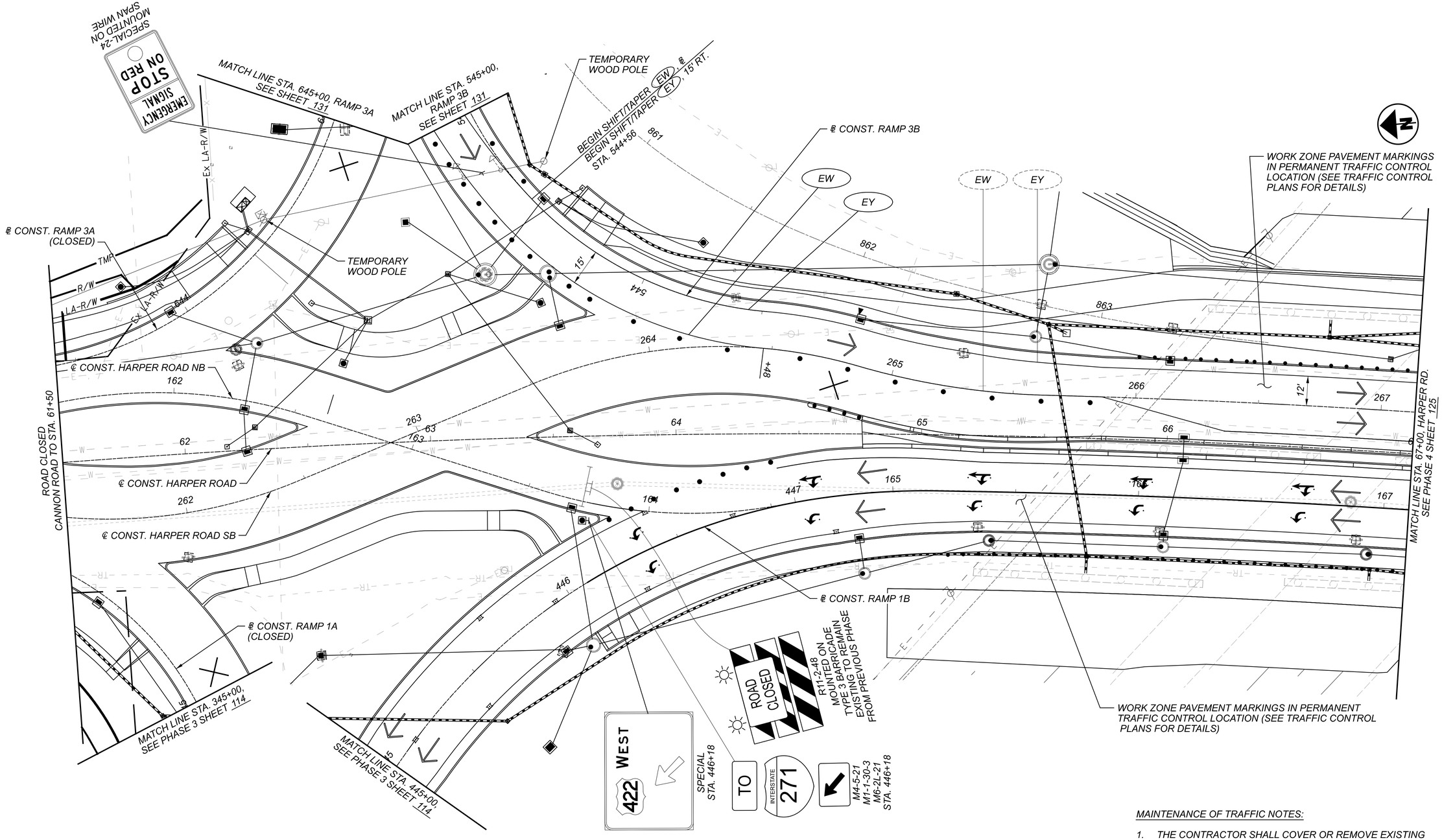
DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	129
TOTAL	481

MAINTENANCE OF TRAFFIC PLAN - PHASE 4A
HARPER RD. - STA. 61+50 TO STA. 67+00

HORIZONTAL SCALE IN FEET
0 10 20 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR TEMPORARY SIGNAL DETAILS, SEE SHEET 50 .*
3. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*
4. *THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTION ONCE TETHERED TO THE MESSENGER WIRE PER EACH PHASE OF CONSTRUCTION.*

DESIGN AGENCY
GPD GROUP*
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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	130
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_MP42I PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:33:58 PM USER: aford
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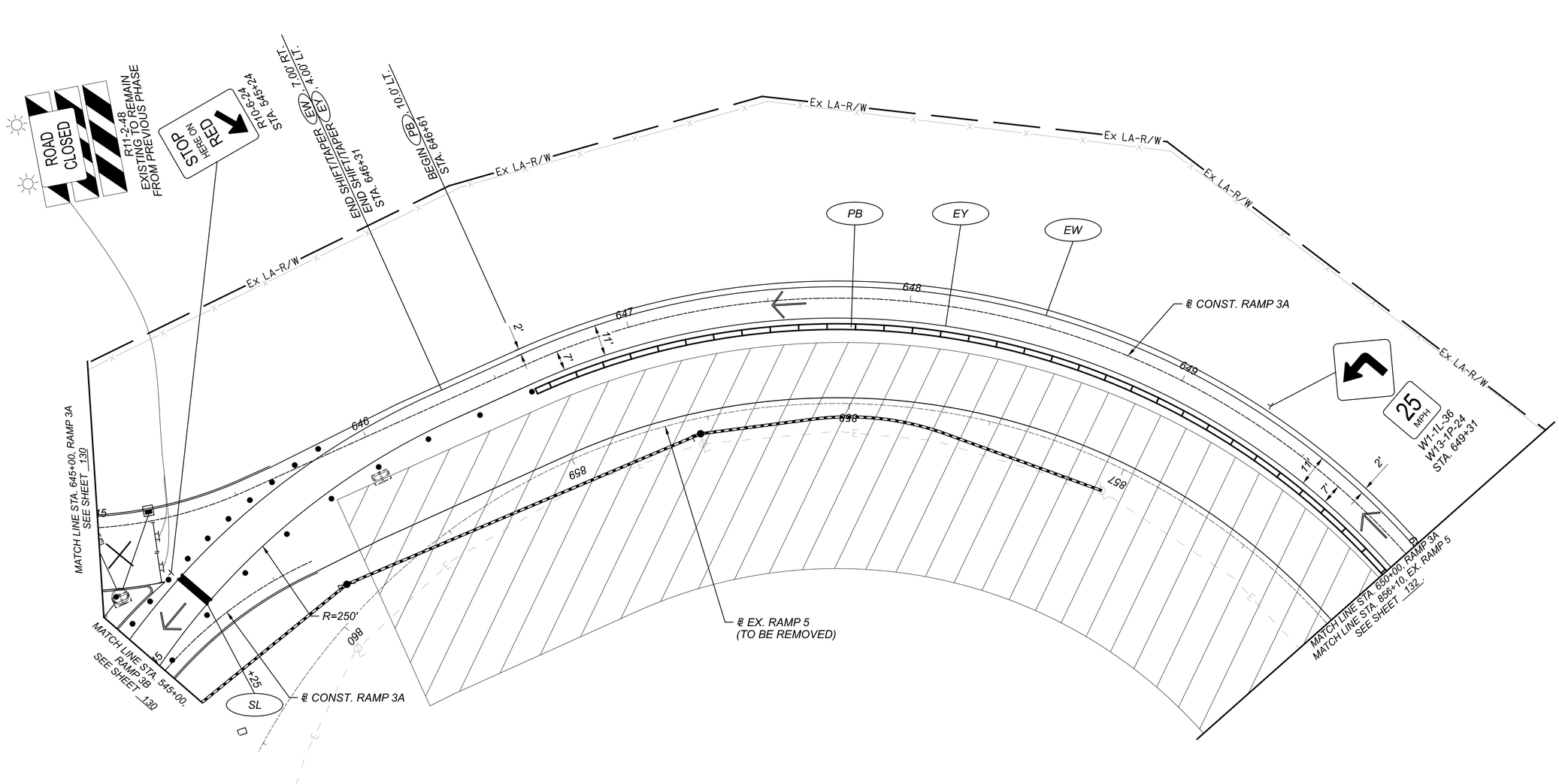

MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 4A
RAMP 3A - STA. 645+00 TO STA. 650+00

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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 131 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: il3889_MP422 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:34:06 PM USER: aford
O:\Clients\ORD\2020\2020336\il3889\400-Engineering\MOT\Sheets\il3889_MP422.dgn

MODEL: II3889_MP423 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:34:09 PM USER: aford
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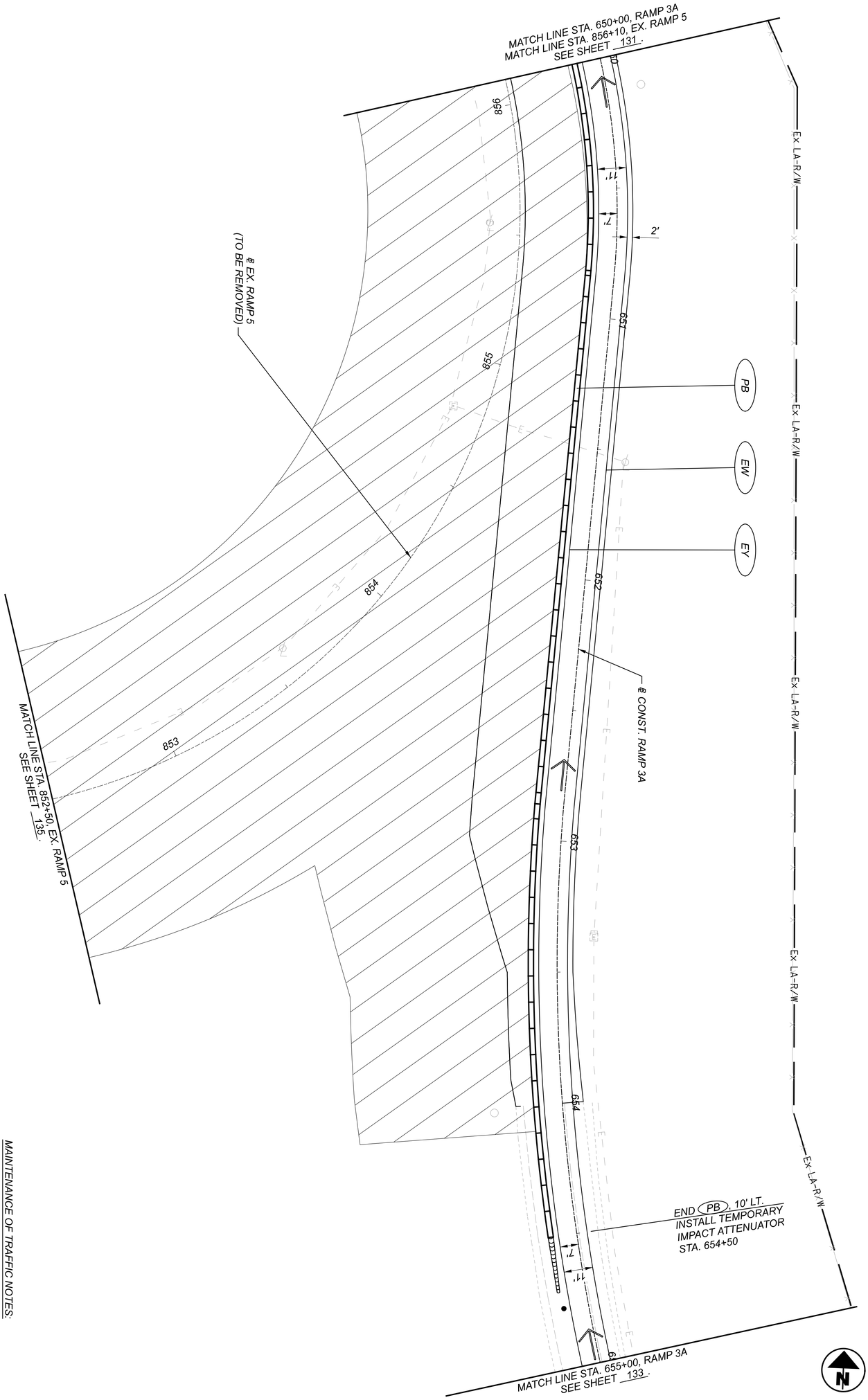


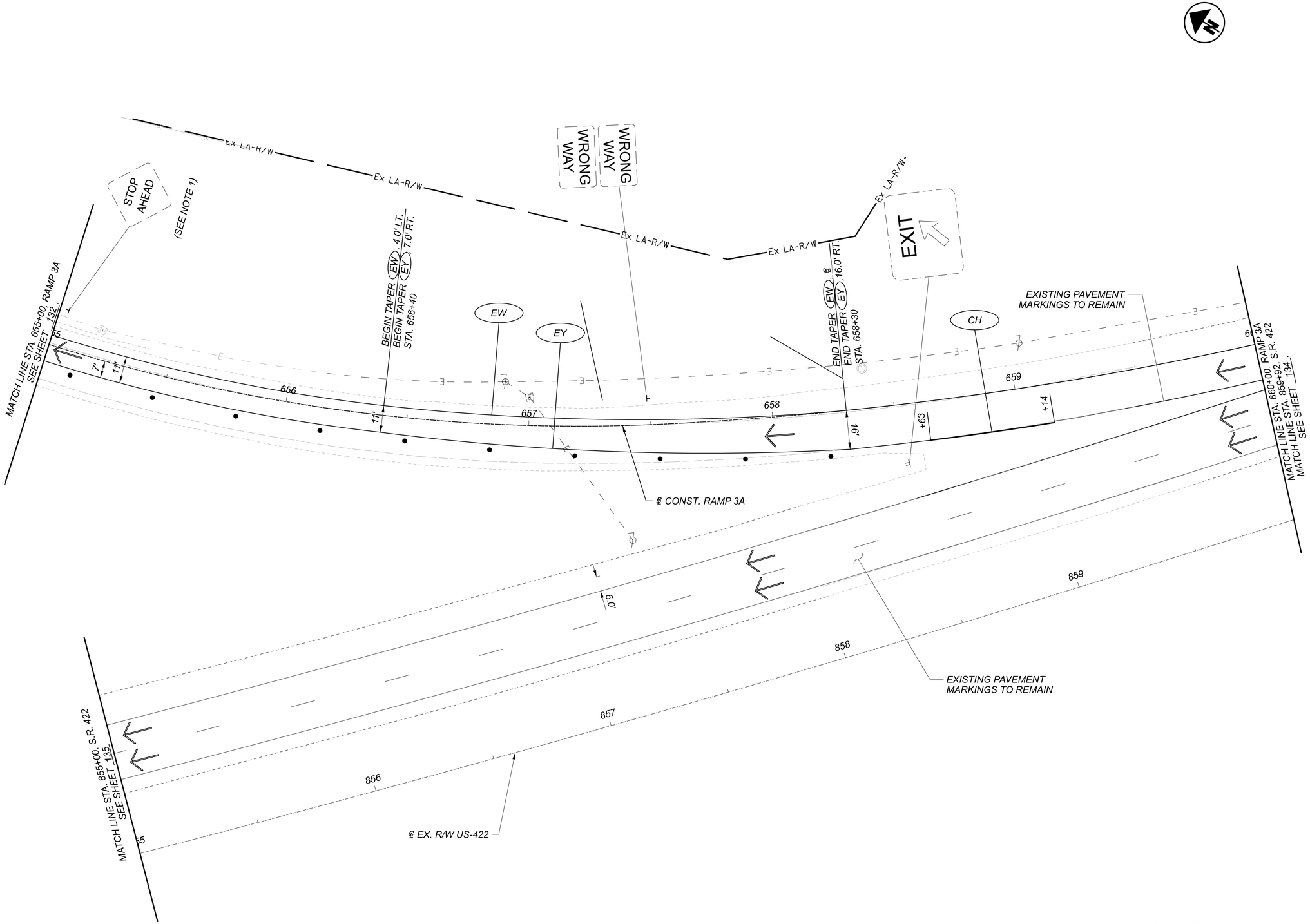
MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*

DESIGNER: KRM
REVIEWER: AKF 6-8-23
PROJECT ID: 113889
SHEET: 132 TOTAL: 481
DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 4A
RAMP 3A - STA. 650+00 TO STA. 655+00

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 4A
RAMP 3A - STA. 655+00 TO STA. 660+00

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DESIGNER	KRM
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	133
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP424 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:34:12 PM USER: dford
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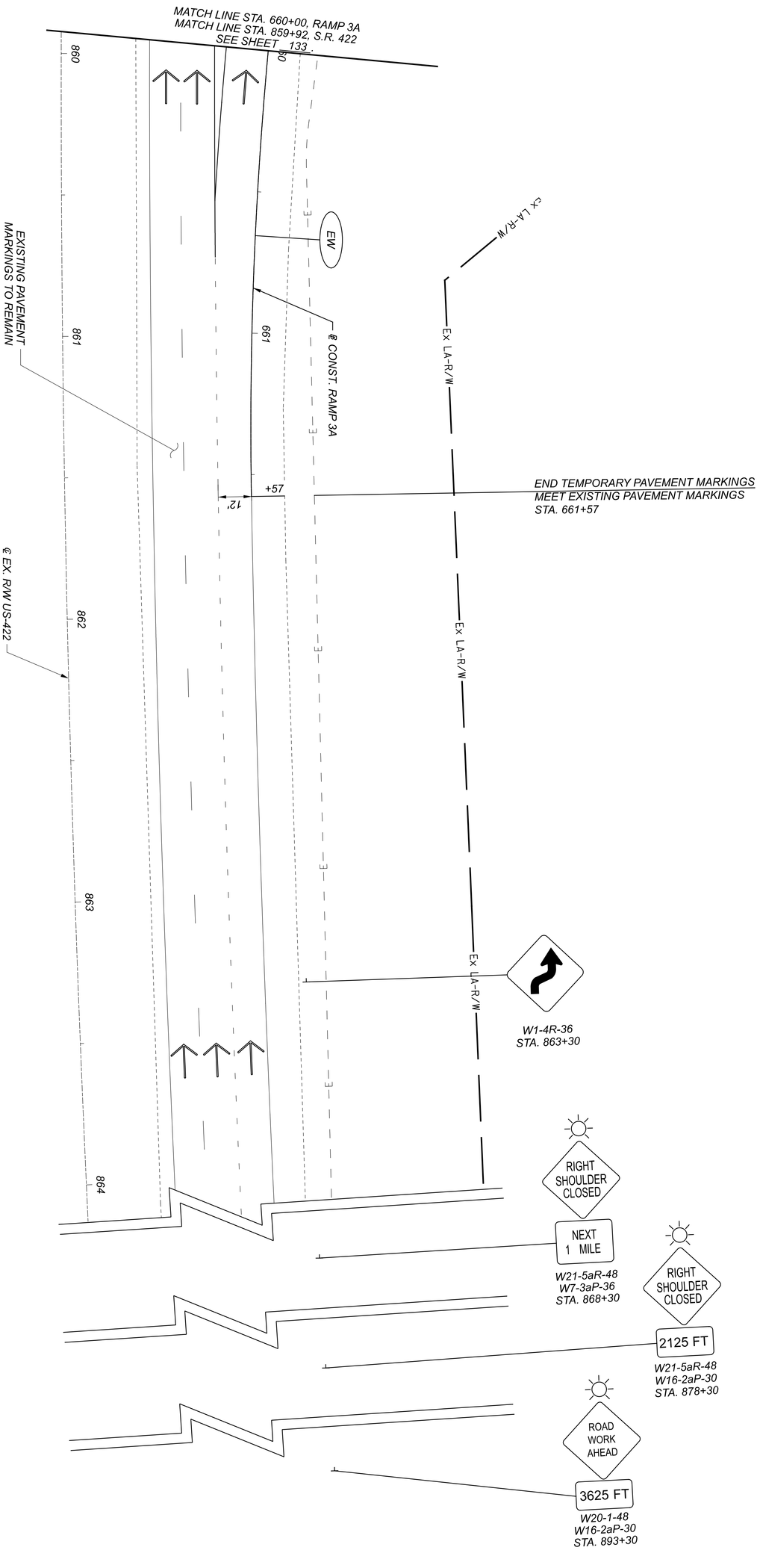


MAINTENANCE OF TRAFFIC NOTES:

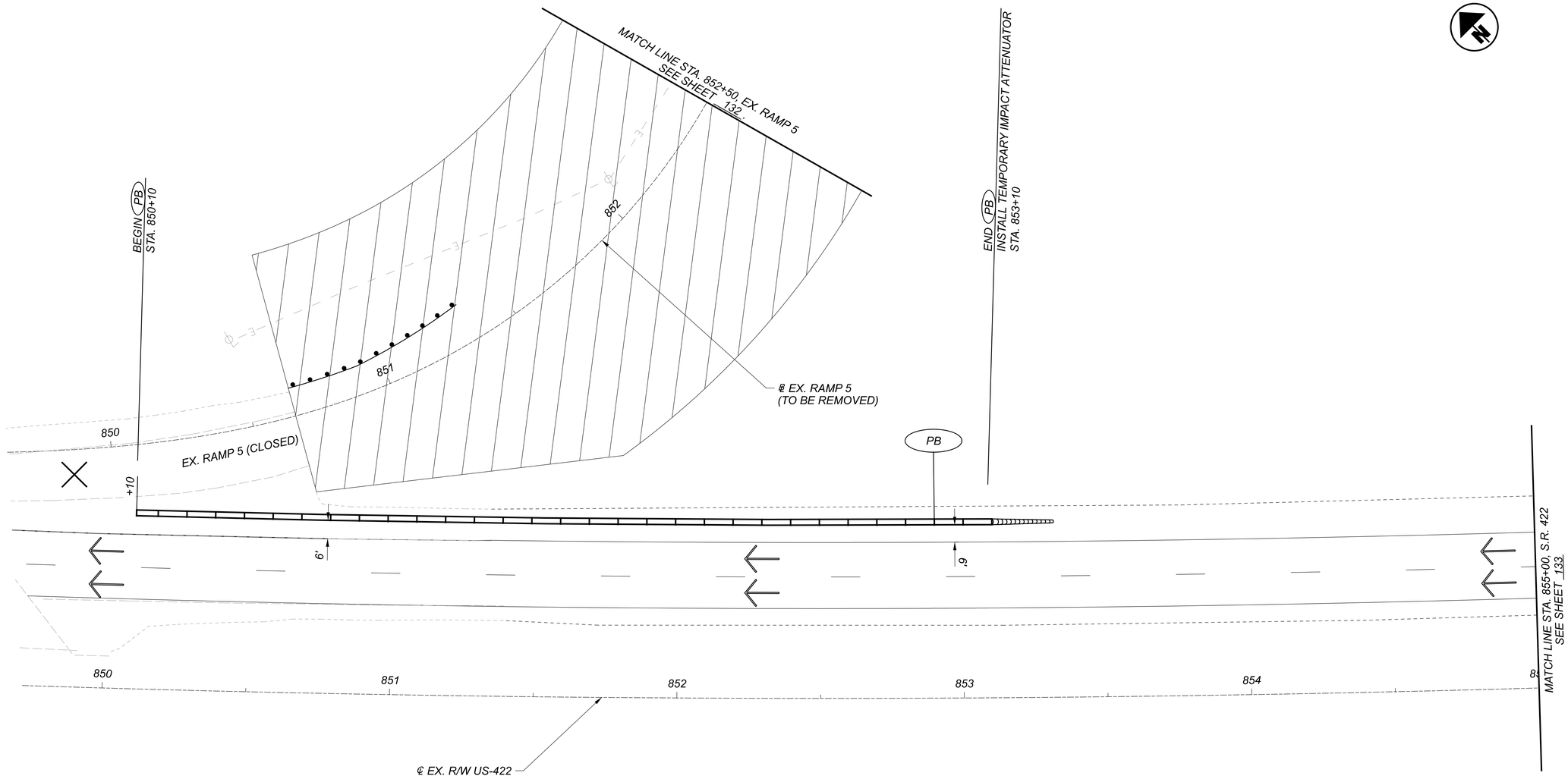
1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68.*

DESIGNER	REVIEWER	PROJECT ID	SHEET	TOTAL
KRM	AKF 6-8-23	113889	134	481

DESIGN AGENCY: GPD GROUP

MAINTENANCE OF TRAFFIC PLAN - PHASE 4A
RAMP 3A - STA. 660+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40



MAINTENANCE OF TRAFFIC NOTES:

1. *THE CONTRACTOR SHALL COVER OR REMOVE EXISTING CONFLICTING SIGNING AND COVER OR REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.*
2. *FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 68 .*

HORIZONTAL SCALE IN FEET
0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE 4A
S.R. 422 - STA. 850+00 TO STA. 855+00

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DESIGNER KRM
REVIEWER AKF 6-8-23
PROJECT ID 113889
SHEET 135 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_MP426 PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 2:34:22 PM USER: aford
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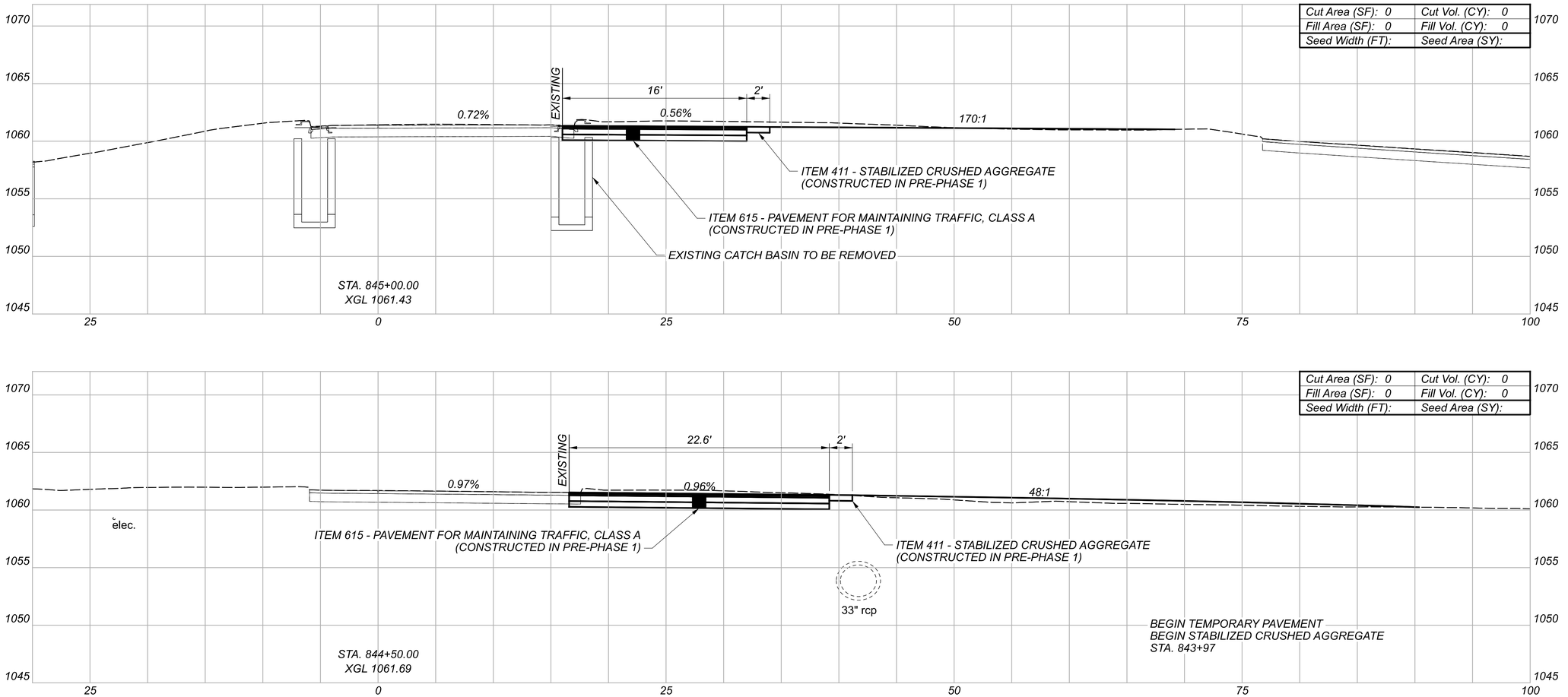
MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 844+50 TO STA. 845+00



CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_RI86 - 844+50.00 (Sheet) PAPERSIZE: 34x22 (in.) DATE: 2/6/2024 TIME: 11:42:16 AM USER: aford
O:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_XMI01.dgn

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BEB	
REVIEWER	
AKF	6-8-23
PROJECT ID	
113889	

Sheet Totals		
Seeding	Cut	Fill
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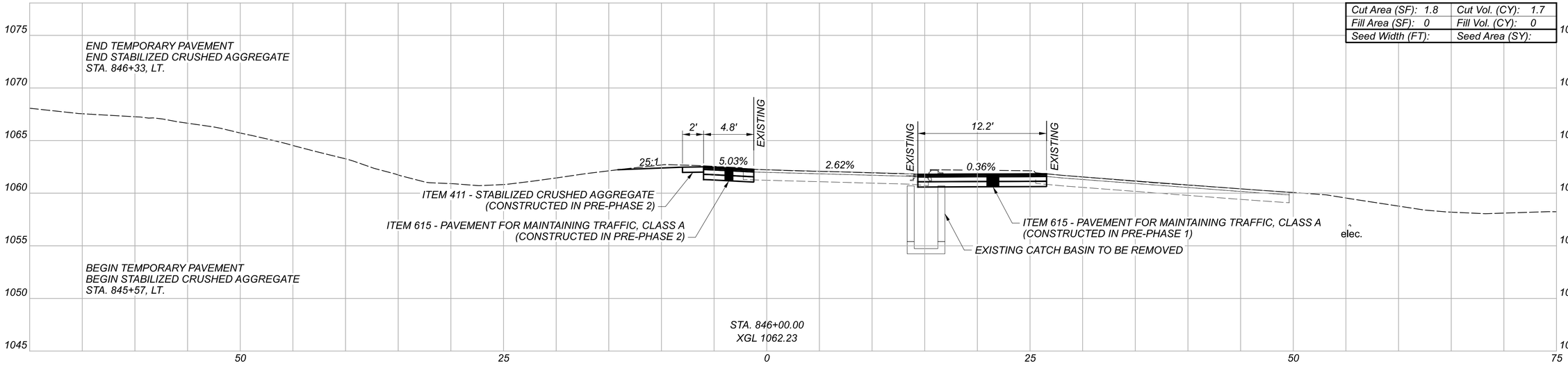
SHEET	TOTAL
136	481



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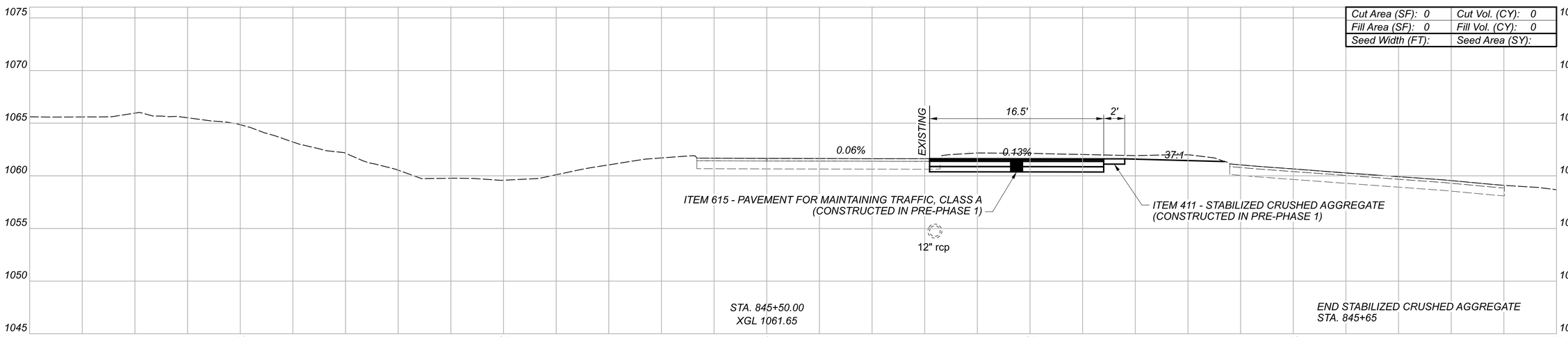

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MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 845+50 TO STA. 846+00

CUY-422-16.20 (HARPER ROAD)

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Sheet Totals		
Seeding	Cut	Fill
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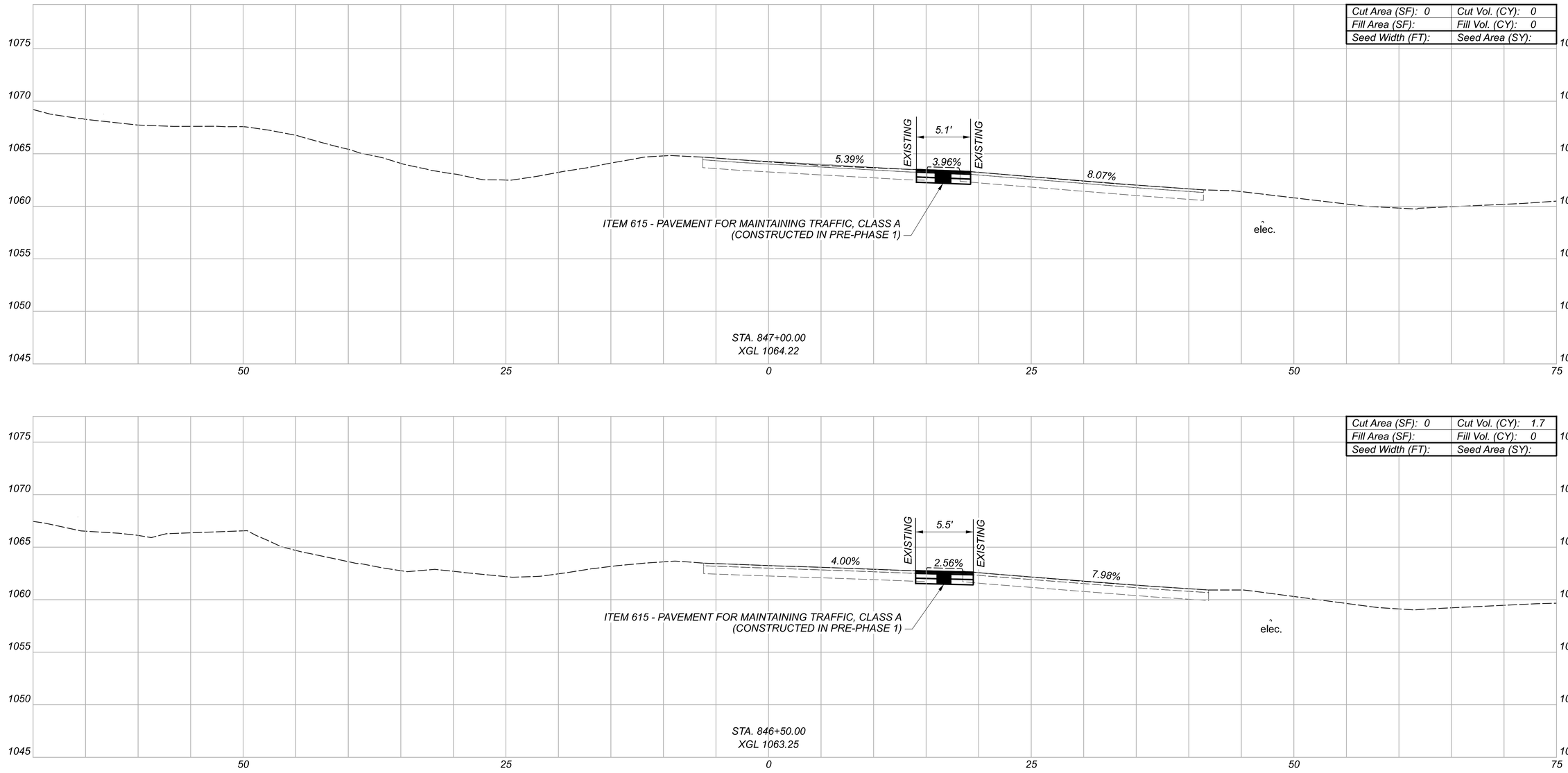
DESIGNER	BEB
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	137
TOTAL	481



MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 846+50 TO STA. 847+00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_RI84 - 846+50.00 [Sheet] PAPERSIZE: 34x22 (in) DATE: 2/6/2024 TIME: 11:45:00 AM USER: dford
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Sheet Totals		
Seeding	Cut	Fill
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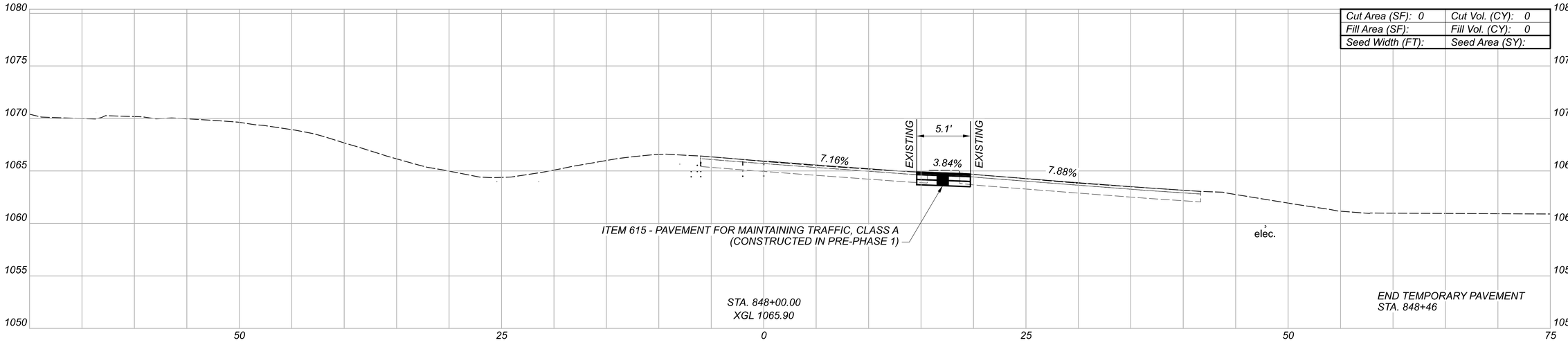
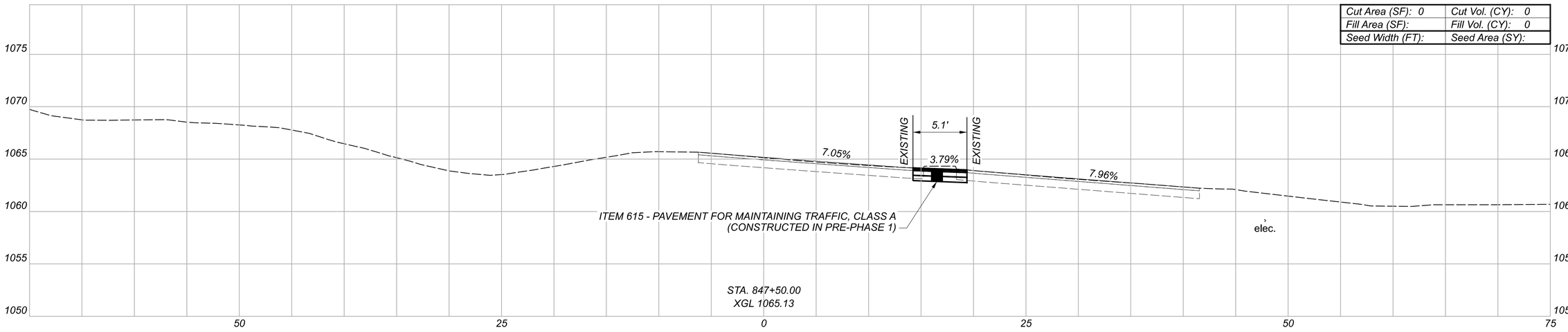
REVIEWER
AKF 6-8-23

PROJECT ID
113889

SHEET 138 TOTAL 481





MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 847+50 TO STA. 848+00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_RI84 - 847+50.00 (Sheet) PAPERSIZE: 34x22 (in) DATE: 2/6/2024 TIME: 11:45:35 AM USER: dford
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AKF	6-8-23
PROJECT ID	
113889	

Sheet Totals		
Seeding	Cut	Fill
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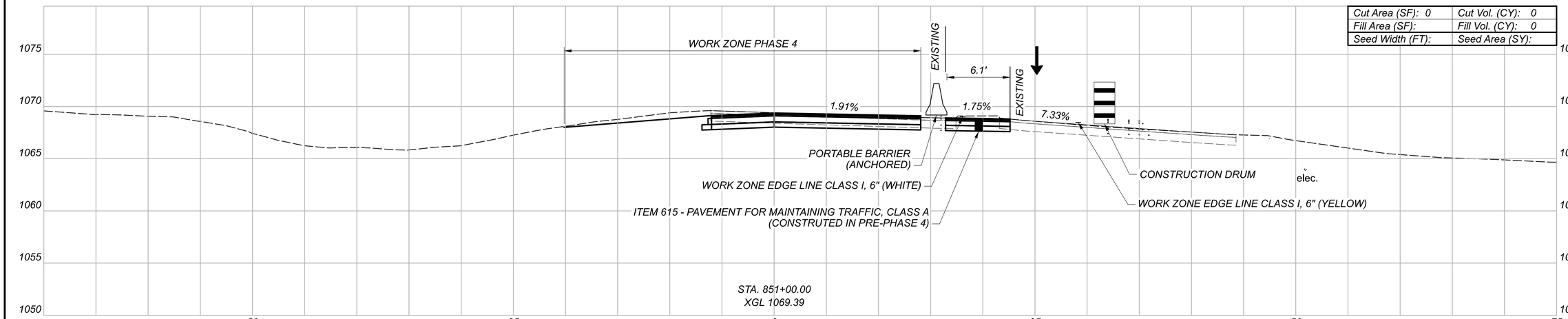
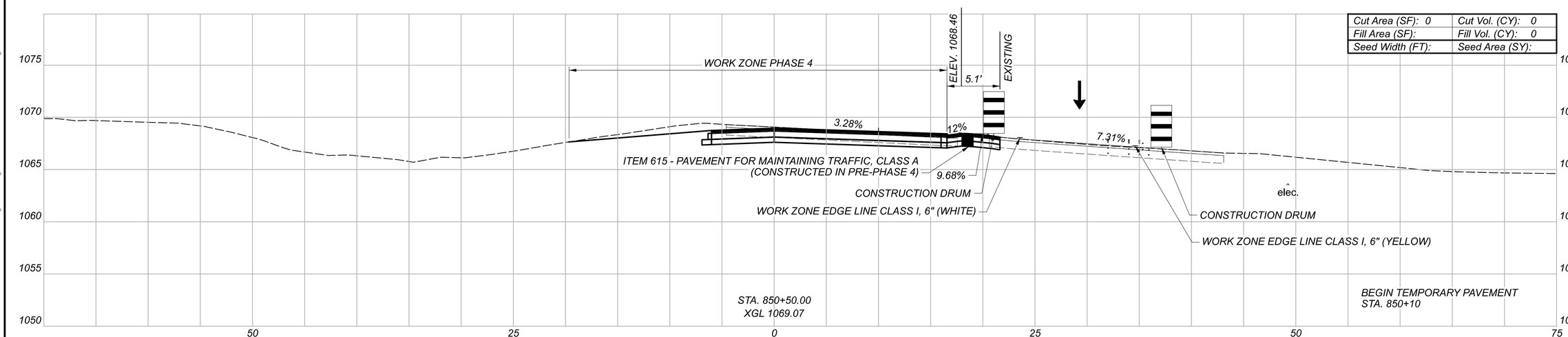
SHEET	TOTAL
139	481





MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 850+50 TO STA. 851+00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_RI85 - 850+50.00 (Sheet) PAPERSIZE: 34x22 (In.) DATE: 2/6/2024 TIME: 11:24:32 AM USER: aford
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Sheet Totals		
Seeding	Cut	Fill
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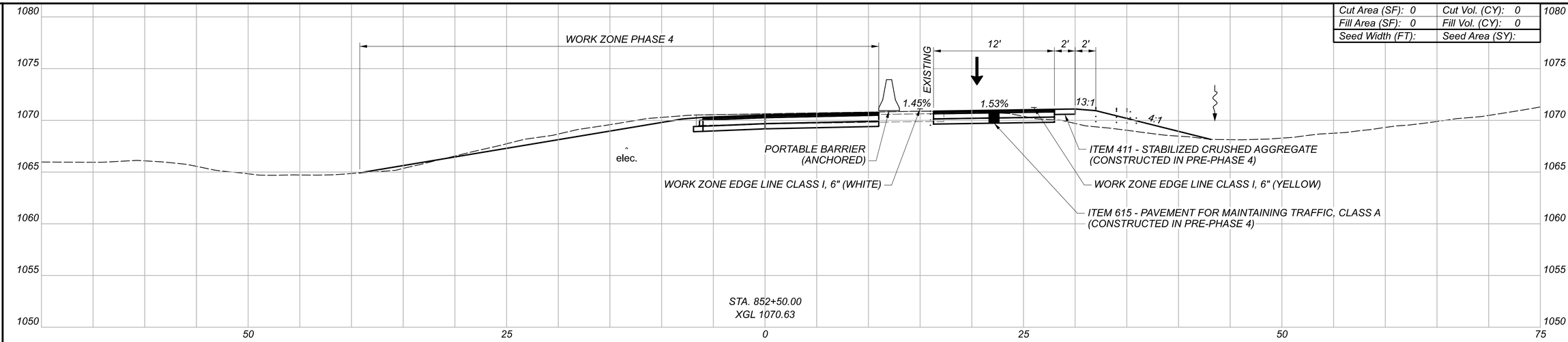
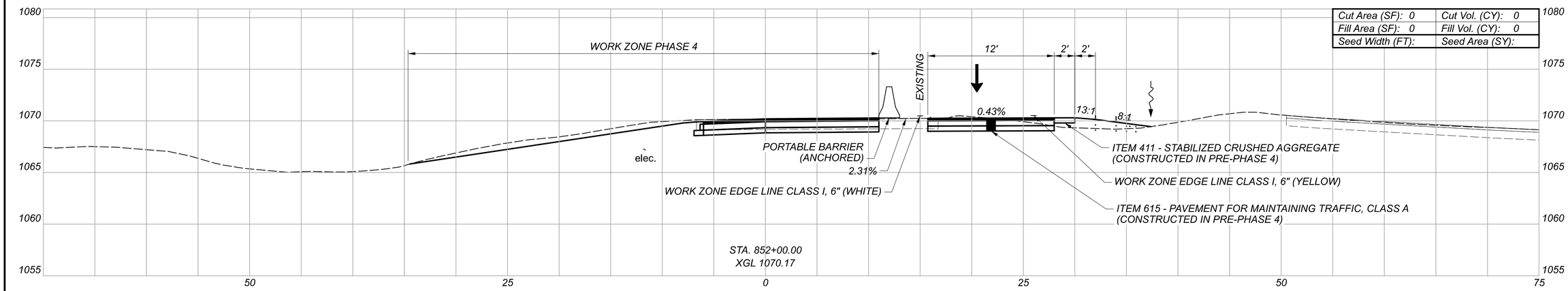
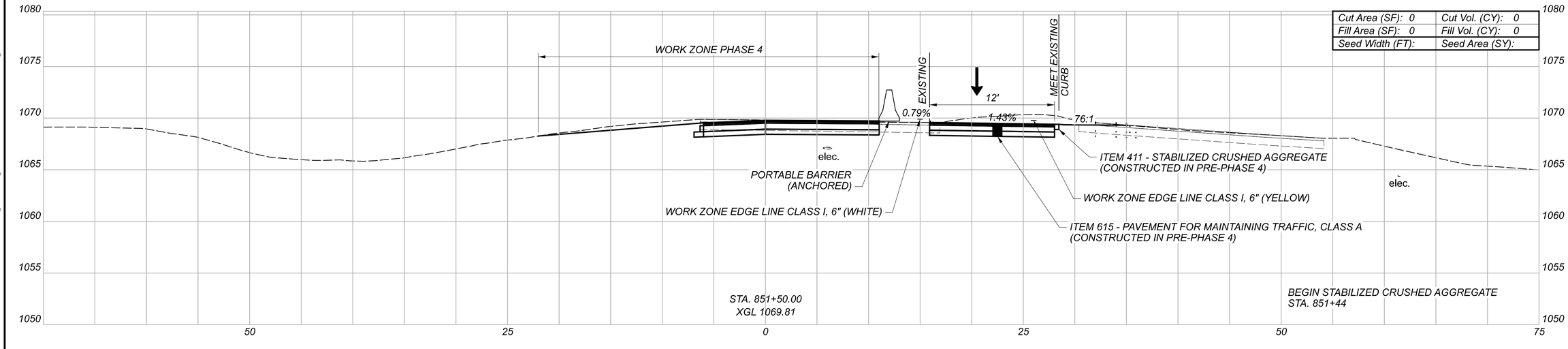
AKF 6-8-23

PROJECT ID
113889

SHEET 140 TOTAL 481







MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 851+50 TO STA. 852+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R85 - 85I+50.00 (Sheet) PAPERSIZE: 34x22 (In.) DATE: 2/6/2024 TIME: 11:25:03 AM USER: aford
O:\Clients\ORD\2020\2020336\WI3889\400-Engineering\MOT\Sheets\WI3889_XMI01.dgn

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DESIGNER	BEB
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	141
TOTAL	481

Sheet Totals		
Seeding	Cut	Fill
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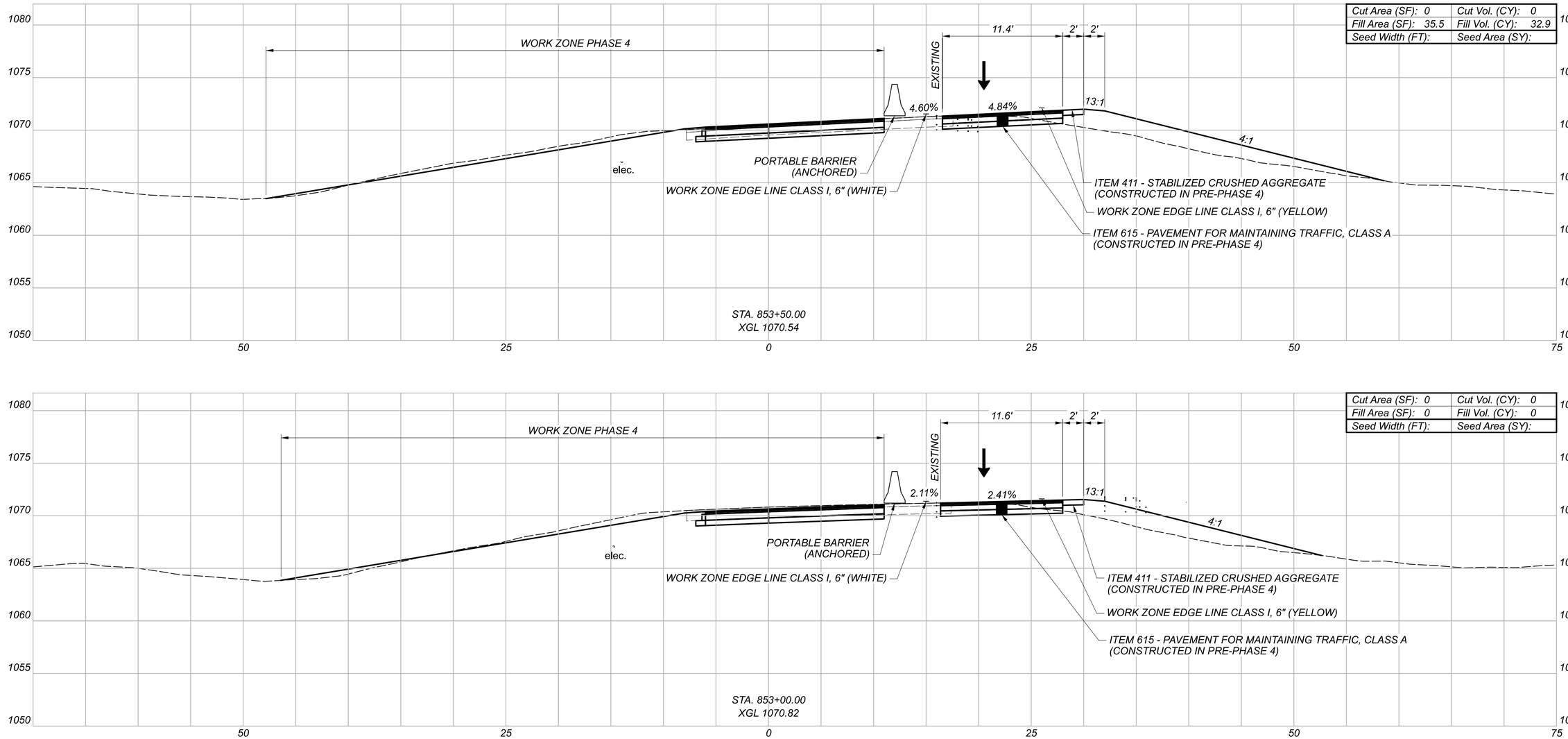

MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 853+00 TO STA. 853+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_RI85 - 853+00.00 (Sheet) PAPERSIZE: 34x22 (in.) DATE: 2/6/2024 TIME: 11:26:01 AM USER: aford
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Sheet Totals		
Seeding	Cut	Fill
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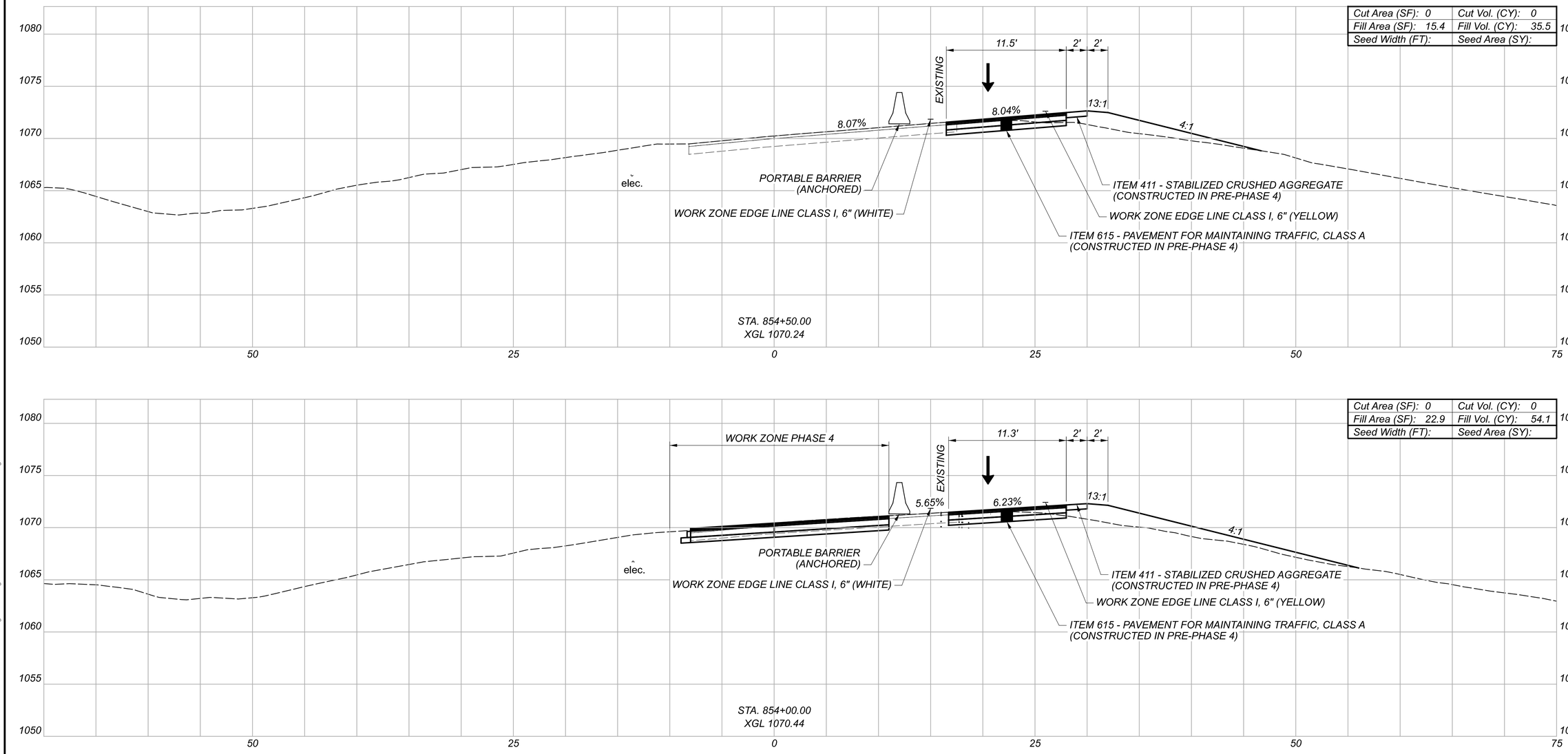
DESIGNER: BEB

REVIEWER: AKF 6-8-23

PROJECT ID: 113889

SHEET: 142 TOTAL: 481



MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 854+00 TO STA. 854+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_RIBS - 854+00.00 [Sheet] PAPERSIZE: 34x22 (in) DATE: 2/6/2024 TIME: 11:26:44 AM USER: dford
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Sheet Totals		
Seeding	Cut	Fill
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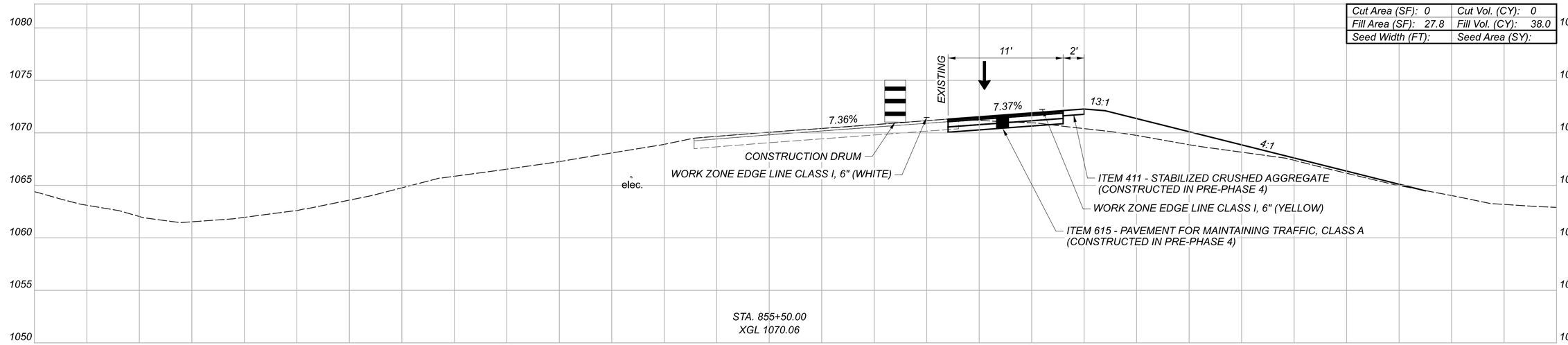
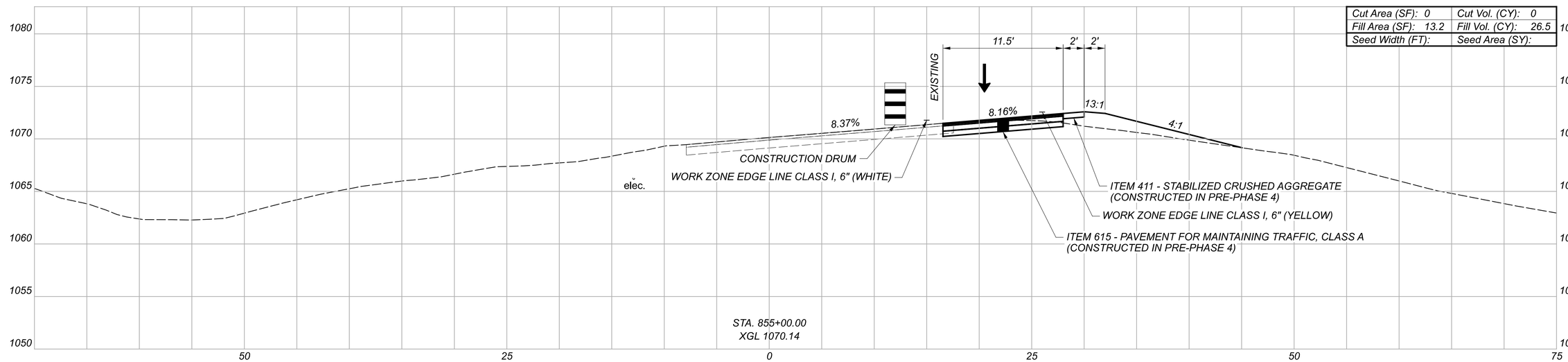
DESIGNER: BEB

REVIEWER: AKF 6-8-23

PROJECT ID: 113889

SHEET: 143 TOTAL: 481





CUY-422-16.20 (HARPER ROAD)

MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - 855+00 TO STA. 855+50

Sheet Totals		
Seeding	Cut	Fill
0.0	0.0	64.5

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REVIEWER
AKF 6-8-23

PROJECT ID
113889

SHEET 144 TOTAL 481

MODEL: BLX_RIB5 - 855+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/6/2024 TIME: 11:28:15 AM USER: aford
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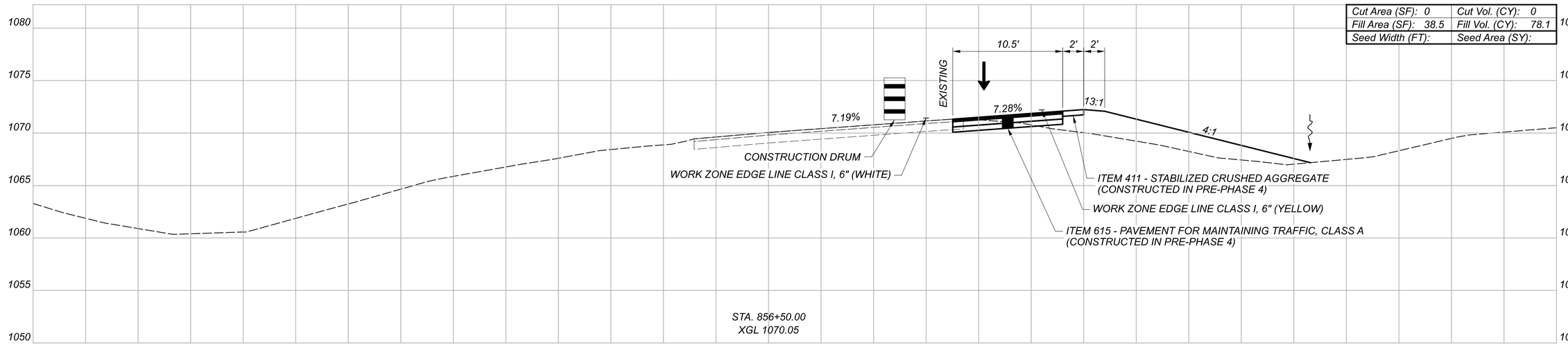

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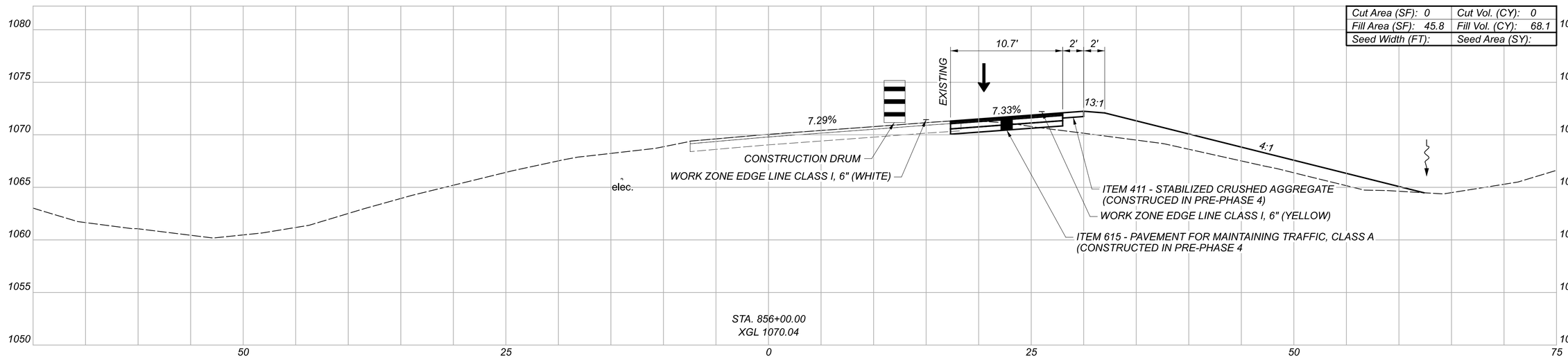

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Seed Width (FT):	Seed Area (SY):

MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 856+00 TO STA. 856+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R85 - 856+00.00 [Sheet] PAPERSIZE: 34x22 (In) DATE: 2/6/2024 TIME: 11:29:5 AM USER: dford
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DESIGNER	BEB
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	145
TOTAL	481

Sheet Totals		
Seeding	Cut	Fill
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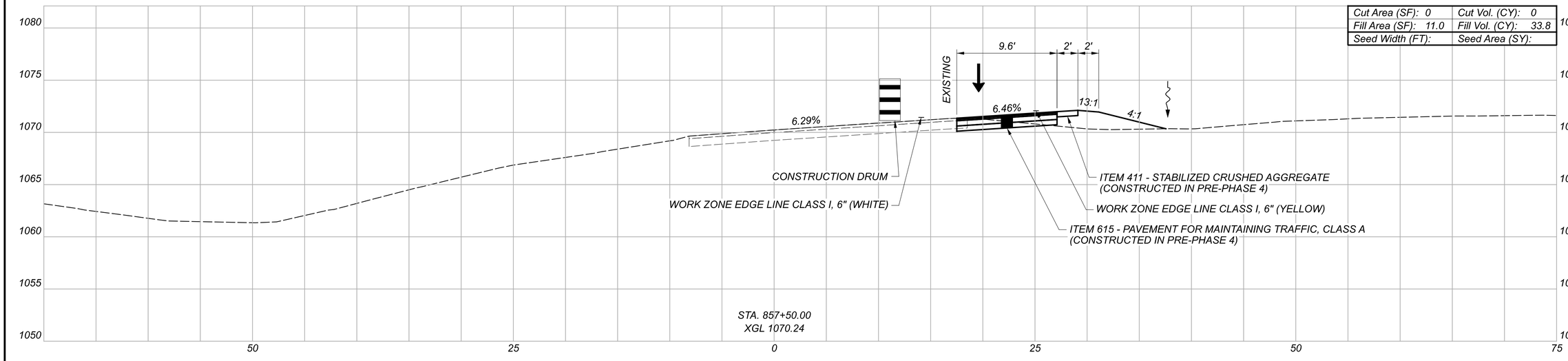

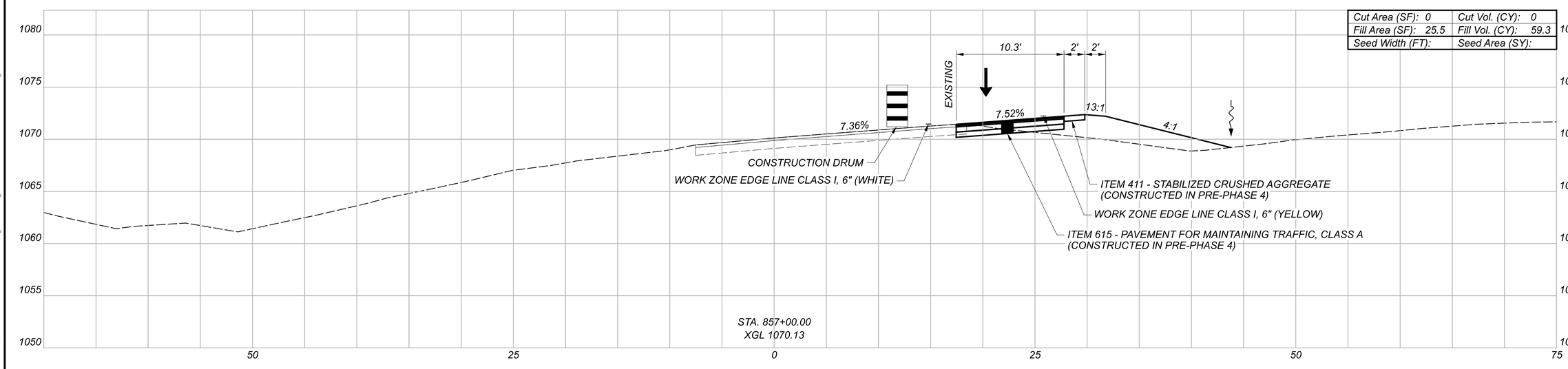

MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - 857+00 TO STA. 857+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_RIBS - 857+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/6/2024 TIME: 11:39:00 AM USER: dford
G:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_XM01.dgn

Sheet Totals		
Seeding	Cut	Fill
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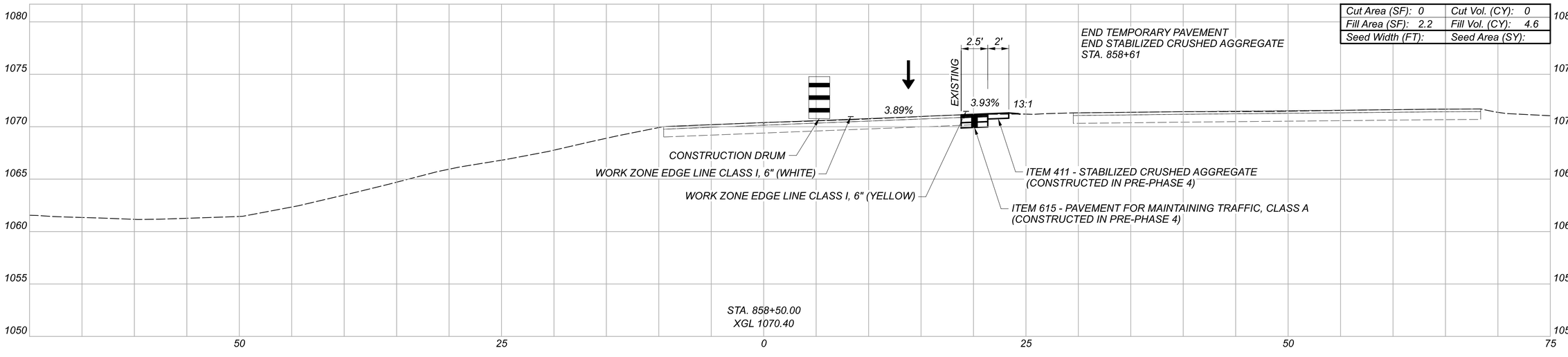
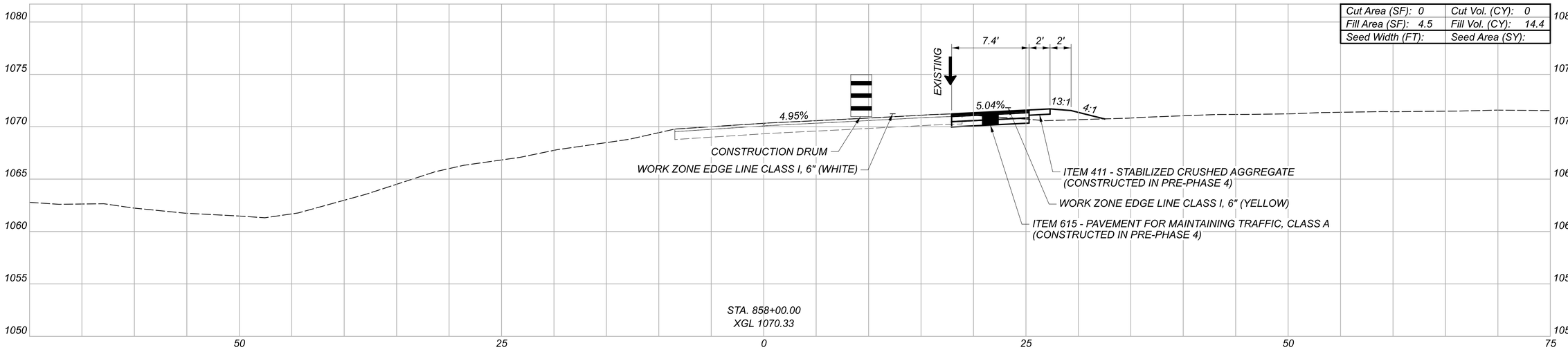
DESIGNER
BEB

REVIEWER
AKF 6-8-23

PROJECT ID
113889

SHEET	TOTAL
146	481





MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 3 - STA. 858+00 TO STA. 858+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_RIBS - 858+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/6/2024 TIME: 11:40:31 AM USER: aford
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AKF 6-8-23

PROJECT ID
113889

Sheet Totals		
Seeding	Cut	Fill
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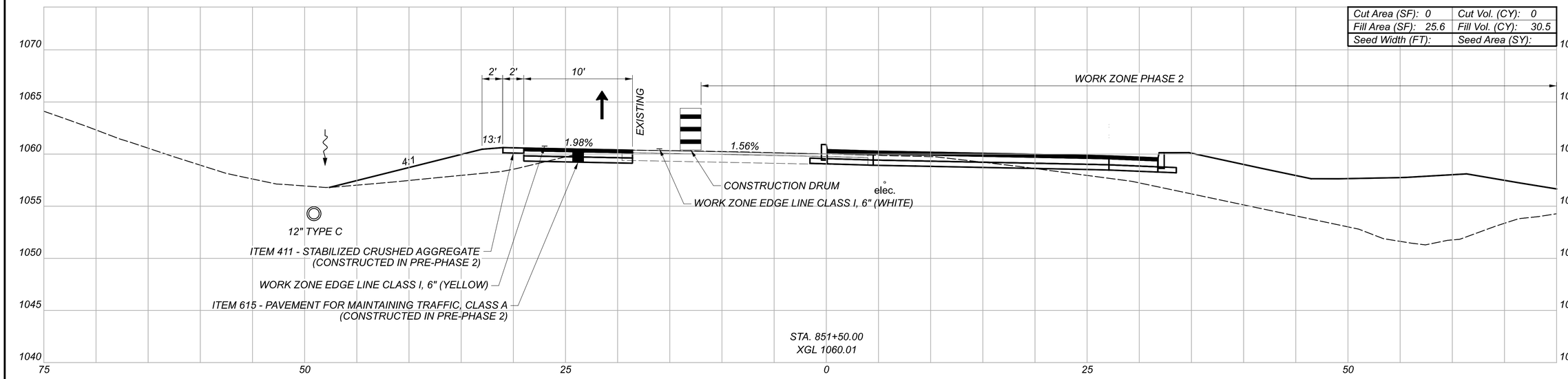
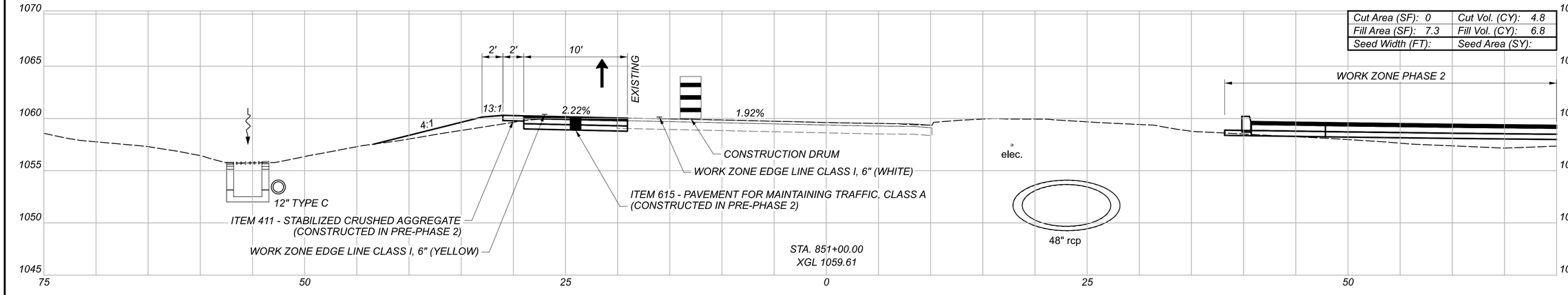
SHEET	TOTAL
147	481

MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 4 - STA. 850+50 TO STA. 851+50

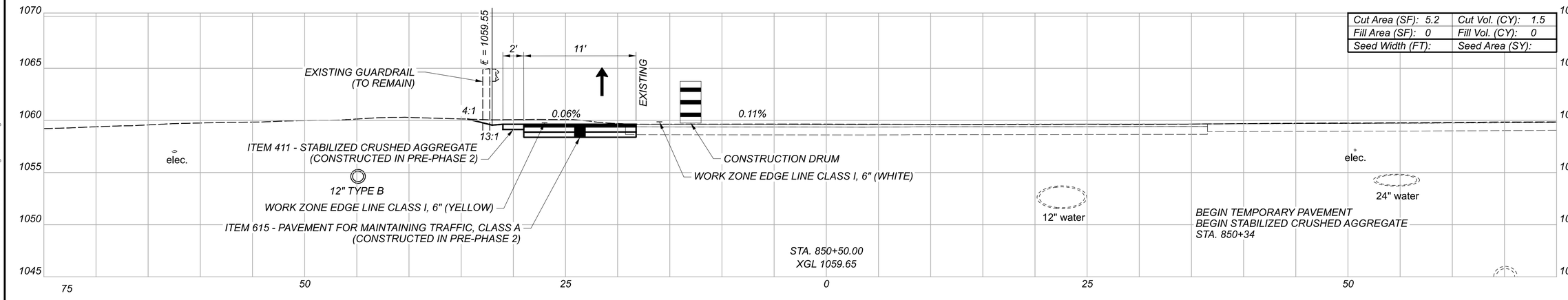
Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 25.6	Fill Vol. (CY): 30.5
Seed Width (FT):	Seed Area (SY):



Cut Area (SF): 0	Cut Vol. (CY): 4.8
Fill Area (SF): 7.3	Fill Vol. (CY): 6.8
Seed Width (FT):	Seed Area (SY):



Cut Area (SF): 5.2	Cut Vol. (CY): 1.5
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):



Sheet Totals		
Seeding	Cut	Fill
0.0	6.3	37.3

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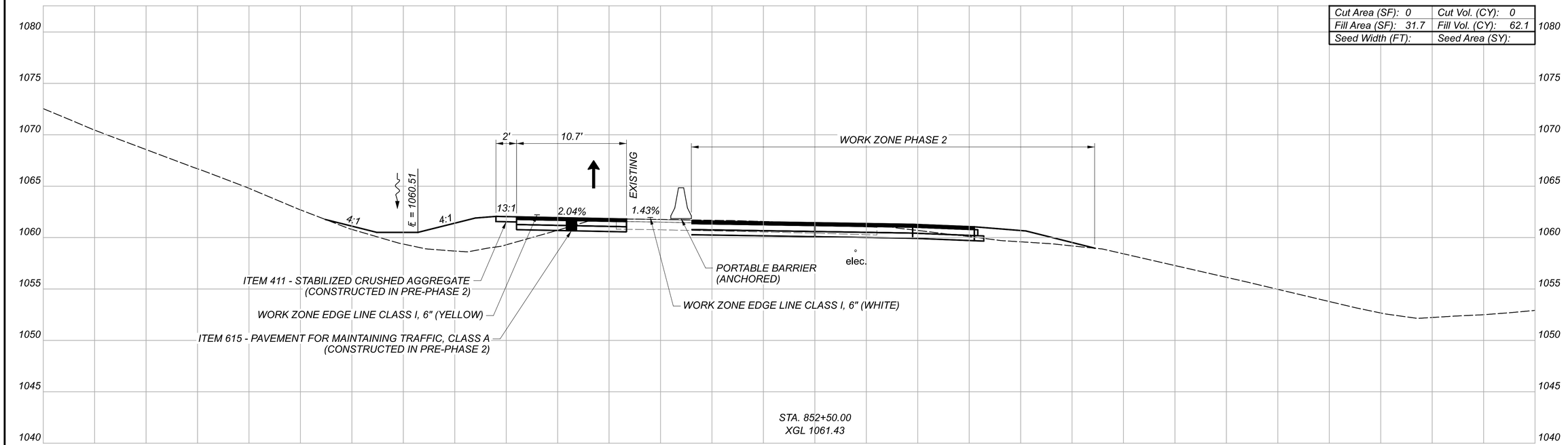
DESIGNER	BEB
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	148
TOTAL	481

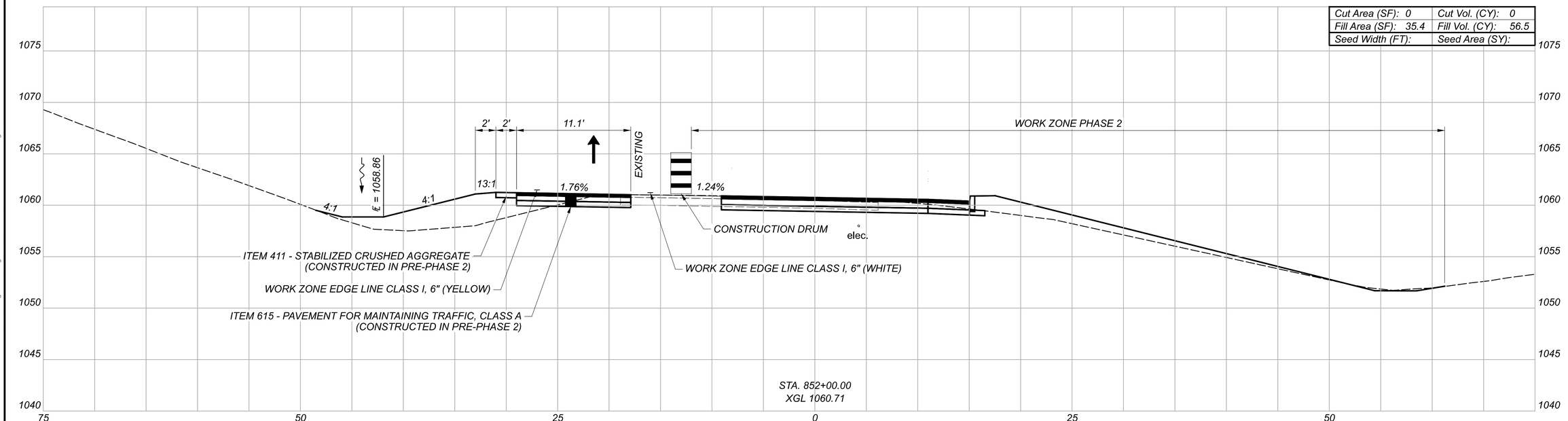
CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R0184 - 850+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:48:46 PM USER: aford
O:\Clients\ORD\2020\2020336\WI3889\400-Engineering\MOT\Sheets\WI3889_XM200.dgn

Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 31.7	Fill Vol. (CY): 62.1
Seed Width (FT):	Seed Area (SY):



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 35.4	Fill Vol. (CY): 56.5
Seed Width (FT):	Seed Area (SY):



MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 4 - STA. 852+00 TO STA. 852+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R0184 - 852+00.00 [Sheet] PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 2:48:57 PM USER: aford
G:\Clients\ORD\2020\2020336\NI3889\400-Engineering\MOT\Sheets\NI3889_XM200.dgn

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BEB	
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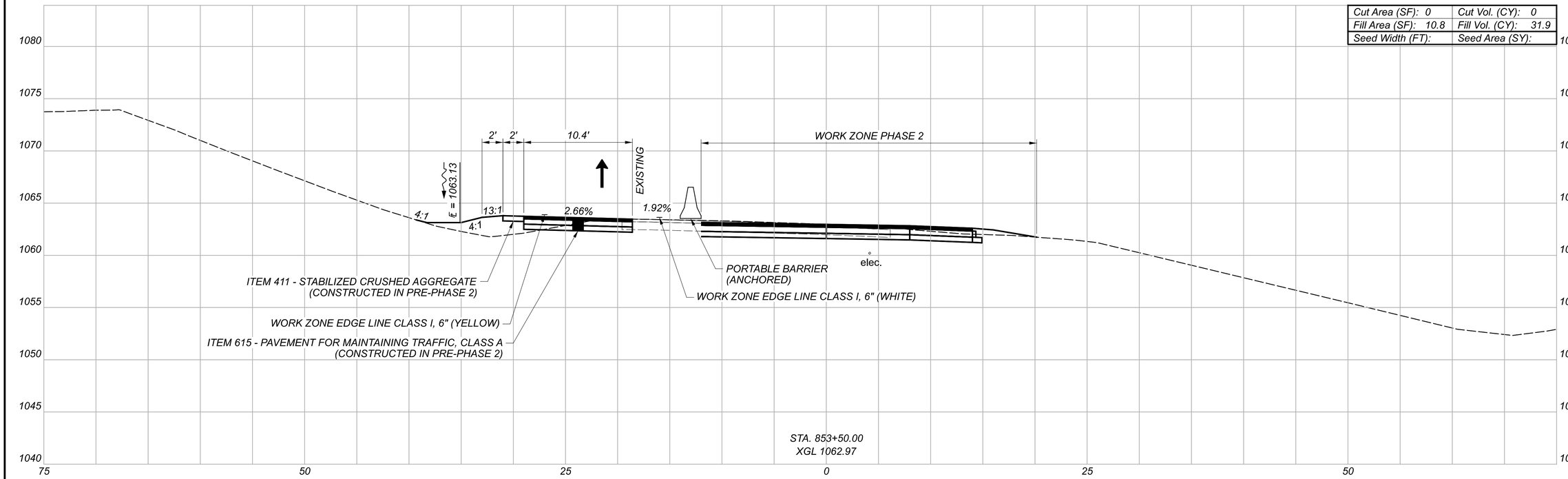
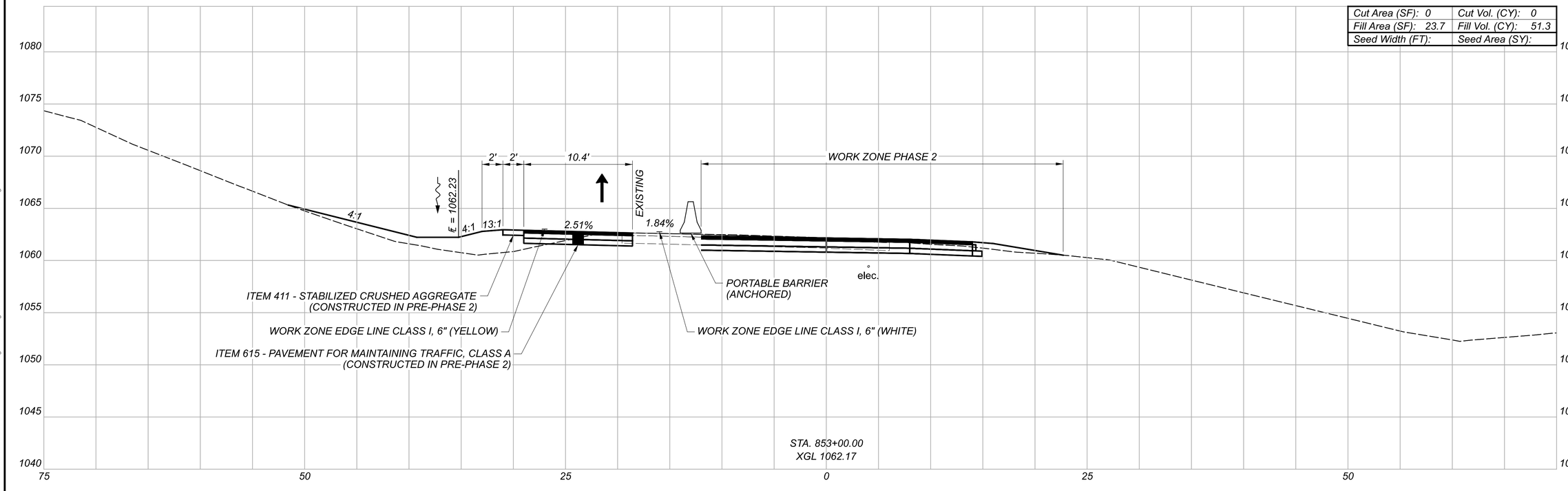
AKF	6-8-23
PROJECT ID	
113889	
SHEET	TOTAL
149	481

Sheet Totals		
Seeding	Cut	Fill
0.0	0.0	118.6





MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 4 - STA. 853+00 TO STA. 853+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R0184 - 853+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:49:02 PM USER: aford
O:\Clients\ORD\2020\2020336\Il3889\400-Engineering\MOT\Sheets\Il3889_XM200.dgn

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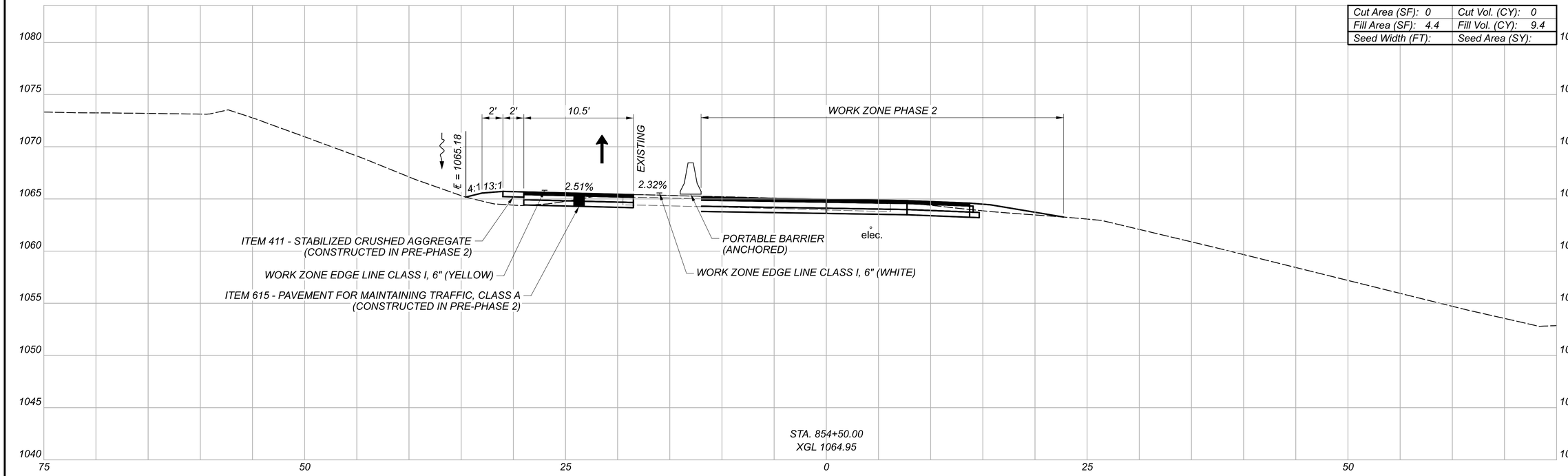
DESIGNER	BEB
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	150
TOTAL	481

Sheet Totals

Seeding	Cut	Fill
0.0	0.0	83.2



MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 4 - STA. 854+00 TO STA. 854+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R0184 - 854+00.00 [Sheet] PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 2:49:0 PM USER: aford
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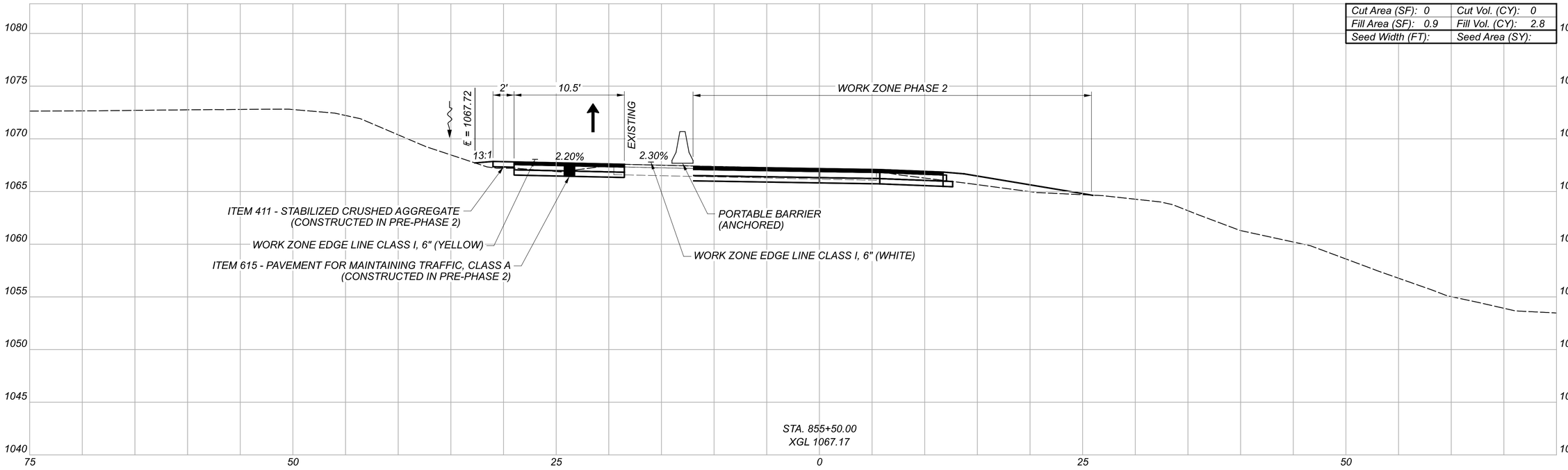
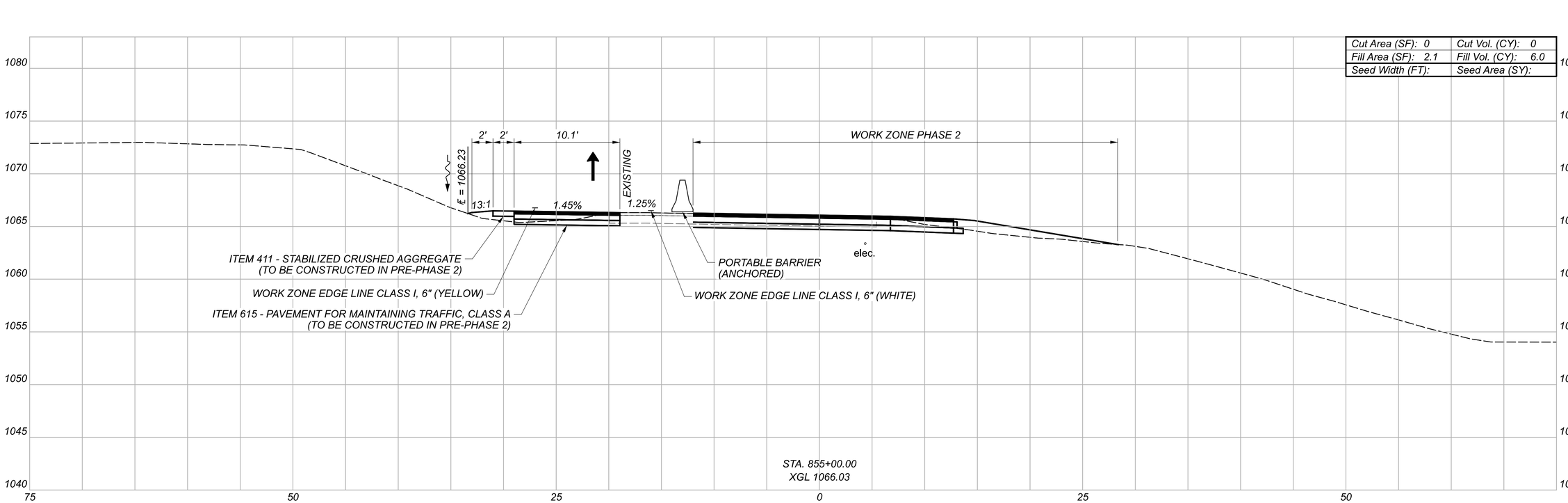
PROJECT ID
113889

Sheet Totals		
Seeding	Cut	Fill
0.0	0.0	24.7

SHEET 151 TOTAL 481

MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 4 - STA. 855+00 TO STA. 855+50





CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R0184 - 855+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:49:15 PM USER: aford
G:\Clients\ORD\2020\2020336\NI3889\400-Engineering\MOT\Sheets\NI3889_XM200.dgn

Sheet Totals		
Seeding	Cut	Fill
0.0	0.0	8.8

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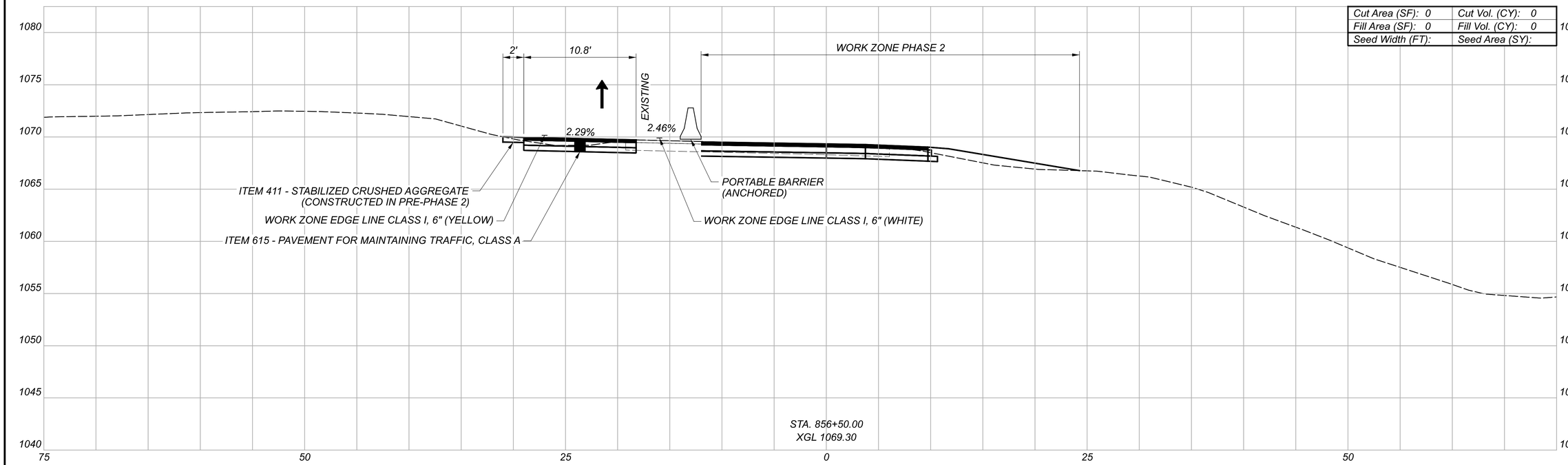
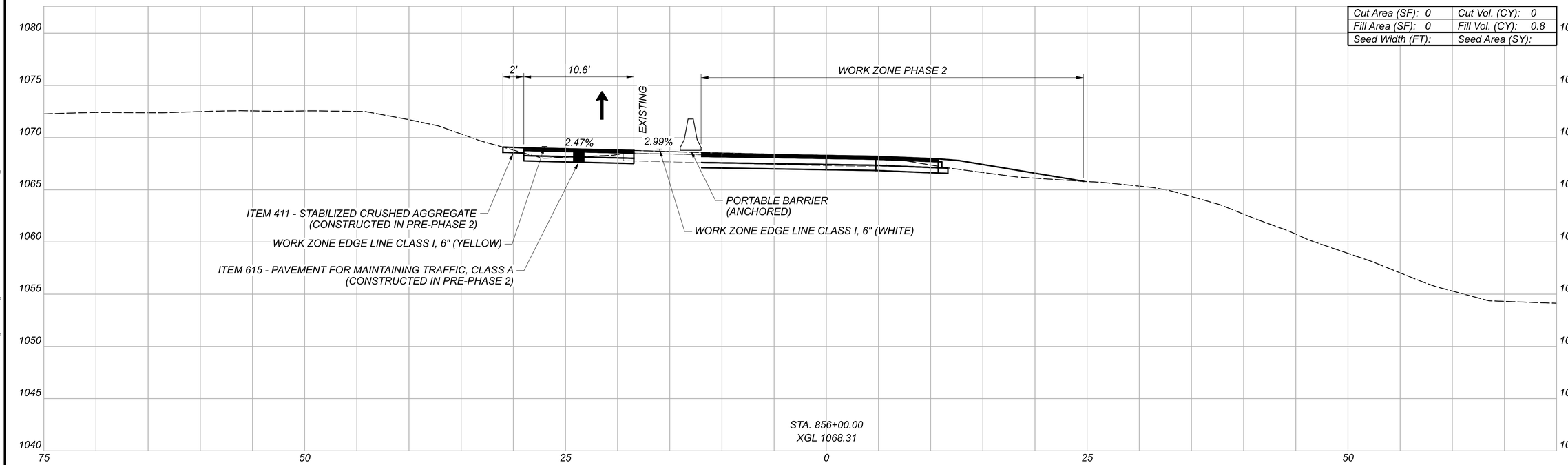
AKF 6-8-23

PROJECT ID
113889

SHEET 152 TOTAL 481





MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 4 - STA. 856+00 TO STA. 856+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R0184 - 856+00.00 [Sheet] PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 2:49:23 PM USER: dford
G:\Clients\ORD\2020\2020336\NI3889\400-Engineering\MOT\Sheets\NI3889_XM200.dgn

Sheet Totals		
Seeding	Cut	Fill
0.0	0.0	0.8

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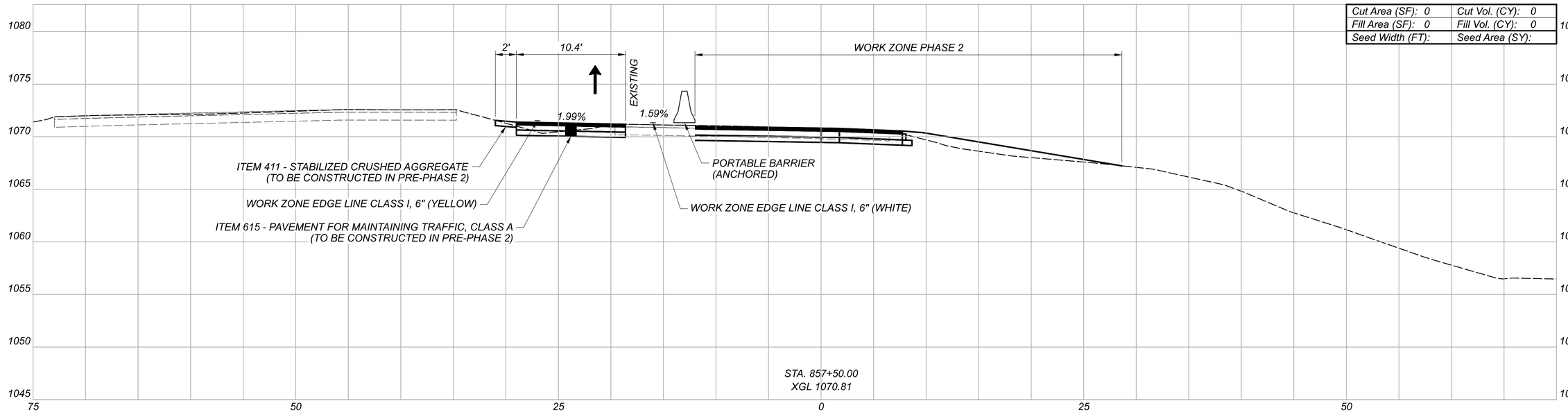
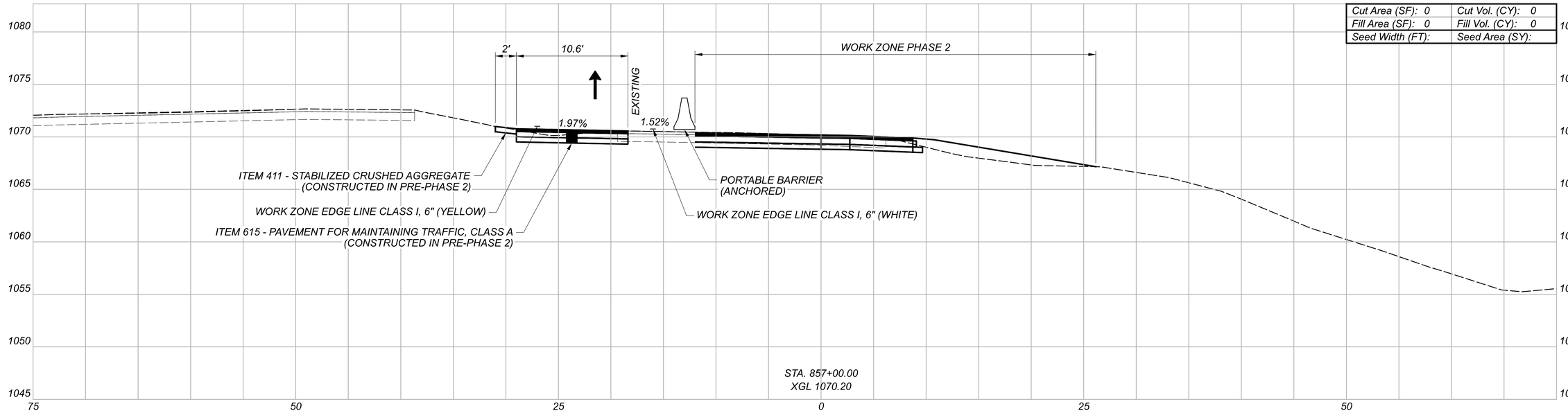
PROJECT ID
113889

SHEET 153 TOTAL 481





MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 4 - STA. 857+00 TO STA. 857+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R0184 - 857+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:49:35 PM USER: afford
G:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_XM200.dgn

Sheet Totals		
Seeding	Cut	Fill
0.0	0.0	0.0

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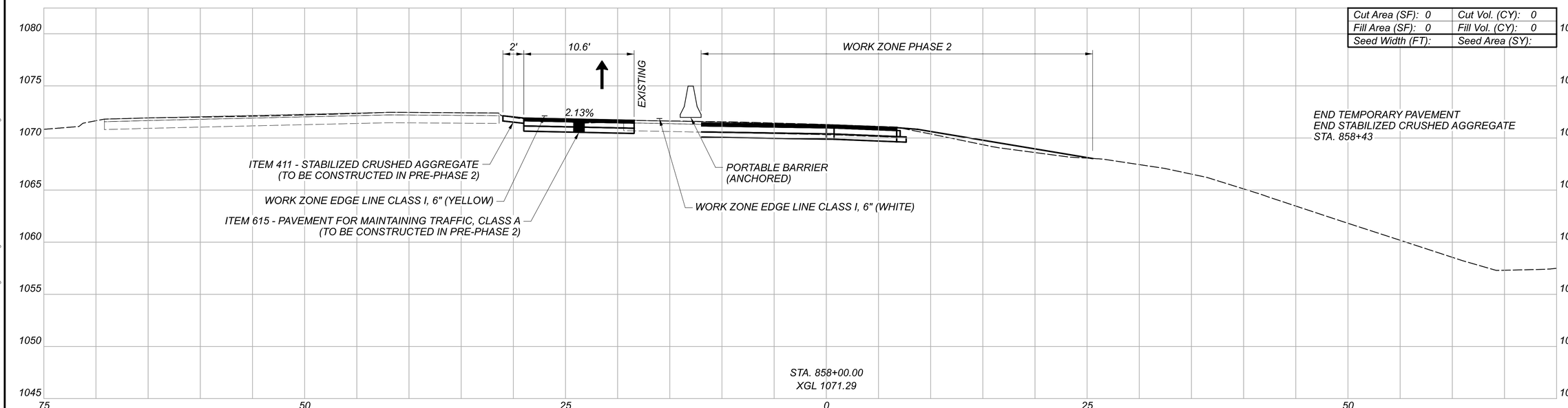
AKF 6-8-23

PROJECT ID
113889

SHEET 154 TOTAL 481

MAINTENANCE OF TRAFFIC CROSS SECTIONS
RAMP 4 - STA. 858+00



Sheet Totals		
Seeding	Cut	Fill
0.0	0.0	0.0

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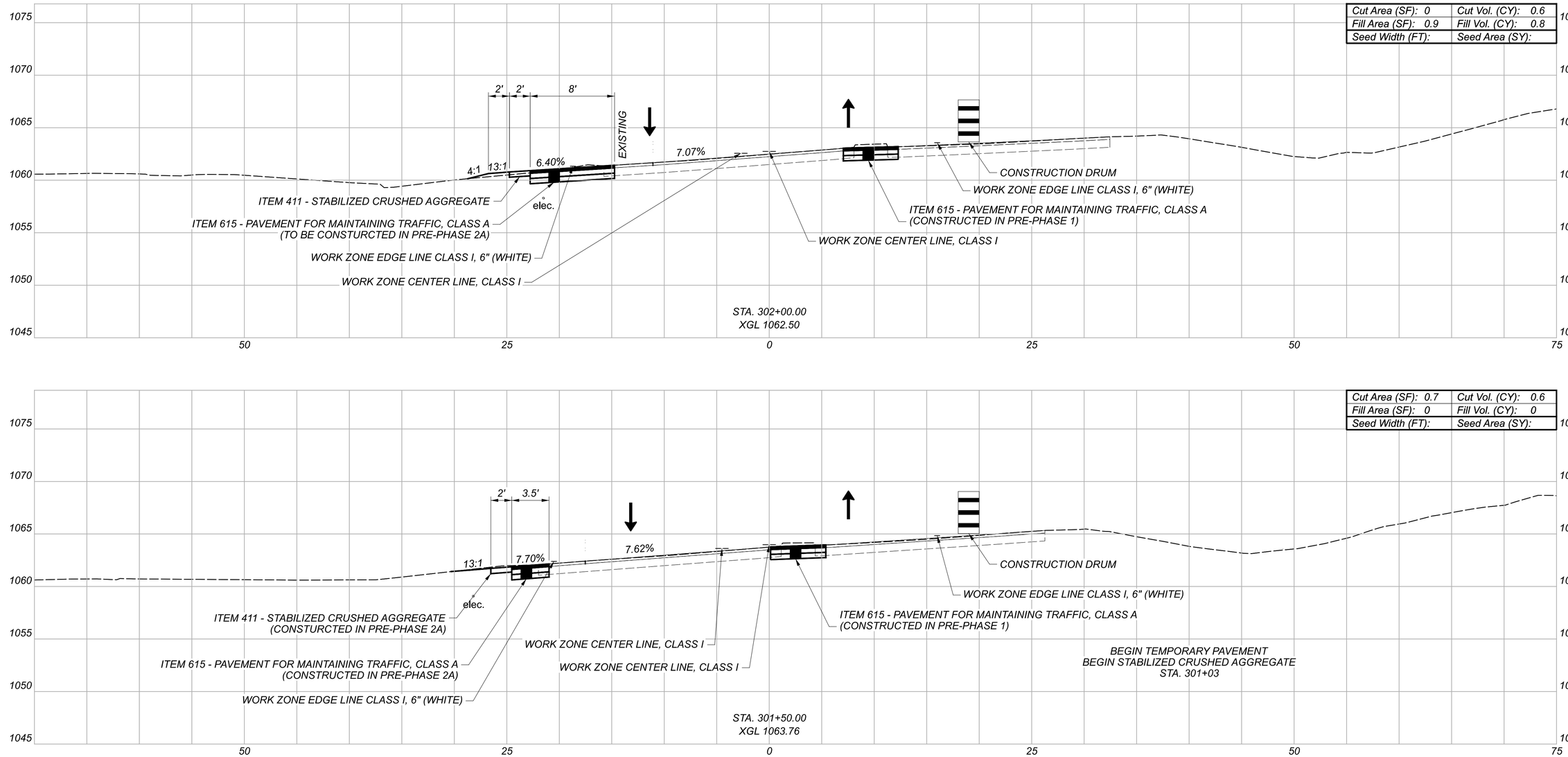
REVIEWER AKF 6-8-23

PROJECT ID 113889

SHEET 155 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: BLX_R0184 - 858+00.00 [Sheet] PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:49:42 PM USER: aford
O:\Clients\ORD\2020\2020336\113889\400-Engineering\MOT\Sheets\113889_XM200.dgn



Cut Area (SF): 0	Cut Vol. (CY): 0.6
Fill Area (SF): 0.9	Fill Vol. (CY): 0.8
Seed Width (FT):	Seed Area (SY):

Cut Area (SF): 0.7	Cut Vol. (CY): 0.6
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

MAINTENANCE OF TRAFFIC CROSS SECTIONS
MOT ALIGNMENT #1 - STA. 301+50 TO STA. 302+00

CUY-422-16.20 (HARPER ROAD)

MODEL: MOT_Alignment #1- 301+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:49:54 PM USER: dford
O:\Clients\ORD\2020\2020336\113889.400-Engineering\MOT\Sheets\113889_XM302.dgn

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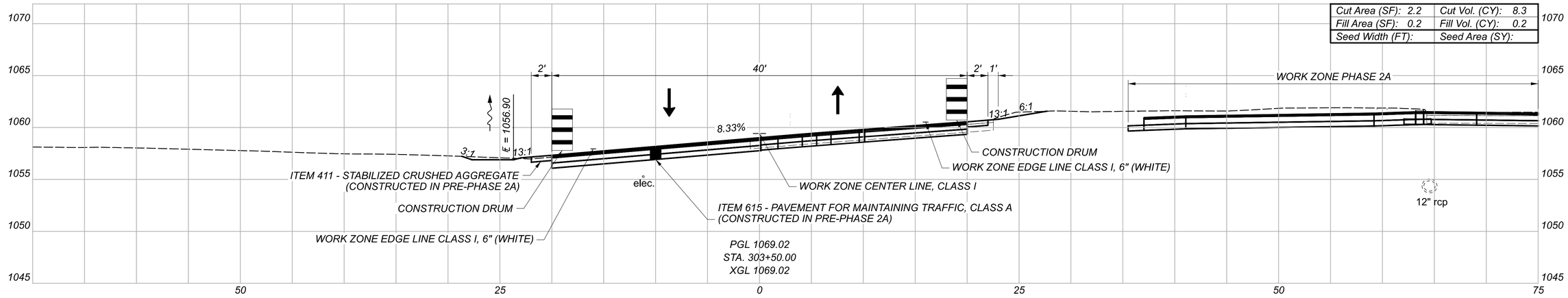
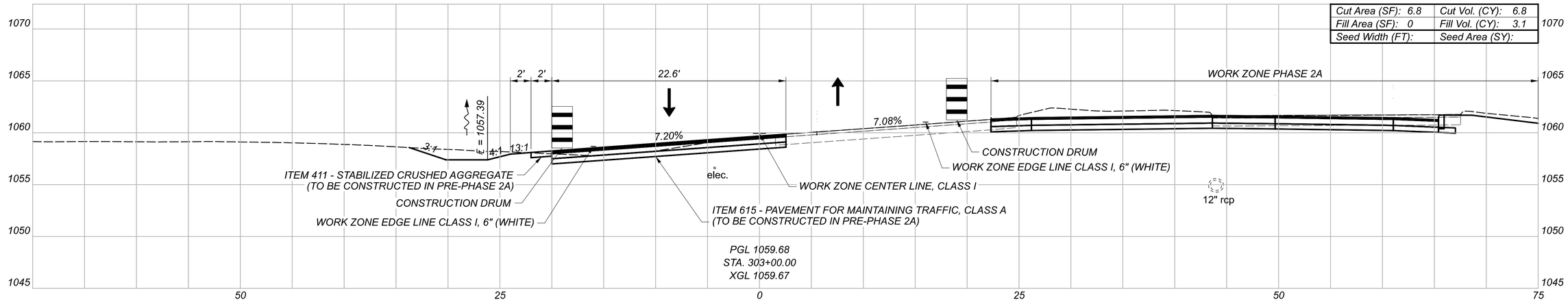
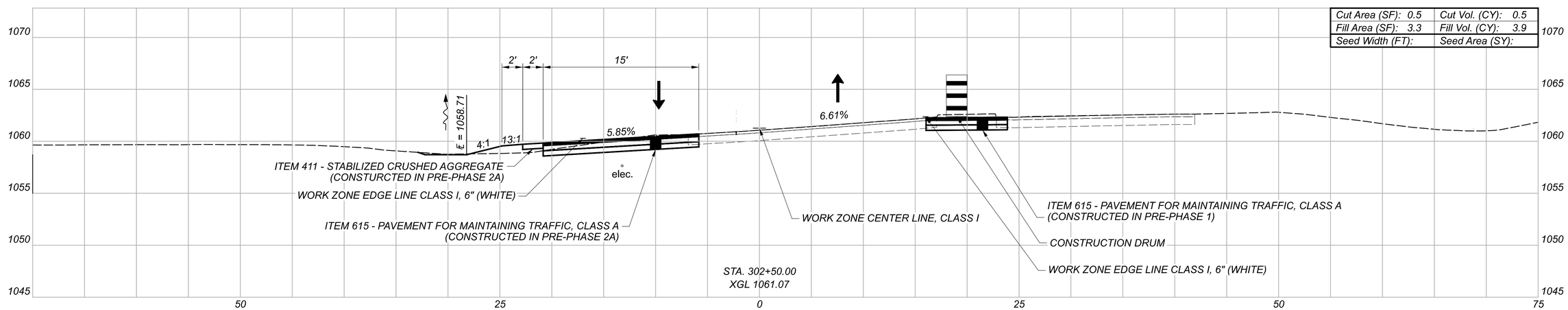
DESIGNER: BEB
REVIEWER: AKF 6-8-23
PROJECT ID: 113889

Sheet Totals		
Seeding	Cut	Fill
0:0	1:2	0:8

SHEET 156 TOTAL 481







MAINTENANCE OF TRAFFIC CROSS SECTIONS
MOT ALIGNMENT #1 - STA. 302+50 TO STA. 303+50

CUY-422-16.20 (HARPER ROAD)

MODEL: MOT_Alignment #1- 302+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:49:59 PM USER: aford
G:\Clients\ORD\2020\202033G\113889\400-Engineering\MOT\Sheets\113889_XM302.dgn

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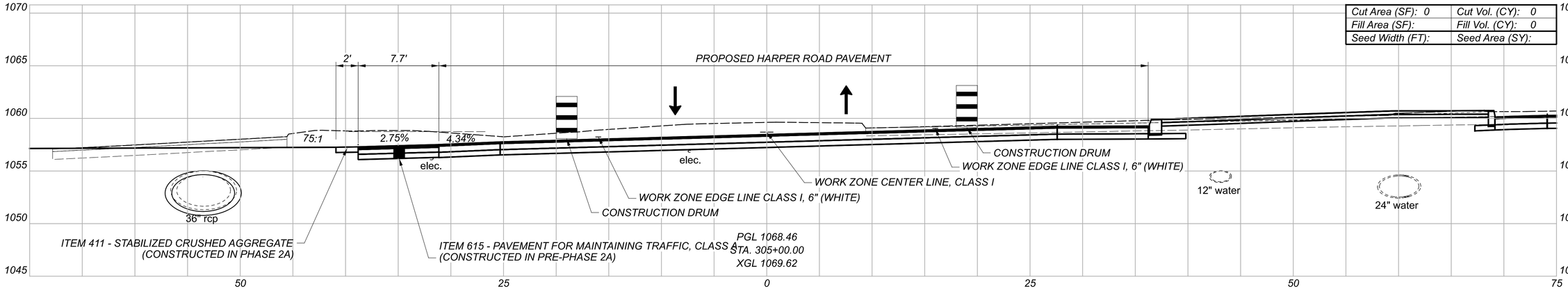
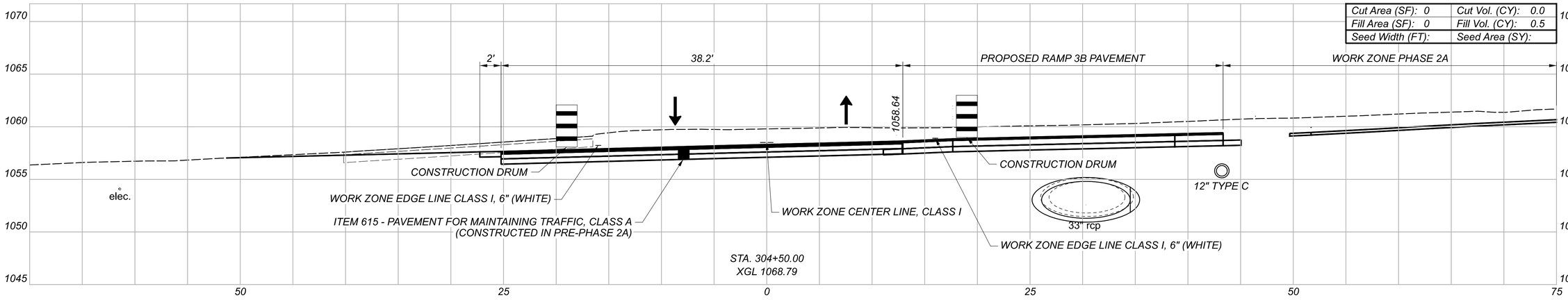
DESIGNER	BEB
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	157
TOTAL	481

Sheet Totals

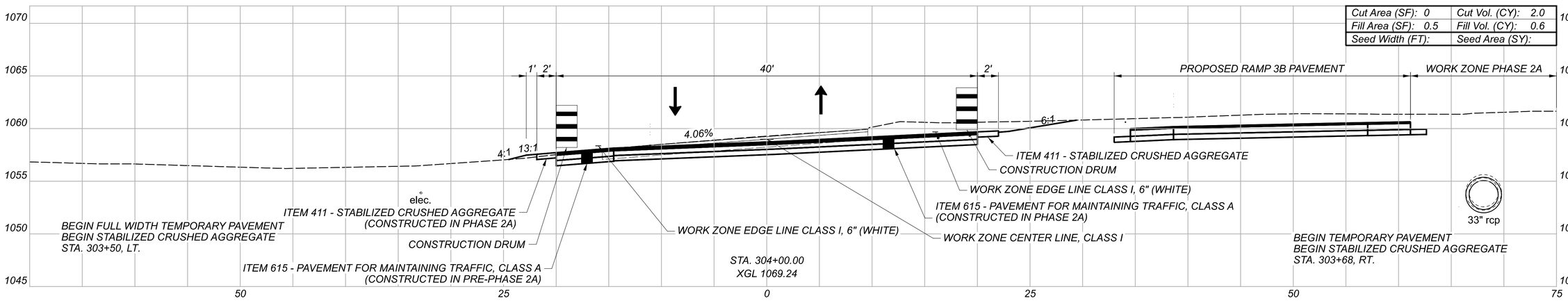
Seeding	Cut	Fill
0.0	15.6	7.2



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



Cut Area (SF): 0	Cut Vol. (CY): 0.0
Fill Area (SF): 0	Fill Vol. (CY): 0.5
Seed Width (FT):	Seed Area (SY):



Cut Area (SF): 0	Cut Vol. (CY): 2.0
Fill Area (SF): 0.5	Fill Vol. (CY): 0.6
Seed Width (FT):	Seed Area (SY):

MAINTENANCE OF TRAFFIC CROSS SECTIONS
MOT ALIGNMENT #1 - STA. 304+00 TO STA. 305+00

CUY-422-16.20 (HARPER ROAD)

MODEL: MOT_Alignment #1 - 304+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:50:06 PM USER: aford
G:\Clients\ORD\2020\2020336\Il3889\400-Engineering\MOT\Sheets\Il3889_XM302.dgn

Sheet Totals		
Seeding	Cut	Fill
0.0	2.0	1.1

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DESIGNER	BEB
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	158
TOTAL	481

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS		26	167		187					473	01/S>2	02/NFP	03/NHS						
																		ROADWAY	
		LS									LS			201	11000	LS		CLEARING AND GRUBBING	21
			25,131								25,131			202	23000	25,131	SY	PAVEMENT REMOVED	
			7,489								7,489			202	30000	7,489	SF	WALK REMOVED	
			475								475			202	30600	475	SY	CONCRETE MEDIAN REMOVED	
			390								390			202	30800	390	SY	TRAFFIC ISLAND REMOVED	
			5,039								5,039			202	32000	5,039	FT	CURB REMOVED	
			32								32			202	32600	32	FT	GUTTER REMOVED	
			1,200								1,200			202	32800	1,200	SY	CONCRETE SLOPE PROTECTION REMOVED	
			1,866								686	1,180		202	35100	1,866	FT	PIPE REMOVED, 24" DIAMETER AND UNDER	
			1,018								18	1,000		202	35200	1,018	FT	PIPE REMOVED, OVER 24" DIAMETER	
			2,287								2,287			202	38000	2,287	FT	GUARDRAIL REMOVED	
			8									8		202	58000	8	EACH	MANHOLE REMOVED	
			26								23	3		202	58100	26	EACH	CATCH BASIN REMOVED	
			462								462			202	75000	462	FT	FENCE REMOVED	
		10,687									10,687			203	10000	10,687	CY	EXCAVATION	
		4,097									4,097			203	20000	4,097	CY	EMBANKMENT	
										392	392			203	20001	392	CY	EMBANKMENT, AS PER PLAN	473
										196	196			203	35001	196	CY	GRANULAR EMBANKMENT, AS PER PLAN	473
27,553			3,838		454						31,845			204	10000	31,845	SY	SUBGRADE COMPACTION	
		2,596									2,596			204	13000	2,596	CY	EXCAVATION OF SUBGRADE	
		2,596									2,596			204	30011	2,596	CY	GRANULAR MATERIAL, TYPE B, AS PER PLAN	22
15											15			204	45000	15	HOUR	PROOF ROLLING	
		7,788									7,788			204	51000	7,788	SY	GEOGRID	
11											11			209	60201	11	STA	LINEAR GRADING, AS PER PLAN	22
			375								375			606	15050	375	FT	GUARDRAIL, TYPE MGS	
			388								388			606	15051	388	FT	GUARDRAIL, TYPE MGS, AS PER PLAN	22
			1								1			606	26050	1	EACH	ANCHOR ASSEMBLY, MGS TYPE B	22
			3								3			606	26150	3	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	22
			2								2			606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			1								1			606	35002	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			2								2			606	60028	2	EACH	IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL) (35 MPH, 24" WIDTH)	22
			223								223			607	23000	223	FT	FENCE, TYPE CLT	
			52								52			607	98000	52	FT	FENCE, MISC.:WOOD FENCE	22
			12,199								12,199			608	10000	12,199	SF	4" CONCRETE WALK	
			15,682								15,682			608	13000	15,682	SF	6" CONCRETE WALK	
			500								500			608	13001	500	SF	6" CONCRETE WALK, AS PER PLAN	22
			1,113								1,113			608	15001	1,113	SF	8" CONCRETE WALK, AS PER PLAN	22
			4,322								4,322			608	52000	4,322	SF	CURB RAMP	
56											56			622	10140	56	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	
605											605			622	10160	605	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
1											1			622	24860	1	EACH	CONCRETE BARRIER END SECTION, TYPE C1	
2											2			622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D	
1											1			622	25014	1	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	
2											2			622	25050	2	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
		1									1			623	38501	1	EACH	MONUMENT ASSEMBLY, TYPE C, AS PER PLAN	21
		5									5			623	40500	5	EACH	REFERENCE MONUMENT, TYPE A	
		21									21			623	40520	21	EACH	RIGHT-OF-WAY MONUMENT, TYPE B	
					2						2			SPECIAL	69050100	2	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	21
		LS									LS			SPECIAL	69098400	LS		SURVEY CONTROL VERIFICATION	21

GENERAL SUMMARY

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/2/2025 TIME: 1:40:54 PM USER: cluzier
O:\Public\OH\Solon\2020\2020336\113889400-Engineering\Roadway\Sheets\113889_GG001.dgn

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TMT

REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 159 TOTAL 481

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	26		168								01/S>2	02/NFP	03/NHS						
																		EROSION CONTROL	
			1,175								1,175			601	21000	1,175	SY	CONCRETE SLOPE PROTECTION	
	8										8			601	21050	8	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
			94								94			601	37501	94	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN	24
	2										2			659	00100	2	EACH	SOIL ANALYSIS TEST	
	2,890		516								3,406			659	00300	3,406	CY	TOPSOIL	
	14,259										14,259			659	00500	14,259	SY	SEEDING AND MULCHING, CLASS 1	
	11,775										11,775			659	10000	11,775	SY	SEEDING AND MULCHING	
	1,302										1,302			659	14000	1,302	SY	REPAIR SEEDING AND MULCHING	
	1,302										1,302			659	15000	1,302	SY	INTER-SEEDING	
	3.64										3.64			659	20000	3.64	TON	COMMERCIAL FERTILIZER	
	5.38										5.38			659	31000	5.38	ACRE	LIME	
	145										145			659	35000	145	MGAL	WATER	
	59										59			659	40000	59	MSF	MOWING	
			3,062								3,062			670	00500	3,062	SY	SLOPE EROSION PROTECTION	
			1,681								1,681			670	00700	1,681	SY	DITCH EROSION PROTECTION	
			LS								LS			832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
			LS								LS			832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
			LS								LS			832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
			100,000								100,000			832	30000	100,000	EACH	EROSION CONTROL	
			27								27			836	10020	27	SY	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2	

CUY-422-16.20 (HARPER ROAD)

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GENERAL SUMMARY

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REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 160 TOTAL 481

SHEET NUM.										PART.			ALT	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	26		169		170					01/S>2	02/NFP	03/NHS	(X)						
																		DRAINAGE	
			1							1				602	20000	1	CY	CONCRETE MASONRY	
			9,079							9,079				605	11101	9,079	FT	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN	23
	40		376							416				605	13301	416	FT	6" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN	23
			6,519							6,519				605	14001	6,519	FT	6" BASE PIPE UNDERDRAINS, AS PER PLAN	23
			391							391				611	00510	391	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
	200		814							1,014				611	00900	1,014	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	
	240									240				611	01500	240	FT	6" CONDUIT, TYPE F	
			13							13				611	04400	13	FT	12" CONDUIT, TYPE B, 706.02	
			111								111			611	04400	111	FT	12" CONDUIT, TYPE B, 707.65	
			158								158			611	05900	158	FT	15" CONDUIT, TYPE B, 707.65	
			449								449			611	06100	449	FT	15" CONDUIT, TYPE C, 707.65	
			237								237			611	09100	237	FT	21" CONDUIT, TYPE C, 707.65	
			141								141			611	10400	141	FT	24" CONDUIT, TYPE B, 707.65	
			83								83			611	10600	83	FT	24" CONDUIT, TYPE C, 707.65	
			152								152			611	13401	152	FT	30" CONDUIT, TYPE B, AS PER PLAN, 707.65	23
			48								48			611	16401	48	FT	36" CONDUIT, TYPE B, AS PER PLAN, 707.65	23
			70								70			611	16601	70	FT	36" CONDUIT, TYPE C, AS PER PLAN, 707.65	23
			206								206			611	19401	206	FT	42" CONDUIT, TYPE B, AS PER PLAN, 707.65	23
			24								24			611	19601	24	FT	42" CONDUIT, TYPE C, AS PER PLAN, 707.65	23
			349								349			611	20901	349	FT	48" CONDUIT, TYPE B, AS PER PLAN, 707.65	23
			178								178			611	21101	178	FT	48" CONDUIT, TYPE C, AS PER PLAN, 707.65	23
					1						1			611	98230	1	EACH	CATCH BASIN, NO. 4	
					4					4				611	98300	4	EACH	CATCH BASIN, NO. 5	
					2					2				611	98371	2	EACH	CATCH BASIN, NO. 6, AS PER PLAN	23
					33					33				611	98690	33	EACH	CATCH BASIN, MISC.: CITY OF SOLON STANDARD VERTICAL CURB INLET (ST-5B)	23
					4					4				611	98690	4	EACH	CATCH BASIN, MISC.: CITY OF SOLON STANDARD 2-2B CATCH BASIN (ST-6B)	23
					9					7	2			611	99575	9	EACH	MANHOLE, NO. 3, AS PER PLAN	23
					2					2				611	99654	2	EACH	MANHOLE ADJUSTED TO GRADE	
					13					8	5			611	99690	13	EACH	MANHOLE, MISC.: CITY OF SOLON STANDARD MANHOLE, TYPE "C" (ST-3)	23
	4									4				611	99710	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	
	500									500				SPECIAL	61199820	500	LB	MISCELLANEOUS METAL	23
																		DRAINAGE ALTERNATES	
			1,026							1,026			X	611	04400	1,026	FT	12" CONDUIT, TYPE B (ALTERNATE 1)	
			517							517			X	611	04600	517	FT	12" CONDUIT, TYPE C (ALTERNATE 1)	
			105							105			X	611	05900	105	FT	15" CONDUIT, TYPE B (ALTERNATE 1)	
			36							36			X	611	09100	36	FT	21" CONDUIT, TYPE C (ALTERNATE 1)	
			37							37			X	611	16600	37	FT	36" CONDUIT, TYPE C (ALTERNATE 1)	
			52							52			X	611	21100	52	FT	48" CONDUIT, TYPE C (ALTERNATE 1)	
			1,026							1,026			X	611	04400	1,026	FT	12" CONDUIT, TYPE B, 707.65 (ALTERNATE 2)	
			517							517			X	611	04600	517	FT	12" CONDUIT, TYPE C, 707.65 (ALTERNATE 2)	
			105							105			X	611	05900	105	FT	15" CONDUIT, TYPE B, 707.65 (ALTERNATE 2)	
			36							36			X	611	09100	36	FT	21" CONDUIT, TYPE C, 707.65 (ALTERNATE 2)	
			37							37			X	611	16601	37	FT	36" CONDUIT, TYPE C, AS PER PLAN, 707.65 (ALTERNATE 2)	23
			52							52			X	611	21101	52	FT	48" CONDUIT, TYPE C, AS PER PLAN, 707.65 (ALTERNATE 2)	23

GENERAL SUMMARY

CUY-422-16.20 (HARPER ROAD)

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REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 161 TOTAL 481

SHEET NUM.								PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	26	167	170	182		187		01/S>2	02/NFP	03/NHS						
															PAVEMENT	
5,082								5,082			302	56000	5,082	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
4,716								4,716			304	20001	4,716	CY	AGGREGATE BASE, AS PER PLAN "A"	23
		321				54		375			304	20001	375	CY	AGGREGATE BASE, AS PER PLAN "B"	23
2,862						7		2,869			407	20000	2,869	GAL	NON-TRACKING TACK COAT	
						4		4			441	70500	4	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)	
						6		6			441	70700	6	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)	
40								40			441	70801	40	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), (UNDER GUARDRAIL), AS PER PLAN	22
1,078								1,078			442	10000	1,078	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
1,264								1,264			442	10100	1,264	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
						65		65			452	10050	65	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
						270		270			452	12050	270	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
6,905		26						6,931			609	26000	6,931	FT	CURB, TYPE 6	
		322						322			609	28000	322	FT	CURB, TYPE 7	
920								920			609	50000	920	SY	4" CONCRETE TRAFFIC ISLAND	
167								167			609	54001	167	SY	6" CONCRETE TRAFFIC ISLAND, AS PER PLAN	23
72								72			617	10100	72	CY	COMPACTED AGGREGATE	
1,284								1,284			617	20000	1,284	SY	SHOULDER PREPARATION	
4								4			617	25000	4	MGAL	WATER	
															WATER WORK	
				1				1			611	99654	1	EACH	MANHOLE ADJUSTED TO GRADE	
				4				4			638	10481	4	EACH	FIRE HYDRANT REMOVED, AS PER PLAN	25
				16				16			638	10800	16	EACH	VALVE BOX ADJUSTED TO GRADE	
				5				5			SPECIAL	63820168	5	FT	12" WATER MAIN DIP CLASS 52 MECHANICAL JOINTS AND FITTINGS (CLEVELAND)	25
				2				2			SPECIAL	63820750	2	EACH	6" FIRE HYDRANT (CLEVELAND)	25
				1				1			SPECIAL	63820762	1	EACH	FIRE HYDRANT SERVICE LINE EXTENDED AND ADJUSTED TO GRADE (CLEVELAND)	25
				1				1			SPECIAL	63820764	1	EACH	FIRE HYDRANT SERVICE LINE SHORTENED AND ADJUSTED TO GRADE (CLEVELAND)	25
				1				1			638	98000	1	EACH	WATER WORK, MISC.: METER REMOVED AND RESET (CLEVELAND)	25
	61							61			638	98000	61	EACH	WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT FEES AND CHARGES	25
	LS							LS			638	98100	LS		WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT AS-BUILT DRAWINGS	25
															SANITARY SEWER	
			4					4			611	99654	4	EACH	MANHOLE ADJUSTED TO GRADE	
			2					2			611	99660	2	EACH	MANHOLE RECONSTRUCTED TO GRADE	

GENERAL SUMMARY

CUY-422-16.20 (HARPER ROAD)

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REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 162 TOTAL 481

SHEET NUM.												PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
459		460	461									01/S>2	02/NFP	03/NHS						
																			LIGHTING	
		12	8									20			625	00450	20	EACH	CONNECTION, FUSED PULL APART	
		5	2									7			625	10491	7	EACH	LIGHT POLE, CONVENTIONAL, AS PER PLAN, AT15B35	459
		5	4									9			625	14100	9	EACH	LIGHT POLE FOUNDATION, 24" X 8' DEEP	
		10,563	4,257									14,820			625	23200	14,820	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
		1,170	270									1,440			625	23400	1,440	FT	NO. 10 AWG POLE AND BRACKET CABLE	
		1,084	1,067									2,151			625	25409	2,151	FT	CONDUIT, 2", 725.051, AS PER PLAN	459
		979	193									1,172			625	25505	1,172	FT	CONDUIT, 3", 725.051, AS PER PLAN	459
		105										105			625	25605	105	FT	CONDUIT, 4", 725.051, AS PER PLAN	459
		6	2									8			625	26253	8	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, IES-III-M, 17,000-19,000 LUMENS	459
		4										4			625	27502	4	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED), MEDIUM DISTRIBUTION, 5,000-6,500 LUMENS	
		2,168	1,260									3,428			625	29000	3,428	FT	TRENCH	
		12	4									16			625	30510	16	EACH	PULL BOX, 725.06, SIZE 4	
		7	4									11			625	32000	11	EACH	GROUND ROD	
		1										1			625	34001	1	EACH	POWER SERVICE, AS PER PLAN	459
		2,168	1,260									3,428			625	36010	3,428	FT	UNDERGROUND WARNING/MARKING TAPE	
9												9			625	75400	9	EACH	LIGHT POLE REMOVED	
9												9			625	75500	9	EACH	LIGHT POLE FOUNDATION REMOVED	
11												11			625	75506	11	EACH	LUMINAIRE REMOVED	
1												1			625	75510	1	EACH	POWER SERVICE REMOVED	
1												1			625	76000	1	EACH	ARC FLASH CALCULATIONS AND LABEL, LIGHTING CONTROL CENTER	
			2									2			625	98000	2	EACH	LIGHTING, MISC.: EXISTING LIGHT POLE, BRACKET ARM AND LUMINAIRE TO BE REMOVED AND REERECTED	459

GENERAL SUMMARY

CUY-422-16.20 (HARPER ROAD)

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SHEET 163 TOTAL 481

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
167	376	377		383		386		388		389	01/S>2	02/NFP	03/NHS						
																		TRAFFIC CONTROL	
		29									29			620	00500	29	EACH	DELINEATOR, POST GROUND MOUNTED	
	50										50			620	31200	50	EACH	REMOVAL OF DELINEATOR	
		132									132			621	00100	132	EACH	RPM	
	65										65			621	54000	65	EACH	RAISED PAVEMENT MARKER REMOVED	
										7	7			625	32000	7	EACH	GROUND ROD	
9											9			626	00102	9	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
18											18			626	00110	18	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY	
								90			90			630	02100	90	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
								718.9			718.9			630	03100	718.9	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
										85.3	85.3			630	07600	85.3	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
								6			6			630	08600	6	EACH	SIGN POST REFLECTOR	
										4	4			630	09000	4	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
										3	3			630	72210	3	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-9.31, DESIGN 2	
										1	1			630	72410	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 1	
										1	1			630	72420	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2	
								9			9			630	79101	9	EACH	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	376
								5			5			630	79500	5	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
								500.2		162	662.2			630	80100	662.2	SF	SIGN, FLAT SHEET	
										421	421			630	80224	421	SF	SIGN, OVERHEAD EXTRUSHEET	
								12.5			12.5			630	81101	12.5	SF	SIGN ERECTED, FLAT SHEET, AS PER PLAN	376
										4	4			630	84500	4	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
										7	7			630	84510	7	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
						73					73			630	84900	73	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
						5					5			630	85001	5	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN	376
						7					7			630	85400	7	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
						60					60			630	86002	60	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						10					10			630	86102	10	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
						11					11			630	87400	11	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
						15					15			630	87500	15	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
						2					2			630	89706	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	
						1					1			630	89810	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-17.10	
				0.96							0.96			642	00100	0.96	MILE	EDGE LINE, 4", TYPE 1	
	0.35			0.24							0.59			642	00200	0.59	MILE	LANE LINE, 4", TYPE 1	
	0.3			0.15							0.45			642	00300	0.45	MILE	CENTER LINE, TYPE 1	
	300			1,733							2,033			642	00400	2,033	FT	CHANNELIZING LINE, 8", TYPE 1	
	105			144							249			642	00500	249	FT	STOP LINE, TYPE 1	
	335			95							430			642	00700	430	FT	TRANSVERSE/DIAGONAL LINE, TYPE 1	
	13			57							70			642	01300	70	EACH	LANE ARROW, TYPE 1	
	2										2			642	01400	2	EACH	WORD ON PAVEMENT, 72", TYPE 1	
				1,083							1,083			642	01500	1,083	FT	DOTTED LINE, 4", TYPE 1	
	1.3			1.64							2.94			644	00104	2.94	MILE	EDGE LINE, 6"	
				0.06							0.06			644	00204	0.06	MILE	LANE LINE, 6"	
	500			1,761							2,261			644	00404	2,261	FT	CHANNELIZING LINE, 12"	
				85							85			644	00500	85	FT	STOP LINE	
				343							343			644	00620	343	FT	CROSSWALK LINE, 12"	
				891							891			644	00700	891	FT	TRANSVERSE/DIAGONAL LINE	
	6			44							50			644	01300	50	EACH	LANE ARROW	
				2							2			644	01350	2	EACH	LANE REDUCTION ARROW	
				1,035							1,035			644	01510	1,035	FT	DOTTED LINE, 6"	
				20							20			644	20800	20	FT	YIELD LINE	
	1,500										1,500			644	30000	1,500	FT	REMOVAL OF PAVEMENT MARKING	
	0.22										0.22			644	30030	0.22	MILE	REMOVAL OF PAVEMENT MARKING	

GENERAL SUMMARY

CUY-422-16.20 (HARPER ROAD)

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CWL 6-8-23

PROJECT ID
113889

SHEET 164 TOTAL 481

SHEET NUM.								PART.			ALT	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
433		437		438				01/S>2	02/NFP	03/NHS	(X)						
																TRAFFIC SIGNALS	
		1						1				625	18001	1	EACH	BRACKET ARM, 10', AS PER PLAN	434
		5						5				625	18201	5	EACH	BRACKET ARM, 15', AS PER PLAN	434
		2						2				625	18501	2	EACH	BRACKET ARM, 25', AS PER PLAN	434
		136		1,727				1,863				625	25409	1,863	FT	CONDUIT, 2", 725.051, AS PER PLAN	436
		457						457				625	25505	457	FT	CONDUIT, 3", 725.051, AS PER PLAN	436
		865		244				1,109				625	25605	1,109	FT	CONDUIT, 4", 725.051, AS PER PLAN	436
		1,312		1,971				3,283				625	29000	3,283	FT	TRENCH	
		9		5				14				625	30520	14	EACH	PULL BOX, 725.06, SIZE 7	
		3						3				625	30530	3	EACH	PULL BOX, 725.06, SIZE 18	
		2						2				625	31600	2	EACH	PULL BOX, MISC.: PULL BOX, 24" X 35" X 26"	435
		26						26				625	32000	26	EACH	GROUND ROD	
		1,312		1,971				3,283				625	36010	3,283	FT	UNDERGROUND WARNING/MARKING TAPE	
3								3				625	76000	3	EACH	ARC FLASH CALCULATIONS AND LABEL, TRAFFIC SIGNAL CABINET	433
		31						31				632	05007	31	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK	436
		8						8				632	20731	8	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	433
		31						31				632	25001	31	EACH	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	436
		8						8				632	25011	8	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD, AS PER PLAN	436
		8						8				632	26001	8	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	434
		3,076						3,076				632	40500	3,076	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
		2,443						2,443				632	40700	2,443	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
		10						10				632	64010	10	EACH	SIGNAL SUPPORT FOUNDATION	
		4						4				632	64020	4	EACH	PEDESTAL FOUNDATION	
		6						6				632	64021	6	EACH	PEDESTAL FOUNDATION, AS PER PLAN	436
10								10				632	64950	10	EACH	TEST HOLE PERFORMED	433
		3,473						3,473				632	65200	3,473	FT	LOOP DETECTOR LEAD-IN CABLE	
		3						3				632	70001	3	EACH	POWER SERVICE, AS PER PLAN	436
		1						1				632	71225	1	EACH	SIGNAL SUPPORT, TYPE TC-12.31 DESIGN 6 POLE, WITH MAST ARMS TC-81.22 DESIGN 4 AND DESIGN 4, AS PER PLAN	434
		1						1				632	72111	1	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	434
		5						5				632	79111	5	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	434
		3						3				632	79131	3	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN	434
		4						4				632	89901	4	EACH	PEDESTAL, 8', TRANSFORMER BASE, AS PER PLAN	434
		6						6				632	90010	6	EACH	PEDESTAL, MISC.: PEDESTAL, 19', TRANSFORMER BASE	434
		2						2				632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	434
		3						3				633	65511	3	EACH	CABINET, TYPE TS-2, AS PER PLAN	434
		3						3				633	67101	3	EACH	CABINET FOUNDATION, AS PER PLAN	434
		3						3				633	67201	3	EACH	CONTROLLER WORK PAD, AS PER PLAN	434
		3						3				633	75001	3	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	434
1								1				633	99000	1	EACH	CONTROLLER ITEM, MISC.: PROGRAMMING OF CENTRACS SYSTEM	433
		1						1				633	99000	1	EACH	CONTROLLER ITEM, MISC.: CONTROLLER MODIFICATIONS	433
				3				3				633	99000	3	EACH	CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET SWITCH	435
				2,208				2,208				804	20011	2,208	FT	FIBER OPTIC CABLE, ARMORED, 18 FIBER, AS PER PLAN	434
				3				3				804	32000	3	EACH	DROP CABLE, 6 FIBER	
				3				3				804	34012	3	EACH	FIBER TERMINATION PANEL, 12 FIBER	
				3				3				804	37000	3	EACH	SPLICE ENCLOSURE, BUTT STYLE	
		4						4				809	69001	4	EACH	ADVANCE RADAR DETECTION, AS PER PLAN	435
		3						3				809	69123	3	EACH	ATC CONTROLLER, AS PER PLAN	434
		3						3				809	69201	3	EACH	EMERGENCY VEHICLE PREEMPTION, AS PER PLAN	435
		9						9				809	69211	9	EACH	PREEMPT RECEIVING UNIT, AS PER PLAN	435
		1,916						1,916				809	69220	1,916	FT	PREEMPT DETECTOR CABLE	
		6						6				809	69230	6	EACH	PREEMPT PHASE SELECTOR	
		11						11				809	69241	11	EACH	PREEMPT CONFIRMATION LIGHT, AS PER PLAN	435
																TRAFFIC SIGNALS ALTERNATES	
		2						2			X	816	30001	2	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN (ALTERNATE 1)	436
		2						2			X	816	30001	2	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN (AUTOSCOPE VISION) (ALTERNATE 2)	436

GENERAL SUMMARY

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/30/2025 TIME: 9:53:49 AM USER: cluzier
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CWL 6-8-23

PROJECT ID
113889

SHEET 165 TOTAL 481

SHEET NUM.													PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
26	27	28	29	32	33	34	35	36	37	38	39	473	01/S>2	02/NFP	03/NHS						
																				STRUCTURE REPAIR (CUY-422-1627L/R, SFN 1814907 & 1814915)	
												2			2	503	21100	2	CY	UNCLASSIFIED EXCAVATION	
												188			188	512	10100	188	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
												115			115	SPECIAL	51271500	115	SY	URETHANE TOP COAT SEALER	473
												24			24	518	62200	24	EACH	STRUCTURE DRAINAGE, MISC.: WEEP HOLE RECONSTRUCTION	473
												LS			LS	518	63300	LS		STRUCTURE DRAINAGE, MISC.: DRAINAGE COLLECTION SYSTEM	473
												1,570			1,570	SPECIAL	51900100	1,570	SF	COMPOSITE FIBER WRAP SYSTEM	473
												160			160	519	11100	160	SF	PATCHING CONCRETE STRUCTURE	
																				MAINTENANCE OF TRAFFIC	
				5	3		49				28		85			411	10000	85	CY	STABILIZED CRUSHED AGGREGATE	
						1		1					2			606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
			140										140			614	11110	140	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	3										505		3			SPECIAL	61411300	3	EACH	WORK ZONE TRAFFIC SIGNAL	27
													505			614	11630	505	FT	INCREASED BARRIER DELINEATION	
					1		2	1			3		7			614	12380	7	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
	LS												LS			614	12420	LS		DETOUR SIGNING	27
		20											20			614	13000	20	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
					16		23	9			46		94			614	13310	94	EACH	BARRIER REFLECTOR, TYPE 1, 1-WAY	
					16		23	9			46		94			614	13350	94	EACH	OBJECT MARKER, ONE WAY	
			17										17			614	18601	17	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	29
					0.16	0.04	0.19			0.06	0.03		0.48			614	20000	0.48	MILE	WORK ZONE LANE LINE, CLASS I, 4"	
									0.02	0.15			0.17			614	20010	0.17	MILE	WORK ZONE LANE LINE, CLASS I, 6"	
			0.3										0.3			614	20550	0.3	MILE	WORK ZONE LANE LINE, CLASS III, 4", 642 PAINT	
				0.35	0.03	0.43	0.22	0.15	0.07	0.06			1.31			614	21000	1.31	MILE	WORK ZONE CENTER LINE, CLASS I	
			0.15										0.15			614	21550	0.15	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
				0.41	0.21	0.47	0.14	0.48	0.81	0.6	0.11		3.23			614	22000	3.23	MILE	WORK ZONE EDGE LINE, CLASS I, 4"	
				0.16	0.92	0.43	1.09	0.46	0.21	2.07	1.22		6.56			614	22010	6.56	MILE	WORK ZONE EDGE LINE, CLASS I, 6"	
			2.6										2.6			614	22350	2.6	MILE	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT	
				545	346	502	230		859	1,836			4,318			614	23000	4,318	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8"	
							360	274		744	100		1,478			614	23010	1,478	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12"	
			3,494										3,494			614	23680	3,494	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT	
						97		100	148	2,079			2,424			614	24000	2,424	FT	WORK ZONE DOTTED LINE, CLASS I	
			2,118										2,118			614	24610	2,118	FT	WORK ZONE DOTTED LINE, CLASS III, 4", 642 PAINT	
				151	14	127		45					337			614	25000	337	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	
				117	39	96	45	12	117	149	26		601			614	26000	601	FT	WORK ZONE STOP LINE, CLASS I	
			229										229			614	26610	229	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
				9	4	8			14	58			93			614	30000	93	EACH	WORK ZONE ARROW, CLASS I	
			101										101			614	30650	101	EACH	WORK ZONE ARROW, CLASS III, 642 PAINT	
				48	30	48							126			614	32700	126	SF	WORK ZONE ISLAND MARKING, CLASS I	
	1												1			614	40051	1	EACH	BUSINESS ENTRANCE SIGN, AS PER PLAN	27
			LS										LS			615	10001	LS		ROADS FOR MAINTAINING TRAFFIC, AS PER PLAN	29
				668	441	127	1,738				939		3,913			615	20000	3,913	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
	100												100			616	10000	100	MGAL	WATER	
					750			200			350		1,300			622	41100	1,300	FT	PORTABLE BARRIER, UNANCHORED	
							1,027	200			1,657		2,884			622	41110	2,884	FT	PORTABLE BARRIER, ANCHORED	
																				ENGINEERING AND SURVEYING SERVICES	
LS													LS			SPECIAL	69098400	LS		UTILITY COORDINATION AND RELOCATION	23
																				INCIDENTALS	
													LS			108	10000	LS		CPM PROGRESS SCHEDULE	
													LS			614	11000	LS		MAINTAINING TRAFFIC	
													20			619	16020	20	MNTH	FIELD OFFICE, TYPE C	
													LS			623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	21
													LS			624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/22/2026 TIME: 10:00:48 AM USER: dluzier
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REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 166 TOTAL 481

SHEET NO.		202 PAVEMENT REMOVED	202 WALK REMOVED	202 CONCRETE MEDIAN REMOVED	202 TRAFFIC ISLAND REMOVED	202 CURB REMOVED		202 CONCRETE SLOPE PROTECTION REMOVED	202 GUTTER REMOVED	202 PIPE REMOVED, 24" AND UNDER		202 PIPE REMOVED, OVER 24"		202 GUARDRAIL REMOVED	202 CATCH BASIN REMOVED		202 MANHOLE REMOVED		202 FENCE REMOVED		204 SUBGRADE COMPACTION
		SY	SF	FT	SY	FT		SY	FT	FT		FT		FT	EACH		EACH		FT		SY
										01/S>2	02/NFP	01/S>2	02/NFP		01/S>2	02/NFP	02/NFP				
171																					
173															23	3	8				
175														2287					462		
178										686	1180	18	1000								
183		25131	7489	475	390	5039		1200	32												
186																					3838
TOTALS CARRIED TO GENERAL SUMMARY		25131	7489	475	390	5039		1200	32	686	1180	18	1000	2287	23	3	8		462		3838

SHEET NO.	304 AGGREGATE BASE, AS PER PLAN "B" CY		606 GUARDRAIL, TYPE MGS EACH	606 GUARDRAIL, TYPE MGS, AS PER PLAN FT	606 ANCHOR ASSEMBLY, MGS TYPE B EACH	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016) EACH	606 ANCHOR ASSEMBLY, MGS TYPE T EACH	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 IMPACT ATTENUATOR, TYPE 2, (BIDIRECTIONAL), (35 MPH, 24" WIDTH) EACH		607 FENCE, TYPE CLT FT	607 FENCE, MISC.; WOOD FENCE FT		608 4" CONCRETE WALK SF	608 6" CONCRETE WALK SF	608 6" CONCRETE WALK, AS PER PLAN SF	608 8" CONCRETE WALK, AS PER PLAN SF	608 CURB RAMP SF	609 CURB, TYPE 6 FT	609 CURB, TYPE 7 FT	626 BARRIER REFLECTOR, TYPE 1, ONE-WAY EACH	626 BARRIER REFLECTOR, TYPE 2, ONE-WAY EACH
175			375	388	1	3	2	1	2		223	52									9	18
186	321													12199	15682	500	1113	4322	26	322		
TOTALS CARRIED TO GENERAL SUMMARY	321		375	388	1	3	2	1	2		223	52		12199	15682	500	1113	4322	26	322	9	18

ROADWAY SUBSUMMARY

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/28/2025 TIME: 10:05:09 AM USER: cluzier
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REVIEWER CWL 6-8-23
PROJECT ID 113889
SHEET 167 TOTAL 481

SHEET NO.		601 CONCRETE SLOPE PROTECTION SY		601 PAVED GUTTER, TYPE 1-2, AS PER PLAN FT			659 TOPSOIL CY			670 SLOPE EROSION PROTECTION SY		670 DITCH EROSION PROTECTION SY									
174		1175		94			516			3062		1681									
TOTALS CARRIED TO GENERAL SUMMARY		1175		94			516			3062		1681									

SHEET NO.		832 STORM WATER POLLUTION PREVENTION PLAN LS		832 STORM WATER POLLUTION PREVENTION INSPECTIONS LS		832 STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE LS		832 EROSION CONTROL EACH							836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 SY						
174															27					
188		LS		LS		LS		100000												
TOTALS CARRIED TO GENERAL SUMMARY		LS		LS		LS		100000							27					

EROSION CONTROL SUBSUMMARY

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/26/2025 TIME: 10:05:57 AM USER: cluzier
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REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 168 TOTAL 481

SHEET NO.	602 CONCRETE MASONRY CY		605 6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN FT	605 6" BASE PIPE UNDERDRAINS, AS PER PLAN FT	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT	611 6" CONDUIT, TYPE B FT		611 12" CONDUIT, TYPE B, 706.02 FT	611 12" CONDUIT, TYPE B, 707.65 FT 02/NFP	611 12" CONDUIT, TYPE B FT ALT 1	611 12" CONDUIT, TYPE B, 707.65 FT ALT 2		611 12" CONDUIT, TYPE C FT ALT 1	611 12" CONDUIT, TYPE C, 707.65 FT ALT 2		611 15" CONDUIT, TYPE B FT ALT 1	611 15" CONDUIT, TYPE B, 707.65 FT ALT 2	611 15" CONDUIT, TYPE B, 707.65 FT 02/NFP	611 15" CONDUIT, TYPE C, 707.65 FT 02/NFP		
175	1																					
176										111	572	572		412	412		45	45		97		
177									13		454	454		105	105		60	60	158	352		
179			4949	277	1412	146	230															
180			3088	99	1069	185	441															
181			1042		4038	60	143															
TOTALS CARRIED TO GENERAL SUMMARY	1		9079	376	6519	391	814		13	111	1026	1026		517	517		105	105	158	449		

SHEET NO.	611 21" CONDUIT, TYPE C FT ALT 1	611 21" CONDUIT, TYPE C, 707.65 FT ALT 2	02/NFP	611 24" CONDUIT, TYPE B, 707.65 FT 02/NFP	611 24" CONDUIT, TYPE C, 707.65 FT 02/NFP			611 30" CONDUIT, TYPE B, AS PER PLAN, 707.65 FT 02/NFP		611 36" CONDUIT, TYPE B, AS PER PLAN, 707.65 FT 02/NFP	611 36" CONDUIT, TYPE C, AS PER PLAN, 707.65 FT 02/NFP	611 36" CONDUIT, TYPE C FT ALT 1	611 36" CONDUIT, TYPE C, AS PER PLAN, 707.65 FT ALT 2		611 42" CONDUIT, TYPE B, AS PER PLAN, 707.65 FT 02/NFP	611 42" CONDUIT, TYPE C, AS PER PLAN, 707.65 FT 02/NFP		611 48" CONDUIT, TYPE B, AS PER PLAN, 707.65 FT 02/NFP	611 48" CONDUIT, TYPE C FT ALT 1	611 48" CONDUIT, TYPE C, AS PER PLAN, 707.65 FT ALT 2	02/NFP	
176			114		83			85			70	37	37		206			198	52	52		
177	36	36	123	141				67		48						24		151			178	
TOTALS CARRIED TO GENERAL SUMMARY	36	36	237	141	83			152		48	70	37	37		206	24		349	52	52	178	

DRAINAGE SUBSUMMARY

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/26/2025 TIME: 10:06:43 AM USER: cluzier
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REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 169 TOTAL 481

SHEET NO.	611 CATCH BASIN, NO. 4 EACH	611 CATCH BASIN, NO. 5 EACH	611 CATCH BASIN, NO. 6, AS PER PLAN EACH	611 CATCH BASIN, MISC.: CITY OF SOLON STANDARD VERTICAL CURB INLET (ST-5B) EACH	611 CATCH BASIN, MISC.: CITY OF SOLON STANDARD 2-2B CATCH BASIN (ST-6B) EACH	611 MANHOLE, NO. 3, AS PER PLAN EACH		611 MANHOLE ADJUSTED TO GRADE EACH	611 MANHOLE, MISC.: CITY OF SOLON STANDARD MANHOLE, TYPE "C" (ST-3) EACH	
	02/NFP					01/S>2	02/NFP		01/S>2	02/NFP
171		2	2	24	1	6			4	
172	1	2		9	3	1	2	2	4	5
175										
176										
177										
178										
179										
180										
181										
TOTALS CARRIED TO GENERAL SUMMARY	1	4	2	33	4	7	2	2	8	5

SHEET NO.	611 MANHOLE ADJUSTED TO GRADE (SANITARY) EACH	611 MANHOLE RECONSTRUCTED TO GRADE (SANITARY) EACH
171		
172		
175		
176		
177		
178	4	2
179		
180		
181		
TOTALS CARRIED TO GENERAL SUMMARY	4	2

DRAINAGE SUBSUMMARY

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CWL 6-8-23

PROJECT ID
113889

SHEET 170 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE		611 CATCH BASIN, MISC.: CITY OF SOLON STANDARD VERTICAL CURB INLET (ST-5B) EACH	611 CATCH BASIN, MISC.: CITY OF SOLON STANDARD 2-2B CATCH BASIN (ST-6B) EACH	611 CATCH BASIN, NO. 5 EACH		611 CATCH BASIN, NO. 6, AS PER PLAN EACH		611 MANHOLE, MISC.: CITY OF SOLON STANDARD MANHOLE, TYPE "C" (ST-3) EACH		611 MANHOLE, NO. 3, AS PER PLAN EACH										
D-1	191	59+79.25 (HARPER RD)		RT		1																
D-2	191	59+79.59 (HARPER RD)		LT		1																
D-3	191	61+60.05 (HARPER RD)		RT		1																
D-4	199	344+74.73 (RAMP 1A)		LT		1																
D-5	199	344+95.19 (RAMP 1A)		RT			1															
D-6	199	445+85.12 (RAMP 1B)		RT		1																
D-7	199	445+50.00 (RAMP 1B)		RT				1														
D-8	193	63+56.72 (HARPER RD)		RT		1																
D-9	199	445+96.40 (RAMP 1B)		RT								1										
D-10	191	61+97.55 (HARPER RD)		LT		1																
D-11	191	62+25.00 (HARPER RD)		RT		1																
D-12	191	62+25.00 (HARPER RD)		LT		1																
D-13	191	62+31.62 (HARPER RD)		LT								1										
D-14	205	645+18.47 (RAMP 3A)		LT		1																
D-15	205	645+05.31 (RAMP 3A)		RT										1								
D-16	193	63+53.62 (HARPER RD)		LT		1																
D-17	205	544+53.17 (RAMP 3B)		RT		1																
D-18	205	544+32.83 (RAMP 3B)		RT										1								
D-19	193	64+75.00 (HARPER RD)		LT		1																
D-20	193	65+45.45 (HARPER RD)		LT								1										
D-21	193	66+00.00 (HARPER RD)		LT		1																
D-22	193	66+06.81 (HARPER RD)		LT						1												
D-23	193	66+06.80 (HARPER RD)		RT						1												
D-24	193	66+00.00 (HARPER RD)		RT		1																
D-25	193	66+00.02 (HARPER RD)		RT								1										
D-26	193	67+25.00 (HARPER RD)		LT										1								
D-28	195	68+61.33 (HARPER RD)		RT		1																
D-29	202	549+64.46 (RAMP 2B)		LT		1																
D-30	202	649+50.01 (RAMP 2A)		LT		1																
D-31	202	549+69.61 (RAMP 2B)		RT										1								
D-32	202	650+02.73 (RAMP 2A)		RT		1																
D-33	195	69+19.68 (HARPER RD)		LT		1																
D-34	212	451+50.00 (RAMP 4B)		LT				1														
D-35	212	450+78.90 (RAMP 4B)		LT		1																
D-36	212	350+85.70 (RAMP 4A)		RT										1								
D-37	212	350+64.89 (RAMP 4A)		RT		1																
D-38	195	71+11.96 (HARPER RD)		LT										1								
D-39	195	71+50.00 (HARPER RD)		LT		1																
D-40	195	71+91.56 (HARPER RD)		RT		1																
TOTALS CARRIED TO SUBSUMMARY SHEET				170		24	1	2		2		4		6								

ESTIMATED QUANTITIES

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:08:00 AM USER: dluzier
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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 171 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	611 CATCH BASIN, MISC.: CITY OF SOLON STANDARD VERTICAL CURB INLET (ST-5B) EACH	611 CATCH BASIN, MISC.: CITY OF SOLON STANDARD 2-2B CATCH BASIN (ST-6B) EACH		611 CATCH BASIN, NO. 4 EACH		611 CATCH BASIN, NO. 5 EACH		611 MANHOLE, MISC.: CITY OF SOLON STANDARD MANHOLE, TYPE "C" (ST-3) EACH		611 MANHOLE, MISC.: CITY OF SOLON STANDARD MANHOLE, TYPE "C" (ST-3) EACH		611 MANHOLE, NO. 3, AS PER PLAN EACH		611 MANHOLE, NO. 3, AS PER PLAN EACH		611 MANHOLE ADJUSTED TO GRADE EACH				
								100% CITY						100% CITY				100% CITY							
D-41	195	71+91.56 (HARPER RD)		LT	1																				
D-42	195	72+11.29 (HARPER RD)		LT	1																				
D-43	195	72+94.77 (HARPER RD)		LT	1																				
D-44	196	73+71.25 (HARPER RD)		LT	1																				
D-45	195	71+85.70 (HARPER RD)		RT	1																				
D-46	195	72+94.77 (HARPER RD)		RT	1																				
D-47	195	71+50.00 (HARPER RD)		LT								1													
D-48	202	649+97.43 (RAMP 2A)		LT		1																			
D-49	205	544+78.58 (RAMP 3B)		LT		1																			
D-50	195	69+69.28 (HARPER RD)		LT														1							
D-51	193	64+75.00 (HARPER RD)		RT	1																				
D-52	193	64+77.23 (HARPER RD)		RT								1													
D-53	191	60+81.75 (HARPER RD)		LT		1																			
D-54	191	60+74.64 (HARPER RD)		LT								1													
D-55	191	58+85.00 (HARPER RD)		LT	1																				
D-56	191	58+85.00 (HARPER RD)		LT								1													
D-57	195	70+35.37 (HARPER RD)		LT	1																				
D-60	191	59+85.15 (HARPER RD)		LT										1											
D-62	191	63+24.50 (HARPER RD)		LT										1											
D-63	195	450+59.49 (RAMP 4B)		RT																1					
D-64	193	65+50.06 (HARPER RD)		LT										1											
D-65	193	65+28.29 (HARPER RD)		RT										1											
D-67	193	66+83.68 (HARPER RD)		RT										1											
D-69	193	68+26.49 (HARPER RD)		RT																1					
D-70	205	644+87.77 (RAMP 3A)		LT				1																	
D-71	193	65+54.12 (HARPER RD)		LT						1															
D-72	202	68+26.49 (HARPER RD)		RT						1															
DJ-59	189	57+22.66 (HARPER RD)		LT																				1	
DJ-91	202	649+96.98 (RAMP 2A)		RT																				1	
TOTALS CARRIED TO SUBSUMMARY SHEET				170	9	3		1		2		4		5		1		2		2					

ESTIMATED QUANTITIES

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REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 172 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:08:01 AM USER: dluzier
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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE		202 CATCH BASIN REMOVED EACH		202 CATCH BASIN REMOVED EACH				202 MANHOLE REMOVED EACH												
								100% CITY				100% CITY												
DR-14	195	72+94.55 (HARPER RD)		LT		1																		
DR-15	195	72+94.75 (HARPER RD)		RT		1																		
DR-18	193	65+54.12 (HARPER RD)		LT		1																		
DR-19	205	644+98.23 (RAMP 3A)		RT				1																
DR-20	205	645+05.75 (RAMP 3A)		RT		1																		
DR-21	205	646+99.17 (RAMP 3A)		RT		1																		
DR-22	199	344+95.19 (RAMP 1A)		RT		1																		
DR-23	191	61+98.48 (HARPER RD)		RT		1																		
DR-24	191	59+79.15 (HARPER RD)		RT		1																		
DR-27	191	59+79.58 (HARPER RD)		LT		1																		
DR-28	191	62+23.48 (HARPER RD)		LT		1																		
DR-29	193	65+47.55 (HARPER RD)		LT		1																		
DR-30	193	65+16.50 (HARPER RD)		LT		1																		
DR-31	193	66+00.49 (HARPER RD)		LT		1																		
DR-34	193	65+23.57 (HARPER RD)		RT		1																		
DR-35	193	65+98.40 (HARPER RD)		RT		1																		
DR-36	193	66+79.15 (HARPER RD)		RT		1																		
DR-37	205	644+87.77 (RAMP 3A)		LT				1																
DR-38	199	445+83.97 (RAMP 1B)		RT		1																		
DR-39	199	344+70.82 (RAMP 1A)		RT		1																		
DR-41	191	60+79.64 (HARPER RD)		LT		1																		
DR-42	193	64+24.80 (HARPER RD)		LT		1																		
DR-44	212	450+86.69 (RAMP 4B)		LT		1																		
DR-45	193	550+02.32 (RAMP 2B)		RT		1																		
DR-60	191	59+85.15 (HARPER RD)		LT								1												
DR-61	191	62+23.12 (HARPER RD)		LT								1												
DR-62	191	59+85.15 (HARPER RD)		LT								1												
DR-63	195	450+59.49 (RAMP 4B)		RT								1												
DR-64	193	65+50.06 (HARPER RD)		LT								1												
DR-65	193	65+28.29 (HARPER RD)		RT								1												
DR-67	193	66+83.68 (HARPER RD)		RT								1												
DR-69	193	68+26.49 (HARPER RD)		RT								1												
DR-89	202	649+94.76 (RAMP 2A)		RT				1																
DR-90	202	650+21.26 (RAMP 2A)		RT		1																		
TOTALS CARRIED TO SUBSUMMARY SHEET				167		23		3				8												

ESTIMATED QUANTITIES

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REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 173 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:08:01 AM USER: cluzier
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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	601 PAVED GUTTER, TYPE 1-2, AS PER PLAN (FT)	601 CONCRETE SLOPE PROTECTION (SY)		659 TOPSOIL (CY)		670 SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP) (SY)			670 DITCH EROSION PROTECTION (VEGETATED BIOFILTER) (SY)	670 DITCH EROSION PROTECTION (SY)				836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (SY)			
E-1	197 - 199	438+49.76 (RAMP 1B)	443+50.00 (RAMP 1B)	RT										418.95							
E-2	199	443+50.00 (RAMP 1B)	445+50.00 (RAMP 1B)	RT										237.47							
E-3	199	442+50.00 (RAMP 1B)	443+59.80 (RAMP 1B)	LT				38.52					91.69								
E-4	205	644+62.49 (RAMP 3A)	644+87.77 (RAMP 3A)	LT														26.90			
E-5	205	644+87.77 (RAMP 3A)	645+65.11 (RAMP 3A)	LT										56.84							
E-6	205 - 208	645+65.11 (RAMP 3A)	650+00.00 (RAMP 3A)	LT				93.26					388.62								
E-7	212	351+37.20 (RAMP 4A)	352+00.00 (RAMP 4A)	RT										42.81							
E-8	212	451+00.00 (RAMP 4B)	452+19.45 (RAMP 4B)	LT										93.67							
E-9	199	445+50.00 (RAMP 1B)	446+26.63 (RAMP 1B)	RT										53.90							
E-10	193	266+11.15 (HARPER RD SB)	266+53.53 (HARPER RD SB)	LT	93.1																
E-11	193	66+30.36 (HARPER RD)	68+36.10 (HARPER RD)	LT		492.63															
E-12	193	64+86.71 (HARPER RD)	67+17.36 (HARPER RD)	RT		681.78															
E-13	197	440+50.00 (RAMP 1B)	442+50.00 (RAMP 1B)	LT				56.53		508.73											
E-15	205 - 208	645+64.90 (RAMP 3A)	651+84.89 (RAMP 3A)	RT				213.01		1917.11											
E-16	208 , 210	651+84.89 (RAMP 3A)	654+00.00 (RAMP 3A)	LT				70.58		635.23											
E-17	212	852+19.45 (RAMP 4)	855+75.00 (RAMP 4)	LT				43.58					296.46								
TOTALS CARRIED TO SUBSUMMARY SHEET				168	94	1175		516		3062			1681					27			

ESTIMATED QUANTITIES

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/28/2025 TIME: 10:08:19 AM USER: cluzier
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REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 174 TOTAL 481

ESTIMATED QUANTITIES

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE		202 GUARDRAIL REMOVED (FT)	202 FENCE REMOVED (FT)	602 CONCRETE MASONRY (CY)	606 IMPACT ATTENUATOR, TYPE 2, (BIDIRECTIONAL) (35 MPH, 24" WIDTH) (EACH)	606 GUARDRAIL, TYPE MGS (FT)	606 GUARDRAIL, TYPE MGS, AS PER PLAN (FT)	606 ANCHOR ASSEMBLY, MGS TYPE T (EACH)	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016) (EACH)	606 ANCHOR ASSEMBLY, MGS TYPE B (EACH)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 (EACH)		607 FENCE, TYPE CLT (FT)	607 FENCE, MISC.: WOOD FENCE (FT)	626 BARRIER REFLECTOR, TYPE 1, ONE-WAY (EACH)	626 BARRIER REFLECTOR, TYPE 2, ONE-WAY (EACH)
F-1	199	344+43.35 (RAMP 1A)	345+30.03 (RAMP 1A)	LT													62.53			
F-2	205	644+35.65 (RAMP 3A)	644+44.15 (RAMP 3A)	LT													10.00			
F-3	194	171+67.34 (HARPER RD NB)	852+26.44 (RAMP 4)	LT/RT													116.26			
F-4	194	71+28.96 (HARPER RD)	71+62.50 (HARPER RD)	RT													33.57			
F-5	192	268+20.55 (HARPER RD SB)	268+64.99 (HARPER RD SB)	LT														51.78		
FR-1	199	344+43.35 (RAMP 1A)	345+51.26 (RAMP 1A)	LT			101.09													
FR-2	205	644+33.21 (RAMP 3A)	644+44.15 (RAMP 3A)	LT			13.09													
FR-3	194	350+38.20 (RAMP 4A)	852+26.44 (RAMP 4)	RT			102.33													
FR-4	194	71+28.96 (HARPER RD)	71+62.50 (HARPER RD)	RT			34.33													
FR-5	194	70+92.52 (HARPER RD)	72+88.47 (HARPER RD)	LT			210.57													
G-1	192	265+99.11 (HARPER RD SB)	267+45.00 (HARPER RD SB)	LT						75.00			1		1					
G-2	192	264+68.74 (HARPER RD SB)	264+92.92 (HARPER RD SB)	RT					1											
G-3	192	168+14.05 (HARPER RD NB)	168+35.78 (HARPER RD NB)	LT					1											
G-4	192	165+20.96 (HARPER RD NB)	168+15.01 (HARPER RD NB)	RT						225.00		1	1							
G-5	197	437+66.64 (RAMP 1B)	442+09.21 (RAMP 1B)	LT							387.50		1							
G-6	202	647+32.79 (RAMP 2A)	647+91.89 (RAMP 2A)	RT						50.00		1								
G-7	360	850+65.28 (EX. RAMP 5)	851+33.89 (EX. RAMP 5)	LT						25.00				1						
GR-1	192	65+66.43 (HARPER RD)	69+40.32 (HARPER RD)	LT		402.78														
GR-2	192	64+36.61 (HARPER RD)	68+02.08 (HARPER RD)	LT		367.66														
GR-3	192	64+36.61 (HARPER RD)	68+02.08 (HARPER RD)	RT		367.40														
GR-4	192	62+91.32 (HARPER RD)	67+62.93 (HARPER RD)	RT		488.19														
GR-5	197	437+66.64 (RAMP 1B)	442+97.00 (RAMP 1B)	LT		528.70														
GR-6	202	647+32.79 (RAMP 2A)	647+95.52 (RAMP 2A)	RT		66.17														
GR-7	360	850+65.28 (EX. RAMP 5)	851+33.89 (EX. RAMP 5)	LT		65.62														
REFLECTORS																				
	192	G-1	268+27.47 (HARPER RD SB)	LT															1	3
	192	G-2	268+16.73 (HARPER RD SB)	RT															4	1
	192	164+89.17 (HARPER RD NB)	G-3	LT															4	1
	192	G-4		RT																4
	197	G-5		LT																5
	202	G-6		RT																2
	360	G-7		LT																2
HW-36	212	351+37.20 (RAMP 4A)		RT				0.76												
TOTALS CARRIED TO SUBSUMMARY SHEET				167 169		2287	462	1	2	375	388	2	3	1	1		223	52	9	18

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:08:02 AM USER: cluzier
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DESIGNER NRB
REVIEWER CWL 6-8-23
PROJECT ID 113889
SHEET 175 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	CFN	611 12" CONDUIT, TYPE B, 707.65 FT 100% CITY	611 12" CONDUIT, TYPE B FT ALT BID 1	611 12" CONDUIT, TYPE B, 707.65 FT ALT BID 2	611 12" CONDUIT, TYPE C FT ALT BID 1	611 12" CONDUIT, TYPE C, 707.65 FT ALT BID 2	611 15" CONDUIT, TYPE B FT ALT BID 1	611 15" CONDUIT, TYPE B, 707.65 FT ALT BID 2	611 15" CONDUIT, TYPE C, 707.65 FT 100% CITY	611 21" CONDUIT, TYPE C, 707.65 FT 100% CITY	611 24" CONDUIT, TYPE C, 707.65 FT 100% CITY	611 30" CONDUIT, TYPE B, AS PER PLAN, 707.65 FT 100% CITY	611 36" CONDUIT, TYPE C, AS PER PLAN, 707.65 FT 100% CITY	611 36" CONDUIT, TYPE C FT ALT BID 1	611 36" CONDUIT, TYPE C, AS PER PLAN, 707.65 FT ALT BID 2	611 42" CONDUIT, TYPE B, AS PER PLAN, 707.65 FT 100% CITY	611 48" CONDUIT, TYPE B, AS PER PLAN, 707.65 FT 100% CITY	611 48" CONDUIT, TYPE C FT ALT BID 1	611 48" CONDUIT, TYPE C, AS PER PLAN, 707.65 FT ALT BID 2
P-1	191	D-1	D-2	LT/RT			40	40															
P-2	191	D-2	D-60	LT					16	16													
P-3	191	D-3	D-4	LT					79	79													
P-4	199	D-4	D-5	LT/RT			63	63															
P-5	199	D-5	D-6	LT		100																	
P-6	199	D-6	D-9	RT		11																	
P-7	199	D-7	D-9	RT							45	45											
P-8	193	D-8	D-9	LT/RT			56	56															
P-9	193	D-9	D-52	RT										114									
P-10	191	D-10	D-13	LT/RT			38	38															
P-11	191	D-11	D-12	LT/RT			16	16															
P-12	191	D-12	D-13	LT			28	28															
P-13	191	D-13	D-62	LT									97										
P-14	205	D-14	D-15	LT/RT			32	32															
P-15	205	D-15	D-62	RT													70						
P-16	205	D-16	D-18	LT			21	21															
P-17	205	D-17	D-62	LT			39	39															
P-18	193	D-18	D-64	LT																206			
P-19	193	D-19	D-20	LT					72	72													
P-20	193	D-20	DJ-64	LT			30	30															
P-21	193	D-20	D-21	LT					56	56													
P-22	193	D-22	D-23	LT/RT			8	8															
P-23	193	D-23	D-24	RT			33	33															
P-24	193	D-24	D-25	RT			4	4															
P-25	193	D-25	D-67	RT											83								
P-26	193	D-26	D-63	LT																	198		
P-28	195	D-28	D-31	RT					36	36													
P-29	202	D-29	D-31	LT/RT			44	44															
P-30	202	D-30	D-31	RT					56	56													
P-31	202	D-31	DJ-91	LT/RT												85							
P-32	202	D-32	DJ-91	RT			8	8															
P-33	195	D-33	DJ-63	LT			32	32															
P-34	212	D-34	D-35	LT					69	69													
P-35	212	D-35	D-63	LT			29	29															
P-36A	212	HW-36	D-36	RT														37	37				
P-36B	195	D-36	D-38	RT																		52	52
P-37	212	D-37	D-36	RT					28	28													
P-39	195	D-39	D-47	LT			8	8															
P-40	195	D-40	D-45	RT			35	35															
P-41	195	D-41	D-40	LT			8	8															
TOTALS CARRIED TO SUBSUMMARY SHEET				169		111	572	572	412	412	45	45	97	114	83	85	70	37	37	206	198	52	52

ESTIMATED QUANTITIES

CUY-422-16.20 (HARPER RD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:08:03 AM USER: cluzier
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REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 176 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	CFN	611 12" CONDUIT, TYPE B, 706.02 FT	611 12" CONDUIT, TYPE B ALT BID 1	611 12" CONDUIT, TYPE B, 707.65 ALT BID 2	611 12" CONDUIT, TYPE C ALT BID 1	611 12" CONDUIT, TYPE C, 707.65 ALT BID 2	611 15" CONDUIT, TYPE B, 707.65 100% CITY	611 15" CONDUIT, TYPE B ALT BID 1	611 15" CONDUIT, TYPE B, 707.65 ALT BID 2	611 15" CONDUIT, TYPE C, 707.65 100% CITY	611 21" CONDUIT, TYPE C, 707.65 100% CITY	611 21" CONDUIT, TYPE C ALT BID 1	611 21" CONDUIT, TYPE C, 707.65 ALT BID 2	611 24" CONDUIT, TYPE B, 707.65 100% CITY	611 30" CONDUIT, TYPE B, AS PER PLAN, 707.65 100% CITY	611 36" CONDUIT, TYPE B, AS PER PLAN, 707.65 100% CITY	611 42" CONDUIT, TYPE C, AS PER PLAN, 707.65 100% CITY	611 48" CONDUIT, TYPE B, AS PER PLAN, 707.65 100% CITY	611 48" CONDUIT, TYPE C, AS PER PLAN, 707.65 100% CITY
P-42	195	D-42	D-43	LT			83	83															
P-43	195	D-43	72+94.83 (HARPER RD)	LT		13																	
P-44	195	D-44	D-43	LT			76	76															
P-45	195	D-46	D-45	RT			109	109															
P-46	195	D-46	D-43	LT/RT			84	84															
P-47	195	D-47	D-42	LT			61	61															
P-48	195	D-48	D-31	RT					15	15													
P-49	191	D-49	DJ-62	LT					39	39													
P-50	195	D-50	D-36	RT																		99	
P-51	193	D-51	D-52	RT					14	14													
P-52	193	D-52	D-65	RT											52								
P-53	191	D-53	D-54	LT					23	23													
P-54	191	D-54	D-13	LT							158												
P-55	191	D-55	D-56	LT					14	14													
P-56	191	D-56	D-60	LT										100									
P-57	195	D-57	D-37	LT			41	41															
P-59	189	DJ-59	D-56	LT										162									
P-60	191	D-60	D-54	LT										90									
P-62	191	D-62	D-18	LT																	24		
P-63	195	D-63	D-50	LT																		52	
P-64	193	D-64	D-26	LT																			178
P-65	193	D-65	D-25	RT											71								
P-67	193	D-67	D-69	RT														141					
P-69	195	D-69	D-31	RT															67				
P-70	205	D-70	D-15	LT																48			
P-71	193	D-71	D-64	LT												36	36						
P-72	202	D-72	D-69	LT								60	60										
TOTALS CARRIED TO SUBSUMMARY SHEET				169		13	454	454	105	105	158	60	60	352	123	36	36	141	67	48	24	151	178

ESTIMATED QUANTITIES

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:08:03 AM USER: cluzier
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DESIGN AGENCY

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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 177 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE		202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"		202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"		611 MANHOLE ADJUSTED TO GRADE (SANITARY)	611 MANHOLE RECONSTRUCTED TO GRADE (SANITARY)										
						FT	FT		FT	FT		EACH	EACH										
									100% CITY	100% CITY													
PR-14	195	DR-14	72+94.83 (HARPER RD)	LT		15																	
PR-15	195	DR-15	D-14	LT/RT		72																	
PR-18	193	DR-18	DR-64	LT		36																	
PR-19	205	DR-19	DR-20	RT						23													
PR-20	205	DR-20	DR-62	RT						70													
PR-21	205	DR-21	DR-20	RT		101																	
PR-22	199	DR-22	DR-38	RT					99														
PR-23	191	DR-23	344+91.93 (RAMP 1A)	RT		77																	
PR-24	191	DR-24	DR-27	RT		55																	
PR-27	191	DR-27	DR-60	LT		9																	
PR-28	191	DR-28	DR-61	LT		6																	
PR-29	193	DR-29	DR-64	LT		16																	
PR-30	193	DR-30	DR-29	LT		38																	
PR-31	193	DR-31	DR-29	LT		54																	
PR-34	193	DR-34	DR-65	RT		7																	
PR-35	193	DR-35	65+98.42 (RAMP 1B)	RT		6																	
PR-36	193	DR-36	DR-67	RT		7																	
PR-37	205	DR-37	DR-19	LT						26													
PR-38	193	DR-38	DR-65	RT					179														
PR-39	199	DR-39	DR-22	RT		51																	
PR-41	191	DR-41	DR-61	LT					144														
PR-42	193	DR-42	64+24.27 (HARPER RD)	LT		11																	
PR-44	212	DR-44	DR-63	LT		39																	
PR-45	202	DR-45	DR-69	LT		60																	
PR-59	191	DJ-59	DR-60	LT					262														
PR-60	191	DR-60	DR-41	LT					95														
PR-61	191	DR-61	DR-62	LT					106														
PR-62	193	DR-62	DR-64	LT						230													
PR-63	212	DR-63	351+03.51 (RAMP 4A)	RT						123													
PR-64	193	DR-64	DR-63	RT						376													
PR-65	193	DR-65	DR-67	RT					154														
PR-67	193	DR-67	DR-69	RT					141														
PR-69	202	DR-69	DR-89	RT						138													
PR-74	212	351+23.67 (RAMP 4A)	351+04.93 (RAMP 4A)	RT			18																
PR-89	202	DR-89	DJ-91	RT						14													
PR-90	202	DR-90	DR-89	RT		26																	
SJ-4	195	69+79.09 (HARPER RD)		RT								1											
SJ-7	193	63+75.68 (HARPER RD)		RT								1											
SJ-8	189	57+58.06 (HARPER RD)		RT									1										
SJ-9	193	66+76.08 (HARPER RD)		RT								1											
SJ-11	191	60+75.79 (HARPER RD)		RT								1											
SJ-16	195	71+37.62 (HARPER RD)		LT									1										
TOTALS CARRIED TO SUBSUMMARY SHEET				167 170		686	18		1180	1000		4	2										

ESTIMATED QUANTITIES

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:08:04 AM USER: dluzier
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DESIGNER
NRB

REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 178 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE			605 6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN FT		605 6" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN FT		605 6" BASE PIPE UNDERDRAINS, AS PER PLAN FT		611 6" CONDUIT, TYPE B FT	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT					FOR INFORMATION ONLY 6" PLUG EACH	6"X6" TEE EACH	6"X6" CROSS EACH	6" - 90° BEND EACH
U-1	368	654+00.00 (RAMP 3A)	U-93	LT/RT							51		25							1		1
U-3	368	438+37.25 (RAMP 1B)	U-71	CENTER							523								1			
U-4	369	647+32.79 (RAMP 2A)	U-90	RT							120											
U-5	369	852+19.45 (RAMP 4)	U-107	LT							618											
U-6	369	73+66.25 (HARPER RD)	D-43	LT					71										1			
U-7	369	350+28.13 (RAMP 4A)	D-37	RT					35										1			
U-8	369	171+14.31 (HARPER RD NB)	D-57	LT					61										1			
U-9	368	266+08.47 (HARPER RD SB)	D-20	LT					50										1	1		
U-10	368	644+03.11 (RAMP 3A)	U-24	RT					10										1	1		
U-11	368	59+50.00 (HARPER RD)	D-1	RT					24											1		1
U-12	368	59+50.00 (HARPER RD)	D-1	RT					24													1
U-13	368	57+35.00 (HARPER RD)	U-11	RT			215															
U-14	368	57+35.00 (HARPER RD)	U-12	RT			215															
U-15	368	57+35.00 (HARPER RD)	D-55	LT			140							10								
U-16	368	58+90.00 (HARPER RD)	D-2	LT			80							10					1			
U-17	368	59+84.25 (HARPER RD)	D-3	RT			173							10					1			
U-18	368	259+84.25 (HARPER RD SB)	D-21	CENTER			629						16						1	1	1	
U-19	368	59+84.59 (HARPER RD)	D-10	LT			209							10					1			
U-20	368	160+73.44 (HARPER RD NB)	U-19	CENTER			46						19						1			1
U-21	368	261+14.11 (HARPER RD SB)	D-11	LT							101			10					1			
U-22	368	161+19.51 (HARPER RD NB)	D-12	RT			98							10					1			
U-23	368	261+43.77 (HARPER RD SB)	U-74	RT			41												1			1
U-24	368	643+62.18 (RAMP 3A)	D-10	RT			36						22						1			
U-25	368	261+90.68 (HARPER RD SB)	D-8	RT			162							10					1			1
U-26	368	162+34.71 (HARPER RD NB)	U-18	CENTER			56												1			
U-27	368	162+34.17 (HARPER RD NB)	D-16	LT			117							10					1			1
U-28	368	163+73.95 (HARPER RD NB)	U-33	RT			55						19						1		1	
U-29	368	163+48.44 (HARPER RD NB)	U-79	LT			133						18						1			1
U-30	368	263+45.48 (HARPER RD SB)	U-18	RT			135						19						1			1
U-31	368	263+72.70 (HARPER RD SB)	U-34	LT			54						4						1		1	1
U-32	368	544+28.37 (RAMP 3B)	U-31	RT			24												1			
U-33	368	446+04.09 (RAMP 1B)	D-51	RT			102							10					1	1		
U-34	368	544+48.03 (RAMP 3B)	D-19	RT			126							10					1	1		
U-35	368	164+89.94 (HARPER RD NB)	D-24	RT			109							10					1	1		
U-36		264+86.53 (HARPER RD SB)	D-20	LT			67							6					1			
U-37	368 - 369	550+34.92 (RAMP 3B)	D-24	RT			196							10					1	1		
U-38	368 - 369	U-37	170+05.44 (HARPER RD NB)	CENTER			386						16						1		1	1
U-39	368 - 369	270+13.57 (HARPER RD SB)	U-18	CENTER			400														1	
U-40	368 - 369	D-21	450+73.80 (RAMP 4B)	LT			498						26	10					1			
U-41	369	168+65.15 (HARPER RD NB)	U-37	RT			64						4						1	1		1
U-42	369	169+14.70 (HARPER RD NB)	U-38	LT			93						19						1			1
U-43	369	269+23.03 (HARPER RD SB)	U-39	RT			94						19						1			1
U-44	369	269+28.62 (HARPER RD SB)	U-40	LT			72						4						1			1
U-45	369	270+20.18 (HARPER RD SB)	D-28	RT			123							10					1			1
TOTALS CARRIED TO SUBSUMMARY SHEET				169			4949		277		1412		230	146					35	10	5	16

CUY-422-16.20 (HARPER ROAD)

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ESTIMATED QUANTITIES

DESIGN AGENCY

GPD GROUP*

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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 179 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE			605 6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN FT		605 6" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN FT		605 6" BASE PIPE UNDERDRAINS, AS PER PLAN FT		611 6" CONDUIT, TYPE B FT	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT					FOR INFORMATION ONLY 6" PLUG EACH	6"X6" TEE EACH	6"X6" CROSS EACH	6" - 90° BEND EACH
U-46	369	170+14.80 (HARPER RD NB)	D-33	LT			67							10					1			1
U-47	369	270+24.73 (HARPER RD SB)	U-91	RT			55						6						1			1
U-48	369	270+18.86 (HARPER RD SB)	U-53	CENTER			157						44						1			1
U-49	369	270+38.71 (HARPER RD SB)	D-40	LT			132						31	10					1			
U-50	369	170+30.12 (HARPER RD NB)	D-41	RT							134		30	10					1			
U-51	369	170+10.79 (HARPER RD NB)	U-54	CENTER			96						30						1			1
U-52	369	170+19.80 (HARPER RD NB)	D-57	LT			32							10					1			
U-53	369	271+06.82 (HARPER RD SB)	D-45	RT			94							10								
U-54	369	171+36.15 (HARPER RD NB)	D-42	CENTER			96						25									1
U-55	369	171+39.88 (HARPER RD NB)	U-54	LT			90												1	1		
U-56	369	171+43.31 (HARPER RD NB)	D-39	LT			12							10					1			
U-57	369	171+71.34 (HARPER RD NB)	D-42	LT			47							10					1			
U-58	369	72+10.54 (HARPER RD)	D-40	LT/RT			9							10					1			
U-59	369	72+10.08 (HARPER RD)	D-41	LT							9			10					1			
U-60	369	71+90.70 (HARPER RD)	D-46	RT							94			10					1	1		
U-61	369	71+90.70 (HARPER RD)	U-60	RT					99				13						1			1
U-62	369	72+16.29 (HARPER RD)	D-43	LT			73						25						1			1
U-63	369	72+16.29 (HARPER RD)	D-43	LT			68							10					1	1		
U-64	369	72+99.77 (HARPER RD)	74+25.00 (HARPER RD)	RT			125												1			
U-65	369	72+99.77 (HARPER RD)	74+25.00 (HARPER RD)	RT			125												1			
U-66	369	72+99.77 (HARPER RD)	73+71.25 (HARPER RD)	LT			71						25						1			
U-67	368	59+74.25 (HARPER RD)	D-1	RT									14	5								
U-68	369	73+76.25 (HARPER RD)	D-44	LT			49												1			
U-69	369	73+76.25 (HARPER RD)	74+25.00 (HARPER RD)	LT			50												1			
U-70	368	437+66.64 (RAMP 1B)	U-72	LT							591											2
U-71	368	443+59.80 (RAMP 1B)	D-4	LT/RT			132						24									1
U-72	368	343+59.80 (RAMP 1A)	D-4	LT			101							10								
U-73	368	345+52.95 (RAMP 1A)	D-4	LT			66							10					1			
U-74	368	345+52.77 (RAMP 1A)	U-71	RT			80						11						1			
U-75	368	444+48.02 (RAMP 1B)	U-76	LT			59						19						1			1
U-76	368	444+34.21 (RAMP 1B)	U-77	CENTER			120						19						1	1		1
U-77	368	443+59.80 (RAMP 1B)	D-6	RT			210							10						1		
U-78	368	445+69.28 (RAMP 1B)	U-28	CENTER			87						11						1			1
U-79	368	164+27.59 (HARPER RD NB)	U-35	CENTER			178						16						1			1
U-80	369	647+32.79 (RAMP 2A)	U-82	LT							105								1	1		
U-81	369	647+32.79 (RAMP 2A)	U-83	LT							110									1		1
U-82	369	548+46.75 (RAMP 2B)	D-29	LT			103							10						1		
U-83	369	548+46.75 (RAMP 2B)	U-82	RT			133						24									1
U-84	369	648+46.75 (RAMP 2A)	D-32	CENTER			146						29						1	1		
U-85	369	649+28.13 (RAMP 2A)	D-30	LT							12			10					1			
U-86	369	649+73.55 (RAMP 2A)	D-30	LT							14			10					1			
U-87	369	549+63.46 (RAMP 2B)	U-83	RT			5												1			
U-88	369	550+29.71 (RAMP 2B)	D-29	LT			42						10	10					1	1		
U-89	369	U-88	549+99.55 (RAMP 2B)	RT			33						24						1			1
U-90	369	648+46.75 (RAMP 2A)	D-32	RT			146						10									
TOTALS CARRIED TO SUBSUMMARY SHEET				169			3088		99		1069		441	185					34	10		17

ESTIMATED QUANTITIES

CUY-422-16.20 (HARPER ROAD)

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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 180 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE			605 6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN FT				605 6" BASE PIPE UNDERDRAINS, AS PER PLAN FT		611 6" CONDUIT, TYPE B FT	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT					FOR INFORMATION ONLY 6" PLUG EACH	6"X6" TEE EACH	6"X6" CROSS EACH	6" - 90° BEND EACH
U-91	369	651+20.01 (RAMP 2A)	D-32	RT			95							10								1
U-92	369	U-84	650+87.89 (RAMP 2A)	CENTER			85												1			
U-93	368	653+08.80 (RAMP 3A)	EXISTING UNDERDRAIN	LT							90								1			
U-94	368	653+04.77 (RAMP 3A)	U-1	RT							49								1			
U-95	368	653+00.00 (RAMP 3A)	U-103	RT							681								1	1		
U-96	368	653+45.11 (RAMP 3A)	U-95	RT							740								1			1
U-97	368	653+03.80 (RAMP 3A)	U-111	LT							748								1	1		
U-98	368	645+28.61 (RAMP 3A)	U-111	RT			6						22						1	1		
U-99	368	645+13.76 (RAMP 3A)	U-99	RT			11												1			
U-100	368	644+32.45 (RAMP 3A)	U-100	RT			95						28						1			1
U-101	368	643+13.93 (RAMP 3A)	D-14	LT			106							10					1	1		
U-102	368	545+29.66 (RAMP 3B)	D-17	LT			74						22						1			1
U-103	368	545+64.90 (RAMP 3B)	D-17	RT			99							10						1		
U-104	369	858+37.00 (RAMP 4)	U-109	RT							618											2
U-105	369	857+37.04 (RAMP 4)	U-106	CENTER							518											2
U-106	369	352+19.45 (RAMP 4A)	U-109	LT			158						35						1			1
U-107	369	452+19.45 (RAMP 4B)	D-35	LT			129							10						1		
U-108	369	451+58.03 (RAMP 4B)	U-107	RT			23						24						1			1
U-109	369	352+19.45 (RAMP 4A)	D-37	RT			127						11	10						1		
U-110	368	437+66.64 (RAMP 1B)	U-77	RT							595											
U-111	368	645+64.00 (RAMP 3A)	D-14	LT			35							10								
TOTALS CARRIED TO SUBSUMMARY SHEET				169			1042				4038		143	60					13	7		10

ESTIMATED QUANTITIES

CUY-422-16.20 (HARPER ROAD)

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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 181 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	611 MANHOLE ADJUSTED TO GRADE (WATER) EACH	638 VALVE BOX ADJUSTED TO GRADE EACH	SPECIAL 6" FIRE HYDRANT (CLEVELAND) EACH	638 FIRE HYDRANT REMOVED, AS PER PLAN EACH	638 WATER WORK, MISC.: METER REMOVE AND RESET (CLEVELAND) EACH	638 12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, MECHANICAL JOINTS AND FITTINGS (CLEVELAND) FT	SPECIAL FIRE HYDRANT SERVICE LINE EXTENDED AND ADJUSTED TO GRADE (CLEVELAND) EACH	SPECIAL FIRE HYDRANT SERVICE LINE SHORTENED AND ADJUSTED TO GRADE (CLEVELAND) EACH
W-1	190	59+43.63 (HARPER RD)		LT			1					
W-2	194	69+10.83 (HARPER RD)		LT			1			5		
W-3	194	71+72.29 (HARPER RD)		LT								1
W-4	189	56+44.40 (HARPER RD)		LT							1	
W-5	190	61+21.30 (HARPER RD)		LT					1			
WJ-2	190	61+17.85 (HARPER RD)		LT		1						
WJ-3	190	61+18.86 (HARPER RD)		LT		1						
WJ-4	190	61+65.64 (HARPER RD)		LT		1						
WJ-5	190	61+64.84 (HARPER RD)		RT		1						
WJ-6	190	61+65.85 (HARPER RD)		RT		1						
WJ-7	194	69+36.51 (HARPER RD)		LT	1							
WJ-8	194	70+00.84 (HARPER RD)		LT		1						
WJ-9	194	70+02.11 (HARPER RD)		LT		1						
WJ-10	194	70+20.33 (HARPER RD)		LT		1						
WJ-11	194	70+67.32 (HARPER RD)		LT		1						
WJ-12	194	70+68.81 (HARPER RD)		LT		1						
WJ-13	190	58+88.81 (HARPER RD)		RT		1						
WJ-14	190	59+11.17 (HARPER RD)		RT		1						
WJ-15	190	58+94.55 (HARPER RD)		LT		1						
WJ-16	190	60+41.65 (HARPER RD)		LT		1						
WJ-17	190	61+13.21 (HARPER RD)		RT		1						
WJ-18	190	61+48.48 (HARPER RD)		RT		1						
WR-1	190	59+43.79 (HARPER RD)		LT				1				
WR-2	194	68+62.34 (HARPER RD)		LT				1				
WR-3	194	71+72.58 (HARPER RD)		LT				1				
WR-4	189	56+44.89 (HARPER RD)		LT				1				
TOTALS CARRIED TO GENERAL SUMMARY					1	16	2	4	1	5	1	1

ESTIMATED QUANTITIES

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/31/2025 TIME: 11:09:54 AM USER: dluzier
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DESIGN AGENCY

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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 182 TOTAL 481

REF NO.	SHEET NO.	STATION		SIDE	SURFACE AREA		202 PAVEMENT REMOVED (COMPOSTIE) SY	202 PAVEMENT REMOVED (CONCRETE) SY	202 CURB REMOVED FT	202 WALK REMOVED SF		202 GUTTER REMOVED (PAVED GUTTER) FT	202 TRAFFIC ISLAND REMOVED SY	202 CONCRETE MEDIAN REMOVED SY		202 CONCRETE SLOPE PROTECTION REMOVED SY			
R-1	360	57+35.00 (HARPER RD)	74+25.00 (HARPER RD)	LT/RT	108792.80		12088.09		3799.93			31.41	151.58	474.96		1199.22			
R-2	360	837+65.26 (EX. RAMP 1)	845+77.49 (EX. RAMP 1)	LT/RT	21932.18		2436.91		104.97										
R-3	360	847+32.79 (EX. RAMP 2)	850+69.13 (EX. RAMP 2)	LT/RT	17354.35		1928.26		159.59										
R-4	360	843+99.02 (EX. RAMP 3)	854+00.00 (EX. RAMP 3)	LT/RT	23250.82		2583.42		459.86				213.05						
R-5	360	850+39.54 (EX. RAMP 4)	858+37.05 (EX. RAMP 4)	LT/RT	21777.55		2419.73		80.83										
R-6	360	850+65.24 (EX. RAMP 5)	862+52.47 (EX. RAMP 5)	LT/RT	28533.83		3170.43						24.89						
R-7	360	58+90.89 (HARPER RD)		RT	462.13			51.35	433.04										
R-8	360	58+90.89 (HARPER RD)		RT	611.06		67.90												
R-9	360	60+32.62 (HARPER RD)		RT	426.62			47.40											
R-10	360	60+32.62 (HARPER RD)		RT	372.06		41.34												
R-11	360	58+65.14 (HARPER RD)		LT	544.60			60.51											
R-12	360	59+58.99 (HARPER RD)		LT	211.03			23.45											
R-13	360	61+04.02 (HARPER RD)		LT	1908.51			212.06											
R-14	360	55+50.75 (HARPER RD)	58+79.17 (HARPER RD)	RT	1811.24					1811.24									
R-15	360	69+09.27 (HARPER RD)	69+20.50 (HARPER RD)	RT	101.48					101.48									
R-16	360	70+07.75 (HARPER RD)	74+25.00 (HARPER RD)	RT	2459.40					2459.40									
R-17	360	70+03.97 (HARPER RD)	74+25.00 (HARPER RD)	LT	2411.40					2411.40									
R-18	360	73+00.00 (HARPER RD)	74+25.00 (HARPER RD)	LT	623.96					623.96									
R-19	360	69+29.46 (HARPER RD)	69+44.41 (HARPER RD)	LT	81.17					81.17									
TOTALS CARRIED TO SUBSUMMARY SHEET					167		25131		5039	7489		32	390	475		1200			

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:08:06 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GC001.dgn

PAVEMENT REMOVAL CALCULATIONS

DESIGN AGENCY

GPD GROUP*

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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 183 TOTAL 481

STATION TO STATION		SIDE	LENGTH	AVERAGE WIDTH W	CURVE CORRECTION	SURFACE AREA A A=LxW	CADD AREAS		204	304		608	608		608	608	608	609	609
									SUBGRADE COMPACTION	3" AGGREGATE BASE, AS PER PLAN "B"		4" CONCRETE WALK	6" CONCRETE WALK		6" CONCRETE WALK, AS PER PLAN	8" CONCRETE WALK, AS PER PLAN	CURB RAMP	CURB, TYPE 6	CURB, TYPE 7
FROM	TO								SY	CY		SF	SF		SF	SF	SF	FT	FT
HARPER RD CL																			
55+05.15	55+08.18	LT	3.03	2.39		7.25			0.81	0.07			7.25						
55+08.18	55+20.00	LT	11.82	5.39		63.75			7.08	0.59			63.75						
55+20.00	55+40.00	LT	20.00	6.00		120.00			13.33	1.11			120.00						
55+40.00	55+65.00	LT	25.00	8.00		200.00			22.22	1.85			200.00						
55+65.00	58+51.14	LT	286.14	10.00		2861.40			317.93	26.49			2861.40						
58+51.14	58+79.14	LT	28.00	10.00		280.00			31.11	2.59					280.00				
58+79.14	59+38.63	LT	59.49	10.00		594.90			66.10	5.51			594.90						
59+38.63	59+43.63	LT	5.00	9.75		48.75			5.42	0.45			48.75						
59+43.63	59+47.99	LT	4.36	9.72		42.37			4.71	0.39			42.37						
59+47.99	59+48.63	LT	0.64	9.97		6.38			0.71	0.06					6.38				
59+48.63	59+69.99	LT	21.36	10.00		213.60			23.73	1.98					213.60				
59+69.99	60+16.12	LT	46.13	10.00		461.30			51.26	4.27			461.30						
55+50.00	56+00.00	RT	50.00	5.63		281.25			31.25	2.60		281.25							
56+00.00	58+73.26	RT	273.26	6.00		1639.56			182.17	15.18		1639.56							
58+73.26	59+08.53	RT	35.27	6.00		211.62			23.51	1.96						211.62			
59+08.53	60+14.74	RT	106.21	6.00		637.26			70.81	5.90		637.26							
60+14.74	60+49.51	RT	34.77	6.00		208.62			23.18	1.93						208.62			
60+49.51	60+68.39	RT	18.88	6.00		113.28			12.59	1.05			113.28						
258+72.89 (@ DV-1)		RT	CADD				143.26		15.92	1.33		143.26						26.00	
HARPER RD NB BL																			
160+16.12	160+80.22	LT	64.10	10.00	0.9117	584.40			64.93	5.41			584.40						
160+80.22	161+13.57	LT	33.35	10.00	0.9033	301.25			33.47	2.79						301.25			
161+13.57	161+47.75	LT	34.18	10.00	1.1450	391.36			43.48	3.62						391.36			
161+47.75	161+54.32	LT	6.57	10.00	1.1450	75.23			8.36	0.70			75.23						
161+54.32	161+77.99	LT	CADD				262.88		29.21	2.43			262.88						
161+77.99	161+96.20	LT	CADD				215.58		23.95	2.00			215.58						20.41
170+98.13	171+18.46	LT	CADD				253.17		28.13	2.34			253.17						
171+18.46	171+50.22	LT	31.76	10.00	1.2050	382.71			42.52	3.54			382.71						
171+50.22	171+85.33	LT	35.11	10.00	0.8676	304.61			33.85	2.82			304.61						
171+85.33	171+90.88	LT	5.55	9.75	0.8721	47.19			5.24	0.44			47.19						
171+90.88	171+96.32	LT	5.44	9.75	0.8735	46.33			5.15	0.43			46.33						
171+96.32	172+12.15	LT	15.83	10.00	0.8765	138.75			15.42	1.28			138.75						
172+12.15	173+95.60	LT	183.45	10.00		1834.50			203.83	16.99			1834.50						
173+95.60	174+45.60	LT	50.00	7.92		395.75			43.97	3.66			395.75						
164+12.74	164+73.03	RT	CADD				516.86		57.43	4.79		516.86							
164+73.03	165+17.35	RT	44.32	8.00	0.9251	328.00			36.44	3.04		328.00							
165+17.35	165+36.25	RT	18.90	8.00	0.9945	150.37			16.71	1.39		150.37							
165+36.25	167+34.80	RT	198.55	8.00	0.9946	1579.82			175.54	14.63		1579.82							
167+34.80	167+72.31	RT	37.51	8.00	0.9944	298.40			33.16	2.76		298.40							
167+72.31	168+34.45	RT	CADD				466.21		51.80	4.32		466.21							
HARPER RD NB BL - PRIVATE WALK																			
173+20.94	173+95.60	LT	74.66	5.00		373.30			41.48	3.46		373.30							
173+95.60	174+45.60	LT	50.00	4.96		247.75			27.53	2.29		247.75							
SUBTOTALS CARRIED TO SHEET							186		1926	161		6663	9055		500	1113		26	21

WALK CALCULATIONS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2024 TIME: 12:17:45 PM USER: duzler
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DESIGN AGENCY

GPD GROUP

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DESIGNER
NRB

REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 184 TOTAL 481

STATION TO STATION		SIDE	LENGTH	AVERAGE WIDTH W	CURVE CORRECTION	SURFACE AREA A A=LxW	CADD AREAS		204	304		608	608		608	608	608	609	609
									SUBGRADE COMPACTION	3" AGGREGATE BASE, AS PER PLAN "B"		4" CONCRETE WALK	6" CONCRETE WALK		6" CONCRETE WALK, AS PER PLAN	8" CONCRETE WALK, AS PER PLAN	CURB RAMP	CURB, TYPE 6	CURB, TYPE 7
FROM	TO								SY	CY		SF	SF		SF	SF	SF	FT	FT
HARPER RD SB BL																			
264+05.44	264+46.39	LT		CADD			475.35		52.82	4.40			475.35						
264+46.39	264+85.79	LT	39.40	10.00	1.1450	451.13			50.13	4.18			451.13						
264+85.79	265+05.39	LT	19.60	10.00	0.9033	177.05			19.67	1.64			177.05						
265+05.39	266+14.84	LT		CADD			1224.96		136.11	11.34			1224.96						
266+14.84	268+79.17	LT		CADD			3180.94		353.44	29.45			3180.94						270.28
260+68.39	261+58.06	RT		CADD			527.97		58.66	4.89		527.97							
270+54.52	271+07.00	RT		CADD			501.06		55.67	4.64		501.06							
271+07.00	271+29.61	RT	22.61	8.00	1.1175	202.13			22.46	1.87		202.13							
271+29.61	271+78.58	RT	48.97	8.00	0.9277	363.44			40.38	3.37		363.44							
271+78.58	274+40.58	RT	262.00	8.00		2096.00			232.89	19.41		2096.00							
274+40.58	274+50.58	RT	10.00	7.00		70.00			7.78	0.65		70.00							
RAMP 1A BL																			
345+32.07		LT		CADD			104.73		11.64	0.97							104.73		
345+34.65	345+58.12	LT	23.47	6.00	0.8400	118.29			13.14	1.10		118.29							
345+32.07		RT		CADD			250.72		27.86	2.32							250.72		
WALK FROM RAMP 1A TO RAMP 1B																			
CURB RAMP 1A LT.	CURB RAMP 1B RT.			CADD			775.44		86.16	7.18		775.44							
RAMP 1B BL																			
446+03.85		LT		CADD			278.34		30.93	2.58							278.34		
446+03.85		RT		CADD			141.50		15.72	1.31							141.50		
446+17.38	446+41.73	RT	24.35	8.00	0.9060	176.49			19.61	1.63		176.49							
RAMP 2A BL																			
549+87.85		LT		CADD			137.72		15.30	1.28							137.72		
550+00.87	550+13.12	LT	12.25	8.00	0.9150	89.67			9.96	0.83		89.67							
549+87.85		RT		CADD			249.80		27.76	2.31							249.80		
WALK FROM RAMP 2A TO RAMP 2B																			
CURB RAMP 2A LT.	CURB RAMP 2B RT.			CADD			519.80		57.76	4.81		519.80							
RAMP 2B BL																			
650+57.17		LT		CADD			265.80		29.53	2.46							265.80		
650+57.17		RT		CADD			140.12		15.57	1.30							140.12		
650+71.19	650+84.91	RT	13.72	8.00	0.8657	95.02			10.56	0.88		95.02							
SUBTOTALS CARRIED TO SHEET							186		1402	117		5536	5510				1569		271

WALK CALCULATIONS

DESIGN AGENCY

GPD GROUP

DESIGNER
NRB

REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 185 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2024 TIME: 12:18:26 PM USER: duzler
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STATION TO STATION FROM	TO	SIDE	LENGTH	AVERAGE WIDTH W	CURVE CORRECTION	SURFACE AREA A A=LxW	CADD AREAS		204 SUBGRADE COMPACTION SY	304 3" AGGREGATE BASE, AS PER PLAN "B" CY		608 4" CONCRETE WALK SF	608 6" CONCRETE WALK SF		608 6" CONCRETE WALK, AS PER PLAN SF	608 8" CONCRETE WALK, AS PER PLAN SF	608 CURB RAMP SF	609 CURB, TYPE 6 FT	609 CURB, TYPE 7 FT
RAMP 3A BL																			
643+93.69	*644+04.05*	*LT*	*10.36*	*11.25*	*0.9242*	*107.72*			*11.97*	*1.00*			*107.72*						*9.18*
644+29.75		*LT*		*CADD*			*404.18*		*44.91*	*3.74*							*404.18*		
644+29.75		*RT*		*CADD*			*359.02*		*39.89*	*3.32*							*359.02*		
WALK FROM RAMP 3A TO RAMP 3B																			
CURB RAMP 3A LT.	*CURB RAMP 3B RT.*			*CADD*			*393.77*		*43.75*	*3.65*			*393.77*						
RAMP 3B BL																			
544+36.73		*LT*		*CADD*			*467.90*		*51.99*	*4.33*							*467.90*		
544+00.67	*544+11.01*	*RT*	*10.34*	*10.00*	*0.9067*	*93.75*			*10.42*	*0.87*			*93.75*						
544+11.01	*544+21.32*	*RT*	*10.31*	*12.25*	*0.9142*	*115.46*			*12.83*	*1.07*			*115.46*						
544+36.73		*RT*		*CADD*			*309.10*		*34.34*	*2.86*							*309.10*		
RAMP 4A BL																			
350+91.00		*LT*		*CADD*			*247.55*		*27.51*	*2.29*							*247.55*		
350+57.01	*350+64.89*	*RT*	*7.88*	*10.00*	*0.8600*	*67.77*			*7.53*	*0.63*			*67.77*						
350+64.89	*350+75.36*	*RT*	*10.47*	*12.25*	*0.8713*	*111.75*			*12.42*	*1.03*			*111.75*						
350+91.00		*RT*		*CADD*			*300.60*		*33.40*	*2.78*							*300.60*		
WALK FROM RAMP 4A TO RAMP 4B																			
CURB RAMP 4A	*CURB RAMP 4B*			*CADD*			*714.61*		*79.40*	*6.62*			*0.00*						
RAMP 4B BL																			
450+13.62	*450+25.34*	*LT*	*11.72*	*10.00*	*0.9300*	*109.00*			*12.11*	*1.01*			*109.00*						*10.60*
450+25.34	*450+35.57*	*LT*	*10.23*	*12.25*	*0.9356*	*117.25*			*13.03*	*1.09*			*117.25*						*9.26*
450+50.88		*LT*		*CADD*			*313.28*		*34.81*	*2.90*							*313.28*		
450+50.88		*RT*		*CADD*			*350.83*		*38.98*	*3.25*							*350.83*		
WALK AT DRIVE 1 (HARPER ROAD)																			
258+72.89		*RT*		*CADD*															
SUBTOTALS THIS SHEET									*510*	*43*			*1117*				*2753*		*30*
SUBTOTALS SHEET							184		*1926*	*161*		*6663*	*9055*		*500*	*1113*		*26*	*21*
SUBTOTALS SHEET							185		*1402*	*117*		*5536*	*5510*				*1569*		*271*
SUBTOTALS CARRIED TO SUBSUMMARY SHEET							167		*3838*	*321*		*12199*	*15682*		*500*	*1113*	*4322*	*26*	*322*

WALK CALCULATIONS

DESIGN AGENCY

GPD GROUP*

DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 186 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2024 TIME: 12:19:09 PM USER: dluzier
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DRIVE CALCULATIONS

REFERENCE NO.	SHEET NO.	STATION	ALIGNMENT	SIDE	USAGE	DRIVE TYPE	EXISTING MATERIAL	SURFACE AREA 1 (CADD AREA)	SURFACE AREA 2 (CADD AREA)			204 SUBGRADE COMPACTION		304 3" AGGREGATE BASE, AS PER PLAN "B"		304 8" AGGREGATE BASE, AS PER PLAN "B"		SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE			407 NON-TRACKING TACK COAT (0.055 GAL/S.Y.)			441 1 ¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)		441 1 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)	452 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS		452 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
								SF	SF			SY		CY		CY		EACH			GAL			CY		CY	SY		SY	
												A1	A2	A1	A2	A2					A2			A2		A2	A1	A2	A1	A2
DV-1	190	58+90.89	HARPER RD	RT	COMM.	1B	ASPH.	402.28	623.79			44.70	69.31	3.72		15.40					3.81			2.41		3.37			44.70	
DV-2	190	60+32.62	HARPER RD	RT	COMM.	1B	ASPH.	408.53	453.18			45.39	50.35	3.78		11.19					2.77			1.75		2.45			45.39	
DV-3	190	58+65.14	HARPER RD	LT	RES.	2	CONC.	103.50	288.77			11.50	32.09	0.96	2.67			1									11.50	32.09		
DV-4	190	59+58.99	HARPER RD	LT	RES.	2	CONC.	76.50	116.07			8.50	12.90	0.71	1.07			1									8.50	12.90		
DV-5	190	61+04.12	HARPER RD	LT	COMM.	1B	CONC.	294.44	1321.56			32.72	146.84	2.73	12.24														32.72	146.84
TOTALS CARRIED TO GENERAL SUMMARY												454		54				2			7			4		6	65		270	

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2024 TIME: 12:19:55 PM USER: cluzier
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REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 187 | TOTAL 481

End Area Volume Report

HARPER ROAD

Alignment Name: CLP_C018

Input Grid Factor:

Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities										
	Cut					Fill					Mass
	Factor	Area	Volume		Adjusted	Factor	Area	Volume		Adjusted	Ordinate
55+00.0000000 R1	1	0		0	0	1	0	0	0	0	0
55+25.0000000 R1	1	5.205		2.41	2.41	1	0.368	0.17	0.17	0.17	2.239
55+50.0000000 R1	1	14.812		9.267	9.267	1	0.16	0.244	0.244	0.244	11.262
55+75.0000000 R1	1	16.813		14.641	14.641	1	0.948	0.513	0.513	0.513	25.391
56+00.0000000 R1	1	13.32		13.95	13.95	1	8.842	4.532	4.532	4.532	34.808
56+25.0000000 R1	1	14.281		12.778	12.778	1	7.584	7.605	7.605	7.605	39.982
56+50.0000000 R1	1	17.25		14.598	14.598	1	3.024	4.911	4.911	4.911	0
56+75.0000000 R1	1	21.413		17.9	17.9	1	2.004	2.327	2.327	2.327	15.572
57+00.0000000 R1	1	16.085		17.36	17.36	1	4.437	2.982	2.982	2.982	29.951
57+25.0000000 R1	1	18.491		16.007	16.007	1	0.057	2.081	2.081	2.081	43.877
57+35.0000000 R1	1	43.34		11.45	11.45	1	2.643	0.5	0.5	0.5	54.827
57+50.0000000 R1	1	53.714		26.96	26.96	1	0.14	0.773	0.773	0.773	81.014
57+75.0000000 R1	1	50.633		48.309	48.309	1	0.066	0.095	0.095	0.095	129.227
58+00.0000000 R1	1	48.743		46.007	46.007	1	0.431	0.23	0.23	0.23	175.005
58+25.0000000 R1	1	54.212		47.664	47.664	1	2.269	1.25	1.25	1.25	221.419
58+50.0000000 R1	1	54.289		50.232	50.232	1	4.472	3.121	3.121	3.121	268.53
58+75.0000000 R1	1	74.846		59.785	59.785	1	1.294	2.67	2.67	2.67	325.645
59+00.0000000 R1	1	81.726		72.487	72.487	1	5.04	2.933	2.933	2.933	395.199
59+25.0000000 R1	1	45.101		58.716	58.716	1	10.494	7.192	7.192	7.192	446.723
59+50.0000000 R1	1	34.426		36.818	36.818	1	12.393	10.596	10.596	10.596	472.946
59+75.0000000 R1	1	33.723		31.551	31.551	1	15.338	12.839	12.839	12.839	491.658
60+00.0000000 R1	1	33.926		31.319	31.319	1	15.245	14.159	14.159	14.159	508.818
60+25.0000000 R1	1	59.062		43.05	43.05	1	7.558	10.557	10.557	10.557	541.311
60+50.0000000 R1	1	53.469		52.098	52.098	1	8.905	7.622	7.622	7.622	585.787
60+75.0000000 R1	1	92.196		67.438	67.438	1	12.828	10.061	10.061	10.061	643.163
61+00.0000000 R1	1	175.455		123.913	123.913	1	6.251	8.833	8.833	8.833	758.244
61+25.0000000 R1	1	165.54		157.868	157.868	1	0	2.894	2.894	2.894	913.218
61+50.0000000 R1	1	178.334		159.201	159.201	1	10.015	4.637	4.637	4.637	1067.783
61+75.0000000 R1	1	111.362		134.118	134.118	1	11.706	10.056	10.056	10.056	1191.845
62+00.0000000 R1	1	102.616		99.064	99.064	1	9.276	9.714	9.714	9.714	1281.195
62+25.0000000 R1	1	70.502		80.147	80.147	1	5.609	6.891	6.891	6.891	1354.451
62+50.0000000 R1	1	50.391		55.969	55.969	1	0	2.597	2.597	2.597	1407.823
62+75.0000000 R1	1	32.57		38.408	38.408	1	0	0	0	0	1446.231
63+00.0000000 R1	1	29.403		28.691	28.691	1	0	0	0	0	1474.922
63+25.0000000 R1	1	45.814		34.823	34.823	1	0	0	0	0	1509.745
63+50.0000000 R1	1	71.012		54.086	54.086	1	3.589	1.662	1.662	1.662	1562.169
63+75.0000000 R1	1	82.498		71.069	71.069	1	11.93	7.184	7.184	7.184	1626.054
64+00.0000000 R1	1	194.78		128.369	128.369	1	14.733	12.344	12.344	12.344	1742.08
64+25.0000000 R1	1	158.781		163.686	163.686	1	41.828	26.186	26.186	26.186	1879.58
64+50.0000000 R1	1	140.234		138.433	138.433	1	35.341	35.727	35.727	35.727	1982.286
64+75.0000000 R1	1	125.473		123.012	123.012	1	29.635	30.081	30.081	30.081	2075.217
65+00.0000000 R1	1	106.483		107.387	107.387	1	48.086	35.982	35.982	35.982	2146.622
65+25.0000000 R1	1	79.23		85.978	85.978	1	51.245	45.987	45.987	45.987	2186.614
65+50.0000000 R1	1	73.102		70.524	70.524	1	69.692	55.99	55.99	55.99	2201.148
65+75.0000000 R1	1	74.628		68.394	68.394	1	82.325	70.378	70.378	70.378	2199.164
66+00.0000000 R1	1	64.893		64.593	64.593	1	72.502	71.679	71.679	71.679	2192.078
66+25.0000000 R1	1	71.637		63.208	63.208	1	59.811	61.256	61.256	61.256	2194.03
66+50.0000000 R1	1	77		68.813	68.813	1	48.661	50.219	50.219	50.219	2212.624
66+75.0000000 R1	1	75.947		70.808	70.808	1	49.604	45.493	45.493	45.493	2237.94
67+00.0000000 R1	1	86.756		75.325	75.325	1	48.464	45.402	45.402	45.402	2267.863
67+25.0000000 R1	1	78.258		76.396	76.396	1	69.598	54.659	54.659	54.659	2289.6
67+50.0000000 R1	1	72.633		69.857	69.857	1	45.918	53.48	53.48	53.48	2305.978
67+75.0000000 R1	1	82.904		72.008	72.008	1	43.735	41.506	41.506	41.506	2336.48
68+00.0000000 R1	1	122.759		95.214	95.214	1	27.821	33.127	33.127	33.127	2398.567
68+25.0000000 R1	1	148.156		125.423	125.423	1	11.876	18.378	18.378	18.378	2505.612
68+50.0000000 R1	1	157.884		141.685	141.685	1	12.182	11.138	11.138	11.138	2636.159
68+75.0000000 R1	1	100.369		119.561	119.561	1	9.372	9.979	9.979	9.979	2745.742
69+00.0000000 R1	1	77.02		82.125	82.125	1	0	4.339	4.339	4.339	2823.528
69+25.0000000 R1	1	42.201		55.195	55.195	1	0	0	0	0	2878.723
69+50.0000000 R1	1	28.136		32.564	32.564	1	0	0	0	0	2911.286
69+75.0000000 R1	1	29.703		26.777	26.777	1	0	0	0	0	2938.064
70+00.0000000 R1	1	38.035		31.36	31.36	1	0	0	0	0	2969.423
70+25.0000000 R1	1	117.4		71.961	71.961	1	3.588	1.661	1.661	1.661	3039.723
70+50.0000000 R1	1	107.892		104.302	104.302	1	14.961	8.587	8.587	8.587	3135.437
70+75.0000000 R1	1	134.447		112.194	112.194	1	24.281	18.167	18.167	18.167	3229.464
71+00.0000000 R1	1	121.595		118.538	118.538	1	211.817	109.304	109.304	109.304	3238.697
71+25.0000000 R1	1	124.21		113.799	113.799	1	36.882	115.138	115.138	115.138	3237.358
71+50.0000000 R1	1	109.353		108.131	108.131	1	12.318	22.778	22.778	22.778	3322.711
71+75.0000000 R1	1	65.892		81.132	81.132	1	22.538	16.137	16.137	16.137	3387.706
72+00.0000000 R1	1	80.782		67.905	67.905	1	11.73	15.865	15.865	15.865	3439.746
72+25.0000000 R1	1	74.695		71.98	71.98	1	11.548	10.777	10.777	10.777	3500.949
72+50.0000000 R1	1	68.638		66.358	66.358	1	8.888	9.461	9.461	9.461	3557.846
72+75.0000000 R1	1	46.536		53.321	53.321	1	14.573	10.861	10.861	10.861	3600.305
73+00.0000000 R1	1	45.866		42.778	42.778	1	20.858	16.403	16.403	16.403	3626.681
73+25.0000000 R1	1	40.63		40.045	40.045	1	25.586	21.502	21.502	21.502	3645.223
73+50.0000000 R1	1	44.311		39.325	39.325	1	22.428	22.229	22.229	22.229	3662.319
73+75.0000000 R1	1	41.682		39.812	39.812	1	21.399	20.29	20.29	20.29	3681.841
74+00.0000000 R1	1	29.895		33.138	33.138	1	22.357	20.257	20.257	20.257	3694.722
74+25.0000000 R1	1	10.332		18.624	18.624	1	0.439	10.554	10.554	10.554	3702.791
Grand Total:				5180.19	5180.19			1427.732	1427.732		

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/16/2024 TIME: 9:45:25 AM USER: cluzier
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EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY

GPD GROUP*

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DESIGNER NRB

REVIEWER CWL 6-8-23

PROJECT ID 113889

SHEET 187A TOTAL 481

End Area Volume Report

RAMP 1A

Alignment Name: BLP_R0181A
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									
	Cut					Fill				Mass
	Factor	Area	Volume	Adjusted	Factor	Area	Volume	Adjusted	Ordinate
343+59.8000000 R1	1	17.672	0	0	1	8.019	0	0	0
343+75.0000000 R1	1	10.005	7.791	7.791	1	10.973	5.346	5.346	2.445
344+00.0000000 R1	1	11.502	9.957	9.957	1	13.546	11.351	11.351	1.051
344+22.1494770 R1	1	11.702	10.663	10.663	1	12.393	11.873	11.873	0
344+25.0000000 R1	1	11.727	10.754	10.754	1	12.245	11.94	11.94	-0.135
344+50.0000000 R1	1	9.709	9.924	9.924	1	18.294	14.138	14.138	-4.349
344+57.0619150 R1	1	26.213	17.301	17.301	1	20.553	15.975	15.975	0
344+75.0000000 R1	1	68.135	36.039	36.039	1	26.292	20.641	20.641	11.048
345+00.0000000 R1	1	181.623	115.629	115.629	1	0	12.172	12.172	114.505
345+25.0000000 R1	1	180.025	167.43	167.43	1	27.506	12.734	12.734	269.2
345+50.0000000 R1	1	121.092	139.406	139.406	1	0	12.734	12.734	395.872
345+58.1200000 R1	1	0	18.209	18.209	1	0	0	0	0
Grand Total:			543.103	543.103			128.904	128.904	

End Area Volume Report

RAMP 1B

Alignment Name: BLP_R0181B
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									
	Cut					Fill				Mass
	Factor	Area	Volume	Adjusted	Factor	Area	Volume	Adjusted	Ordinate
437+66.6500000 R1	1	0	0	0	1	0	0	0	0
437+75.0000000 R1	1	7.269	3.365	3.365	1	0.143	0.066	0.066	3.299
438+00.0000000 R1	1	11.213	8.556	8.556	1	0.844	0.457	0.457	11.398
438+25.0000000 R1	1	15.333	12.29	12.29	1	1.239	0.964	0.964	22.723
438+50.0000000 R1	1	12.085	12.694	12.694	1	1.382	1.213	1.213	34.204
438+75.0000000 R1	1	17.997	13.927	13.927	1	1.122	1.159	1.159	46.971
439+00.0000000 R1	1	9.162	12.573	12.573	1	1.644	1.281	1.281	58.264
439+25.0000000 R1	1	18.801	12.946	12.946	1	1.113	1.277	1.277	69.933
439+50.0000000 R1	1	13.937	15.157	15.157	1	0.656	0.819	0.819	84.271
439+75.0000000 R1	1	22.349	16.799	16.799	1	0.535	0.551	0.551	100.519
440+00.0000000 R1	1	33.967	26.072	26.072	1	0.924	0.676	0.676	125.915
440+25.0000000 R1	1	33.638	31.299	31.299	1	0.01	0.432	0.432	156.782
440+50.0000000 R1	1	43.492	35.708	35.708	1	1.682	0.783	0.783	191.707
440+75.0000000 R1	1	50.2	43.376	43.376	1	0	0.779	0.779	234.304
441+00.0000000 R1	1	45.561	44.334	44.334	1	0.253	0.117	0.117	278.521
441+25.0000000 R1	1	81.872	58.997	58.997	1	0.053	0.142	0.142	337.376
441+50.0000000 R1	1	101.029	84.677	84.677	1	0.099	0.07	0.07	421.982
441+75.0000000 R1	1	37.986	64.359	64.359	1	3.883	1.843	1.843	484.498
442+00.0000000 R1	1	89.948	59.229	59.229	1	1.088	2.301	2.301	541.425
442+25.0000000 R1	1	88.53	82.629	82.629	1	2.64	1.726	1.726	622.328
442+50.0000000 R1	1	40.58	59.773	59.773	1	11.528	6.559	6.559	675.543
442+75.0000000 R1	1	67.396	49.989	49.989	1	16.424	12.941	12.941	712.591
443+00.0000000 R1	1	51.284	54.944	54.944	1	18.009	15.941	15.941	751.594
443+25.0000000 R1	1	34.233	39.591	39.591	1	17.003	16.21	16.21	774.975
443+50.0000000 R1	1	37.055	33.004	33.004	1	11.092	13.007	13.007	794.971
443+75.0000000 R1	1	21.895	27.292	27.292	1	5.077	7.486	7.486	814.777
444+00.0000000 R1	1	73.963	44.378	44.378	1	0.302	2.49	2.49	856.666
444+25.0000000 R1	1	17.201	42.205	42.205	1	16.139	7.611	7.611	891.259
444+50.0000000 R1	1	69.748	40.254	40.254	1	10.669	12.411	12.411	919.102
444+75.0000000 R1	1	31.412	46.834	46.834	1	25.757	16.864	16.864	949.072
445+00.0000000 R1	1	57.02	40.941	40.941	1	10.512	16.791	16.791	973.222
445+25.0000000 R1	1	48.569	48.884	48.884	1	20.112	14.178	14.178	1007.928
445+50.0000000 R1	1	54.699	47.809	47.809	1	16.668	17.028	17.028	1038.709
445+75.0000000 R1	1	56.077	51.285	51.285	1	27.975	20.668	20.668	1069.326
446+00.0000000 R1	1	82.293	64.06	64.06	1	16.762	20.711	20.711	1112.676
446+25.0000000 R1	1	95.435	82.282	82.282	1	4.167	9.689	9.689	1185.268
446+41.7300000 R1	1	87.776	56.761	56.761	1	1.584	1.782	1.782	0
Grand Total:			1469.273	1469.273			229.023	229.023	

EARTHWORK END AREA CALCULATIONS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/16/2024 TIME: 9:46:32 AM USER: cluzier
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DESIGN AGENCY

GPD GROUP*

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DESIGNER
NRB

REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 187B | TOTAL 481

End Area Volume Report

RAMP 2A

Alignment Name: BLP_R0182A
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									Mass Ordinate
	Cut					Fill				
	Factor	Area	Volume		Adjusted	Factor	Area	Volume	Adjusted	
647+32.8000000 R1	1	24.954		0	0	1	0	0	0	0
647+50.0000000 R1	1	27.316		12.646	12.646	1	0.74	0.343	0.343	12.303
647+75.0000000 R1	1	30.519		26.775	26.775	1	2.09	1.31	1.31	37.768
648+00.0000000 R1	1	42.198		33.665	33.665	1	2.188	1.98	1.98	69.453
648+25.0000000 R1	1	32.488		34.577	34.577	1	3.121	2.458	2.458	101.572
648+50.0000000 R1	1	5.343		17.514	17.514	1	1.09	1.949	1.949	117.137
648+75.0000000 R1	1	3.178		3.945	3.945	1	4.214	2.456	2.456	118.626
649+00.0000000 R1	1	2.958		2.841	2.841	1	7.058	5.219	5.219	116.248
649+25.0000000 R1	1	2.066		2.326	2.326	1	12.817	9.201	9.201	109.373
649+50.0000000 R1	1	4.513		3.046	3.046	1	10.233	10.671	10.671	101.748
649+75.0000000 R1	1	10.26		6.84	6.84	1	8.666	8.749	8.749	99.838
650+00.0000000 R1	1	21.494		14.701	14.701	1	7.237	7.363	7.363	107.176
650+25.0000000 R1	1	42.609		29.678	29.678	1	4.914	5.626	5.626	131.228
650+50.0000000 R1	1	54.188		44.814	44.814	1	0	2.275	2.275	173.766
650+75.0000000 R1	1	68.902		56.986	56.986	1	0	0	0	230.752
650+84.9100000 R1	1	62.014		24.026	24.026	1	0	0	0	0
Grand Total:				314.38	314.38			59.6	59.6	

End Area Volume Report

RAMP 2B

Alignment Name: BLP_R0182B
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									Mass Ordinate
	Cut					Fill				
	Factor	Area	Volume		Adjusted	Factor	Area	Volume	Adjusted	
548+46.7500000 R1	1	26.724		0	0	1	4.054	0	0	0
548+50.0000000 R1	1	17.386		2.451	2.451	1	4.773	0.49	0.49	1.96
548+75.0000000 R1	1	10.553		12.935	12.935	1	3.12	3.655	3.655	11.24
549+00.0000000 R1	1	14.991		11.826	11.826	1	0.63	1.736	1.736	21.33
549+25.0000000 R1	1	33.074		22.252	22.252	1	14.208	6.869	6.869	36.713
549+50.0000000 R1	1	39.198		33.459	33.459	1	59.744	34.237	34.237	35.935
549+75.0000000 R1	1	67.863		49.565	49.565	1	4.537	29.76	29.76	55.741
550+00.0000000 R1	1	73.108		65.265	65.265	1	1.717	2.895	2.895	118.11
550+13.1200000 R1	1	0		17.763	17.763	1	0	0.417	0.417	0
Grand Total:				215.516	215.516			80.059	80.059	

EARTHWORK END AREA CALCULATIONS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/16/2024 TIME: 9:47:52 AM USER: cluzier
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DESIGN AGENCY

GPD GROUP®

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DESIGNER: NRB
REVIEWER: CWL 6-8-23
PROJECT ID: 113889
SHEET: 187C TOTAL: 481

End Area Volume Report

RAMP 3A / EX. RAMP 5

Alignment Name: BLP_R0183A
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									
	Cut					Fill				Mass
	Factor	Area	Volume		Adjusted	Factor	Area	Volume	Adjusted	Ordinate
643+93.6900000	1	19.804	0		0	1	0.104	0	0	0
644+00.0000000	1	85.035	12.251		12.251	1	0.018	0.014	0.014	39.36
644+25.0000000	1	102.928	87.02		87.02	1	0.001	0.008	0.008	126.371
644+50.0000000	1	34.534	63.639		63.639	1	4.318	1.999	1.999	188.012
644+75.0000000	1	19.336	24.94		24.94	1	16.658	9.711	9.711	203.241
645+00.0000000	1	19.744	18.093		18.093	1	6.861	10.889	10.889	210.445
645+25.0000000	1	27.485	21.865		21.865	1	0.002	3.178	3.178	229.133
645+50.0000000	1	25.047	24.32		24.32	1	1.232	0.572	0.572	252.881
645+75.0000000	1	64.662	41.532		41.532	1	20.33	9.983	9.983	284.43
646+00.0000000	1	54.524	55.179		55.179	1	17.468	17.499	17.499	322.11
646+25.0000000	1	47.554	47.258		47.258	1	23.982	19.19	19.19	350.178
646+50.0000000	1	55.245	47.592		47.592	1	17.76	19.325	19.325	378.445
646+75.0000000	1	55.635	51.334		51.334	1	17.46	16.306	16.306	413.473
647+00.0000000	1	51.775	49.727		49.727	1	16.204	15.585	15.585	447.615
647+25.0000000	1	54.778	49.33		49.33	1	13.805	13.893	13.893	483.052
647+50.0000000	1	53.745	50.242		50.242	1	9.611	10.841	10.841	522.453
647+75.0000000	1	50.745	48.375		48.375	1	10.093	9.122	9.122	561.706
648+00.0000000	1	51.781	47.466		47.466	1	8.82	8.756	8.756	600.416
648+25.0000000	1	59.848	51.68		51.68	1	7.318	7.471	7.471	644.626
648+50.0000000	1	65.252	57.917		57.917	1	5.999	6.165	6.165	696.377
648+75.0000000	1	66.463	60.979		60.979	1	5.871	5.496	5.496	751.861
649+00.0000000	1	67.625	62.078		62.078	1	5.894	5.447	5.447	808.492
649+25.0000000	1	64.425	61.134		61.134	1	6.031	5.521	5.521	864.106
649+50.0000000	1	69.092	61.813		61.813	1	6.127	5.629	5.629	920.29
649+75.0000000	1	62.976	61.143		61.143	1	7.226	6.182	6.182	975.251
650+00.0000000	1	54.346	54.316		54.316	1	8.989	7.507	7.507	1022.06
650+25.0000000	1	39.586	43.487		43.487	1	13.274	10.307	10.307	1055.239
650+50.0000000	1	37.941	35.892		35.892	1	12.799	12.071	12.071	1079.06
650+75.0000000	1	28.292	30.664		30.664	1	19.331	14.875	14.875	1094.849
651+00.0000000	1	24.667	24.518		24.518	1	19.003	17.747	17.747	1101.62
651+25.0000000	1	26.168	23.535		23.535	1	25.627	20.662	20.662	1104.493
651+50.0000000	1	46.753	33.759		33.759	1	14.202	18.439	18.439	1119.814
651+75.0000000	1	51.514	45.494		45.494	1	7.42	10.01	10.01	1155.298
652+00.0000000	1	34.663	39.897		39.897	1	19.156	12.304	12.304	1182.891
652+25.0000000	1	30.609	30.219		30.219	1	20.547	18.381	18.381	1194.728
652+50.0000000	1	31.847	28.915		28.915	1	26.109	21.6	21.6	1202.043
652+75.0000000	1	31.861	29.494		29.494	1	40.828	30.989	30.989	1200.548
653+00.0000000	1	26.534	27.034		27.034	1	67.982	50.375	50.375	1177.207
653+25.0000000	1	23.998	23.394		23.394	1	37.042	48.622	48.622	1151.979
653+50.0000000	1	19.081	19.944		19.944	1	2.236	18.184	18.184	1153.739
653+75.0000000	1	13.594	15.127		15.127	1	0.396	1.218	1.218	1167.648
654+00.0000000	1	2.367	7.39		7.39	1	0	0.183	0.183	1174.855
Ex. Ramp 5 embankment								271.823	271.823	
Grand Total:			1669.986		1669.986			794.079	794.079	

End Area Volume Report

RAMP 3B

Alignment Name: BLP_R0183B
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									
	Cut					Fill				Mass
	Factor	Area	Volume		Adjusted	Factor	Area	Volume	Adjusted	Ordinate
544+00.6700000 R1	1	4.816	2.231		2.231	1	4.467	2.15	2.15	0
544+25.0000000 R1	1	104.355	48.345		48.345	1	16.188	9.304	9.304	37.265
544+50.0000000 R1	1	100.611	94.892		94.892	1	16.398	15.086	15.086	117.071
544+75.0000000 R1	1	100.376	93.05		93.05	1	19.532	16.634	16.634	193.486
545+00.0000000 R1	1	64.269	76.225		76.225	1	28.531	22.252	22.252	247.459
545+25.0000000 R1	1	48.449	52.185		52.185	1	20.506	22.703	22.703	276.941
545+50.0000000 R1	1	42.187	41.961		41.961	1	28.679	22.771	22.771	296.132
545+64.9000010 R1	1	39.079	22.423		22.423	1	22.091	14.009	14.009	304.546
Grand Total:			431.312		431.312			124.909	124.909	

EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY

GPD GROUP*

Copyright Glaus, Pyle, Schomer, Burns & DeWeese, Inc. 2022

DESIGNER
NRB

REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 187D | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/16/2024 TIME: 9:48:32 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GC903.dgn

End Area Volume Report

RAMP 4A

Alignment Name: BLP_R0184A
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									
	Cut					Fill				Mass
	Factor	Area	Volume		Adjusted	Factor	Area	Volume	Adjusted	Ordinate
350+57.0100000 R1	1	33.025		0	0	1	60.158	0	0	0
350+75.0000000 R1	1	49.787		27.589	27.589	1	190.032	83.35	83.35	-64.928
351+00.0000000 R1	1	22.968		33.683	33.683	1	248.8	203.163	203.163	-234.409
351+25.0000000 R1	1	14.913		17.537	17.537	1	221.025	217.512	217.512	-434.383
351+50.0000000 R1	1	37.033		24.049	24.049	1	98.344	147.856	147.856	-558.19
351+75.0000000 R1	1	14.488		23.852	23.852	1	46.161	66.901	66.901	-601.238
352+19.4500000 R1	1	0		11.926	11.926	1	0	37.998	37.998	-627.31
Grand Total:				138.636	138.636			756.78	756.78	

End Area Volume Report

RAMP 4B

Alignment Name: BLP_R0184B
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									
	Cut					Fill				Mass
	Factor	Area	Volume		Adjusted	Factor	Area	Volume	Adjusted	Ordinate
450+13.6200000 R1	1	4.288		0	0	1	0	0	0	0
450+25.0000000 R1	1	94.757		43.869	43.869	1	0	0	0	43.869
450+50.0000000 R1	1	90.094		85.579	85.579	1	8.738	4.045	4.045	125.402
450+75.0000000 R1	1	18.041		50.062	50.062	1	85.099	43.443	43.443	132.022
451+00.0000000 R1	1	20.361		17.778	17.778	1	79.367	76.142	76.142	73.659
451+25.0000000 R1	1	12.334		15.137	15.137	1	70.495	69.381	69.381	19.414
451+38.0187720 R1	1	10.137		12.184	12.184	1	49.659	57.595	57.595	0
451+50.0000000 R1	1	8.116		9.468	9.468	1	30.483	46.749	46.749	-17.867
451+75.0000000 R1	1	9.575		8.19	8.19	1	19.166	22.985	22.985	-32.662
452+00.0000000 R1	1	9.004		8.602	8.602	1	17.103	16.791	16.791	-40.852
452+19.4500000 R1	1	8.771		0	0	1	8.217	0	0	0
Grand Total:				250.869	250.869			337.131	337.131	

End Area Volume Report

RAMP 4

Alignment Name: BLP_R0184
Input Grid Factor:
Note: All units in this report are in feet, square feet and cubic yards unless specified otherwise.

FOR REFERENCE ONLY

Baseline Station	Station Quantities									
	Cut					Fill				Mass
	Factor	Area	Volume		Adjusted	Factor	Area	Volume	Adjusted	Ordinate
852+19.4500000 R1	1	19.638		0	0	1	13.236	0	0	0
852+25.0000000 R1	1	19.451		4.018	4.018	1	18.912	3.304	3.304	0.713
852+50.0000000 R1	1	18.794		17.706	17.706	1	13.615	15.059	15.059	3.361
852+75.0000000 R1	1	21.286		18.555	18.555	1	7.312	9.688	9.688	12.228
853+00.0000000 R1	1	26.877		22.298	22.298	1	2.765	4.665	4.665	29.861
853+25.0000000 R1	1	27.246		25.057	25.057	1	2.121	2.262	2.262	52.656
853+50.0000000 R1	1	25.922		24.615	24.615	1	1.417	1.638	1.638	75.633
853+75.0000000 R1	1	29.323		25.576	25.576	1	1.111	1.17	1.17	100.038
854+00.0000000 R1	1	28.614		26.823	26.823	1	2.196	1.531	1.531	125.33
854+25.0000000 R1	1	28.133		26.272	26.272	1	2.084	1.982	1.982	149.621
854+50.0000000 R1	1	25.732		24.938	24.938	1	2.985	2.347	2.347	172.211
854+75.0000000 R1	1	26.009		23.954	23.954	1	2.709	2.636	2.636	193.529
855+00.0000000 R1	1	16.535		19.696	19.696	1	8.641	5.255	5.255	207.971
855+25.0000000 R1	1	15.669		14.909	14.909	1	9.122	8.224	8.224	214.656
855+50.0000000 R1	1	21.267		17.1	17.1	1	7.656	7.767	7.767	223.988
855+75.0000000 R1	1	23.195		20.584	20.584	1	7.778	7.145	7.145	237.428
856+00.0000000 R1	1	20.2		20.09	20.09	1	7.148	6.91	6.91	250.608
856+25.0000000 R1	1	19.014		18.155	18.155	1	8.446	7.219	7.219	261.543
856+50.0000000 R1	1	18.479		17.358	17.358	1	8.1	7.66	7.66	271.241
856+75.0000000 R1	1	17.702		16.75	16.75	1	11.597	9.119	9.119	278.872
857+00.0000000 R1	1	16.986		16.059	16.059	1	12.803	11.296	11.296	283.635
857+25.0000000 R1	1	14.272		14.471	14.471	1	10.934	10.99	10.99	287.117
857+50.0000000 R1	1	13.18		12.709	12.709	1	11.608	10.436	10.436	289.39
857+75.0000000 R1	1	16.418		13.703	13.703	1	7.66	8.92	8.92	294.172
858+00.0000000 R1	1	15.897		14.96	14.96	1	4.635	5.692	5.692	303.441
858+25.0000000 R1	1	11.384		12.63	12.63	1	4.763	4.351	4.351	311.72
858+37.0000000 R1	1	10.556		4.876	4.876	1	0	1.058	1.058	0
Grand Total:				473.862	473.862			158.324	158.324	

EARTHWORK END AREA CALCULATIONS

DESIGN AGENCY
GPD GROUP*

DESIGNER
NRB

REVIEWER
CWL 6-8-23

PROJECT ID
113889

SHEET 187E | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/16/2024 TIME: 9:49:16 AM USER: cluzier
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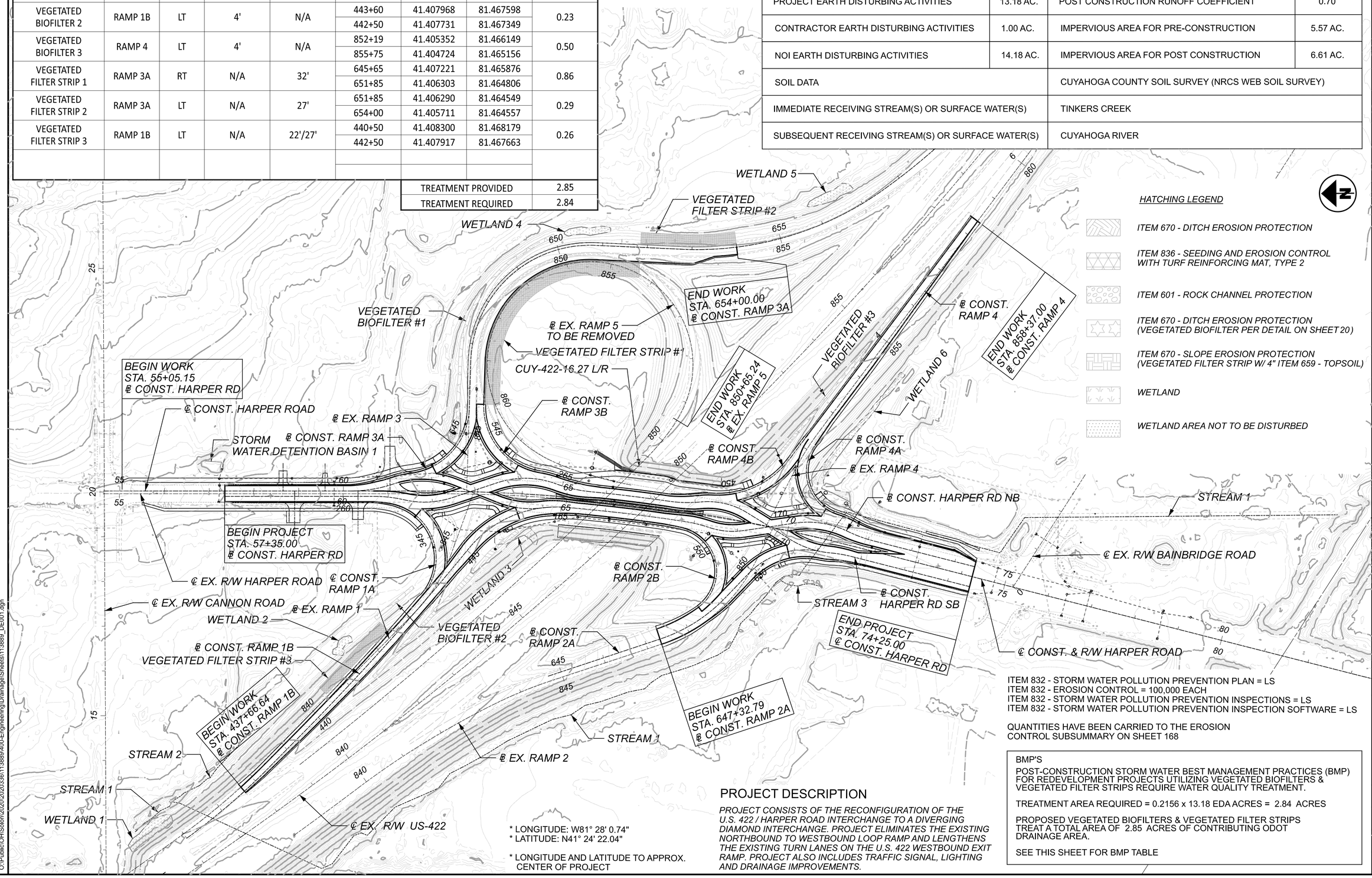
BMP TYPE	LOCATION	SIDE	DITCH WIDTH	FILTER STRIP WIDTH	STATION	LATITUDE	LONGITUDE	EDA CREDITS (ACRES)
VEGETATED BIOFILTER 1	RAMP 3A	LT	4'	N/A	650+50	41.406821	81.464509	0.71
					645+65	41.407461	81.466103	
VEGETATED BIOFILTER 2	RAMP 1B	LT	4'	N/A	443+60	41.407968	81.467598	0.23
					442+50	41.407731	81.467349	
VEGETATED BIOFILTER 3	RAMP 4	LT	4'	N/A	852+19	41.405352	81.466149	0.50
					855+75	41.404724	81.465156	
VEGETATED FILTER STRIP 1	RAMP 3A	RT	N/A	32'	645+65	41.407221	81.465876	0.86
					651+85	41.406303	81.464806	
VEGETATED FILTER STRIP 2	RAMP 3A	LT	N/A	27'	651+85	41.406290	81.464549	0.29
					654+00	41.405711	81.464557	
VEGETATED FILTER STRIP 3	RAMP 1B	LT	N/A	22'/27'	440+50	41.408300	81.468179	0.26
					442+50	41.407917	81.467663	

TREATMENT PROVIDED	2.85
TREATMENT REQUIRED	2.84

PROJECT DATA			
TOTAL AREA OF PROJECT (RIGHT OF WAY)	16.95 AC.	PRE-CONSTRUCTION RUNOFF COEFFICIENT	0.67
PROJECT EARTH DISTURBING ACTIVITIES	13.18 AC.	POST CONSTRUCTION RUNOFF COEFFICIENT	0.70
CONTRACTOR EARTH DISTURBING ACTIVITIES	1.00 AC.	IMPERVIOUS AREA FOR PRE-CONSTRUCTION	5.57 AC.
NOI EARTH DISTURBING ACTIVITIES	14.18 AC.	IMPERVIOUS AREA FOR POST CONSTRUCTION	6.61 AC.
SOIL DATA		CUYAHOGA COUNTY SOIL SURVEY (NRCS WEB SOIL SURVEY)	
IMMEDIATE RECEIVING STREAM(S) OR SURFACE WATER(S)		TINKERS CREEK	
SUBSEQUENT RECEIVING STREAM(S) OR SURFACE WATER(S)		CUYAHOGA RIVER	



HATCHING LEGEND

- ITEM 670 - DITCH EROSION PROTECTION
- ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2
- ITEM 601 - ROCK CHANNEL PROTECTION
- ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER PER DETAIL ON SHEET 20)
- ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP W/ 4" ITEM 659 - TOPSOIL)
- WETLAND
- WETLAND AREA NOT TO BE DISTURBED

ITEM 832 - STORM WATER POLLUTION PREVENTION PLAN = LS
ITEM 832 - EROSION CONTROL = 100,000 EACH
ITEM 832 - STORM WATER POLLUTION PREVENTION INSPECTIONS = LS
ITEM 832 - STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE = LS

QUANTITIES HAVE BEEN CARRIED TO THE EROSION CONTROL SUBSUMMARY ON SHEET 168

BMP'S

POST-CONSTRUCTION STORM WATER BEST MANAGEMENT PRACTICES (BMP) FOR REDEVELOPMENT PROJECTS UTILIZING VEGETATED BIOFILTERS & VEGETATED FILTER STRIPS REQUIRE WATER QUALITY TREATMENT.

TREATMENT AREA REQUIRED = 0.2156 x 13.18 EDA ACRES = 2.84 ACRES

PROPOSED VEGETATED BIOFILTERS & VEGETATED FILTER STRIPS TREAT A TOTAL AREA OF 2.85 ACRES OF CONTRIBUTING ODOT DRAINAGE AREA.

SEE THIS SHEET FOR BMP TABLE

PROJECT DESCRIPTION

PROJECT CONSISTS OF THE RECONFIGURATION OF THE U.S. 422 / HARPER ROAD INTERCHANGE TO A DIVERGING DIAMOND INTERCHANGE. PROJECT ELIMINATES THE EXISTING NORTHBOUND TO WESTBOUND LOOP RAMP AND LENGTHENS THE EXISTING TURN LANES ON THE U.S. 422 WESTBOUND EXIT RAMP. PROJECT ALSO INCLUDES TRAFFIC SIGNAL, LIGHTING AND DRAINAGE IMPROVEMENTS.

* LONGITUDE: W81° 28' 0.74"
* LATITUDE: N41° 24' 22.04"

* LONGITUDE AND LATITUDE TO APPROX. CENTER OF PROJECT

HORIZONTAL SCALE IN FEET
0 50 100 200

PROJECT SITE PLAN

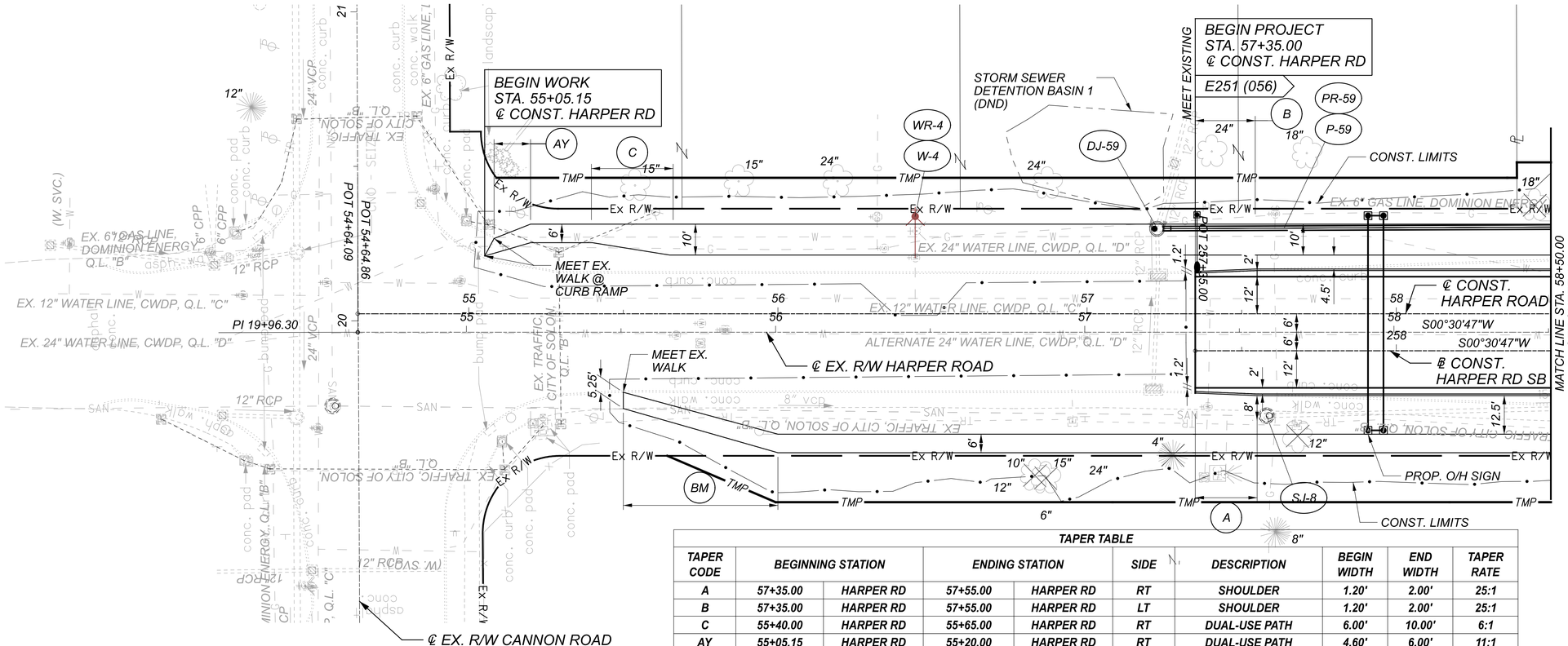
CUY-422-16.20 (HARPER ROAD)

MODEL: Design PAPERSIZE: 34x22 (in.) DATE: 7/30/2025 TIME: 9:28:07 AM USER: dtuzier
O:\Public\OH\Solon\2020\20203361\113889\400-Engineering\Drainage\Sheets\113889_DE001.dgn

DESIGN AGENCY
GPD GROUP*

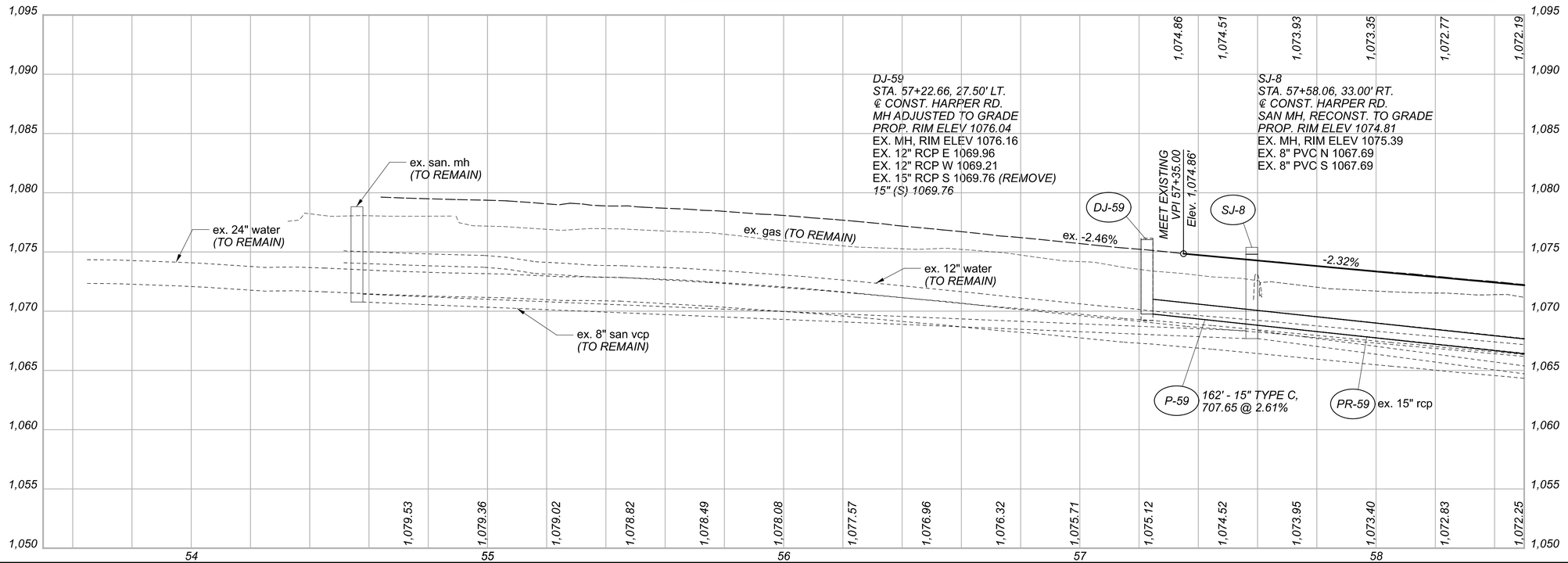
DESIGNER ATR
REVIEWER CJC 09/02/21
PROJECT ID 113889
SHEET 188 TOTAL 481

FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369



TAPER TABLE

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
A	57+35.00	HARPER RD	57+55.00	HARPER RD	RT	SHOULDER	1.20'	2.00'	25:1
B	57+35.00	HARPER RD	57+55.00	HARPER RD	LT	SHOULDER	1.20'	2.00'	25:1
C	55+40.00	HARPER RD	55+65.00	HARPER RD	RT	DUAL-USE PATH	6.00'	10.00'	6:1
AY	55+05.15	HARPER RD	55+20.00	HARPER RD	RT	DUAL-USE PATH	4.60'	6.00'	11:1
BM	55+50.00	HARPER RD	56+00.00	HARPER RD	RT	WALK	5.25'	6.00'	67:1



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - HARPER ROAD
BEGIN TO STA. 58+50.00

DESIGN AGENCY
GPD GROUP*

DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 189 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
MODEL: II3889_GP50I PAPERSIZE: 34x22 (In.) DATE: 8/15/2025 TIME: 7:46:23 AM USER: cluzier
O:\Public\OH\Solon\2020\2020336\II3889\400-Engineering\Roadway\Sheets\II3889_GP00I.dgn

TAPER TABLE

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
F	260+68.39	HARPER SB	261+06.78	HARPER SB	RT	SHOULDER	2.00'	3.25'	31:1
H	260+68.39	HARPER SB	261+36.62	HARPER SB	LT	PAVEMENT	12.00'	15.00'	23:1
I	260+68.39	HARPER SB	261+36.62	HARPER SB	RT	PAVEMENT	12.00'	15.00'	23:1
P	160+16.12	HARPER NB	160+77.37	HARPER NB	LT	SHOULDER	2.00'	4.00'	31:1
S	160+16.12	HARPER NB	160+77.37	HARPER NB	LT	PAVEMENT	12.00'	15.00'	20:1
BC	59+38.63	HARPER RD	59+43.63	HARPER RD	LT	DUAL-USE PATH	10.00'	9.50'	10:1
BD	59+43.63	HARPER RD	59+48.63	HARPER RD	LT	DUAL-USE PATH	9.50'	10.00'	10:1
BM	55+50.00	HARPER RD	56+00.00	HARPER RD	RT	WALK	5.26'	6.00'	68:1

1 ℄ CONST. HARPER RD SB
P.I. = Sta. 261+02.65
Δ = 13°01'51" RT
Dc = 19°05'55"
R = 300.00'
T = 34.26'
L = 68.23'
E = 1.95'
emax = N.C.
D.S. = 25 MPH
PC Sta. 260+68.39
PRC Sta. 261+36.62

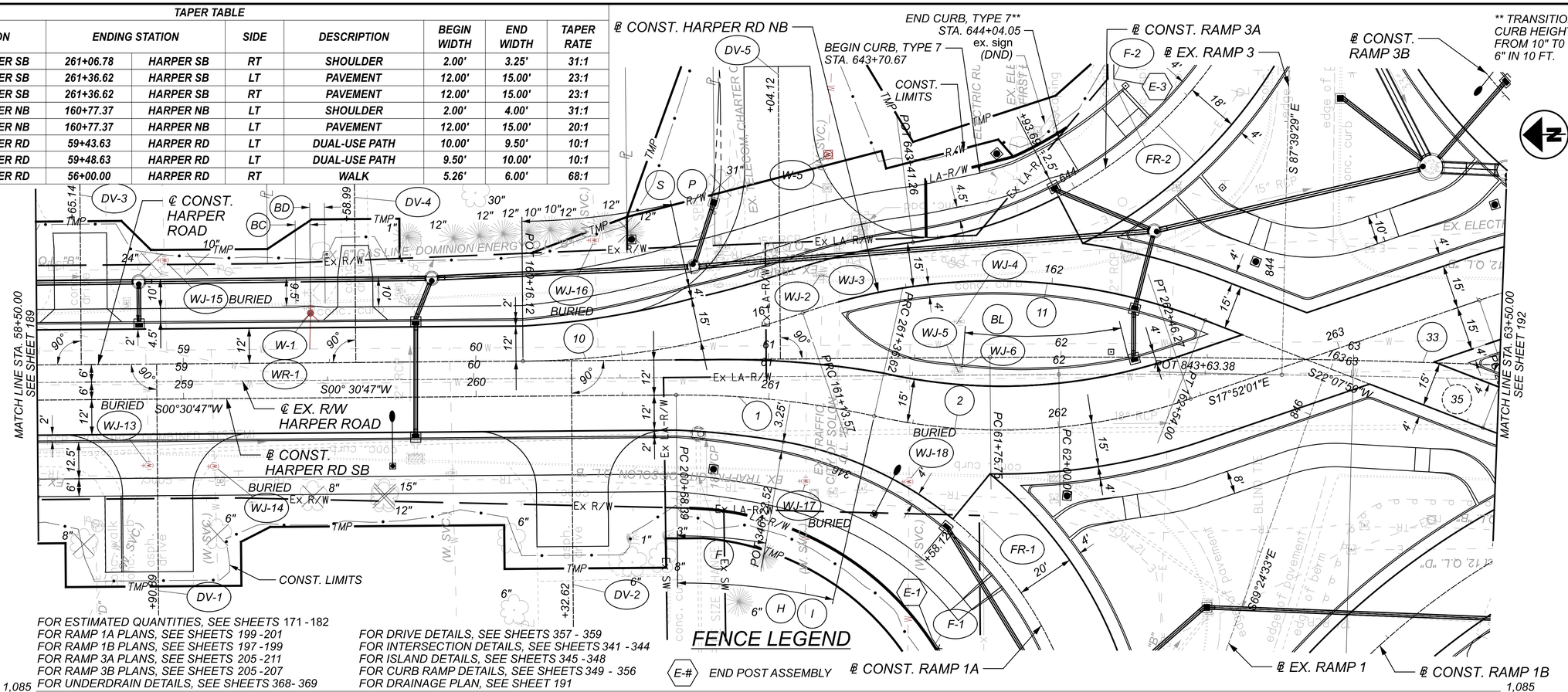
2 ℄ CONST. HARPER RD SB
P.I. = Sta. 261+92.86
Δ = 31°24'39" LT
Dc = 28°38'52"
R = 200.00'
T = 56.24'
L = 109.64'
E = 7.76'
emax = N.C.
D.S. = 25 MPH
PRC Sta. 261+36.62
PT Sta. 262+46.27

10 ℄ CONST. HARPER RD NB
P.I. = Sta. 160+65.28
Δ = 18°36'42" LT
Dc = 19°05'55"
R = 300.00'
T = 49.16'
L = 97.45'
E = 4.00'
emax = N.C.
D.S. = 25 MPH
PC Sta. 160+16.12
PRC Sta. 161+13.57

11 ℄ CONST. HARPER RD NB
P.I. = Sta. 161+86.82
Δ = 40°13'53" RT
Dc = 28°38'52"
R = 200.00'
T = 73.25'
L = 140.43'
E = 12.99'
emax = N.C.
D.S. = 25 MPH
PRC Sta. 161+13.57
PT Sta. 162+54.00

33 ℄ CONST. HARPER ROAD
P.I. = Sta. 66+55.75
Δ = 14°19'30" RT
Dc = 01°30'00"
R = 3,819.72'
T = 480.00'
L = 955.00'
E = 30.04'
emax = N.C.
D.S. = 35 MPH
PC Sta. 61+75.75
PT Sta. 71+30.75

35 ℄ EX. R/W HARPER ROAD
P.I. = Sta. 66+80.00
Δ = 14°19'30" RT
Dc = 01°30'00"
R = 3,819.72'
T = 480.00'
L = 955.00
E = 30.04'
PC Sta. 62+00.00
PT Sta. 71+55.00

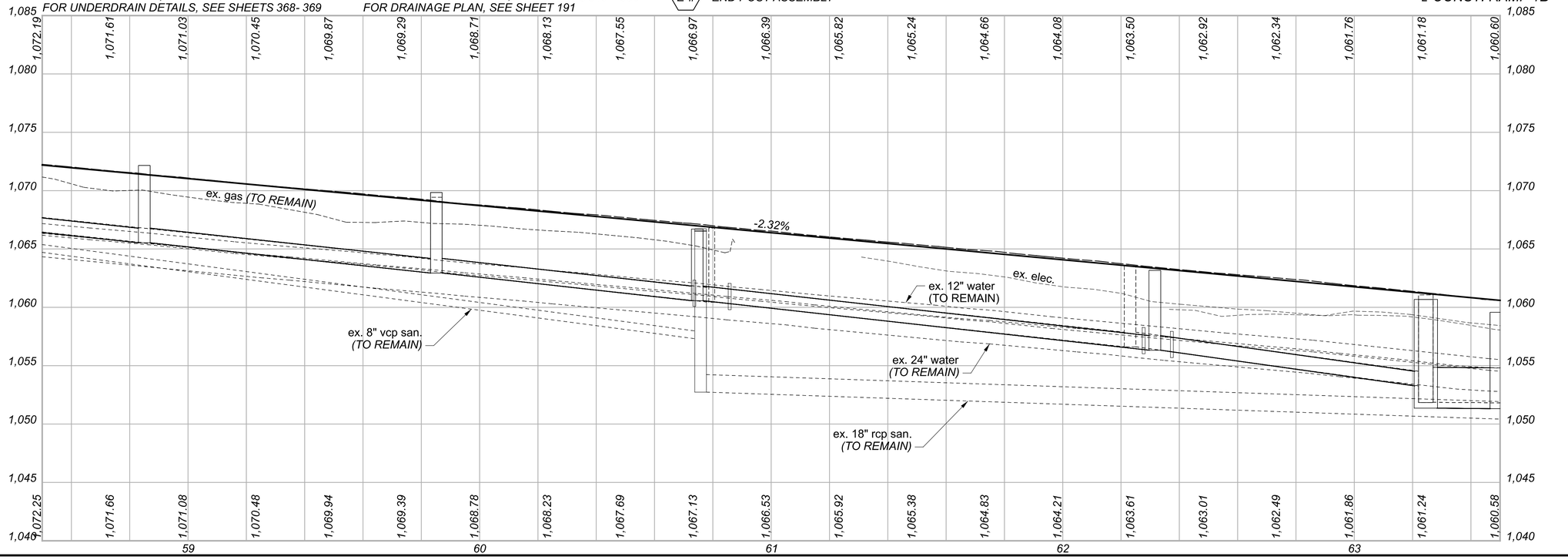


FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182
FOR RAMP 1A PLANS, SEE SHEETS 199 - 201
FOR RAMP 1B PLANS, SEE SHEETS 197 - 199
FOR RAMP 3A PLANS, SEE SHEETS 205 - 211
FOR RAMP 3B PLANS, SEE SHEETS 205 - 207
FOR UNDERDRAIN DETAILS, SEE SHEETS 368- 369

FOR DRIVE DETAILS, SEE SHEETS 357 - 359
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344
FOR ISLAND DETAILS, SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS, SEE SHEETS 349 - 356
FOR DRAINAGE PLAN, SEE SHEET 191

FENCE LEGEND

⟨E-#⟩ END POST ASSEMBLY



HORIZONTAL SCALE IN FEET
0 10 20 40

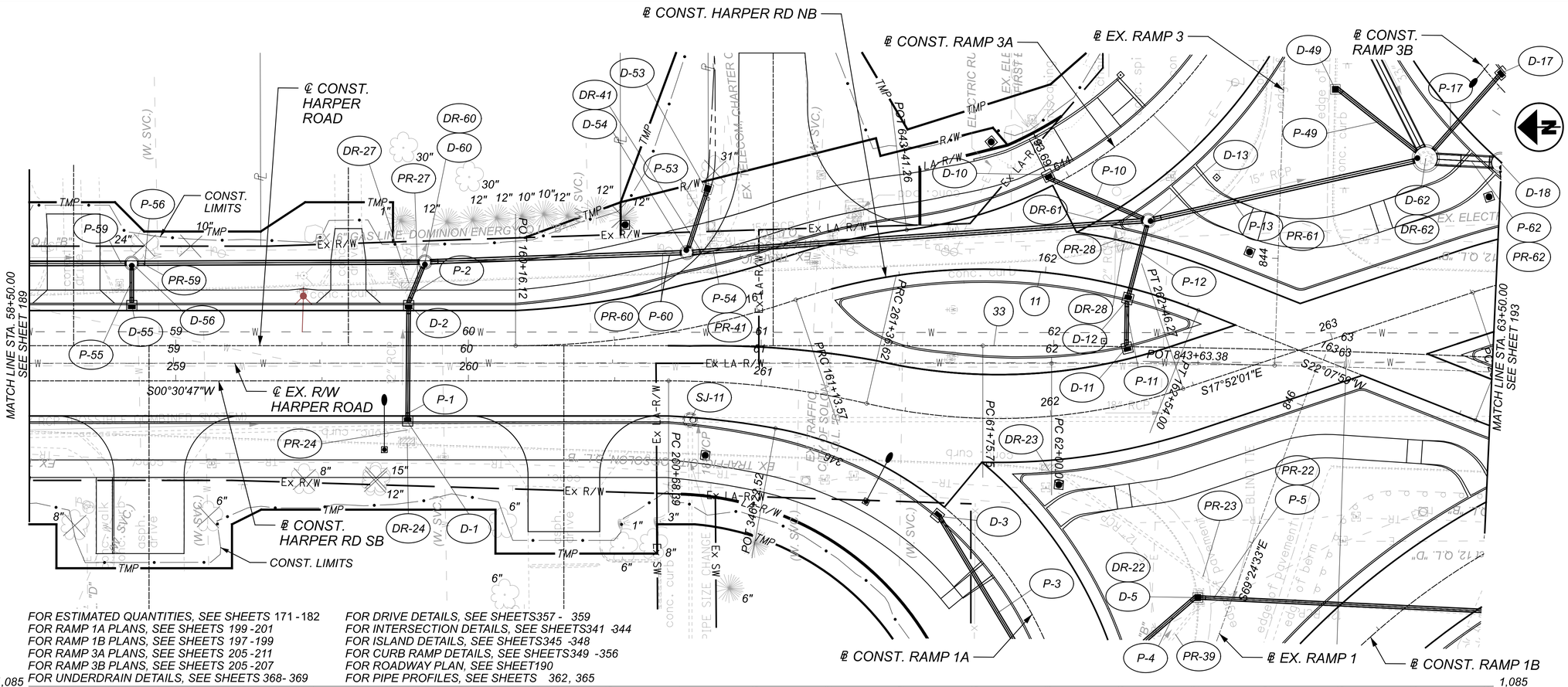
PLAN AND PROFILE - HARPER ROAD (ROADWAY)
STA. 58+50.00 TO STA. 63+50.00

DESIGN AGENCY
GPD GROUP*

DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 190 TOTAL 481

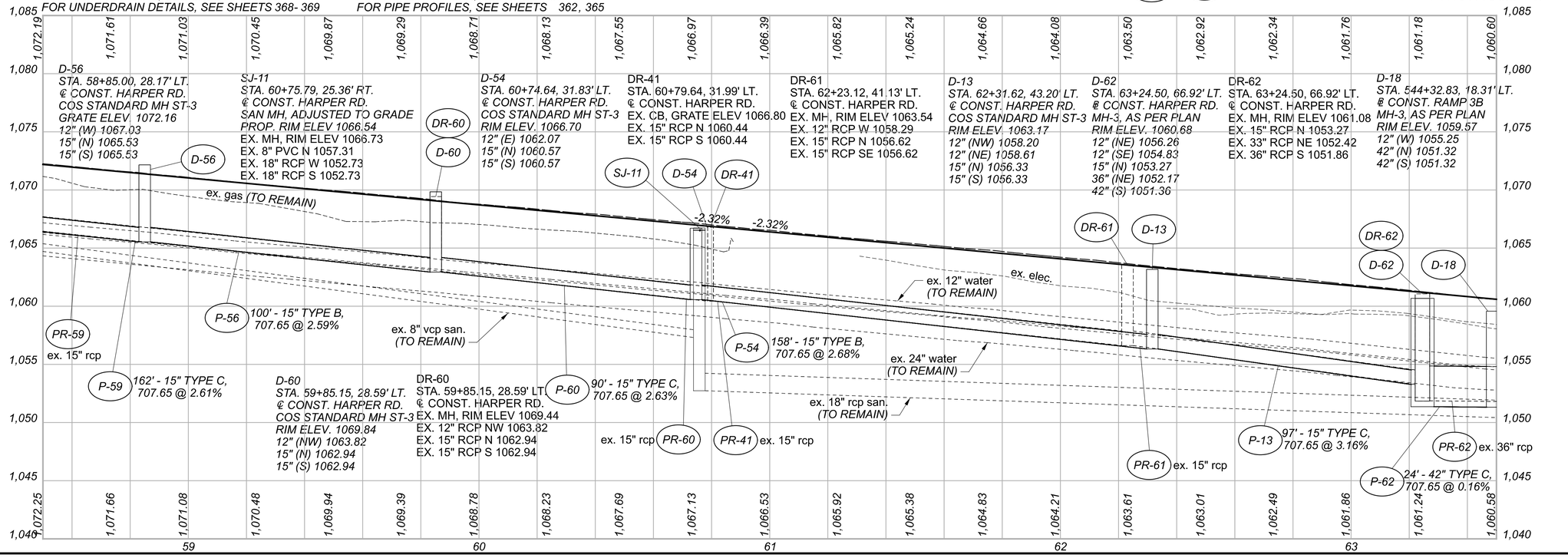
CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GP502 - roadway PAPERSIZE: 34x22 (in.) DATE: 7/12/2023 TIME: 6:51:21 AM USER: cluzier
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GP002.dgn



FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182
FOR RAMP 1A PLANS, SEE SHEETS 199 -201
FOR RAMP 1B PLANS, SEE SHEETS 197 -199
FOR RAMP 3A PLANS, SEE SHEETS 205 -211
FOR RAMP 3B PLANS, SEE SHEETS 205 -207
FOR UNDERDRAIN DETAILS, SEE SHEETS 368- 369

FOR DRIVE DETAILS, SEE SHEETS357 - 359
FOR INTERSECTION DETAILS, SEE SHEETS341 -344
FOR ISLAND DETAILS, SEE SHEETS345 -348
FOR CURB RAMP DETAILS, SEE SHEETS349 -356
FOR ROADWAY PLAN, SEE SHEET190
FOR PIPE PROFILES, SEE SHEETS 362, 365



CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GP502 - drainage PAPERSIZE: 34x22 (in.) DATE: 7/12/2023 TIME: 6:51:59 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GP002.dgn

PLAN AND PROFILE - HARPER ROAD (DRAINAGE) STA. 58+50.00 TO STA. 63+50.00

DESIGN AGENCY
GPD GROUP*
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 191 TOTAL 481

FOR RAMP 1B PLANS, SEE SHEETS 197- 199
FOR RAMP 2B PLANS, SEE SHEETS 202- 204
FOR RAMP 3B PLANS, SEE SHEETS 205- 207
FOR RAMP 4B PLANS, SEE SHEETS 212- 213
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 -182

FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344
FOR ISLAND DETAILS, SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS, SEE SHEETS 349- 356
FOR DRAINAGE PLAN, SEE SHEET 193
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 -369

15 ℄ CONST. HARPER RD NB
P.I. = Sta. 168+09.80
Δ = 09°43'04" RT
Dc = 19°05'55"
R = 300.00'
T = 25.50'
L = 50.88'
E = 1.08'
emax. = N.C.
D.S. = 25 MPH
PCC Sta. 167+84.30
PRC Sta. 168+35.18

16 ℄ CONST. HARPER RD NB
P.I. = Sta. 168+74.72
Δ = 26°57'08" LT
Dc = 34°43'29"
R = 165.00'
T = 39.54'
L = 77.62'
E = 4.67'
emax. = N.C.
D.S. = 20 MPH
PRC Sta. 168+35.18
PT Sta. 169+12.80

TAPER TABLE

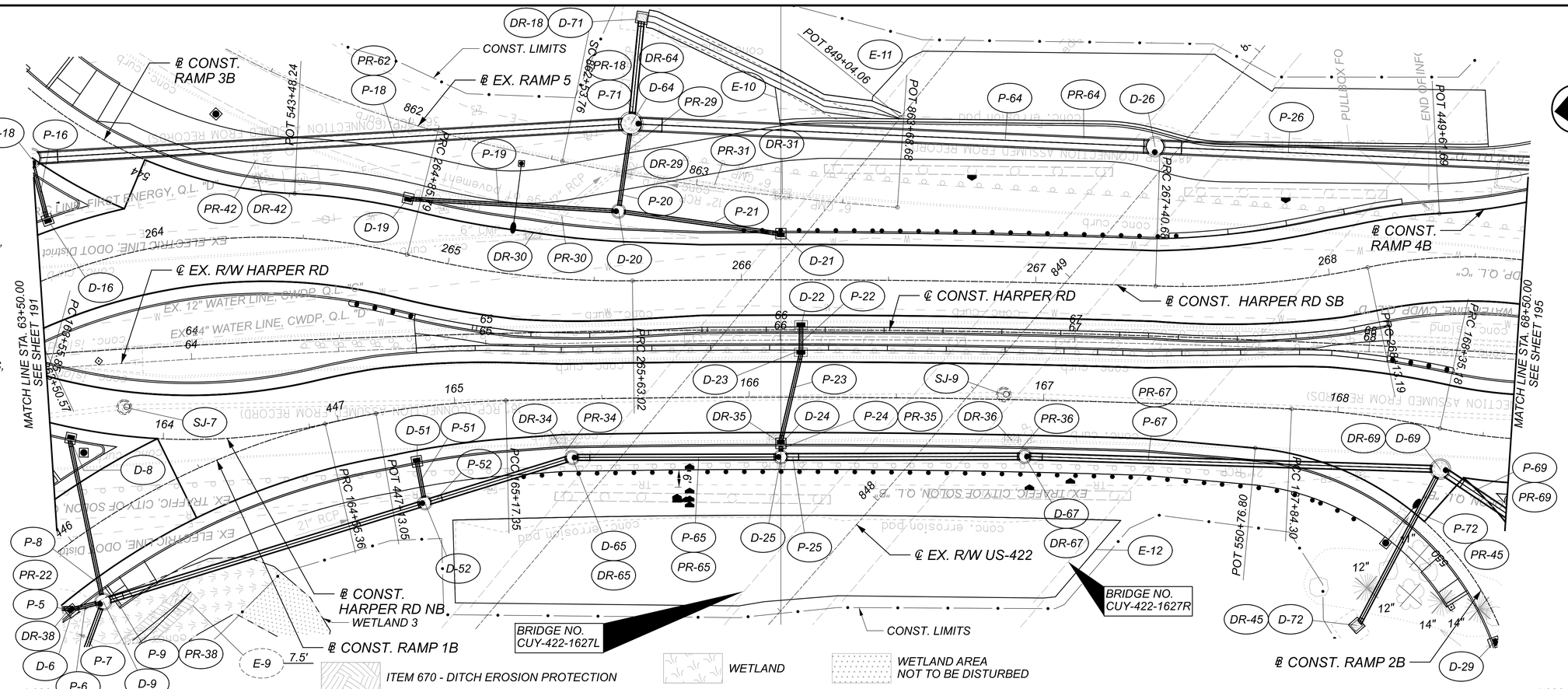
TAPER CODE	BEGINNING STATION	ENDING STATION	SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
J	265+25.00	265+86.25	HARPER SB	LT	PAVEMENT	15.00'	12.00'	20:1
K	267+40.68	268+01.93	HARPER SB	LT	PAVEMENT	12.00'	15.00'	20:1
M	265+25.00	265+86.25	HARPER SB	RT	PAVEMENT	15.00'	12.00'	20:1
N	267+40.68	268+01.93	HARPER SB	RT	PAVEMENT	12.00'	15.00'	20:1
T	164+75.00	165+36.25	HARPER NB	LT	PAVEMENT	15.00'	12.00'	20:1
U	167+35.00	167+96.25	HARPER NB	LT	PAVEMENT	12.00'	15.00'	20:1
W	164+75.00	165+35.25	HARPER NB	RT	PAVEMENT	15.00'	12.00'	20:1
X	167+35.00	167+96.25	HARPER NB	RT	PAVEMENT	12.00'	15.00'	20:1
BE	265+05.50	265+39.24	HARPER SB	LT	DUAL-USE PATH	10.00'	12.00'	17:1
BF	268+35.70	268+75.39	HARPER SB	LT	DUAL-USE PATH	12.00'	10.00'	20:1

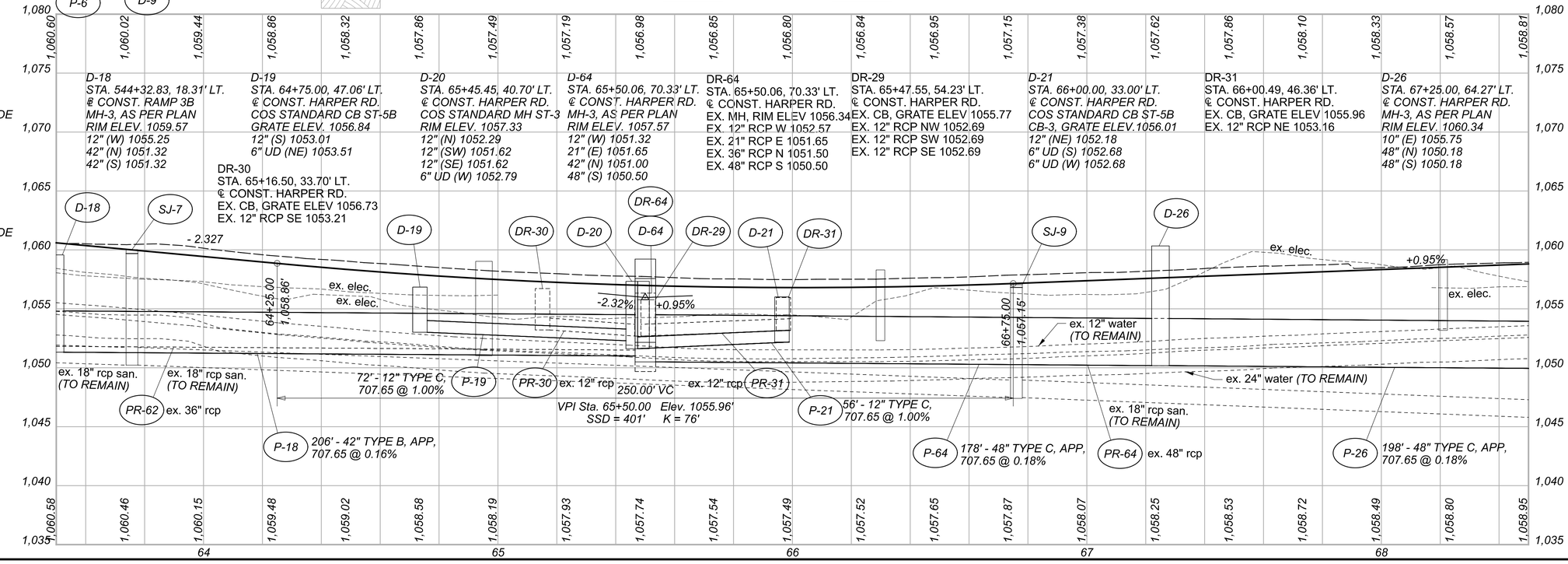
A IMPACT ATTENUATOR, TYPE 2, BIDIRECTIONAL, (24" WIDTH) STA. 264+69.85
B BEGIN TYPE D BARRIER STA. 264+92.92
C BEGIN TYPE D BARRIER STA. 164+89.17
D BTA TYPE 1 BEGIN TYPE C1 BARRIER STA. 267+45.00
E END TYPE C1 BARRIER STA. 268+27.47
F END TYPE D BARRIER STA. 268+16.73
G END TYPE D BARRIER STA. 168+14.05
H IMPACT ATTENUATOR, TYPE 2, BIDIRECTIONAL, (24" WIDTH) STA. 168+34.74

℄ CONST. RAMP 3B
℄ EX. RAMP 5
CONST. LIMITS
BEGIN CURB, TYPE 7 STA. 266+13.25
POT 543+48.24
SC 268+33.76
POT 849+04.06
POT 849+68.68
PROP. CONC. SLOPE PROTECTION
℄ CONST. HARPER RD SB
CUY-422-1627R REQUIRED VC=14.50' PROP. VC= 15.04' STA. 67+93.00, 40.58' LT
CUY-422-1627R EXIST. VC= 14.84' STA. 67+90.24, 36.96' LT
POT 449+69.69
PULLBOX FO
END OF INFO
BF
F-5
HORIZONTAL SCALE IN FEET 0 10 20 40
+00.67
+29.36 36.95' LT
+10.51 39.66' LT
+29.22 41.27' LT
+66.07 35.16' LT
+21.26 41.77' LT
+27.47 26.22' LT
PRC 264+85.79
PRC 267+40.68
60'R
100'R
72'R
LON STA. 266+11.56
TYPE E STA. 265+99.11
CUY-422-1627L REQUIRED VC= 14.50' PROP.= 16.00' STA. 65+76.00, 5.00' LT
℄ CONST. HARPER RD
℄ CONST. RAMP 4B
℄ EX. R/W HARPER RD
EX. 12" WATER LINE, CWDP, Q.L. "D"
EX. 64" WATER LINE, CWDP, Q.L. "D"
EX. FIRST ENERGY, Q.L. "D"
EX. ELECTRIC LINE, ODOT Distric
MATCH LINE STA. 63+50.00 SEE SHEET 190
MATCH LINE STA. 68+50.00 SEE SHEET 194
PRC 168+35.18
PCC 168+84.30
PCC 168+17.35
PRC 265+93.02
CUY-422-1627L EXIST VC= 15.89' STA. 65+63.37, 9.89' RT
PRC 164+85.36
POT 447+13.05
PCC 165+17.35
PCC 167+84.30
POT 550+76.80
℄ CONST. RAMP 1B
℄ CONST. HARPER RD NB
WETLAND 3
BRIDGE NO. CUY-422-1627L
TYPE T STA. 165+20.96
CONST. LIMITS
℄ EX. R/W US-422
PROP. CONC. SLOPE PROTECTION
BRIDGE NO. CUY-422-1627R
LON STA. 168+01.84 TYPE E STA. 168+15.01
℄ CONST. RAMP 2B
EX. TRAFFIC CITY OF SOLON, O.L. "C"
EX. TRAFFIC CITY OF SOLON, O.L. "B"
EX. ELECTRIC LINE, ODOT Distric
EX. 21" RCP (CONNECTION ASSUMED FROM RECORD)
EX. 18" RCP (CONNECTION ASSUMED FROM RECORD)
EX. 24" RCP (CONNECTION ASSUMED FROM RECORD)
EX. 30" RCP (CONNECTION ASSUMED FROM RECORD)
EX. 36" RCP (CONNECTION ASSUMED FROM RECORD)
EX. 42" RCP (CONNECTION ASSUMED FROM RECORD)
EX.

D-71
STA. 65+54.12, 106.62' LT.
℄ CONST. HARPER RD.
CB-5, GRATE ELEV. 1054.80
21" (W) 1051.90

FOR RAMP 1B PLANS,
SEE SHEETS 197- 199
FOR RAMP 2B PLANS,
SEE SHEETS 202- 204
FOR RAMP 3B PLANS,
SEE SHEETS 205- 207
FOR RAMP 4B PLANS,
SEE SHEETS 212- 213
FOR INTERSECTION DETAILS,
SEE SHEETS 341 - 344
FOR ISLAND DETAILS,
SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS,
SEE SHEETS 349 - 356
FOR ROADWAY PLAN,
SEE SHEET 192
FOR UNDERDRAIN DETAILS,
SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES,
SEE SHEETS 171 - 182
FOR PIPE PROFILES,
SEE SHEETS362 , 363 ,
364, 365, 366, 367.





HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - HARPER ROAD (DRAINAGE)
STA. 63+50.00 TO STA. 68+50.00

DESIGN AGENCY
GPD GROUP
Copyright Glaus, Pyle, Schomer, Burns & DeHaven, Inc., 2020

DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 193 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
MODEL: 113889_GP503 - drainage PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:09:43 AM USER: cluzier
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GP003.dgn

7 ℄ CONST. HARPER RD SB

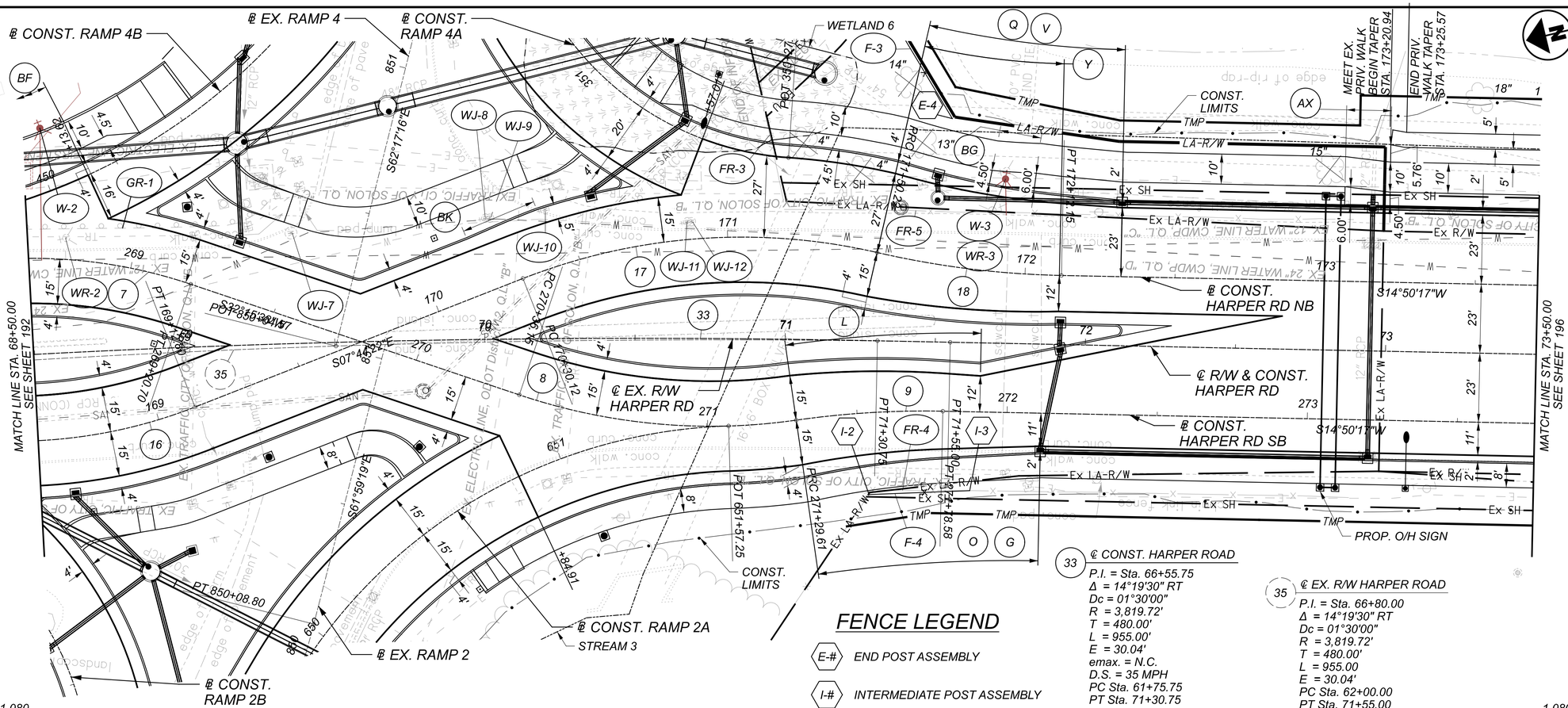
P.I. = Sta. 268+68.93
Δ = 37°19'57" RT
Dc = 34°43'29"
R = 165.00'
T = 55.74'
L = 107.51'
E = 9.16'
emax = N.C.
D.S. = 20 MPH
PRC Sta. 268+13.19
PT Sta. 269+20.70

8 ℄ CONST. HARPER RD SB

P.I. = Sta. 270+83.75
Δ = 26°46'28" LT
Dc = 28°38'52"
R = 200.00'
T = 47.60'
L = 93.46'
E = 5.59'
emax. = N.C.
D.S. = 25 MPH
PC Sta. 270+36.15
PRC Sta. 271+29.61

TAPER CODE	BEGINNING STATION		ENDING STATION		DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
G	271+29.61	HARPER SB	272+11.28	HARPER SB	SHOULDER	4.00'	2.00'	41:1
L	271+29.61	HARPER SB	271+90.86	HARPER SB	PAVEMENT	15.00'	12.00'	20:1
O	271+29.61	HARPER SB	272+11.28	HARPER SB	PAVEMENT	15.00'	11.00'	20:1
Q	171+50.22	HARPER NB	172+31.89	HARPER NB	SHOULDER	4.00'	2.00'	41:1
V	171+50.22	HARPER NB	172+31.89	HARPER NB	PAVEMENT	27.00'	23.00'	20:1
Y	171+50.22	HARPER NB	172+11.47	HARPER NB	PAVEMENT	15.00'	12.00'	20:1
AX	173+05.98	HARPER NB	173+20.98	HARPER NB	TREE LAWN	6.00'	4.50'	10:1
BF	268+35.70	HARPER SB	268+75.39	HARPER SB	DUAL-USE PATH	12.00'	10.00'	20:1
BG	171+85.33	HARPER NB	172+01.94	HARPER NB	TREE LAWN	4.50'	6.00'	11:1
BM	55+50.00	HARPER RD	56+00.00	HARPER RD	WALK	5.25'	6.00'	67:1

TAPER TABLE



FENCE LEGEND

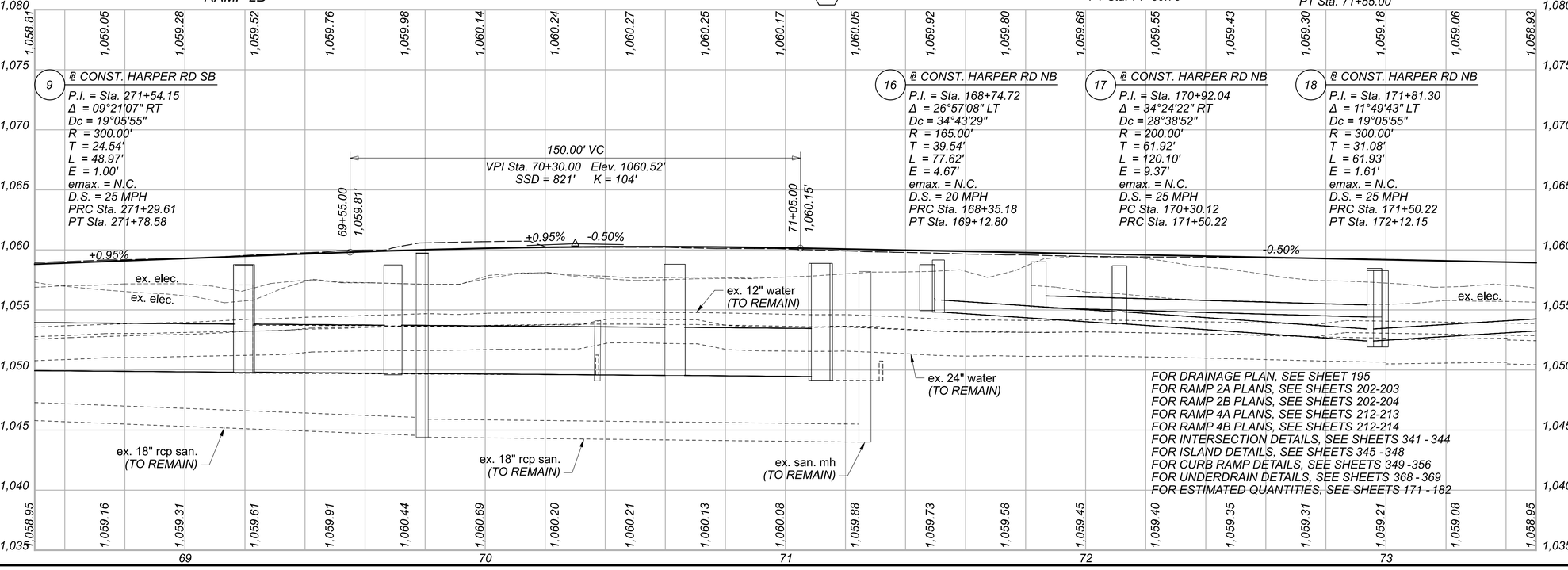
- E-# — END POST ASSEMBLY
- I-# — INTERMEDIATE POST ASSEMBLY

33 ℄ CONST. HARPER ROAD

P.I. = Sta. 66+55.75
Δ = 14°19'30" RT
Dc = 01°30'00"
R = 3,819.72'
T = 480.00'
L = 955.00'
E = 30.04'
emax. = N.C.
D.S. = 35 MPH
PC Sta. 61+75.75
PT Sta. 71+30.75

35 ℄ EX. R/W HARPER ROAD

P.I. = Sta. 66+80.00
Δ = 14°19'30" RT
Dc = 01°30'00"
R = 3,819.72'
T = 480.00'
L = 955.00
E = 30.04'
PC Sta. 62+00.00
PT Sta. 71+55.00



FOR DRAINAGE PLAN, SEE SHEET 195
FOR RAMP 2A PLANS, SEE SHEETS 202-203
FOR RAMP 2B PLANS, SEE SHEETS 202-204
FOR RAMP 4A PLANS, SEE SHEETS 212-213
FOR RAMP 4B PLANS, SEE SHEETS 212-214
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344
FOR ISLAND DETAILS, SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS, SEE SHEETS 349 -356
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - HARPER ROAD (ROADWAY)
STA. 68+50.00 TO STA. 73+50.00

CUY-422-16.20 (HARPER ROAD)

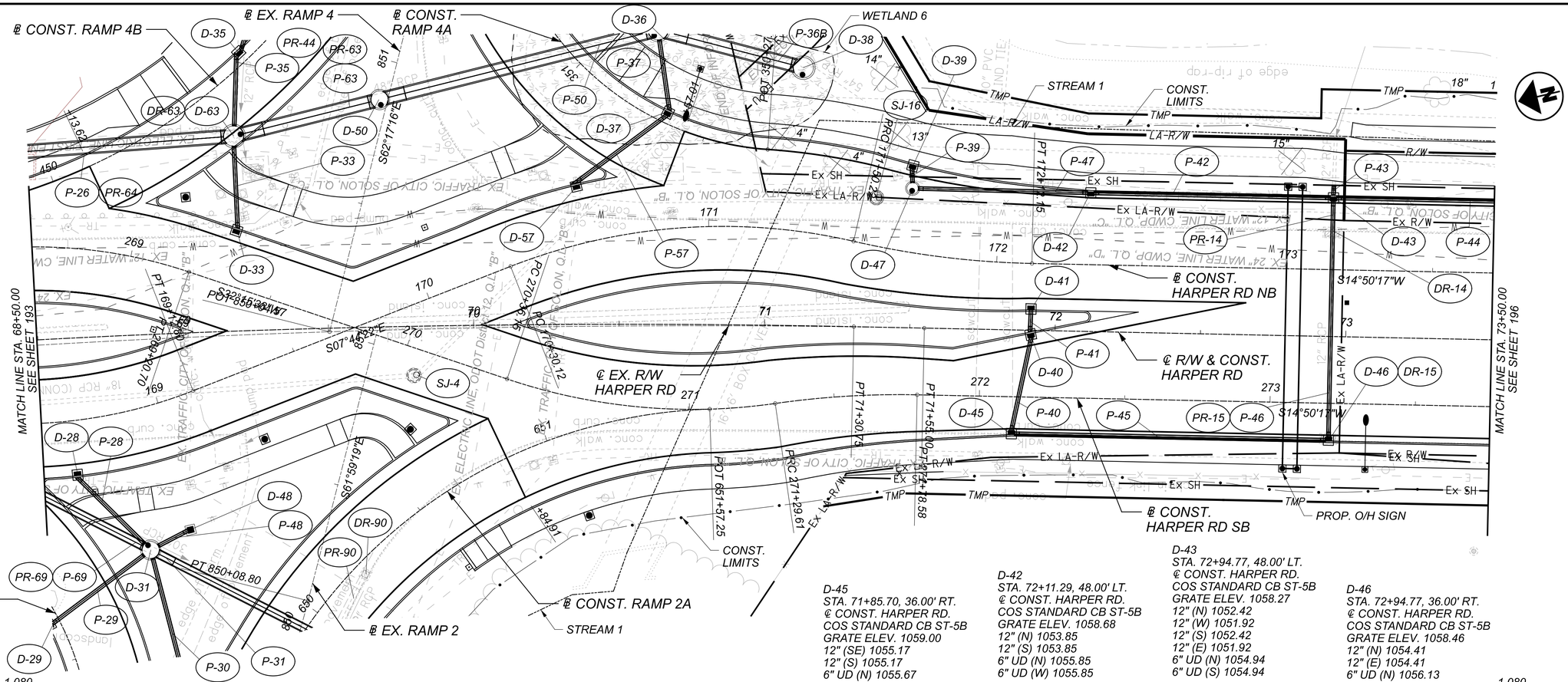
MODEL: II3889_GP504 - roadway PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 8:30:55 AM USER: cluzier
G:\Clients\ORD\2020\2020336\II3889\400-Engineering\Roadway\Sheets\II3889_GP004.dgn

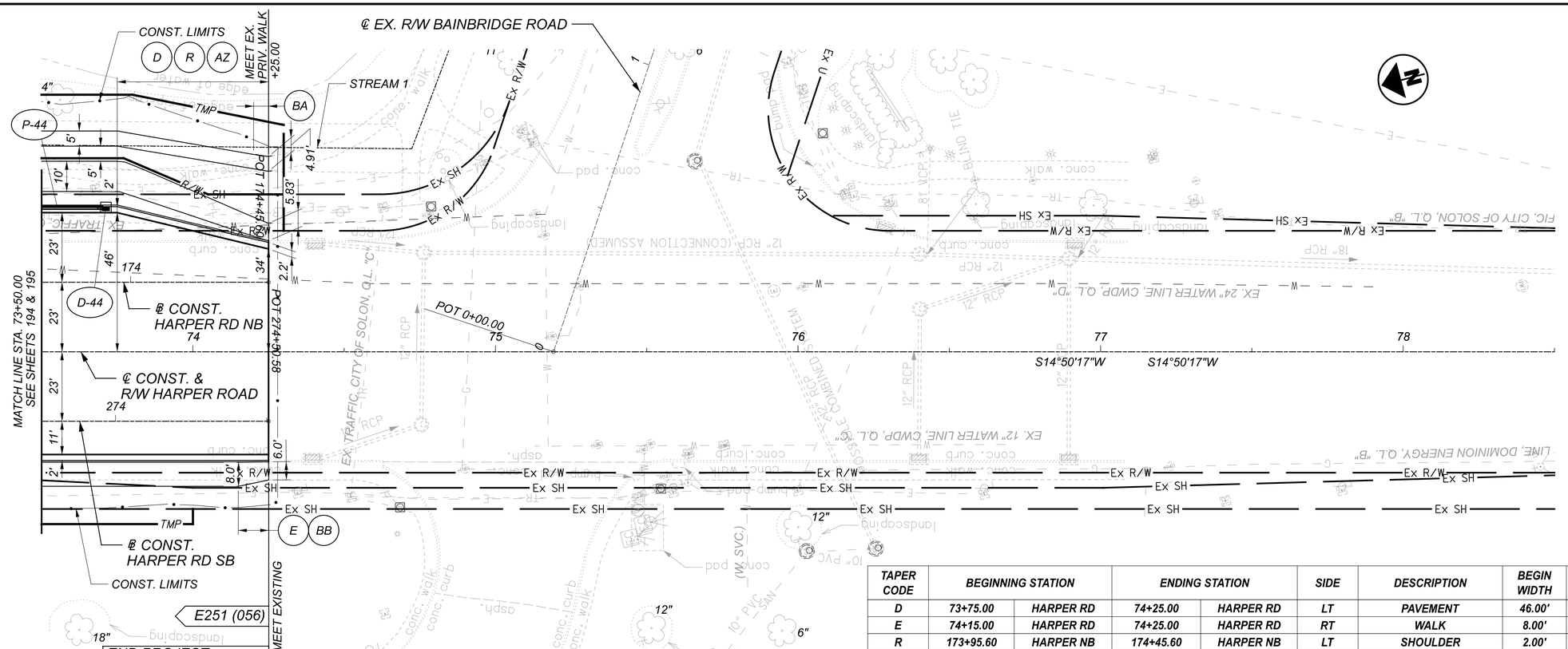
DESIGN AGENCY
GPD GROUP
DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 194 TOTAL 481

FOR ROADWAY PLAN,
SEE SHEET 194
FOR RAMP 2A PLANS,
SEE SHEETS 202- 203
FOR RAMP 2B PLANS,
SEE SHEETS 202- 204
FOR RAMP 4A PLANS,
SEE SHEETS 212- 213
FOR RAMP 4B PLANS,
SEE SHEETS 212- 214
FOR INTERSECTION DETAILS,
SEE SHEETS 341 - 344
FOR ISLAND DETAILS,
SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS,
SEE SHEETS 349 - 356
FOR UNDERDRAIN DETAILS,
SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES,
SEE SHEETS171 -182
FOR PIPE PROFILES,
SEE SHEETS 204 ,363
364 , 365 , 367.

WETLAND

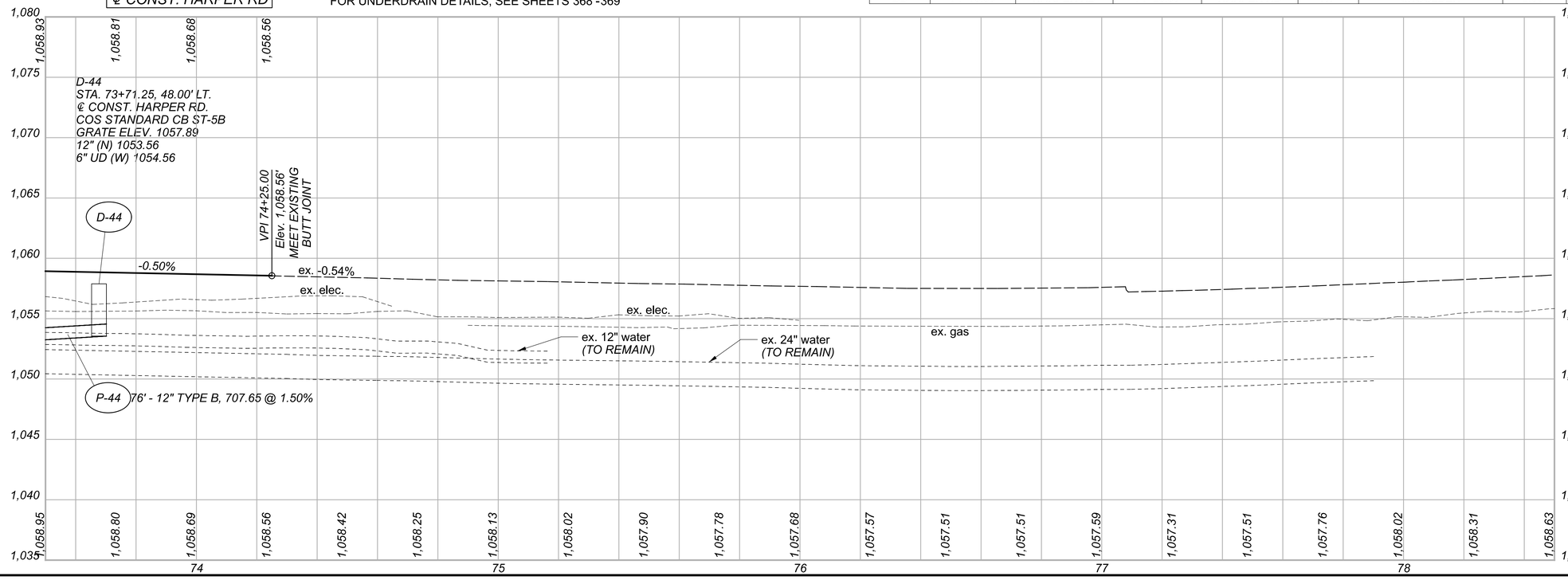
SJ-16
STA. 71+37.62, 44.55' LT.
℄ CONST. HARPER RD.
SAN MH, RECONST. TO GRADE
PROP. RIM ELEV 1059.15
EX. MH, RIM ELEV 1060.68





TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
D	73+75.00	HARPER RD	74+25.00	HARPER RD	LT	PAVEMENT	46.00'	34.00'	4:1
E	74+15.00	HARPER RD	74+25.00	HARPER RD	RT	WALK	8.00'	6.00'	5:1
R	173+95.60	HARPER NB	174+45.60	HARPER NB	LT	SHOULDER	2.00'	2.20'	250:1
AZ	173+95.60	HARPER NB	174+45.60	HARPER NB	LT	DUAL-USE PATH	10.00'	5.83'	12:1
BA	174+40.64	HARPER NB	174+45.60	HARPER NB	LT	PRIV. WALK	5.00'	4.91'	55:1
BB	74+15.00	HARPER RD	74+25.00	HARPER RD	RT	SHOULDER	2.00'	1.90'	100:1

FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - HARPER ROAD STA. 73+50.00 TO END

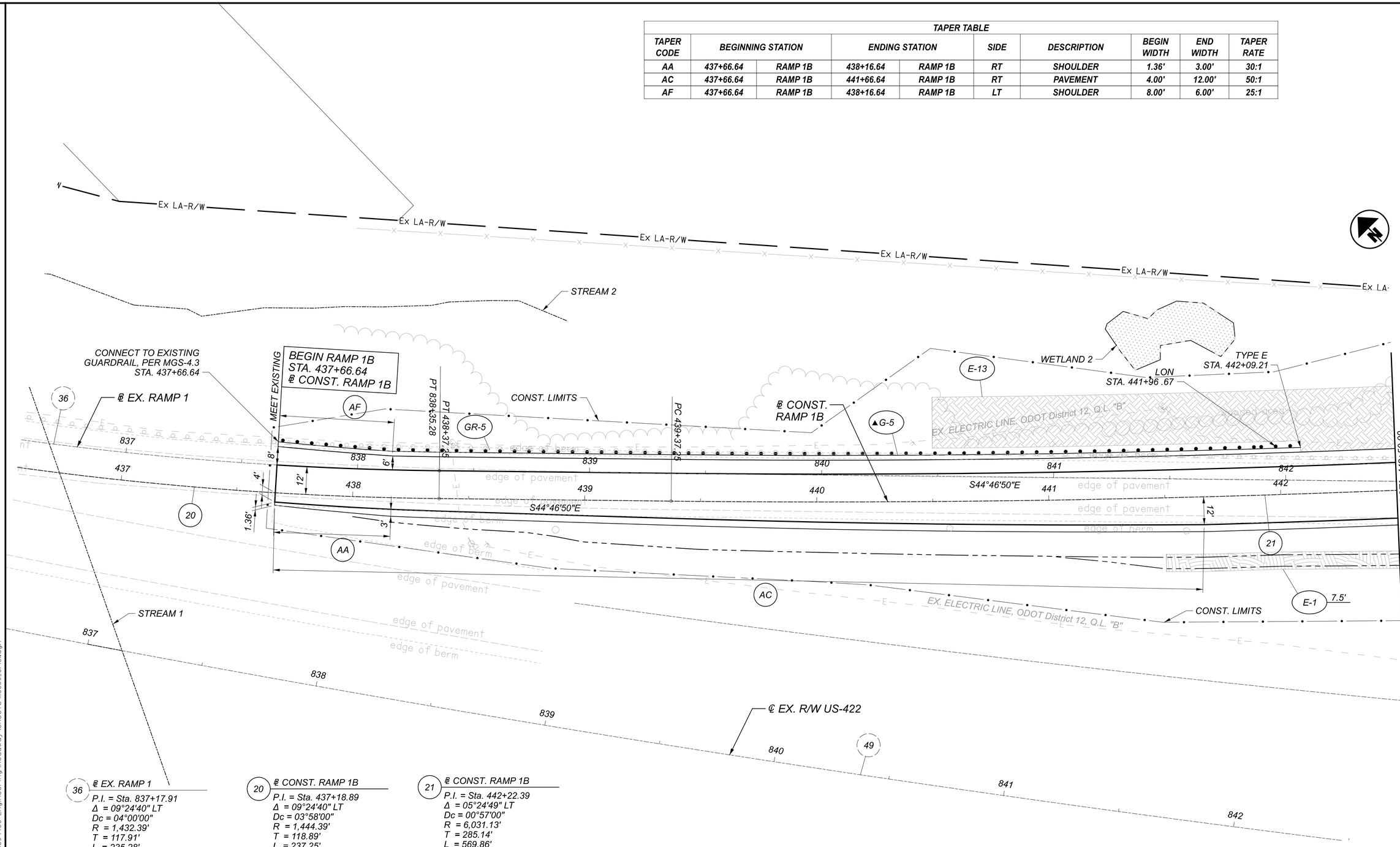
DESIGN AGENCY
GPD GROUP

DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 196 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_GP505 PAPERSIZE: 34x22 (in.) DATE: 8/15/2025 TIME: 7:50:33 AM USER: cluzier
O:\Public\OH\Solon\2020\202036\II3889\400-Engineering\Roadway\Sheets\II3889_GP005.dgn

TAPER TABLE								
TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
AA	437+66.64	RAMP 1B	438+16.64	RAMP 1B	RT	SHOULDER	1.36'	3.00'	30:1
AC	437+66.64	RAMP 1B	441+66.64	RAMP 1B	RT	PAVEMENT	4.00'	12.00'	50:1
AF	437+66.64	RAMP 1B	438+16.64	RAMP 1B	LT	SHOULDER	8.00'	6.00'	25:1



36 ℄ EX. RAMP 1
P.I. = Sta. 837+17.91
Δ = 09°24'40" LT
Dc = 04°00'00"
R = 1,432.39'
T = 117.91'
L = 235.28'
E = 4.84'
PC Sta. 836+00.00
PT Sta. 838+35.28

20 ℄ CONST. RAMP 1B
P.I. = Sta. 437+18.89
Δ = 09°24'40" LT
Dc = 03°58'00"
R = 1,444.39'
T = 118.89'
L = 237.25'
E = 4.88'
emax. = EX.
D.S. = 55 MPH
PC Sta. 436+00.00
PT Sta. 438+37.25

21 ℄ CONST. RAMP 1B
P.I. = Sta. 442+22.39
Δ = 05°24'49" LT
Dc = 00°57'00"
R = 6,031.13'
T = 285.14'
L = 569.86'
E = 6.74'
emax. = N.C.
D.S. = 45 MPH
PC Sta. 439+37.25
PRC Sta. 445+07.11

ITEM 670 - DITCH EROSION PROTECTION

ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP W/ 4" ITEM 659 - TOPSOIL)

WETLAND AREA NOT TO BE DISTURBED

▲ITEM - 606 GUARDRAIL, TYPE MGS, AS PER PLAN, SEE SHEET 22

FOR RAMP 1B PROFILE, SEE SHEET 198

FOR UNDERDRAIN DETAILS, SEE SHEETS 368 -369

FOR ESTIMATED QUANTITIES, SEE SHEETS 171 -182

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - RAMP 1B
BEGIN TO STA. 442+50.00

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GP01 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:09:57 AM USER: dluzier
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GP101.dgn

DESIGN AGENCY
GPD GROUP
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 197 TOTAL 481

PROFILE - RAMP 1B
BEGIN TO STA. 442+50.00

VPI 437+66.64
Elev. 1,083.47'
MEET EXISTING

ex. -2.30%

-2.10%

438+85.00
1,080.99'

300.00' VC
VPI Sta. 440+35.00 Elev. 1077.84'
SSD = 938' K = 219'

-2.10%

-3.47%

ex. elec.

ex. elec.

441+85.00
1,072.63'

FOR RAMP 1B PLAN, SEE SHEET 197

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GF01 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:40:01 AM USER: cluzier
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GF101.dgn

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DESIGN AGENCY

GPD GROUP

DESIGNER
ATR

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 198 TOTAL 481

TAPER TABLE

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
Z	345+99.49	RAMP 1A	346+22.52	RAMP 1A	LT	SHOULDER	4.00'	3.25'	31:1
AB	443+34.80	RAMP 1B	443+59.80	RAMP 1B	RT	SHOULDER	3.00'	4.00'	25:1
AD	444+45.86	RAMP 1B	445+07.11	RAMP 1B	RT	PAVEMENT	12.00'	15.00'	20:1
AE	444+45.86	RAMP 1B	445+07.11	RAMP 1B	LT	PAVEMENT	12.00'	15.00'	20:1
AG	443+49.80	RAMP 1B	443+59.80	RAMP 1B	LT	SHOULDER	6.00'	4.00'	5:1

WETLAND

WETLAND AREA NOT TO BE DISTURBED

ITEM 670 - DITCH EROSION PROTECTION

ITEM 836 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER PER DETAIL ON SHEET 20)

FOR RAMP 1B PROFILE, SEE SHEET 200
FOR RAMP 1A PROFILE, SEE SHEET 201
FOR HARPER ROAD PLANS, SEE SHEETS 189 -196
FOR RAMP 3A PLANS, SEE SHEETS 205 - 211
FOR RAMP 3B PLANS, SEE SHEETS 205 - 207
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344
FOR ISLAND DETAILS, SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS, SEE SHEETS 349 - 356
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182
FOR PIPE PROFILES, SEE SHEETS 200, 201 , 362 , 366

* TRANSITION CURB HEIGHT FROM 0" TO 6" IN 10 FT

FENCE LEGEND

I-# INTERMEDIATE ASSEMBLY

E-# END POST ASSEMBLY

FENCE LEGEND TABLE	
I-1	STA. 344+43.35, 35.07' LT (BL CONST. RAMP 1A)
E-1	STA. 345+30.03, 33.76' LT (BL CONST. RAMP 1A)

19 — ℄ CONST. RAMP 1A
P.I. = Sta. 345+78.15
Δ = 120°25'14" LT
Dc = 45°50'12"
R = 125.00'
T = 218.35'
L = 262.72'
E = 126.60'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 343+59.80
PT Sta. 346+22.52

22 — ℄ CONST. RAMP 1B
P.I. = Sta. 446+16.33
Δ = 47°11'49" RT
Dc = 22°55'06"
R = 250.00'
T = 109.21'
L = 205.94'
E = 22.81'
emax. = 0.016
D.S. = 25 MPH
PRC Sta. 445+07.11
PT Sta. 447+13.05

℄ CONST. HARPER RD SB
℄ EX. R/W HARPER ROAD
℄ CONST. HARPER ROAD
℄ CONST. RAMP 3A
℄ CONST. RAMP 3B
℄ EX. RAMP 3
℄ EX. RAMP 1
℄ EX. RAMP 5
℄ CONST. RAMP 1A
℄ CONST. RAMP 1B
℄ CONST. HARPER RD NB
END RAMP 1A ℄ STA 346+22.52 ℄ CONST. RAMP 1A
BEGIN RAMP 1A STA. 343+59.80 ℄ CONST. RAMP 1A
END RAMP 1B STA. 447+13.05 ℄ CONST. RAMP 1B
BEGIN CURB, TYPE 6 * STA. 343+59.80
BEGIN CURB, TYPE 6 * STA. 443+59.80
CONST. LIMITS
MATCH LINE STA. 442+50.00 SEE SHEET 197
WETLAND 3
BRIDGE NO. CUY-422-1627L
EX. ELECTRIC LINE, ODOT District 12, Q.L. "B"
EX. 12" WATER LINE, CWDP, Q.L. "D"
EX. ELECTRIC LINE, FIRST ENERGY, Q.L. "D"
EX. TRAFFIC CTRL'S OF SOUTH BOUND OFF RAMP, ODOT District 12, Q.L. "B"

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - RAMP 1B & 1A STA. 442+50.00 TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GPI02 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:04 AM USER: cluzier
G:\Clients\ORDV\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GPI02.dgn

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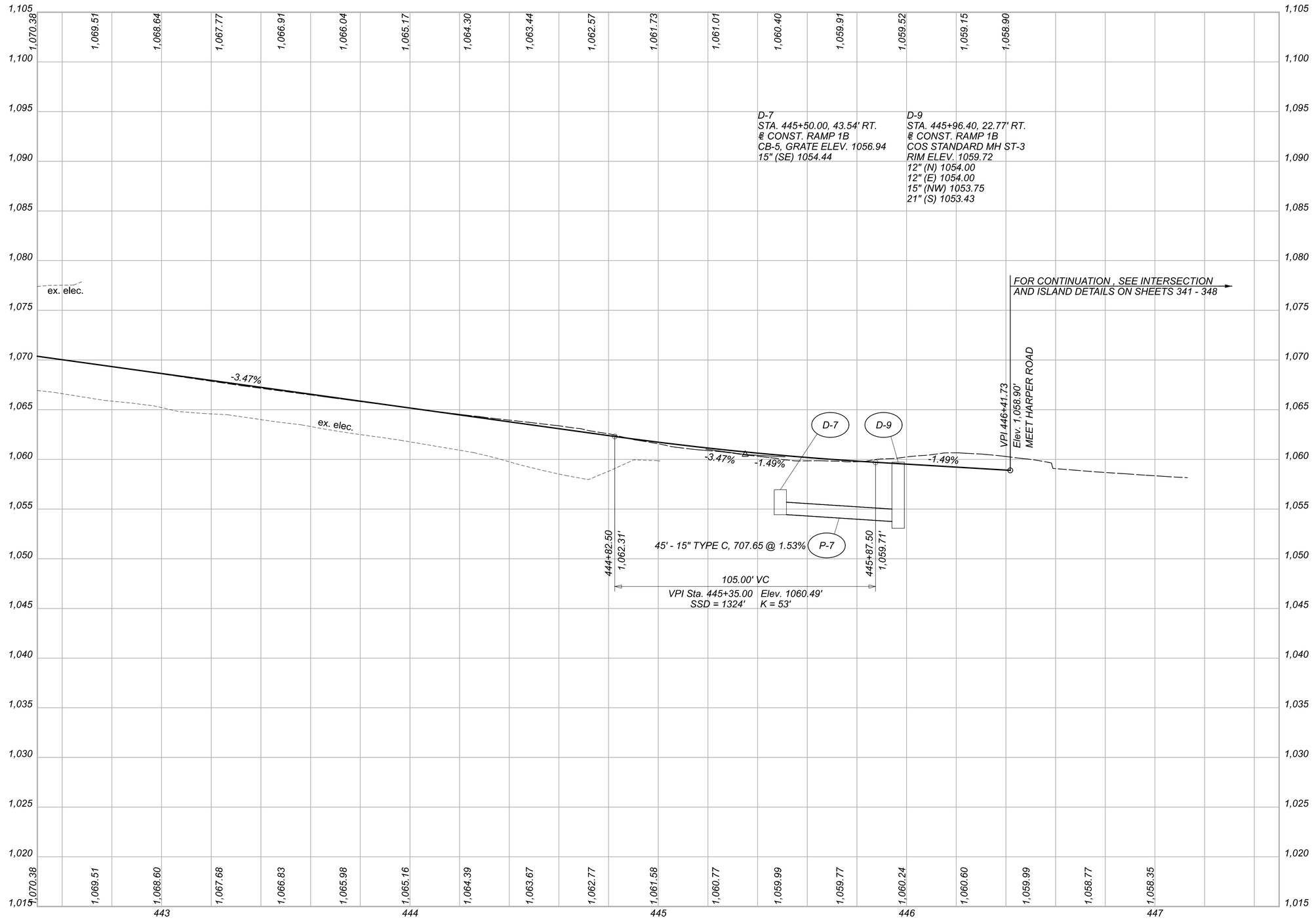
DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 199 TOTAL 481



FOR RAMP 1B PLAN, SEE SHEET 199

PROFILE - RAMP 1B
STA. 442+50.00 TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_GFI02 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:07 AM USER: cluzier
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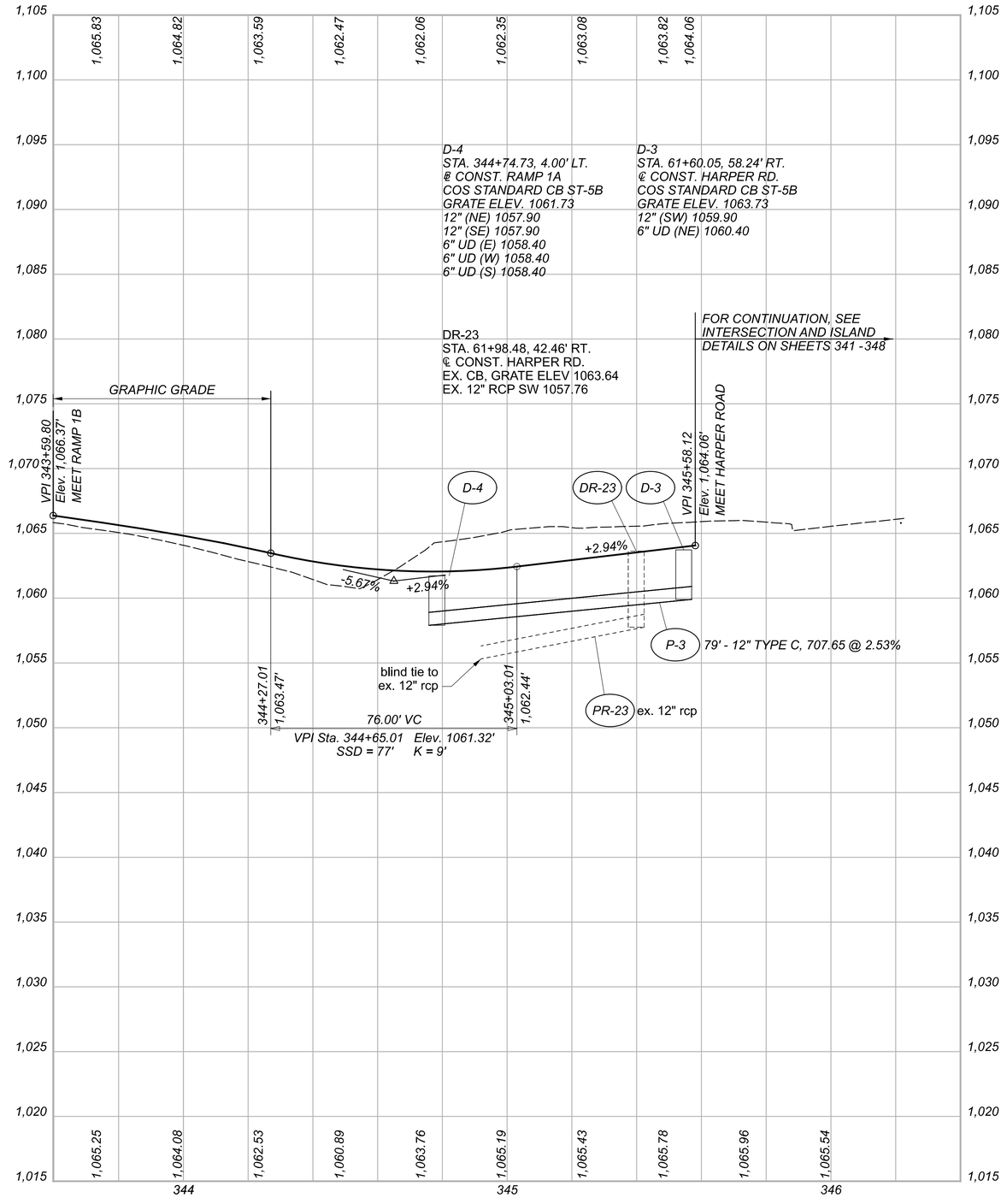
DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	200
TOTAL	481



FOR RAMP 1A PLAN, SEE SHEET 199

PROFILE - RAMP 1A
STA. 343+59.80 TO STA. 346+22.52

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_GFI03 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:08 AM USER: cluzier
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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	201
TOTAL	481

23 ℄ CONST. RAMP 2B
P.I. = Sta. 550+70.34
Δ = 131°48'27" LT
Dc = 57°17'45"
R = 100.00'
T = 223.59'
L = 230.05'
E = 144.94'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 548+46.75
PT Sta. 550+76.80

24 ℄ CONST. RAMP 2A
P.I. = Sta. 648+21.48
Δ = 27°49'16" LT
Dc = 16°00'00"
R = 358.10'
T = 88.69'
L = 173.88'
E = 10.82'
emax. = 0.055
D.S. = 30 MPH
PC Sta. 647+32.79
PT Sta. 649+06.67

25 ℄ CONST. RAMP 2A
P.I. = Sta. 650+77.52
Δ = 57°36'50" RT
Dc = 32°44'26"
R = 175.00'
T = 96.23'
L = 175.97'
E = 24.72'
emax. = 0.016
D.S. = 25 MPH
PC Sta. 649+81.28
PT Sta. 651+57.25

40 ℄ EX. RAMP 2
P.I. = Sta. 848+78.06
Δ = 44°09'42" LT
Dc = 16°00'00"
R = 358.10'
T = 145.27'
L = 276.01'
E = 28.34'
PC Sta. 847+32.79
PT Sta. 850+08.80

℄ CONST. HARPER ROAD
℄ CONST. HARPER RD NB
℄ CONST. HARPER RD SB
℄ EX. R/W HARPER ROAD
℄ CONST. RAMP 4B
℄ EX. RAMP 4
℄ CONST. RAMP 4A
℄ CONST. RAMP 2B
℄ CONST. RAMP 2A
℄ EX. RAMP 2
BRIDGE NO. CUY-422-1627R
END RAMP 2B STA. 550+76.80 ℄ CONST. RAMP 2B
BEGIN RAMP 2B STA. 548+46.75 ℄ CONST. RAMP 2B
END RAMP 2A STA. 651+57.25 ℄ CONST. RAMP 2A
BEGIN WORK RAMP 2A STA. 647+32.79 ℄ CONST. RAMP 2A
CONST. LIMITS
BEGIN CURB, TYPE 6* STA. 548+96.75
BEGIN CURB, TYPE 6* STA. 648+46.73
CONNECT TO EX. GUARDRAIL, PER MGS-4.3 STA. 647+32.79
TYPE T STA. 647+91.89
MEET EXISTING
CONST. LIMITS
WETLAND 6
STREAM 1
STREAM 3
EX. ELECTRIC LINE, ODOT District 12, Q.L. "B"
EX. TRAFFIC CITY OF SOLON, Q.L. "B"
EX. WATER LINE CWDP, Q.L. "C"
EX. LA-R/W
wooded area

FENCE LEGEND TABLE

I-2	STA. 271+52.15, 27.19' RT (BL CONST. HARPER RD. SB)

FENCE LEGEND

E-# END POST ASSEMBLY
I-# INTERMEDIATE POST ASSEMBLY

* TRANSITION CURB HEIGHT FROM 0" TO 6" IN 10 FT

WETLAND
WETLAND AREA NOT TO BE DISTURBED
ITEM 670 - DITCH EROSION PROTECTION
ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP W/ 4" ITEM 659 - TOPSOIL)

TAPER TABLE

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
AH	647+32.79	RAMP 2A	648+46.75	RAMP 2A	RT	SHOULDER	7.20'	4.00'	36:1
AI	647+32.79	RAMP 2A	648+46.75	RAMP 2A	LT	SHOULDER	6.60'	4.00'	44:1
AJ	648+46.75	RAMP 2A	649+08.00	RAMP 2A	LT	PAVEMENT	12.00'	15.00'	20:1
AK	648+46.75	RAMP 2A	649+08.00	RAMP 2A	RT	PAVEMENT	12.00'	15.00'	20:1

FOR PIPE PROFILES, SEE SHEETS 204,363, 365 367
FOR RAMP 2A PROFILE, SEE SHEET 203
FOR RAMP 2B PROFILE, SEE SHEET 204
FOR HARPER ROAD PLANS, SEE SHEETS 189 - 196
FOR RAMP 4A PLANS, SEE SHEETS 212 - 214
FOR RAMP 4B PLANS, SEE SHEETS 212 - 213
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344
FOR ISLAND DETAILS, SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS, SEE SHEETS 349 - 356
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182

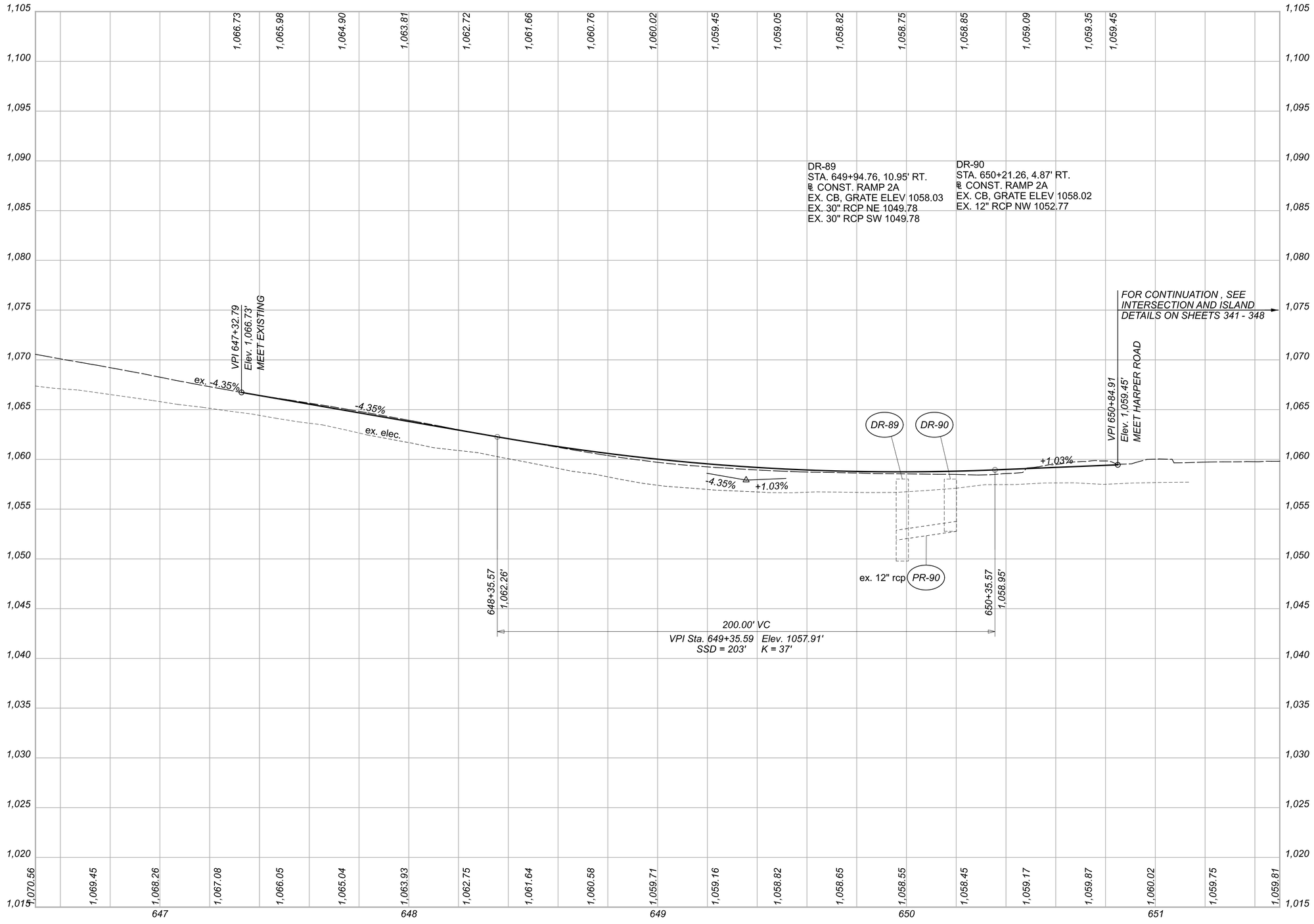
HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - RAMP 2A & 2B BEGIN TO STA. 651+57.25

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GP201 PAPERSIZE: 34x22 (in.) DATE: 7/26/2025 TIME: 9:42:08 AM USER: cluzier
G:\Public\OH\Solon\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GP201.dgn

DESIGN AGENCY
GPD GROUP
DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 202 TOTAL 481



FOR RAMP 2A PLAN, SEE SHEET 202

PROFILE - RAMP 2A
STA. 647+32.79 TO STA. 650+84.91

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_GF20I PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:16 AM USER: cluzier
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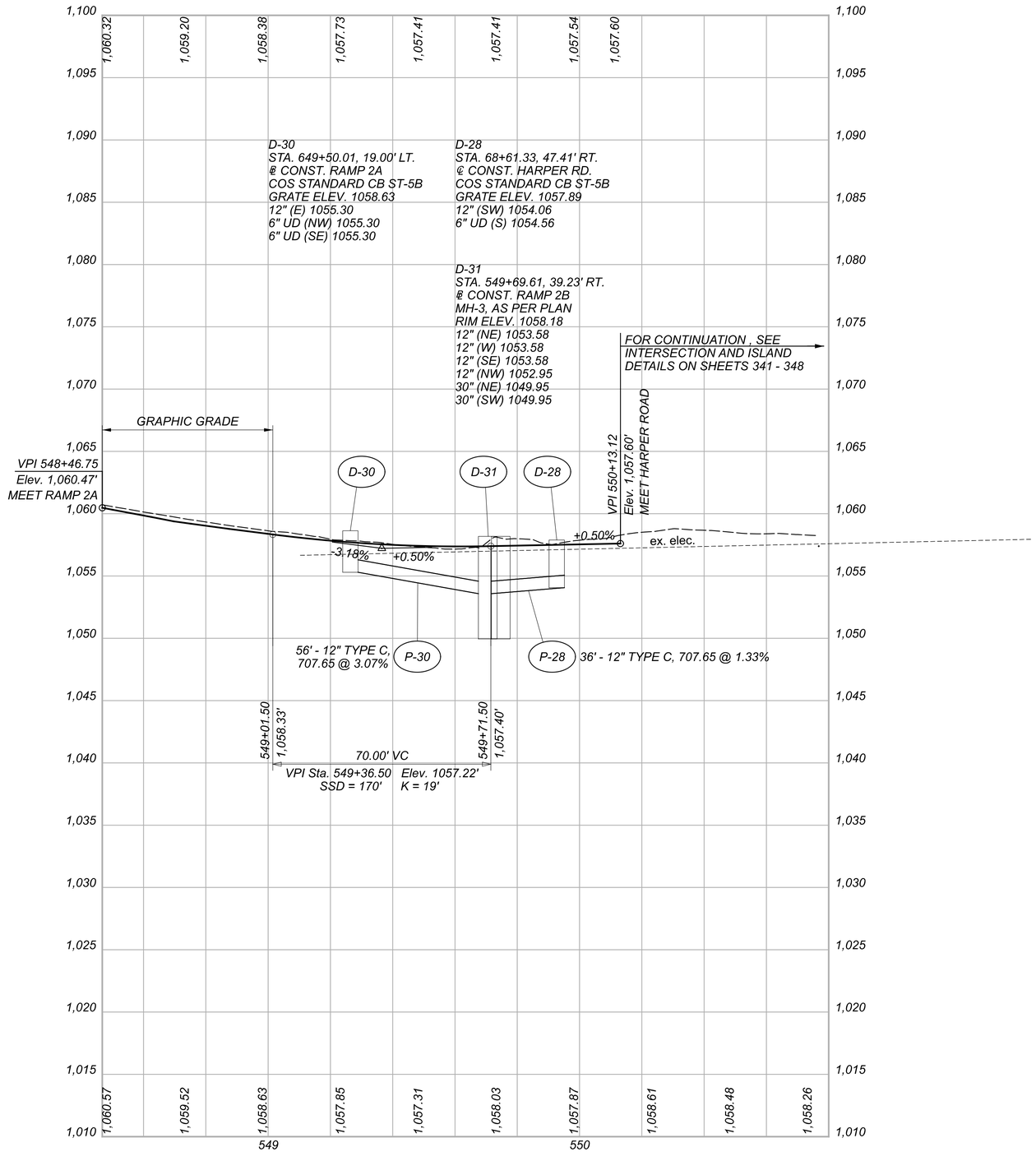
DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	203
TOTAL	481



PROFILE - RAMP 2B
STA. 548+46.75 TO STA. 550+76.80

FOR RAMP 2B PLAN, SEE SHEET 202

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_GF202 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:17 AM USER: oluzier
O:\Clients\ORD\2020\2020336\I13889\400-Engineering\Roadway\Sheets\I13889_GF202.dgn

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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 204 TOTAL 481

ITEM 670 - DITCH EROSION PROTECTION

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER PER DETAIL ON SHEET 20)

ITEM 670 - SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP W/ 4" ITEM 659 - TOPSOIL)

ITEM 836 - SEEDING AND EROSION CONTROL W/ TURF REINFORCING MAT, TYPE 2

WETLAND

** TRANSITION CURB HEIGHT FROM 10" TO 6" IN 10'

***TRANSITION CURB HEIGHT FROM 0" TO 10" IN 10'

* TRANSITION CURB HEIGHT FROM 0" TO 6" IN 10 FT

TAPER TABLE

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
AM	645+64.90	RAMP 3A	645+89.90	RAMP 3A	RT	SHOULDER	4.00'	3.00'	25:1
AN	645+64.90	RAMP 3A	646+14.90	RAMP 3A	LT	SHOULDER	4.00'	6.00'	25:1

FENCE LEGEND

E-# END POST ASSEMBLY

FENCE LEGEND TABLE

E-3	STA. 644+35.65, 22.10' LT (BL CONST. RAMP 3A)

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

℄ CONST. HARPER RD NB

℄ CONST. HARPER ROAD

℄ CONST. HARPER RD SB

℄ CONST. RAMP 1A

℄ CONST. RAMP 1B

℄ CONST. RAMP 3A

℄ CONST. RAMP 3B

℄ EX. RAMP 1

℄ EX. RAMP 3

℄ EX. RAMP 5

BEGIN RAMP 3A STA. 643+41.26 ℄ CONST. RAMP 3A

BEGIN CURB, TYPE 7*** STA. 643+70.67 ex. sign (DND)

END CURB, TYPE 7** STA. 644+04.05

END CURB, TYPE 6* STA. 645+64.90

END CURB, TYPE 6* STA. 545+64.90

END RAMP 3B STA. 545+64.90 ℄ CONST. RAMP 3B

BEGIN RAMP 3B STA. 543+48.24 ℄ CONST. RAMP 3B

MATCH LINE STA. 647+00.00 SEE SHEET 208

CONST. LIMITS

EX. ELECTRIC LINE, ODOT District 12, Q.L. "B"

EX. ELECTRIC LINE, FIRST ENERGY, Q.L. "C"

EX. ELECTRIC LINE, CWDP, Q.L. "D"

EX. 12" WATER LINE, CWDP, Q.L. "D"

EX. TRAFFIC CITY OF SOLON, Q.L. "E"

EX. 12" RCP

EX. 8" SAN

EX. 6" WATER

EX. 8" W

EX. 12" VCP

EX. SW

EX. SIGN

EX. CATCH BASIN

EX. INLET

EX. MH

EX. TMP

EX. LA-R/W

EX. R/W

chain link fence

edge of pavement

edge of berm

conc. curb

PIPE SIZE CHANGE

47 ℄ EX. RAMP 5
P.I. = Sta. 861+65.07
Ls = 150.00'
θs = 23°33'30"
LT = 90.69'
ST = 61.31'
x = 144.44'
y = 36.25'
k = -207.87'
p = -1299.94'
C = 148.92'
Start = Sta. 861+03.76
End = Sta. 862+53.76
C.B. = S27°54'05"W

26 ℄ CONST. RAMP 3A
P.I. = Sta. 644+69.90
Δ = 81°13'59" LT
Dc = 38°11'50"
R = 150.00'
T = 128.64'
L = 212.67'
E = 47.61'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 643+41.26
PT Sta. 645+53.92

46 ℄ EX. RAMP 5
P.I. = Sta. 854+38.48
Δ = 249°02'14" LT
Dc = 24°54'40"
R = 230.00'
T = 334.42'
L = 999.70'
E = 175.88'
SC Sta. 851+04.06
CS Sta. 861+03.76

30 ℄ CONST. RAMP 3B
P.I. = Sta. 544+80.39
Δ = 82°45'26" RT
Dc = 38°11'50"
R = 150.00'
T = 132.14'
L = 216.66'
E = 49.90'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 543+48.24
PT Sta. 545+64.90

41 ℄ EX. RAMP 3
P.I. = Sta. 849+31.93
Δ = 90°47'29" RT
Dc = 21°27'33"
R = 267.00'
T = 270.71'
L = 423.09'
E = 113.23'
PC Sta. 846+61.21
PT Sta. 850+84.30

27 ℄ CONST. RAMP 3A
P.I. = Sta. 649+31.93
Δ = 90°47'29" RT
Dc = 21°27'33"
R = 267.00'
T = 270.71'
L = 423.09'
E = 113.23'
emax. = 0.059
D.S. = 30 MPH
PC Sta. 646+61.21
PT Sta. 650+84.30

FOR RAMP 3A PROFILE, SEE SHEET 206
FOR RAMP 3B PROFILE, SEE SHEET 207
FOR HARPER ROAD PLANS, SEE SHEETS 189 - 196
FOR RAMP 1A PLANS, SEE SHEETS 199 - 201
FOR RAMP 1B PLANS, SEE SHEETS 197 - 200
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344
FOR ISLAND DETAILS, SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS, SEE SHEETS 349 - 356
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182
FOR PIPE PROFILES, SEE SHEETS 191,193,207,362,363,365.

PLAN - RAMP 3A & 3B BEGIN TO STA. 647+00.00

DESIGN AGENCY: GPD GROUP

DESIGNER: ATR

REVIEWER: CWL 09/02/21

PROJECT ID: 113889

SHEET 205 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_GP30I PAPERSIZE: 34x22 (In.) DATE: 12/7/2023 TIME: 8:30:03 AM USER: cluzier
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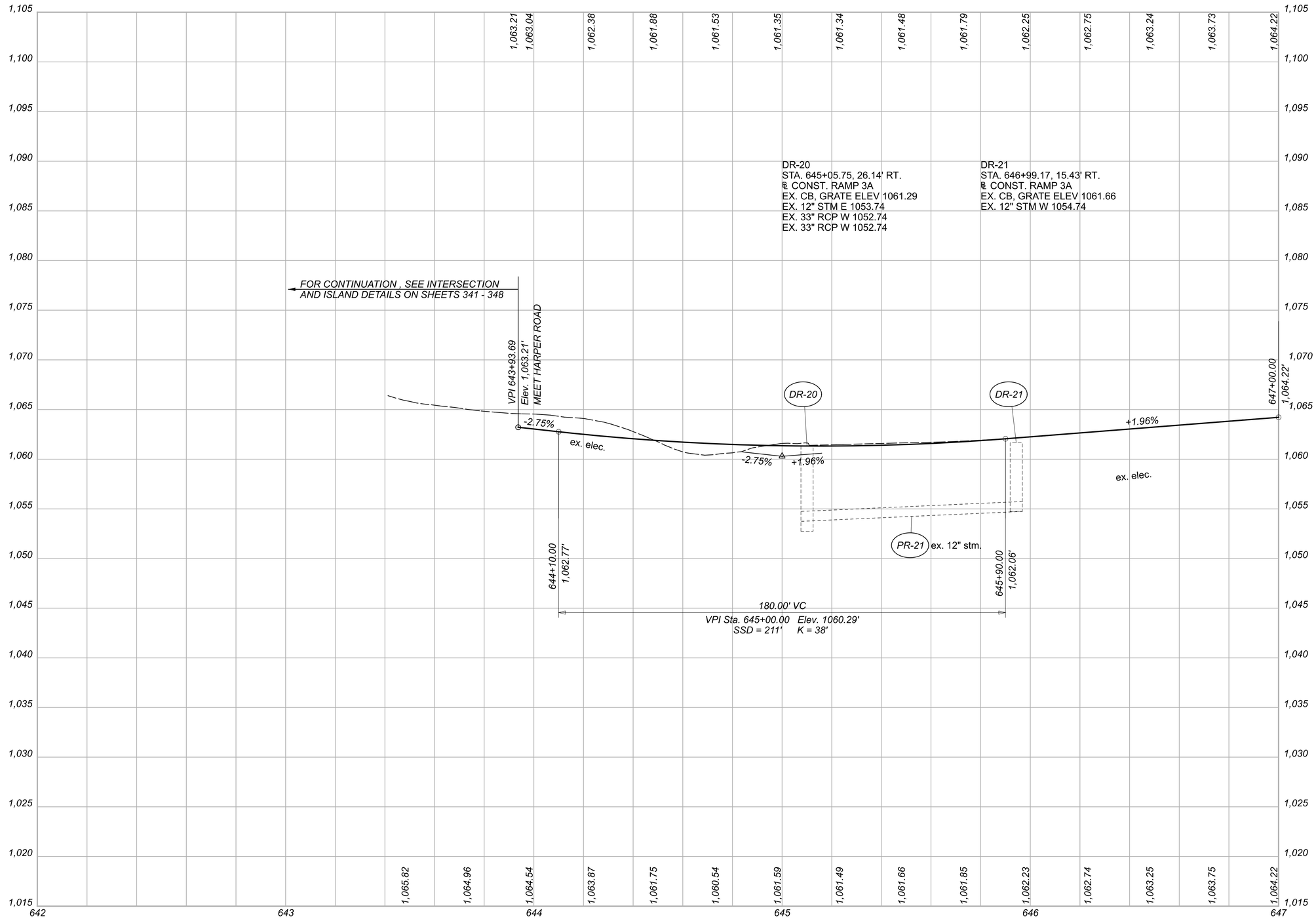

FOR RAMP 3A PLAN, SEE SHEET 205

PROFILE - RAMP 3A
BEGIN TO STA. 647+00.00

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_GF30I PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:23 AM USER: cluzier
O:\Clients\ORD\2020\2020336\II3889\400-Engineering\Roadway\Sheets\II3889_GF30I.dgn

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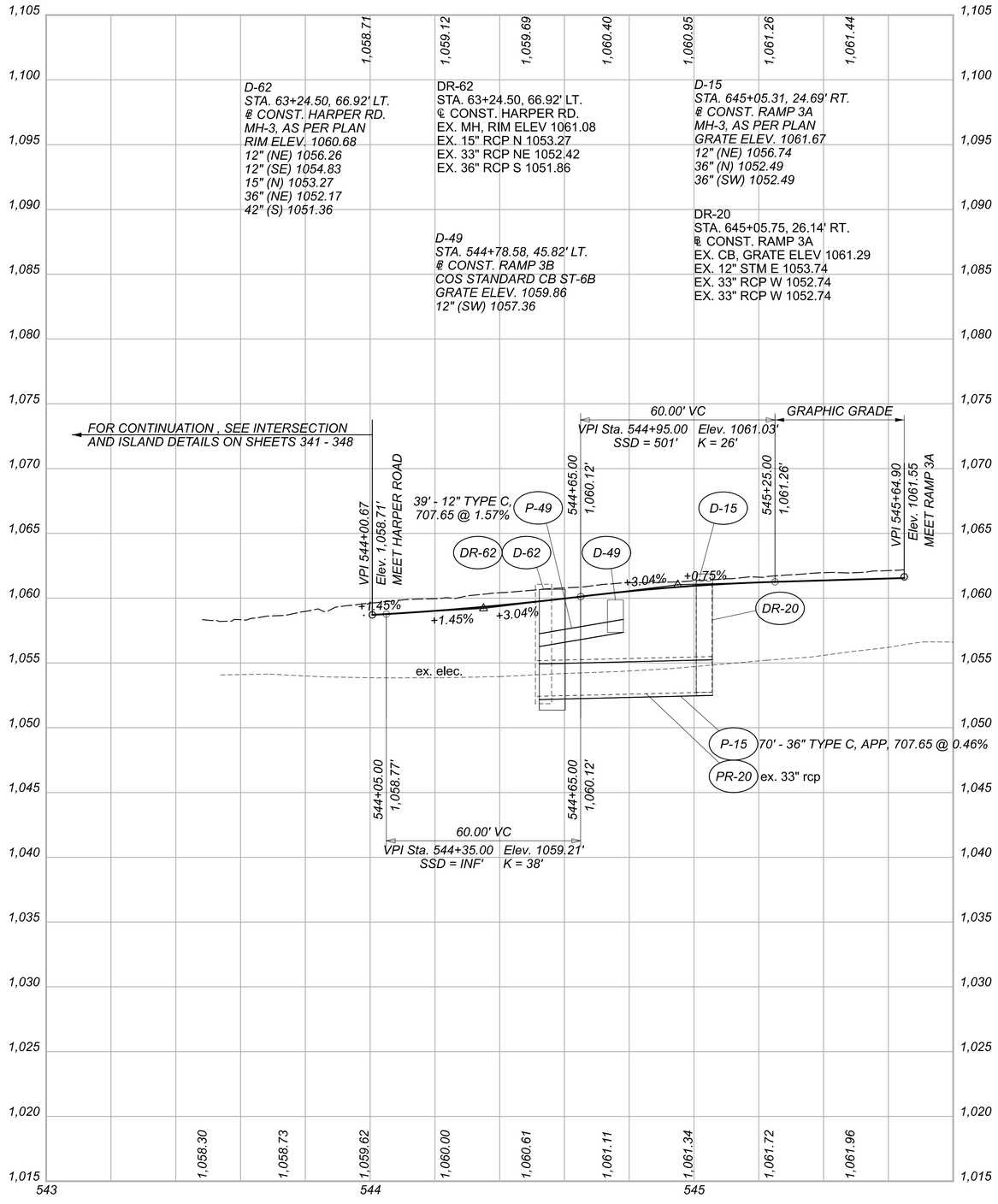
DESIGNER
ATR

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 206 | TOTAL 481

PROFILE - RAMP 3B
STA. 543+48.24 TO STA. 545+64.90



FOR RAMP 3B PLAN, SEE SHEET 205

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GF304 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:25 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GF304.dgn

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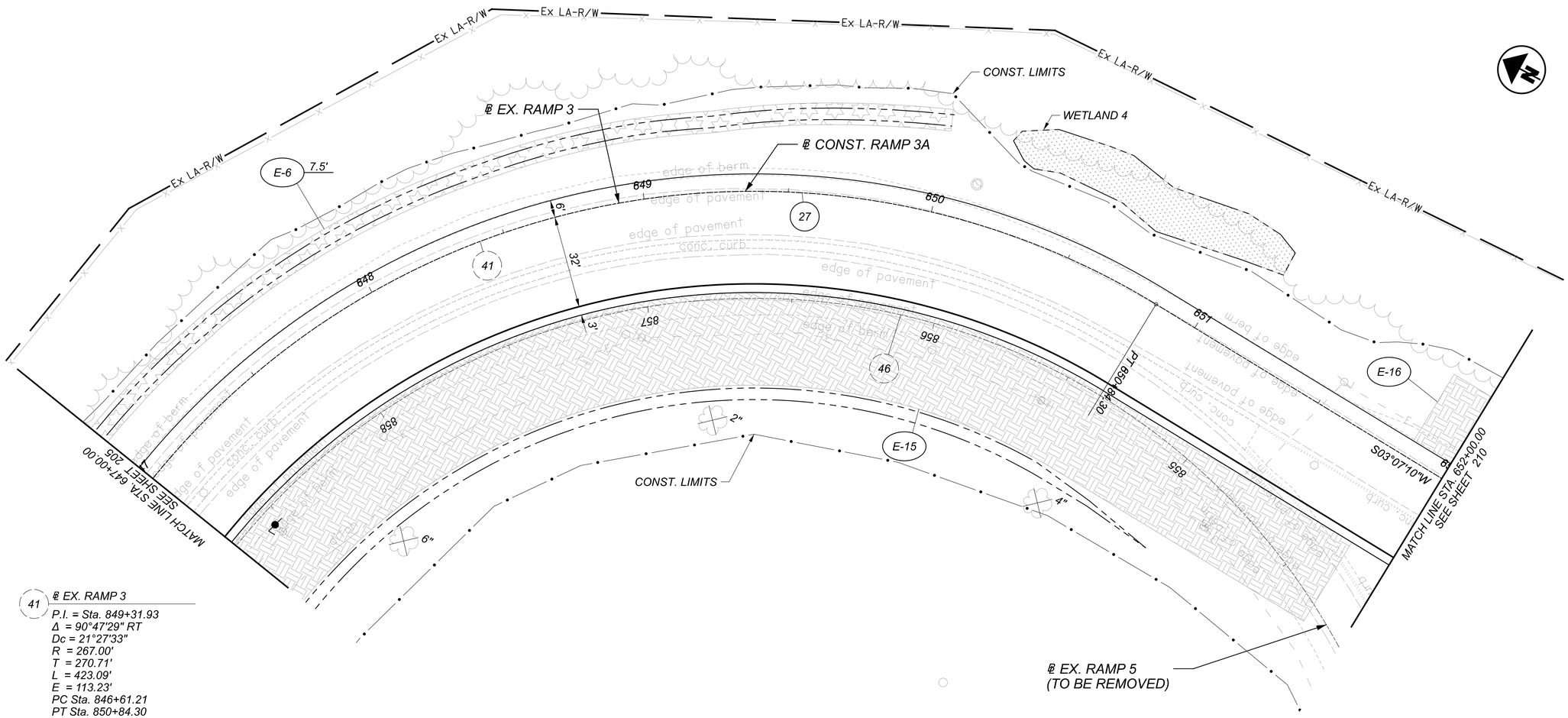
DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	207
TOTAL	481



41 ℄ EX. RAMP 3

P.I. = Sta. 849+31.93
Δ = 90°47'29" RT
Dc = 21°27'33"
R = 267.00'
T = 270.71'
L = 423.09'
E = 113.23'
PC Sta. 846+61.21
PT Sta. 850+84.30

27 ℄ CONST. RAMP 3A

P.I. = Sta. 649+31.93
Δ = 90°47'29" RT
Dc = 21°27'33"
R = 267.00'
T = 270.71'
L = 423.09'
E = 113.23'
emax. = 0.059
D.S. = 30 MPH
PC Sta. 646+61.21
PT Sta. 650+84.30

46 ℄ EX. RAMP 5

P.I. = Sta. 854+38.48
Δ = 249°02'14" LT
Dc = 24°54'40"
R = 230.00'
T = 334.42'
L = 999.70'
E = 175.88'
SC Sta. 851+04.06
CS Sta. 861+03.76

WETLAND AREA
NOT TO BE DISTURBED

ITEM 670 - SLOPE EROSION PROTECTION
(VEGETATED FILTER STRIP W/ 4" ITEM 659 - TOPSOIL)

ITEM 670 - DITCH EROSION CONTROL
(VEGETATED BIOFILTER PER DETAIL ON SHEET 20)

FOR RAMP 3A PROFILE, SEE SHEET 209
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - RAMP 3A
STA. 647+00.00 TO STA. 652+00.00

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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 208 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GP302 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:27 AM USER: cluzier
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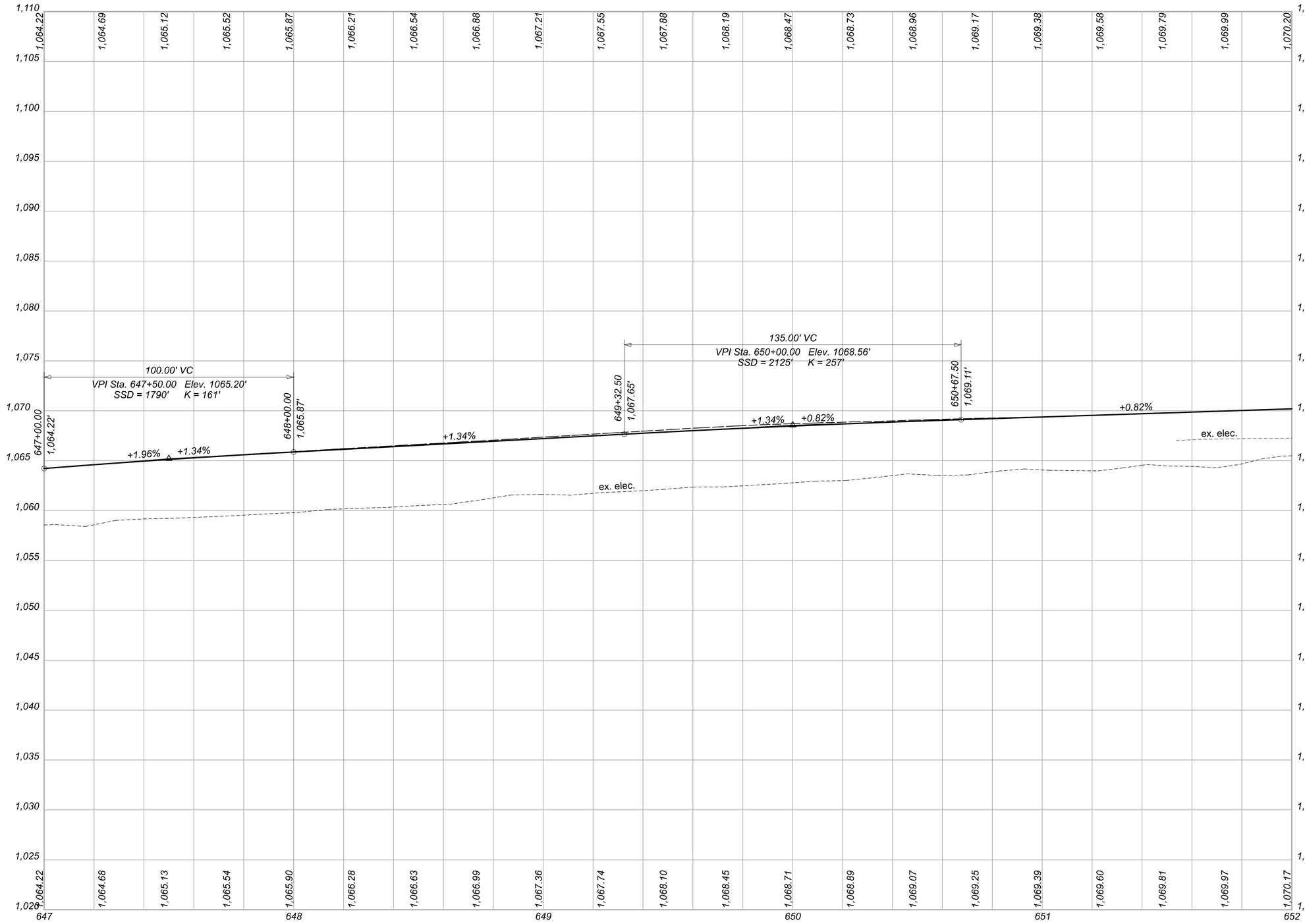

FOR RAMP 3A PLAN, SEE SHEET 208

PROFILE - RAMP 3A
STA. 647+00.00 TO STA. 652+00.00

CUY-422-16.20 (HARPER ROAD)

MODEL: li3889_GF302 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:29 AM USER: cluzier
O:\Clients\ORD\2020\2020336\li3889\400-Engineering\Roadway\Sheets\li3889_GF302.dgn

DESIGN AGENCY

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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	209
TOTAL	481

28 ℄ CONST. RAMP 3A
P.I. = Sta. 655+28.91
Δ = 37°23'05" LT
Dc = 08°00'00"
R = 716.20'
T = 242.31'
L = 467.31'
E = 39.88'
emax. = EX.
D.S. = 45 MPH
PC Sta. 652+86.60
PCC Sta. 657+53.91

42 ℄ EX. RAMP 3
P.I. = Sta. 855+28.91
Δ = 37°23'05" LT
Dc = 08°00'00"
R = 716.20'
T = 242.31'
L = 467.31'
E = 39.88'
PC Sta. 852+86.60
PCC Sta. 857+53.91

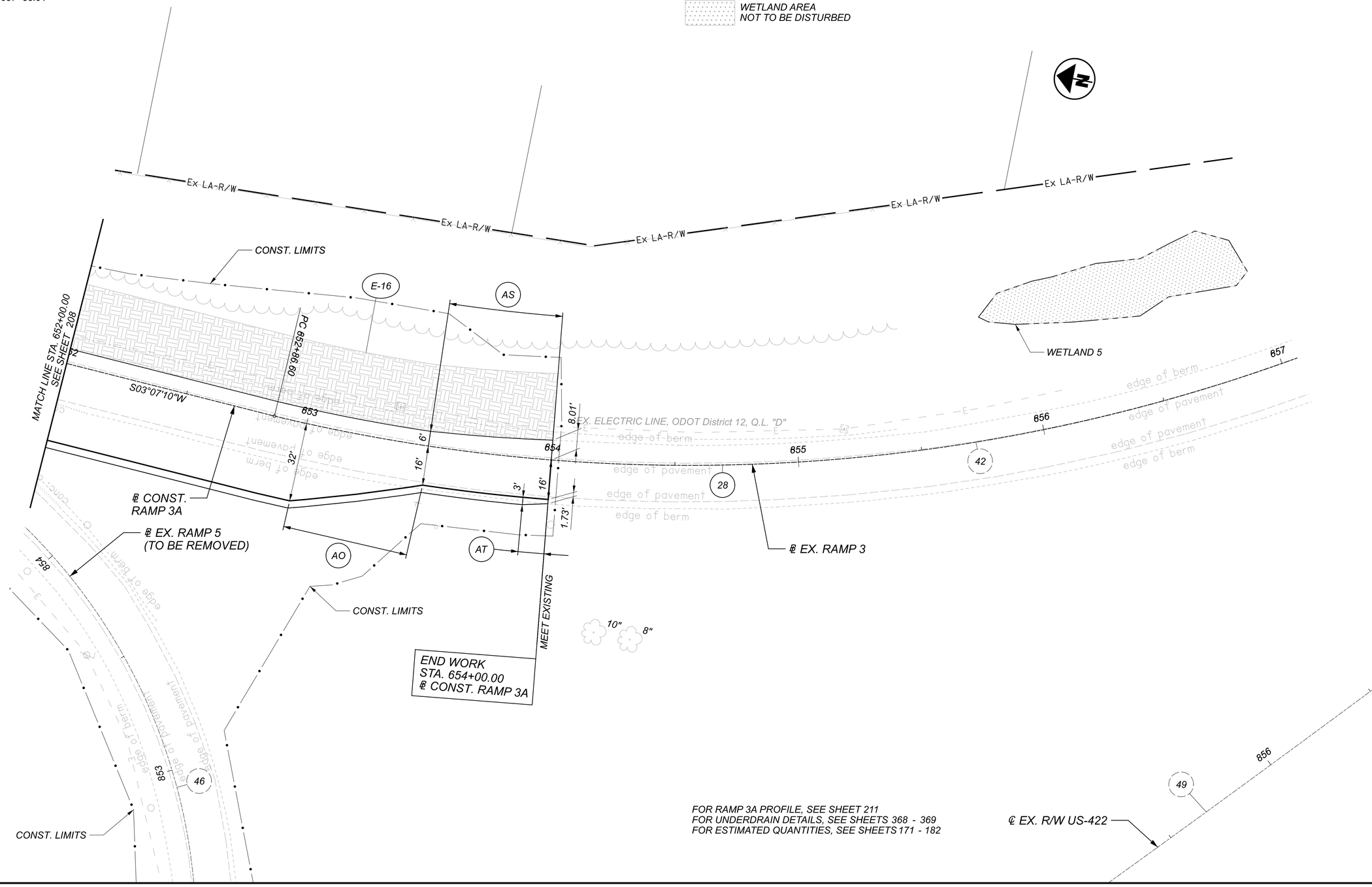
46 ℄ EX. RAMP 5
P.I. = Sta. 854+38.48
Δ = 249°02'14" LT
Dc = 24°54'40"
R = 230.00'
T = 334.42'
L = 999.70'
E = 175.88'
SC Sta. 851+04.06
CS Sta. 861+03.76

49 ℄ EX. R/W US-422
P.I. = Sta. 846+55.39
Δ = 28°39'30" LT
Dc = 00°40'00"
R = 8,594.37'
T = 2,195.34'
L = 4,298.75'
E = 275.96'
D.S. = 65 MPH
PC Sta. 824+60.05
PT Sta. 867+58.80

TAPER TABLE								
TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
AO	653+00.00	RAMP 3A	653+50.00	RAMP 3A	RT	PAVEMENT	32.00'	16.00'	3:1
AT	653+90.00	RAMP 3A	654+00.00	RAMP 3A	RT	SHOULDER	3.00'	1.73'	8:1
AU	858+12.00	RAMP 4	858+37.00	RAMP 4	LT	SHOULDER	3.00'	3.83'	30:1

ITEM 670 - SLOPE EROSION PROTECTION
(VEGETATED FILTER STRIP W/ 4" ITEM 659 - TOPSOIL)

WETLAND AREA
NOT TO BE DISTURBED



FOR RAMP 3A PROFILE, SEE SHEET 211
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - RAMP 3A
STA. 652+00.00 TO END

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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 210 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_GP303 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:31 AM USER: cluzier
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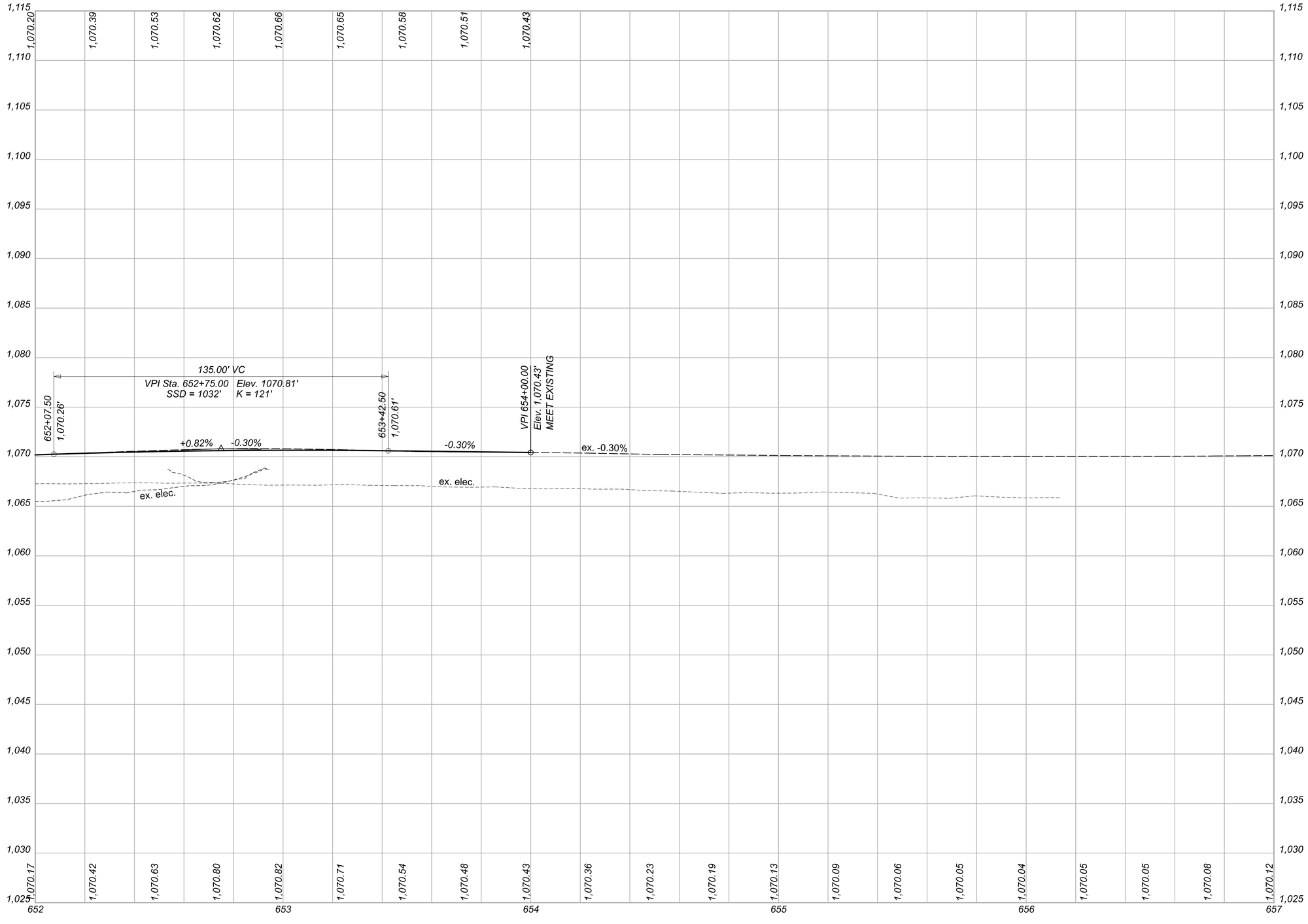

FOR RAMP 3A PLAN, SEE SHEET 210

PROFILE - RAMP 3A
STA. 652+00.00 TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_GF303 PAPERSIZE: 34x22 (in) DATE: 6/6/2023 TIME: 7:10:33 AM USER: cluzier
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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	211
TOTAL	481

TAPER TABLE								
TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
AR	852+19.45	RAMP 4	852+44.45	RAMP 4	LT	SHOULDER	4.00'	3.00'	25:1
AS	653+50.00	RAMP 3A	654+00.00	RAMP 3A	LT	SHOULDER	6.00'	8.01'	25:1
BJ	854+37.00	RAMP 4	858+37.00	RAMP 4	RT	PAVEMENT	8.00'	0.00'	50:1
BK	170+17.53	HARPER NB	170+41.66	HARPER NB	LT	SHOULDER	4.00'	5.00'	24:1

* TRANSITION CURB HEIGHT FROM 0" TO 6" IN 10 FT

** TRANSITION CURB HEIGHT FROM 10" TO 6" IN 10 FT

HORIZONTAL SCALE IN FEET
0 10 20 40

℄ CONST. HARPER RD SB

BEGIN RAMP 4B
STA. 449+61.69
℄ CONST. RAMP 4B

END OF INFORMATION

PROP. CONC. SLOPE PROTECTION

℄ CONST. HARPER RD NB

℄ CONST. HARPER ROAD

℄ EX. R/W HARPER ROAD

END CURB, TYPE 7**
STA. 450+35.57

℄ CONST. RAMP 4B

℄ EX. RAMP 4

P.I. = Sta. 851+96.40
Δ = 09°47'24" RT
Dc = 10°00'00"
R = 572.96'
T = 49.07'
L = 97.90'
E = 2.10'
PC Sta. 851+47.33
PT Sta. 852+45.23

℄ EX. R/W US-422

℄ CONST. RAMP 4A

P.I. = Sta. 351+70.22
Δ = 109°56'04" RT
Dc = 57°17'45"
R = 100.00'
T = 142.64'
L = 191.87'
E = 74.20'
emax. = 0.016
D.S. = 20 MPH
PC Sta. 350+27.57
PT Sta. 352+19.45

END RAMP 4B
STA. 452+19.45
℄ CONST. RAMP 4B

BEGIN RAMP 4
STA. 852+19.45
℄ CONST. RAMP 4

℄ CONST. RAMP 4B

P.I. = Sta. 450+68.59
Δ = 56°14'51" LT
Dc = 28°38'52"
R = 200.00'
T = 106.90'
L = 196.34'
E = 26.78'
emax. = 0.016
D.S. = 25 MPH
PC Sta. 449+61.69
PT Sta. 451+58.03

℄ EX. R/W US-422

P.I. = Sta. 846+55.39
Δ = 28°39'30" LT
Dc = 00°40'00"
R = 8,594.37'
T = 2,195.34'
L = 4,298.75'
E = 275.96'
D.S. = 65 MPH
PC Sta. 824+60.05
PT Sta. 867+58.80

CONST. LIMITS

℄ EX. RAMP 2

℄ CONST. RAMP 2A

STREAM 1

END CURB, TYPE 6*
STA. 452+19.45

END CURB, TYPE 6*
STA. 352+19.45
℄ CONST. RAMP 4A

℄ CONST. RAMP 4

END RAMP 4A
STA. 352+19.45
℄ CONST. RAMP 4A

BEGIN RAMP 4A
STA. 350+27.57
℄ CONST. RAMP 4A

WETLAND 6

CONST. LIMITS

Ex LA-STREAM 3

Ex LA-R/W

FENCE LEGEND

E-# END POST ASSEMBLY

I-# INTERMEDIATE POST ASSEMBLY

FENCE LEGEND TABLE	
I-4	STA. 852+26.44, 94.78' RT (BL CONST. RAMP 4)
E-4	STA. 171+67.34, 48.67' LT (BL CONST. HARPER RD. NB)

WETLAND

WETLAND AREA NOT TO BE DISTURBED

ITEM 670 - DITCH EROSION PROTECTION

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER PER DETAIL ON SHEET 20)

FOR RAMP 4 PLANS, SEE SHEETS 215 - 216
FOR RAMP 4A PROFILE, SEE SHEET 214
FOR RAMP 4B PROFILE, SEE SHEET 213
FOR HARPER ROAD PLANS, SEE SHEETS 189 - 196
FOR RAMP 2A PLANS, SEE SHEETS 202 - 203
FOR RAMP 2B PLANS, SEE SHEETS 202 - 204
FOR INTERSECTION DETAILS, SEE SHEETS 341 - 344
FOR ISLAND DETAILS, SEE SHEETS 345 - 348
FOR CURB RAMP DETAILS, SEE SHEETS 349 - 356
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182
FOR PIPE PROFILES, SEE SHEETS 171,213,363,364,365

PLAN - RAMP 4A & 4B BEGIN TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: II3889_GP40I PAPERSIZE: 34x22 (In) DATE: 6/6/2023 TIME: 10:36 AM USER: cluzier
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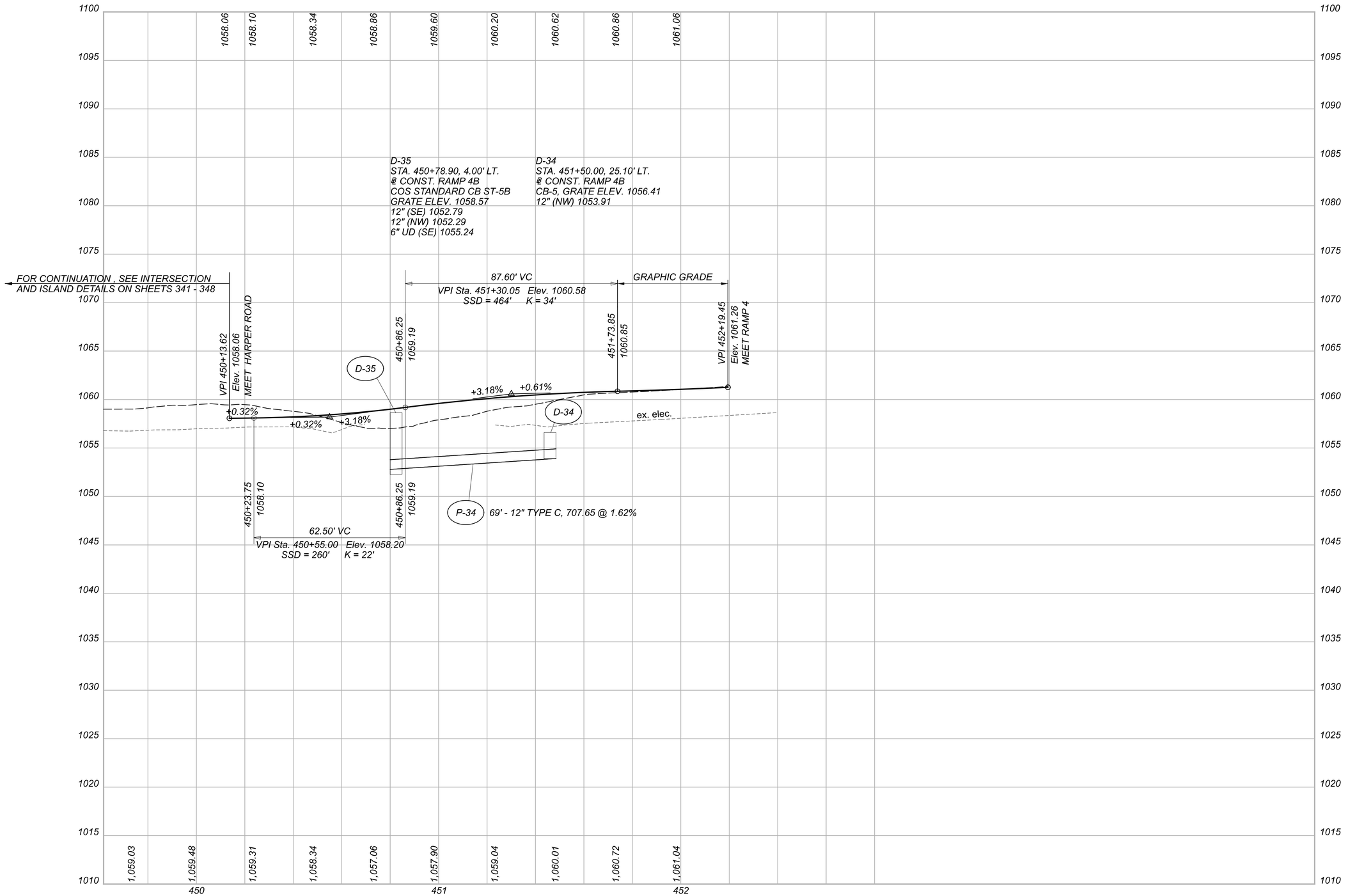
DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 212 TOTAL 481



FOR RAMP 4B PLAN, SEE SHEET 212

PROFILE - RAMP 4B
STA. 449+61.69 TO STA. 452+19.45

CUY-422-16.20 (HARPER ROAD)

MODEL: I3889_GF40I PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:10:41 AM USER: dluzier
O:\Clients\ORD\2020\2020336\I3889\400-Engineering\Roadway\Sheets\I3889_GF40I.dgn

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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	213
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

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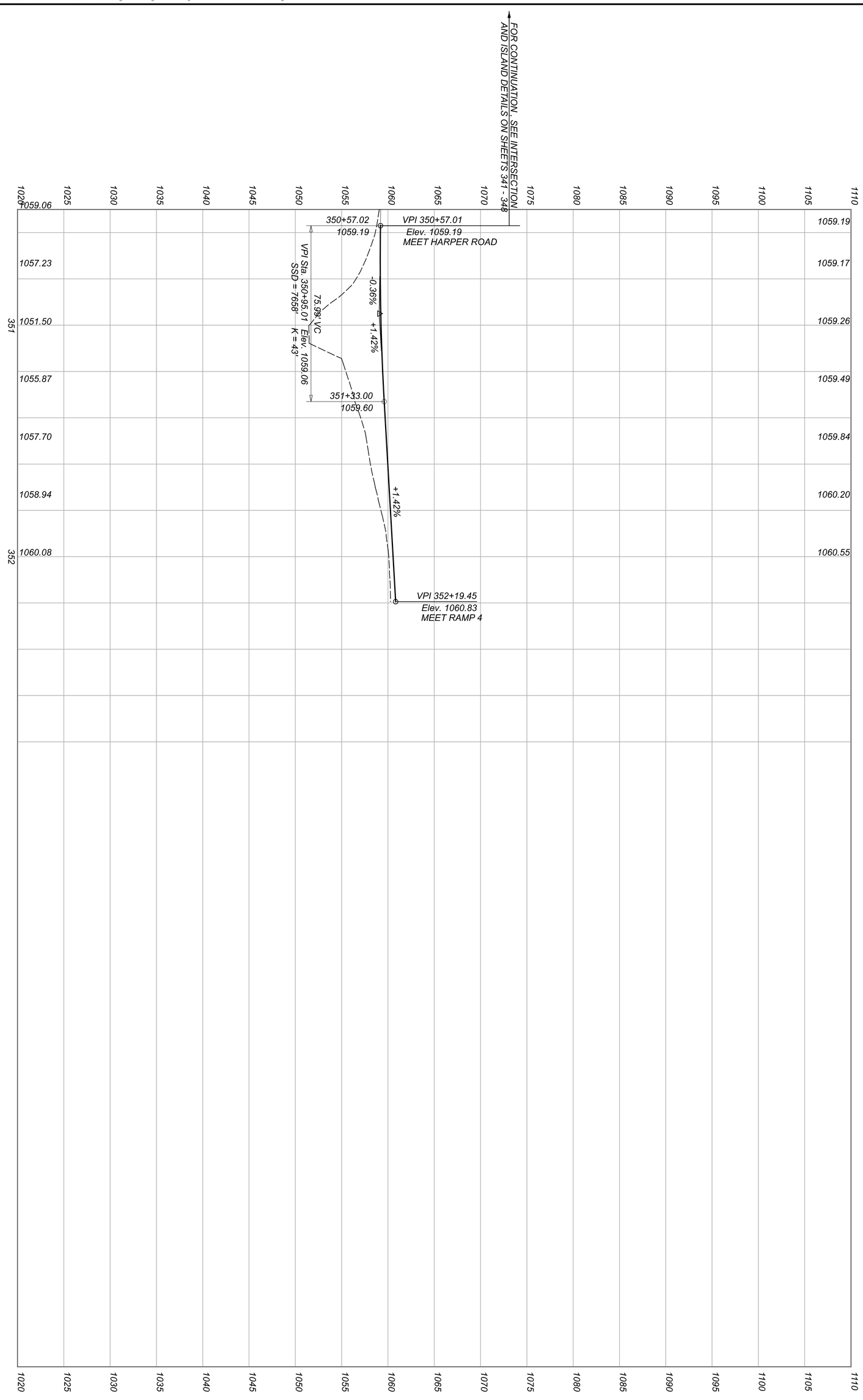


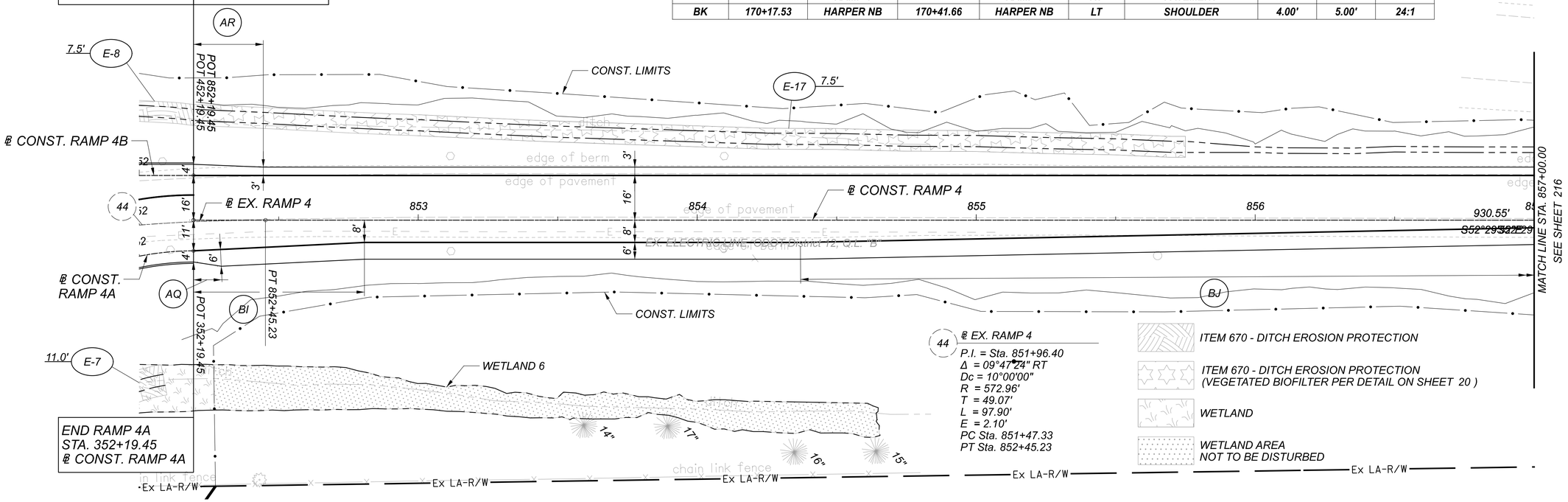
SHEET 214 TOTAL 481	PROJECT ID 113889	REVIEWER CWL 09/02/21	DESIGNER ATR	DESIGN AGENCY GPD GROUP

PROFILE - RAMP 4A
STA. 350+57.01 TO STA. 352+19.45

FOR RAMP 4A PLANS, SEE SHEETS 212- 214
FOR RAMP 4B PLANS, SEE SHEETS 212 - 213
FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182

TAPER TABLE

TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
AR	852+19.45	RAMP 4	852+44.45	RAMP 4	LT	SHOULDER	4.00'	3.00'	25:1
AS	653+50.00	RAMP 3A	654+00.00	RAMP 3A	LT	SHOULDER	6.00'	8.01'	25:1
BJ	854+37.00	RAMP 4	858+37.00	RAMP 4	RT	PAVEMENT	8.00'	0.00'	50:1
BK	170+17.53	HARPER NB	170+41.66	HARPER NB	LT	SHOULDER	4.00'	5.00'	24:1



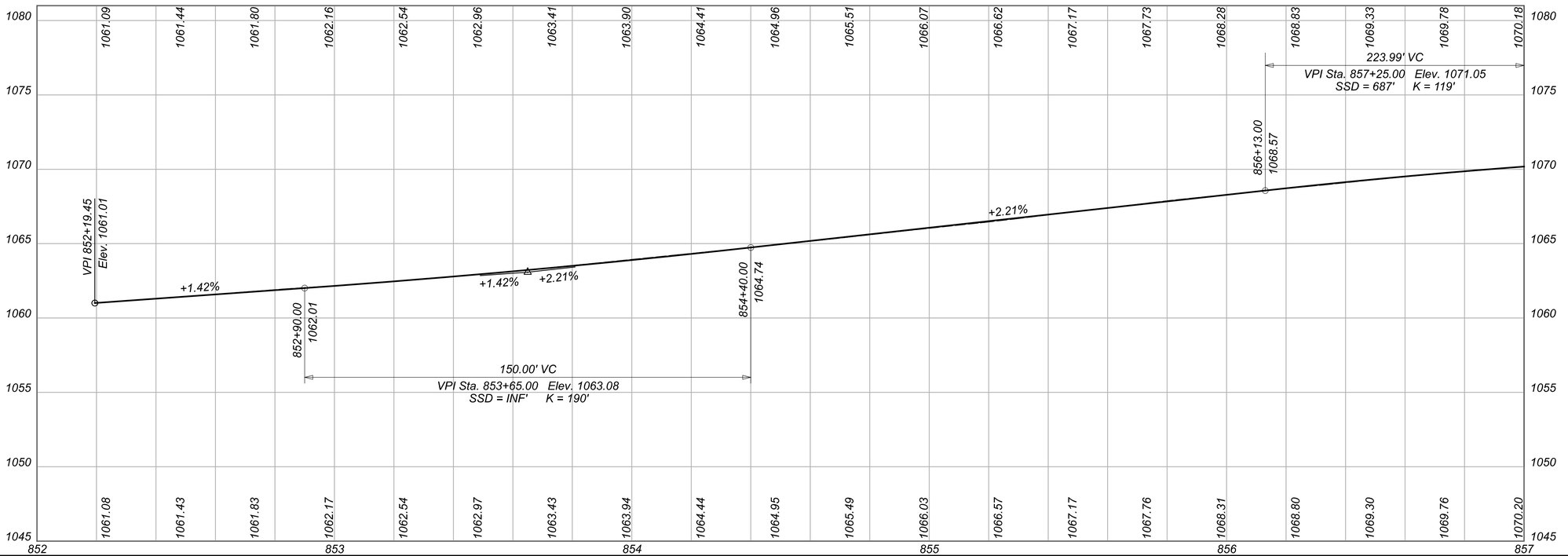
44 ℄ EX. RAMP 4
P.I. = Sta. 851+96.40
Δ = 09°47'24" RT
Dc = 10°00'00"
R = 572.96'
T = 49.07'
L = 97.90'
E = 2.10'
PC Sta. 851+47.33
PT Sta. 852+45.23

ITEM 670 - DITCH EROSION PROTECTION

ITEM 670 - DITCH EROSION PROTECTION (VEGETATED BIOFILTER PER DETAIL ON SHEET 20)

WETLAND

WETLAND AREA NOT TO BE DISTURBED



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - RAMP 4
BEGIN TO STA. 857+00.00

DESIGN AGENCY
GPD GROUP*

DESIGNER ATR
REVIEWER CWL 02/22/22
PROJECT ID 113889
SHEET 215 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0184 - Plan 3 PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:10:45 AM USER: cluzier
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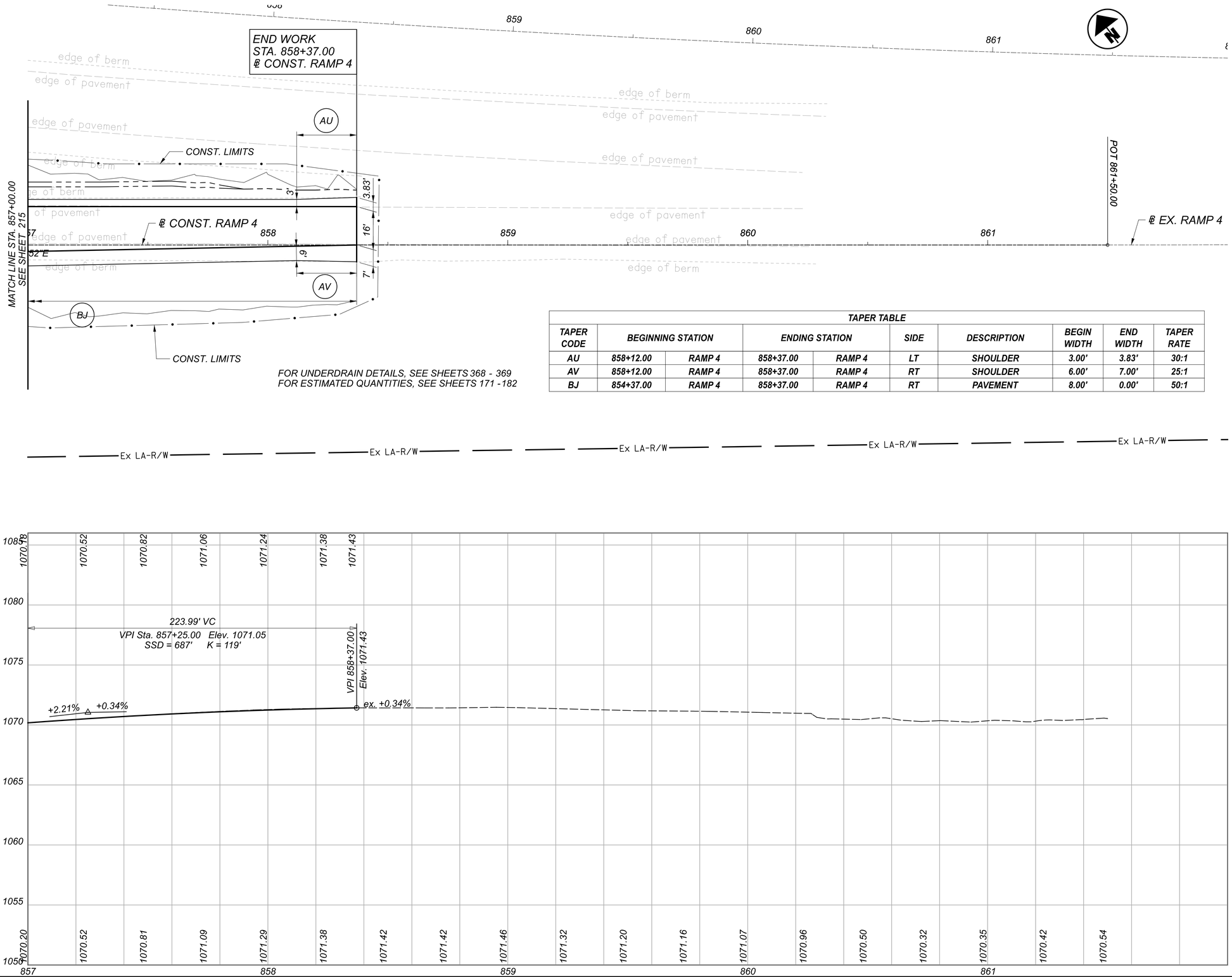

TAPER TABLE									
TAPER CODE	BEGINNING STATION		ENDING STATION		SIDE	DESCRIPTION	BEGIN WIDTH	END WIDTH	TAPER RATE
AU	858+12.00	RAMP 4	858+37.00	RAMP 4	LT	SHOULDER	3.00'	3.83'	30:1
AV	858+12.00	RAMP 4	858+37.00	RAMP 4	RT	SHOULDER	6.00'	7.00'	25:1
BJ	854+37.00	RAMP 4	858+37.00	RAMP 4	RT	PAVEMENT	8.00'	0.00'	50:1

FOR UNDERDRAIN DETAILS, SEE SHEETS 368 - 369
FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - RAMP 4
STA. 857+00.00 TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0184 - Plan 4 PAPERSIZE: 34x22 (in) DATE: 6/6/2023 TIME: 10:47 AM USER: cluzier
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GP404.dgn

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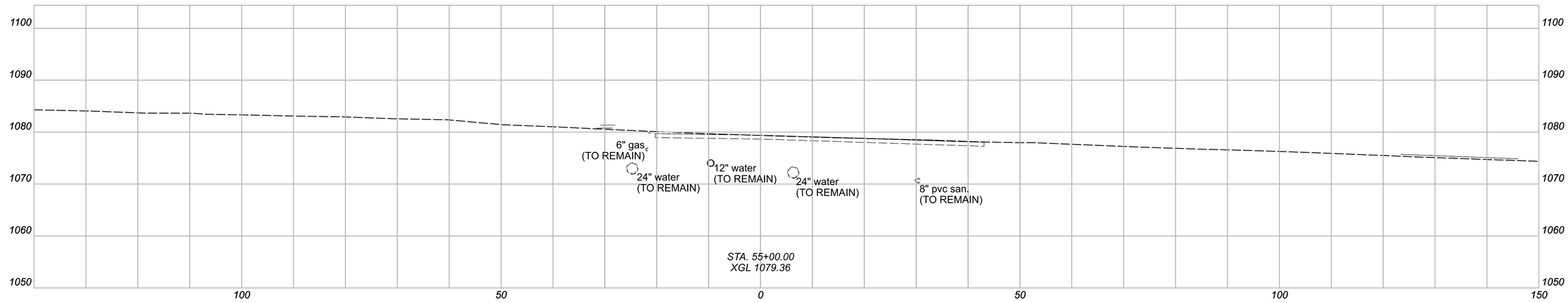
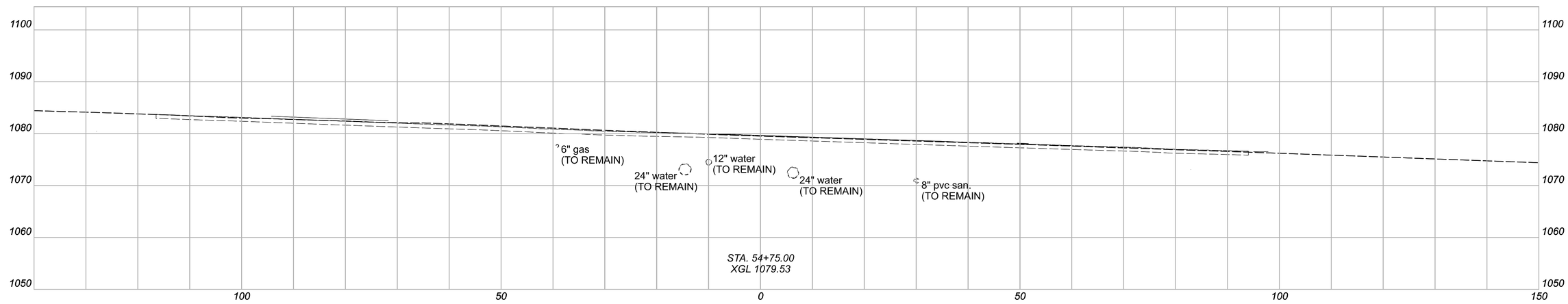
DESIGNER ATR
REVIEWER CWL 02/22/22
PROJECT ID 113889
SHEET 216 TOTAL 481





CROSS SECTIONS - HARPER ROAD
STA. 54+75.00 TO STA. 55+00.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
-	-	-

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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	217
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C2I - 54+50.00 (Sheet) PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:16:13 AM USER: cluzier
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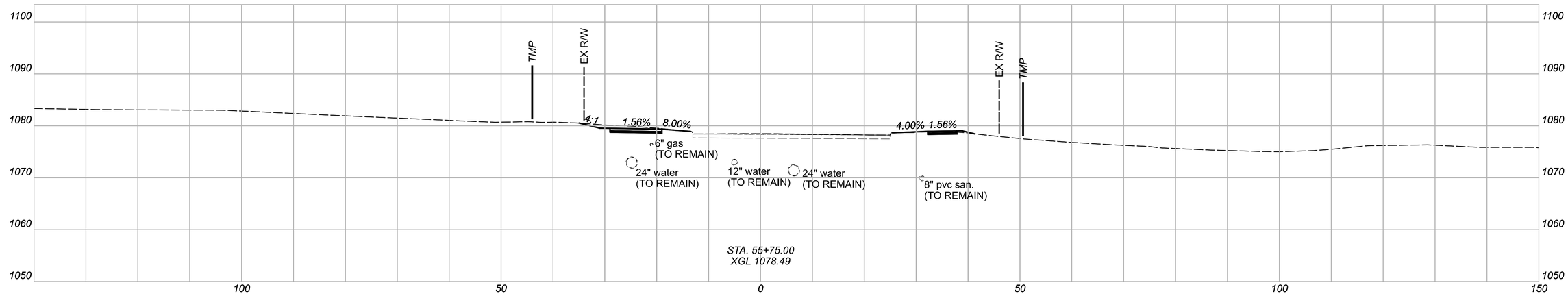

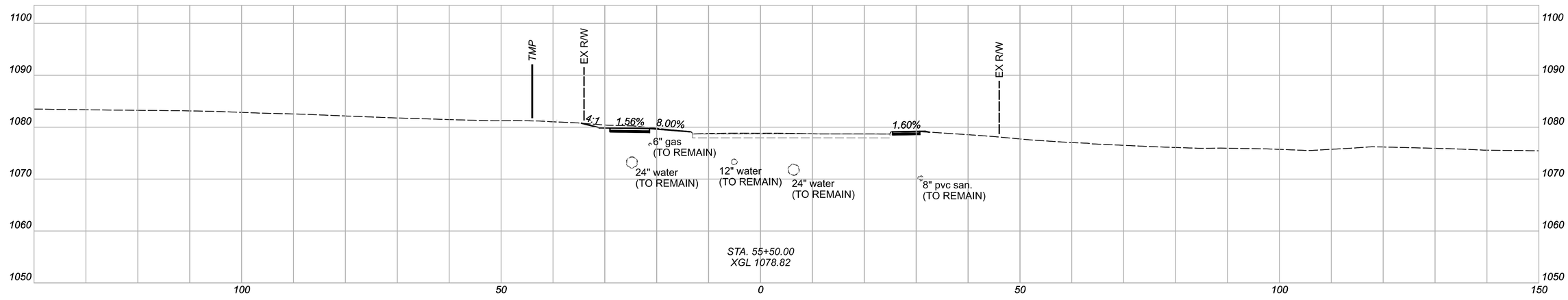

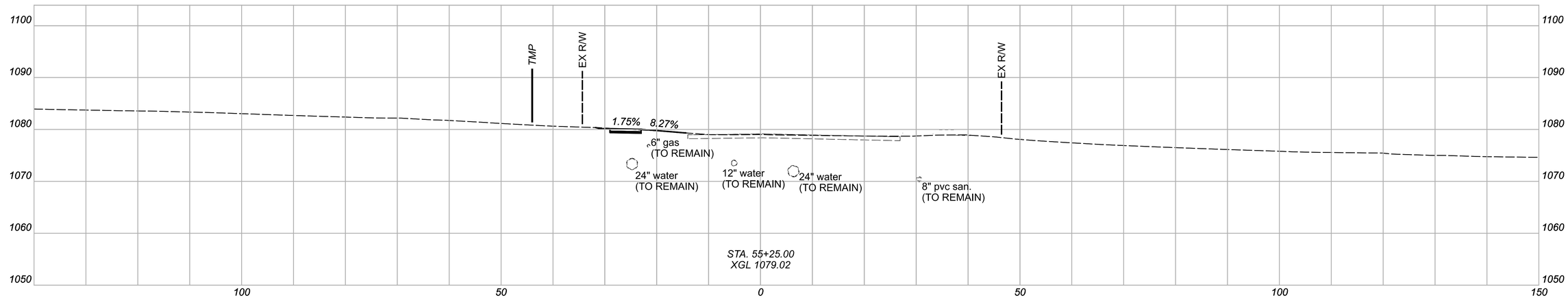

CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - HARPER ROAD
STA. 55+25.00 TO STA. 55+75.00

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REVIEWER
CWL 09/02/21

PROJECT ID
113889

Sheet Totals		
Seeding	Cut	Fill
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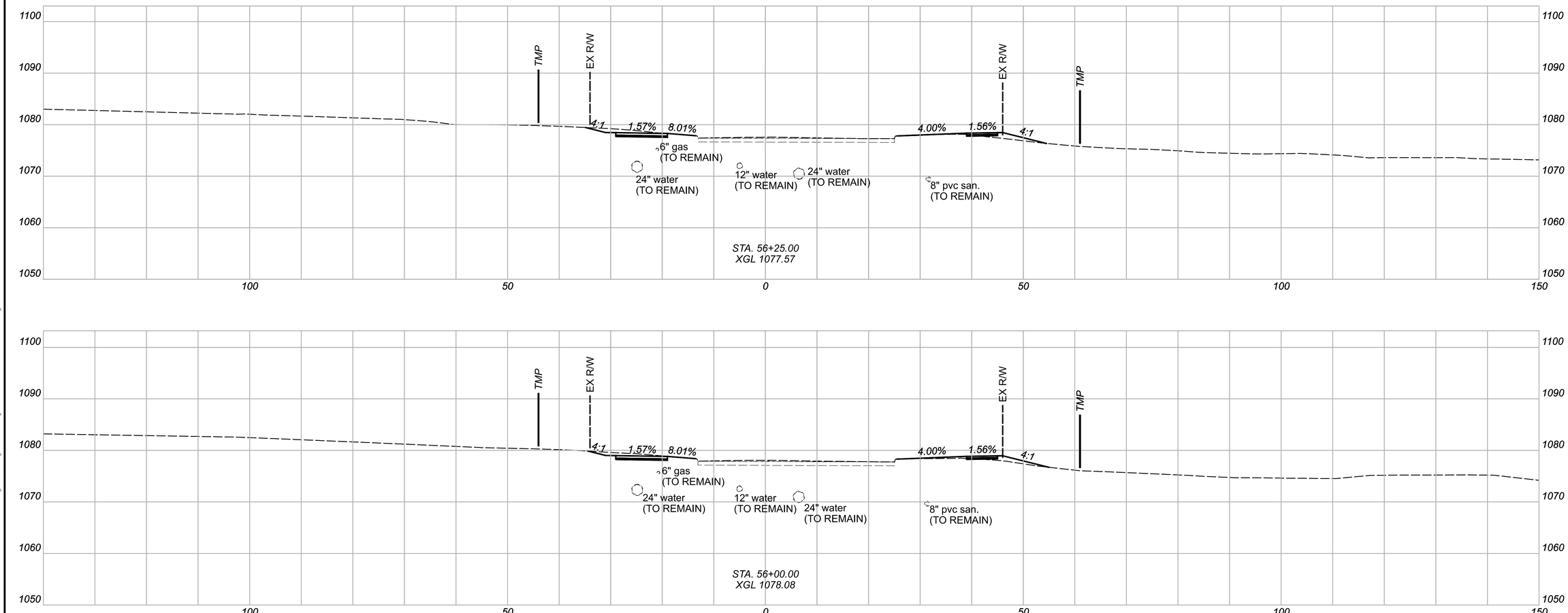
SHEET 218 TOTAL 481

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24



FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - HARPER ROAD
STA. 56+00.00 TO STA. 56+25.00

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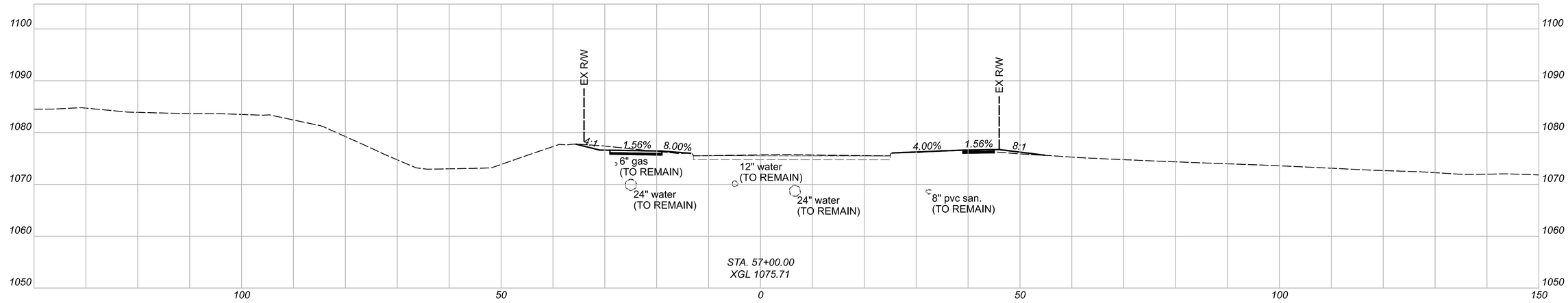
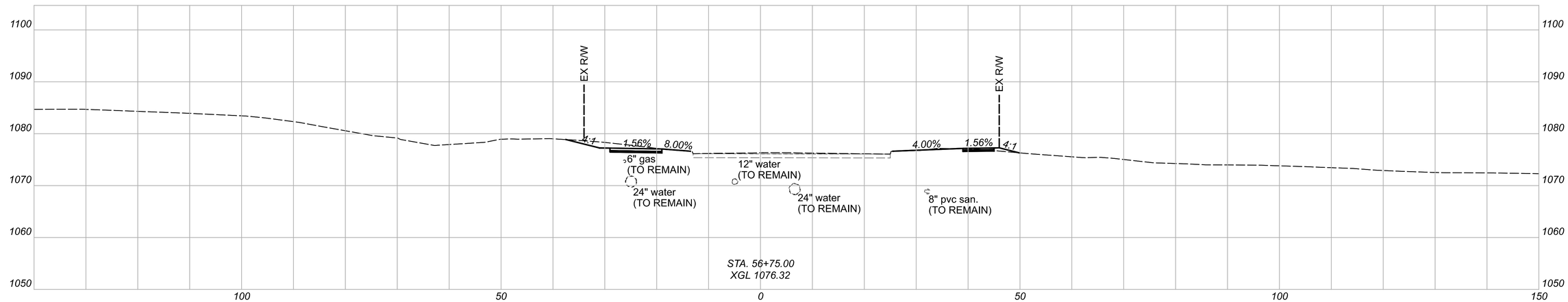
REVIEWER CWL 09/02/21

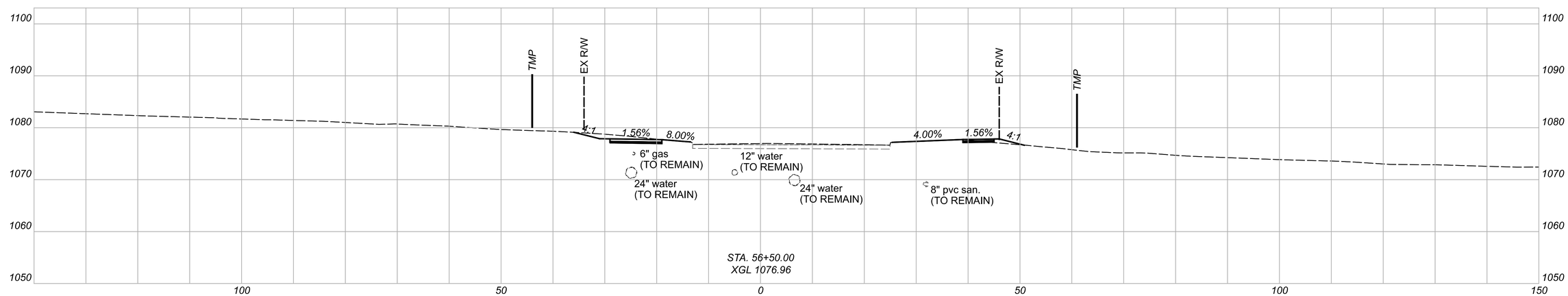
PROJECT ID 113889

Sheet Totals		
Seeding	Cut	Fill
-	-	-

SHEET 219 TOTAL 481







CROSS SECTIONS - HARPER ROAD
STA. 56+50.00 TO STA. 57+00.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
.	.	.

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REVIEWER CWL 09/02/21

PROJECT ID 113889

SHEET 220 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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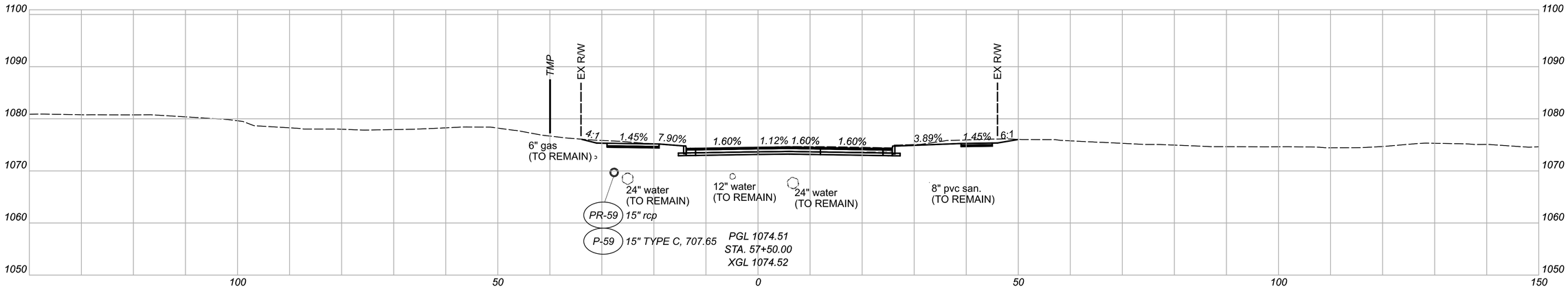

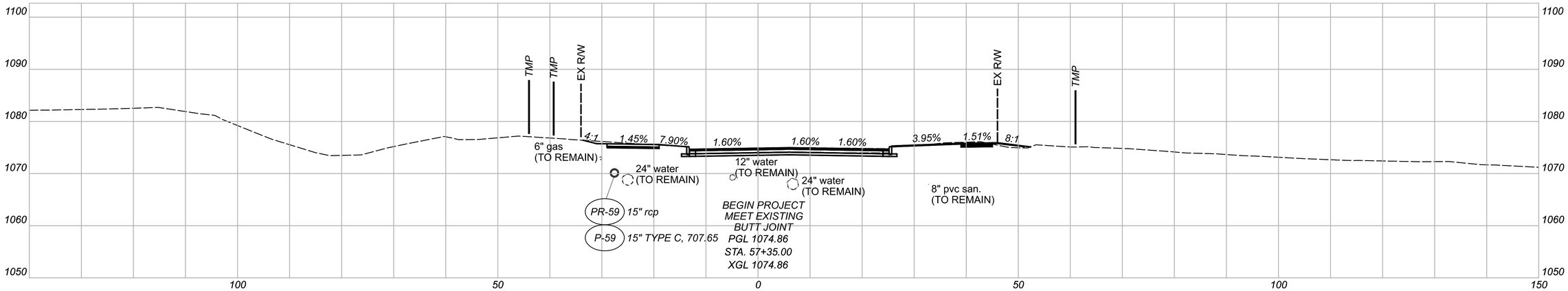

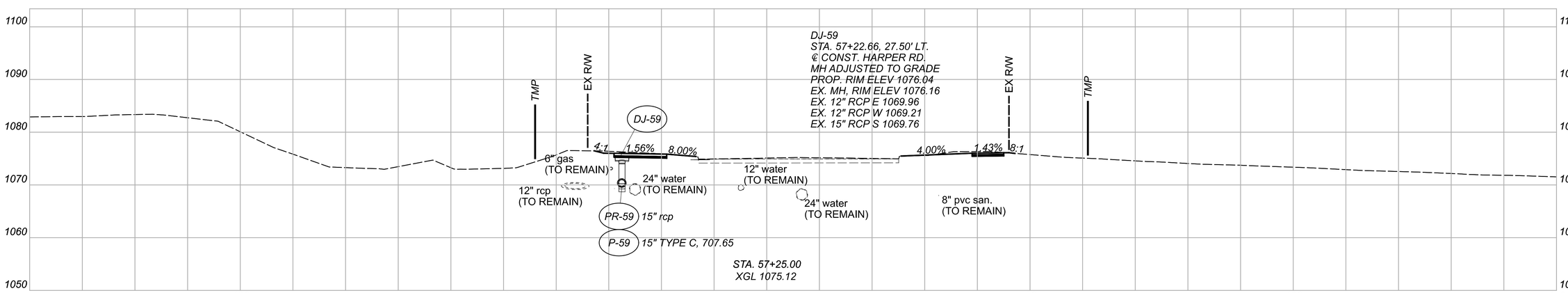

CROSS SECTIONS - HARPER ROAD
STA. 57+25.00 TO STA. 57+50.00

CUY-422-16.20 (HARPER ROAD)

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FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
-	-	-

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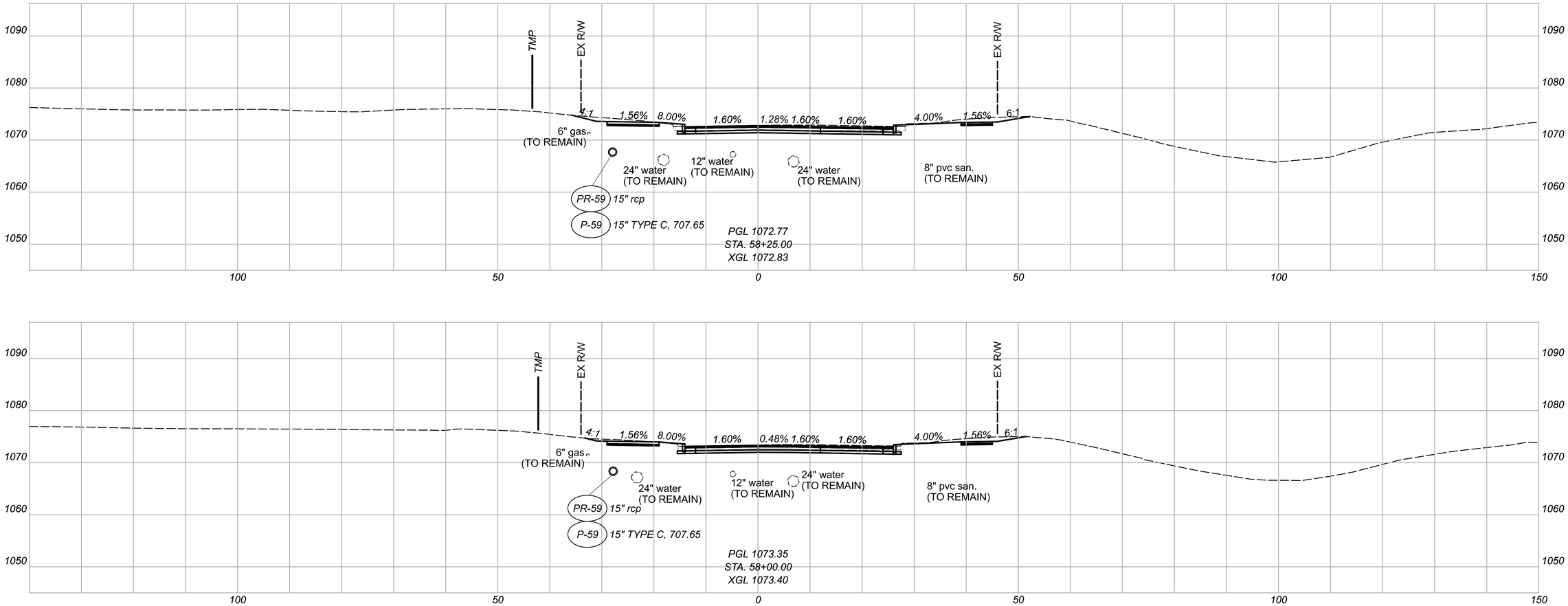
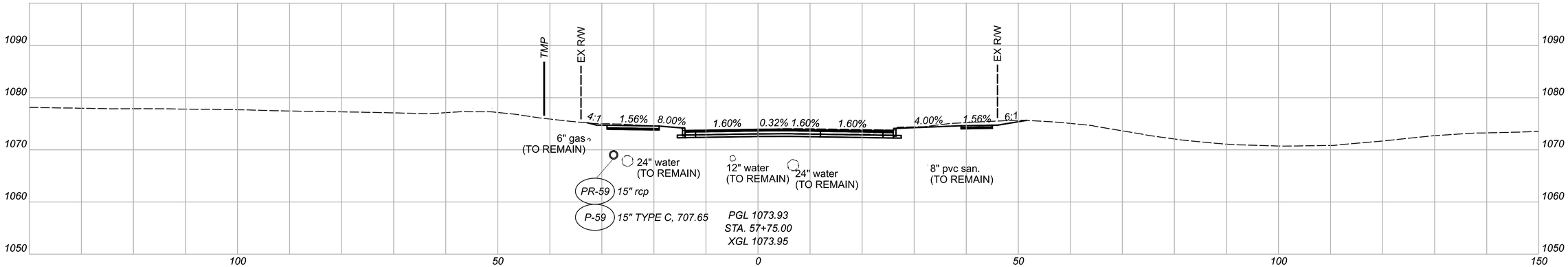
DESIGNER
ATR

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 221 TOTAL 481





CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - HARPER ROAD
STA. 57+75.00 TO STA. 58+25.00

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DESIGNER ATR

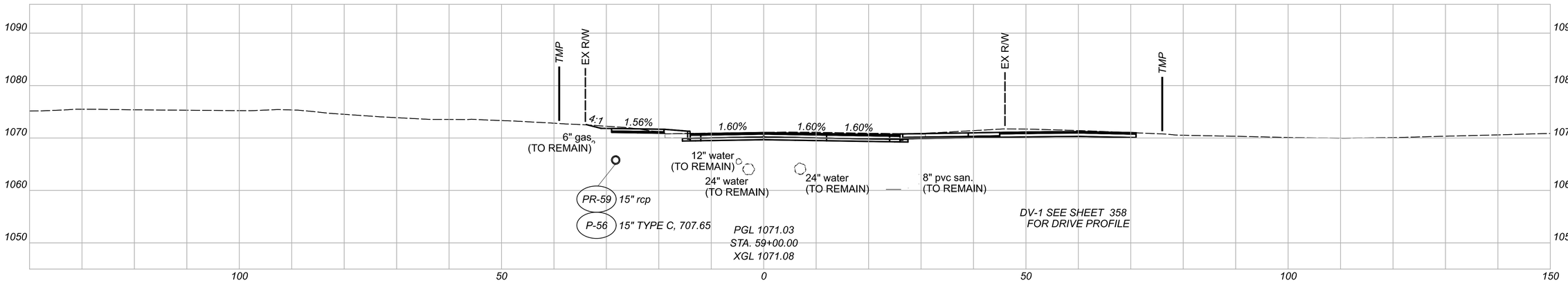
REVIEWER CWL 09/02/21

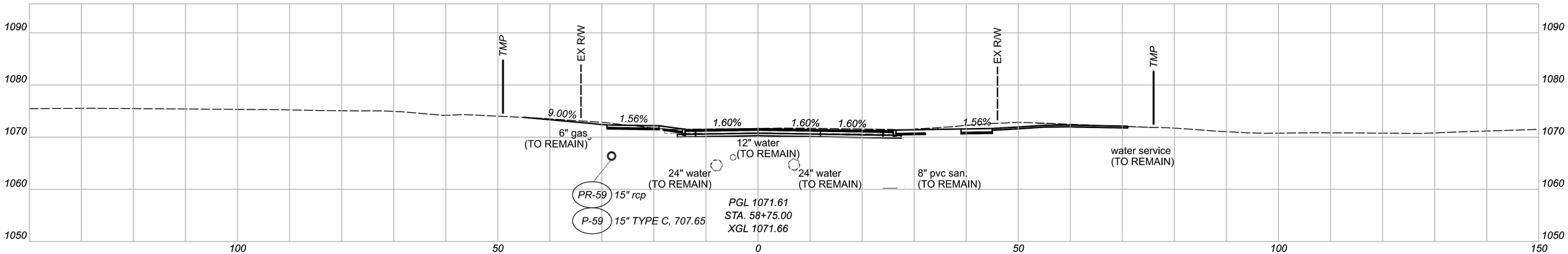
PROJECT ID 113889

Sheet Totals		
Seeding	Cut	Fill
-	-	-

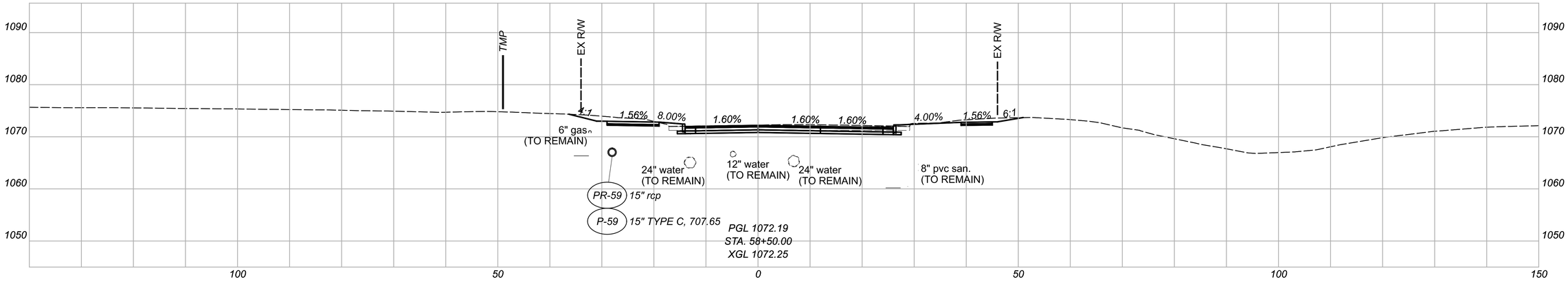
SHEET 222 TOTAL 481

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24





DV-3 SEE SHEET 358
FOR DRIVE PROFILE



FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - HARPER ROAD
STA. 58+50.00 TO STA. 59+00.00

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C20 - 58+50.00 [Sheet] PAPERSIZE: 34x22 (in) DATE: 6/6/2023 TIME: 7:17:06 AM USER: cluzier
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113889

Sheet Totals		
Seeding	Cut	Fill
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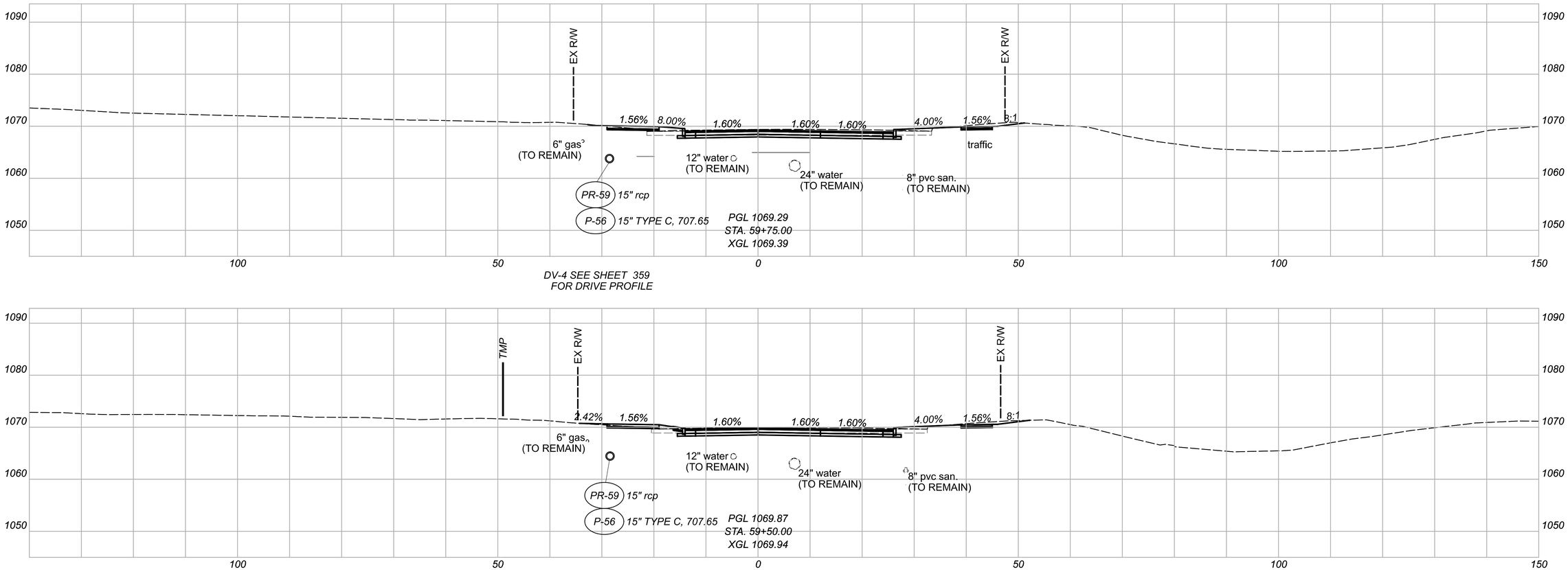
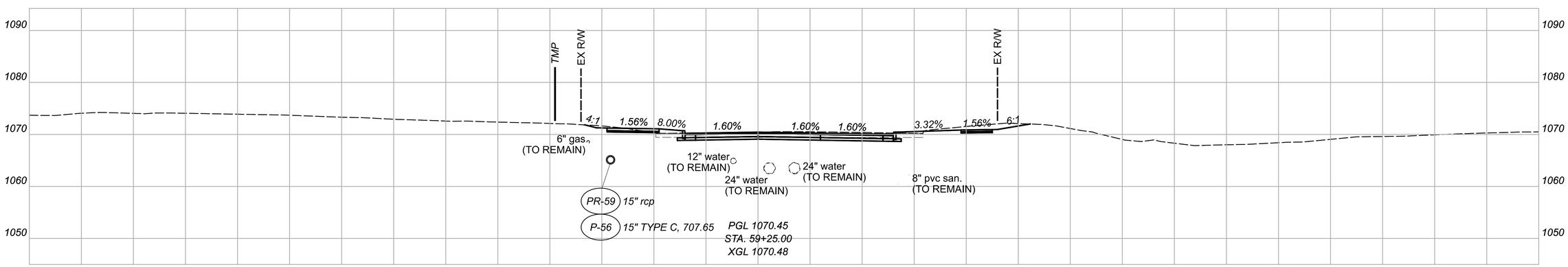
SHEET 223 TOTAL 481





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CROSS SECTIONS - HARPER ROAD
STA. 59+25.00 TO STA. 59+75.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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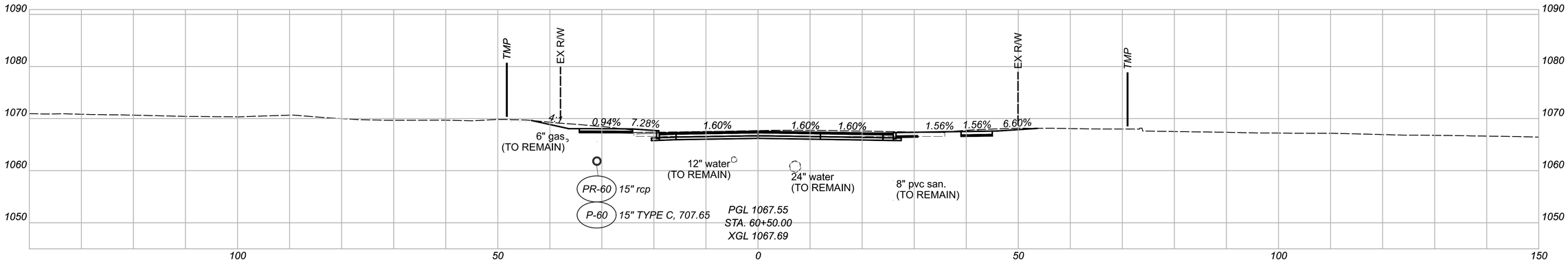
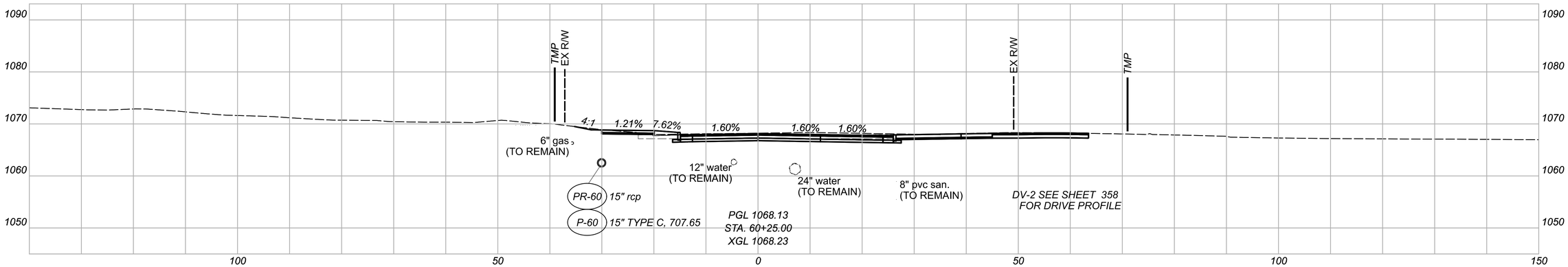
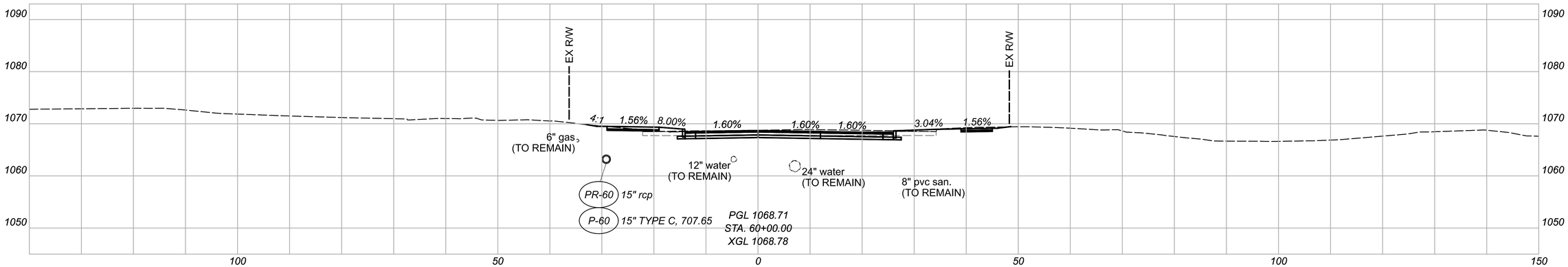
SHEET	224
TOTAL	481







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CROSS SECTIONS - HARPER ROAD
STA. 60+00.00 TO STA. 60+50.00

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Seeding	Cut	Fill
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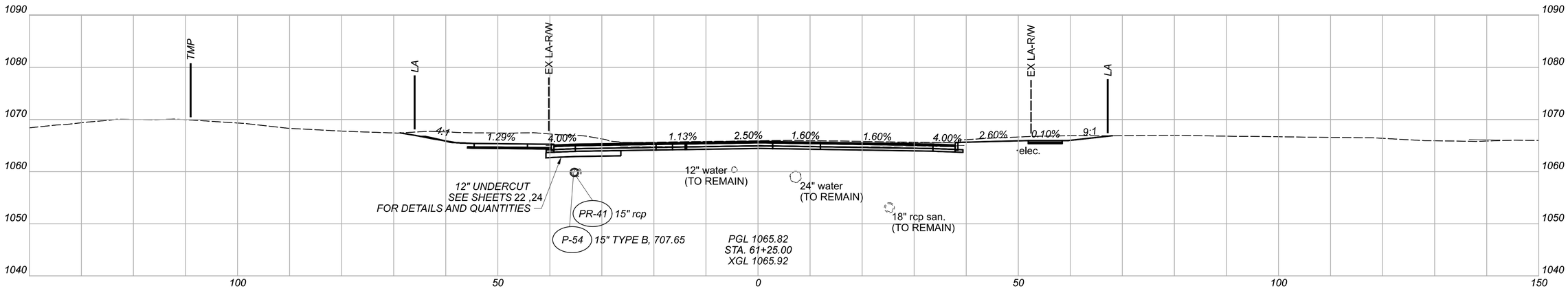
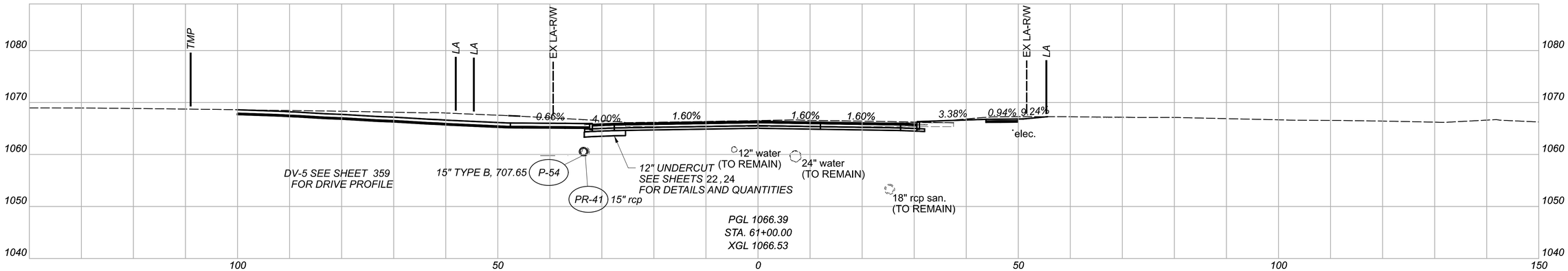
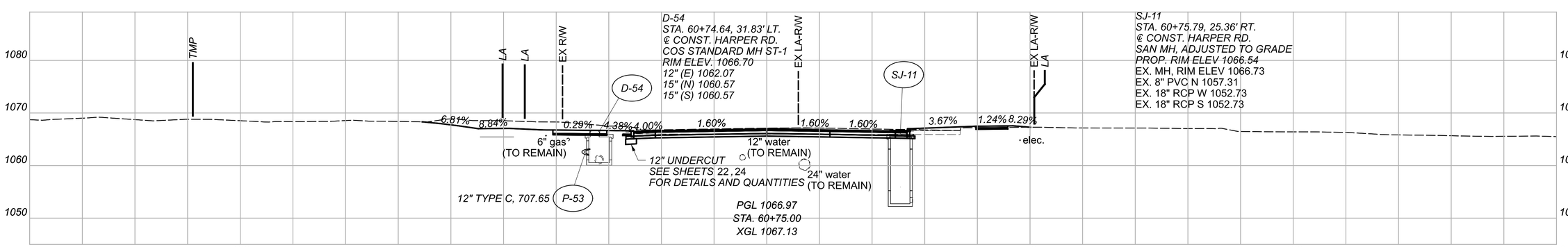
SHEET 225 TOTAL 481







CROSS SECTIONS - HARPER ROAD
STA. 60+75.00 TO STA. 61+25.00

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SHEET 226 TOTAL 481

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CUY-422-16.20 (HARPER ROAD)

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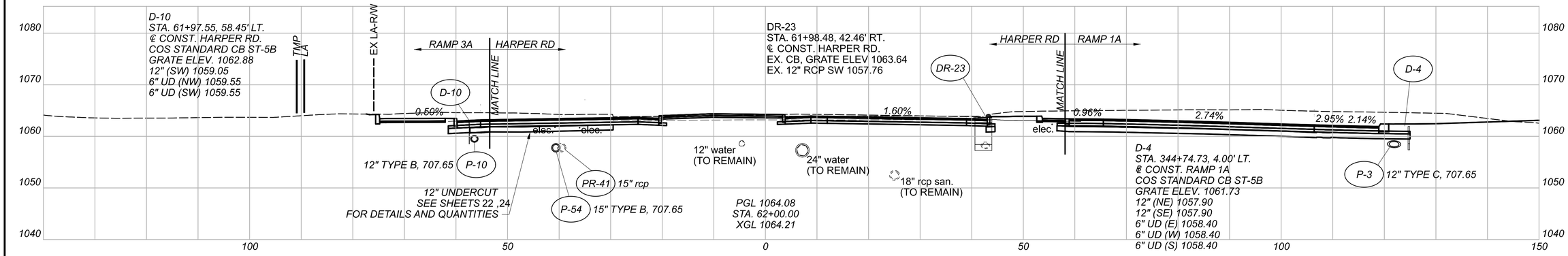

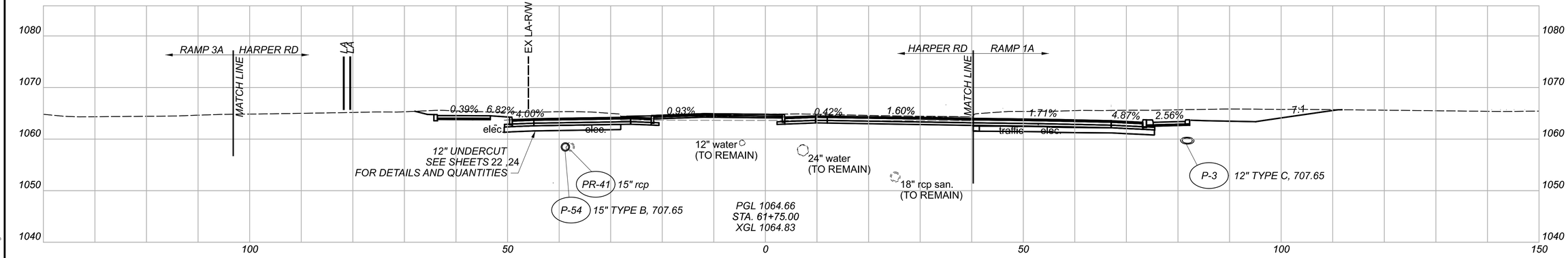

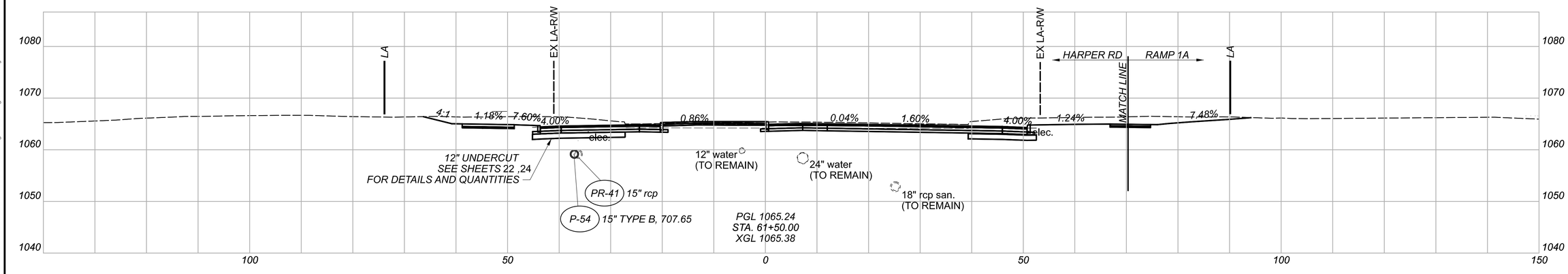

CROSS SECTIONS - HARPER ROAD
STA. 61+50.00 TO STA. 62+00.00

CUY-422-16.20 (HARPER ROAD)

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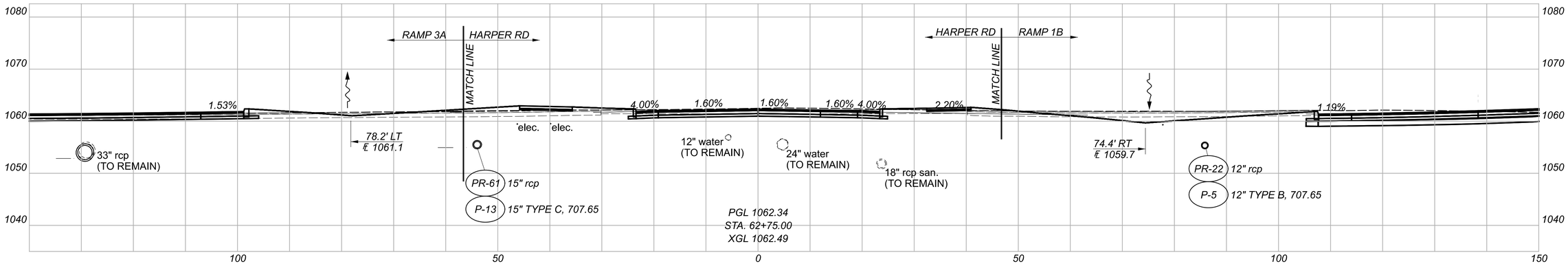
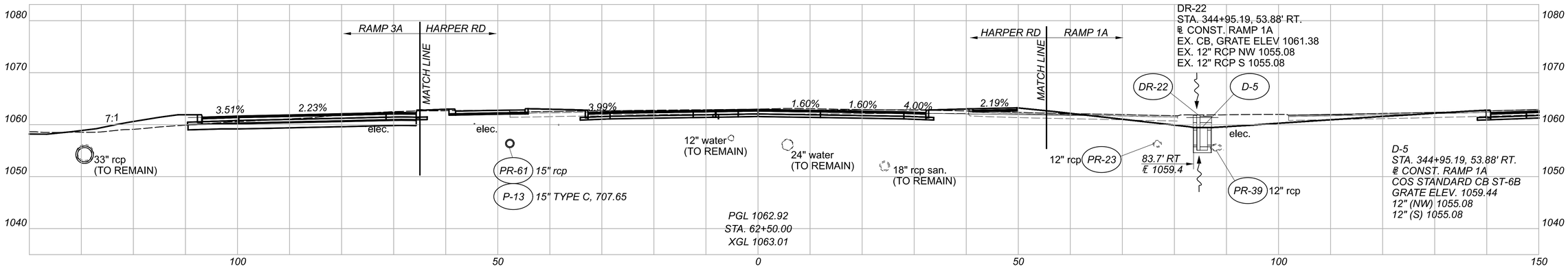
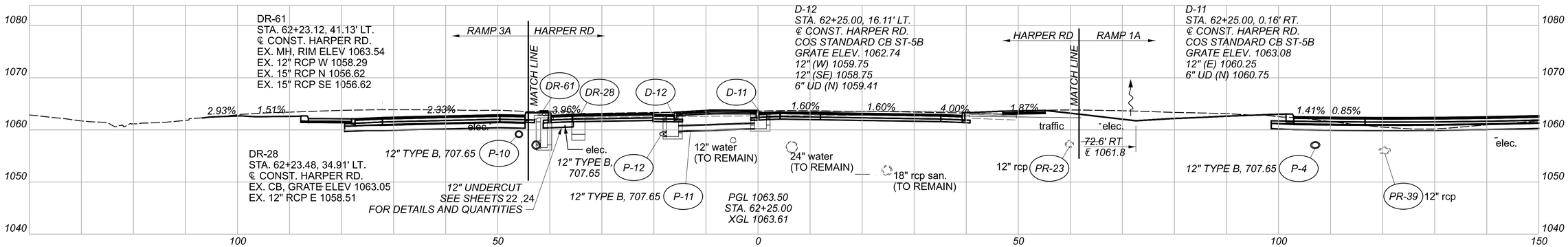
SHEET 227 TOTAL 481

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24







FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - HARPER ROAD
STA. 62+25.00 TO STA. 62+75.00

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C20 - 62+25.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:18:00 AM USER: cluzier
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PROJECT ID
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Seeding	Cut	Fill
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SHEET	TOTAL
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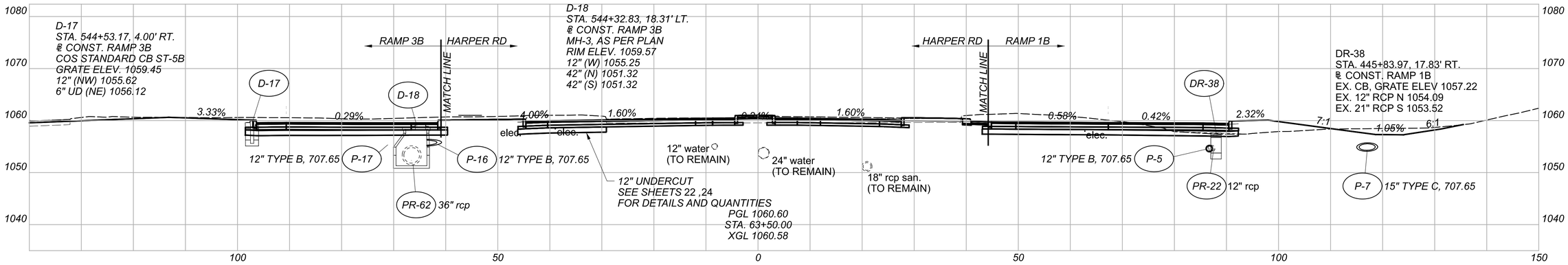

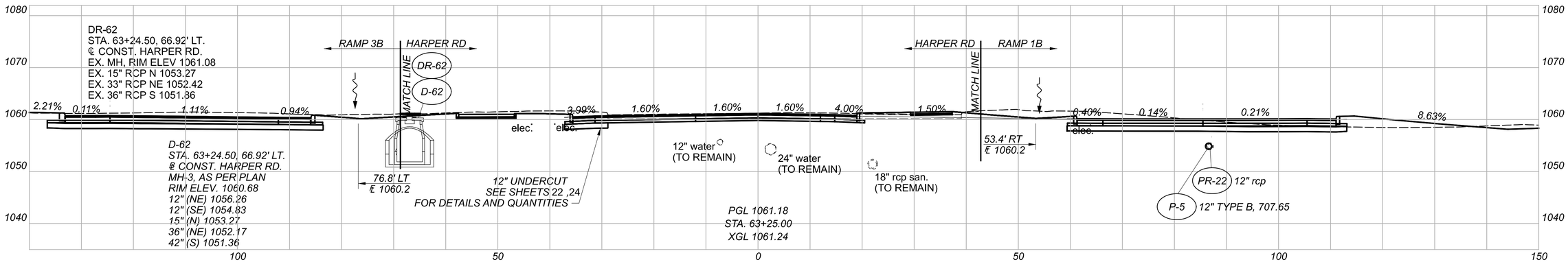

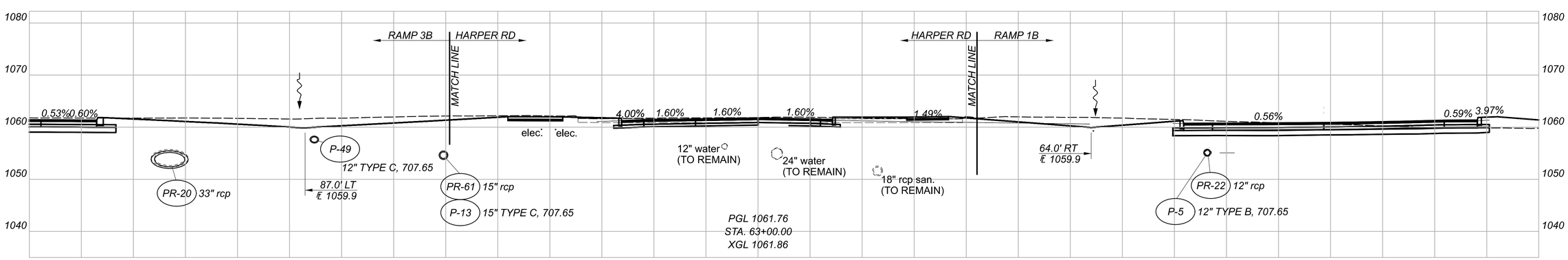

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - HARPER ROAD
STA. 63+00.00 TO STA. 63+50.00

Sheet Totals		
Seeding	Cut	Fill
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PROJECT ID	113889
SHEET	229
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

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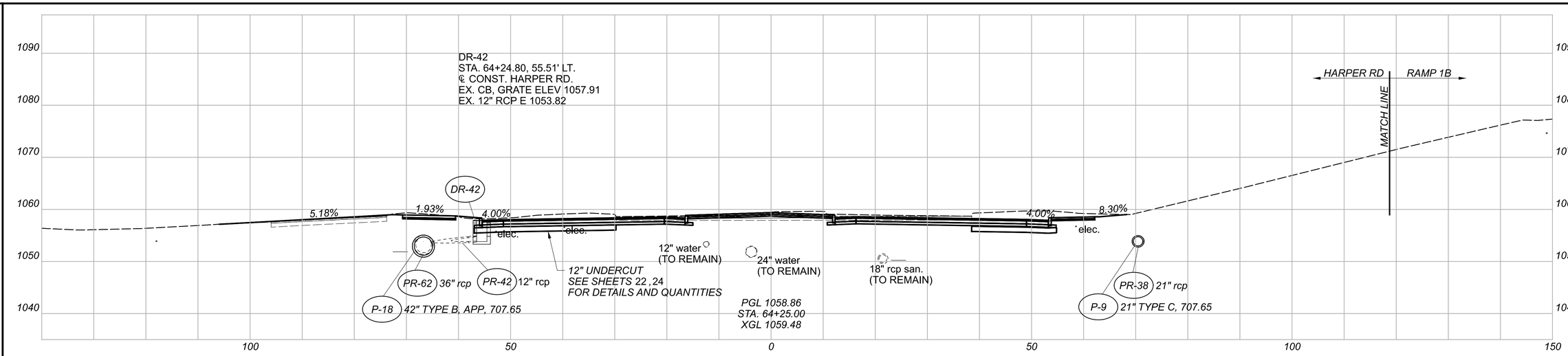

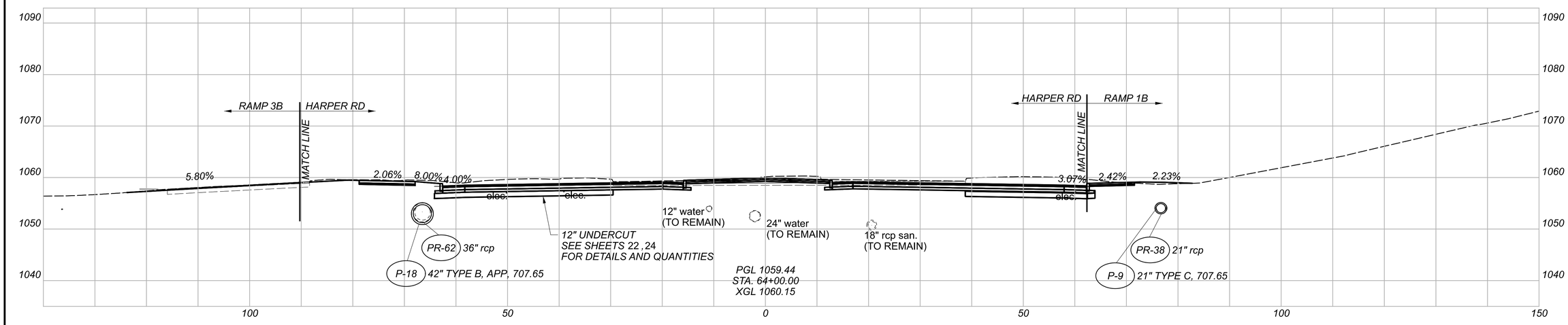

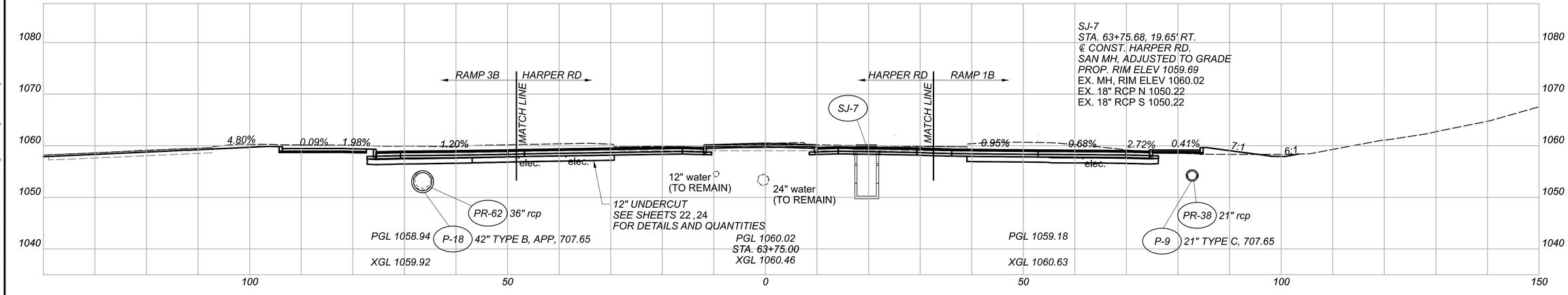

CROSS SECTIONS - HARPER ROAD
STA. 63+75.00 TO STA. 64+25.00

CUY-422-16.20 (HARPER ROAD)

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Sheet Totals		
Seeding	Cut	Fill
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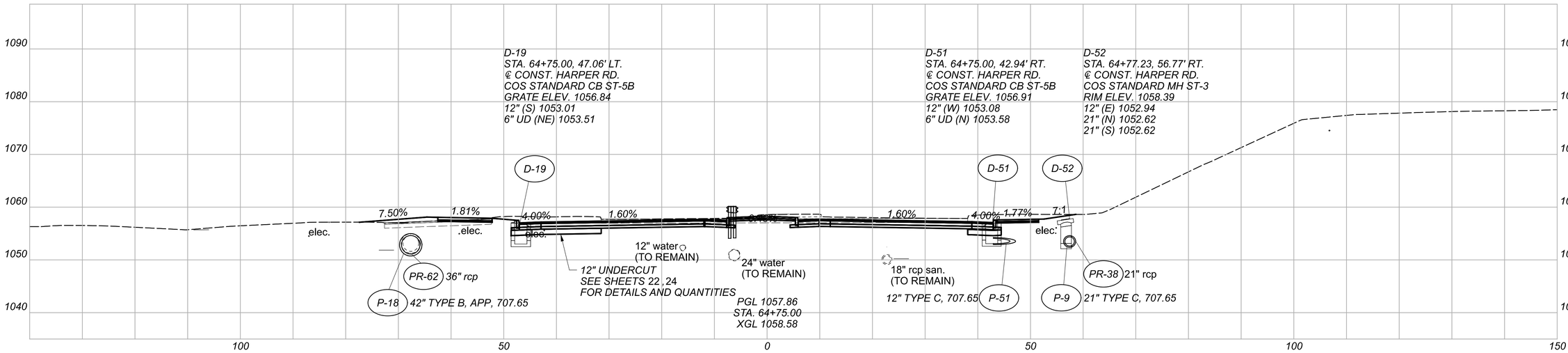
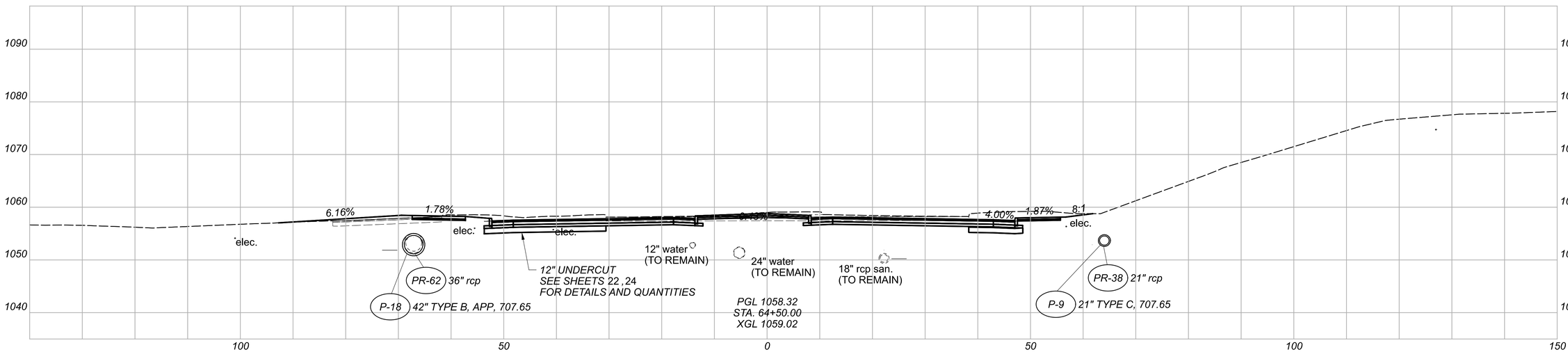
SHEET 230 TOTAL 481

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24





CROSS SECTIONS - HARPER ROAD
STA. 64+50.00 TO STA. 64+75.00

CUY-422-16.20 (HARPER ROAD)

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Sheet Totals		
Seeding	Cut	Fill
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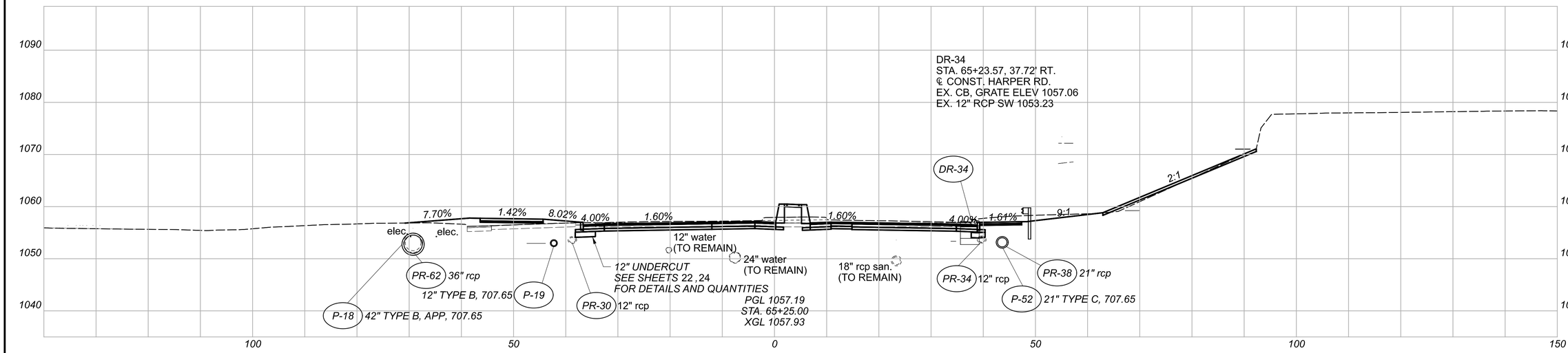
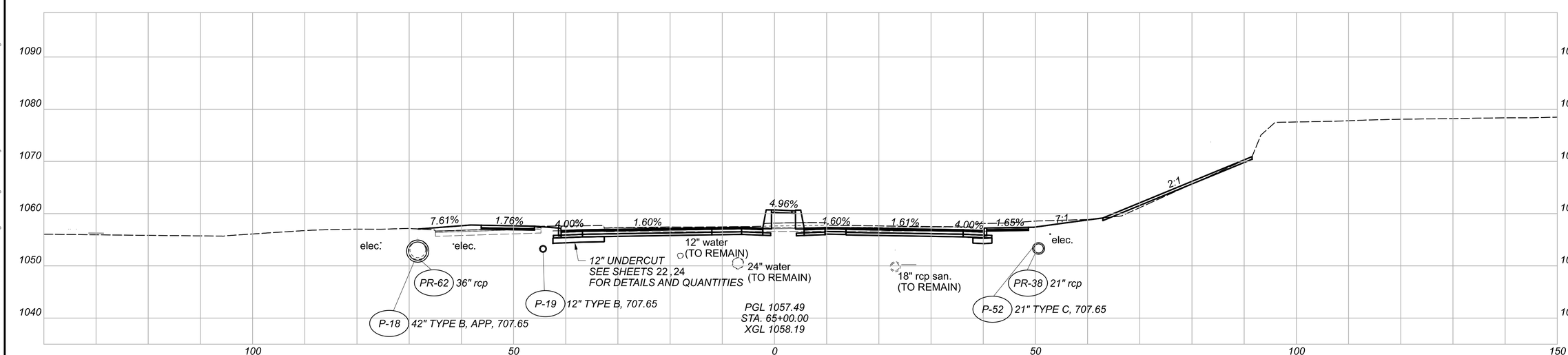
PROJECT ID 113889
SHEET 231 TOTAL 481





CROSS SECTIONS - HARPER ROAD
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CUY-422-16.20 (HARPER ROAD)

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PROJECT ID
113889

SHEET 232 TOTAL 481

Sheet Totals		
Seeding	Cut	Fill
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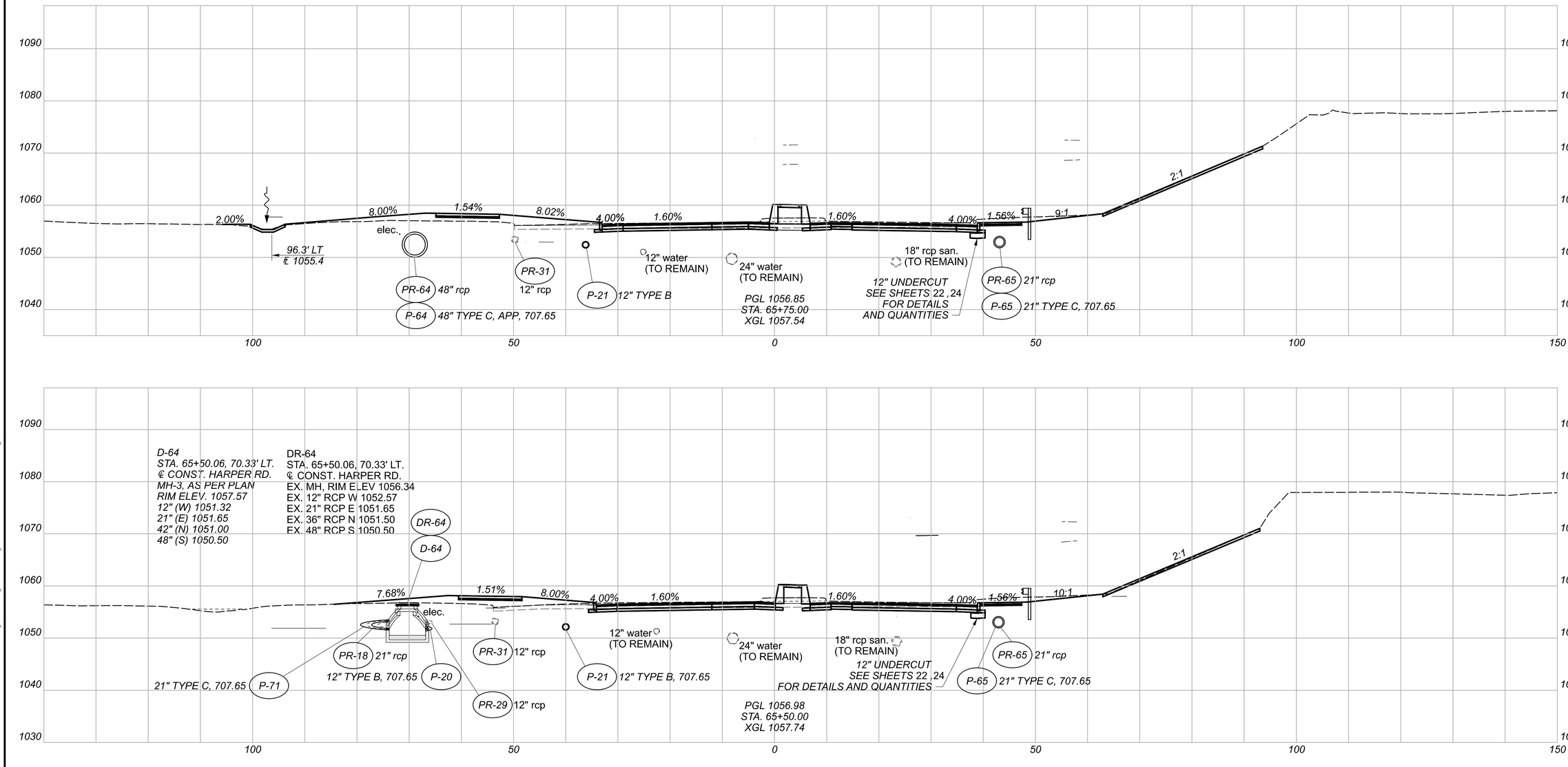
FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24



FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - HARPER ROAD
STA. 65+50.00 TO STA. 65+75.00

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C20 - 65+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:18:48 AM USER: cluzier
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PROJECT ID	113889

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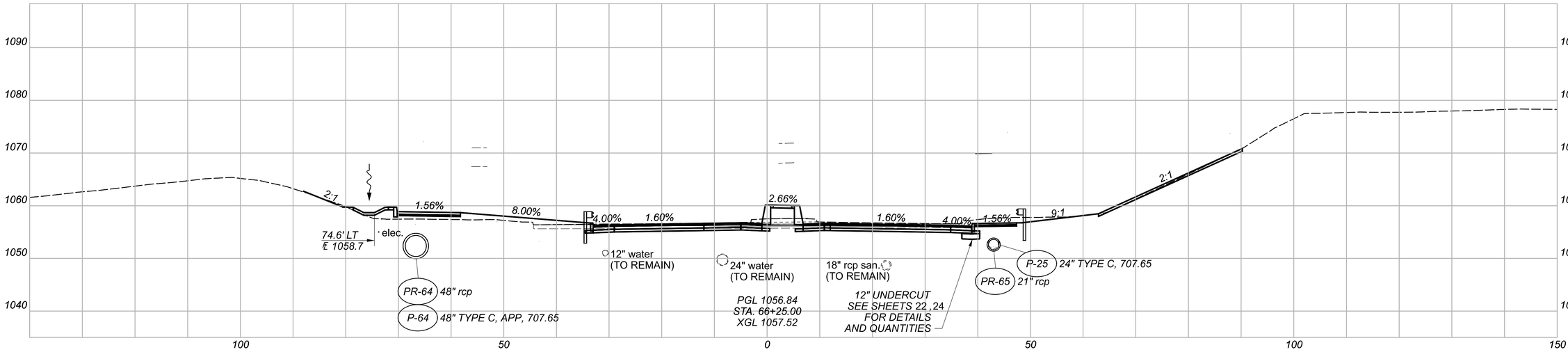
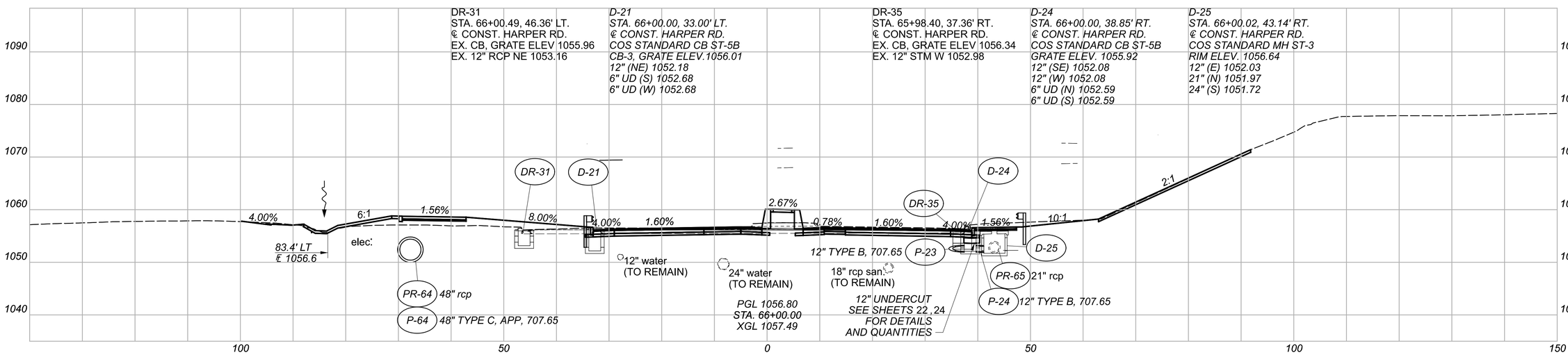
SHEET	TOTAL
233	481





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - HARPER ROAD
STA. 66+00.00 TO STA. 66+25.00

Sheet Totals		
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PROJECT ID 113889

SHEET 234 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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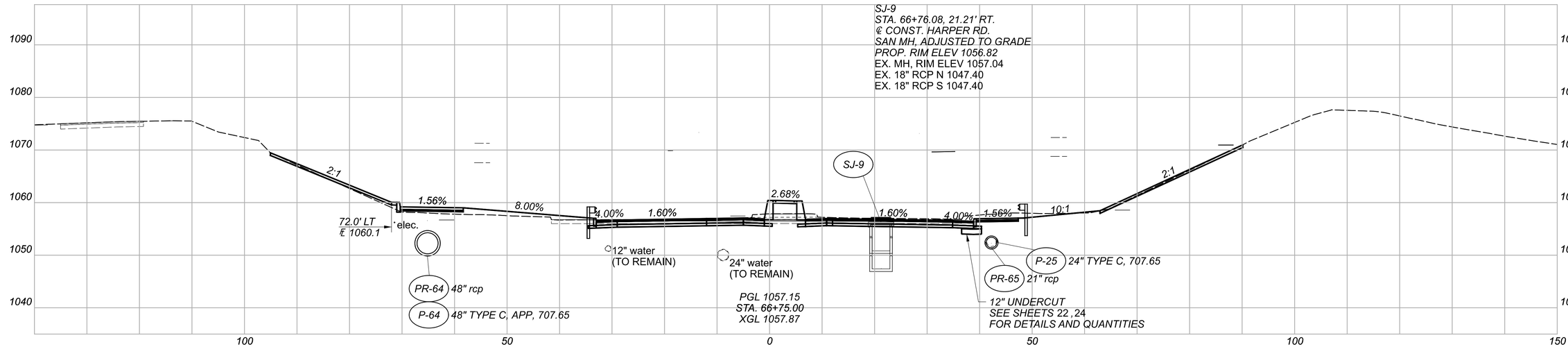

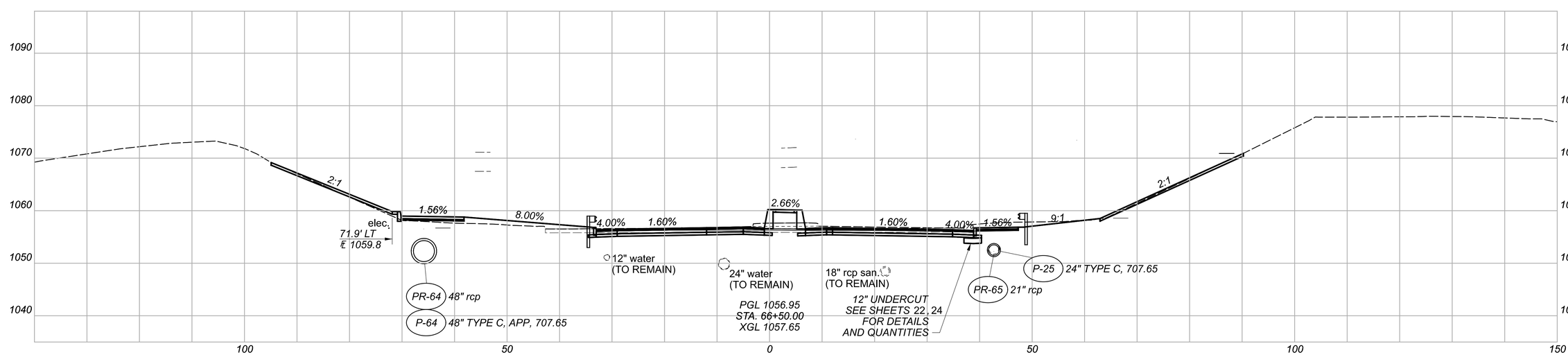

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CROSS SECTIONS - HARPER ROAD
STA. 66+50.00 TO STA. 66+75.00

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C20 - 66+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:19:02 AM USER: cluzier
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Sheet Totals		
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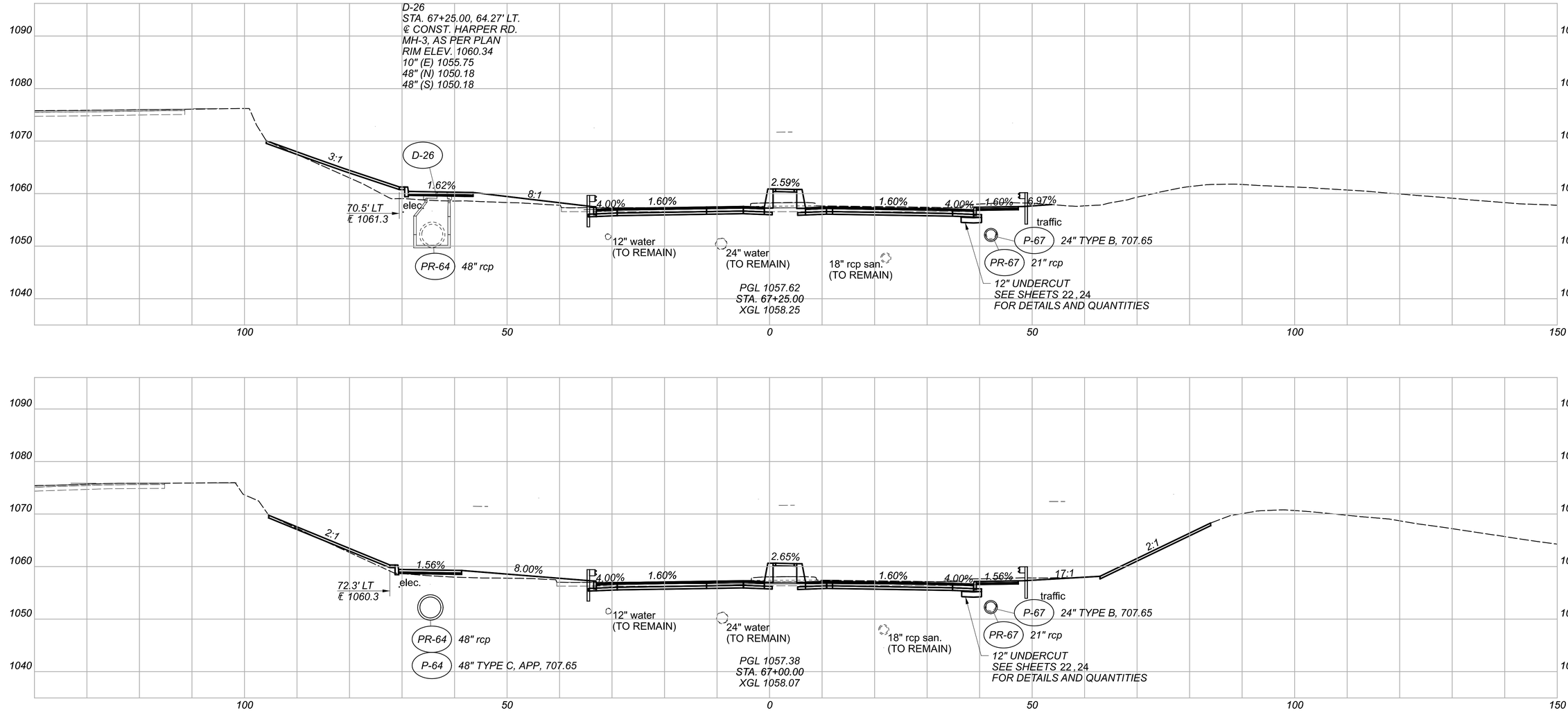
SHEET 235 TOTAL 481



CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - HARPER ROAD
STA. 67+00.00 TO STA. 67+25.00

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PROJECT ID
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SHEET 236 TOTAL 481

Sheet Totals

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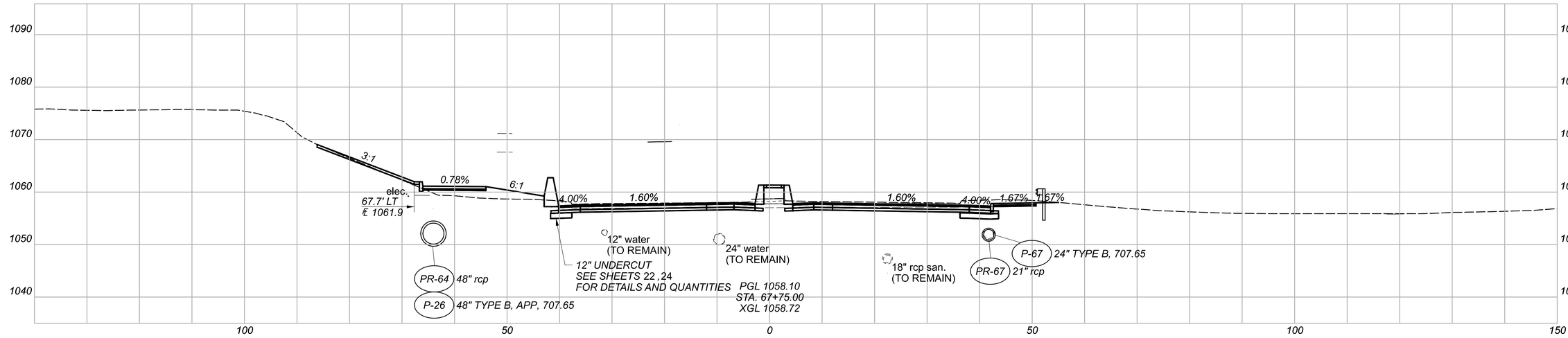
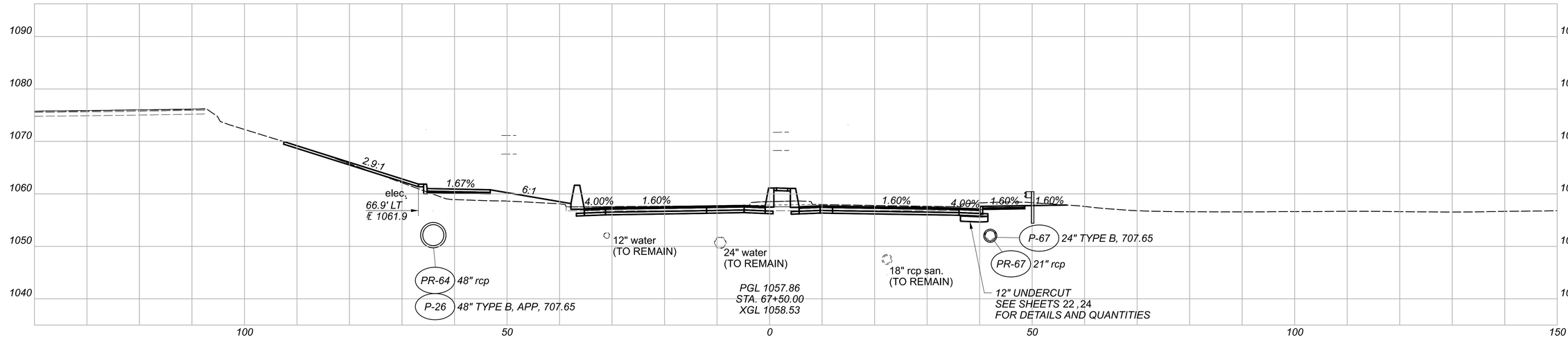
FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - HARPER ROAD
STA. 67+50.00 TO STA. 67+75.00

CUY-422-16.20 (HARPER ROAD)

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113889

Sheet Totals		
Seeding	Cut	Fill
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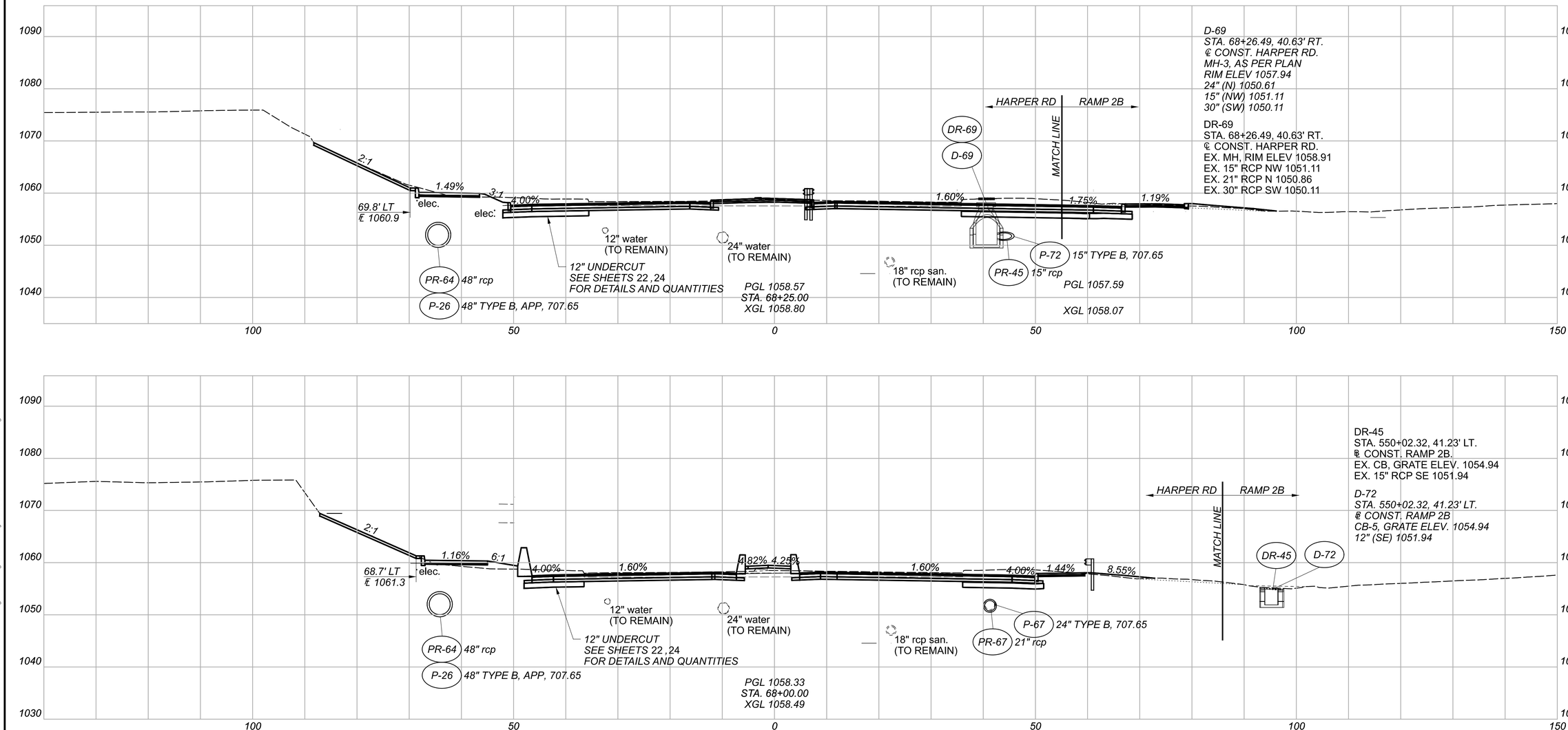
SHEET 237 TOTAL 481



CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - HARPER ROAD
STA. 68+00.00 TO STA. 68+25.00

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Sheet Totals		
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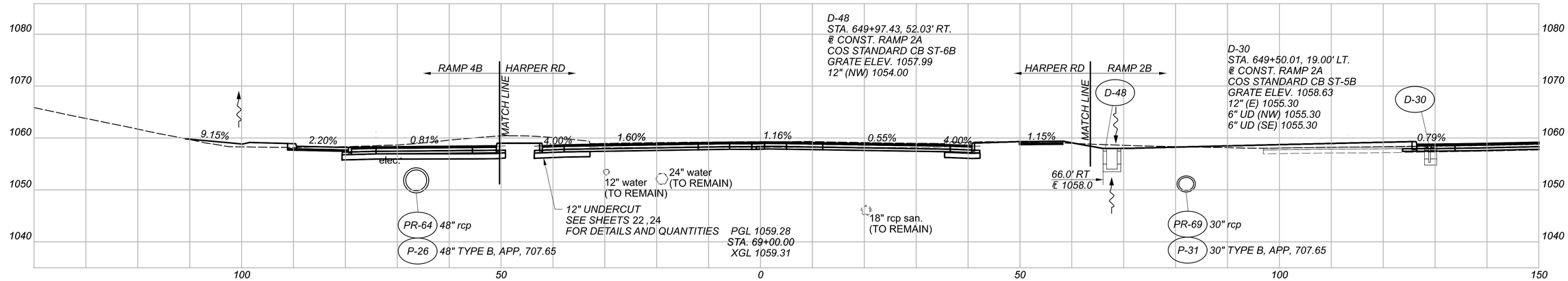
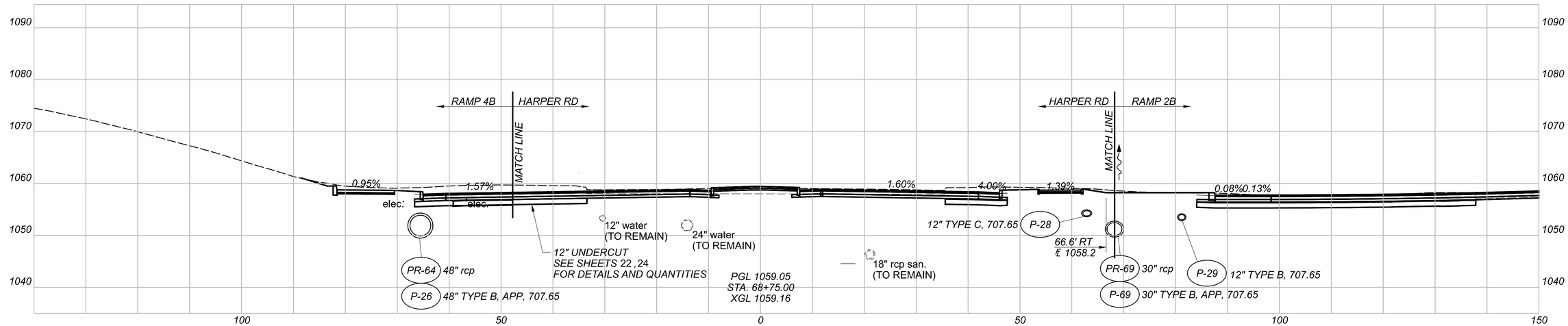
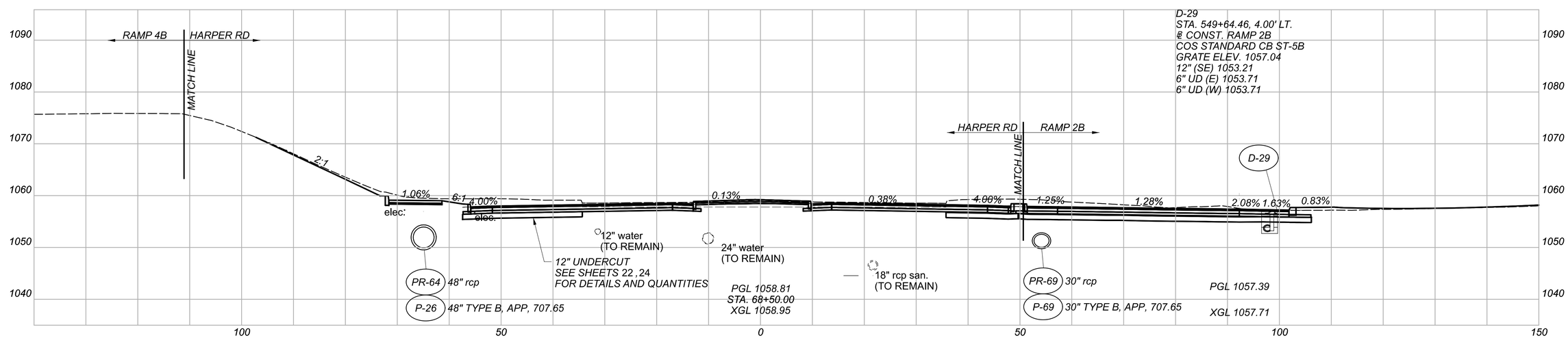
SHEET 238 TOTAL 481







FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
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CROSS SECTIONS - HARPER ROAD
STA. 68+50.00 TO STA. 69+00.00

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CUY-422-16.20 (HARPER ROAD)

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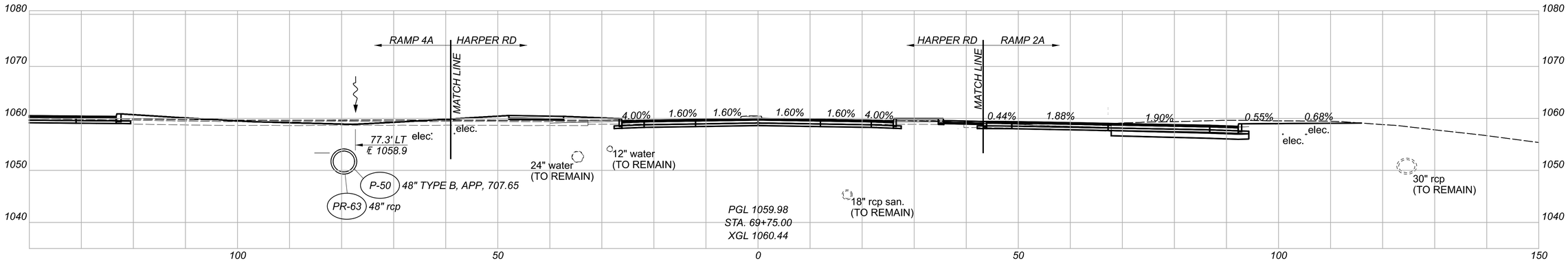

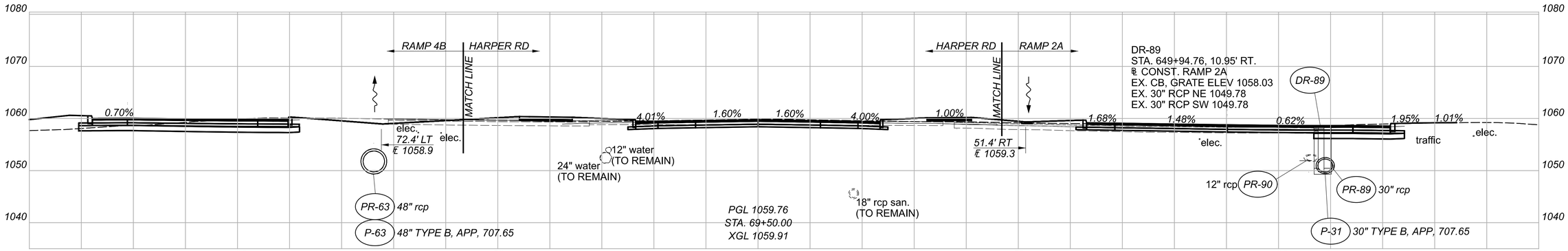

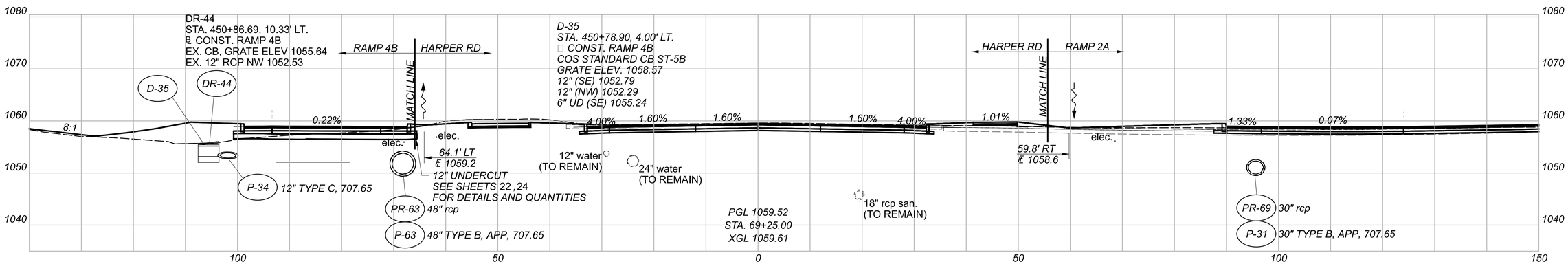

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - HARPER ROAD
STA. 69+25.00 TO STA.69+75.00

CUY-422-16.20 (HARPER ROAD)

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SHEET 240 TOTAL 481

CROSS SECTIONS - HARPER ROAD
STA. 70+00.00 TO STA. 70+50.00

CUY-422-16.20 (HARPER ROAD)

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Seeding	Cut	Fill
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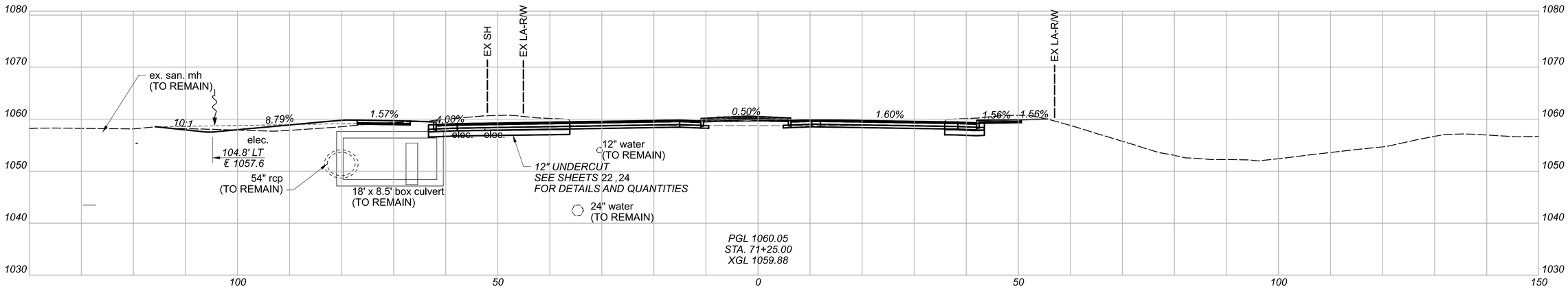
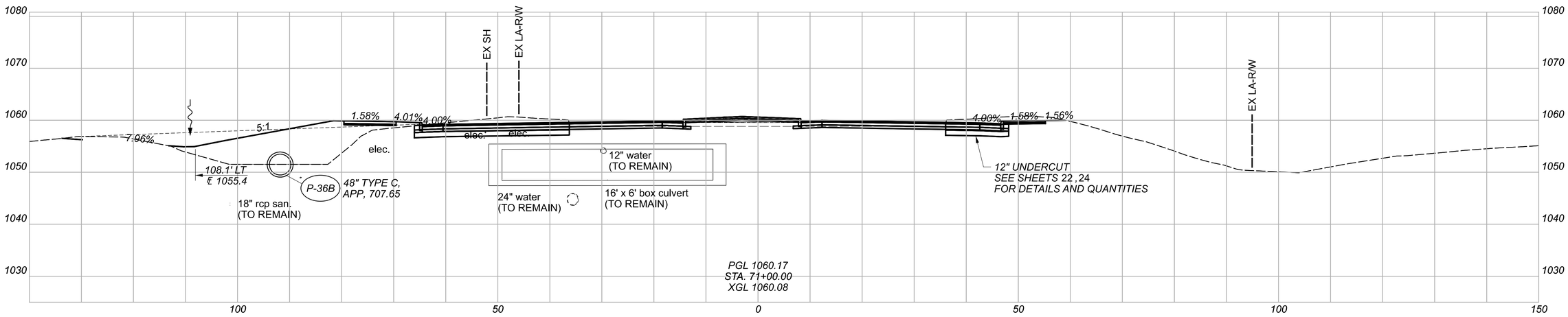
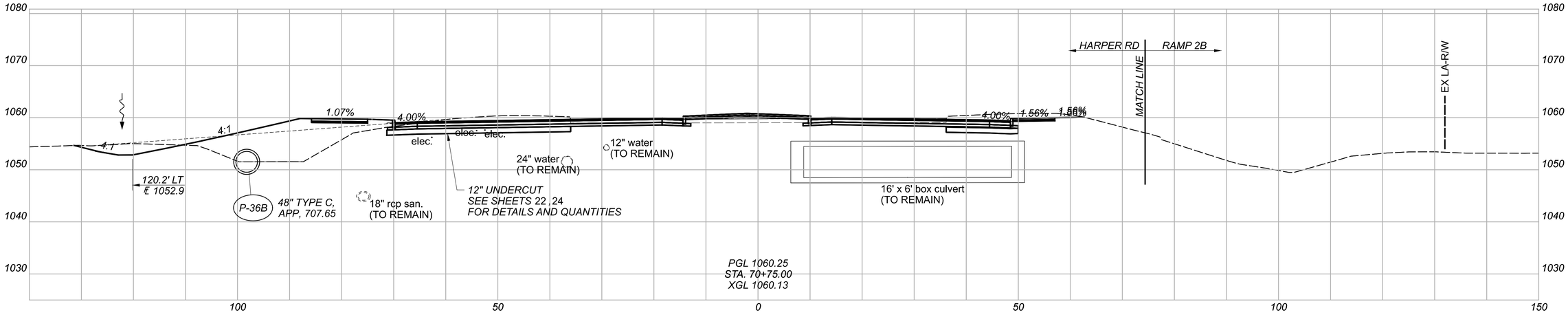
SHEET 241 TOTAL 481







CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - HARPER ROAD
STA. 70+75.00 TO STA. 71+25.00

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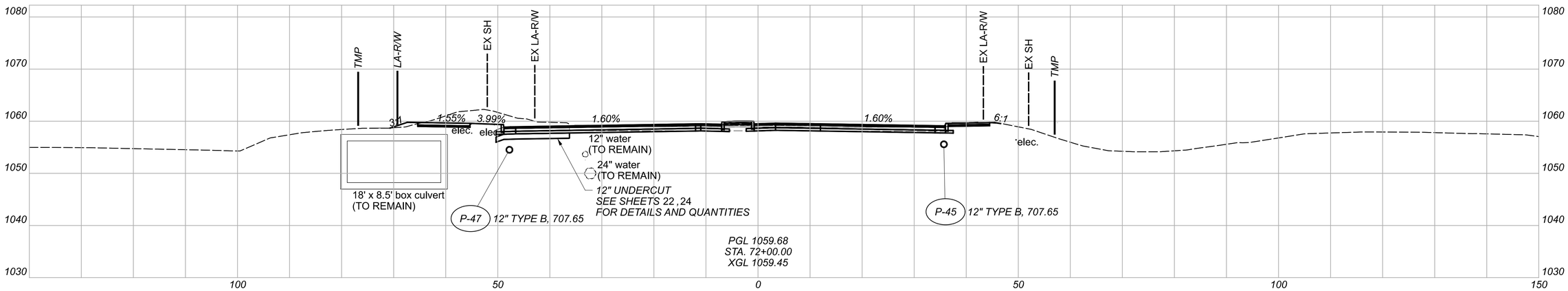
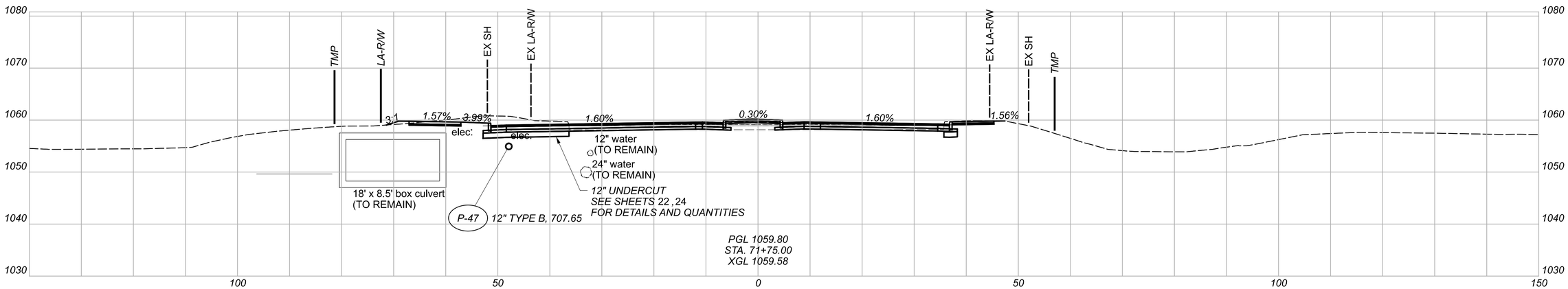
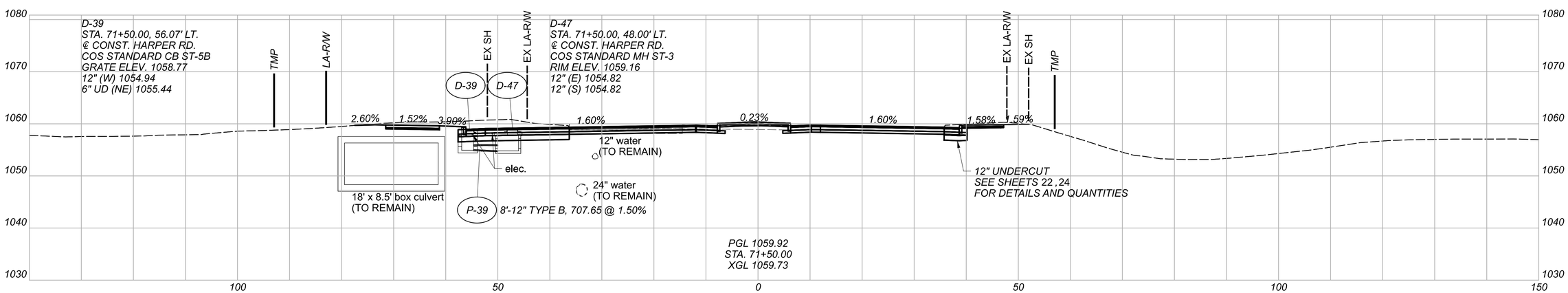
SHEET 242 TOTAL 481







FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - HARPER ROAD
STA. 71+50.00 TO STA. 72+00.00

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C20 - 71+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 8:42:21 AM USER: cluzier
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Sheet Totals		
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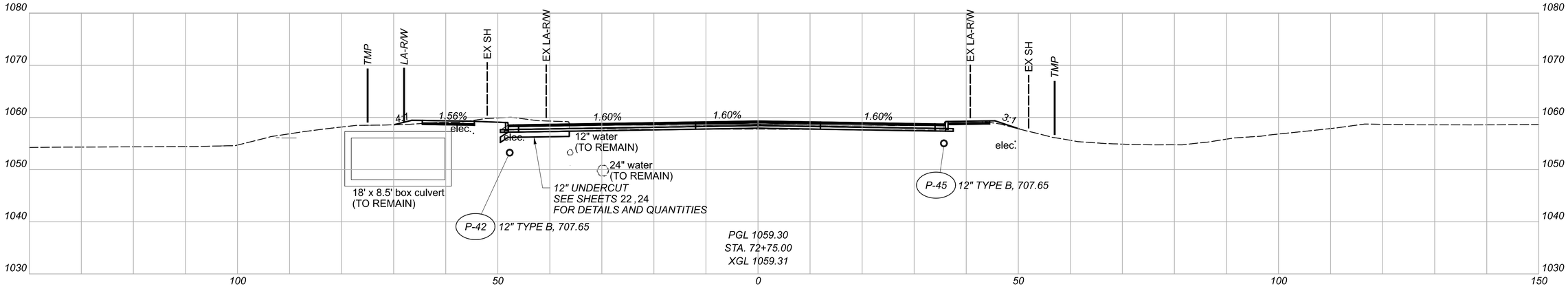
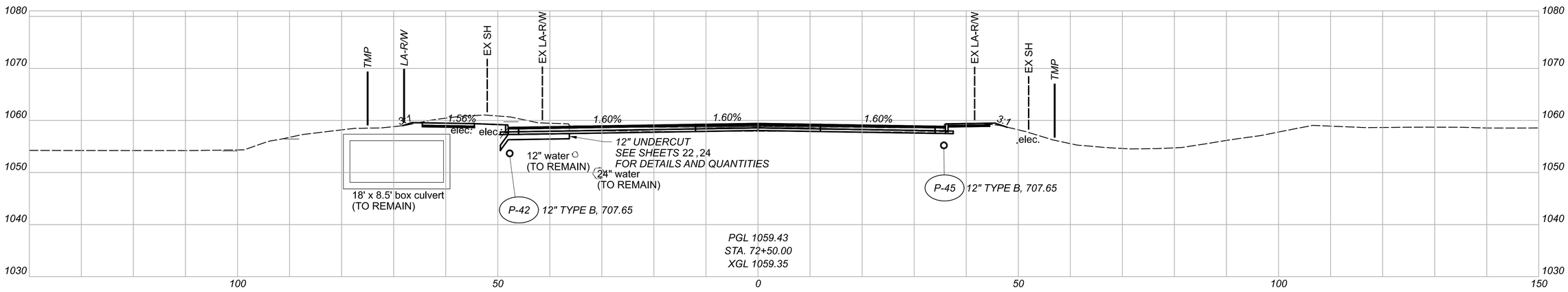
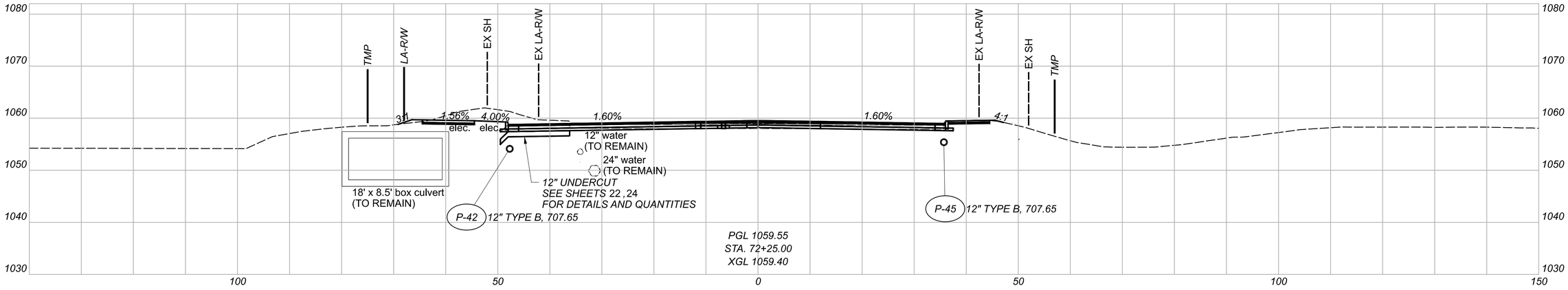
SHEET 243 TOTAL 481







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CROSS SECTIONS - HARPER ROAD
STA. 72+25.00 TO STA. 72+75.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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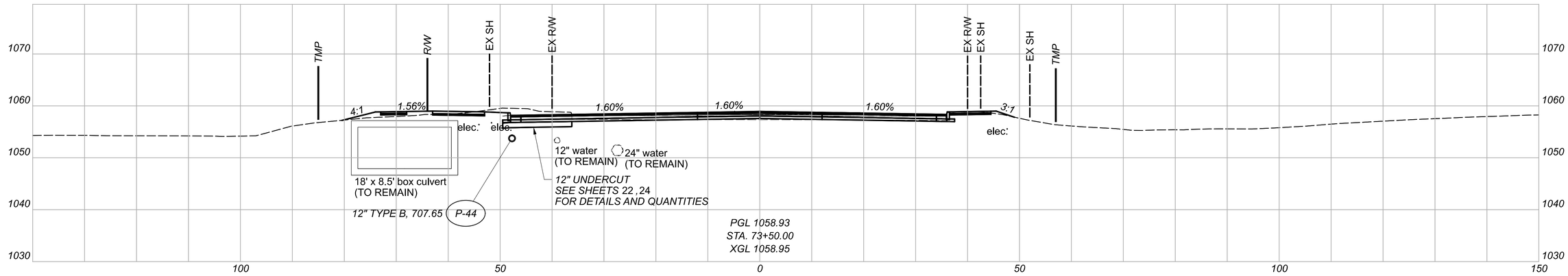
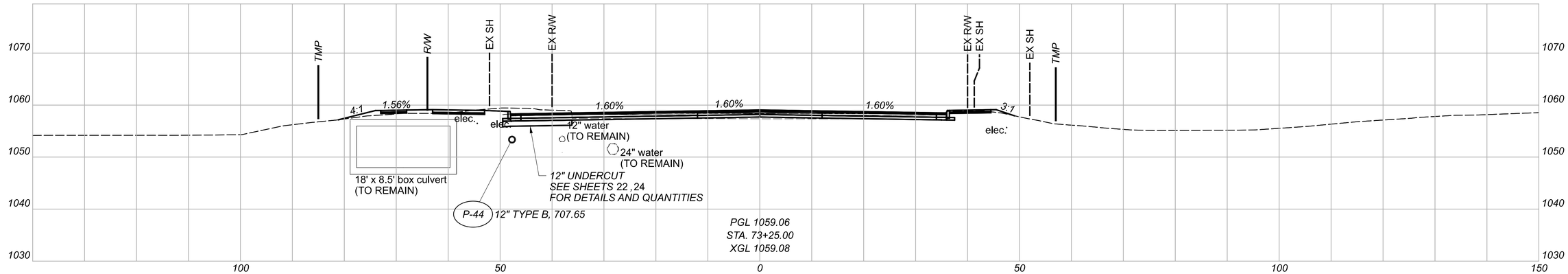
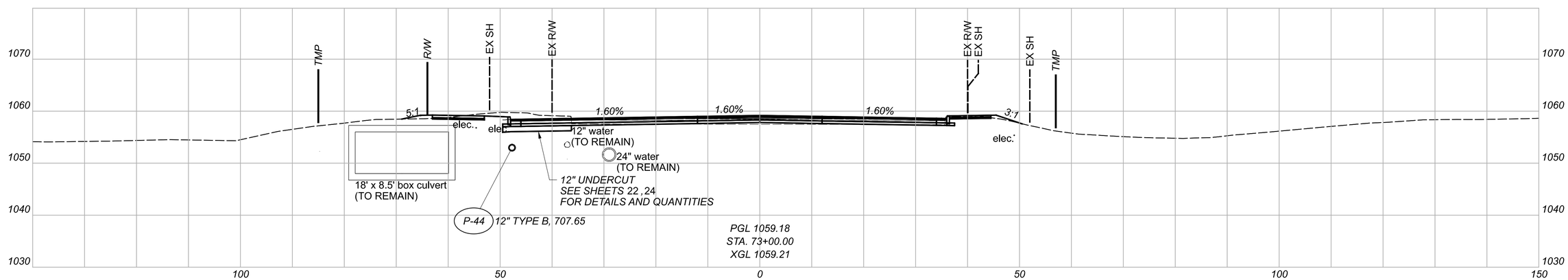
PROJECT ID 113889

SHEET 244 TOTAL 481







FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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CROSS SECTIONS - HARPER ROAD
STA. 73+00.00 TO STA. 73+50.00

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PROJECT ID 113889
SHEET 245 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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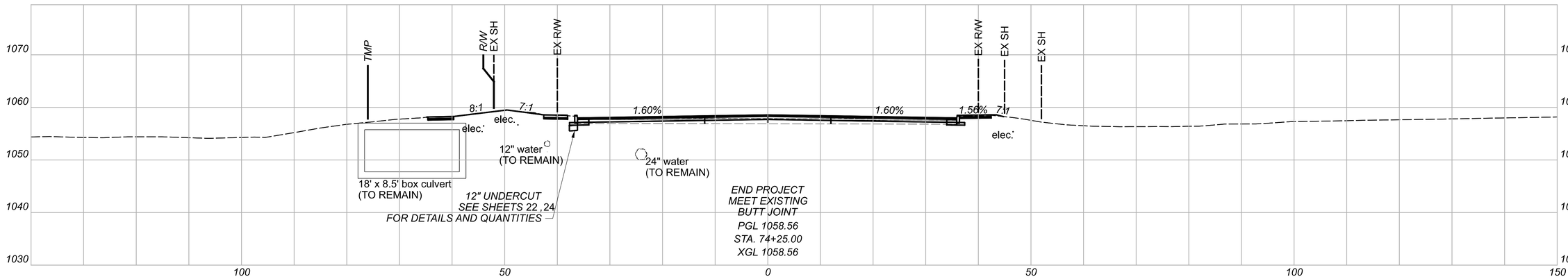

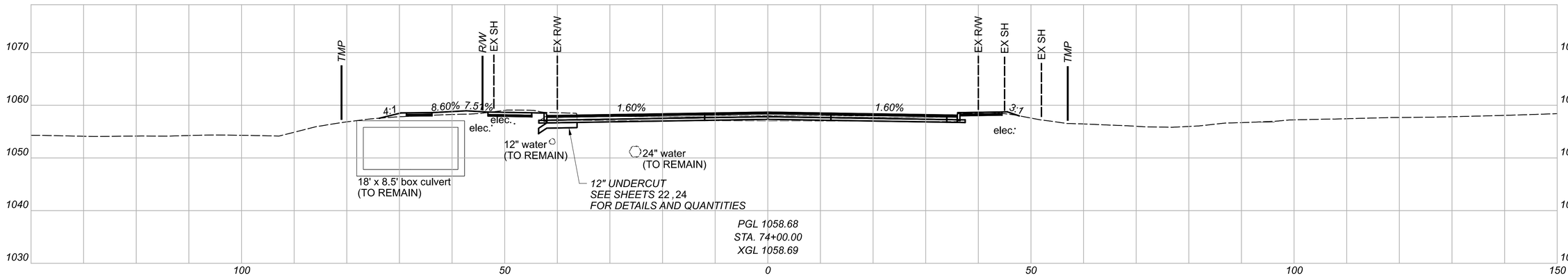

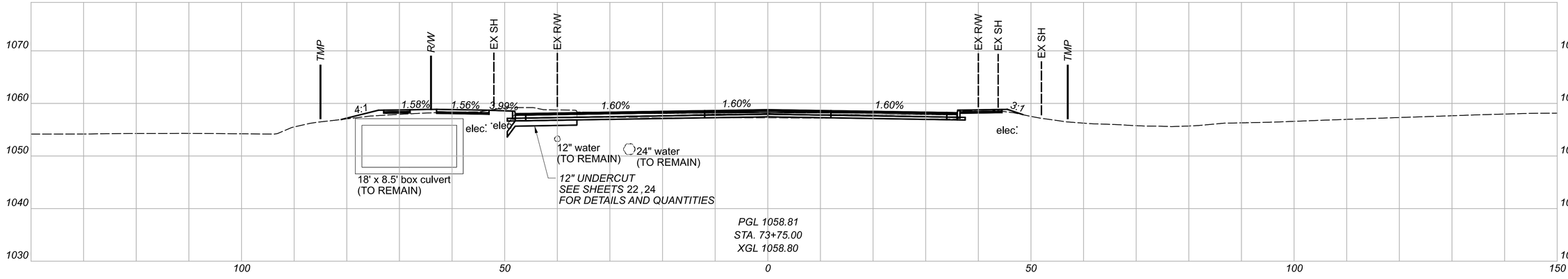

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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CROSS SECTIONS - HARPER ROAD
STA. 73+75.00 TO STA. 74+25.00

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CUY-422-16.20 (HARPER ROAD)

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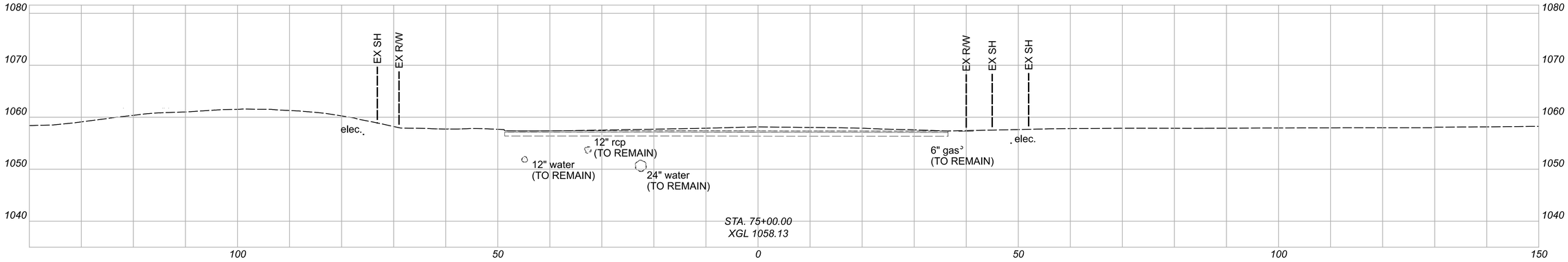

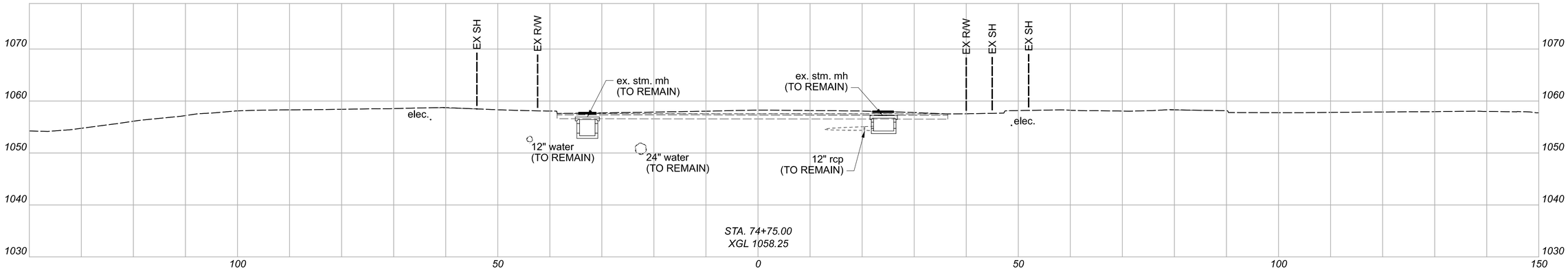

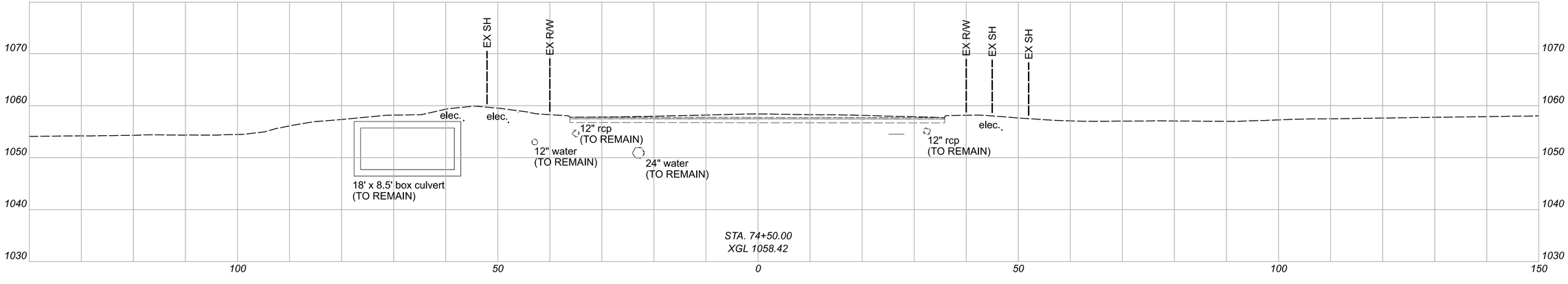

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CROSS SECTIONS - HARPER ROAD
STA. 74+50.00 TO STA. 75+00.00

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PROJECT ID: 113889

Sheet Totals		
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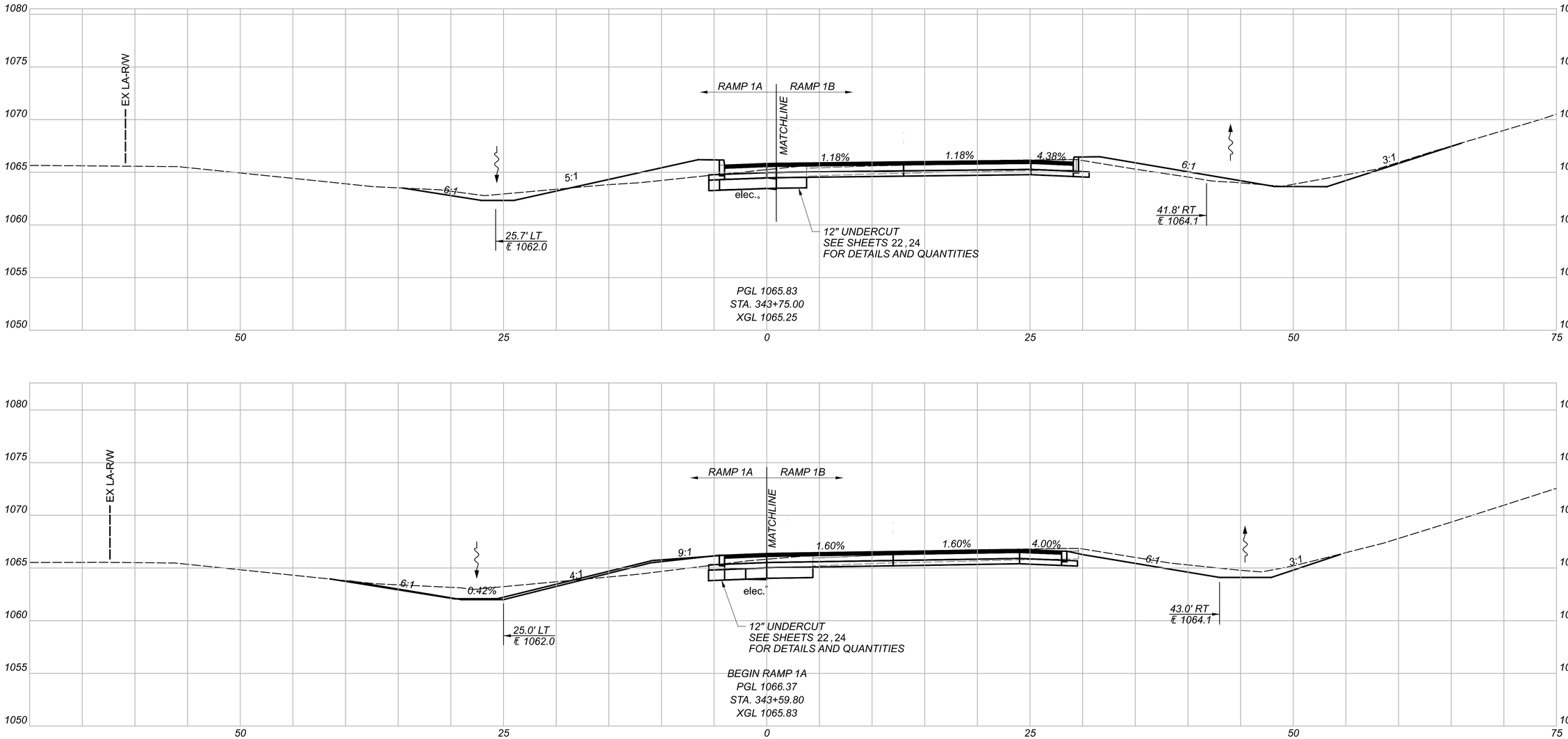
SHEET 247 TOTAL 481

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24



CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 1A
STA. 343+59.80 TO STA. 343+75.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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PROJECT ID
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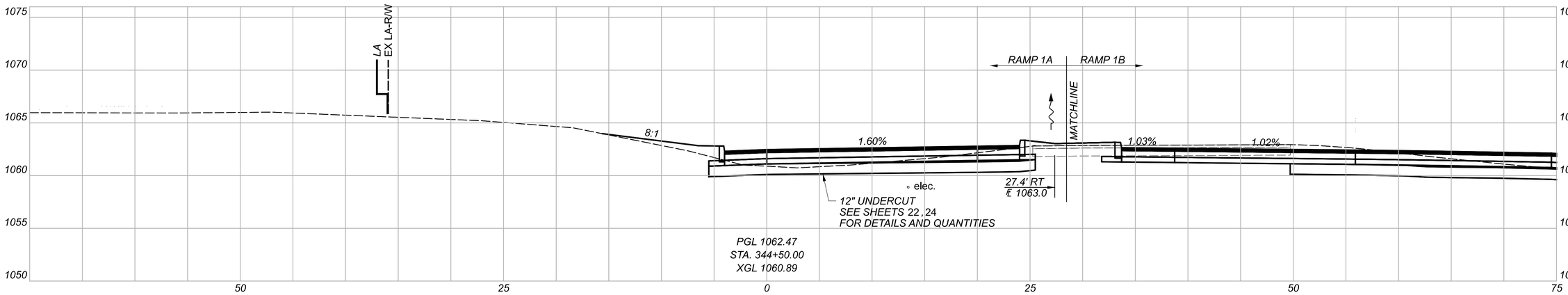
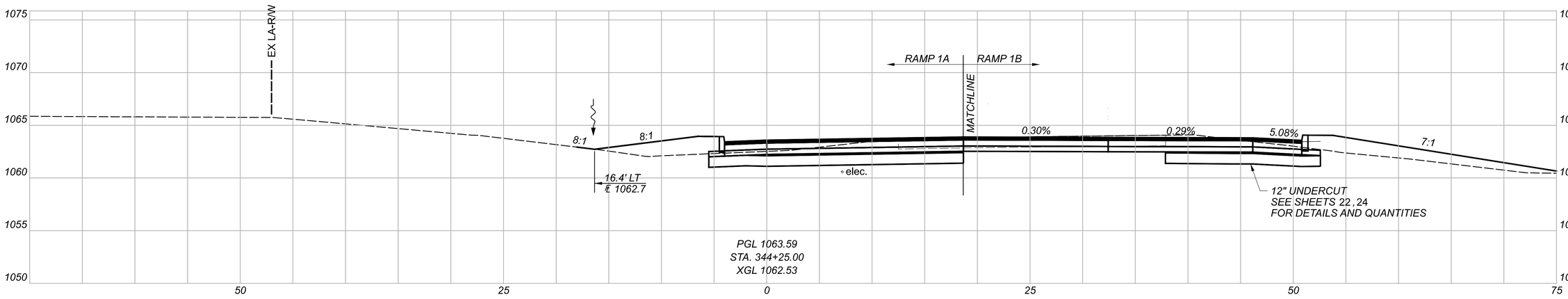
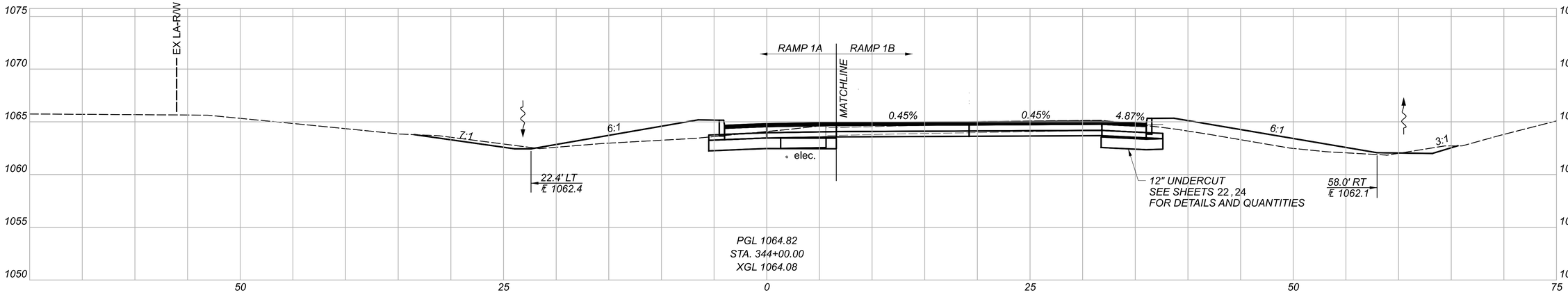
SHEET 248 TOTAL 481







FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - RAMP 1A
STA. 344+00.00 TO STA. 344+50.00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_ROIBIA - 344+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:21:20 AM USER: cluzier
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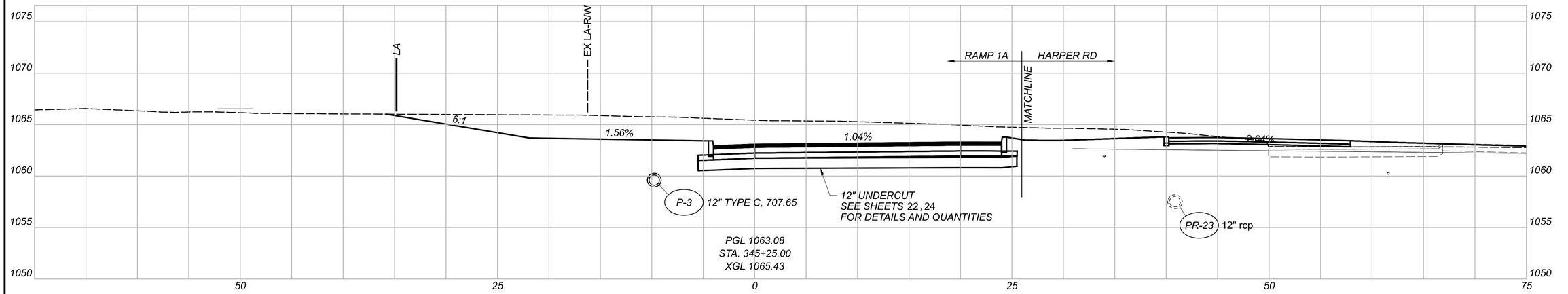
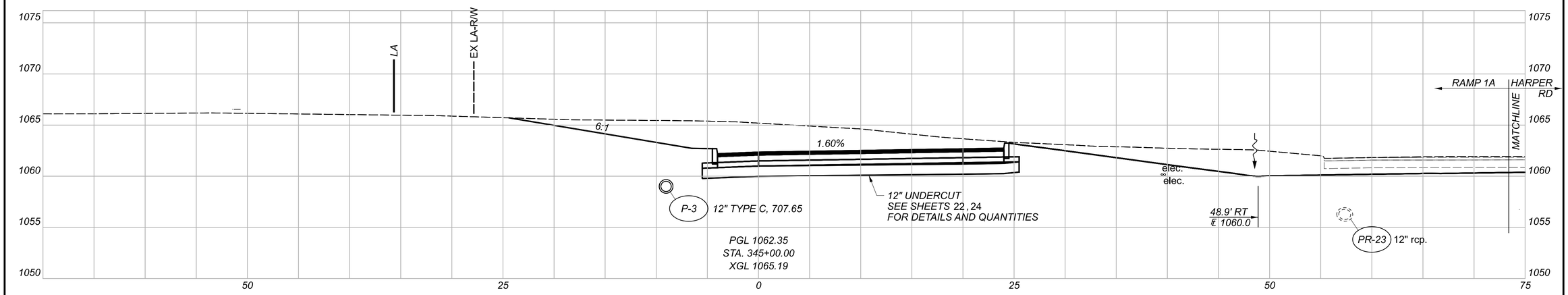
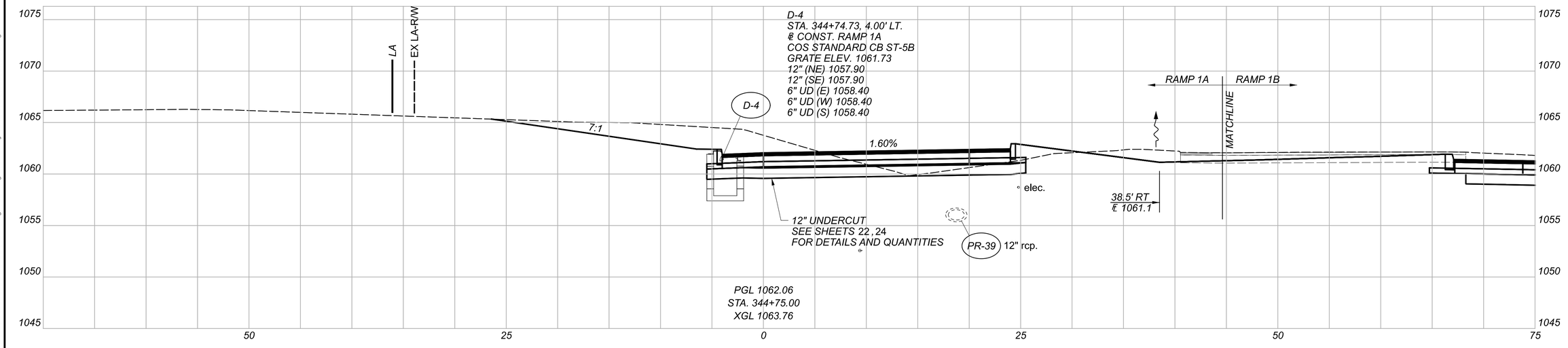
PROJECT ID
113889

SHEET 249 TOTAL 481







CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 1A
STA. 344+75.00 TO STA. 345+25.00

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Sheet Totals		
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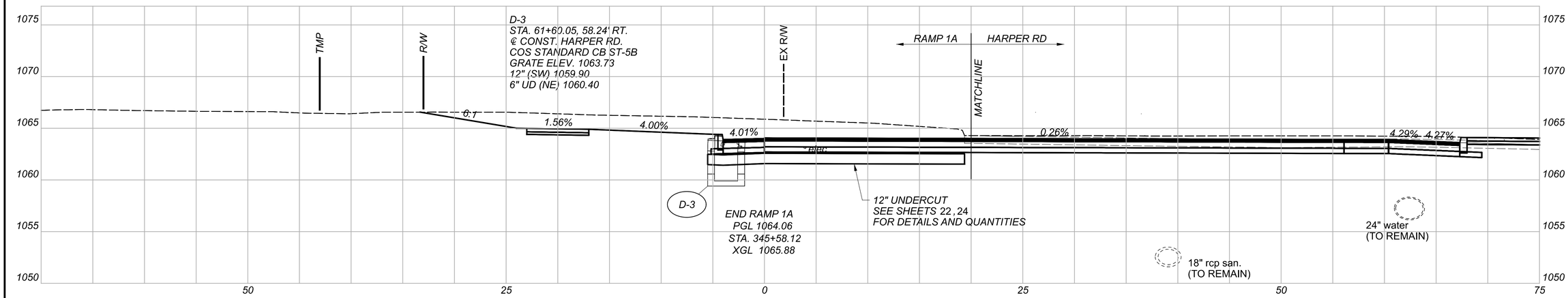
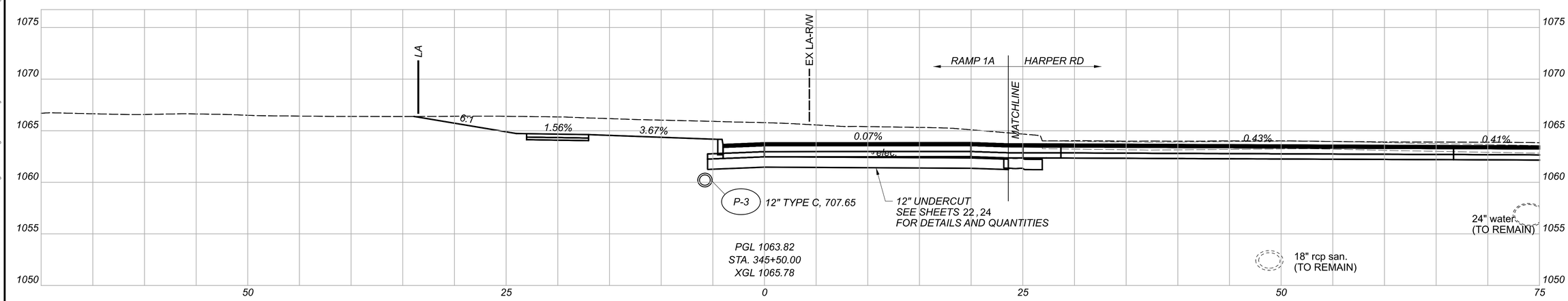
SHEET 250 | TOTAL 481

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - RAMP 1A
STA. 345+50.00 TO STA. 345+58.12

Sheet Totals		
Seeding	Cut	Fill
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CUY-422-16.20 (HARPER ROAD)

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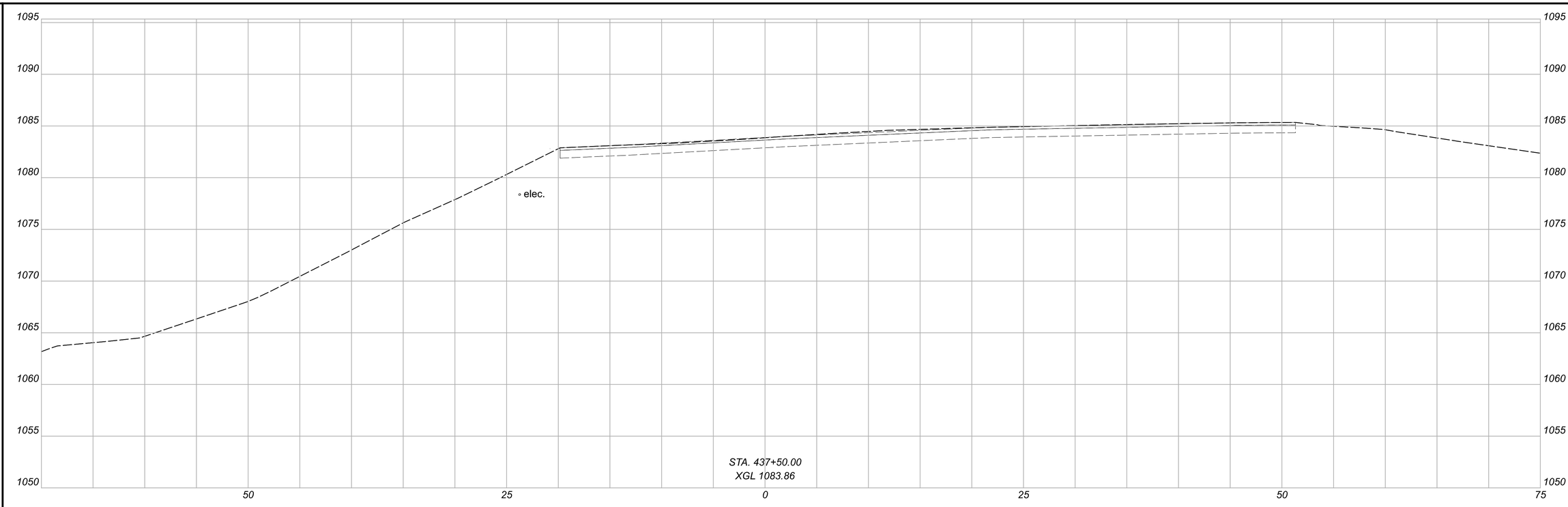

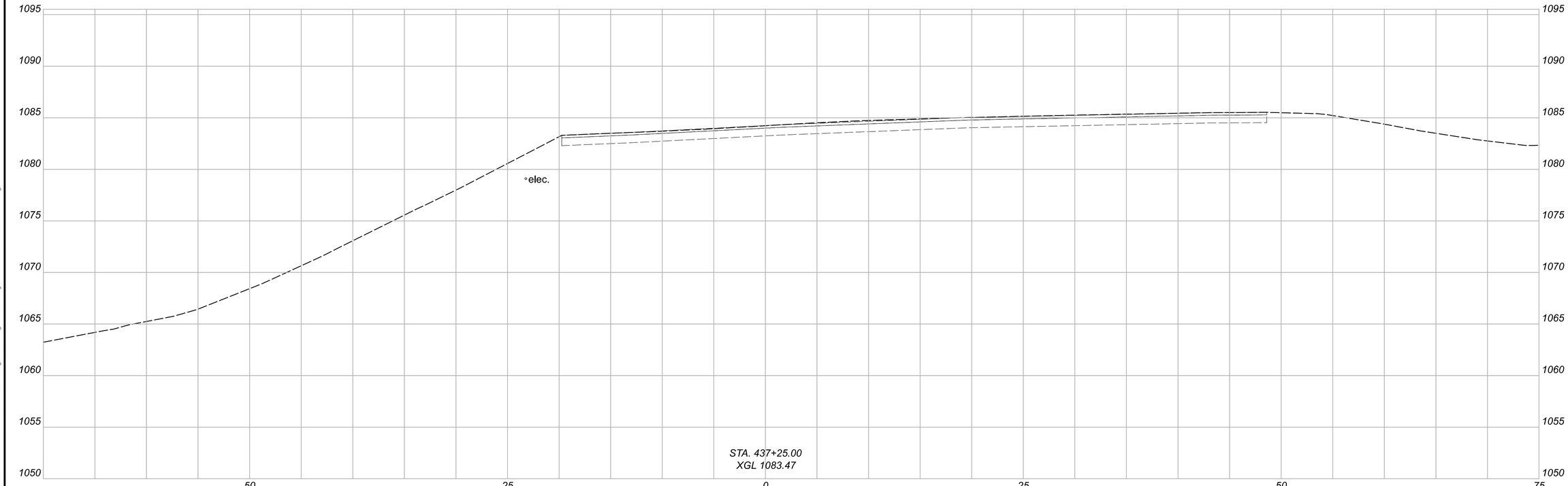

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CUY-422-16.20 (HARPER ROAD)

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FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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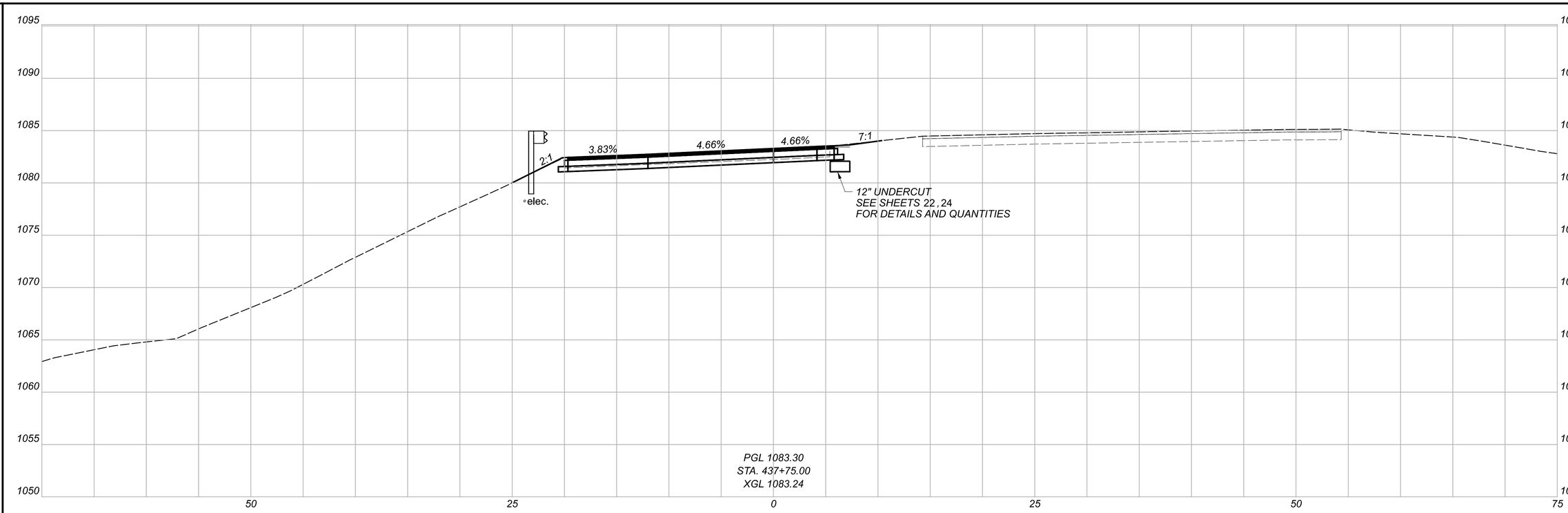
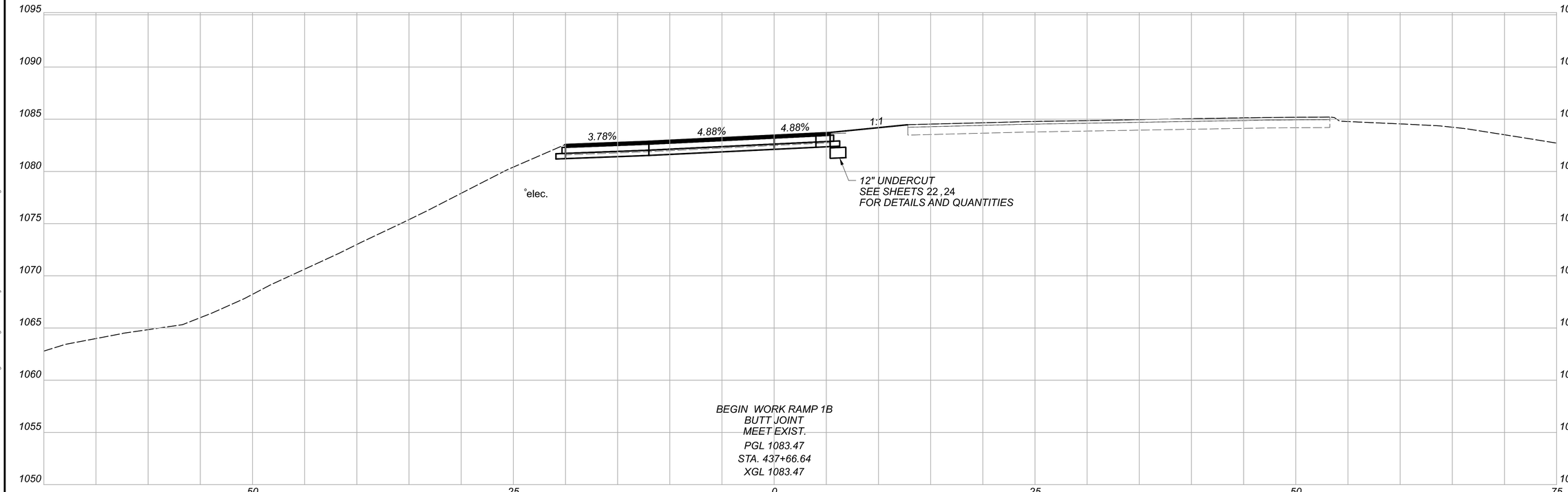
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 252 TOTAL 481





CROSS SECTIONS - RAMP 1B
STA. 437+66.64 TO STA. 437+75.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	253
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

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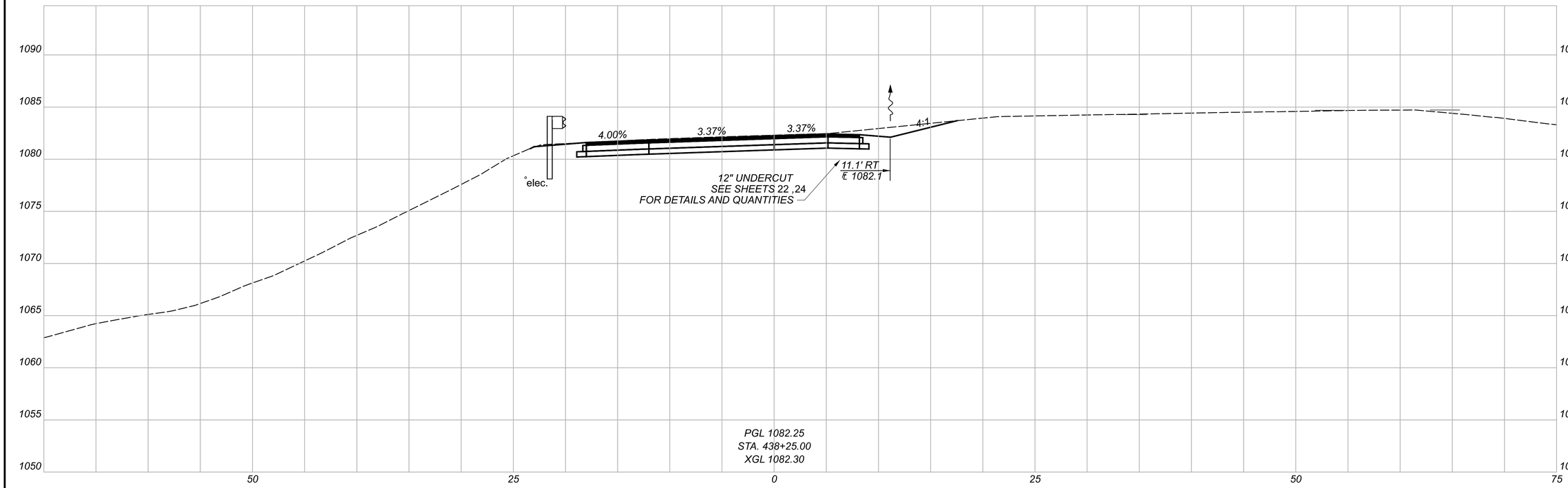

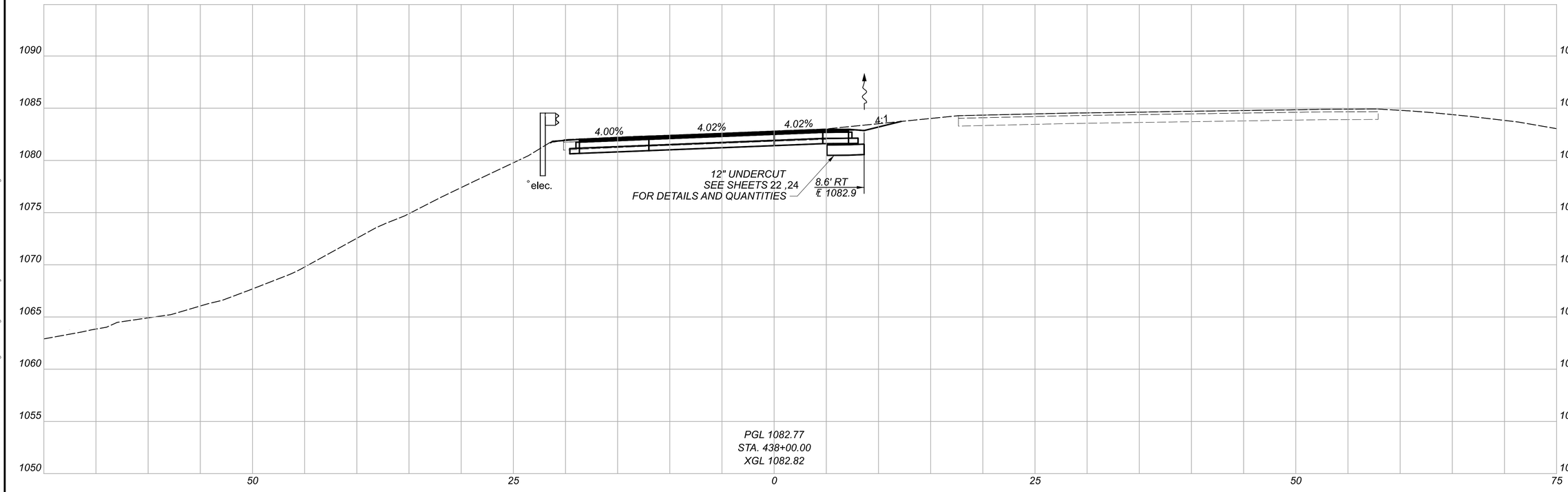

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STA. 438+00.00 TO STA. 438+25.00

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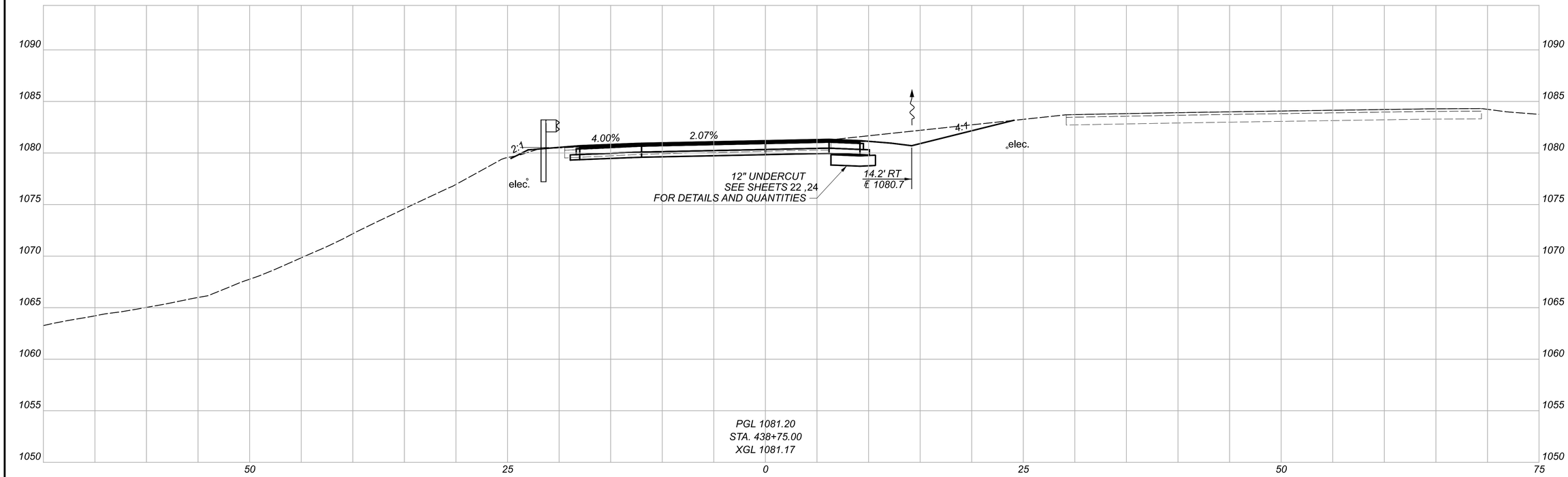
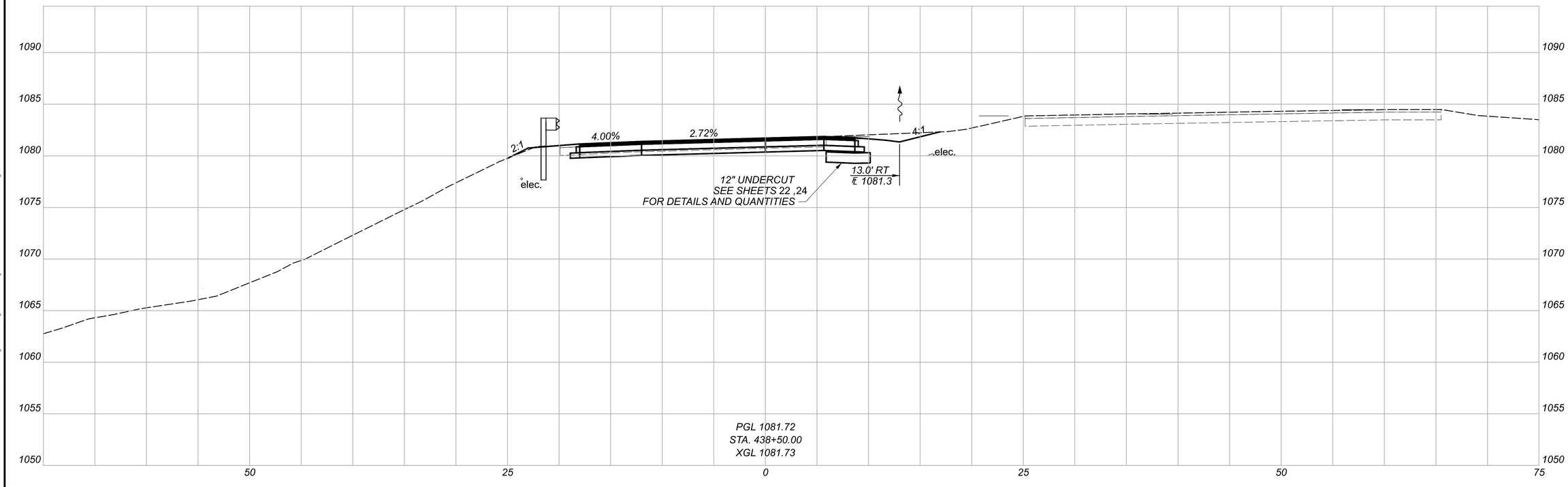
CWL 09/02/21

PROJECT ID
113889

SHEET 254 TOTAL 481





CROSS SECTIONS - RAMP 1B
STA. 438+50.00 TO STA. 438+75.00

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Sheet Totals		
Seeding	Cut	Fill
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SHEET 255 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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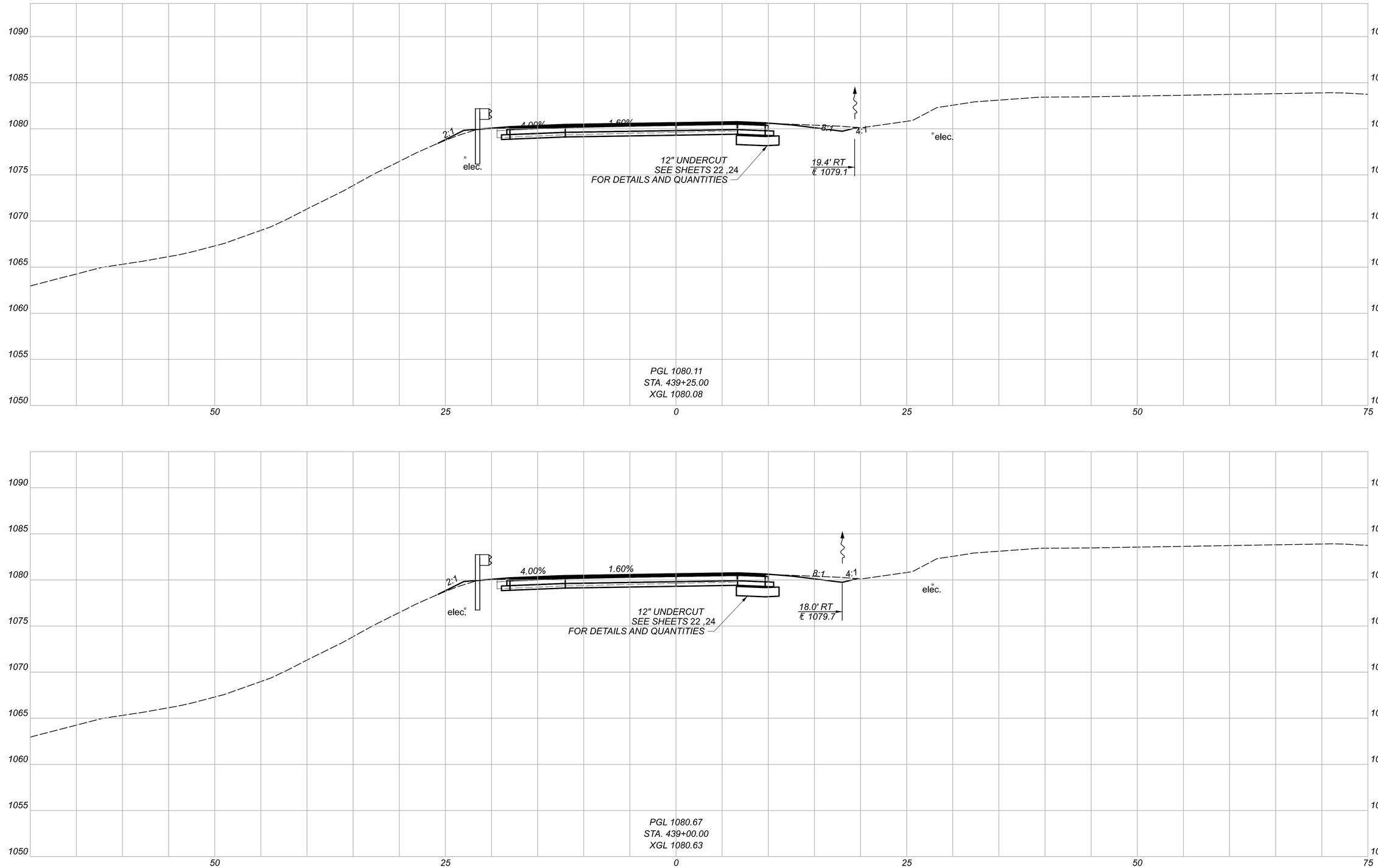

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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CROSS SECTIONS - RAMP 1B
STA. 439+00.00 TO STA. 439+25.00

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PROJECT ID	113889
SHEET	256
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

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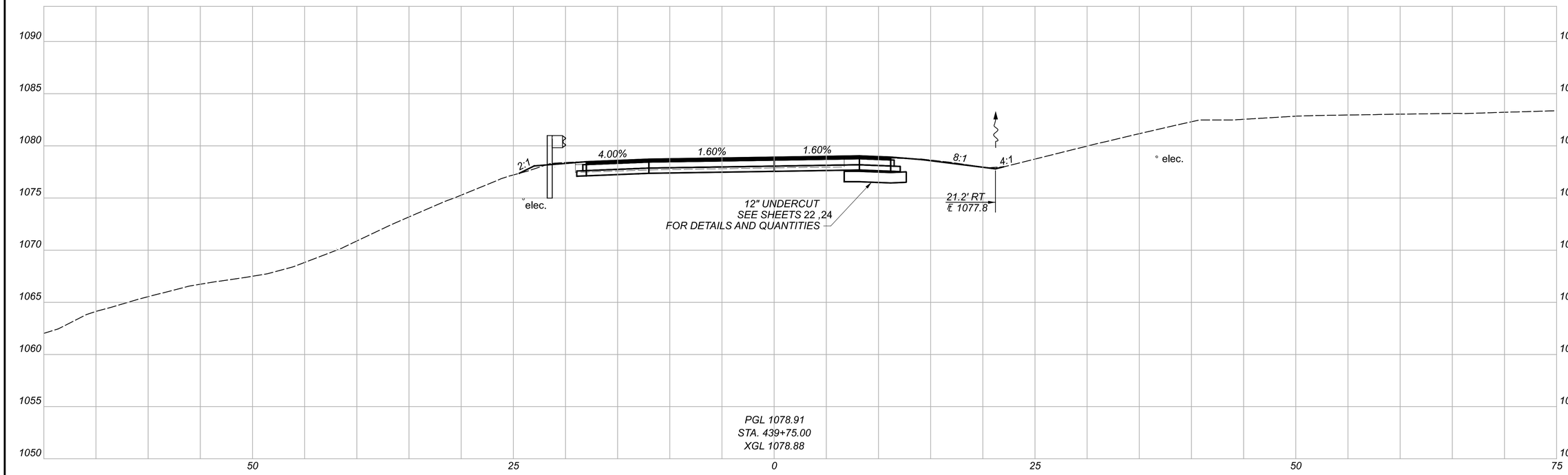

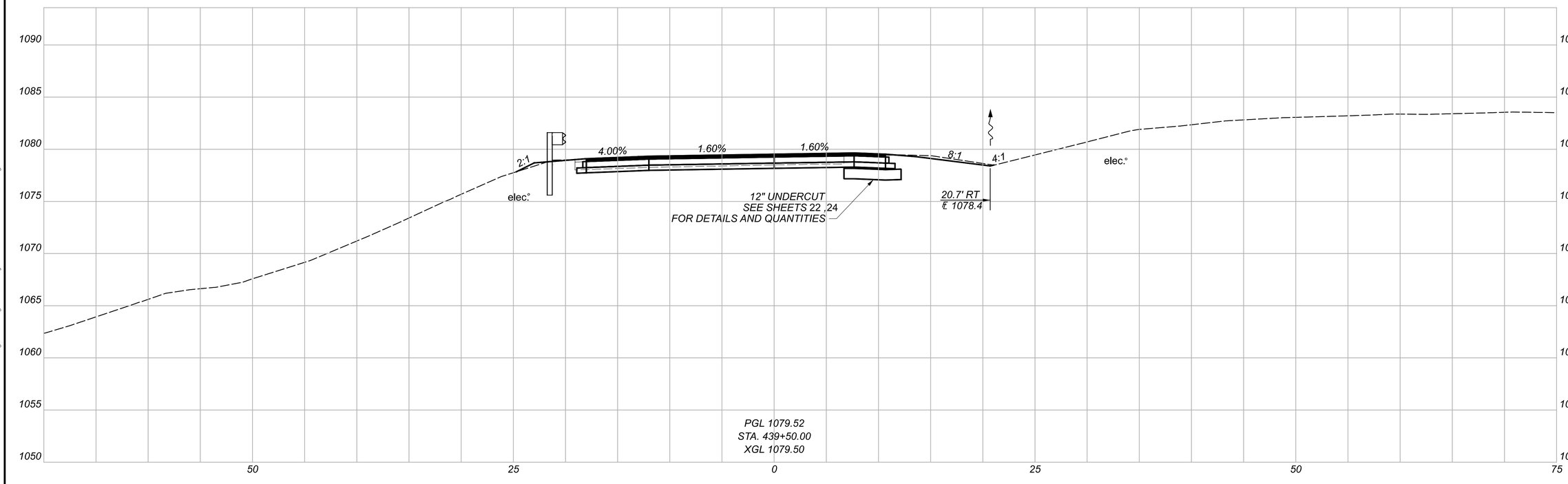

CROSS SECTIONS - RAMP 1B
STA. 439+50.00 TO STA. 439+75.00

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Sheet Totals		
Seeding	Cut	Fill
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SHEET 257 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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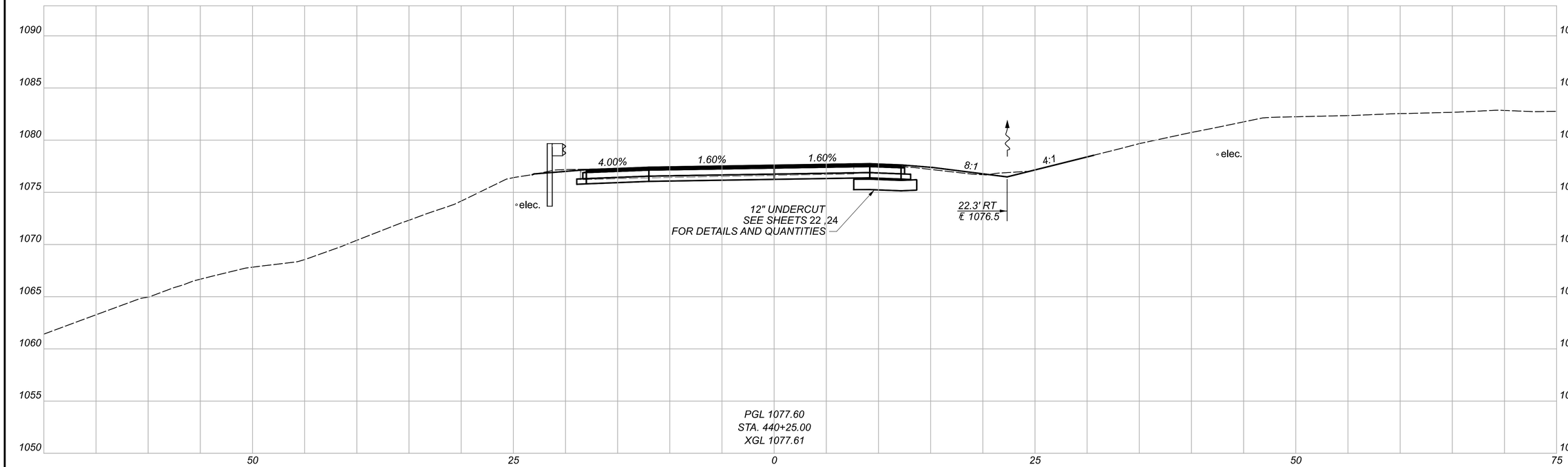

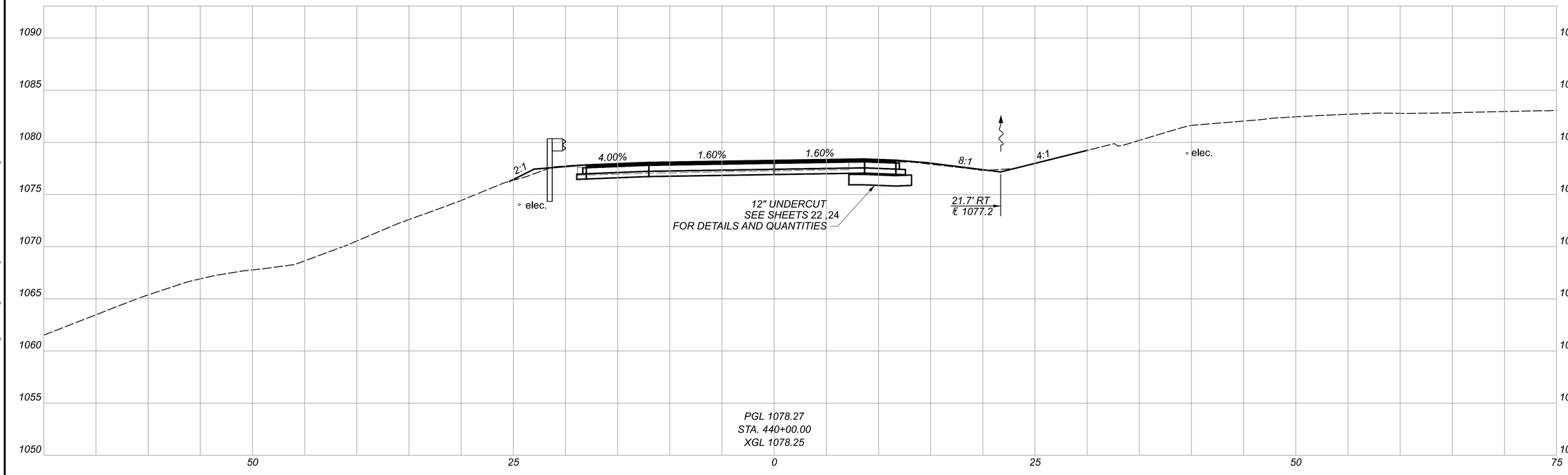

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - RAMP 1B
STA. 440+00.00 TO STA. 440+25.00

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID	113889

Sheet Totals		
Seeding	Cut	Fill
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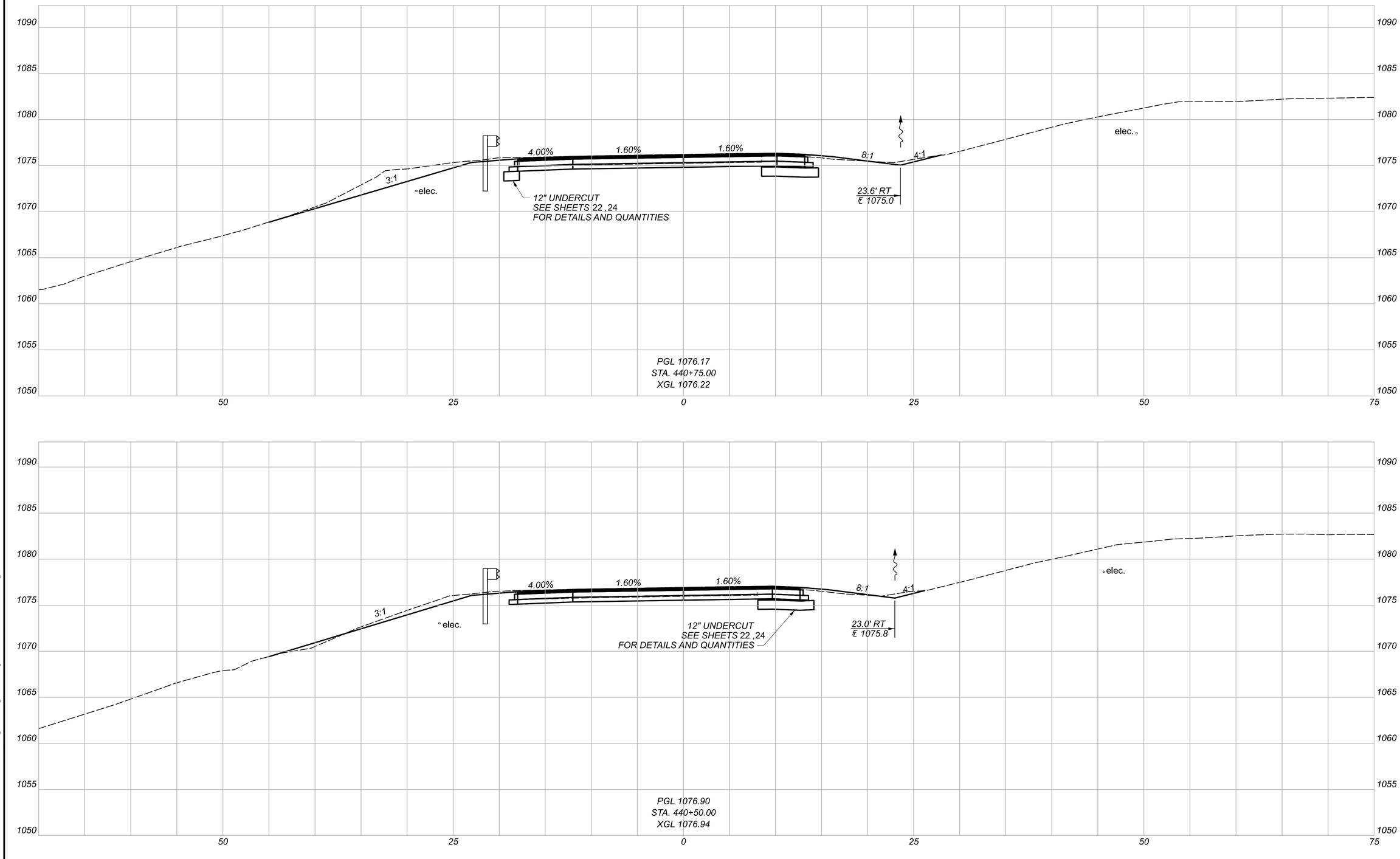
SHEET	TOTAL
258	481



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CROSS SECTIONS - RAMP 1B
STA. 440+50.00 TO STA. 440+75.00

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Sheet Totals		
Seeding	Cut	Fill
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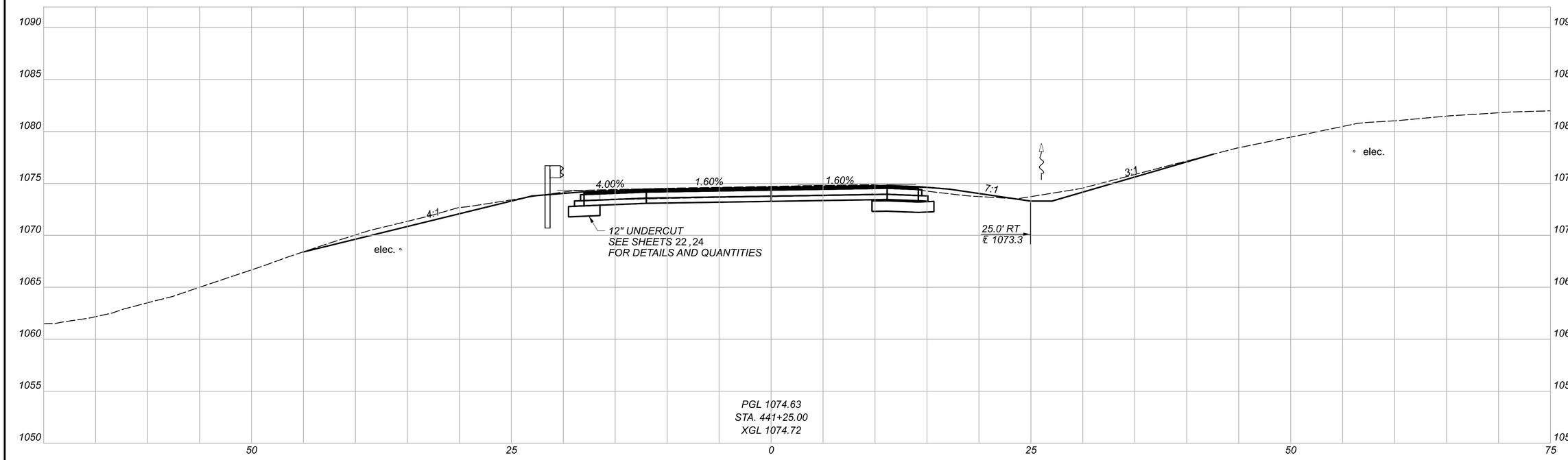
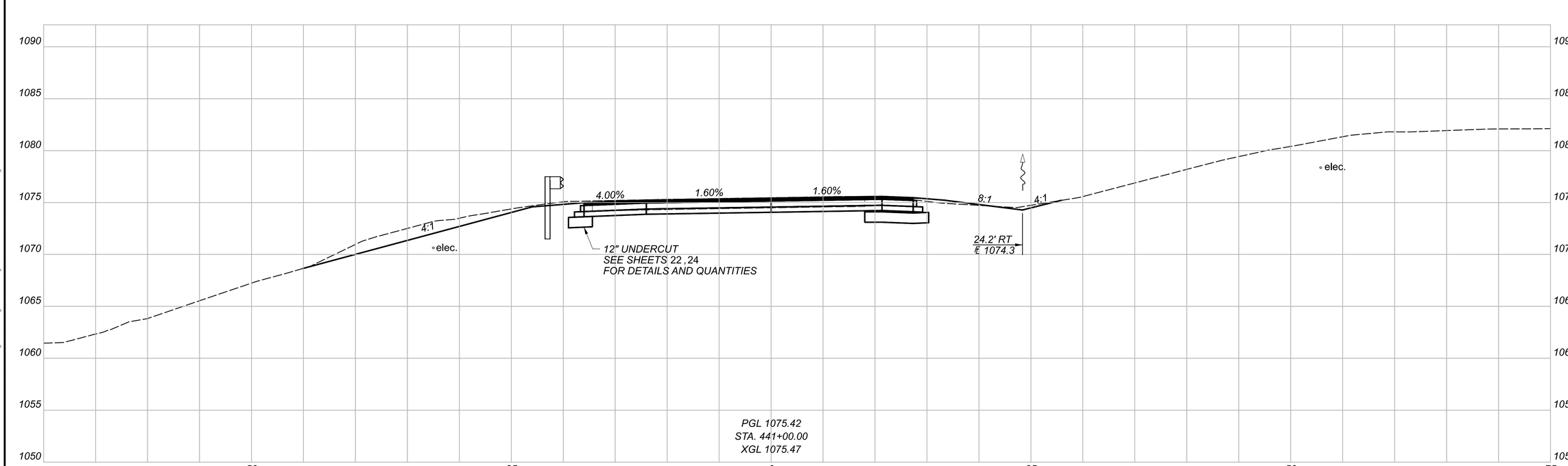
PROJECT ID
113889

SHEET 259 TOTAL 481





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 1B
STA. 441+00.00 TO STA. 441+25.00

Sheet Totals		
Seeding	Cut	Fill
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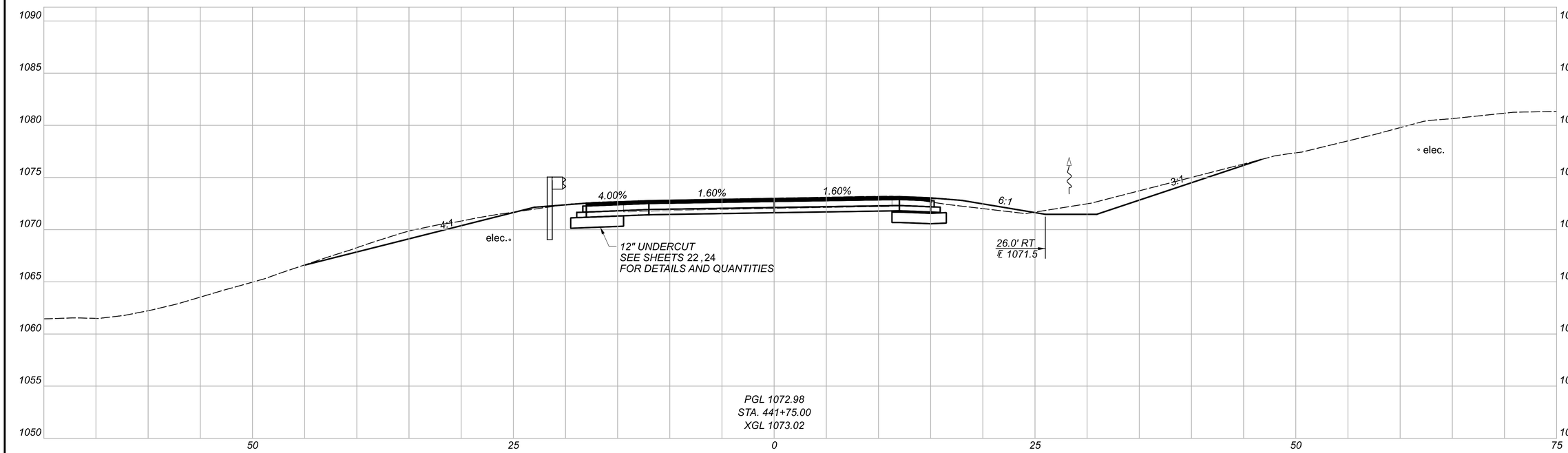
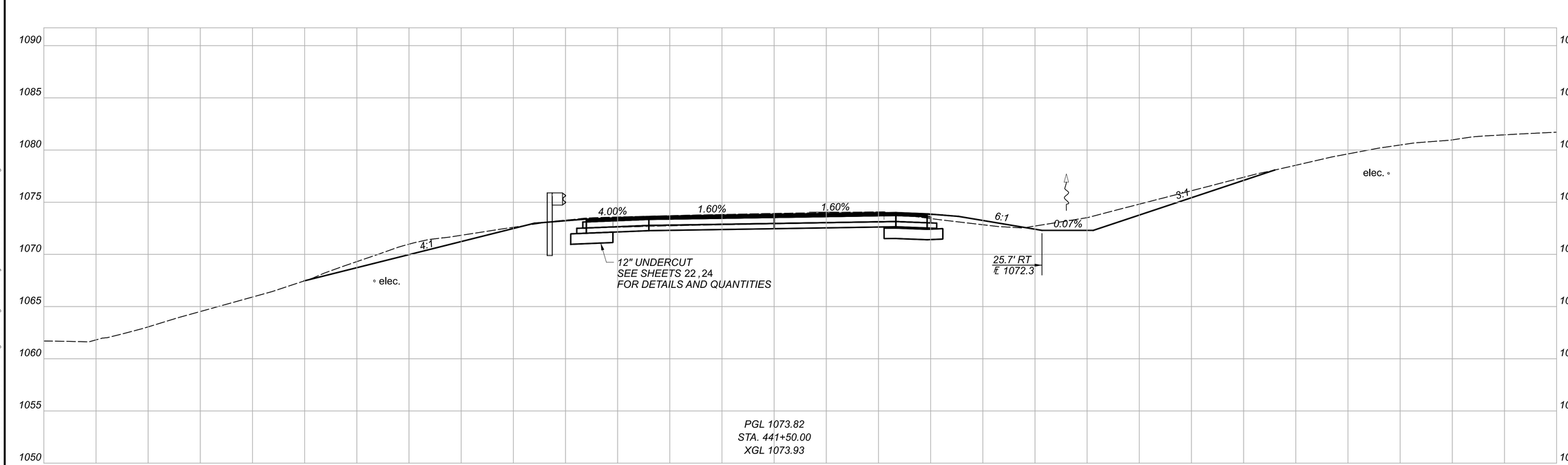
SHEET 260 TOTAL 481





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CROSS SECTIONS - RAMP 1B
STA. 441+50.00 TO STA. 441+75.00

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Sheet Totals		
Seeding	Cut	Fill
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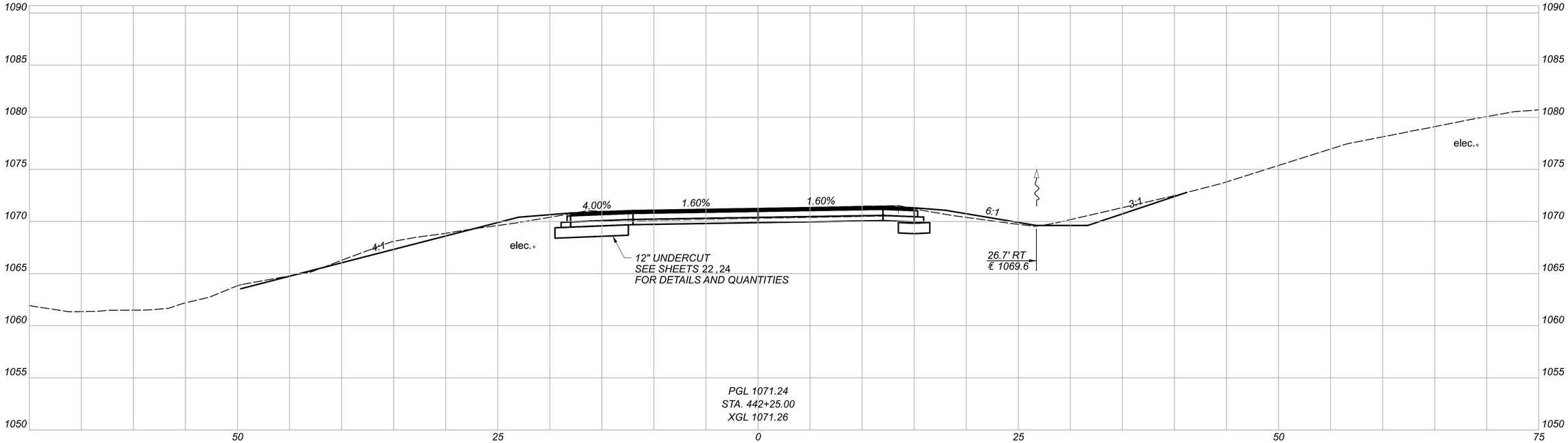
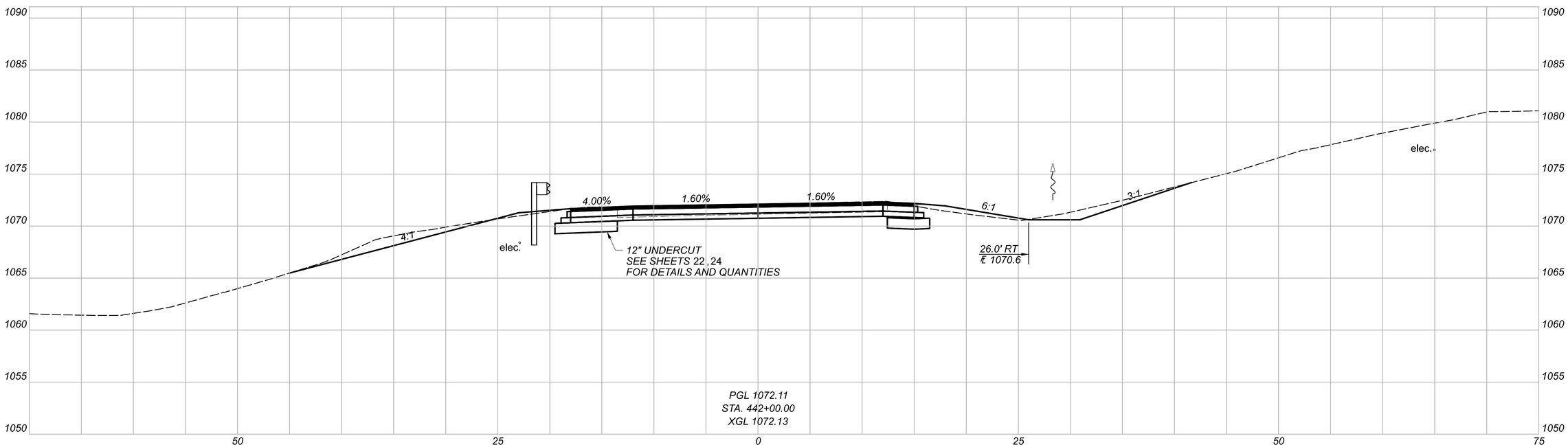
PROJECT ID	113889
SHEET	261
TOTAL	481





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CROSS SECTIONS - RAMP 1B
STA. 442+00.00 TO STA. 442+25.00

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SHEET 262 TOTAL 481

Sheet Totals		
Seeding	Cut	Fill
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CUY-422-16.20 (HARPER ROAD)

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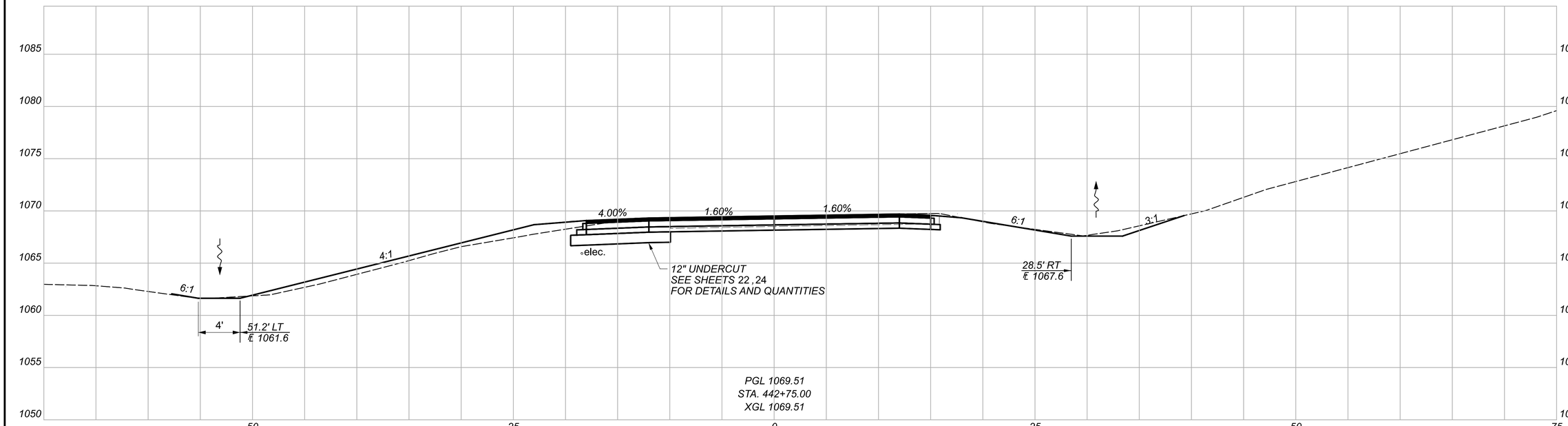

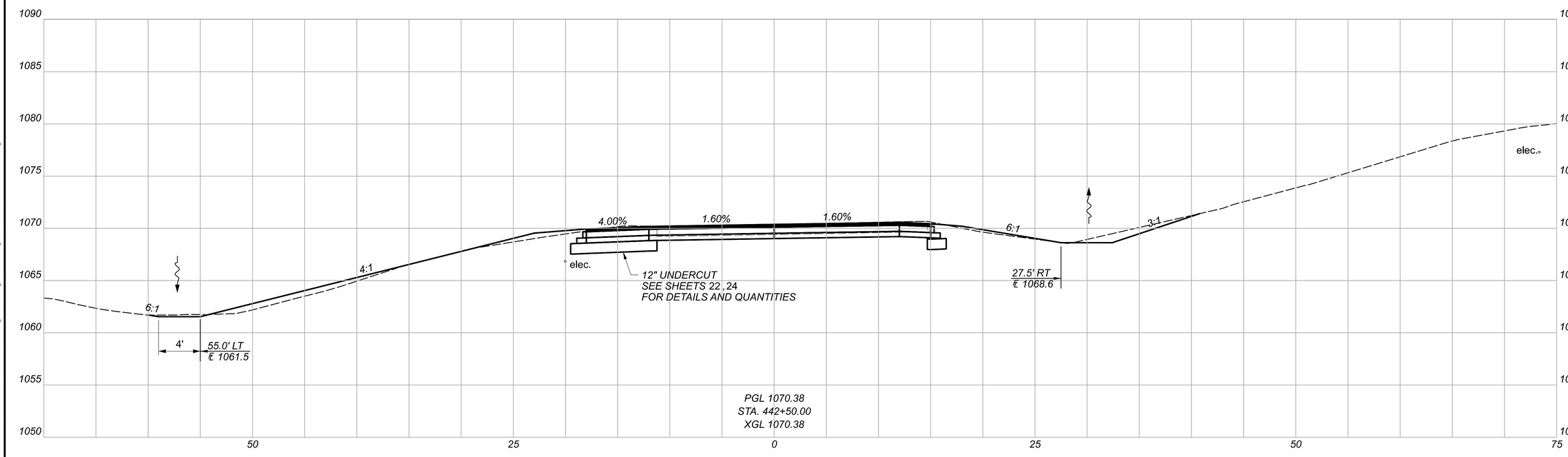

CROSS SECTIONS - RAMP 1B
STA. 442+50.00 TO STA. 442+75.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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SHEET	TOTAL
263	481

CUY-422-16.20 (HARPER ROAD)

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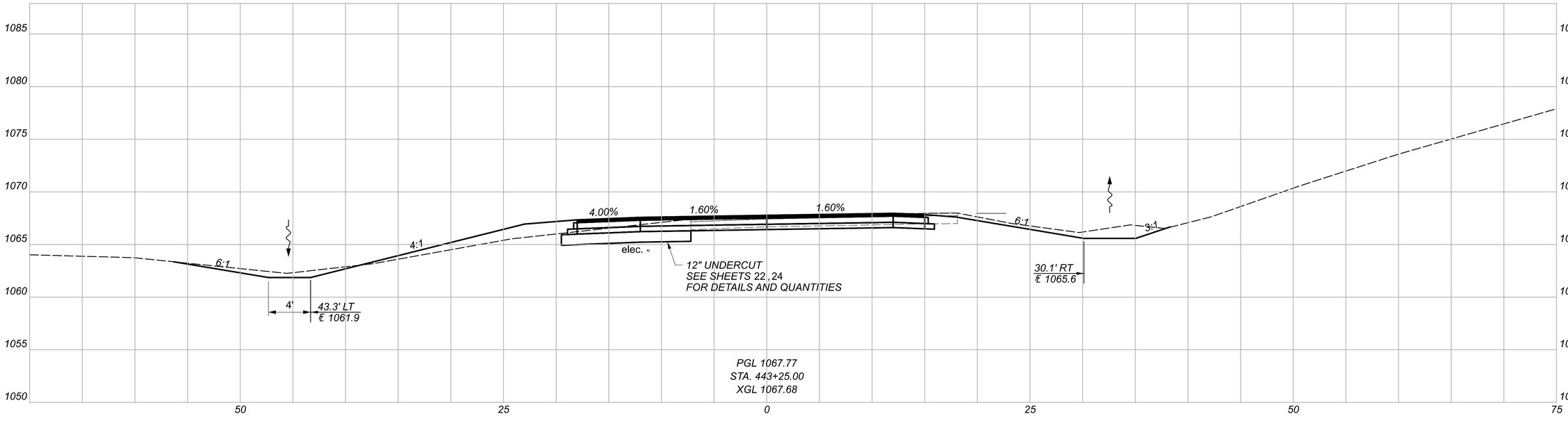

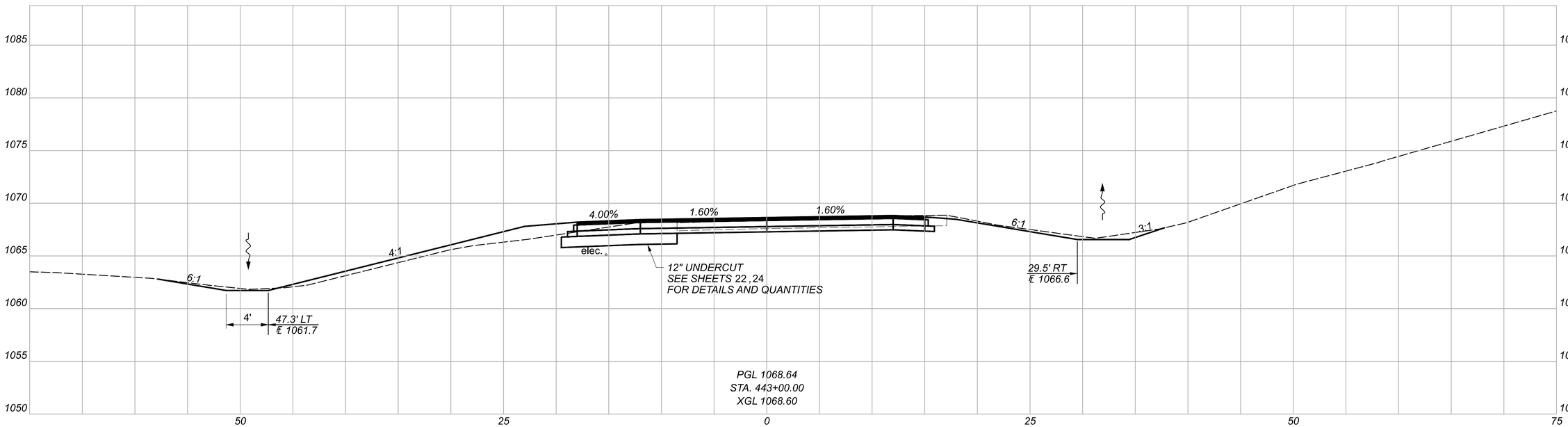

CROSS SECTIONS - RAMP 1B
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CUY-422-16.20 (HARPER ROAD)

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Sheet Totals		
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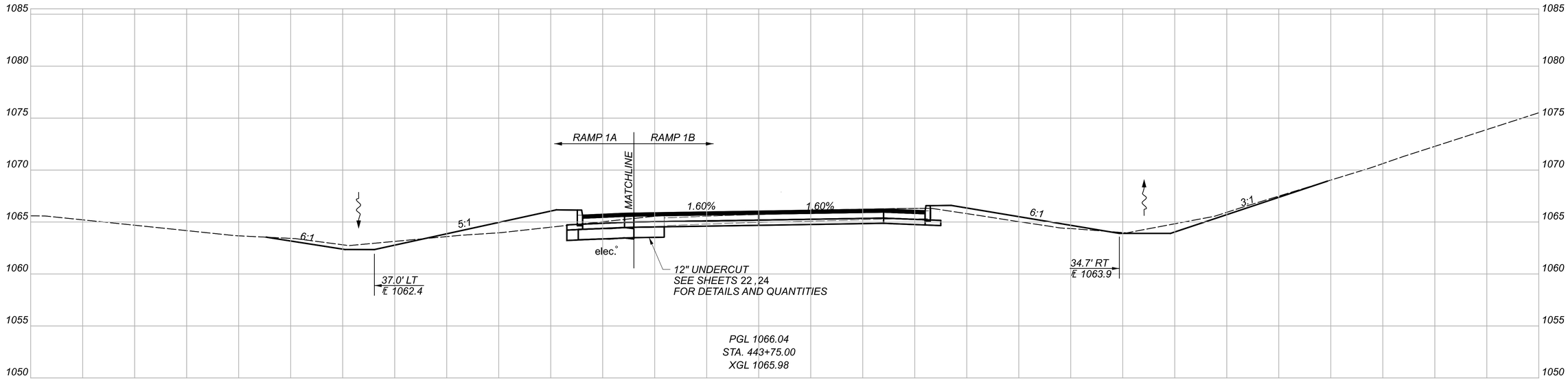
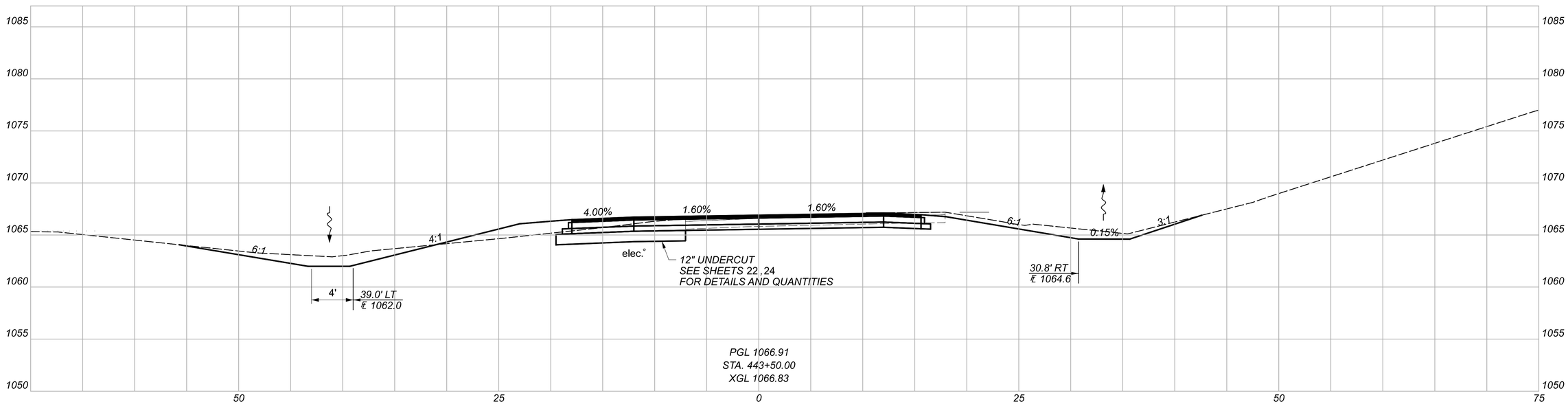
113889

SHEET 264 TOTAL 481





CROSS SECTIONS - RAMP 1B
STA. 443+50.00 TO STA. 443+75.00

CUY-422-16.20 (HARPER ROAD)

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Sheet Totals		
Seeding	Cut	Fill
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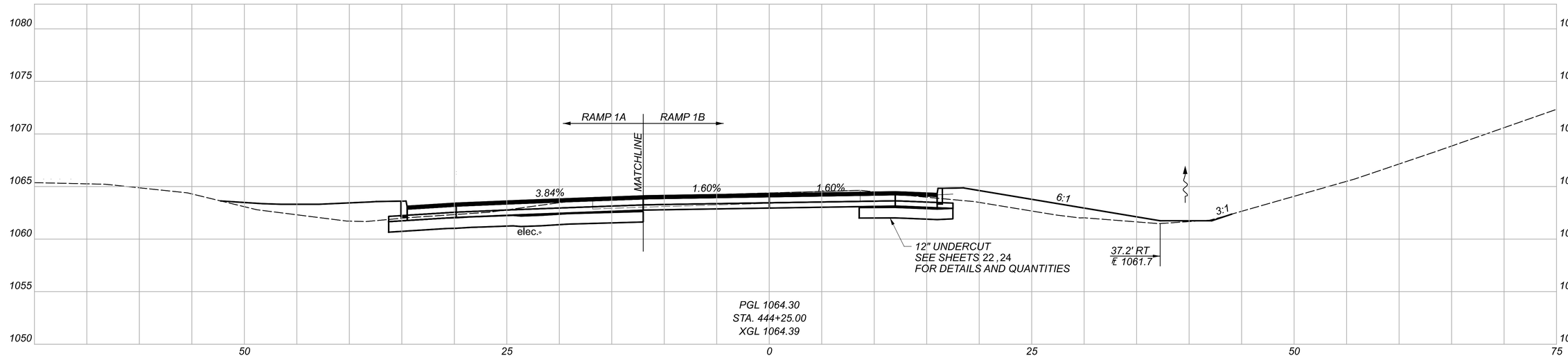
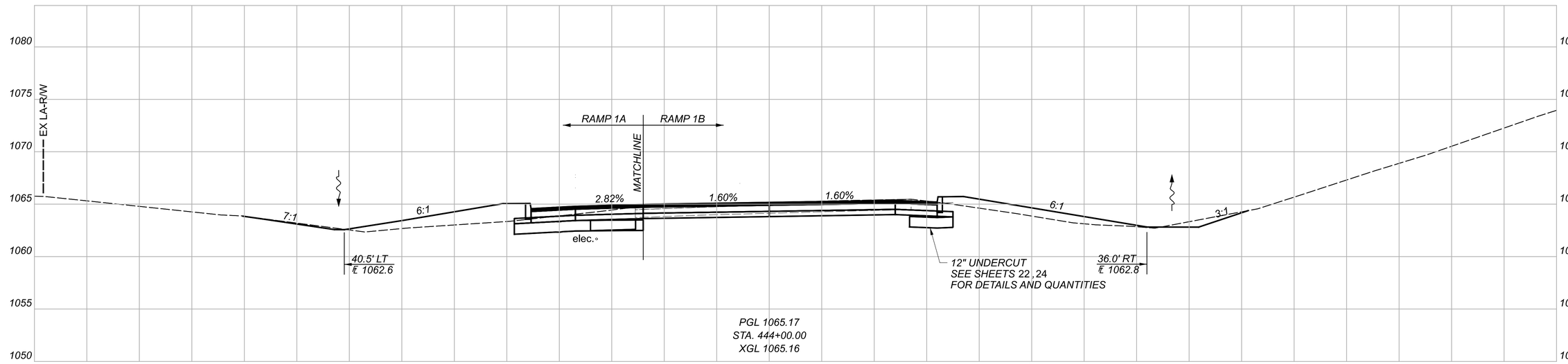
CWL 09/02/21

PROJECT ID
113889

SHEET 265 TOTAL 481





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CROSS SECTIONS - RAMP 1B
STA. 444+00.00 TO STA. 444+25.00

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Sheet Totals		
Seeding	Cut	Fill
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SHEET 266 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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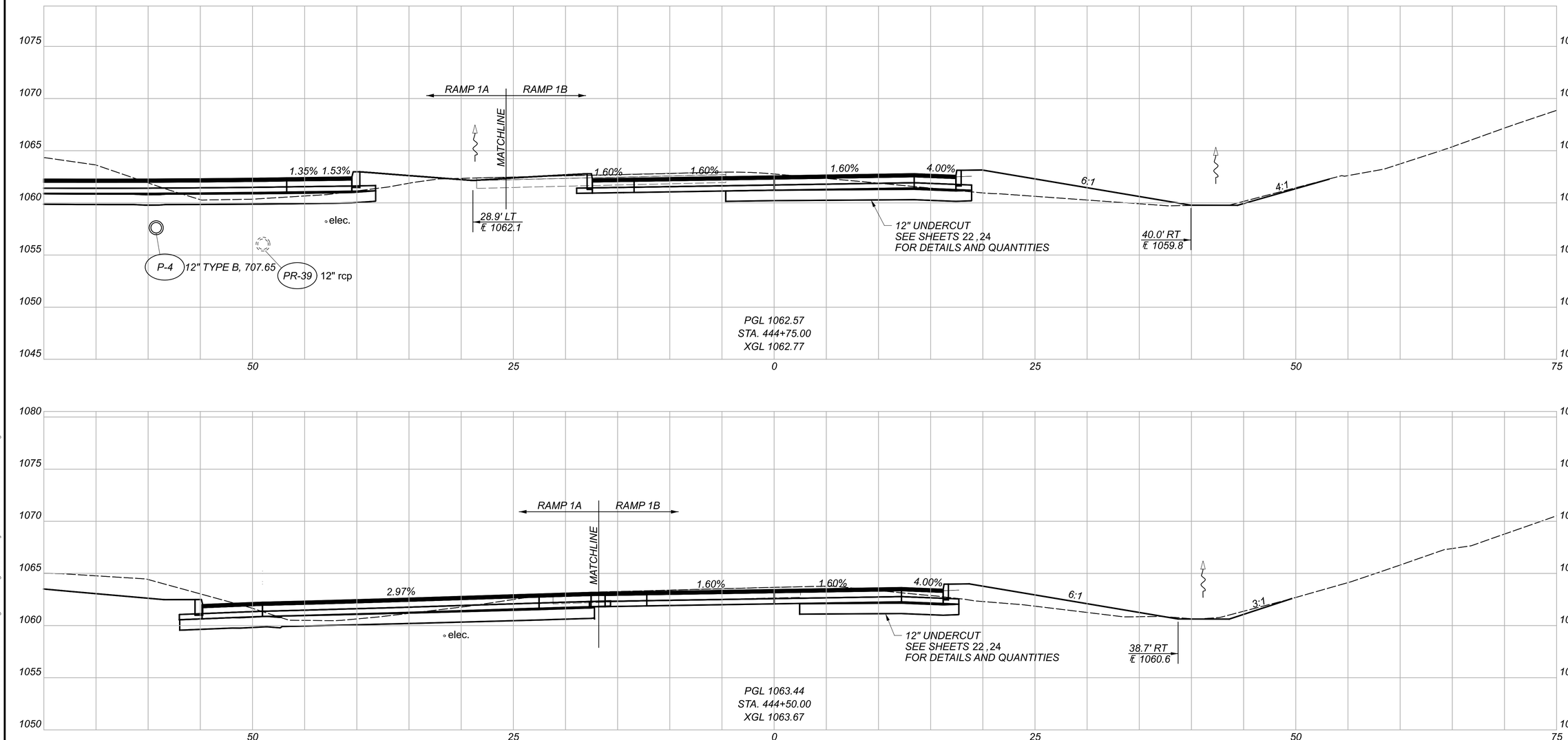

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CUY-422-16.20 (HARPER ROAD)

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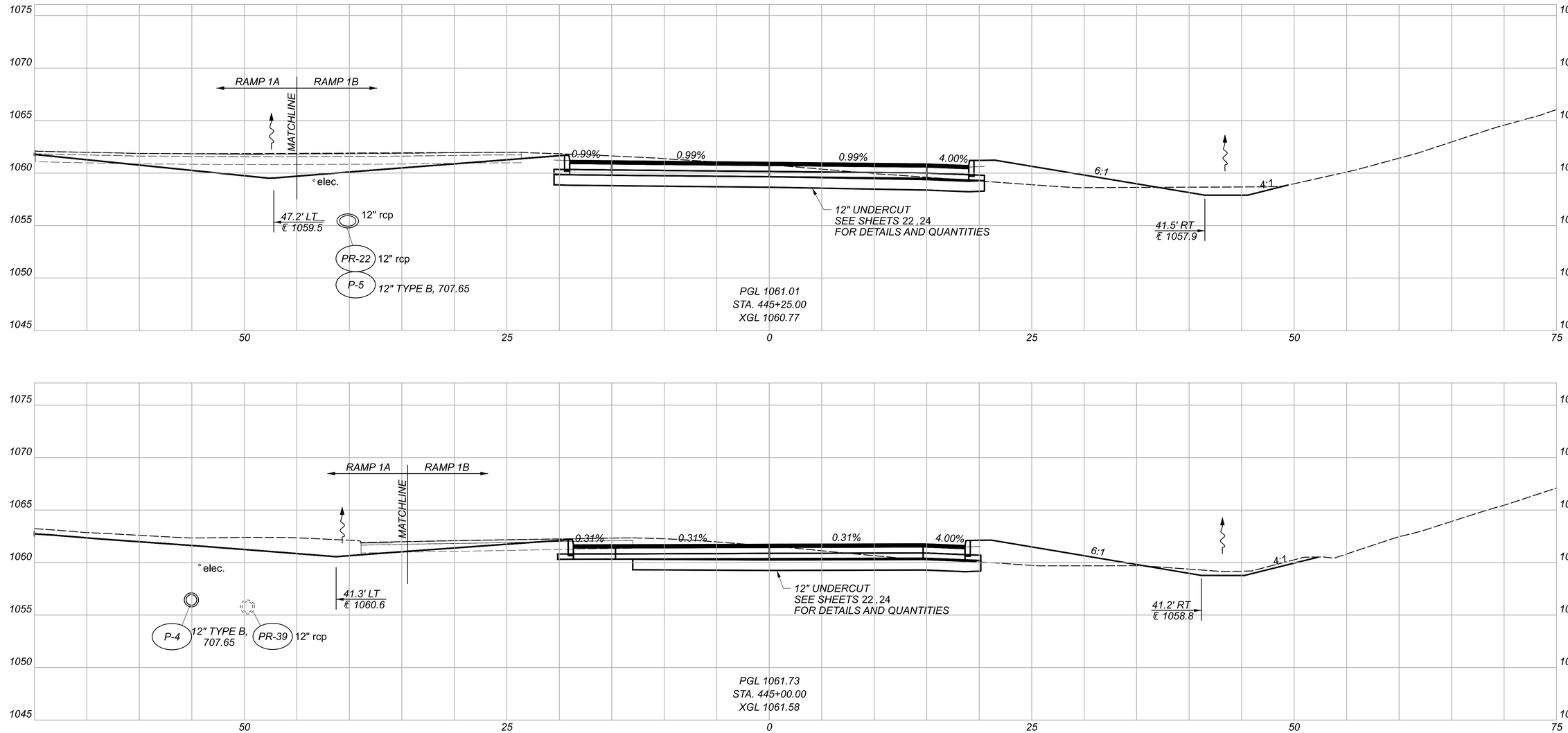
PROJECT ID
113889

SHEET 267 TOTAL 481



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CROSS SECTIONS - RAMP 1B
STA. 445+00.00 TO STA. 445+25.00

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CUY-422-16.20 (HARPER ROAD)

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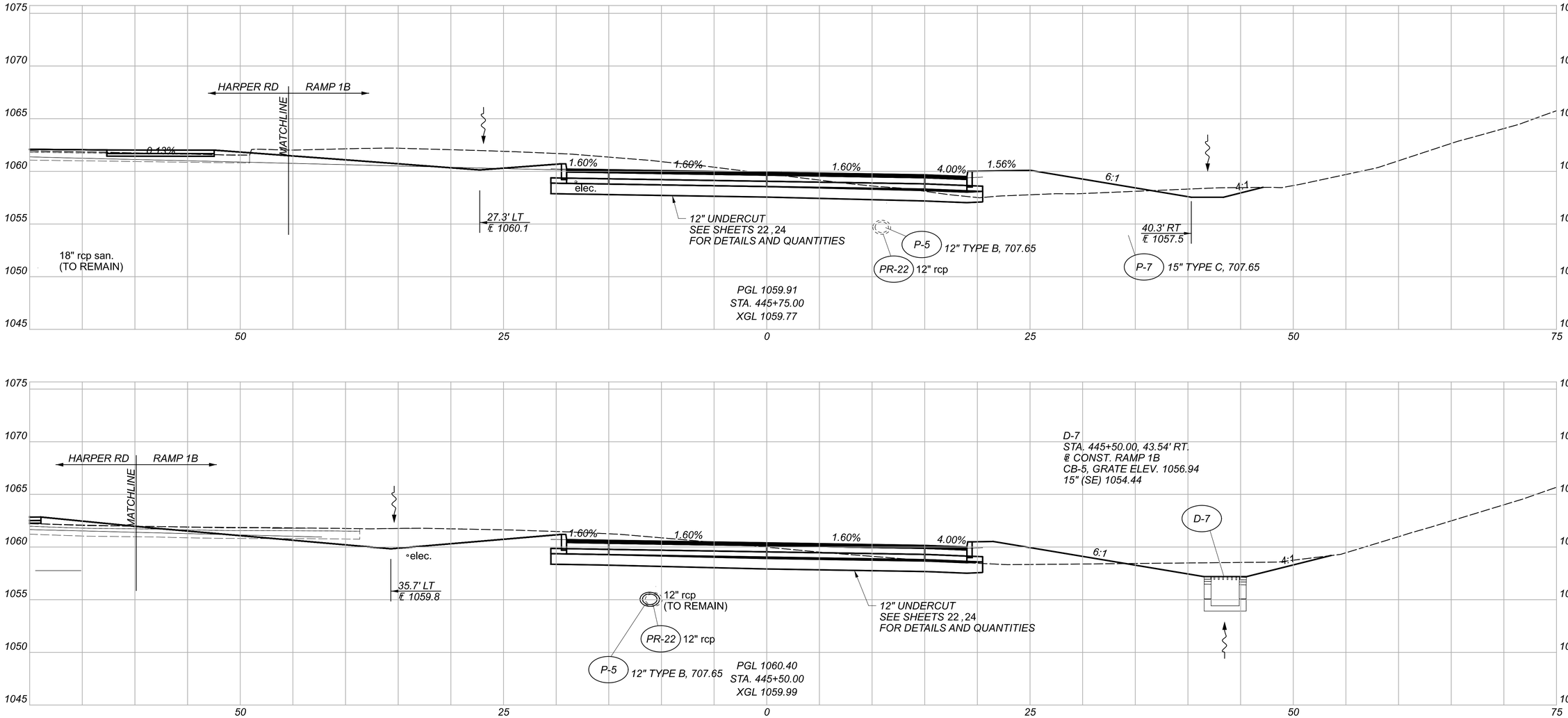

CROSS SECTIONS - RAMP 1B
STA. 445+50.00 TO STA. 445+75.00

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SHEET 269 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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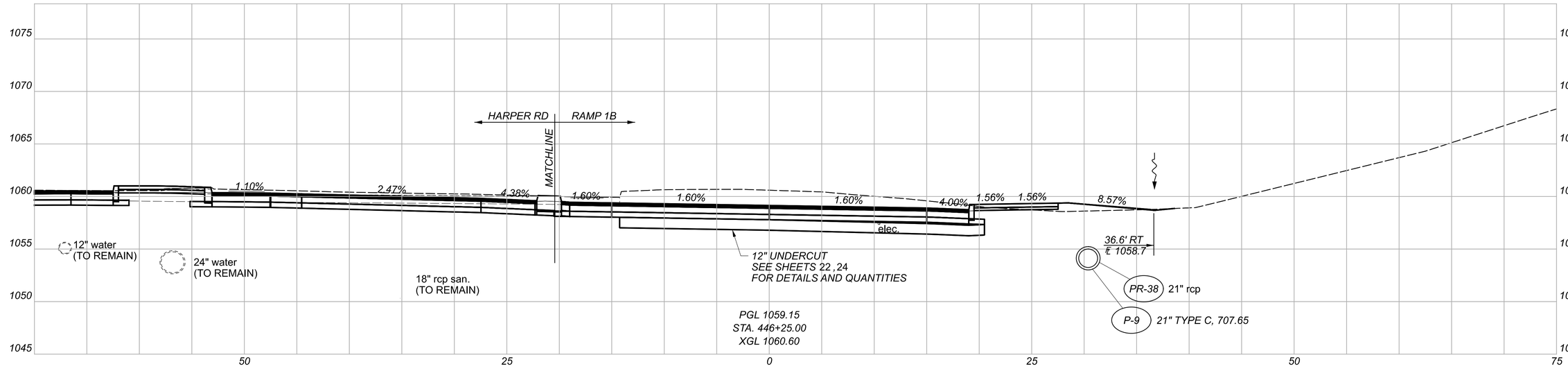

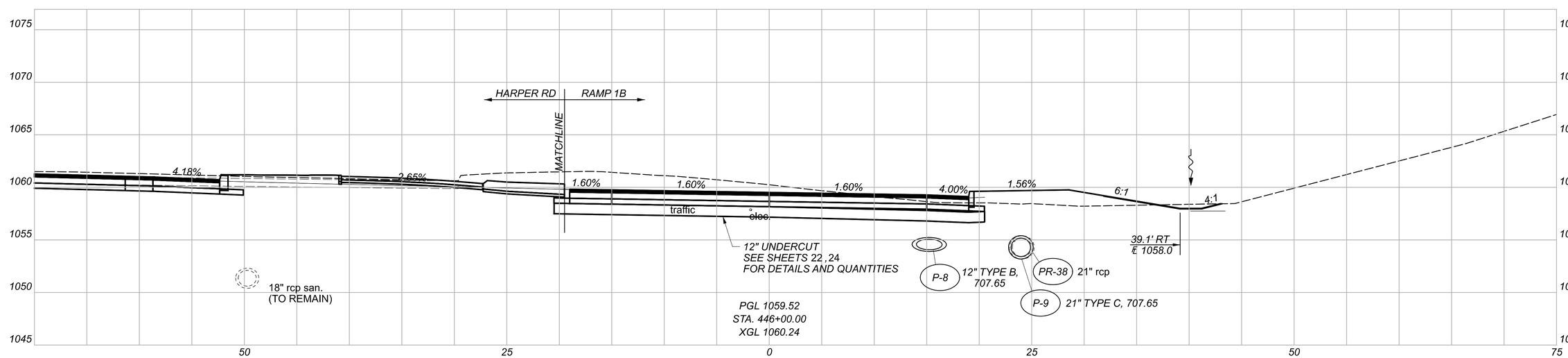

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STA. 446+00.00 TO STA. 446+41.73

Sheet Totals		
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SHEET 270 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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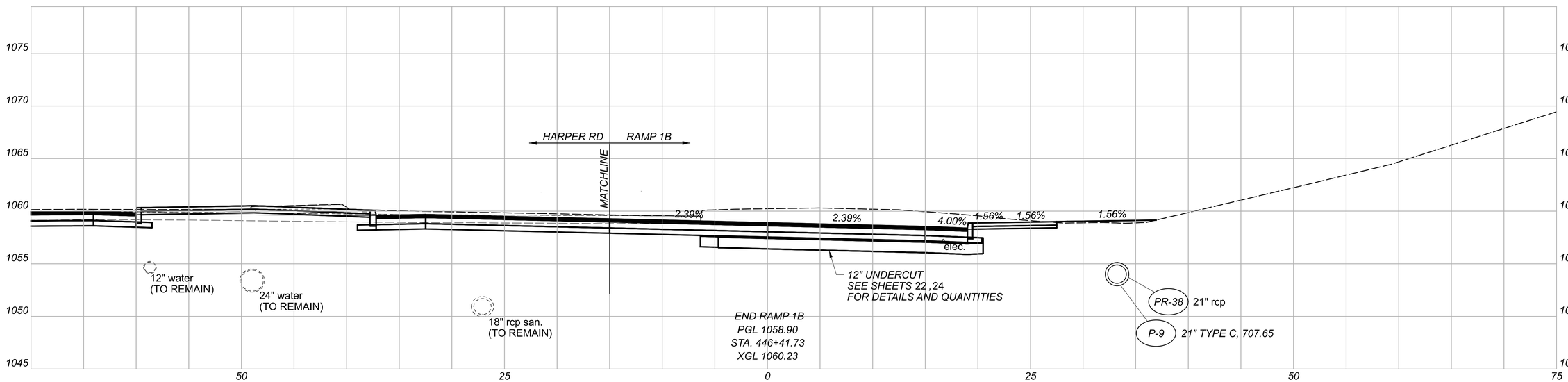

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PROJECT ID
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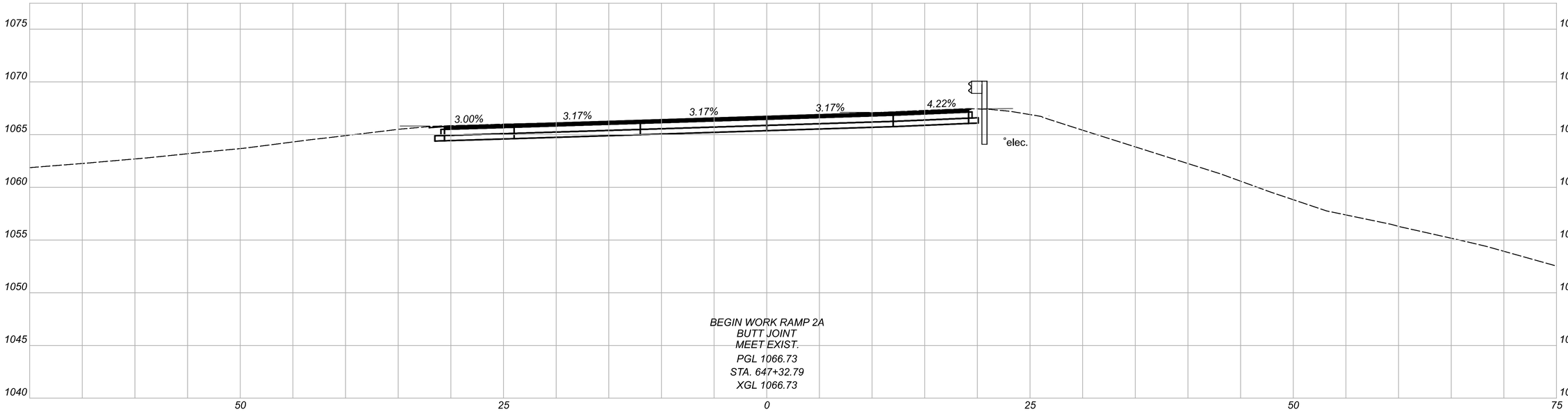
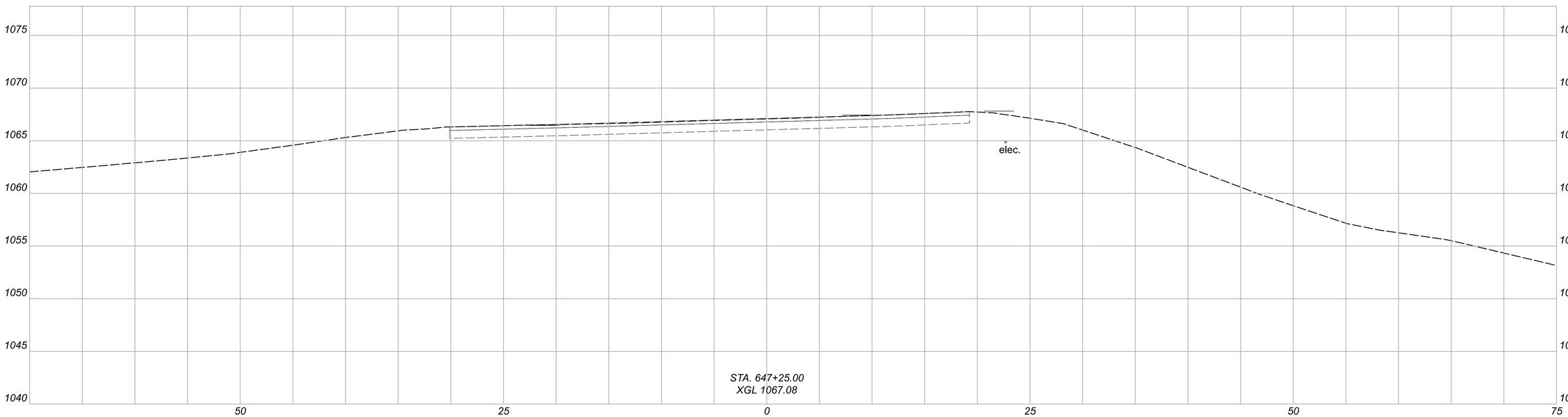
SHEET 271 TOTAL 481





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Sheet Totals		
Seeding	Cut	Fill
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SHEET	272
TOTAL	481

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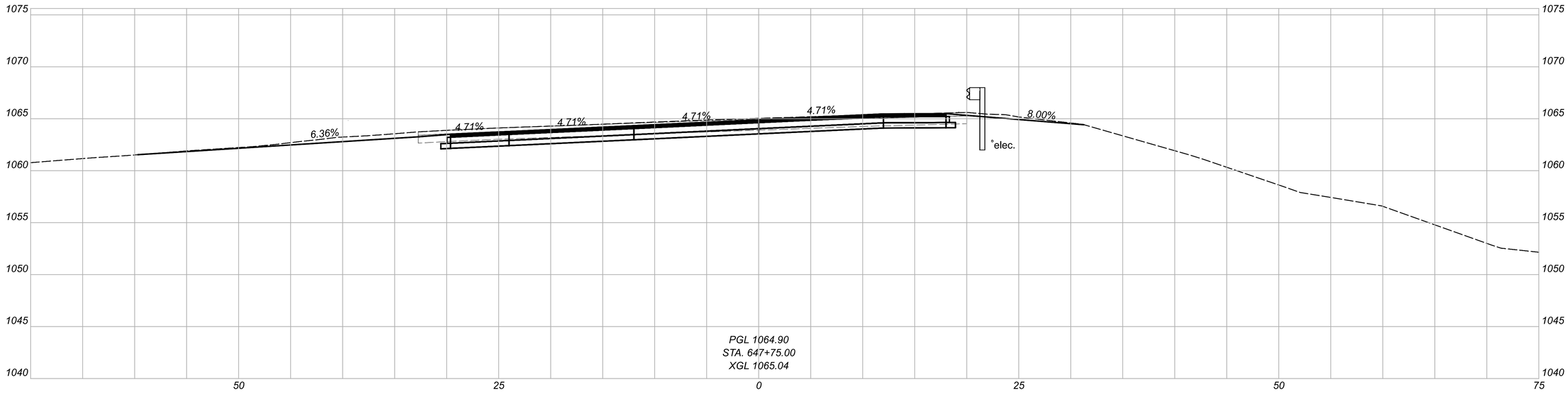

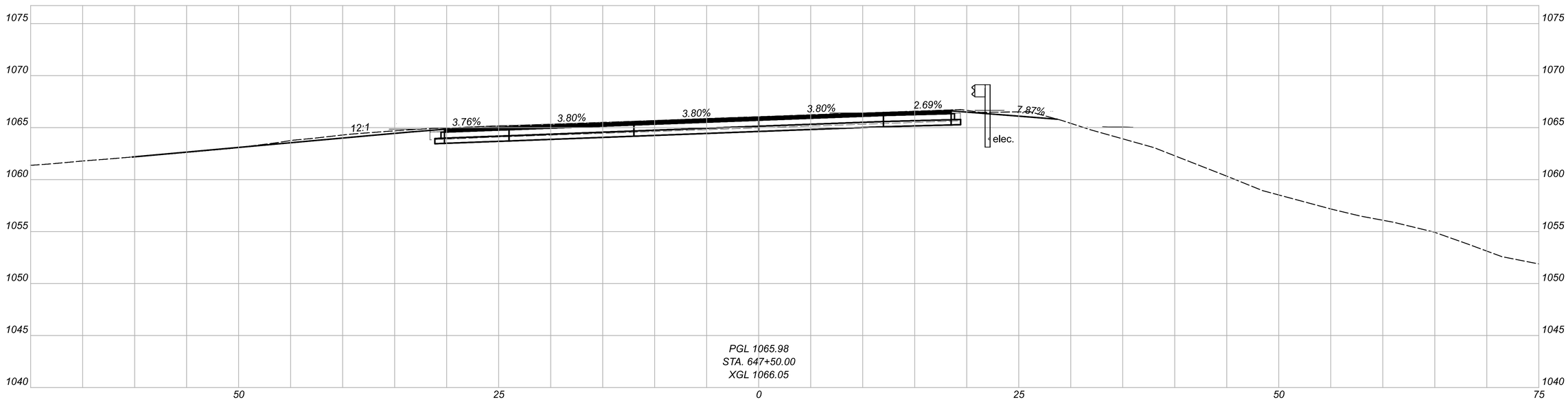

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CROSS SECTIONS - RAMP 2A
STA. 647+50 TO STA. 647+75.00

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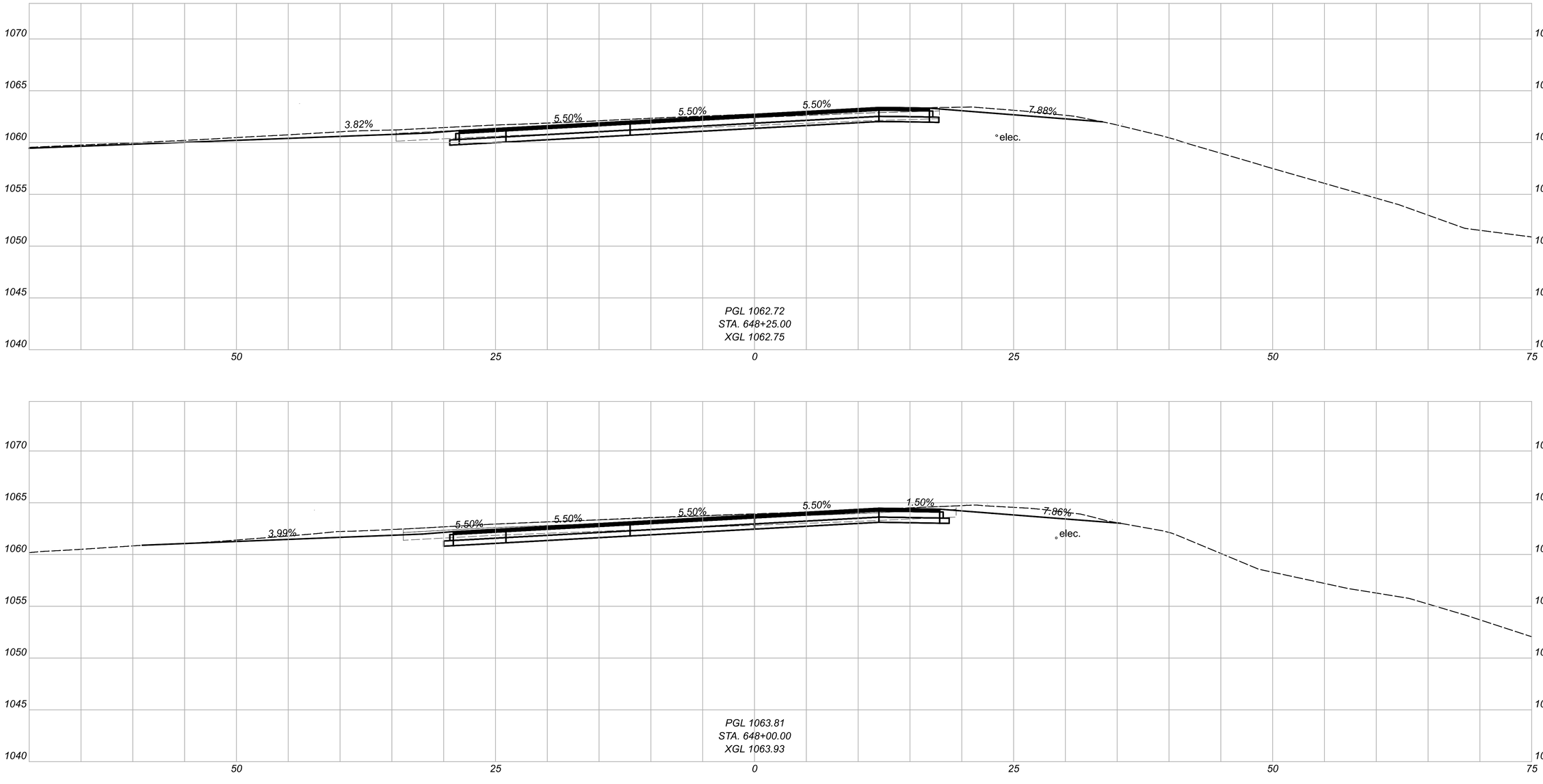
SHEET 273 TOTAL 481



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CUY-422-16.20 (HARPER ROAD)

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Sheet Totals		
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SHEET 274 TOTAL 481

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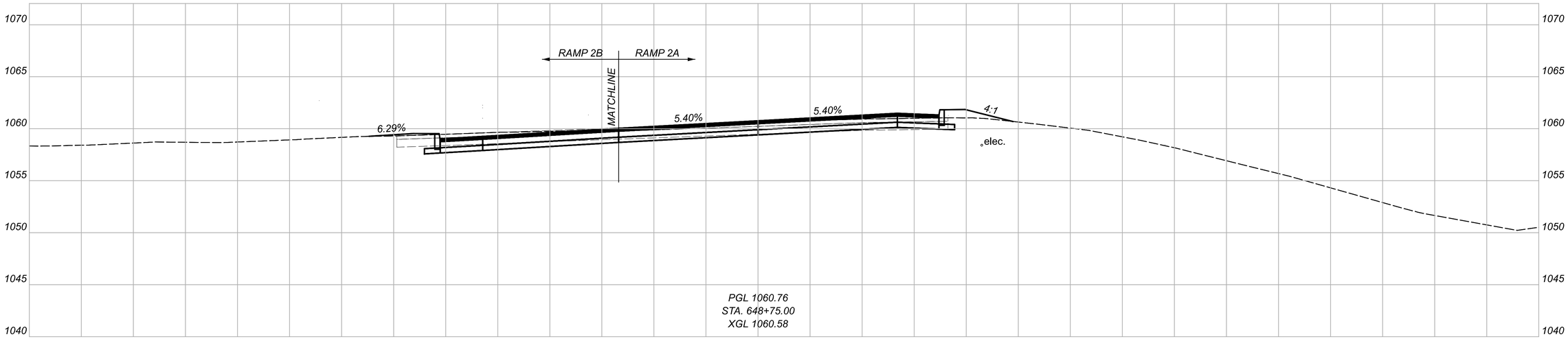

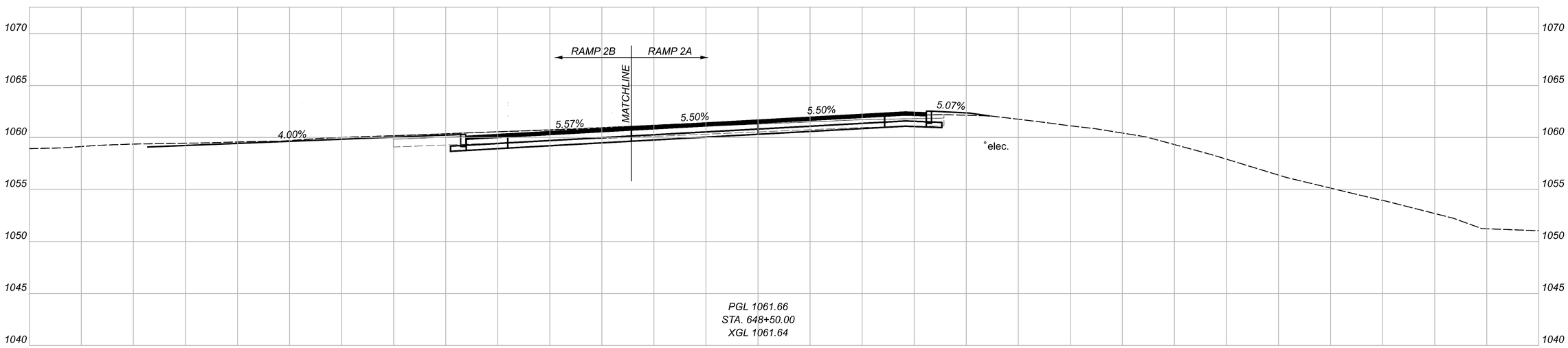

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CUY-422-16.20 (HARPER ROAD)

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Sheet Totals		
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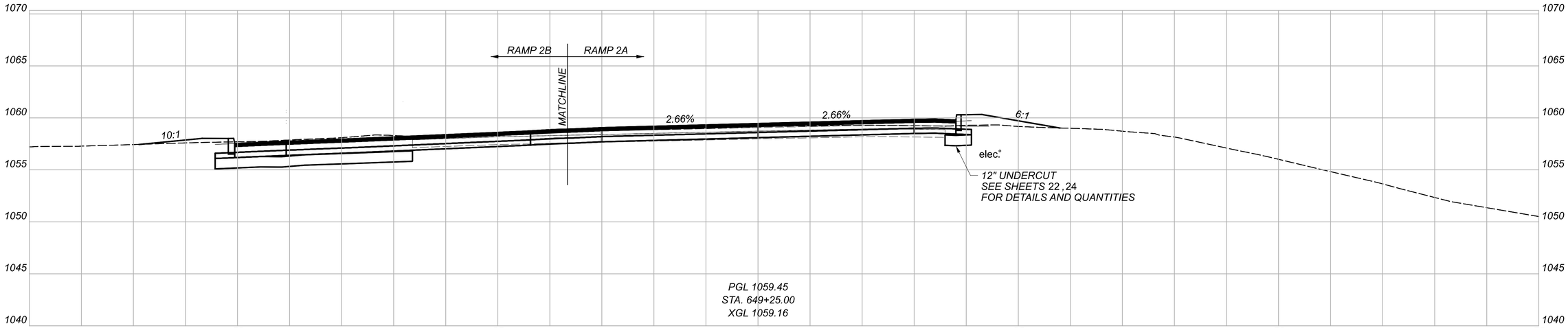
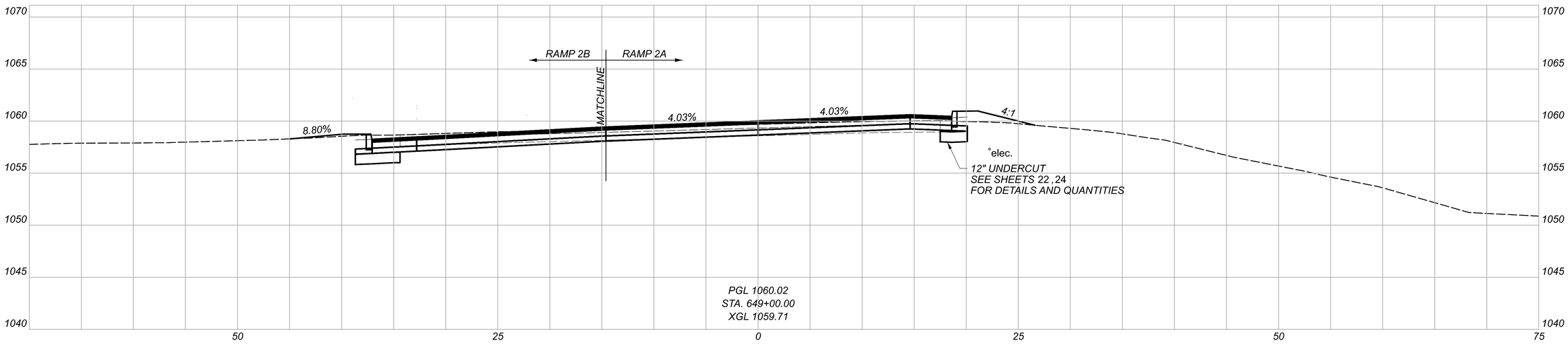
SHEET 275 TOTAL 481





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CROSS SECTIONS - RAMP 2A
STA. 649+00.00 TO STA. 649+25.00

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Sheet Totals		
Seeding	Cut	Fill
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PROJECT ID
113889

SHEET	TOTAL
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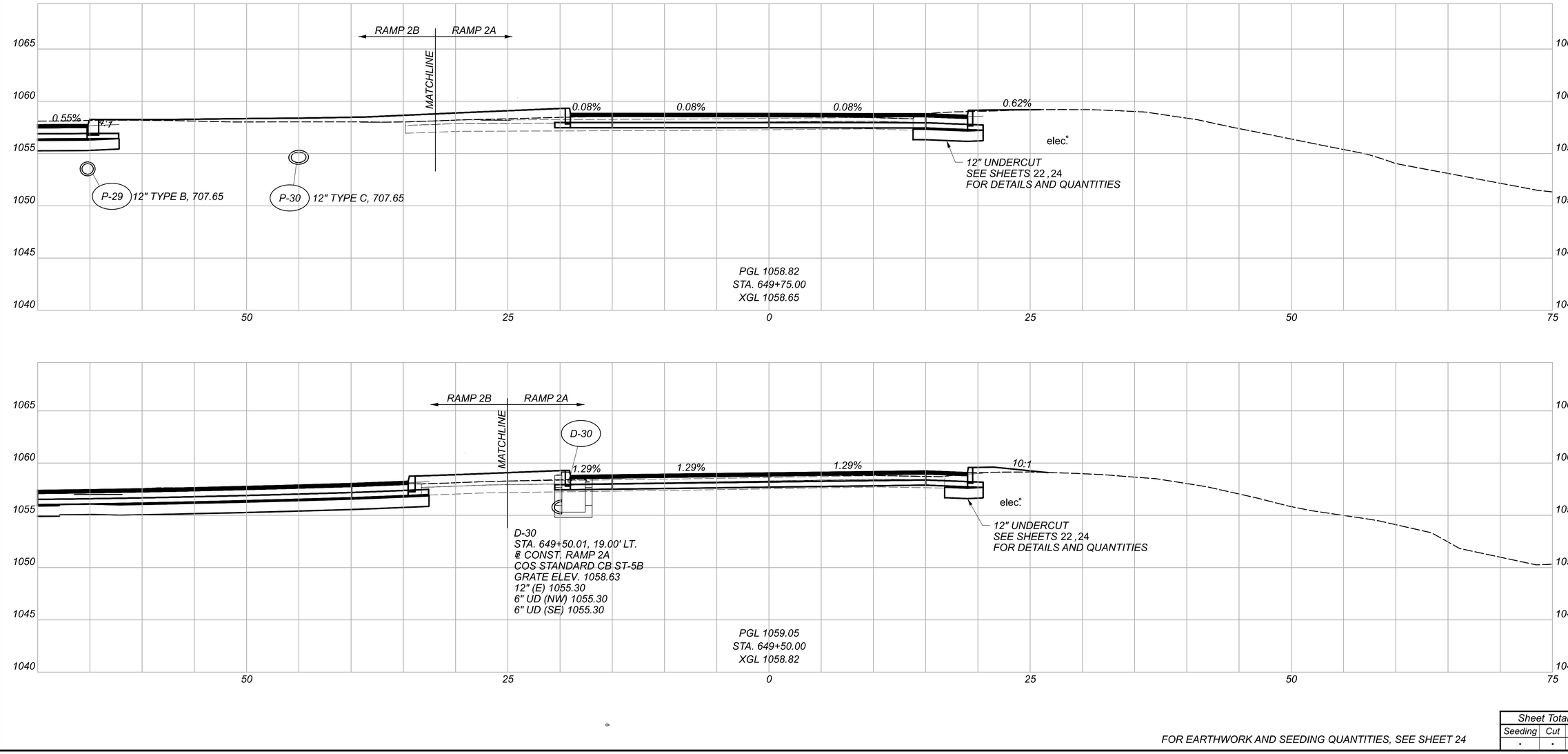

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CROSS SECTIONS - RAMP 2A
STA. 649+50.00 TO STA. 649+75.00

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Sheet Totals		
Seeding	Cut	Fill
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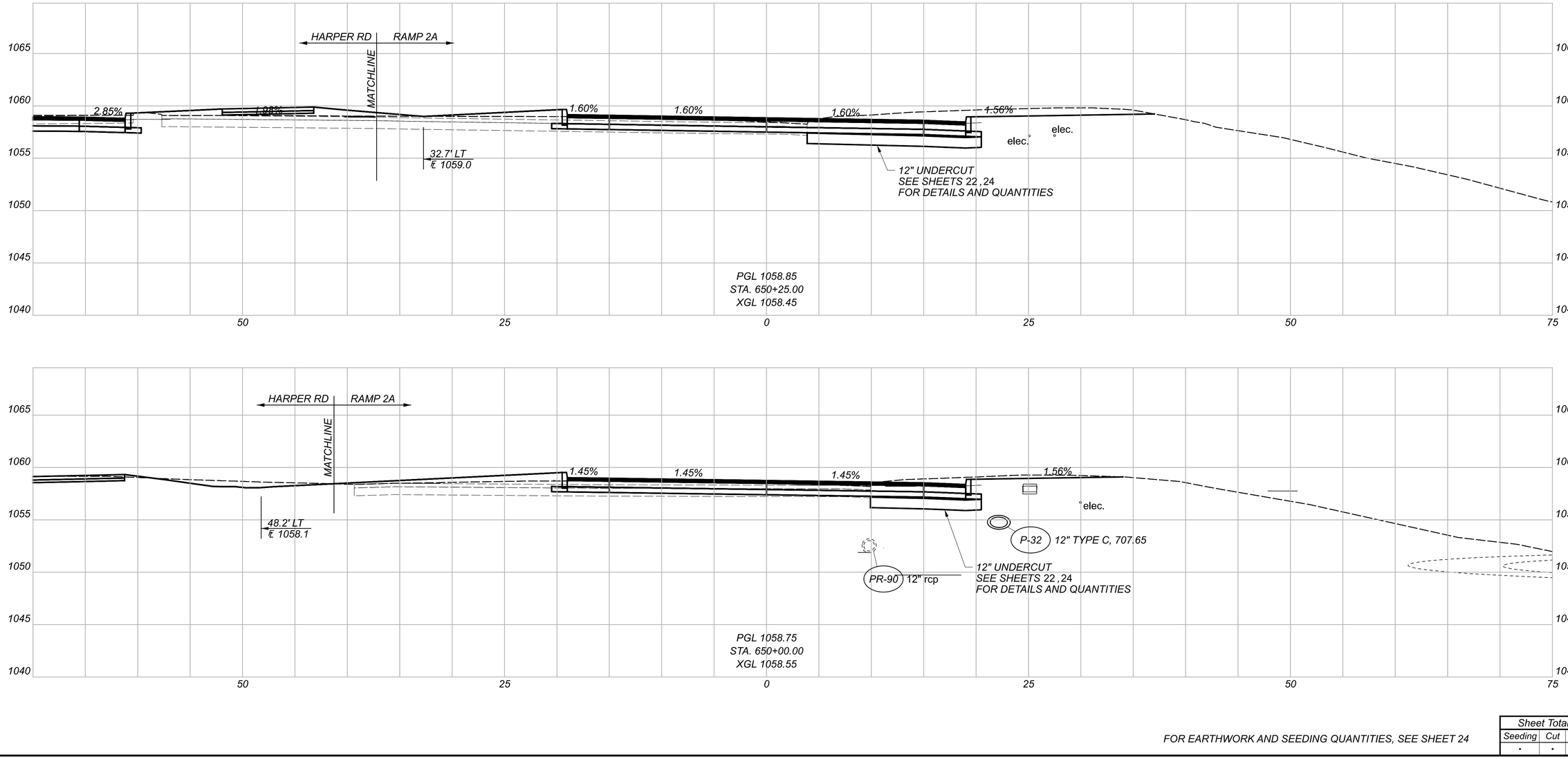
PROJECT ID 113889

SHEET 277 TOTAL 481



FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
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CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_RO82A - 650+00.00 [Sheet] PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:26:00 AM USER: cluzier
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CROSS SECTIONS - RAMP 2A
STA. 650+00.00 TO STA. 650+25.00

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PROJECT ID
113889

SHEET	TOTAL
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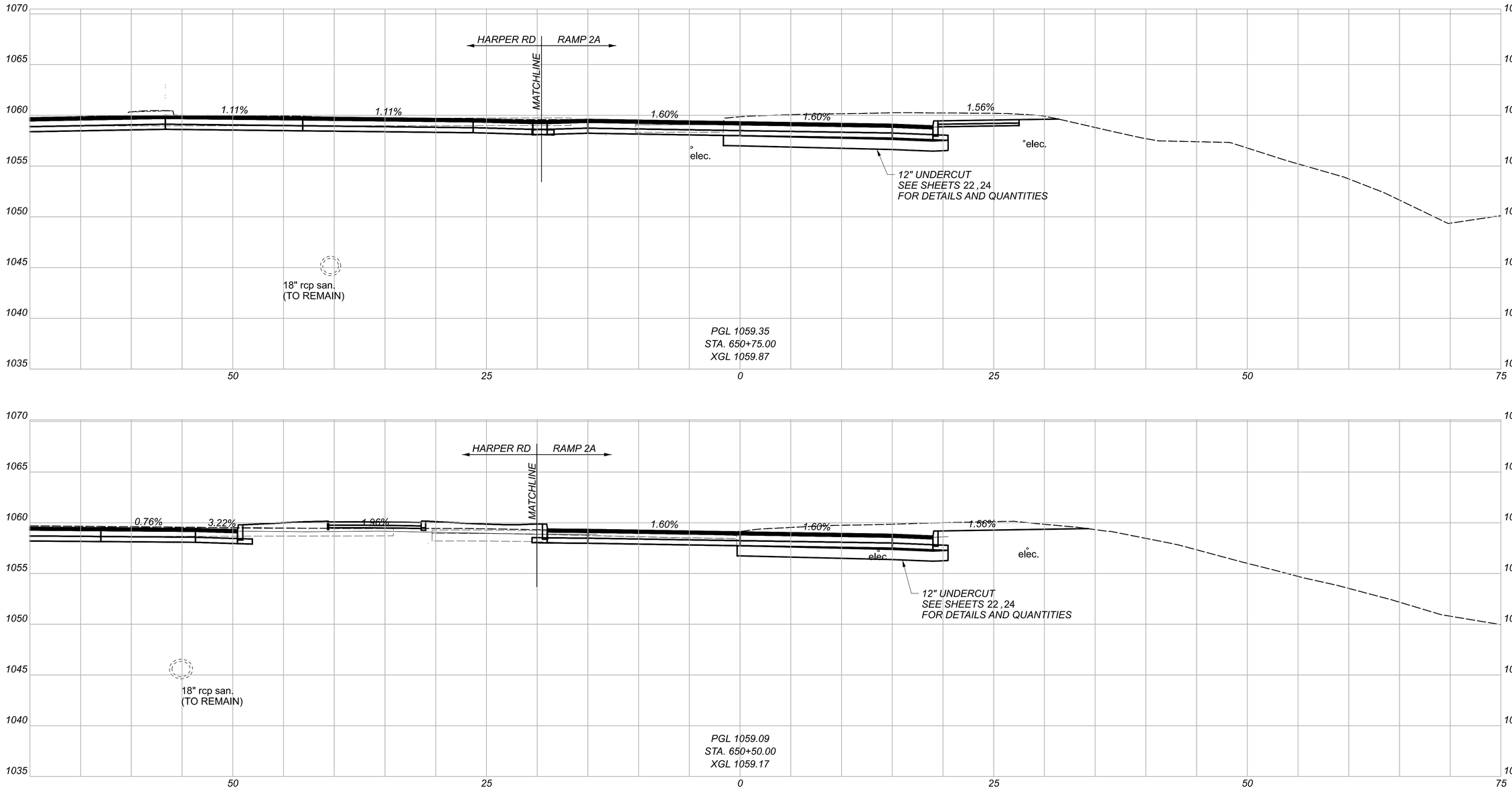

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STA.650+50.00 TO STA. 650+84.91

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Sheet Totals		
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PROJECT ID	113889
SHEET	279
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0182A-2 - 650+84.91[Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 1:26:32 AM USER: cluzier
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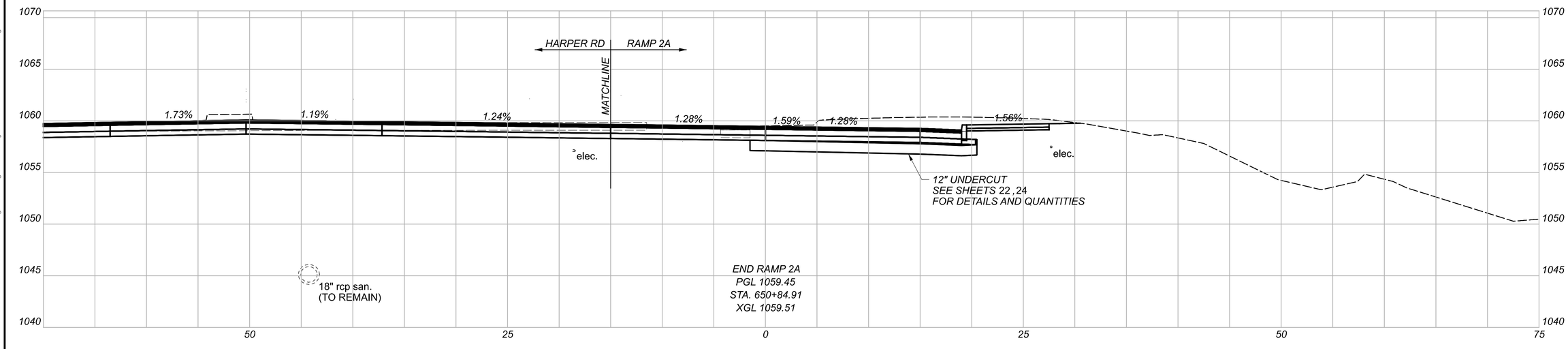

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PROJECT ID
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SHEET	TOTAL
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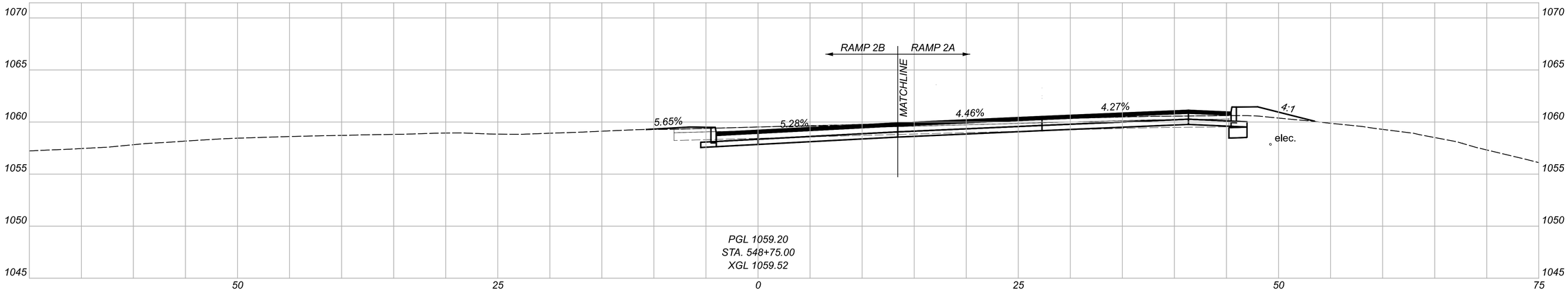

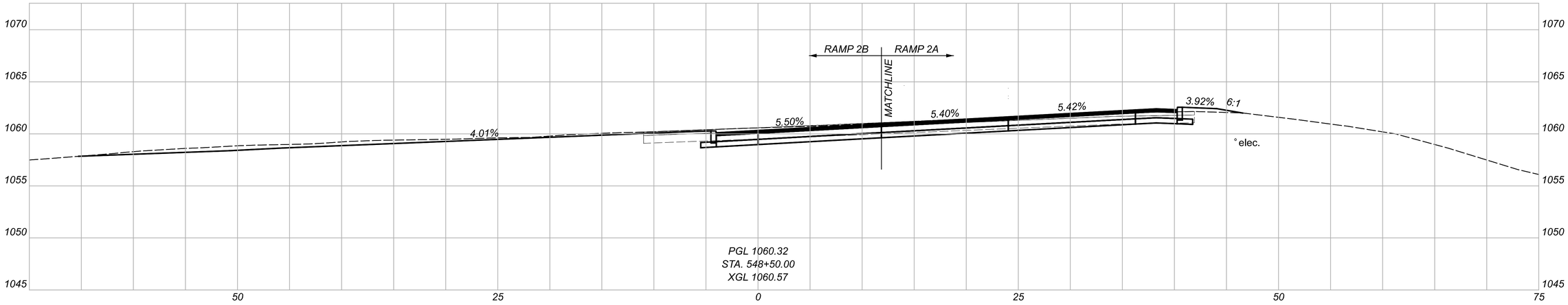

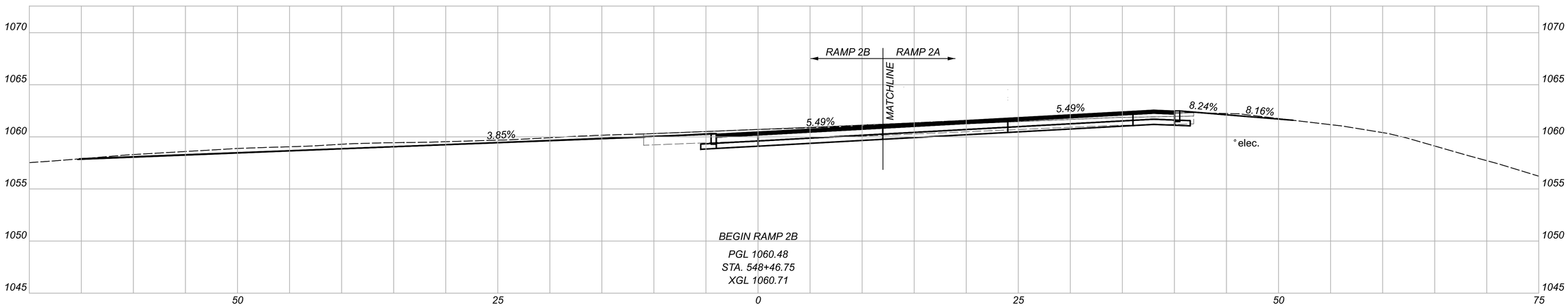

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

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CROSS SECTIONS - RAMP 2B
STA. 548+46.75 TO STA. 548+75.00

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PROJECT ID 113889

Sheet Totals		
Seeding	Cut	Fill
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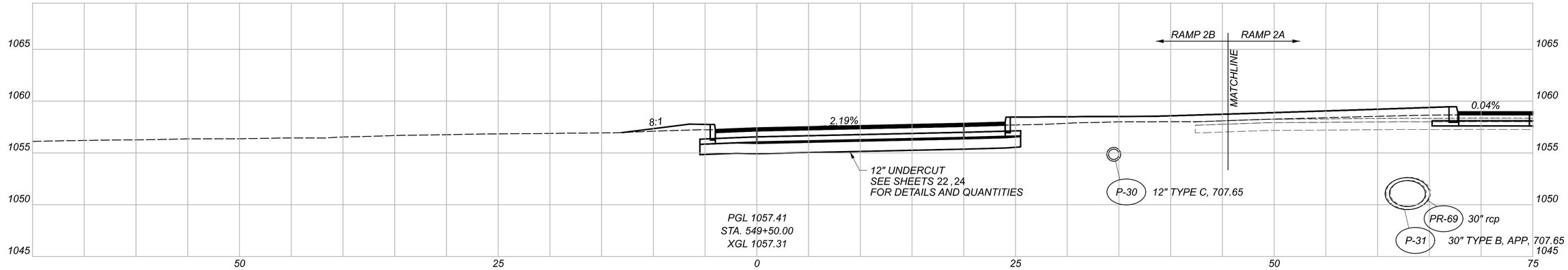
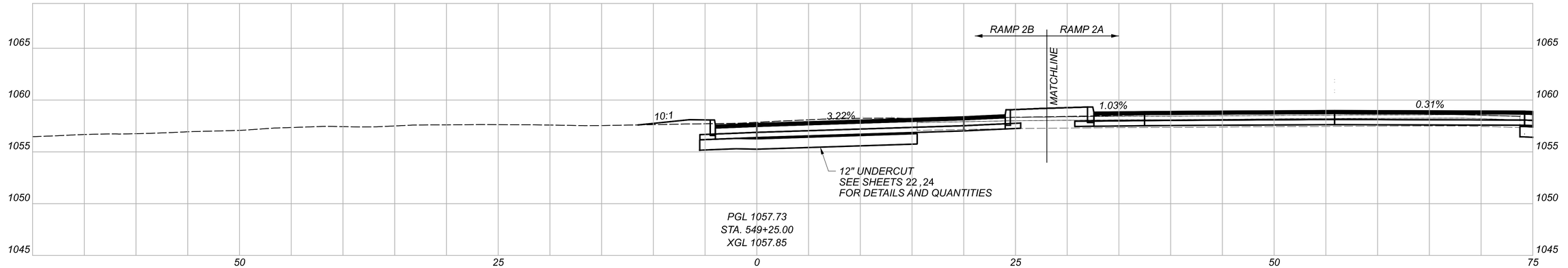
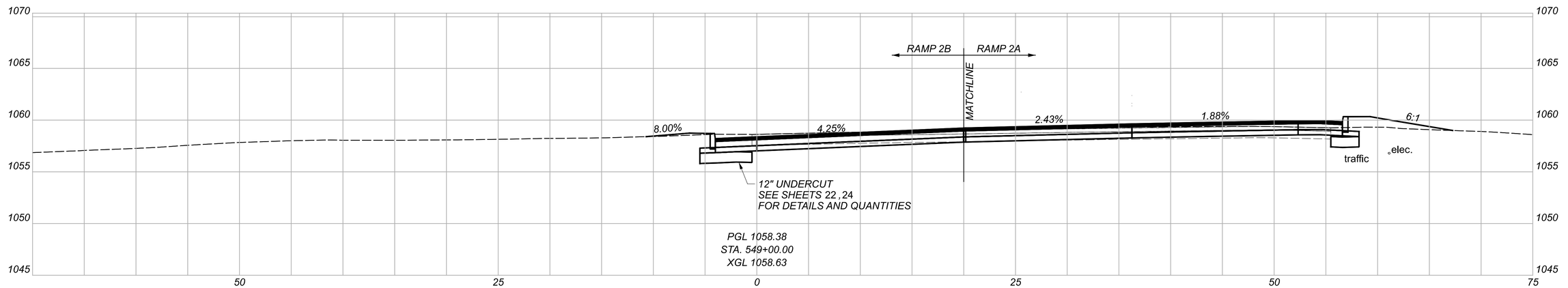
SHEET 281 TOTAL 481







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CROSS SECTIONS - RAMP 2B
STA. 549+00.00 TO STA. 549+50.00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R082B-I - 549+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:27:00 AM USER: cluzier
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PROJECT ID
113889

SHEET	TOTAL
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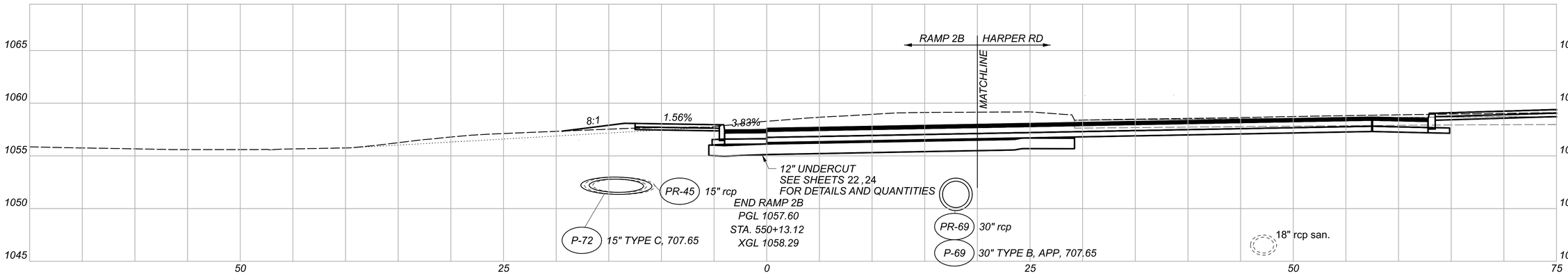

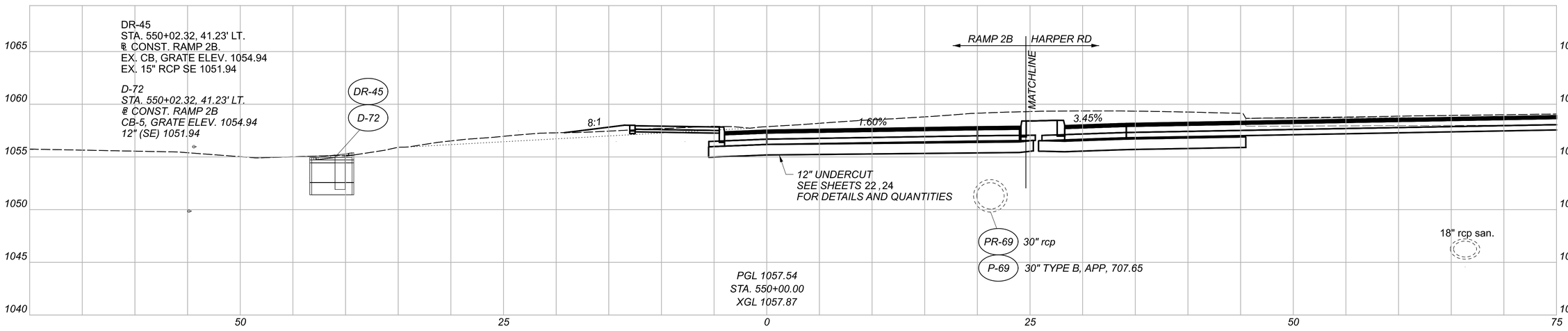

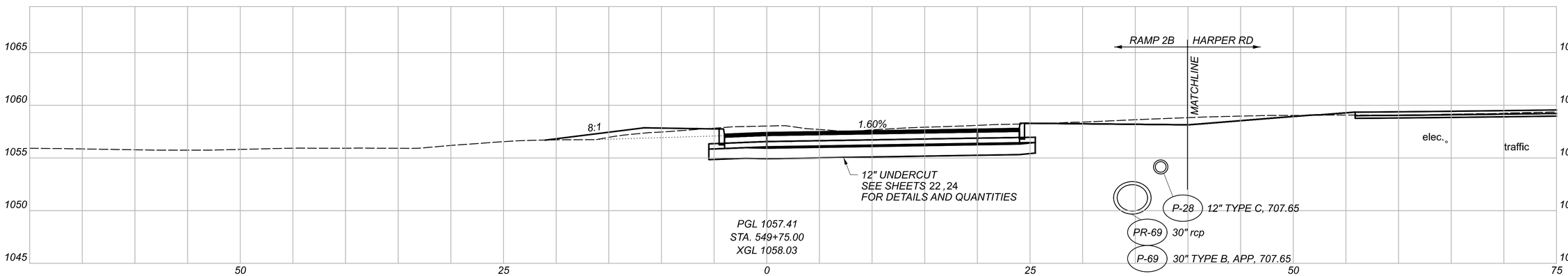

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CROSS SECTIONS - RAMP 2B
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CUY-422-16.20 (HARPER ROAD)

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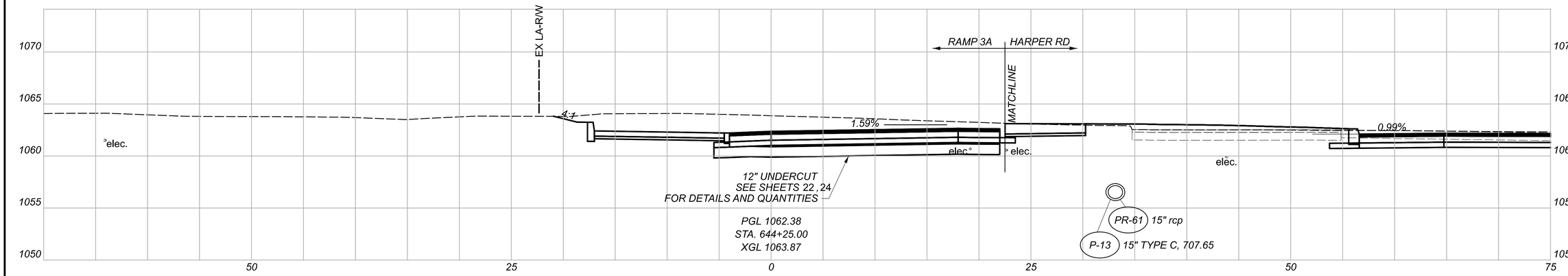
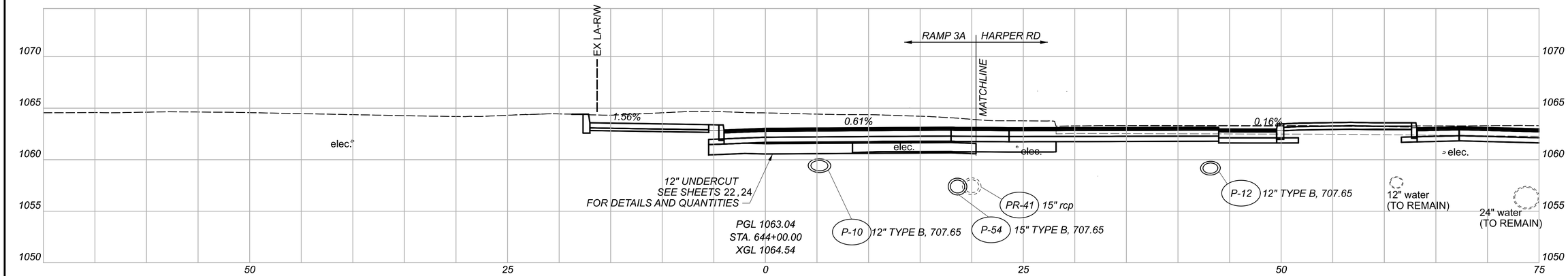
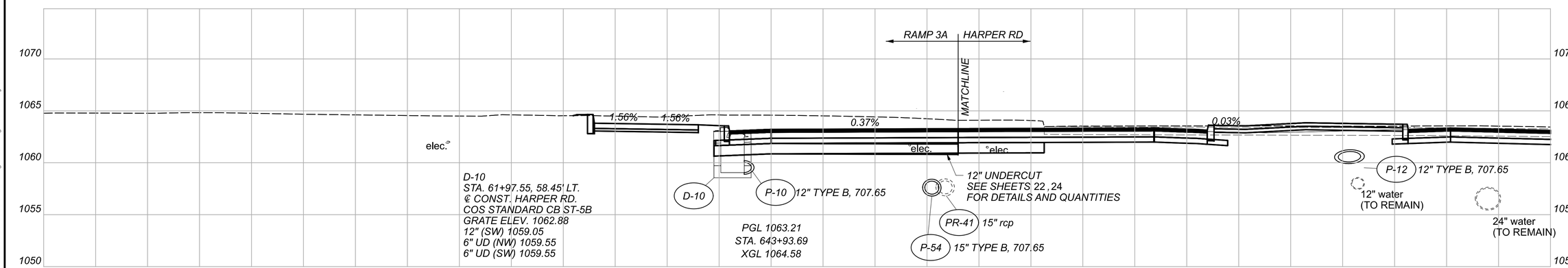
PROJECT ID 113889
SHEET 283 TOTAL 481







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113889

SHEET	TOTAL
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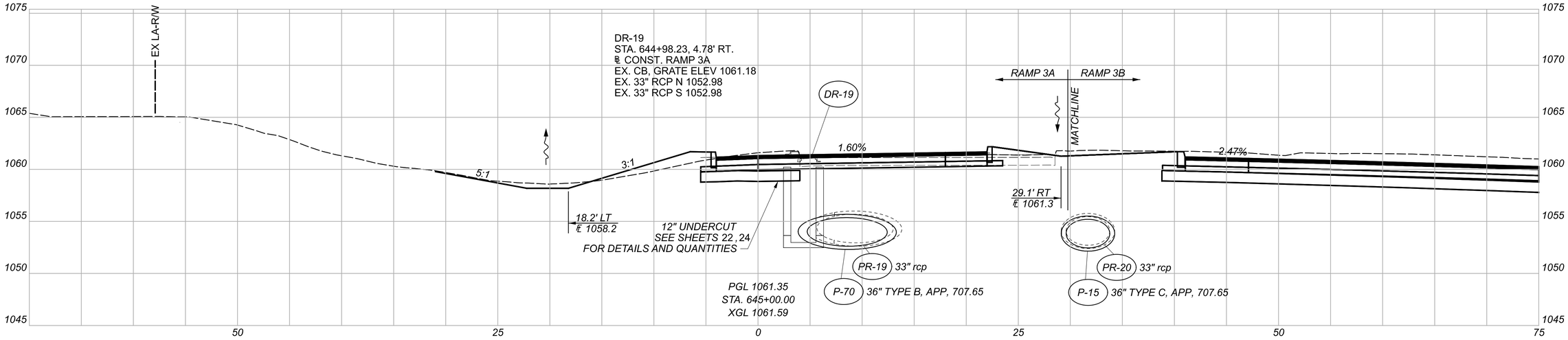

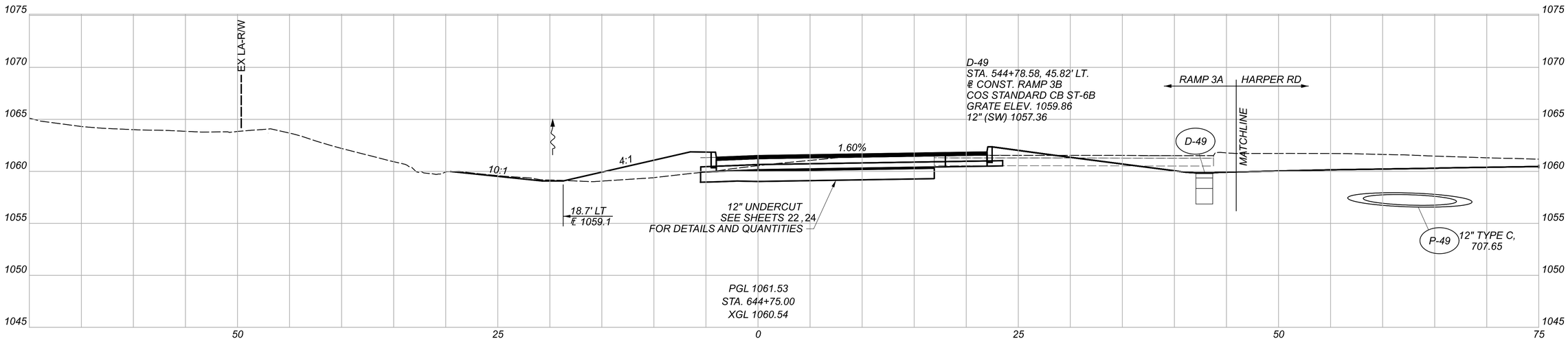

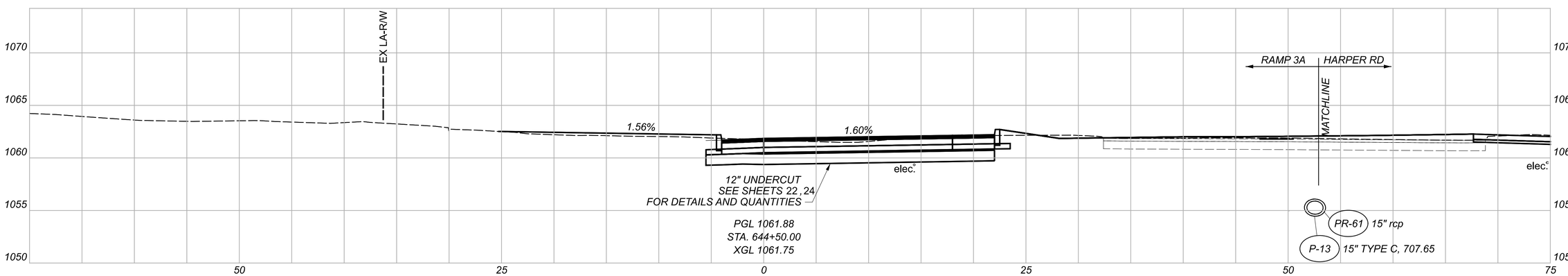

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CROSS SECTIONS - RAMP 3A
STA. 644+50.00 TO STA. 645+00.00

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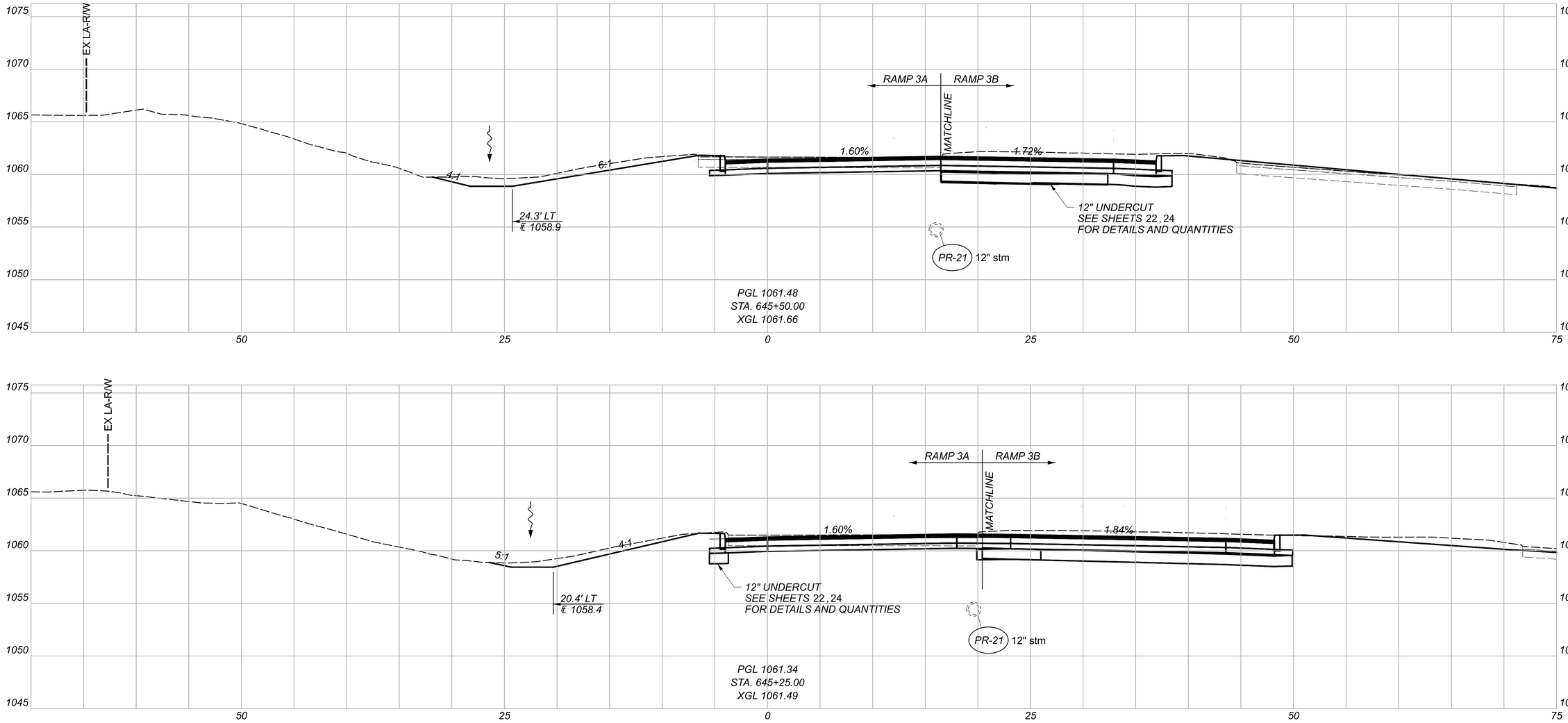

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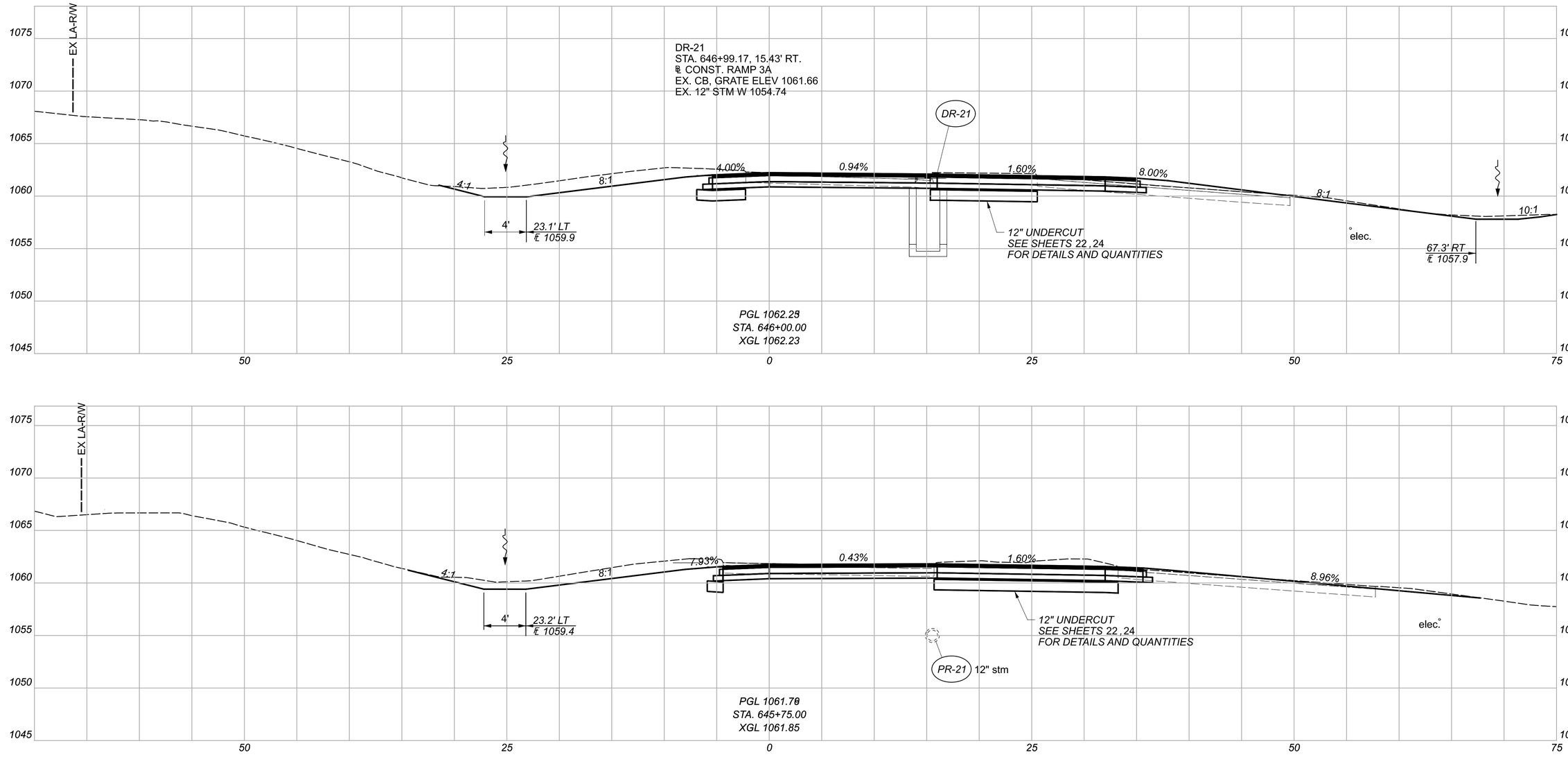

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CUY-422-16.20 (HARPER ROAD)

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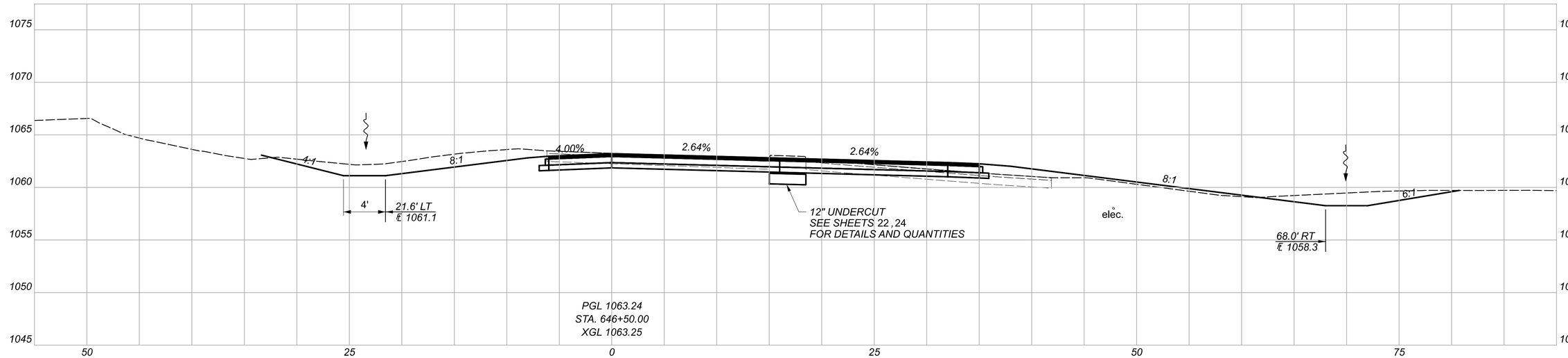

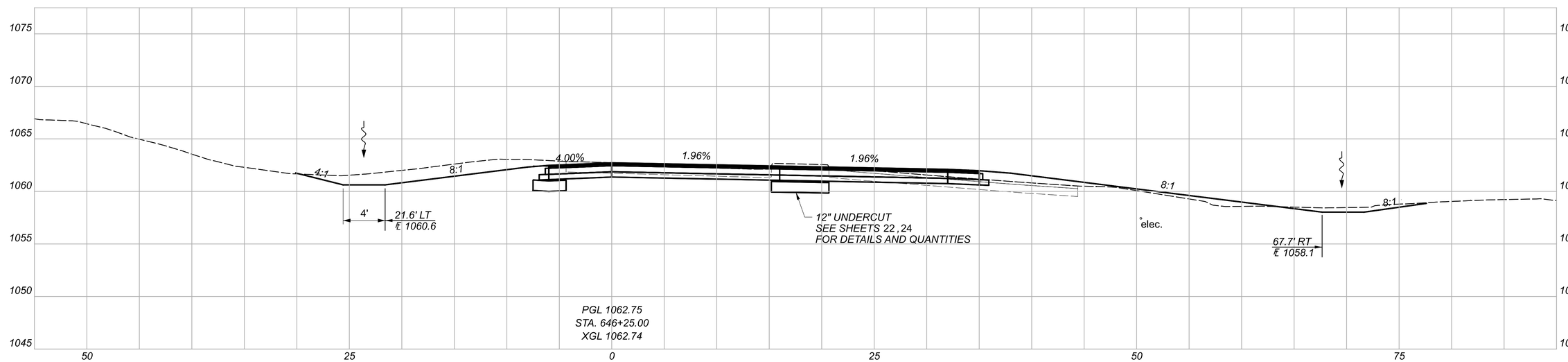

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SHEET	TOTAL
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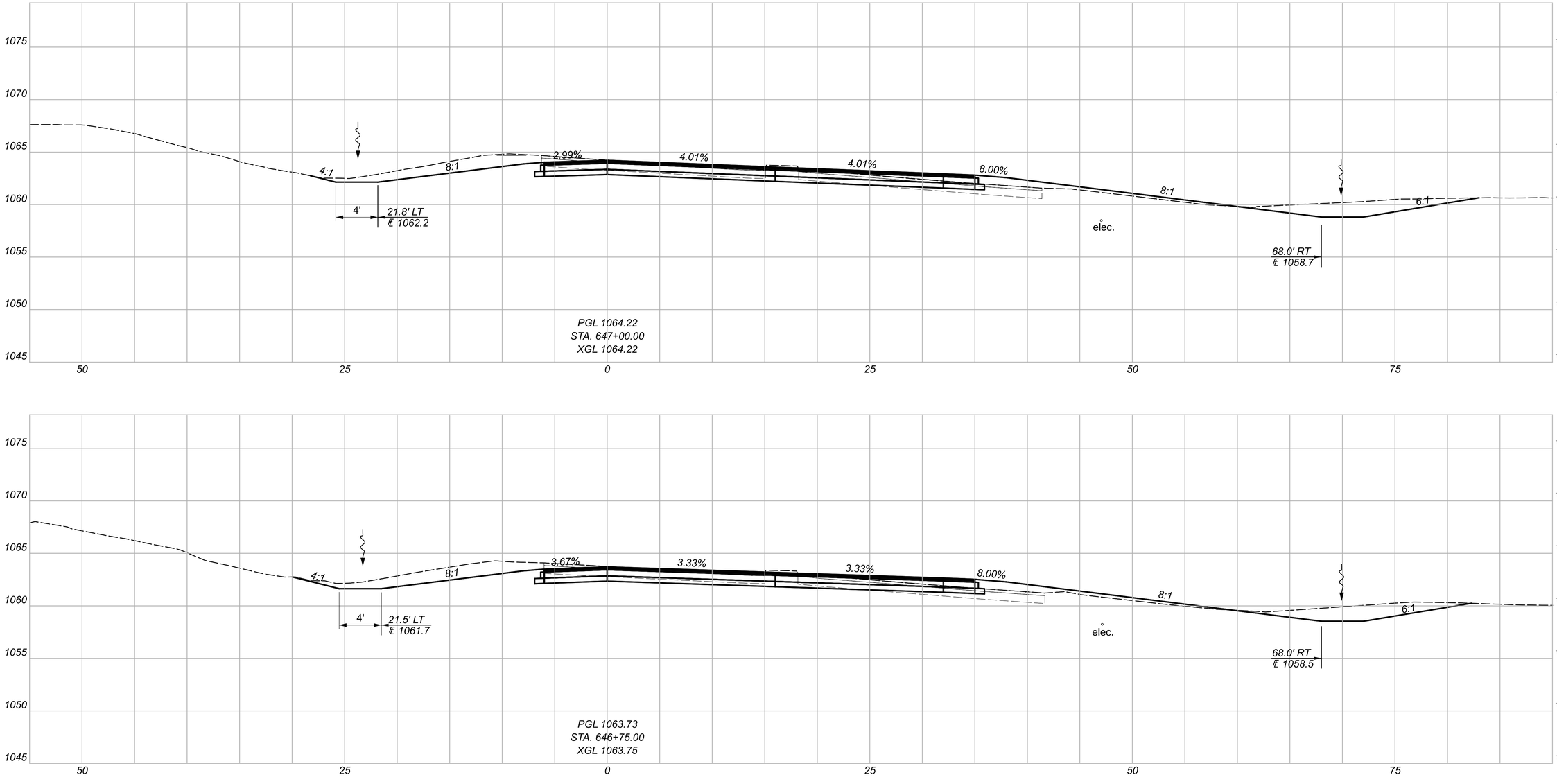

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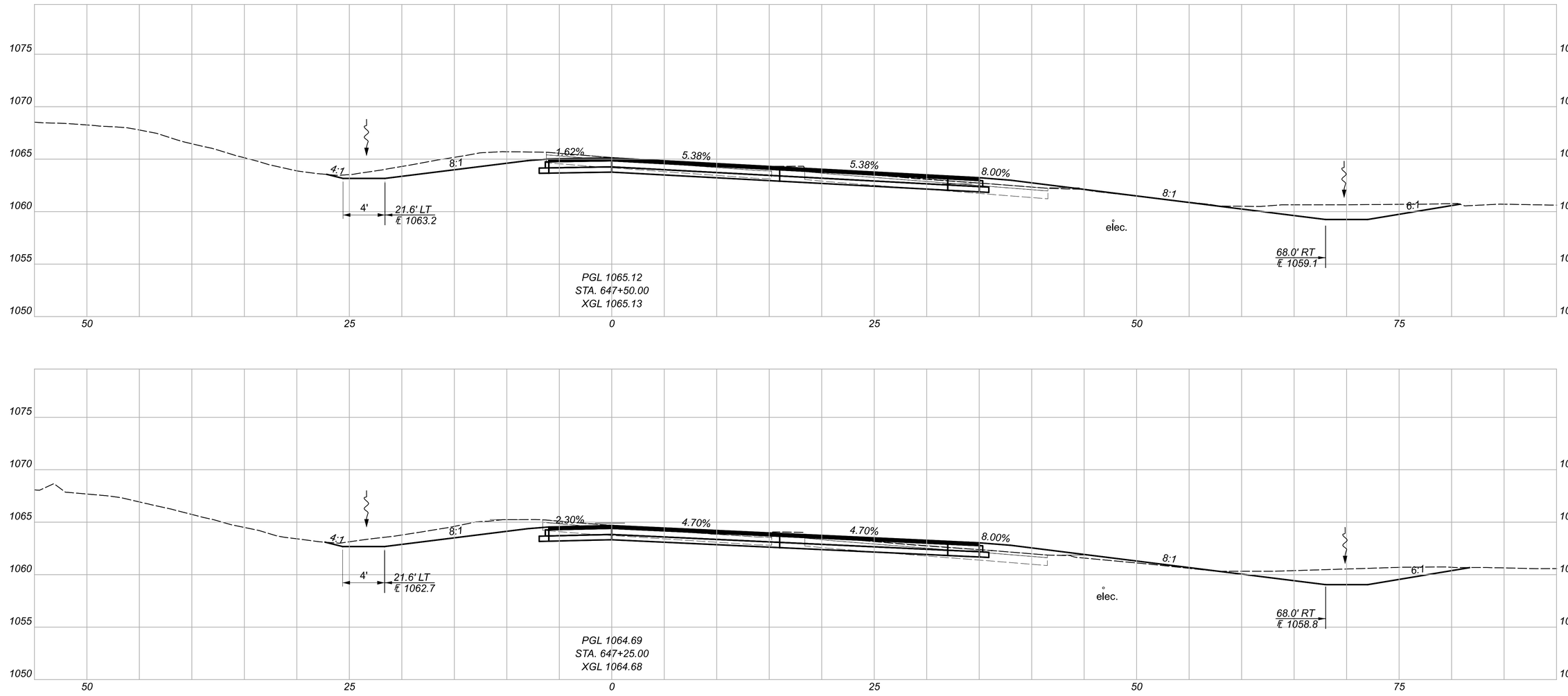
SHEET 289 | TOTAL 481



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SHEET 290 TOTAL 481

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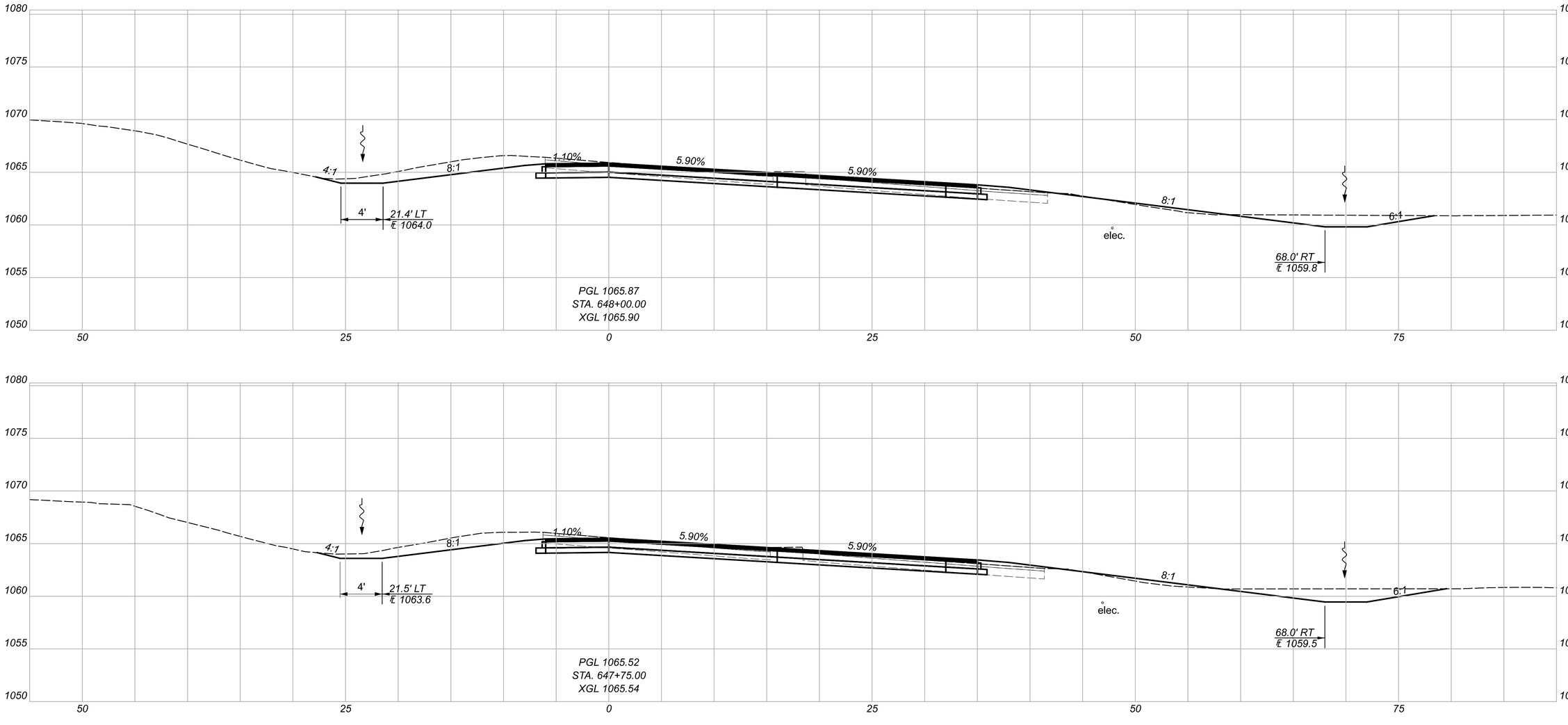

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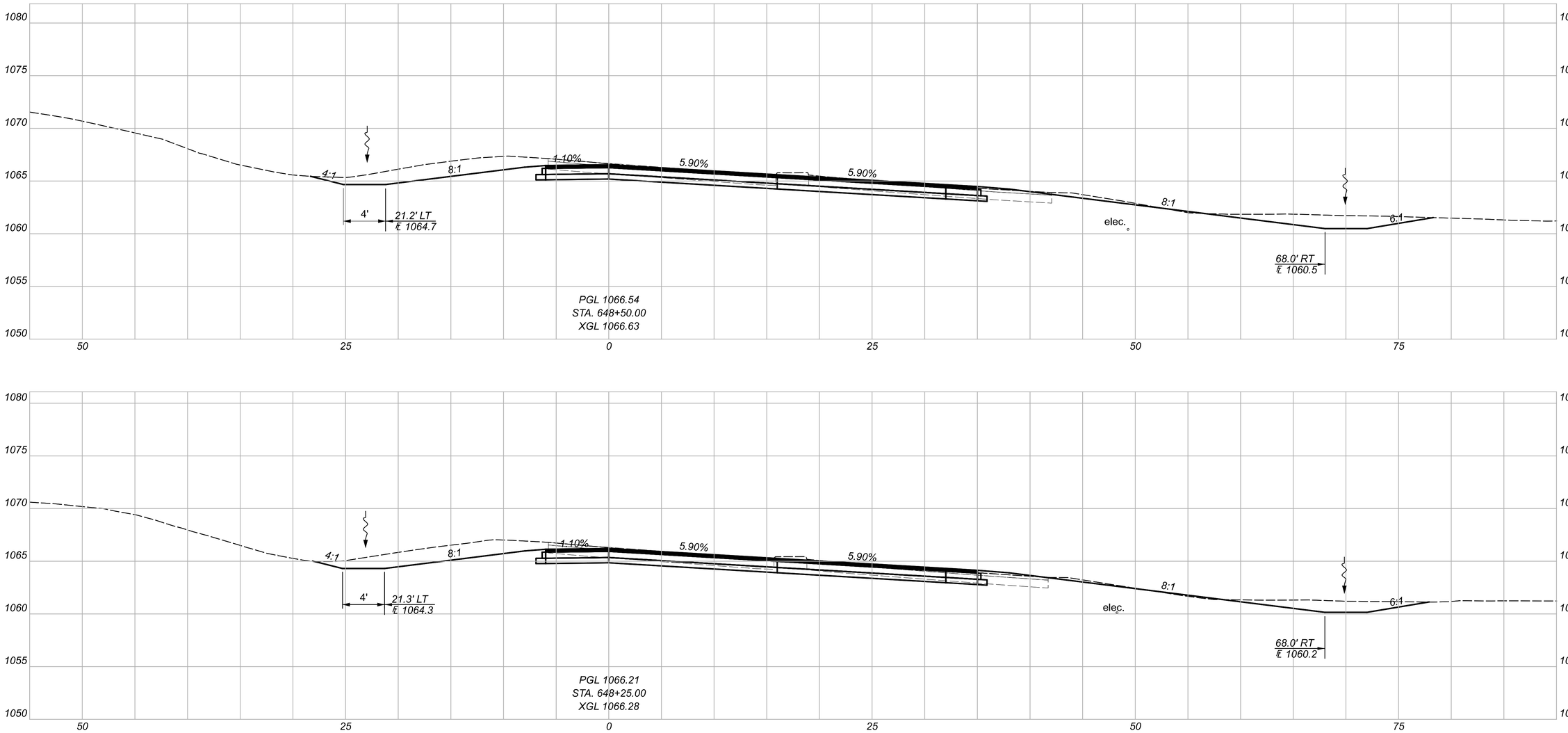

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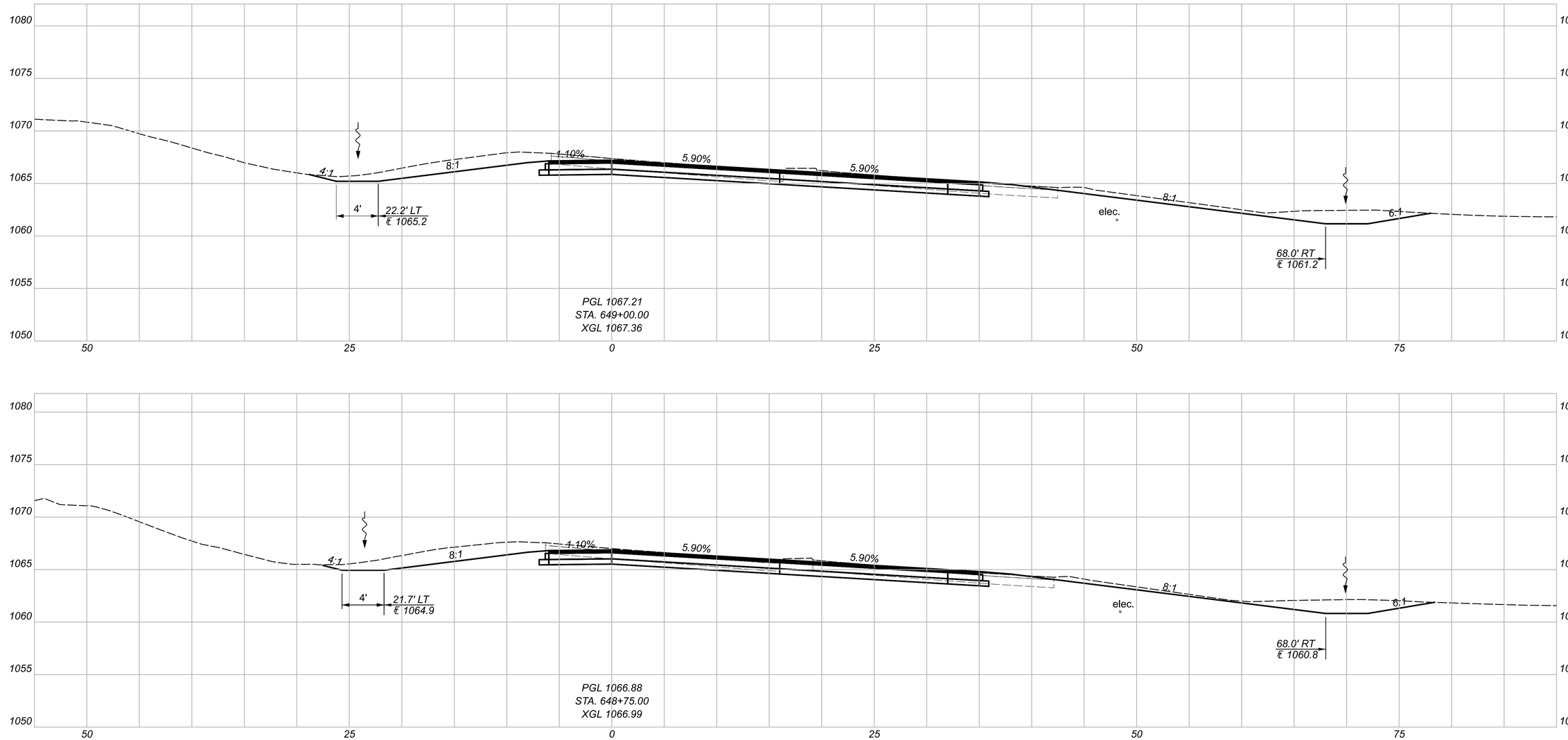
SHEET 292 TOTAL 481



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SHEET	TOTAL
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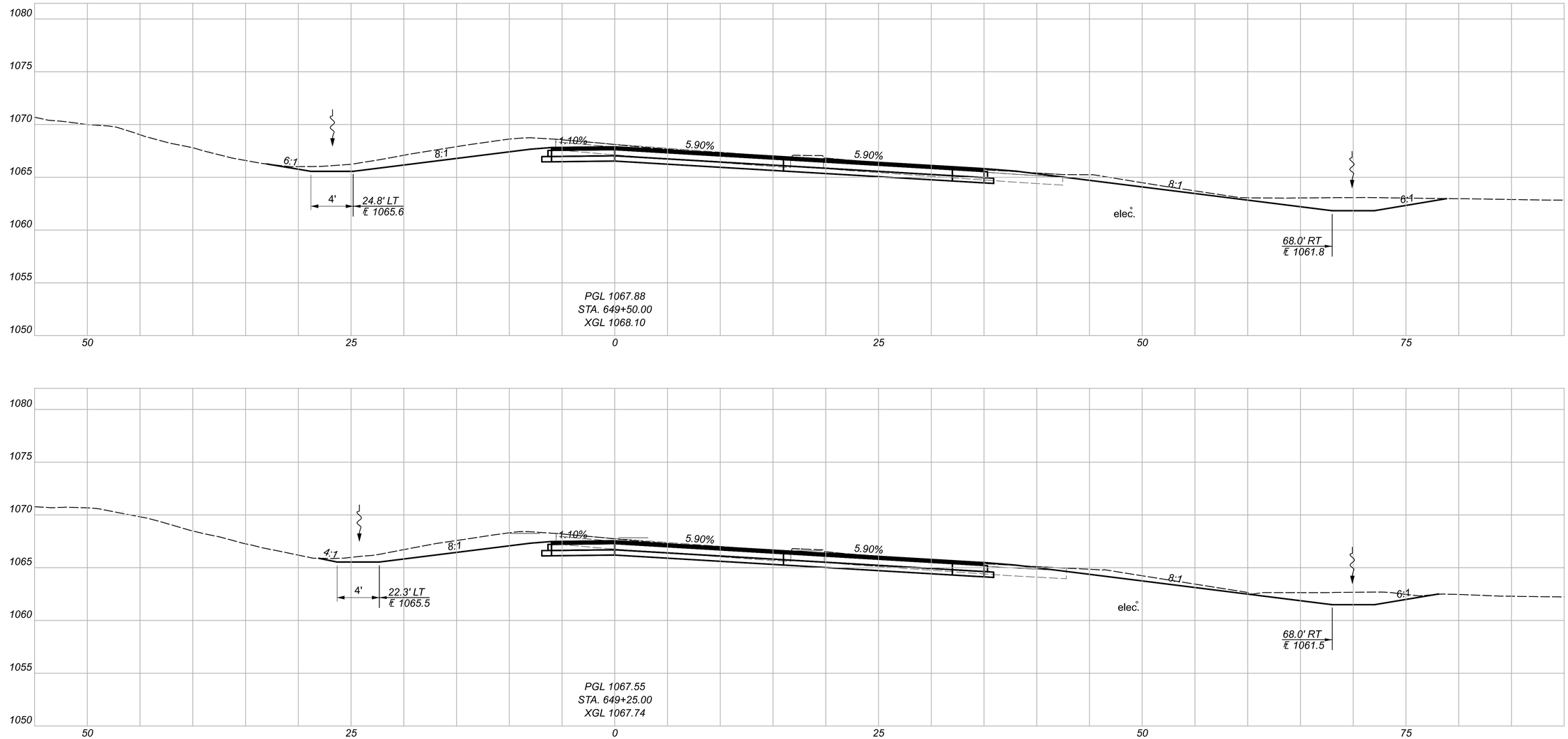

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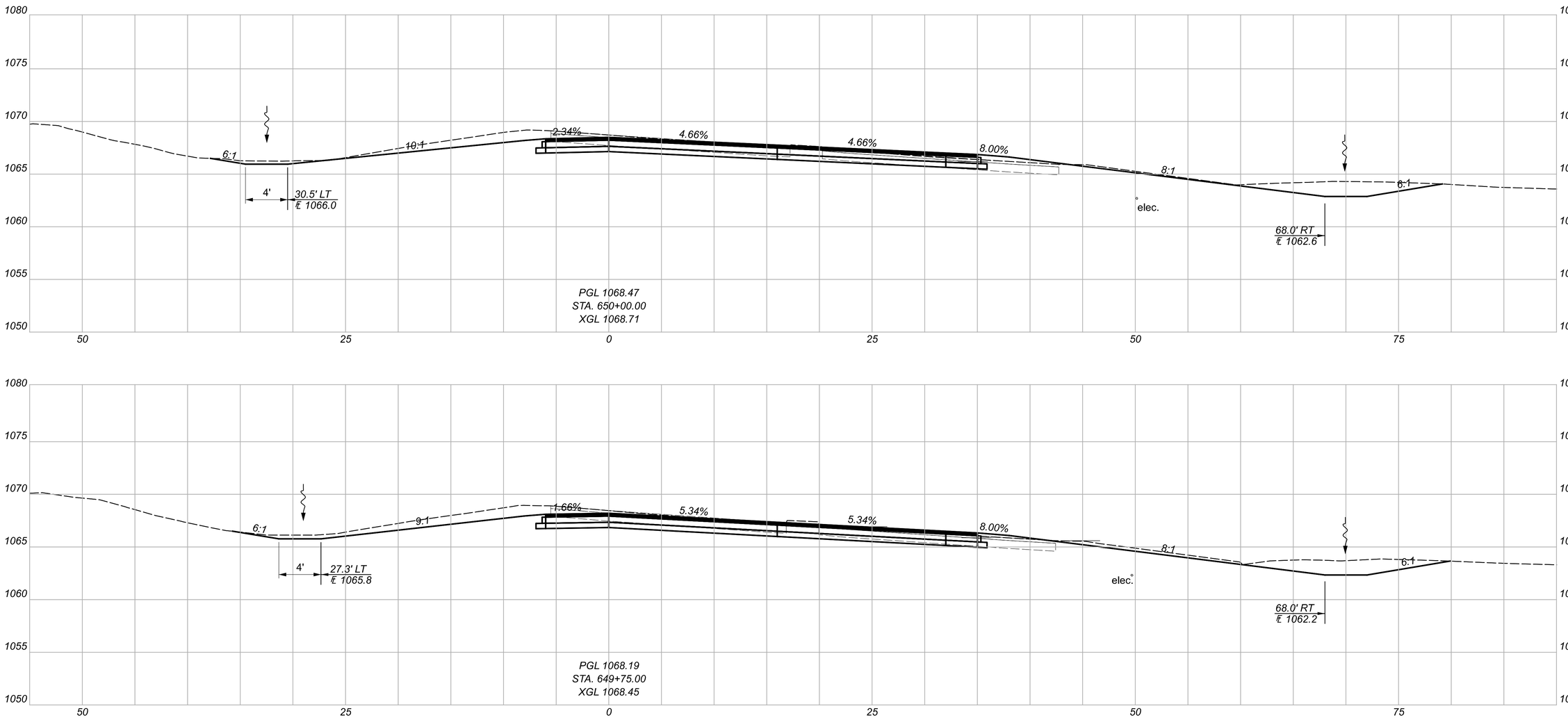
SHEET 294 TOTAL 481



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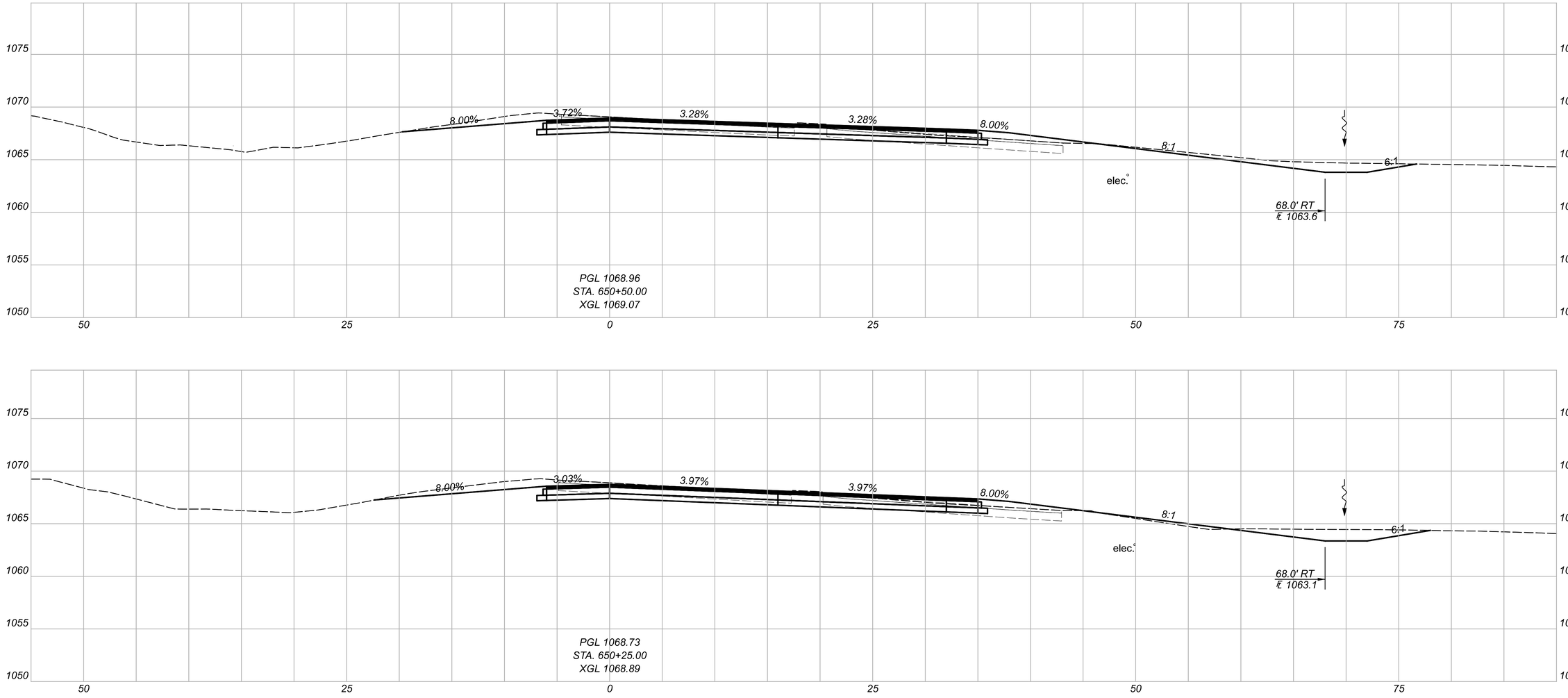
SHEET 295 TOTAL 481



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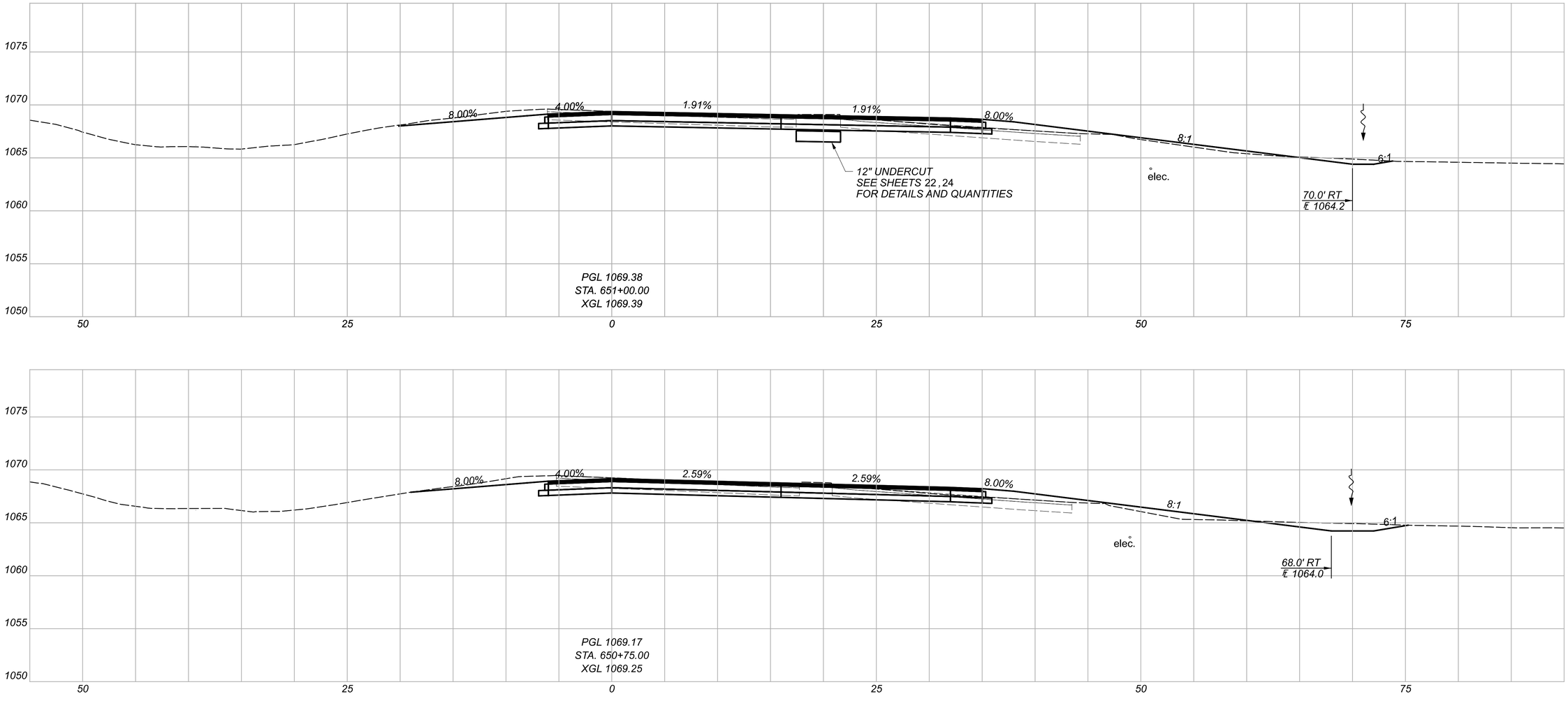

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SHEET	TOTAL
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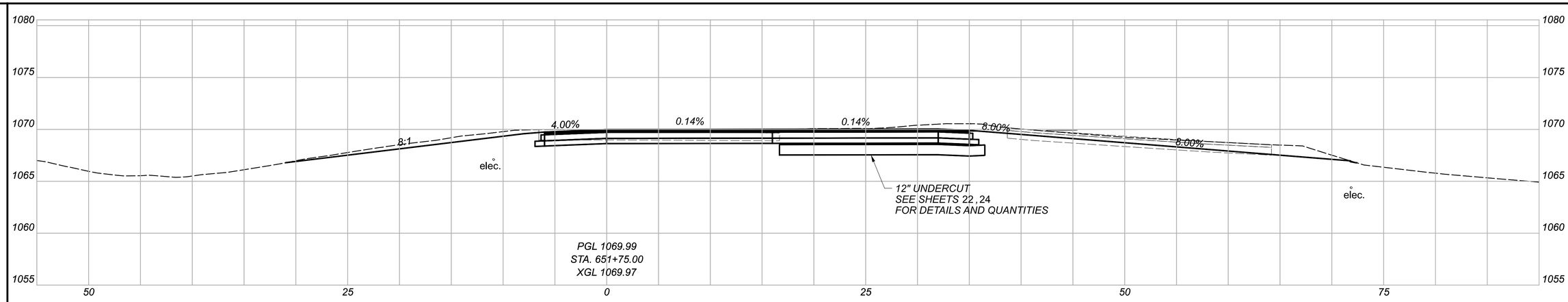

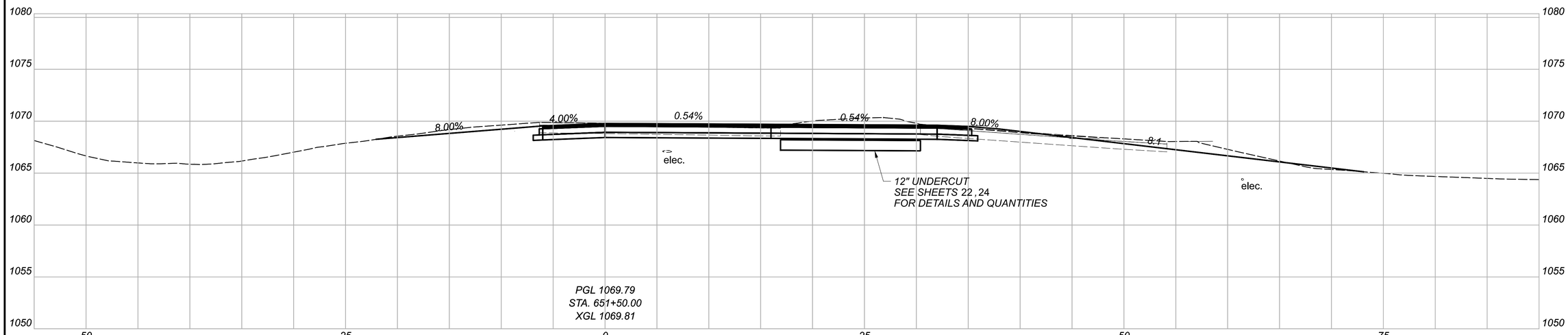

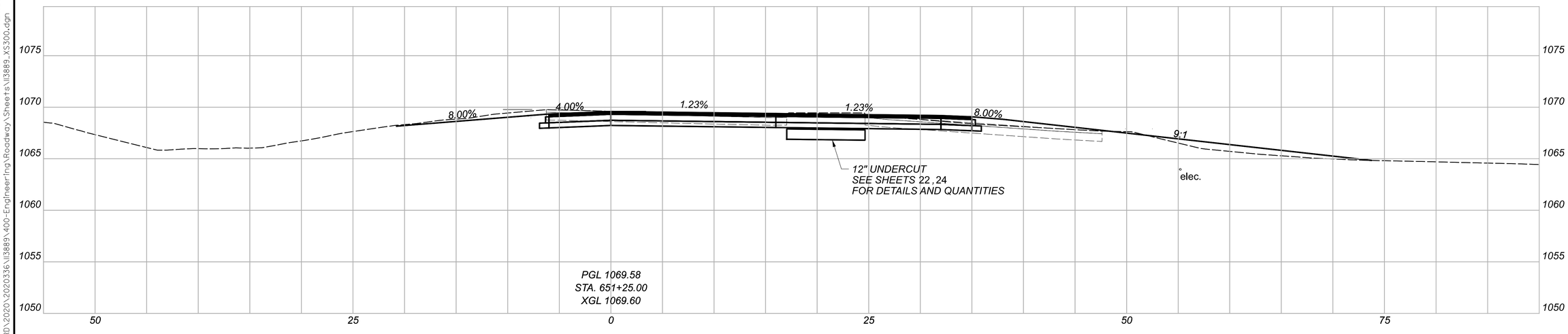

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CUY-422-16.20 (HARPER ROAD)

CROSS SECTIONS - RAMP 3A
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SHEET 298 TOTAL 481

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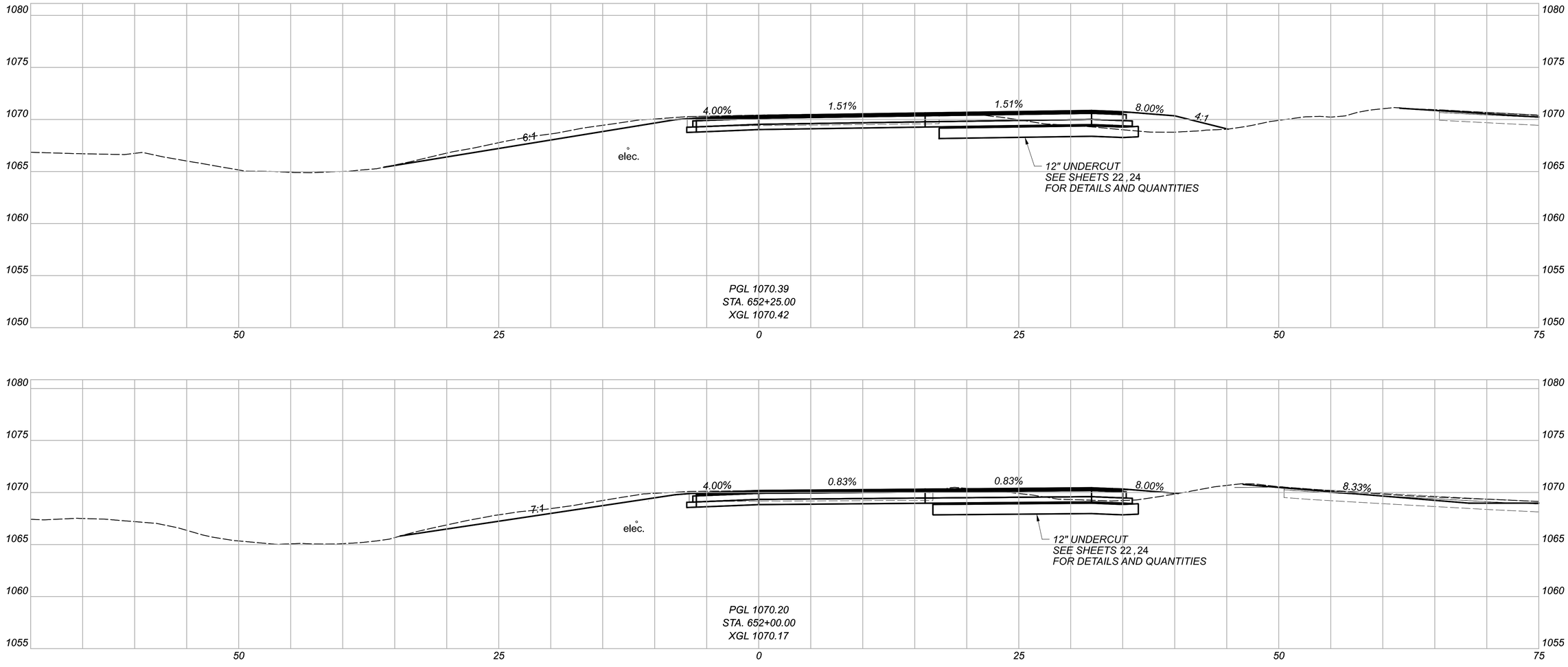

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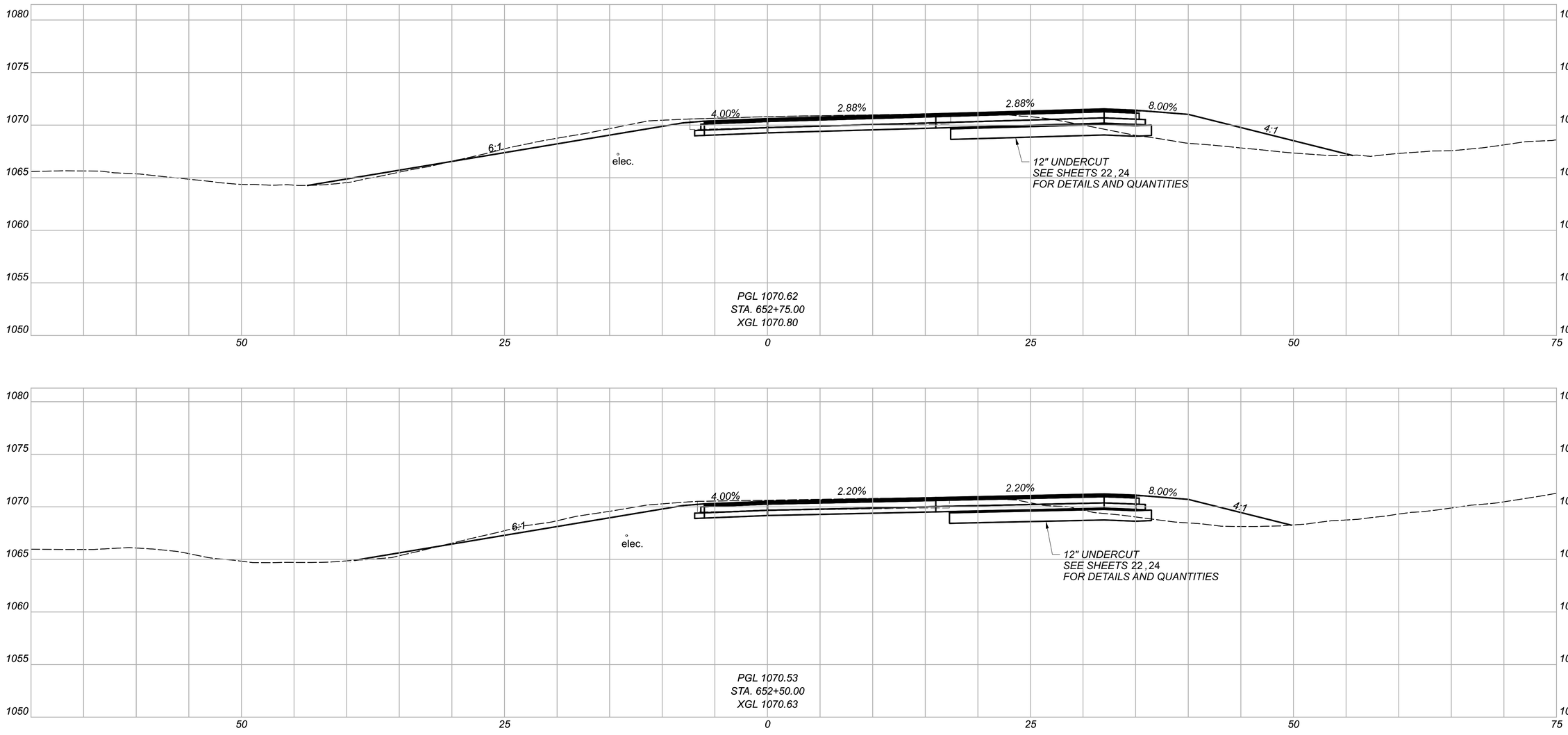

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SHEET	TOTAL
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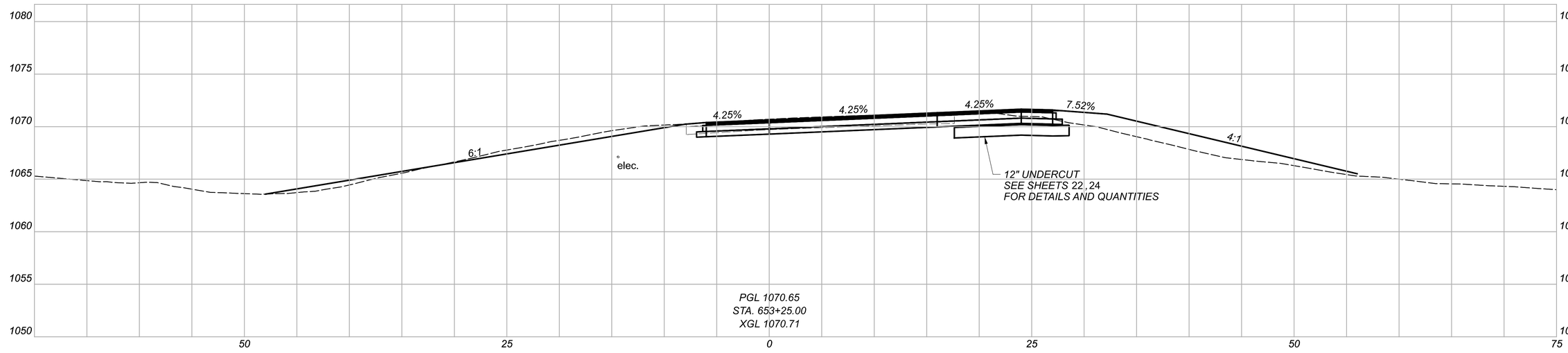

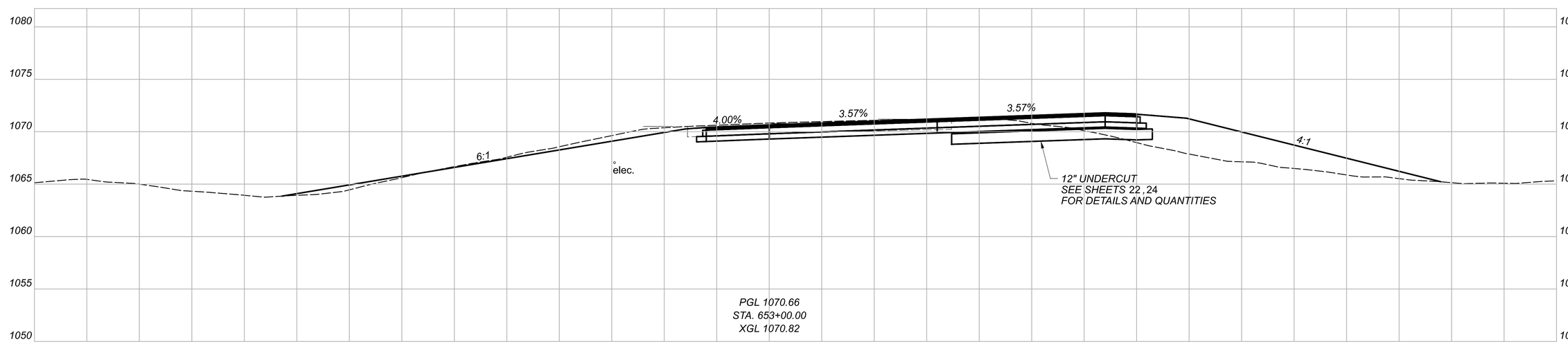

CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 3A
STA. 653+00.00 TO STA. 653+25.00

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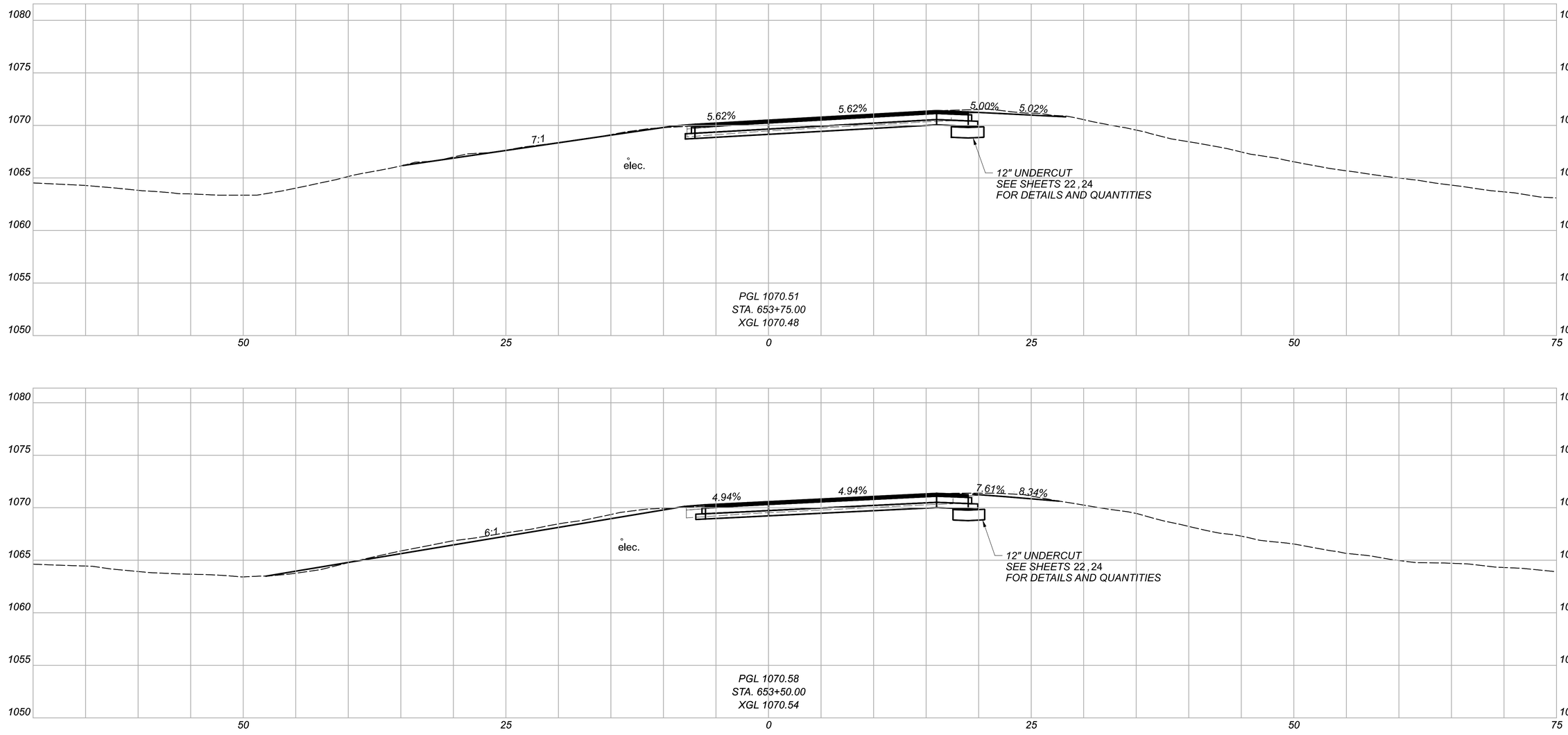
SHEET 301 TOTAL 481



CROSS SECTIONS - RAMP 3A
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CUY-422-16.20 (HARPER ROAD)

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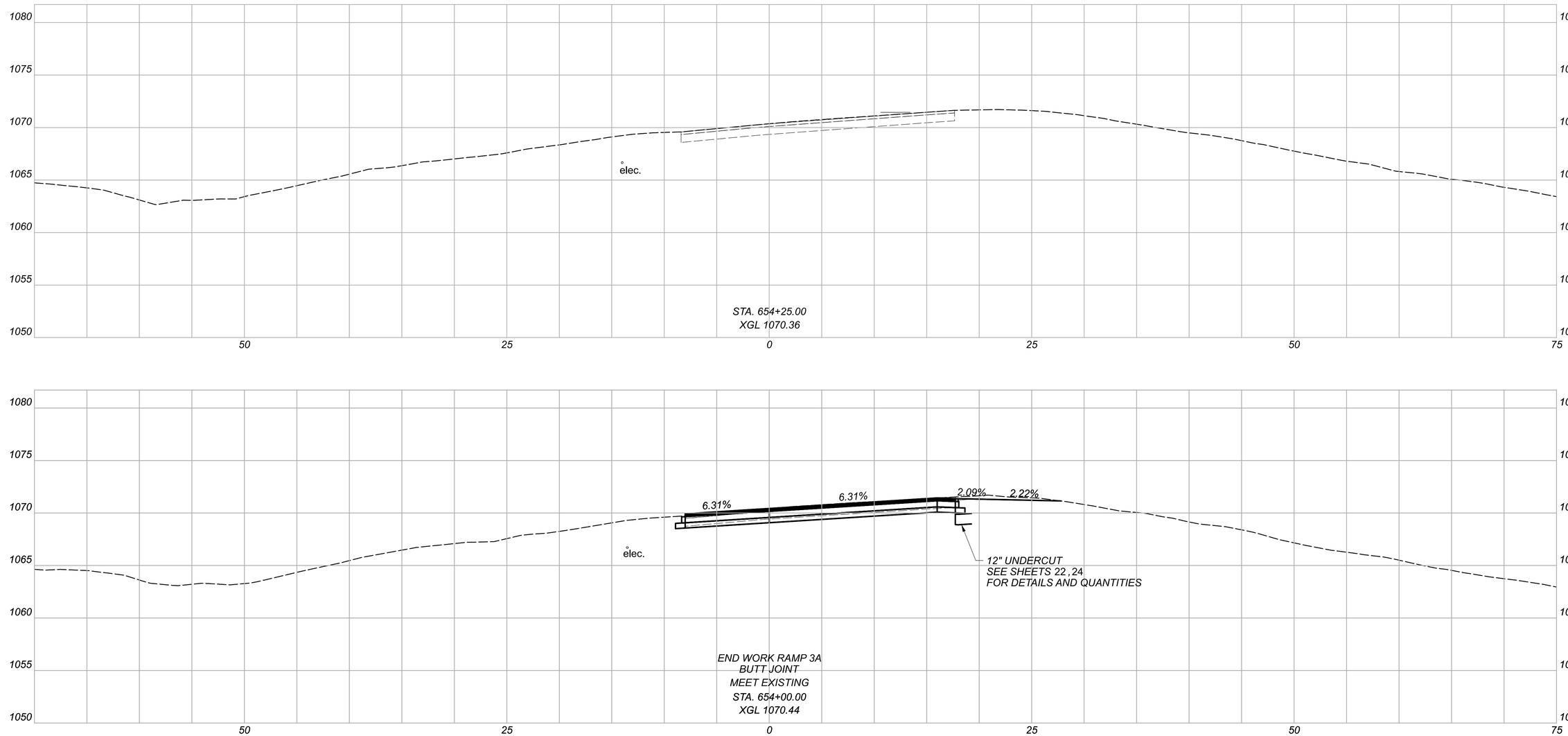

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CUY-422-16.20 (HARPER ROAD)

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CUY-422-16.20 (HARPER ROAD)

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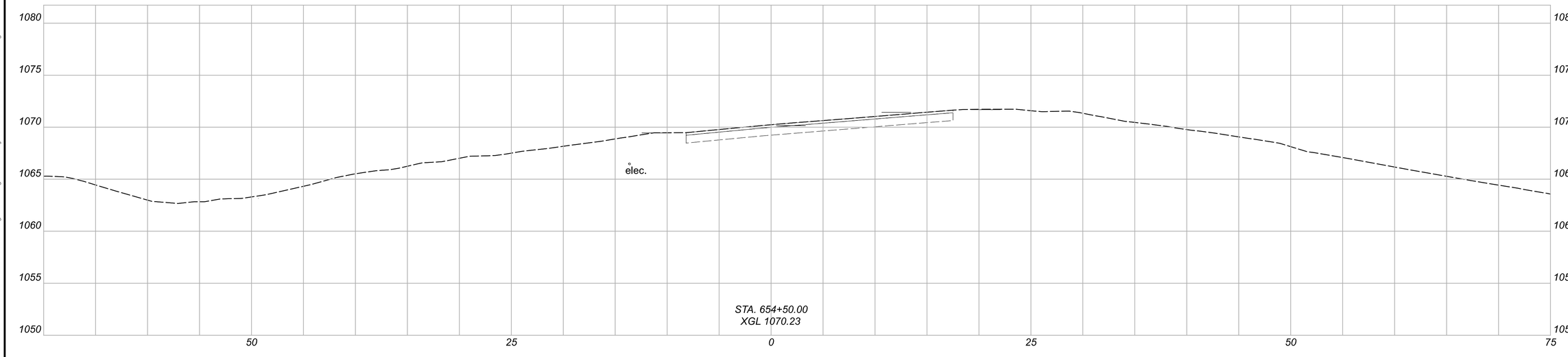

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PROJECT ID
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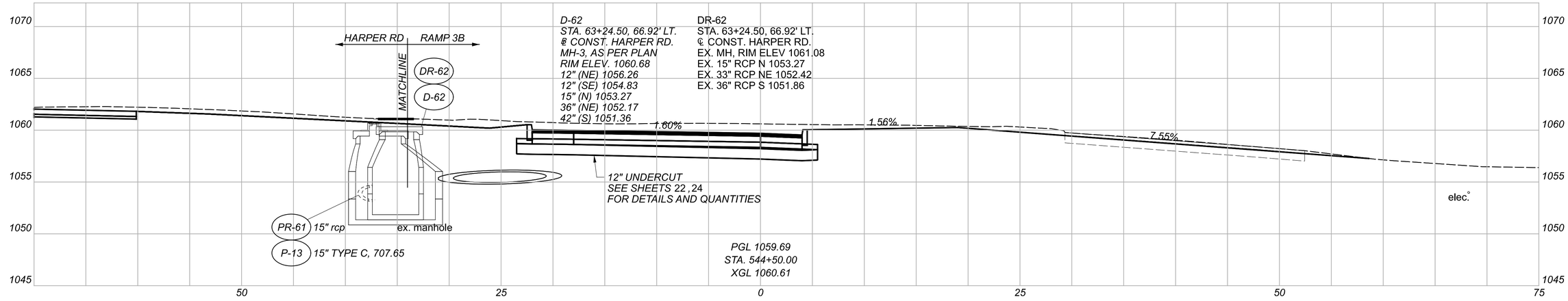

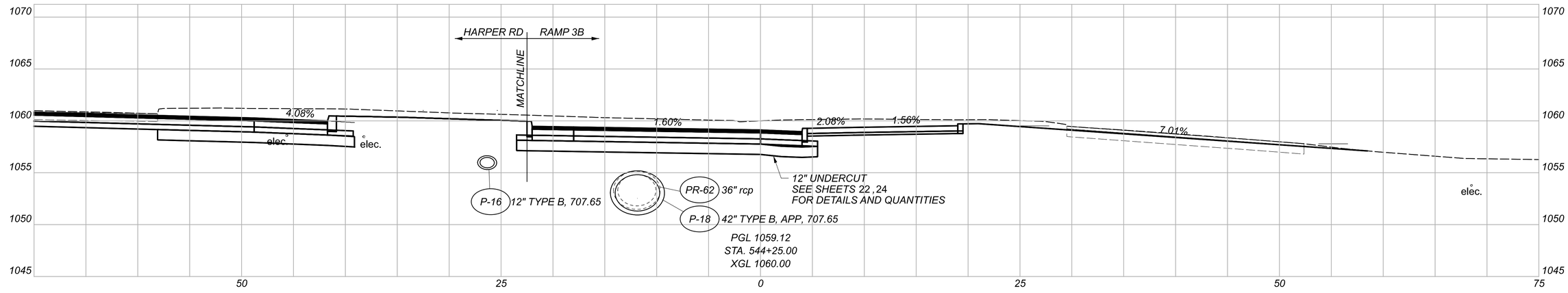

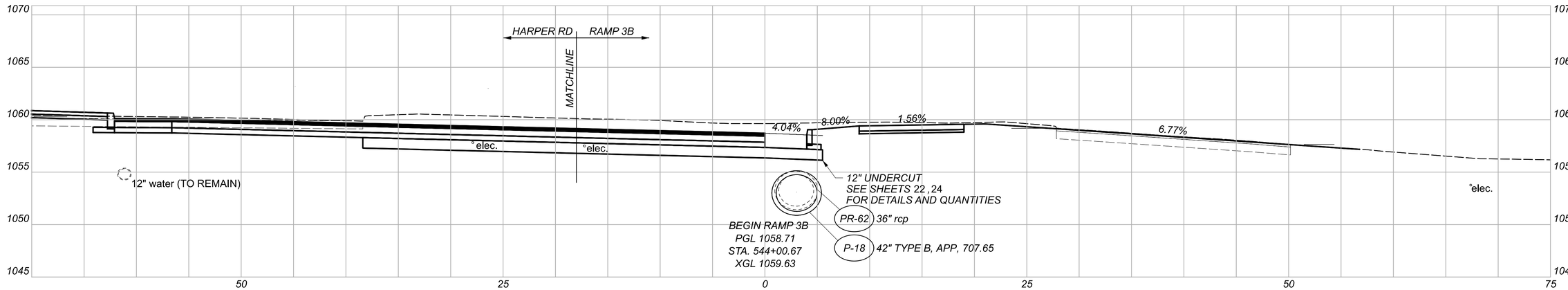

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CROSS SECTIONS - RAMP 3B
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CUY-422-16.20 (HARPER ROAD)

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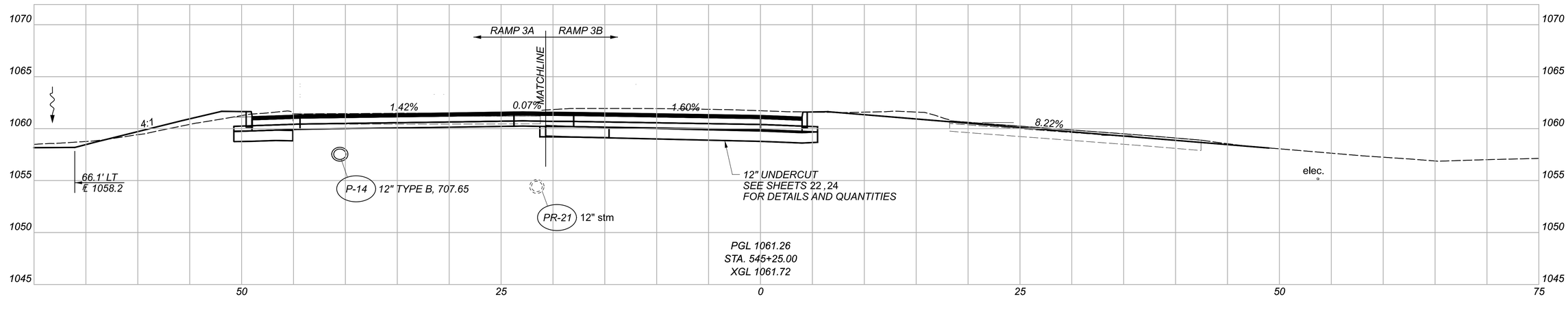
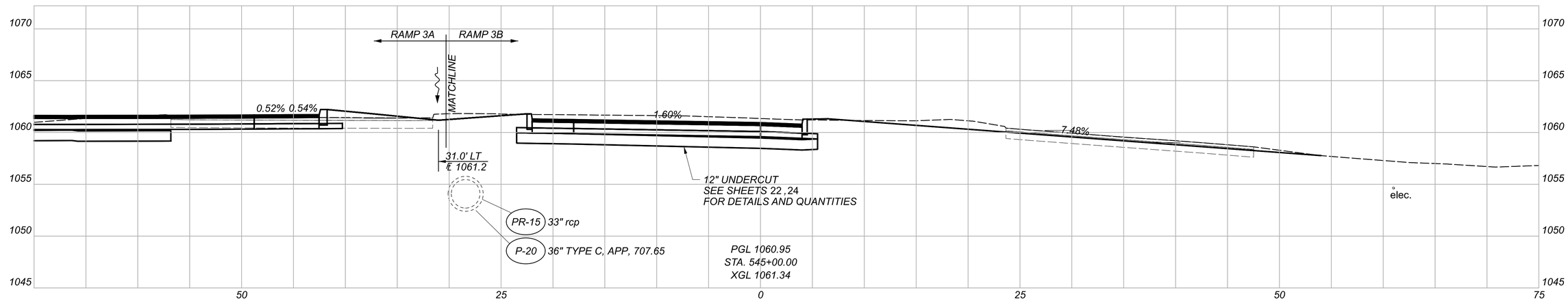
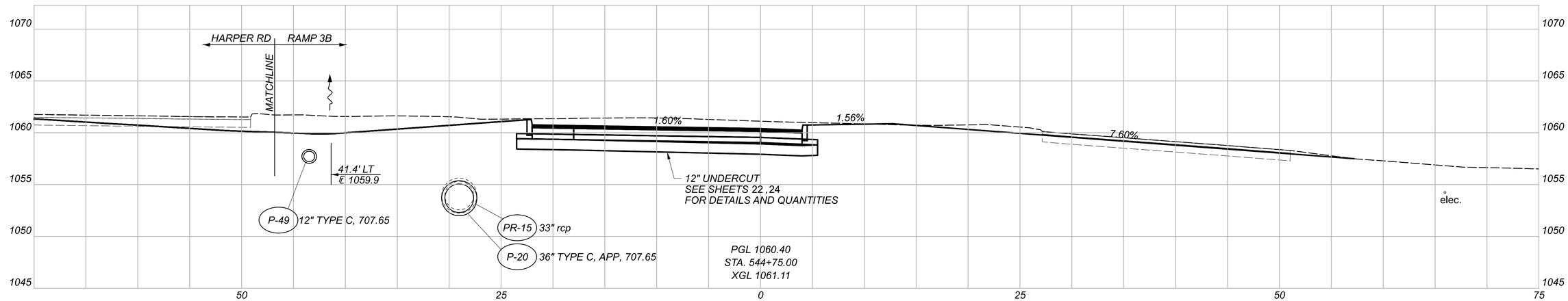
SHEET 305 TOTAL 481







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CROSS SECTIONS - RAMP 3B
STA. 544+75.00 TO STA. 545+25.00

Sheet Totals		
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PROJECT ID 113889

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CUY-422-16.20 (HARPER ROAD)

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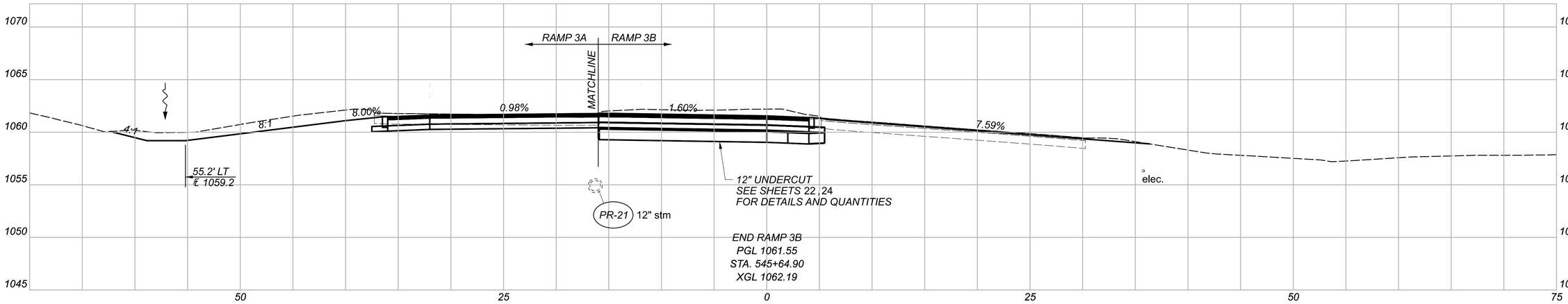

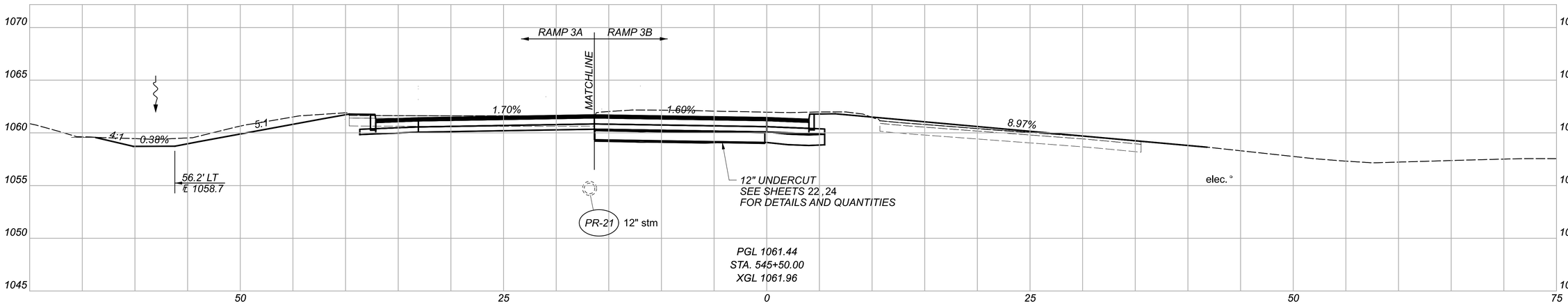

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STA. 545+50.00 TO STA. 545+64.90

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CUY-422-16.20 (HARPER ROAD)

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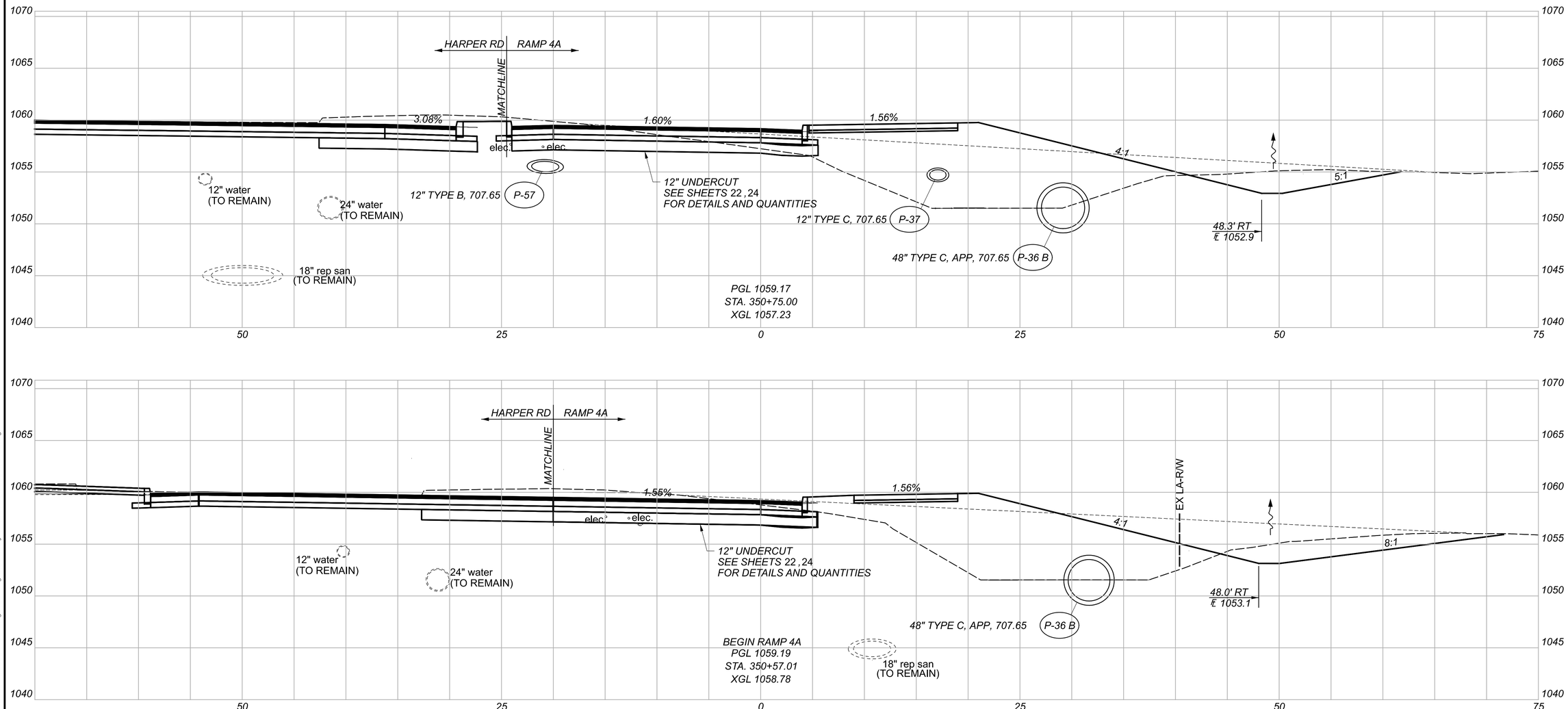

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STA. 350+57.01 TO STA. 350+75.00

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Seeding	Cut	Fill
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CTY-RTE-SECTION

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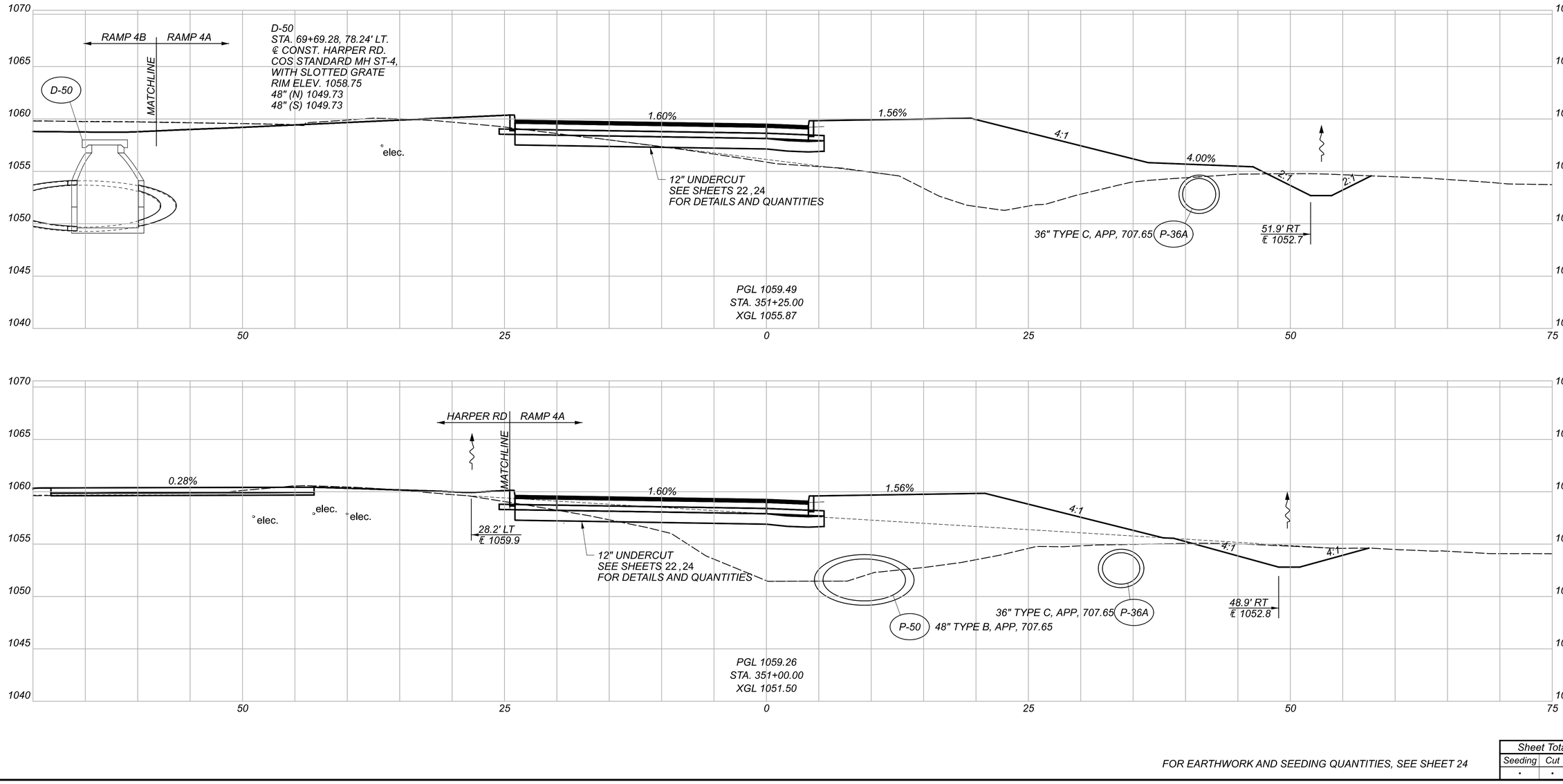

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CROSS SECTIONS - RAMP 4A
STA. 351+00.00 TO STA. 351+25.00

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Sheet Totals		
Seeding	Cut	Fill
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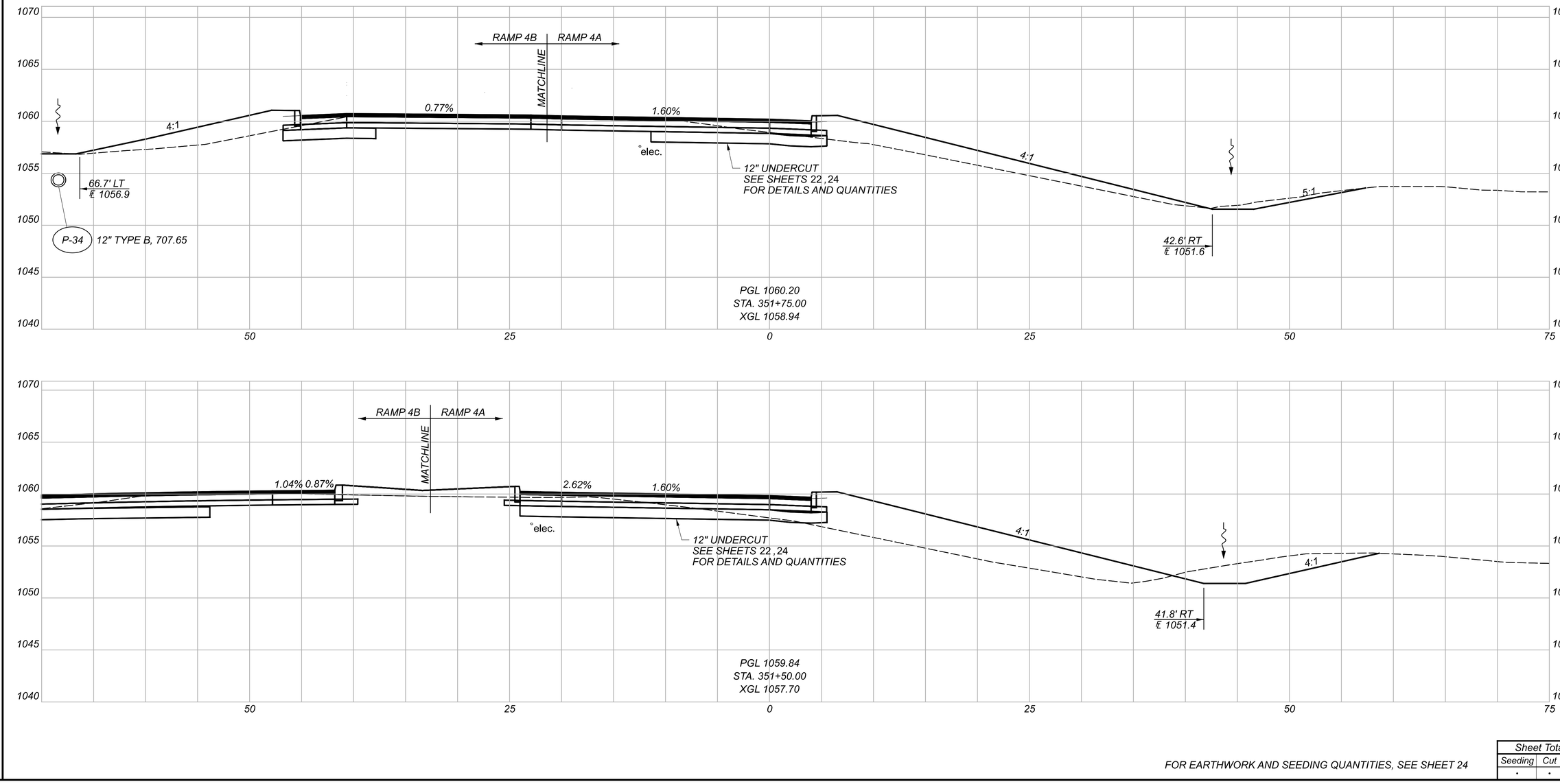
SHEET 309 TOTAL 481



CUY-422-16.20 (HARPER ROAD)

CROSS SECTIONS - RAMP 4A
STA. 351+50.00 TO STA. 351+75.00

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Sheet Totals		
Seeding	Cut	Fill
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PROJECT ID 113889
SHEET 310 TOTAL 481

MODEL: BLP_R01B4A-I - 351+50.00 (Sheet) PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:31:12 AM USER: cluzier
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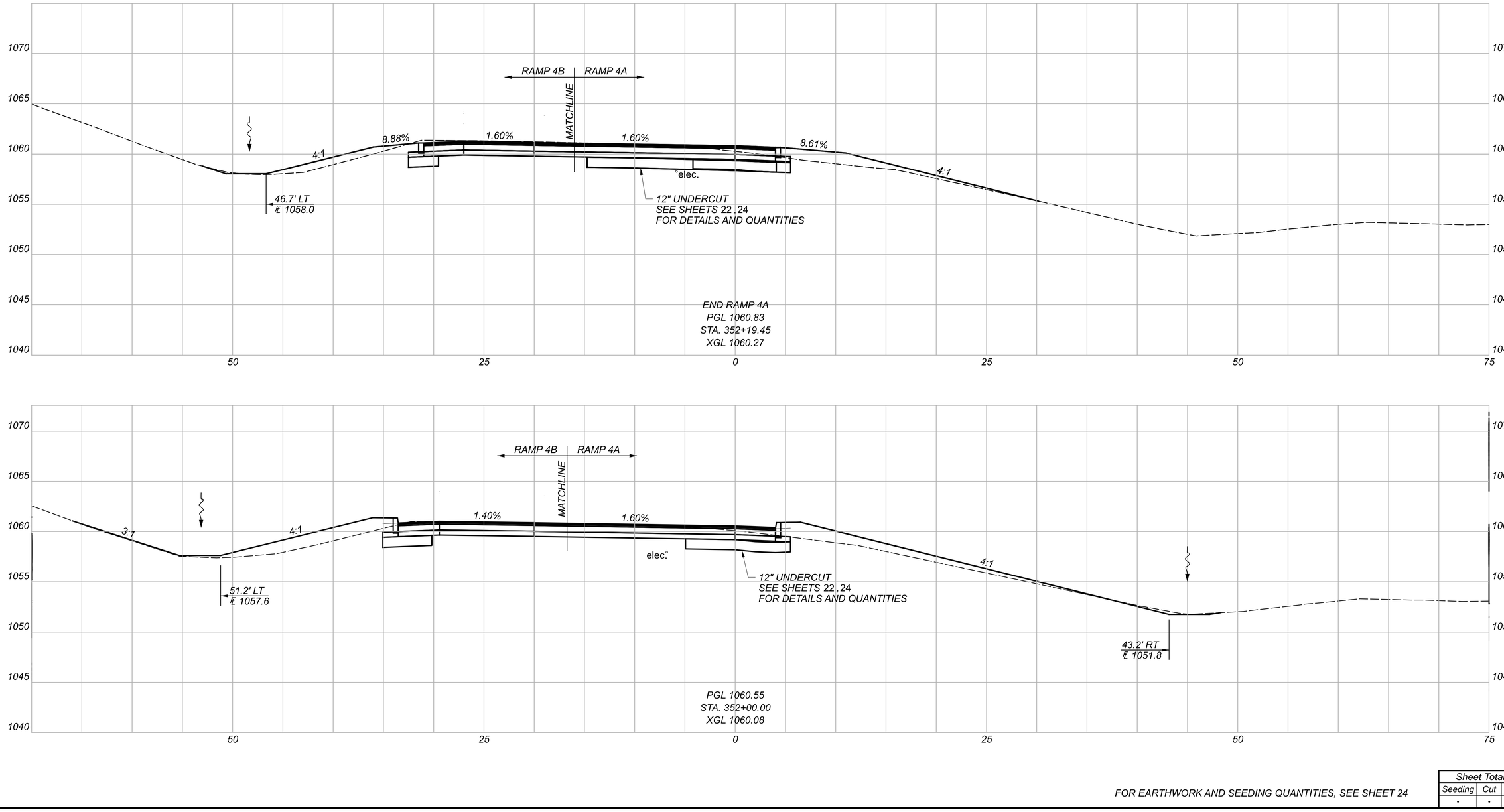

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CROSS SECTIONS - RAMP 4A
STA. 352+00.00 TO STA. 352+19.45

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Sheet Totals		
Seeding	Cut	Fill
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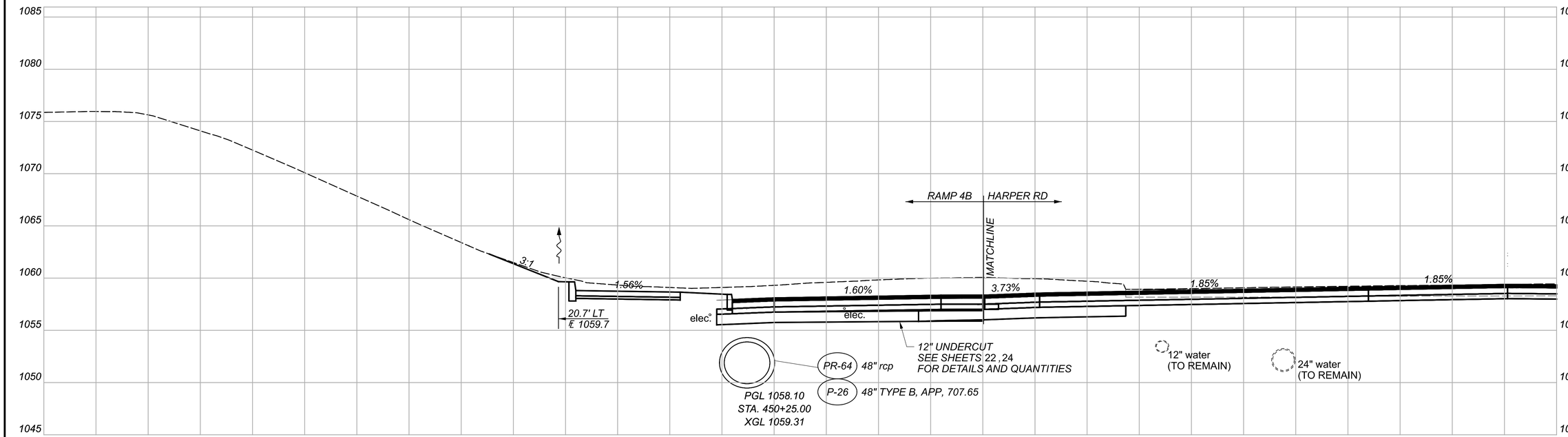
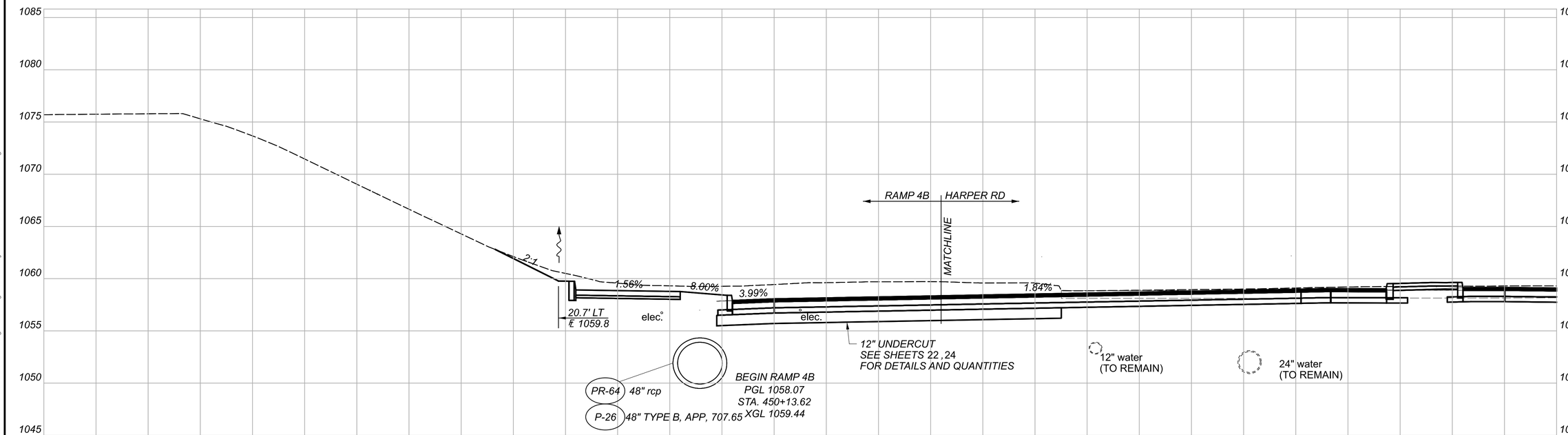
SHEET 311 TOTAL 481





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - RAMP 4B
STA. 450+13.62 TO STA. 450+25.00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0184B - 450+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:34:40 AM USER: cluzier
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Sheet Totals		
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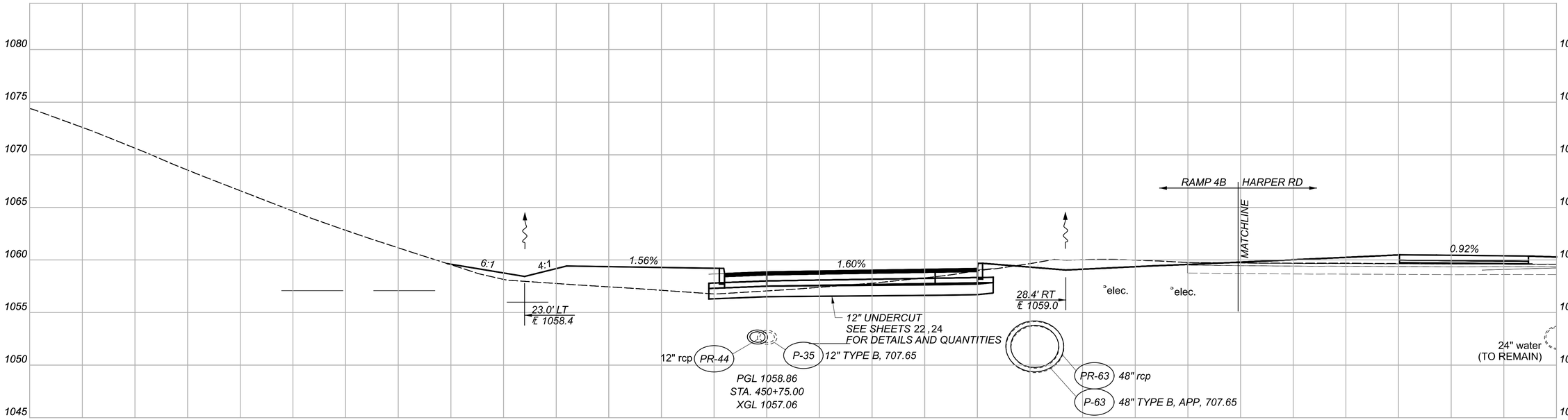
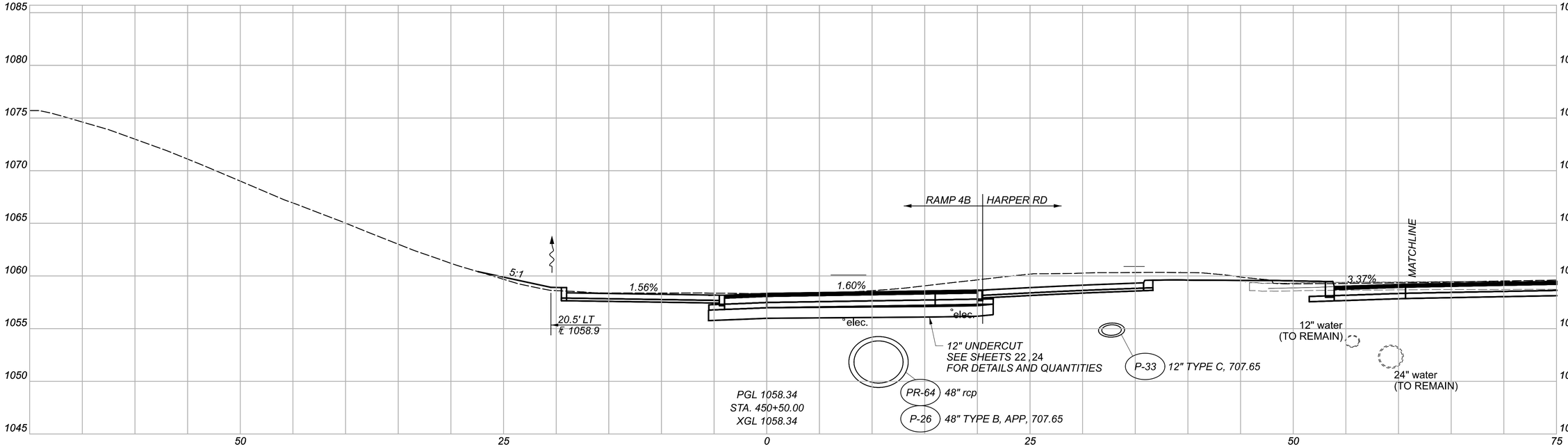
SHEET	TOTAL
312	481





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CROSS SECTIONS - RAMP 4B
STA. 450+50.00 TO STA. 450+75.00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0184B - 450+50.00 [Sheet] PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:32:00 AM USER: cluzier
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Sheet Totals		
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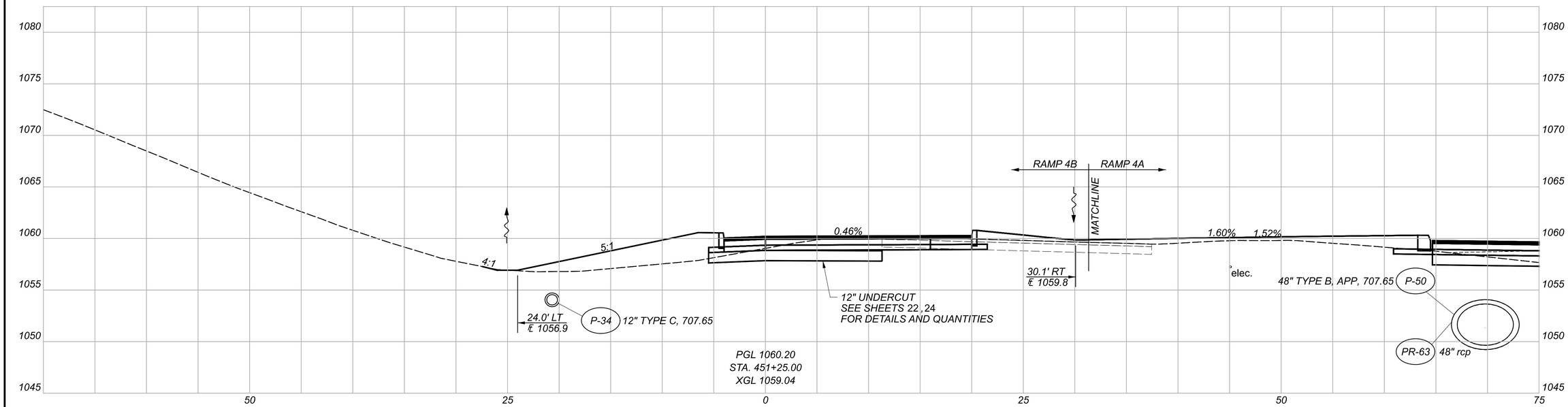
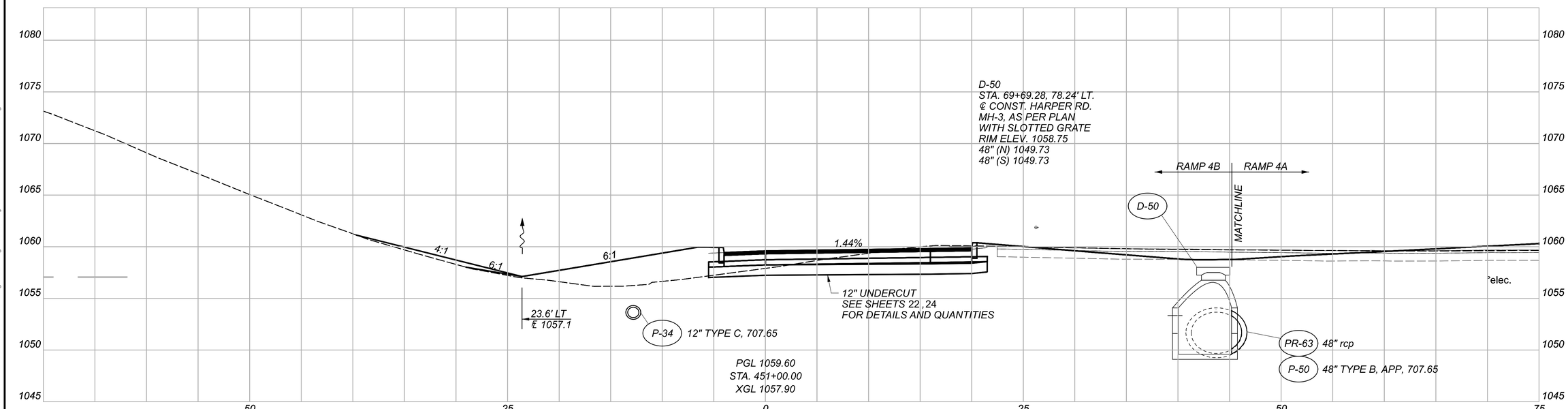
SHEET 313 TOTAL 481





CROSS SECTIONS - RAMP 4B
STA. 451+00.00 TO STA. 451+25.00

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Sheet Totals		
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CUY-422-16.20 (HARPER ROAD)

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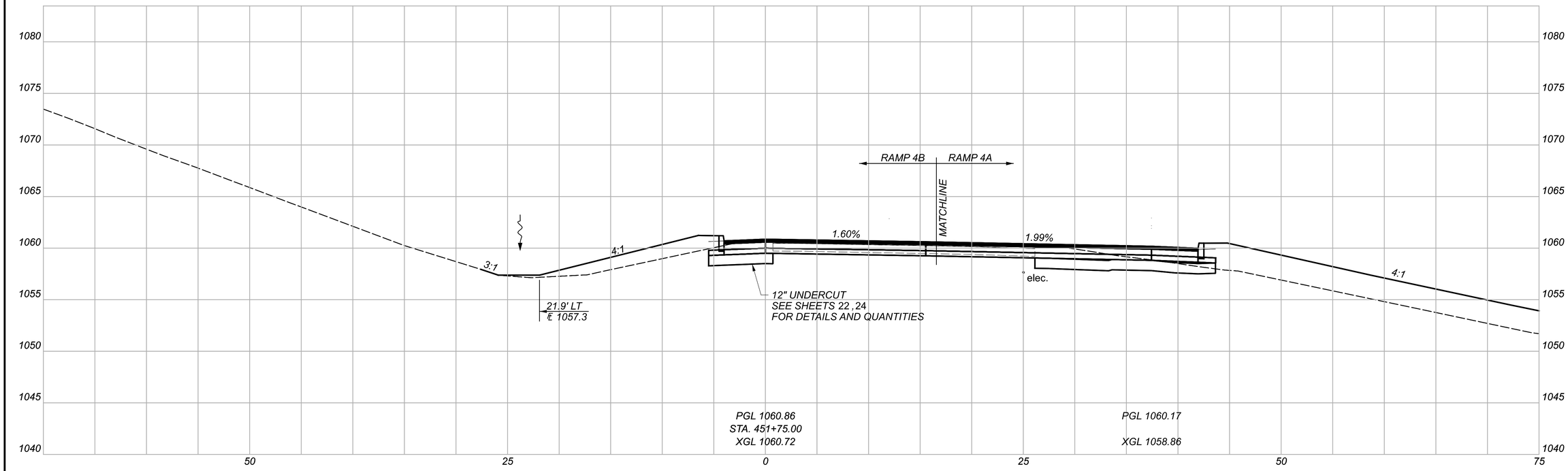

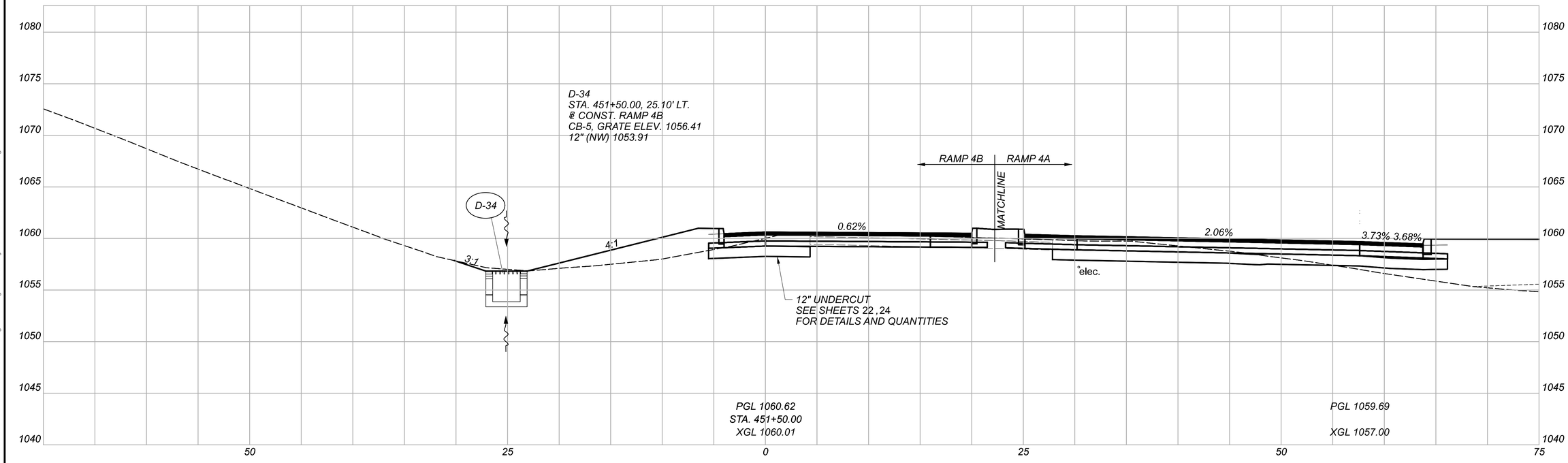

CROSS SECTIONS - RAMP 4B
STA. 451+50.00 TO STA. 451+75.00

CUY-422-16.20 (HARPER ROAD)

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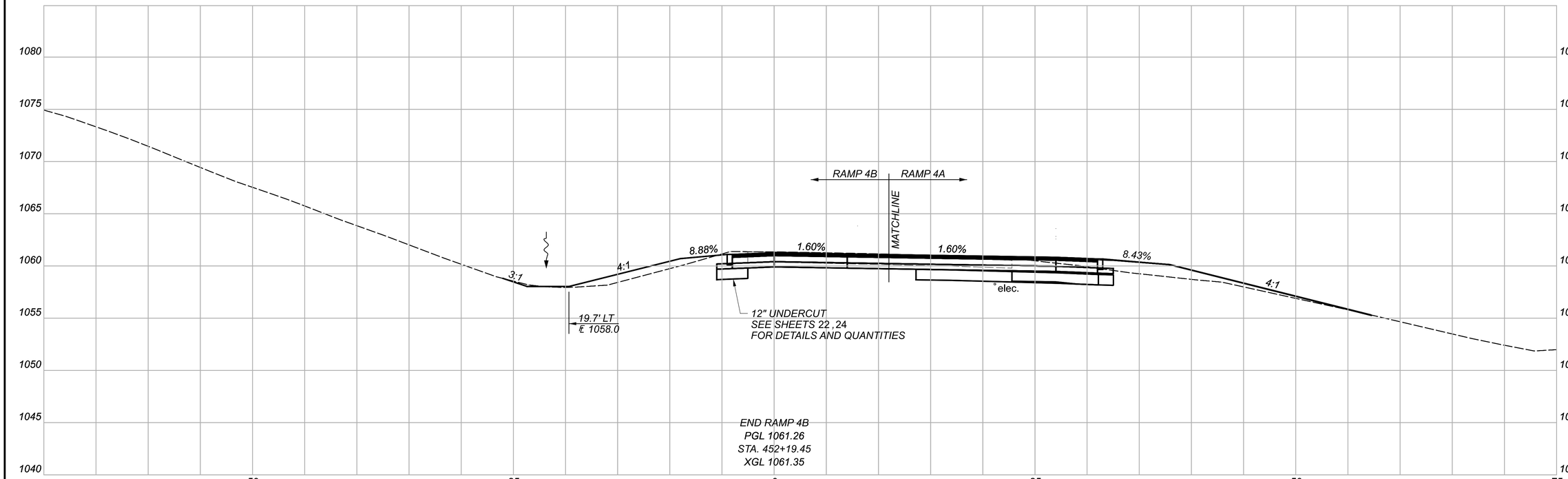
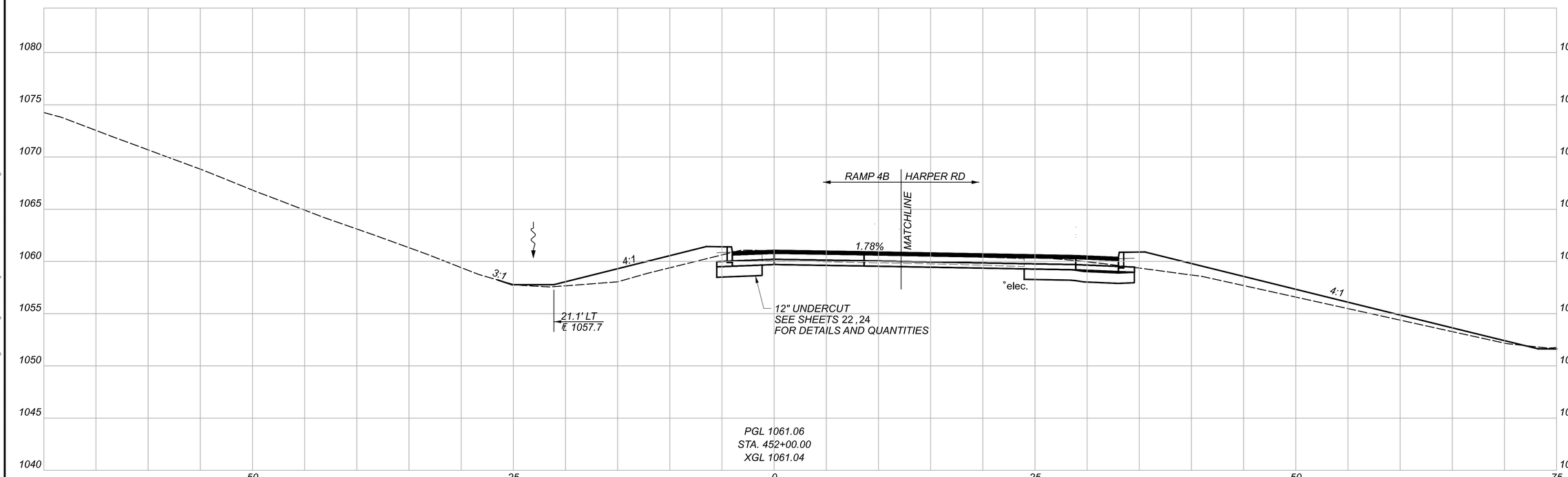
SHEET 315 TOTAL 481





CROSS SECTIONS - RAMP 4B
STA. 452+00.00 TO STA. 452+19.45

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0184B - 452+00.00 [Sheet] PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 10:47:40 AM USER: cluzier
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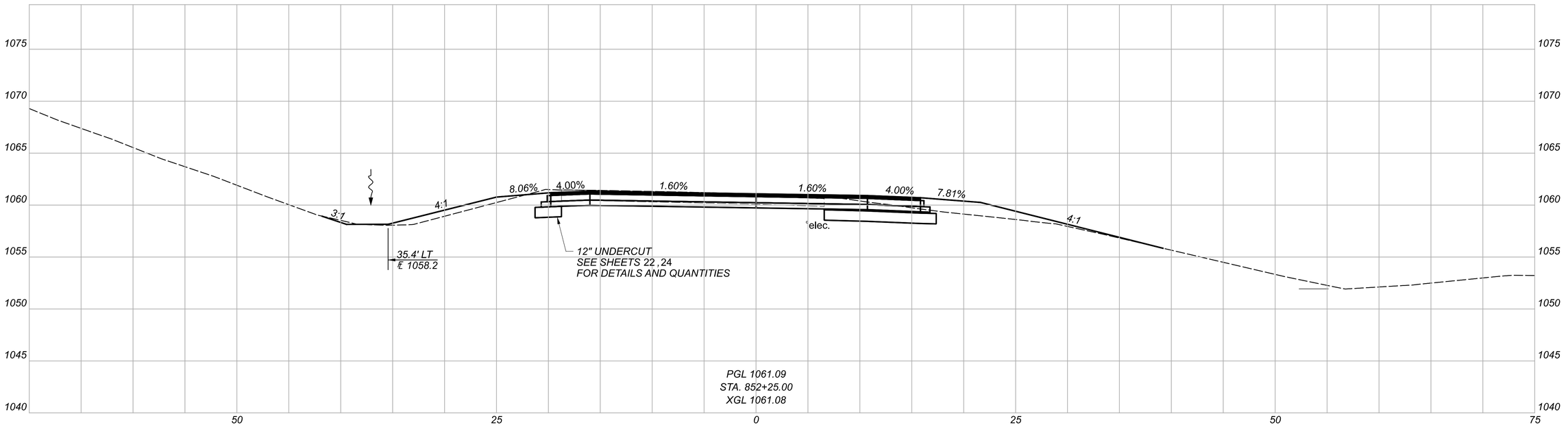
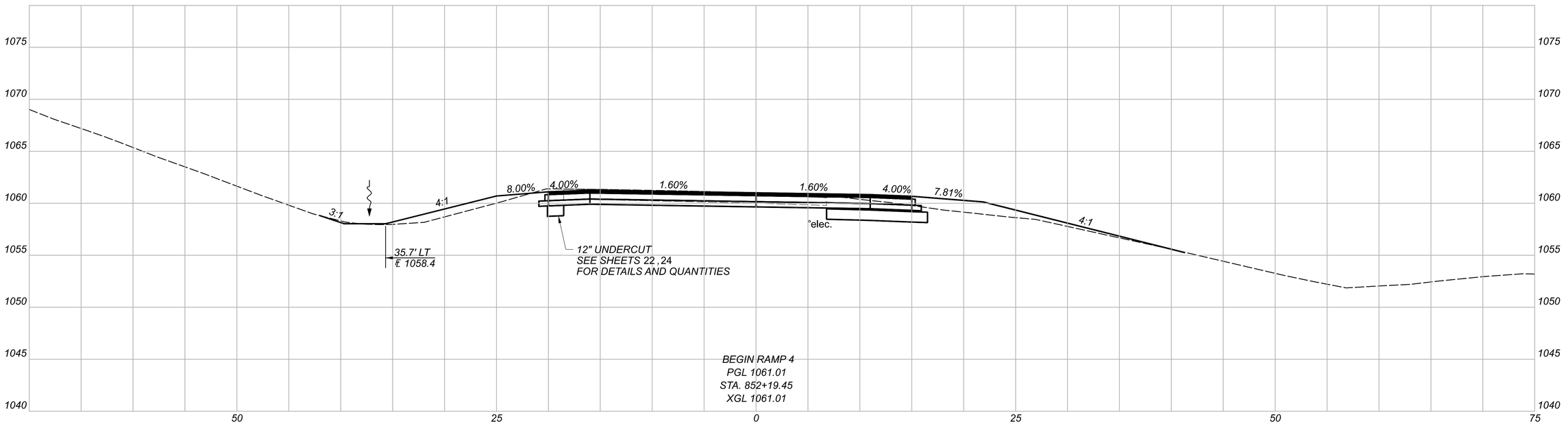
PROJECT ID	113889
SHEET	316
TOTAL	481





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CROSS SECTIONS - RAMP 4
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CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_ROI84 - 852+19.45 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:33:07 AM USER: cluzier
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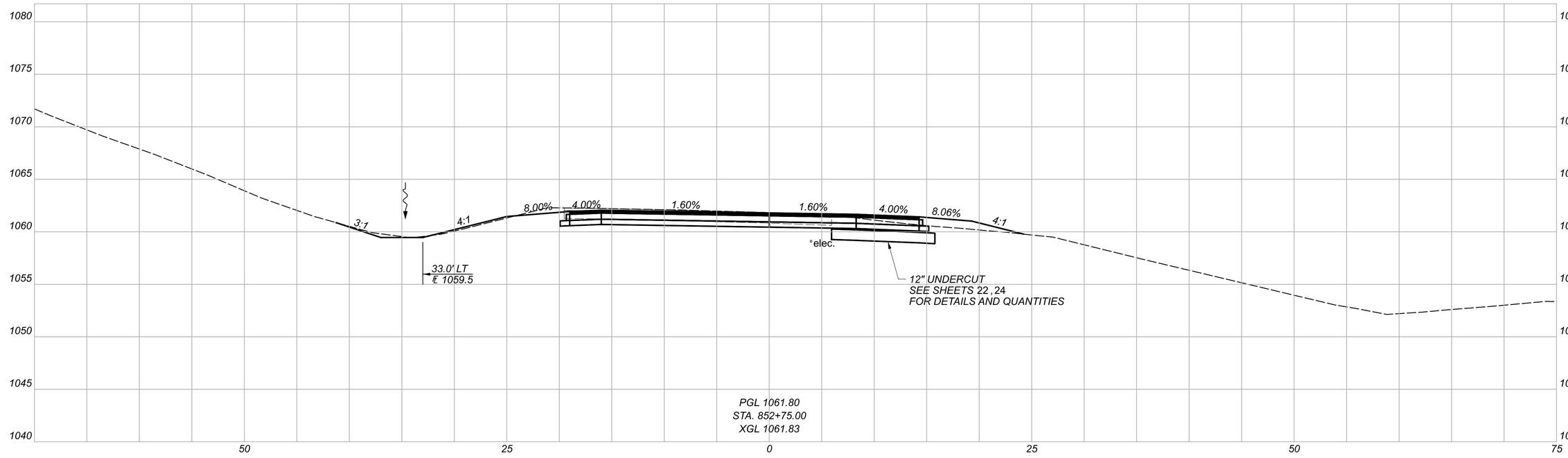
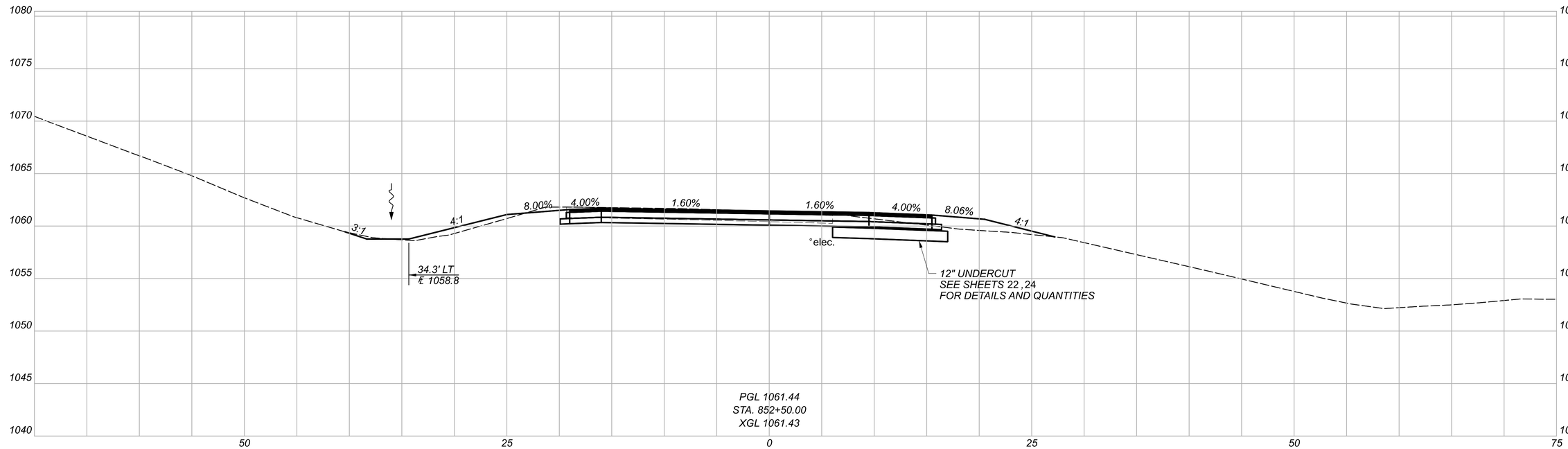
REVIEWER	CWL 02-22-22
PROJECT ID	113889
SHEET	317
TOTAL	481





CROSS SECTIONS - RAMP 4
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CUY-422-16.20 (HARPER ROAD)

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FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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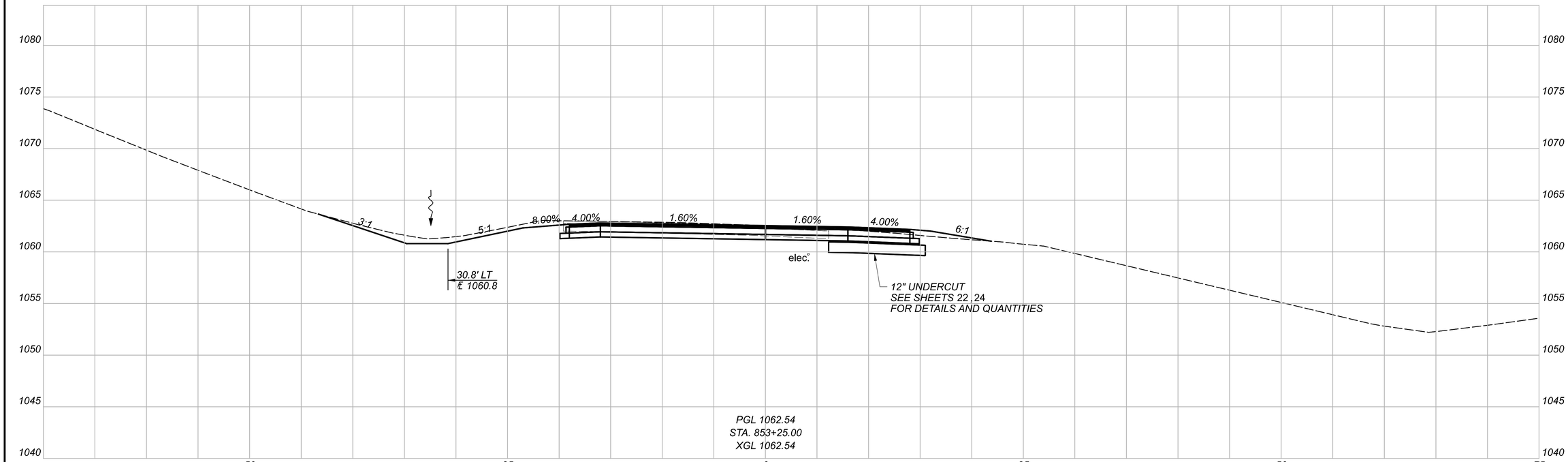
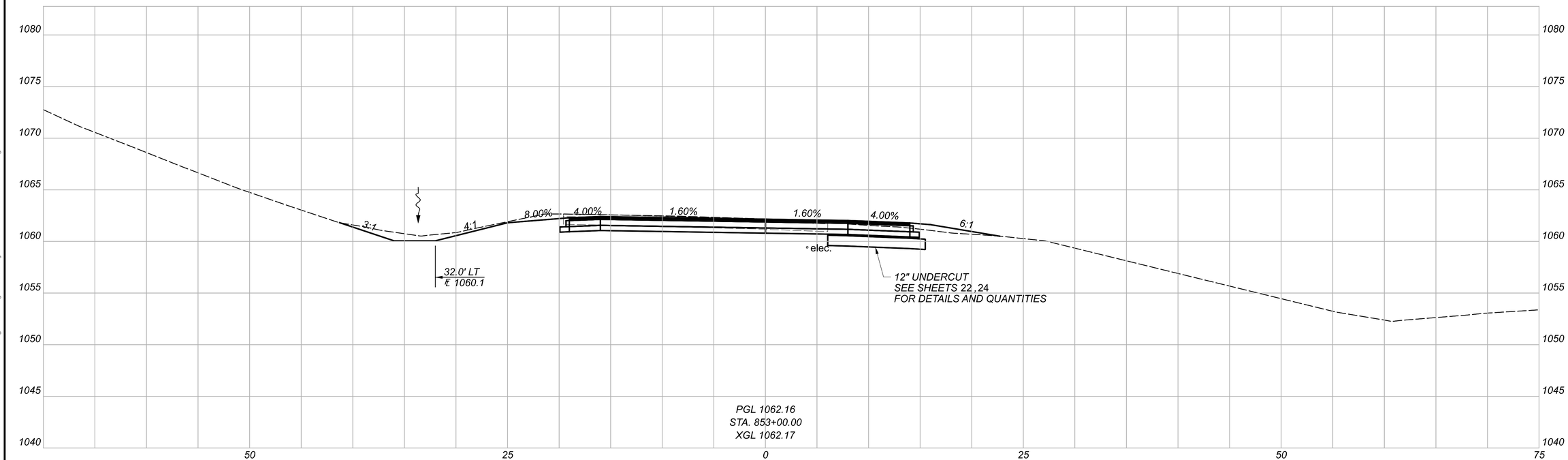
CWL 02-22-22

PROJECT ID
113889

SHEET 318 TOTAL 481





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FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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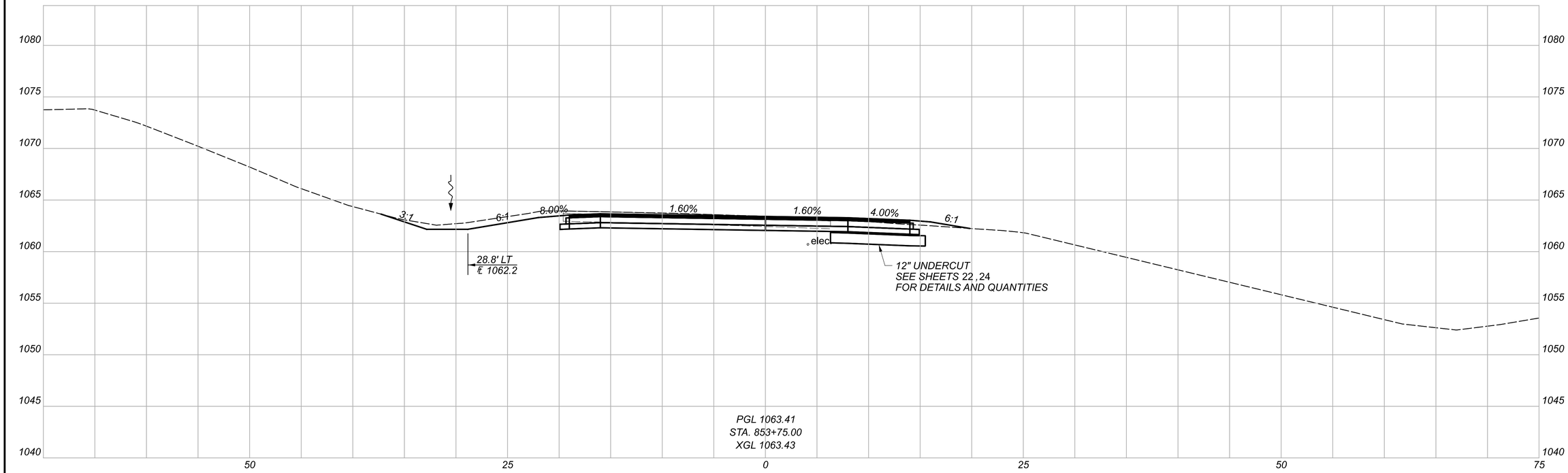
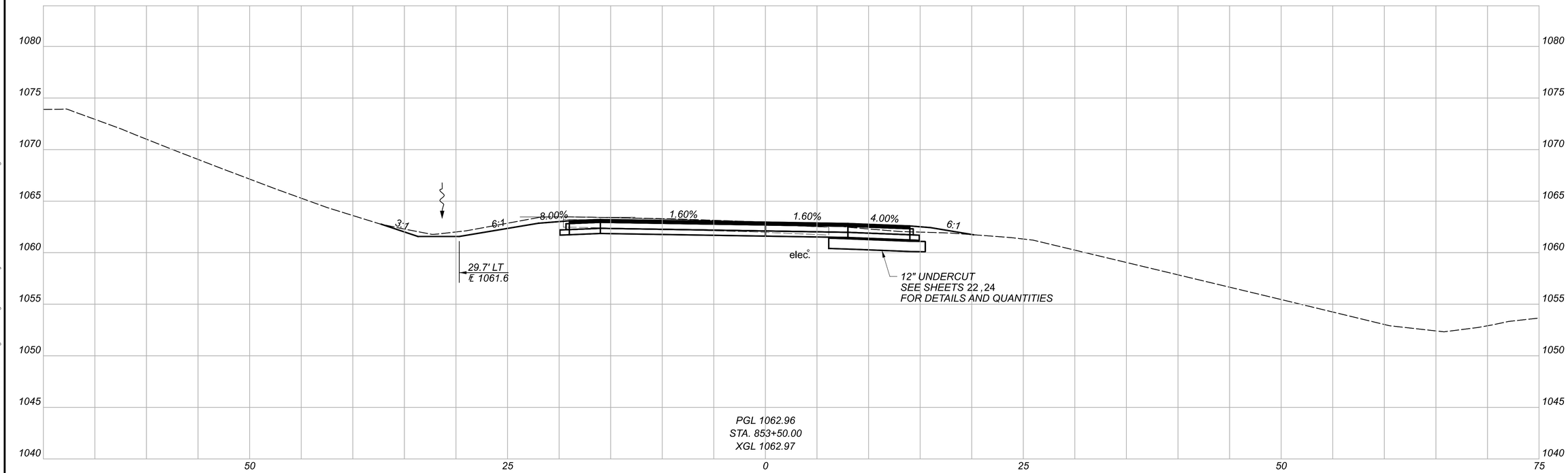
PROJECT ID 113889

SHEET 319 TOTAL 481





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 4
STA. 853+50.00 TO STA. 853+75.00

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PROJECT ID 113889

Sheet Totals		
Seeding	Cut	Fill
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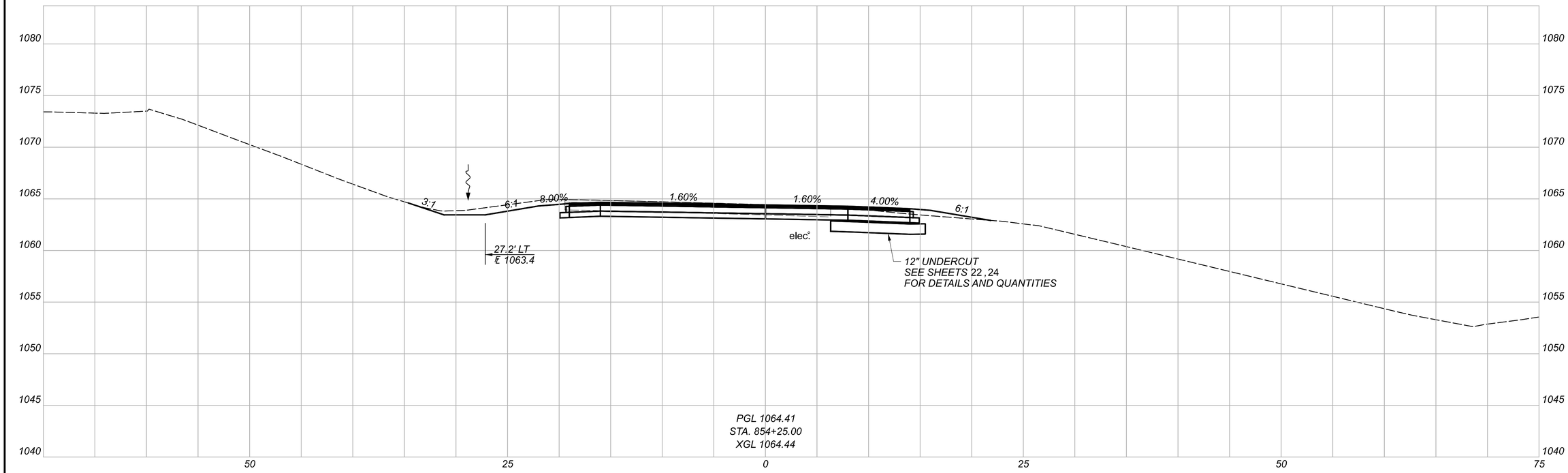
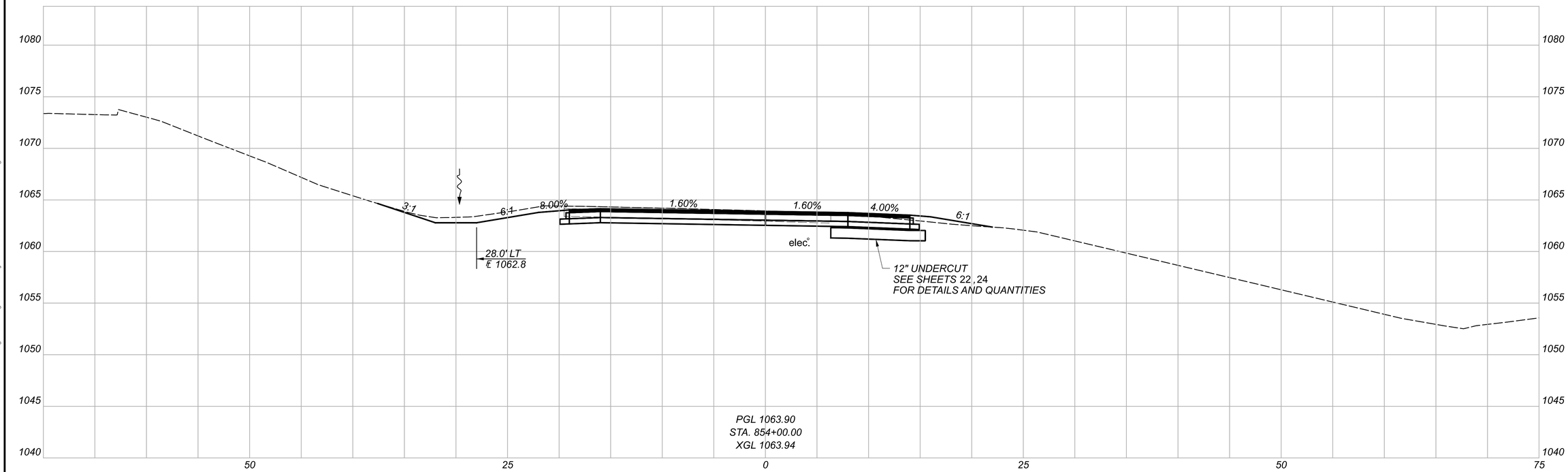
SHEET 320 TOTAL 481





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CROSS SECTIONS - RAMP 4
STA. 854+00.00 TO STA. 854+25.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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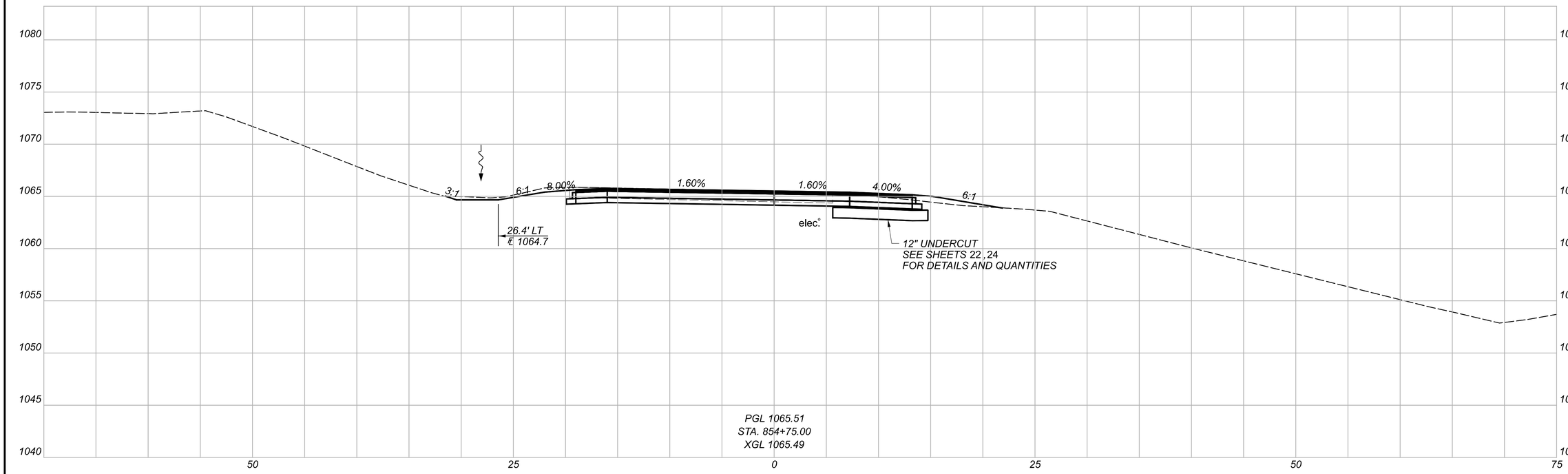
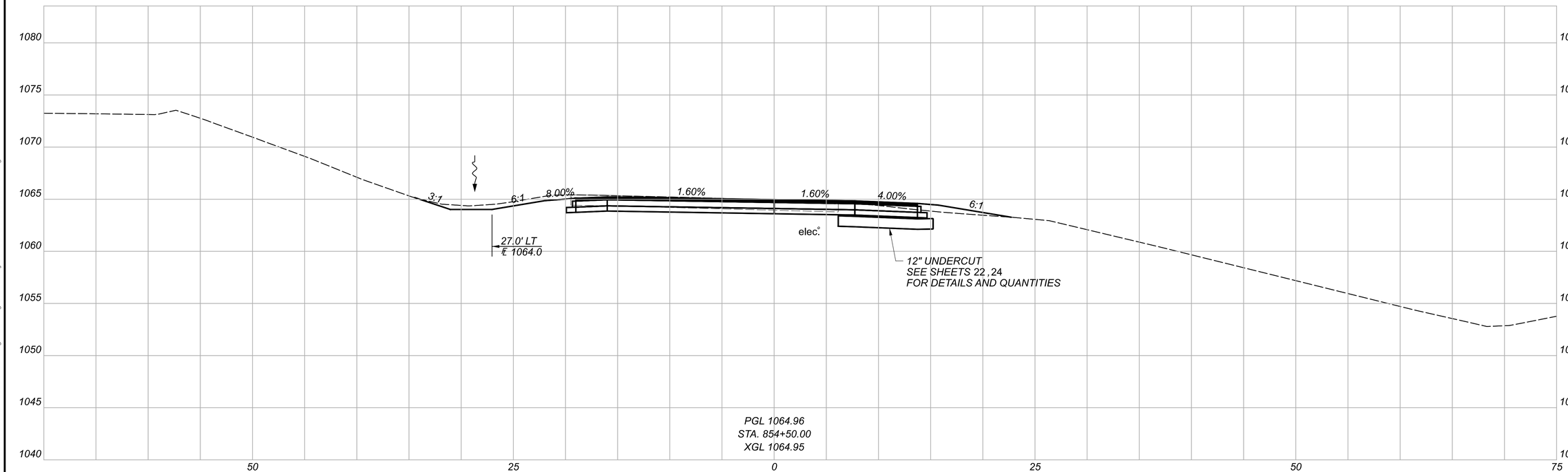
PROJECT ID
113889

SHEET 321 TOTAL 481





CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 4
STA. 854+50.00 TO STA. 854+75.00

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Sheet Totals		
Seeding	Cut	Fill
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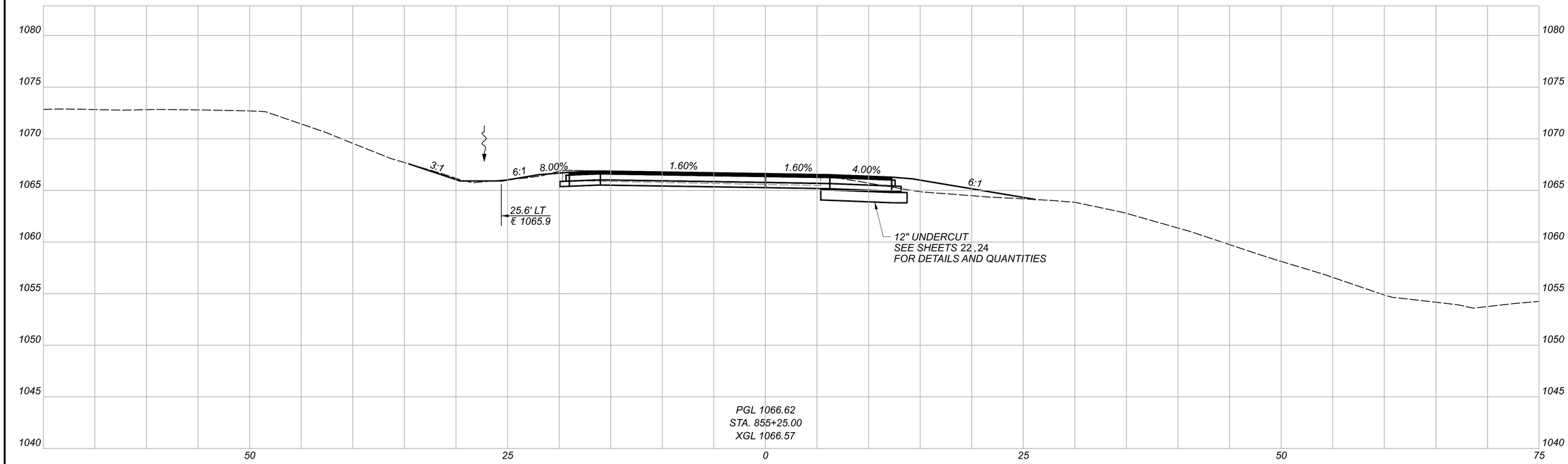
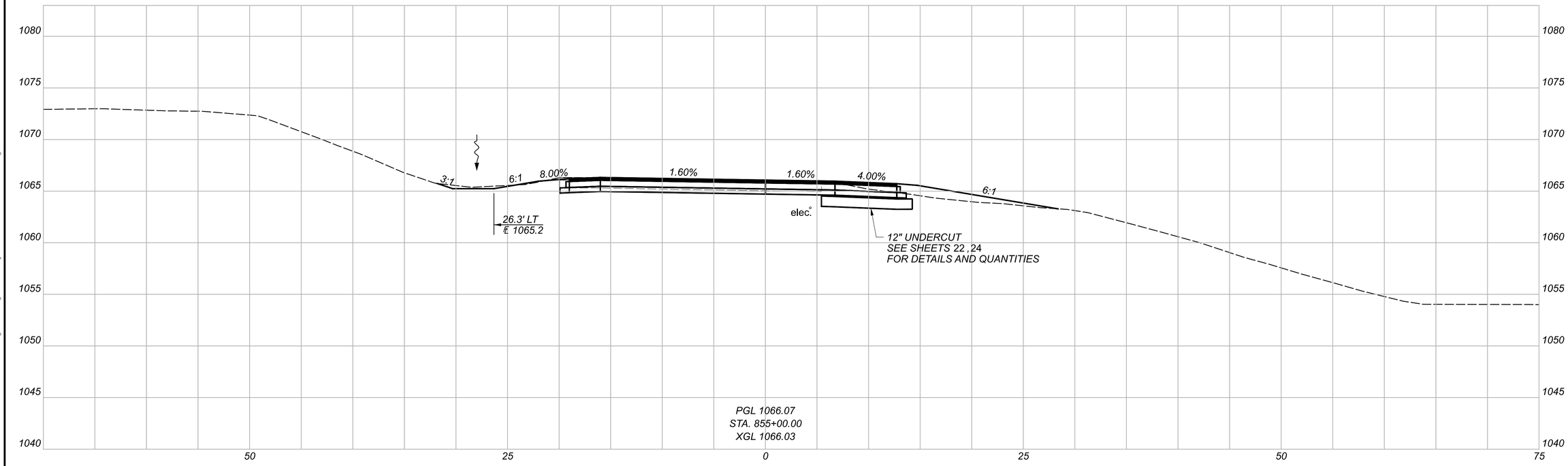
SHEET 322 TOTAL 481





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 4
STA. 855+00.00 TO STA. 855+25.00

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PROJECT ID 113889

Sheet Totals		
Seeding	Cut	Fill
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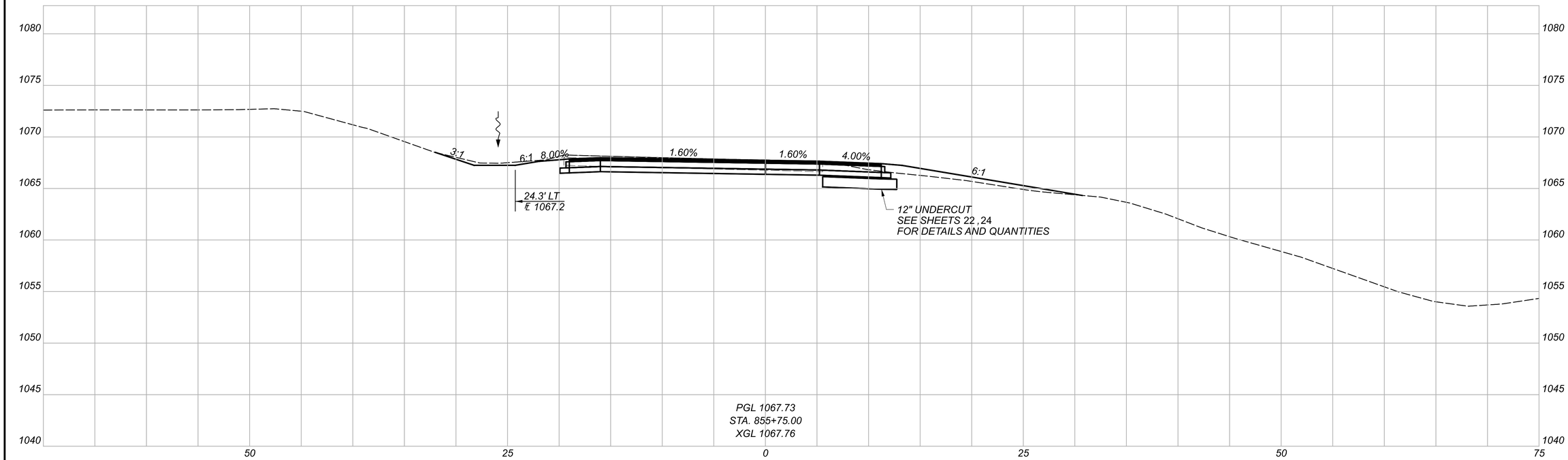
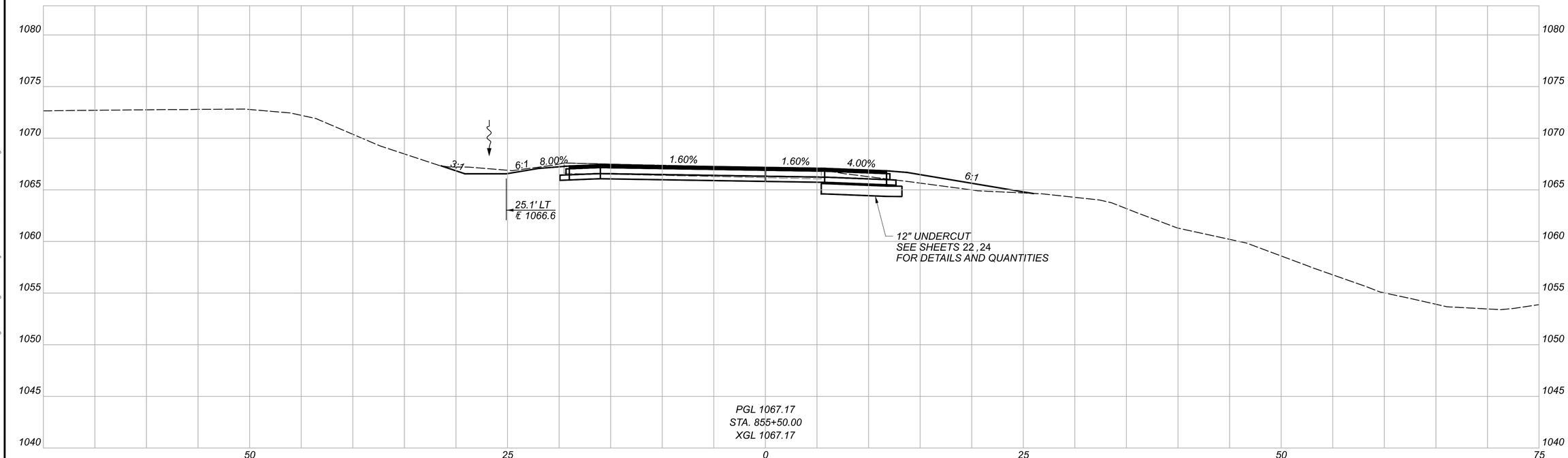
SHEET 323 TOTAL 481





CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 4
STA. 856+50.00 TO STA. 856+75.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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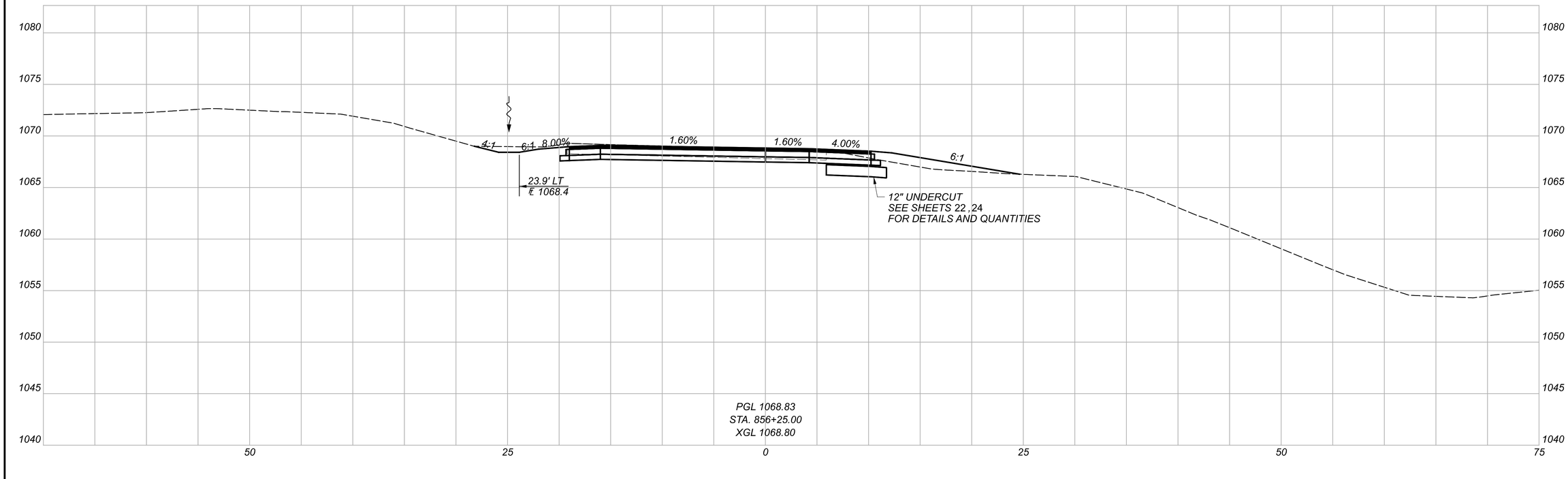
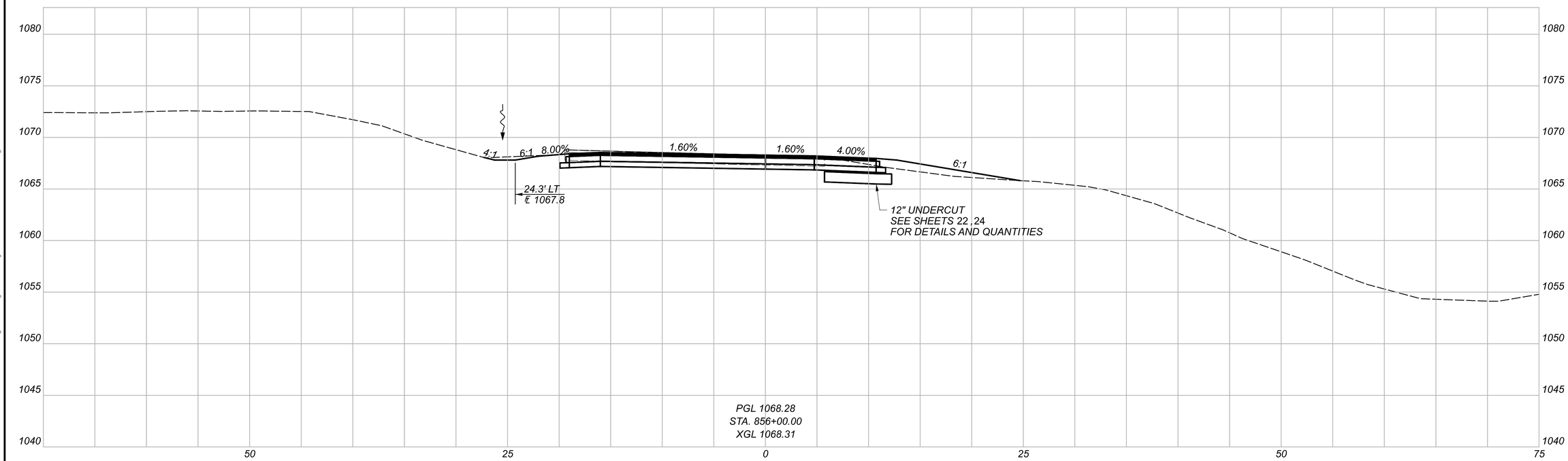
PROJECT ID
113889

SHEET	TOTAL
324	481





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - RAMP 4
STA. 856+00.00 TO STA. 856+25.00

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID
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Sheet Totals		
Seeding	Cut	Fill
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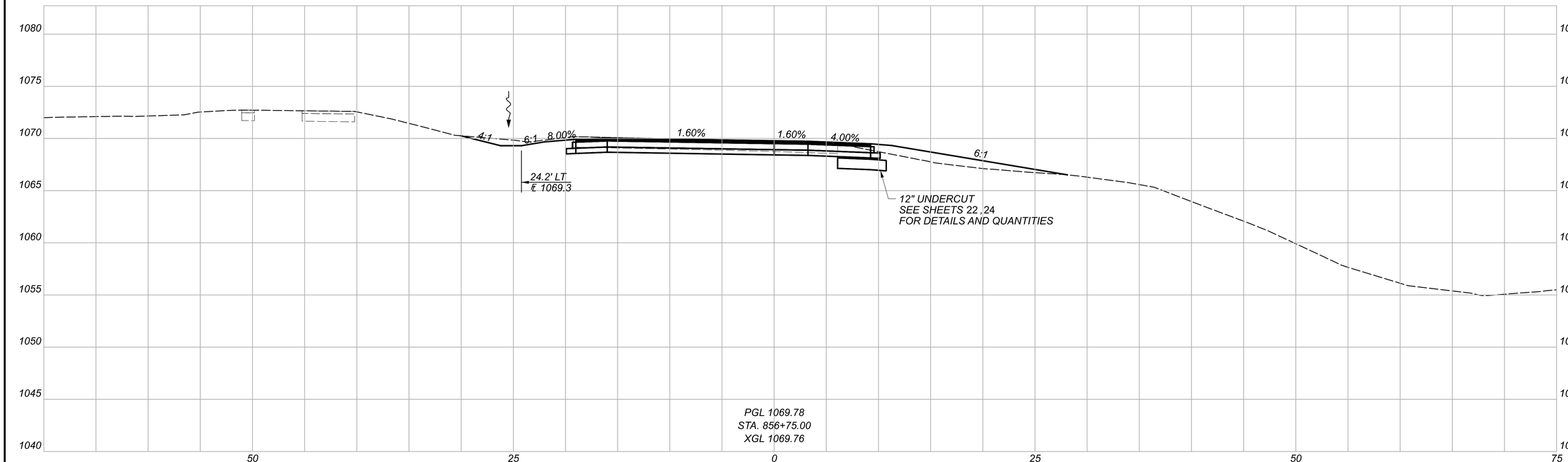
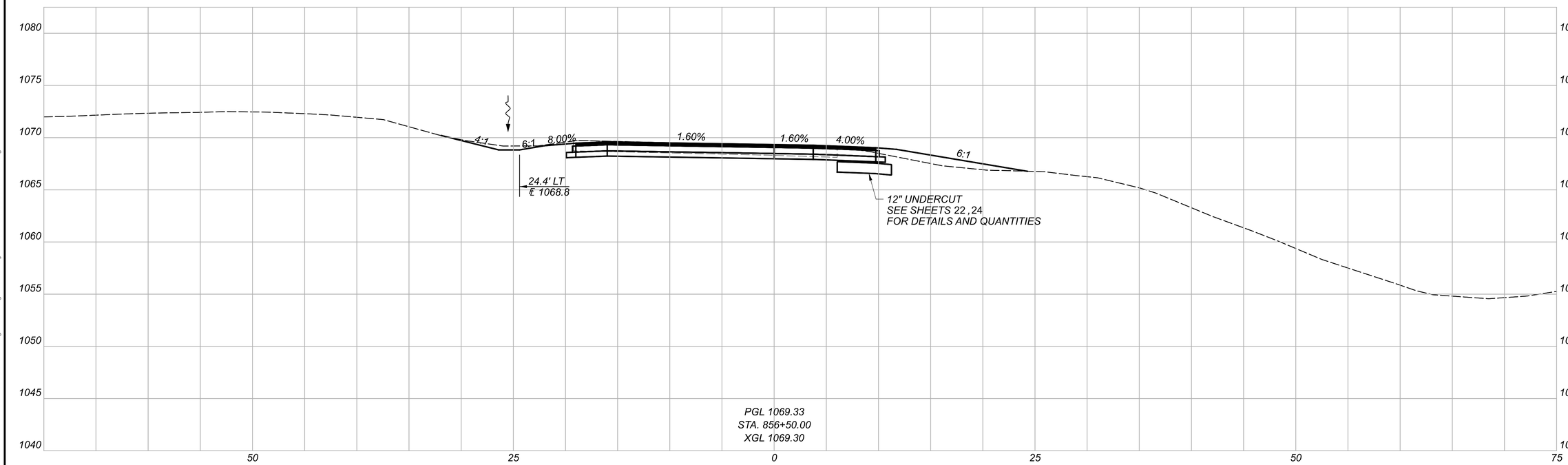
SHEET 325 TOTAL 481





FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

CROSS SECTIONS - RAMP 4
STA. 856+50.00 TO STA. 856+75.00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R084 - 856+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:34:21 AM USER: cluzier
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PROJECT ID
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Sheet Totals		
Seeding	Cut	Fill
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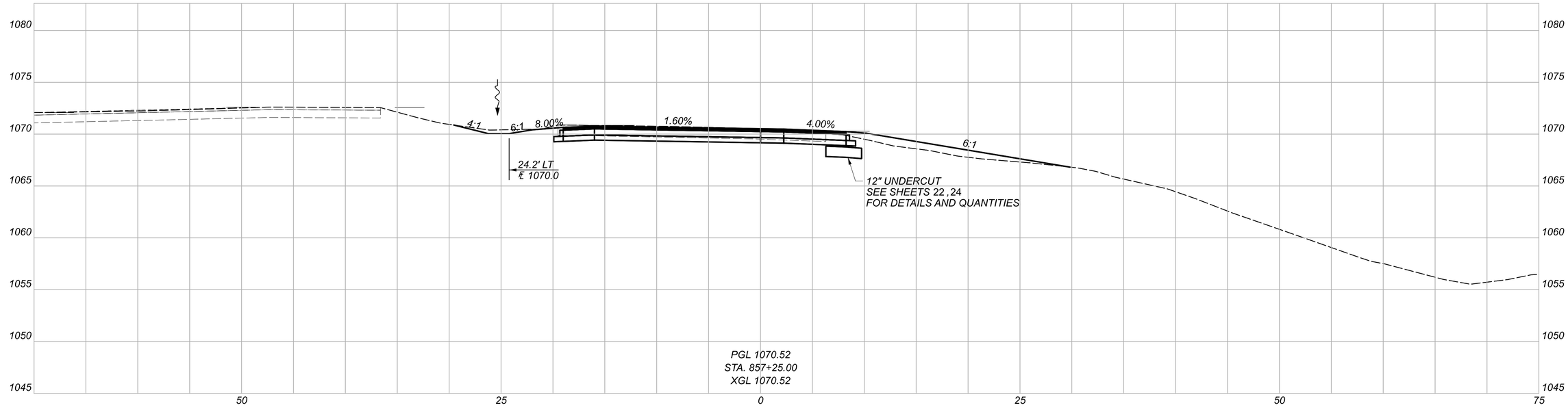
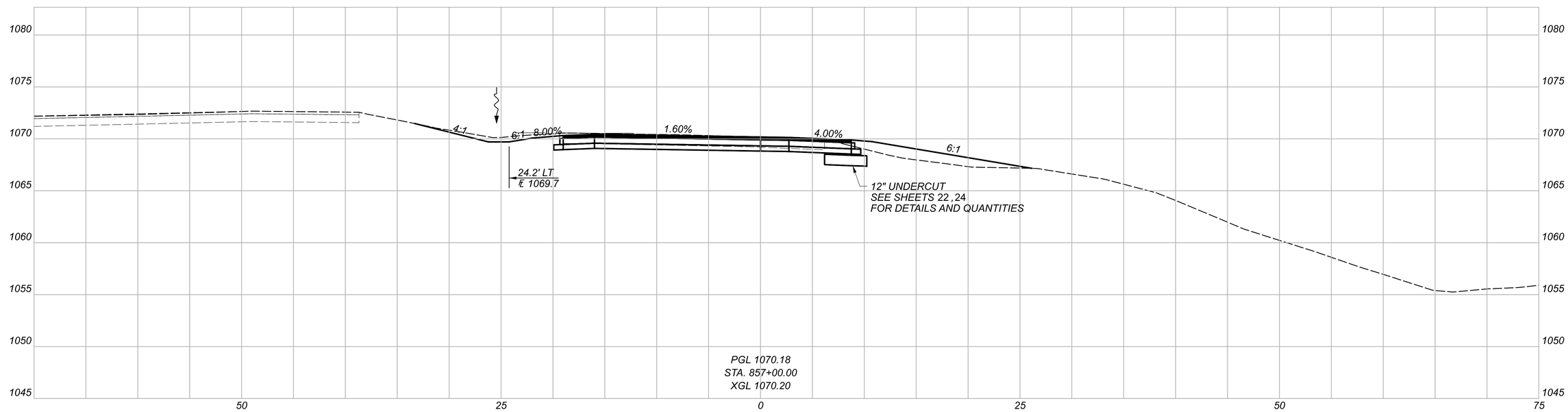
SHEET 326 TOTAL 481





CROSS SECTIONS - RAMP 4
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CUY-422-16.20 (HARPER ROAD)

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FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
-	-	-

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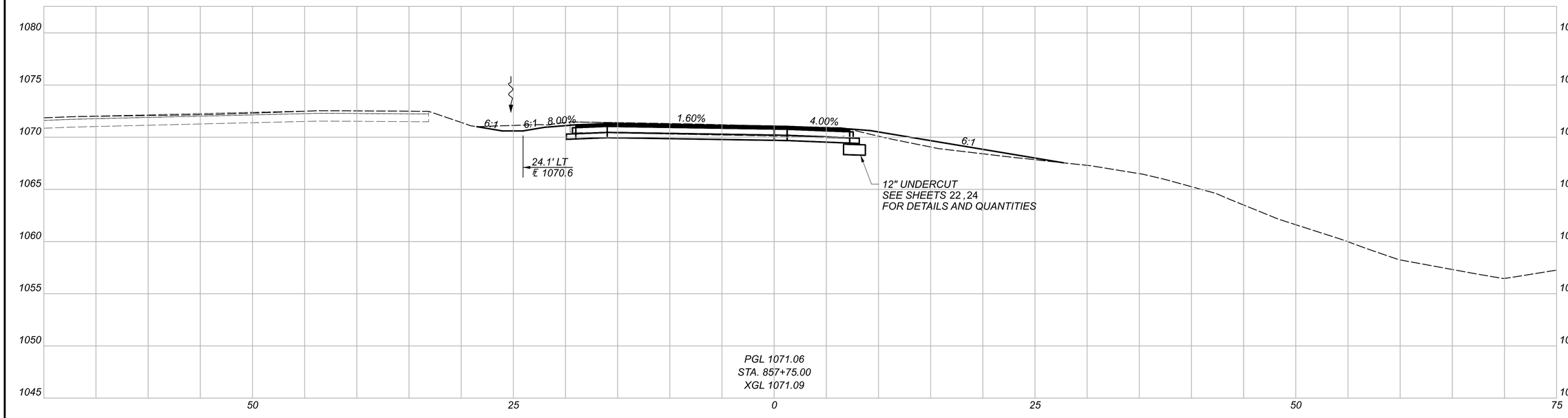
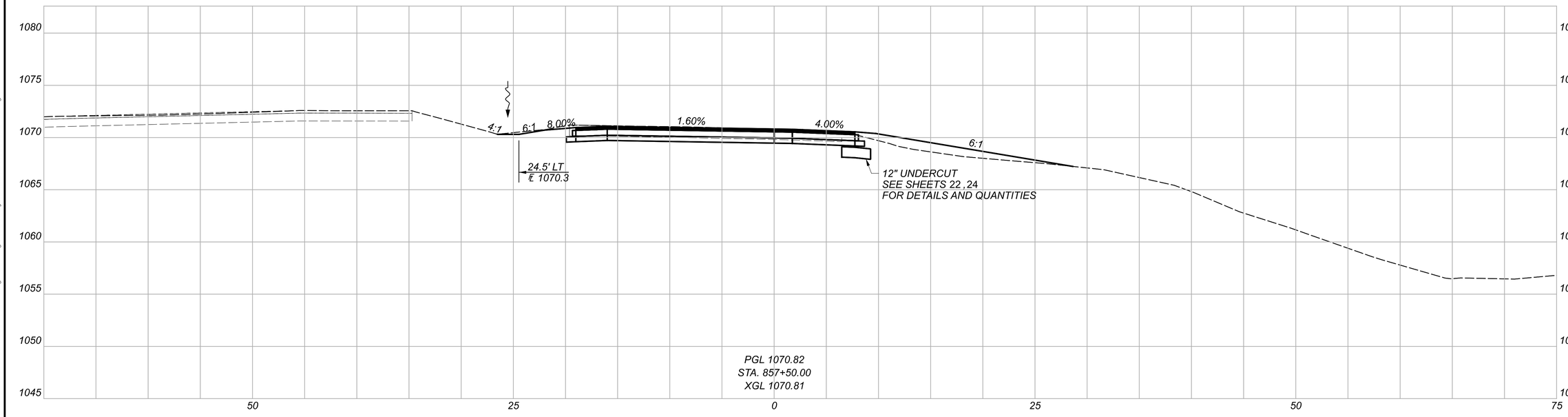
CWL 02-22-22

PROJECT ID
113889

SHEET	TOTAL
327	481





CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 4
STA. 857+50.00 TO STA. 857+75.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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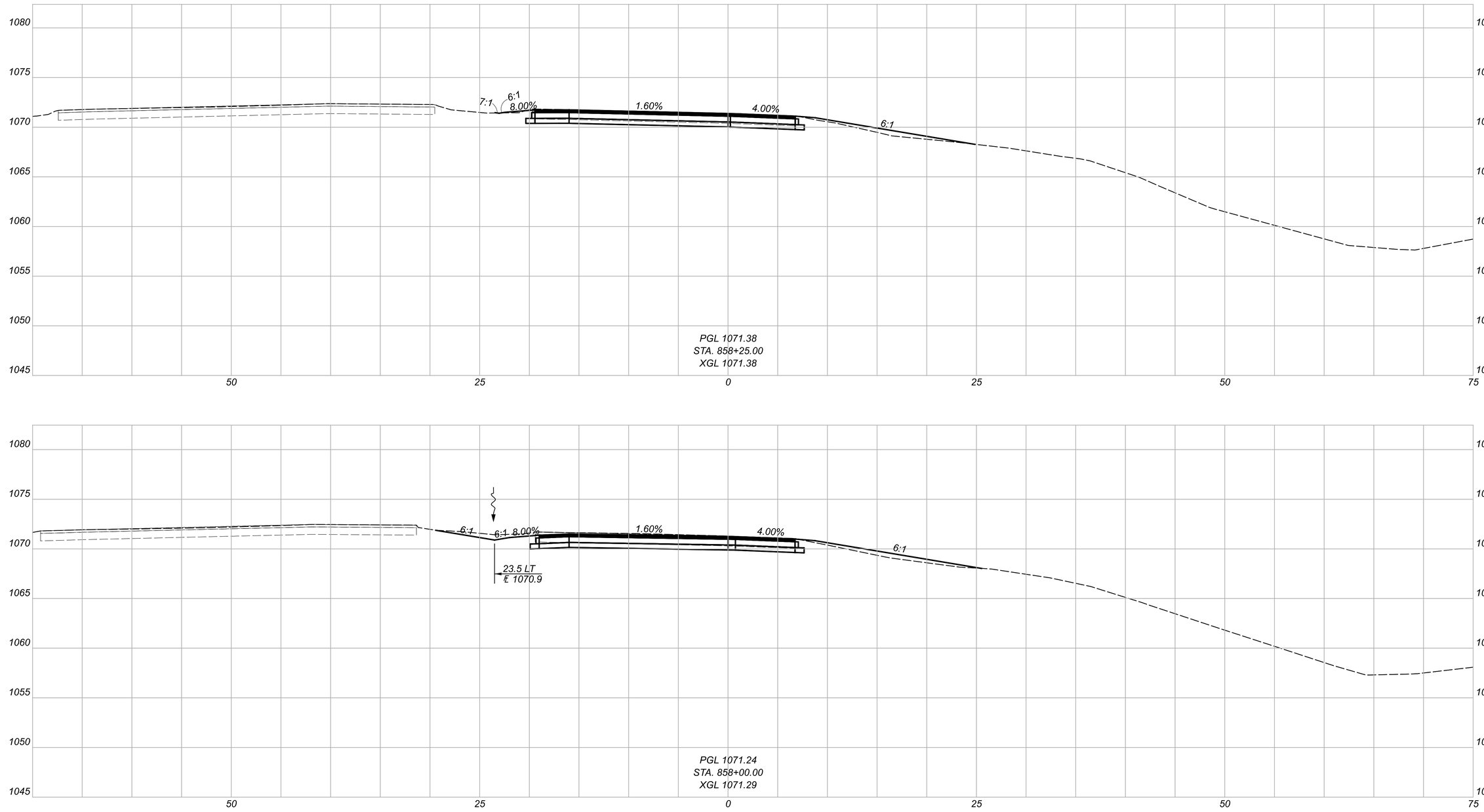
PROJECT ID 113889

SHEET 328 TOTAL 481



CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 4
STA. 858+00.00 TO STA. 858+25.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
-	-	-

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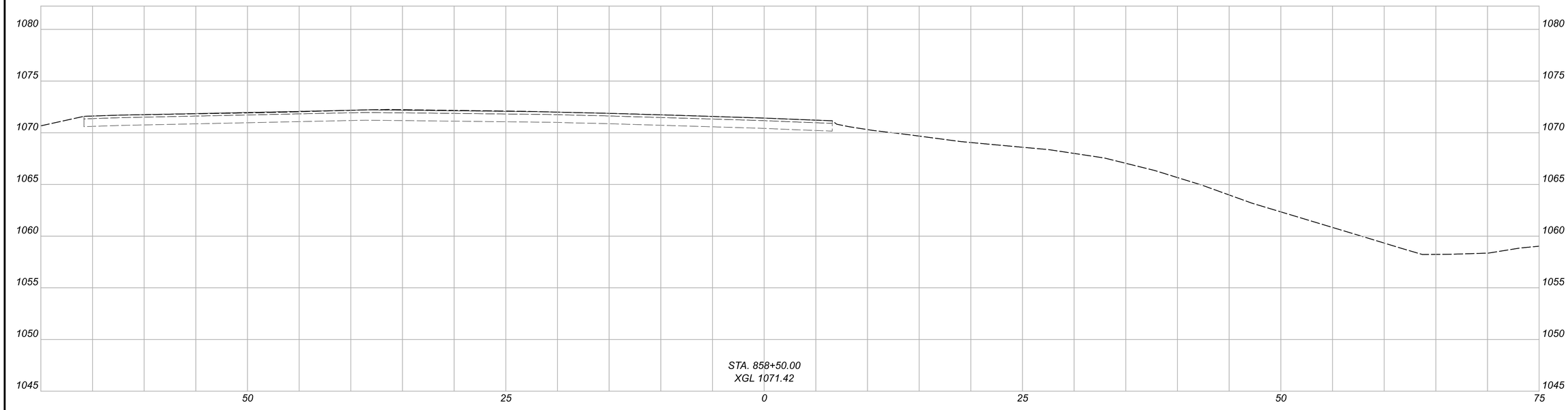
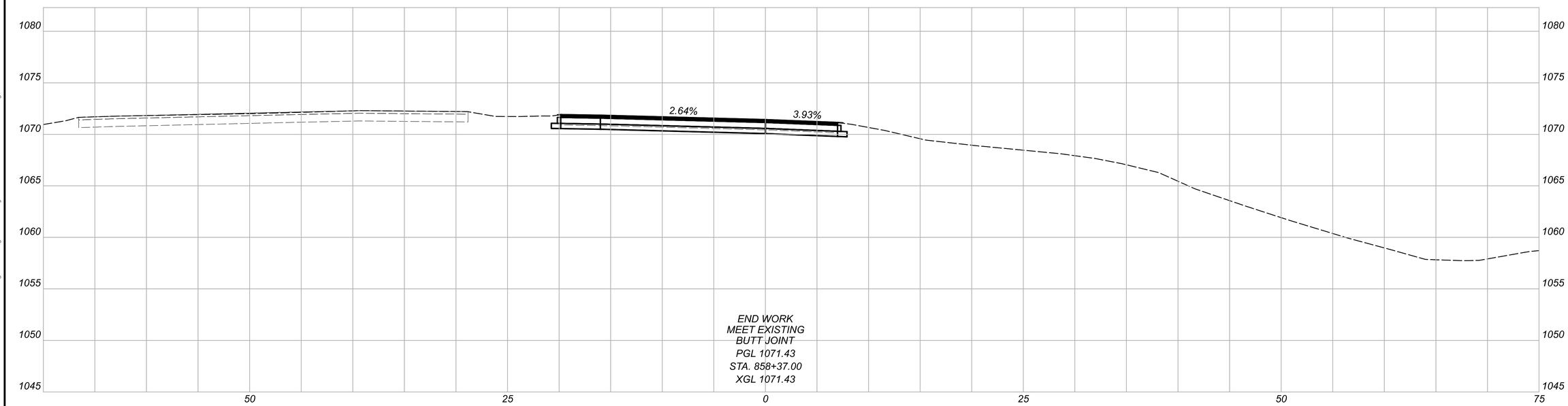
CWL 02-22-22

PROJECT ID
113889

SHEET 329 TOTAL 481





CUY-422-16.20 (HARPER ROAD)

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CROSS SECTIONS - RAMP 4
STA. 858+37.00 TO STA. 858+50.00

FOR EARTHWORK AND SEEDING QUANTITIES, SEE SHEET 24

Sheet Totals		
Seeding	Cut	Fill
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CWL 2-22-22

PROJECT ID
113889

SHEET 330 TOTAL 481

CURVE 19 - SUPERELEVATION TABLE

P.I. Sta. 345+78.15	Dc = 45° 50' 12"

LEFT SIDE					BASELINE 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	
					343+59.80	*1066.37*	*0.00*	*0.0160*	*0.00*		*1066.37*	*MEET RAMP 1B*
					343+75.00	*1065.83*	*0.89*	*0.0160*	*0.01*		*1065.84*	
					344+00.00	*1064.82*	*6.60*	*0.0160*	*0.11*		*1064.93*	
					344+25.00	*1063.59*	*18.67*	*0.0160*	*0.30*		*1063.89*	
					344+50.00	*1062.47*	*20.00*	*0.0160*	*0.32*		*1062.79*	
					344+75.00	*1062.06*	*20.00*	*0.0160*	*0.32*		*1062.38*	
					345+00.00	*1062.35*	*20.00*	*0.0160*	*0.32*		*1062.67*	
					345+10.46	*1062.66*	*20.00*	*0.0160*	*0.32*		*1062.98*	*N.C.*
					345+25.00	*1063.08*	*20.00*	*0.0104*	*0.21*		*1063.29*	
					345+50.00	*1063.82*	*20.00*	*0.0007*	*0.01*		*1063.84*	
					345+58.12	*1064.06*	*20.00*	*-0.0025*	*-0.05*	*161*	*1064.01*	*MEET HARPER RD SB*
FOR INTERSECTION DETAILS, SEE SHEETS										*341*		

SUPERELEVATION TABLE
RAMP 1A

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REVIEWER CWL 09/02/21

PROJECT ID 113889

SHEET 331 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GE001 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:37:45 AM USER: cluzier
G:\Clients\ORD\2020\202036\113889\400-Engineering\Roadway\Sheets\113889_GE001.dgn

CURVE 20 - SUPERELEVATION TABLE

P.I. Sta. 437+18.89	Dc = 03° 58' 00"

LEFT SIDE					BASELINE 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	
1082.89		-0.59	-0.0488	12.00	437+66.64	1083.47	4.00	0.0488	0.20		1083.67	EXIST.
1082.74		-0.56	-0.0466	12.00	437+75.00	1083.30	4.14	0.0466	0.19		1083.49	
1082.29		-0.48	-0.0402	12.00	438+00.00	1082.77	4.67	0.0402	0.19		1082.96	
1081.84	322	-0.40	-0.0337	12.00	438+25.00	1082.25	5.13	0.0337	0.17	322	1082.42	
1081.62		-0.37	-0.0305	12.00	438+37.25	1081.99	5.41	0.0305	0.17		1082.15	P.T.
1081.39		-0.33	-0.0272	12.00	438+50.00	1081.72	5.67	0.0272	0.15		1081.87	
1080.95		-0.25	-0.0207	12.00	438+75.00	1081.20	6.17	0.0207	0.13		1081.32	
1080.62		-0.19	-0.0160	12.00	438+93.20	1080.81	6.53	0.0160	0.10		1080.92	N.C.

CURVE 22 - SUPERELEVATION TABLE

P.I. Sta. 446+16.33	Dc = 22° 55' 06"

LEFT SIDE					BASELINE 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	
1062.78		0.21	0.0160	13.43	444+75.00	1062.57	13.43	-0.0160	-0.21		1062.36	R.C.
1061.78		0.05	0.0031	14.65	445+00.00	1061.73	14.65	-0.0031	-0.05		1061.69	
1061.50	161	-0.01	-0.0006	15.00	445+07.11	1061.51	15.00	0.0006	0.01	161	1061.52	P.R.C.
1060.86		-0.15	-0.0099	15.00	445+25.00	1061.01	15.00	0.0099	0.15		1061.15	
1060.46		-0.24	-0.0160	15.00	445+36.82	1060.70	15.00	0.0160	0.24		1060.94	N.C.
1060.16		-0.24	-0.0160	15.00	445+50.00	1060.40	15.00	0.0160	0.24		1060.64	
1059.67		-0.24	-0.0160	15.00	445+75.00	1059.91	15.00	0.0160	0.24		1060.15	
1059.28		-0.24	-0.0160	15.00	446+00.00	1059.52	15.00	0.0160	0.24		1059.76	
1058.91		-0.24	-0.0160	15.00	446+25.00	1059.15	15.00	0.0160	0.24		1059.39	
1058.89		-0.24	-0.0160	15.00	446+26.47	1059.13	15.00	0.0160	0.24		1059.37	N.C.
1058.54	161	-0.36	-0.0239	15.00	446+41.73	1058.90	15.00	0.0239	0.36	161	1059.26	MEET HARPER RD NB
FOR INTERSECTION DETAILS, SEE SHEETS										341		

SUPERELEVATION TABLE
RAMP 1B

DESIGN AGENCY

GPD GROUP
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DESIGNER
PJF

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 332 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GE002 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:37:46 AM USER: dluzier
D:\Clients\ORD\2020\20203361l3889\400-Engineering\Roadway\Sheets\l3889_GE002.dgn

CURVE 24 - SUPERELEVATION TABLE

P.I. Sta. 648+21.48	Dc = 16° 00' 00"

LEFT SIDE					BASELINE 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	
1065.97		*-0.76*	*-0.0317*	*24.00*	*647+32.79*	*1066.73*	*12.00*	*0.0317*	*0.38*		*1067.11*	*EXIST.*
1065.07	*152*	*-0.91*	*-0.0380*	*24.00*	*647+50.00*	*1065.98*	*12.00*	*0.0380*	*0.46*	*152*	*1066.44*	
1063.77		*-1.13*	*-0.0471*	*24.00*	*647+75.00*	*1064.90*	*12.00*	*0.0471*	*0.57*		*1065.46*	
1062.64		*-1.32*	*-0.0550*	*24.00*	*647+96.54*	*1063.96*	*12.00*	*0.0550*	*0.66*		*1064.62*	*F.S.*
1062.49		*-1.32*	*-0.0550*	*24.00*	*648+00.00*	*1063.81*	*12.00*	*0.0550*	*0.66*		*1064.47*	
1061.40		*-1.32*	*-0.0550*	*24.00*	*648+25.00*	*1062.72*	*12.00*	*0.0550*	*0.66*		*1063.38*	
1060.47		*-1.32*	*-0.0550*	*24.00*	*648+46.75*	*1061.79*	*12.00*	*0.0550*	*0.66*		*1062.45*	*RAMP 2B*
1061.13		*-0.66*	*-0.0550*	*12.00*	*648+46.75*	*1061.79*	*12.00*	*0.0550*	*0.66*		*1062.45*	*RAMP 2B*
1061.00		*-0.67*	*-0.0550*	*12.16*	*648+50.00*	*1061.66*	*12.16*	*0.0550*	*0.67*		*1062.33*	
1060.09		*-0.73*	*-0.0550*	*13.30*	*648+73.23*	*1060.82*	*13.30*	*0.0550*	*0.73*		*1061.55*	*F.S.*
1060.03		*-0.72*	*-0.0540*	*13.40*	*648+75.00*	*1060.76*	*13.37*	*0.0540*	*0.72*		*1061.48*	
1059.43		*-0.59*	*-0.0403*	*14.61*	*649+00.00*	*1060.02*	*14.61*	*0.0403*	*0.59*		*1060.61*	
1059.30		*-0.55*	*-0.0367*	*14.94*	*649+06.67*	*1059.85*	*14.94*	*0.0367*	*0.55*		*1060.40*	*P.T.*
1059.05		*-0.40*	*-0.0266*	*15.00*	*649+25.00*	*1059.45*	*15.00*	*0.0266*	*0.40*	*152*	*1059.85*	
1058.89		*-0.24*	*-0.0160*	*15.00*	*649+44.36*	*1059.13*	*15.00*	*0.0160*	*0.24*		*1059.37*	*R.C.*
1058.86		*-0.19*	*-0.0129*	*15.00*	*649+50.00*	*1059.05*	*15.00*	*0.0129*	*0.19*		*1059.24*	
1058.82		*0.00*	*0.0000*	*15.00*	*649+73.55*	*1058.82*	*15.00*	*0.0000*	*0.00*		*1058.82*	*FLAT*

CURVE 25 - SUPERELEVATION TABLE

P.I. Sta. 650+77.52	Dc = 32° 44' 26"

LEFT SIDE					BASELINE 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	
1058.82		*0.00*	*0.0000*	*15.00*	*649+73.55*	*1058.82*	*15.00*	*0.0000*	*0.00*		*1058.82*	*FLAT*
1058.83		*0.01*	*0.0008*	*15.00*	*649+75.00*	*1058.82*	*15.00*	*-0.0008*	*-0.01*		*1058.80*	
1058.85	*152*	*0.06*	*0.0042*	*15.00*	*649+81.28*	*1058.78*	*15.00*	*-0.0042*	*-0.06*	*152*	*1058.72*	*P.C.*
1058.97		*0.22*	*0.0145*	*15.00*	*650+00.00*	*1058.75*	*15.00*	*-0.0145*	*-0.22*		*1058.53*	
1058.99		*0.24*	*0.0160*	*15.00*	*650+02.73*	*1058.75*	*15.00*	*-0.0160*	*-0.24*		*1058.51*	*N.C.*
1059.09		*0.24*	*0.0160*	*15.00*	*650+25.00*	*1058.85*	*15.00*	*-0.0160*	*-0.24*		*1058.61*	
1059.33		*0.24*	*0.0160*	*15.00*	*650+50.00*	*1059.09*	*15.00*	*-0.0160*	*-0.24*		*1058.85*	
1059.59		*0.24*	*0.0160*	*15.00*	*650+75.00*	*1059.35*	*15.00*	*-0.0160*	*-0.24*		*1059.11*	
1059.63		*0.24*	*0.0160*	*15.00*	*650+78.73*	*1059.39*	*15.00*	*-0.0160*	*-0.24*		*1059.15*	*N.C.*
1059.65	*161*	*0.19*	*0.0128*	*15.00*	*650+84.91*	*1059.45*	*15.00*	*-0.0128*	*-0.19*	*161*	*1059.26*	*MEET HARPER RD SB*
FOR INTERSECTION DETAILS, SEE SHEETS										*342*		

SUPERELEVATION TABLE
RAMP 2A

DESIGN AGENCY

GPD GROUP
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DESIGNER
PJF

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 333 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GE004 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:37:48 AM USER: cluzier
G:\Clients\ORD\2020\20203361\13889\400-Engineering\Roadway\Sheets\113889_GE004.dgn

CURVE 23 - SUPERELEVATION TABLE

P.I. Sta. 550+70.34	Dc = 57° 17' 45"

LEFT SIDE					BASELINE 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	
					548+46.75	*1060.48*	*12.00*	*0.0550*	*0.66*		*1061.14*	*MEET RAMP 2A*
					548+50.00	*1060.32*	*11.85*	*0.0550*	*0.65*		*1060.97*	
					548+69.60	*1059.39*	*12.68*	*0.0550*	*0.70*		*1060.09*	*F.S.*
					548+75.00	*1059.20*	*13.43*	*0.0528*	*0.71*		*1059.91*	
					549+00.00	*1058.38*	*20.00*	*0.0425*	*0.85*		*1059.23*	
					549+25.00	*1057.73*	*20.00*	*0.0322*	*0.64*	*152*	*1058.38*	
					549+50.00	*1057.41*	*20.00*	*0.0219*	*0.44*		*1057.85*	
					549+64.45	*1057.37*	*20.00*	*0.0160*	*0.32*		*1057.69*	*N.C.*
					549+75.00	*1057.41*	*20.00*	*0.0160*	*0.32*		*1057.73*	
					550+00.00	*1057.54*	*20.00*	*0.0160*	*0.32*		*1057.86*	
					550+06.42	*1057.57*	*20.00*	*0.0160*	*0.32*		*1057.89*	*N.C.*
					550+13.12	*1057.60*	*20.00*	*0.0186*	*0.37*	*161*	*1057.98*	*MEET HARPER RD NB*
FOR INTERSECTION DETAILS, SEE SHEETS										*342*		

CUY-422-16.20 (HARPER ROAD)

MODEL: GE003 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:37:48 AM USER: cluzier
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GE003.dgn

SUPERELEVATION TABLE
RAMP 2B

DESIGN AGENCY

GPD GROUP®

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DESIGNER	PJF
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	334
TOTAL	481

CURVE 26 - SUPERELEVATION TABLE

P.I. Sta. 644+69.90	Dc = 38° 11' 50"

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		
FOR INTERSECTION DETAILS, SEE SHEETS										*343*			
643+93.69	*1063.22*	*18.00*	*0.0037*	*0.07*	*161*	*1063.28*							*MEET HARPER RD NB*
644+00.00	*1063.04*	*18.00*	*0.0061*	*0.11*		*1063.15*							
644+25.00	*1062.38*	*18.00*	*0.0159*	*0.29*		*1062.67*							
644+25.37	*1062.38*	*18.00*	*0.0160*	*0.29*		*1062.66*							*N.C.*
644+50.00	*1061.88*	*18.00*	*0.0160*	*0.29*		*1062.16*							
644+75.00	*1061.53*	*18.00*	*0.0160*	*0.29*		*1061.82*							
645+00.00	*1061.35*	*18.00*	*0.0160*	*0.29*		*1061.64*							
645+25.00	*1061.34*	*18.00*	*0.0160*	*0.29*		*1061.62*							
645+50.00	*1061.48*	*16.47*	*0.0160*	*0.26*		*1061.75*							
645+53.61	*1061.52*	*16.31*	*0.0160*	*0.26*		*1061.78*							
645+53.92	*1061.52*	*16.30*	*0.0158*	*0.26*	*152*	*1061.78*							*P.T.*
645+64.90	*1061.65*	*16.00*	*0.0098*	*0.16*		*1061.81*							

CURVE 27 - SUPERELEVATION TABLE

P.I. Sta. 649+31.93	Dc = 21° 27' 33"

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	
645+64.90	*1061.65*	*16.00*	*0.0098*	*0.16*		*1061.81*	*16.00*	*-0.0160*	*-0.26*		*1061.55*	*RAMP 3B*
645+75.00	*1061.79*	*16.00*	*0.0043*	*0.07*	*152*	*1061.86*	*16.00*	*-0.0160*	*-0.26*		*1061.61*	
645+82.79	*1061.92*	*16.00*	*0.0000*	*0.00*		*1061.92*	*16.00*	*-0.0160*	*-0.26*		*1061.66*	*FLAT*
646+00.00	*1062.25*	*16.00*	*-0.0094*	*-0.15*		*1062.10*	*16.00*	*-0.0160*	*-0.26*		*1061.84*	
646+11.97	*1062.49*	*16.00*	*-0.0160*	*-0.26*		*1062.23*	*16.00*	*-0.0160*	*-0.26*		*1061.98*	*R.C.*
646+25.00	*1062.75*	*16.00*	*-0.0196*	*-0.31*		*1062.43*	*16.00*	*-0.0196*	*-0.31*		*1062.12*	
646+50.00	*1063.24*	*16.00*	*-0.0264*	*-0.42*		*1062.81*	*16.00*	*-0.0264*	*-0.42*		*1062.39*	
646+61.21	*1063.46*	*16.00*	*-0.0295*	*-0.47*	*304*	*1062.98*	*16.00*	*-0.0295*	*-0.47*	*152*	*1062.51*	*P.C.*
646+75.00	*1063.73*	*16.00*	*-0.0333*	*-0.53*		*1063.19*	*16.00*	*-0.0333*	*-0.53*		*1062.66*	
647+00.00	*1064.22*	*16.00*	*-0.0401*	*-0.64*		*1063.58*	*16.00*	*-0.0401*	*-0.64*		*1062.93*	
647+25.00	*1064.69*	*16.00*	*-0.0470*	*-0.75*		*1063.94*	*16.00*	*-0.0470*	*-0.75*		*1063.19*	
647+40.91	*1064.97*	*16.00*	*-0.0513*	*-0.82*		*1064.15*	*16.00*	*-0.0513*	*-0.82*		*1063.33*	
647+50.00	*1065.12*	*16.00*	*-0.0538*	*-0.86*		*1064.26*	*16.00*	*-0.0538*	*-0.86*		*1063.40*	
647+68.83	*1065.42*	*16.00*	*-0.0590*	*-0.94*		*1064.48*	*16.00*	*-0.0590*	*-0.94*		*1063.53*	*F.S.*
647+75.00	*1065.52*	*16.00*	*-0.0590*	*-0.94*		*1064.57*	*16.00*	*-0.0590*	*-0.94*		*1063.63*	
648+00.00	*1065.87*	*16.00*	*-0.0590*	*-0.94*		*1064.93*	*16.00*	*-0.0590*	*-0.94*		*1063.98*	
648+25.00	*1066.21*	*16.00*	*-0.0590*	*-0.94*		*1065.26*	*16.00*	*-0.0590*	*-0.94*		*1064.32*	
648+50.00	*1066.54*	*16.00*	*-0.0590*	*-0.94*		*1065.60*	*16.00*	*-0.0590*	*-0.94*		*1064.66*	
648+75.00	*1066.88*	*16.00*	*-0.0590*	*-0.94*		*1065.94*	*16.00*	*-0.0590*	*-0.94*		*1064.99*	
649+00.00	*1067.21*	*16.00*	*-0.0590*	*-0.94*		*1066.27*	*16.00*	*-0.0590*	*-0.94*		*1065.33*	
649+25.00	*1067.55*	*16.00*	*-0.0590*	*-0.94*		*1066.61*	*16.00*	*-0.0590*	*-0.94*		*1065.66*	
649+50.00	*1067.88*	*16.00*	*-0.0590*	*-0.94*		*1066.94*	*16.00*	*-0.0590*	*-0.94*		*1065.99*	
649+54.58	*1067.94*	*16.00*	*-0.0590*	*-0.94*		*1067.00*	*16.00*	*-0.0590*	*-0.94*		*1066.05*	*F.S.*
649+75.00	*1068.19*	*16.00*	*-0.0534*	*-0.85*		*1067.33*	*16.00*	*-0.0590*	*-0.94*		*1066.39*	
650+00.00	*1068.47*	*16.00*	*-0.0465*	*-0.74*		*1067.73*	*16.00*	*-0.0465*	*-0.74*		*1066.98*	
650+25.00	*1068.73*	*16.00*	*-0.0397*	*-0.64*		*1068.09*	*16.00*	*-0.0397*	*-0.64*		*1067.46*	
650+50.00	*1068.96*	*16.00*	*-0.0328*	*-0.52*		*1068.44*	*16.00*	*-0.0328*	*-0.52*		*1067.91*	
650+75.00	*1069.17*	*16.00*	*-0.0260*	*-0.42*	*304*	*1068.76*	*16.00*	*-0.0260*	*-0.42*	*152*	*1068.34*	
650+84.30	*1069.25*	*16.00*	*-0.0234*	*-0.37*		*1068.87*	*16.00*	*-0.0234*	*-0.37*		*1068.50*	*P.T.*
651+00.00	*1069.38*	*16.00*	*-0.0191*	*-0.31*		*1069.07*	*16.00*	*-0.0191*	*-0.31*		*1068.76*	
651+25.00	*1069.58*	*16.00*	*-0.0123*	*-0.20*		*1069.38*	*16.00*	*-0.0123*	*-0.20*		*1069.19*	
651+50.00	*1069.79*	*16.00*	*-0.0054*	*-0.09*		*1069.70*	*16.00*	*-0.0054*	*-0.09*		*1069.61*	
651+69.81	*1069.95*	*16.00*	*0.0000*	*0.00*		*1069.95*	*16.00*	*0.0000*	*0.00*		*1069.95*	*FLAT*

SUPERELEVATION TABLE
RAMP 3A

DESIGN AGENCY

GPD GROUP®
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DESIGNER
PJF

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 335 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GE005 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:37:49 AM USER: cluzier
O:\Clients\ORD\2020\2020336\WI3889\400-Engineering\Roadway\Sheets\WI3889_GE005.dgn

CURVE 28 - SUPERELEVATION TABLE

P.I. Sta. 655+28.91	Dc = 08° 00' 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	
651+69.81	*1069.95*	*16.00*	*0.0000*	*0.00*		*1069.95*	*16.00*	*0.0000*	*0.00*		*1069.95*	*FLAT*
651+75.00	*1069.99*	*16.00*	*0.0014*	*0.02*		*1070.01*	*16.00*	*0.0014*	*0.02*		*1070.03*	
652+00.00	*1070.20*	*16.00*	*0.0083*	*0.13*		*1070.33*	*16.00*	*0.0083*	*0.13*		*1070.46*	
652+25.00	*1070.39*	*16.00*	*0.0151*	*0.24*		*1070.63*	*16.00*	*0.0151*	*0.24*		*1070.87*	
652+50.00	*1070.53*	*16.00*	*0.0220*	*0.35*		*1070.88*	*16.00*	*0.0220*	*0.35*		*1071.23*	
652+75.00	*1070.62*	*16.00*	*0.0288*	*0.46*		*1071.08*	*16.00*	*0.0288*	*0.46*		*1071.54*	
652+86.60	*1070.65*	*16.00*	*0.0320*	*0.51*	*304*	*1071.16*	*16.00*	*0.0320*	*0.51*	*152*	*1071.67*	*P.C.*
653+00.00	*1070.66*	*16.00*	*0.0357*	*0.57*		*1071.23*	*16.00*	*0.0357*	*0.57*		*1071.80*	
653+25.00	*1070.65*	*16.00*	*0.0425*	*0.68*		*1071.33*	*8.00*	*0.0425*	*0.34*		*1071.67*	
653+50.00	*1070.58*	*16.00*	*0.0494*	*0.79*		*1071.37*	*0.00*	*0.0494*	*0.00*		*1071.37*	
653+75.00	*1070.51*	*16.00*	*0.0562*	*0.90*		*1071.41*	*0.00*	*0.0562*	*0.00*		*1071.41*	
654+00.00	*1070.43*	*16.00*	*0.0631*	*1.01*		*1071.44*	*0.00*	*0.0631*	*0.00*		*1071.44*	*EXIST.*

SUPERELEVATION TABLE
RAMP 3A

DESIGN AGENCY

GPD GROUP*

DESIGNER
PJF

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 336 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GE006 PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:37:49 AM USER: aluzier
D:\Clients\ORD\2020\202036\113889\400-Engineering\Roadway\Sheets\113889_GE006.dgn

CURVE 30 - SUPERELEVATION TABLE

P.I. Sta. 544+80.39	Dc = 38° 11' 50"

LEFT SIDE					BASELINE 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	
FOR INTERSECTION DETAILS, SEE SHEETS										*343*		
1059.15	*161*	*0.44*	*0.0244*	*18.00*	*544+00.67*	*1058.71*						*MEET HARPER RD SB*
1059.35		*0.29*	*0.0160*	*18.00*	*544+22.31*	*1059.06*						*N.C.*
1059.40		*0.29*	*0.0160*	*18.00*	*544+25.00*	*1059.12*						
1059.98		*0.29*	*0.0160*	*18.00*	*544+50.00*	*1059.69*						
1060.69		*0.29*	*0.0160*	*18.00*	*544+75.00*	*1060.40*						
1061.24		*0.29*	*0.0160*	*18.00*	*545+00.00*	*1060.95*						
1061.55		*0.29*	*0.0160*	*18.00*	*545+25.00*	*1061.26*						
1061.71		*0.26*	*0.0160*	*16.37*	*545+50.00*	*1061.44*						
1061.81		*0.26*	*0.0160*	*16.00*	*545+64.60*	*1061.55*						*MEET RAMP 3A*

SUPERELEVATION TABLE
RAMP 3B

DESIGN AGENCY

GPD GROUP*

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DESIGNER PJF

REVIEWER CWL 09/02/21

PROJECT ID 113889

SHEET 337 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GE007 PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:37:49 AM USER: cluzier
C:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GE007.dgn

CURVE 32 - SUPERELEVATION TABLE

P.I. Sta. 351+70.22	Dc = 57° 17' 45"

LEFT SIDE					BASELINE 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	
FOR INTERSECTION DETAILS, SEE SHEETS										*344*		
1059.50	*625*	*0.31*	*0.0155*	*20.00*	*350+57.01*	*1059.19*						*MEET HARPER RD NB*
1059.50		*0.32*	*0.0160*	*20.00*	*350+62.01*	*1059.18*						
1059.49		*0.32*	*0.0160*	*20.00*	*350+75.00*	*1059.17*						
1059.58		*0.32*	*0.0160*	*20.00*	*351+00.00*	*1059.26*						
1059.81		*0.32*	*0.0160*	*20.00*	*351+25.00*	*1059.49*						
1060.16		*0.32*	*0.0160*	*20.00*	*351+50.00*	*1059.84*						
1060.52		*0.32*	*0.0160*	*20.00*	*351+75.00*	*1060.20*						
1060.87		*0.32*	*0.0160*	*20.00*	*352+00.00*	*1060.55*						
1061.15		*0.32*	*0.0160*	*20.00*	*352+19.45*	*1060.83*						*P.T. / MEET RAMP 4*

SUPERELEVATION TABLE
RAMP 4A

DESIGN AGENCY

GPD GROUP*

DESIGNER
PJF

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 338 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GE009 PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:37:50 AM USER: cluzier
D:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GE009.dgn

CURVE 31 - SUPERELEVATION TABLE

P.I. Sta. 450+68.59	Dc = 28° 38' 52"

LEFT SIDE					BASELINE 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	
FOR INTERSECTION DETAILS, SEE SHEETS										*344*		
					450+13.62	*1058.07*	*16.00*	*0.0184*	*0.29*	*161*	*1058.36*	*MEET HARPER RD SB*
					450+19.80	*1058.08*	*16.00*	*0.0160*	*0.26*		*1058.34*	*N.C.*
					450+25.00	*1058.10*	*16.00*	*0.0160*	*0.26*		*1058.36*	
					450+50.00	*1058.34*	*16.00*	*0.0160*	*0.26*		*1058.60*	
					450+75.00	*1058.86*	*16.00*	*0.0160*	*0.26*		*1059.12*	
					450+96.03	*1059.49*	*16.00*	*0.0160*	*0.26*		*1059.75*	*N.C.*
					451+00.00	*1059.60*	*16.00*	*0.0144*	*0.23*		*1059.83*	
					451+25.00	*1060.20*	*16.00*	*0.0041*	*0.07*		*1060.27*	
					451+34.94	*1060.39*	*16.00*	*0.0000*	*0.00*	*152*	*1060.39*	
					451+50.00	*1060.62*	*16.00*	*-0.0062*	*-0.10*		*1060.52*	
					451+58.03	*1060.72*	*16.00*	*-0.0095*	*-0.15*		*1060.57*	*P.T.*
					451+73.85	*1060.85*	*16.00*	*-0.0160*	*-0.26*		*1060.59*	*R.C.*
					451+75.00	*1060.86*	*15.54*	*-0.0160*	*-0.25*		*1060.61*	
					452+00.00	*1061.06*	*8.59*	*-0.0160*	*-0.14*		*1060.92*	
					452+19.45	*1061.26*	*7.00*	*-0.0160*	*-0.11*		*1061.15*	*P.T. / MEET RAMP 4*

SUPERELEVATION TABLE
RAMP 4B

DESIGN AGENCY

GPD GROUP*

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DESIGNER
PJF

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 339 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: GE008 PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:37:50 AM USER: cluzier
C:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GE008.dgn

PAVEMENT ELEVATION TABLE

RAMP 4

LEFT SIDE					BASELINE 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	
1071.32		*0.26*	*0.0160*	*16.00*	*857+75.00*	*1071.06*	*1.24*	*-0.0160*	*-0.02*		*1071.04*	
1071.50		*0.26*	*0.0160*	*16.00*	*858+00.00*	*1071.24*	*0.74*	*-0.0160*	*-0.01*		*1071.23*	*N.C.*
1071.75	*222*	*0.37*	*0.0230*	*16.00*	*858+25.00*	*1071.38*	*0.24*	*-0.0230*	*-0.01*		*1071.37*	
1071.85		*0.42*	*0.0264*	*16.00*	*858+37.00*	*1071.43*	*0.00*				*1071.43*	*EXIST.*

MODEL: GE010 PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:37:51 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GE010.dgn

CUY-422-16.20 (HARPER ROAD)

PAVEMENT ELEVATION TABLE
RAMP 4

DESIGN AGENCY

GPD GROUP

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DESIGNER
PJF

REVIEWER
CWL 09/02/21

PROJECT ID
113889

SHEET 340 TOTAL 481

(A) STA. 63+66.09, 33.77' LT ; ℄ CONST. HARPER RD
STA. 163+78.85, 6.00' RT ; ℄ CONST. HARPER RD NB
STA. 446+23.56, 21.00' LT ; ℄ CONST. RAMP 1B
Δ = 140°57'04"
R = 2.0'
L = 4.92'

(B) STA. 63+32.16, 48.49 RT ; ℄ CONST. HARPER RD
STA. 445+90.23, 25.33' LT ; ℄ CONST. RAMP 1B
Δ = 57°43'16"
R = 11.0'
L = 11.08'

(C) STA. 63+05.78, 17.50 RT ; ℄ CONST. HARPER RD
STA. 163+17.56, 9.00' RT ; ℄ CONST. HARPER RD NB
STA. 263+02.53, 24.00' RT ; ℄ CONST. HARPER RD SB
Δ = 40°00'00"
R = 5.0'
L = 3.49'

(D) STA. 62+95.72, 82.46 RT ; ℄ CONST. HARPER RD
STA. 445+45.16, 21.36' LT ; ℄ CONST. RAMP 1B
Δ = 22°07'23"
R = 46.0'
L = 17.76'

(E) STA. 444+54.53, 18.43' LT ; ℄ CONST. RAMP 1B
STA. 344+44.26, 26.00' RT ; ℄ CONST. RAMP 1A
Δ = 145°03'24"
R = 2.0'
L = 5.06'

(F) STA. 62+12.56, 68.15 RT ; ℄ CONST. HARPER RD
STA. 345+19.84, 28.58' RT ; ℄ CONST. RAMP 1A
Δ = 30°12'02"
R = 11.0'
L = 5.80'

(G) STA. 61+90.78, 45.64 RT ; ℄ CONST. HARPER RD
STA. 261+90.68, 21.00' RT ; ℄ CONST. HARPER RD SB
STA. 345+45.32, 26.00' RT ; ℄ CONST. RAMP 1A
Δ = 131°53'15"
R = 2.0'
L = 4.60'

(H) STA. 62+28.86, 0.10 LT ; ℄ CONST. HARPER RD
STA. 262+35.25, 18.22' LT. ; ℄ CONST. HARPER RD SB
Δ = 10°00'31"
R = 46.0'
L = 8.04'

ALL ELEVATIONS ALONG THE FACE OF CURB ARE PAVEMENT ELEVATIONS.

FOR CURB RAMP DETAILS, SEE SHEETS 349 - 350

HORIZONTAL SCALE IN FEET
0 5 10 20

INTERSECTION DETAIL RAMP 1A & 1B

℄ CONST. RAMP 1B
℄ CONST. RAMP 1A
℄ CONST. HARPER RD
℄ CONST. HARPER RD NB
℄ CONST. HARPER RD SB
SHOULDER TRANSITION
SHOULDER TRANSITION
SHOULDER TRANSITION
SHOULDER TRANSITION
PRC 445+07.11
D-3
D-4
D-5
D-6
D-7
D-8
D-9
D-11
1058.51 64+00.00
1058.32 64+25.00
1058.07 64+25.00
1058.54 446+41.73
1058.77 64+00.00
1058.36 64+25.00
1058.93 64+00.00
1058.97 63+98.37
1058.90 63+98.37
1059.26 63+86.23
1059.55 63+75.00
1059.77 63+66.52
1059.61
1059.39 446+25.00
1059.35 446+29.00
1059.46
1059.47 446+22.00
1059.43 63+83.71 RT
1060.13 446+07.56
1059.71
1059.65 446+07.56
1059.76 446+00.00
1059.82
1059.60
1060.01 63+48.63 38.70' RT
1060.06
1060.23 63+50.00
1060.94 445+36.82
1060.70 445+50.00
1060.64
1061.01
1060.21 1060.15 445+75.00
1061.67
1061.69 445+00.00
1061.52
1061.52 445+07.11
1061.19
1061.15 445+25.00
1062.36 444+75.00
1062.29
1063.99
1063.79 444+34.21
1063.47 344+27.01
1063.25
1063.24 444+50.00
1063.07 444+54.83
1063.01
1063.21
344+38.76
1063.05
1062.99 344+44.26
1062.79 344+50.00
1062.85
1061.49
1062.44
1062.38 344+75.00
1062.74
1062.68 345+00.00
1062.98 345+10.46
1063.04
1063.28
1063.29 345+25.00
1063.38
345+28.72
1063.34
1063.52
345+35.41
1063.46
1063.62
1063.73 345+45.32
1063.82 345+49.19
1063.68
1064.06 345+58.12
1064.50 61+50.00
1065.28 61+25.00
1065.29 61+25.00
1061.20 63+32.43, 37.49' RT
1061.98 62+97.57, 28.49' RT
1061.07 63+32.62, 29.49' RT
1062.11 62+97.30, 36.48' RT
1062.44 62+76.94, 31.73' RT
1062.56 62+79.69, 39.25' RT
1063.31 62+46.84, 50.86' RT
1063.49 62+37.59, 53.20' RT
1063.40 62+05.56, 59.58' RT
1063.48 62+00.48 53.33' RT
1063.36 62+36.28, 45.31' RT
1063.56 62+09.68, 49.37' RT
1063.58 62+10.89, 57.28' RT
1062.94 62+25.00
1062.77
1062.47 62+50.00
1062.30
1063.32 62+06.02
1063.45 62+00.00
1063.32
1063.56
1063.66 61+90.50
1063.76 61+86.02
1064.01 61+75.41
1064.32 61+62.61
1064.63 61+50.00
1061.28
1061.36
1062.03 62+75.00
1061.86
1061.41 63+08.81
1061.50 63+05.72
1061.55 63+02.84
1061.60 63+00.00
1061.43
1059.92
1059.44
1061.64
1061.31
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1061.36
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1061.41
1061.50
1061.55
1061.60
1061.43
1060.77
1060.94 63+25.00
1060.70
1060.64
1060.21
1060.15
1059.92
1059.82
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1063.25
1063.24
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1062.99
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1062.85
1061.49
1062.44
1062.38
1062.74
1062.68
1062.98
1063.04
1063.28
1063.29
1063.38
1063.34
1063.52
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1063.62
1063.73
1063.82
1063.68
1064.06
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1065.28
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1061.20
1061.98
1061.07
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1062.94
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1064.01
1064.32
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1061.36
1062.98
1062.94
1062.68
1062.32
1062.63
1062.29
1062.03
1061.86
1061.41
1061.50
1061.55
1061.60
1061.43
0.016
0.024
0.014
0.0156
0.040
0.011
0.033
0.020
0.003
15.0'
26.6'
11.0'
8'
8.5'
4.0'
20.0'
12.0'
71.0'
46.0'
164
262
345
346
63
64
62
263
783

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:37:54 AM USER: cluzier
G:\Clients\ORD\2020\2020336\NI3889\400-Engineering\Roadway\Sheets\NI3889_GI001.dgn

DESIGN AGENCY
GPD GROUP
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 341 TOTAL 481

(A) STA. 649+35.38, 21.00' LT ; ℄ CONST. RAMP 2A
STA. 549+20.20, 26.00' RT ; ℄ CONST. RAMP 2B
Δ = 147°30'07"
R = 2.0'
L = 5.15'

(B) STA. 69+89.08, 33.12' RT ; ℄ CONST. HARPER RD
STA. 270+20.18, 21.00' RT ; ℄ CONST. HARPER RD SB
STA. 650+72.12, 21.00' LT ; ℄ RAMP 2A
Δ = 131°49'53"
R = 2.0'
L = 4.60'

(C) STA. 69+61.04, 48.72' RT ; ℄ CONST. HARPER RD
STA. 650+43.90, 23.03' LT ; ℄ CONST. RAMP 2A
Δ = 76°56'10"
R = 11.0'
L = 14.77'

(D) STA. 69+58.92, 25.55' RT ; ℄ CONST. HARPER RD
STA. 269+89.46, 24.00' RT ; ℄ CONST. HARPER RD SB
STA. 169+63.66, 24.00' RT ; ℄ CONST. HARPER RD NB
Δ = 39°46'26"
R = 5.0'
L = 3.47'

(E) STA. 68+85.97, 5.07' RT ; ℄ CONST. HARPER RD
STA. 169+00.54, 19.10' LT ; ℄ CONST. HARPER RD NB
Δ = 11°40'43"
R = 47.0'
L = 9.58'

(F) STA. 68+51.22, 49.74' RT ; ℄ CONST. HARPER RD
STA. 168+60.66, 21.00' RT ; ℄ CONST. HARPER RD NB
STA. 549+99.55, 26.00' RT ; ℄ CONST. RAMP 2B
Δ = 133°58'29"
R = 2.0'
L = 4.68'

(G) STA. 68+69.33, 75.53' RT ; ℄ CONST. HARPER RD
STA. 549+75.88, 25.59' RT ; ℄ CONST. RAMP 2B
Δ = 31°05'56"
R = 11.0'
L = 5.97'

ALL ELEVATIONS ALONG THE FACE OF CURB ARE PAVEMENT ELEVATIONS.

FOR CURB RAMP DETAILS, SEE SHEETS 351 - 352

HORIZONTAL SCALE IN FEET
0 5 10 20

INTERSECTION DETAIL RAMP 2A & 2B

SHOULDER TRANSITION (5.5% TO -1.6%) TO MATCH PAVEMENT CROSS SLOPE

SHOULDER TRANSITION

℄ CONST. RAMP 2A

℄ CONST. RAMP 2B

SHOULDER TRANSITION

℄ CONST. HARPER RD SB

℄ CONST. HARPER RD NB

℄ CONST. HARPER RD

POT 548+46.76

POT 550+76.80

DJ-91, D-32, D-30, D-29, D-48, D-31, D-28, D-69

DESIGN AGENCY
GPD GROUP
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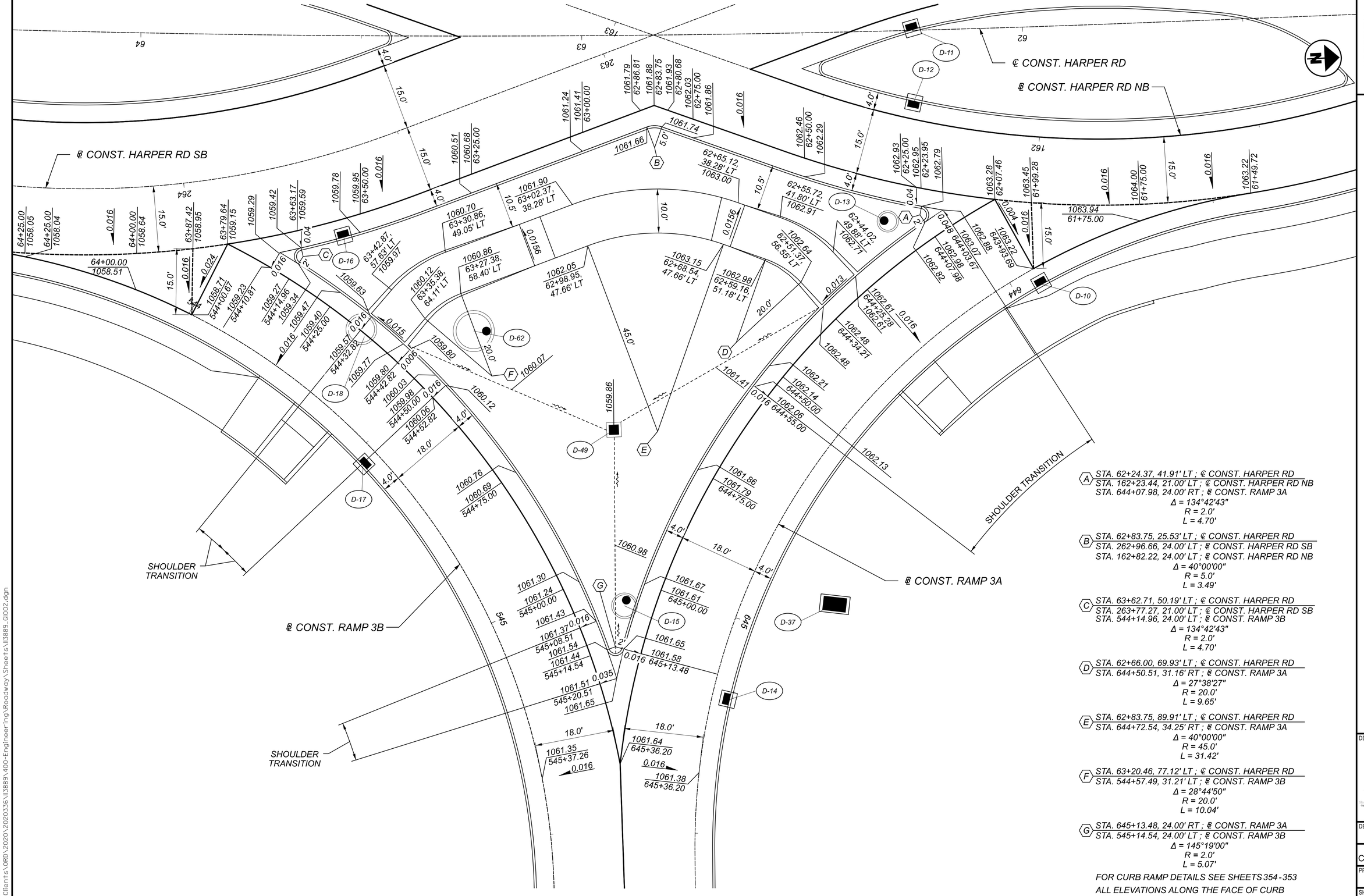
DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 342 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:37:58 AM USER: cluzier
01\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_GI008.dgn


℄ CONST. HARPER RD SB
℄ CONST. HARPER RD
℄ CONST. HARPER RD NB
℄ CONST. RAMP 3A
℄ CONST. RAMP 3B
SHOULDER TRANSITION
SHOULDER TRANSITION
SHOULDER TRANSITION
D-10
D-11
D-12
D-13
D-14
D-15
D-16
D-17
D-18
D-37
D-49
D-62
A
B
C
D
E
F
G
64+25.00 1058.05
64+25.00 1058.04
64+00.00 1058.64
63+87.42 1058.95
63+79.64 1059.15
63+63.17 1059.59
63+50.00 1059.95
63+25.00 1060.68
63+02.37 1061.90
62+86.81 1061.79
62+83.75 1061.88
62+80.68 1061.93
62+75.00 1062.03
62+50.00 1062.46
62+25.00 1062.93
62+23.95 1062.95
62+07.46 1063.28
61+99.28 1063.45
61+75.00 1064.00
61+49.72 1063.22
64+00.00 1058.51
544+00.67 1058.71
544+10.81 1059.23
544+14.96 1059.27
1059.34
1059.47
544+25.00 1059.40
544+32.82 1059.57
1059.63
544+42.82 1059.77
544+50.00 1059.80
544+52.82 1060.03
1059.98
1060.06
1060.12
63+35.38, 64.11' LT
63+42.87, 57.63' LT 1059.97
63+27.38, 58.40' LT 1060.86
63+30.86, 49.05' LT 1060.70
62+98.95, 47.66' LT 1062.05
63+68.54, 47.66' LT 1063.15
62+59.16, 51.18' LT 1062.98
62+65.12, 38.28' LT 1063.00
62+55.72, 41.90' LT 1062.91
62+51.37, 56.55' LT 1062.64
62+44.02, 49.88' LT 1062.77
644+03.67 1063.07
644+07.98 1062.98
1062.82
644+25.28 1062.61
644+34.21 1062.48
1062.48
644+50.00 1062.14
1062.21
644+55.00 1062.06
1062.13
1061.41
1060.76
1060.69
544+75.00
1061.86
1061.79
644+75.00
1060.98
1061.30
1061.24
545+00.00
1061.43
1061.37
545+08.51
1061.54
1061.44
545+14.54
1061.51
545+20.51
1061.65
1061.35
545+37.26
1061.64
645+36.20
1061.38
645+36.20
1061.67
1061.61
645+00.00
1061.65
1061.58
645+13.48
1059.86
1060.07
1060.12
1061.66
1061.74
1062.29
1062.79
1063.94
61+75.00
1062.88
1062.90
1062.88
1062.86
1062.84
1062.82
1062.80
1062.78
1062.76
1062.74
1062.72
1062.70
1062.68
1062.66
1062.64
1062.62
1062.60
1062.58
1062.56
1062.54
1062.52
1062.50
1062.48
1062.46
1062.44
1062.42
1062.40
1062.38
1062.36
1062.34
1062.32
1062.30
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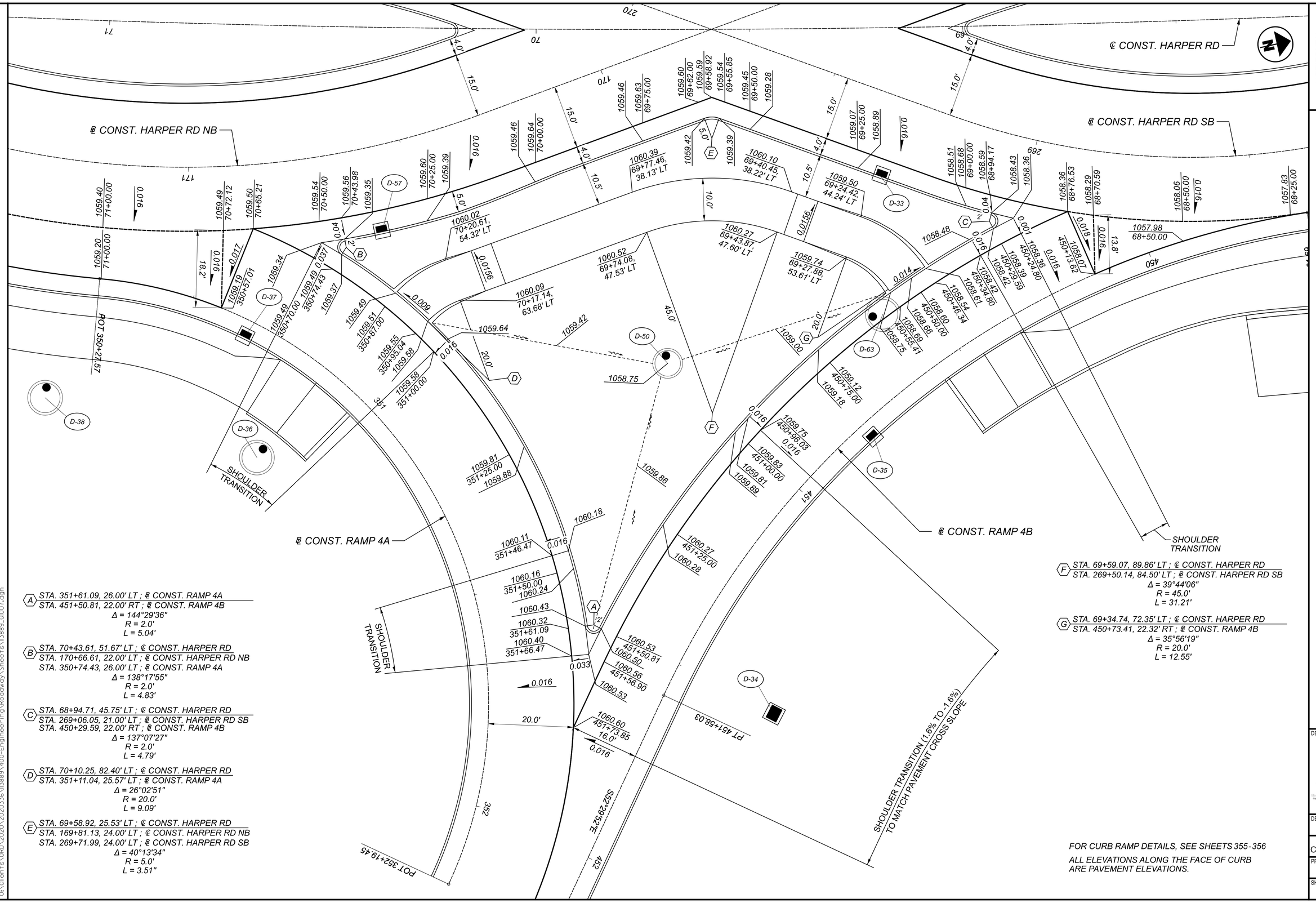
1062.16
1062.14
1062.12



A STA. 351+61.09, 26.00' LT ; ℄ CONST. RAMP 4A
STA. 451+50.81, 22.00' RT ; ℄ CONST. RAMP 4B
Δ = 144°29'36"
R = 2.0'
L = 5.04'

B STA. 70+43.61, 51.67' LT ; ℄ CONST. HARPER RD
STA. 170+66.61, 22.00' LT ; ℄ CONST. HARPER RD NB
STA. 350+74.43, 26.00' LT ; ℄ CONST. RAMP 4A
Δ = 138°17'55"
R = 2.0'
L = 4.83'

C STA. 68+94.71, 45.75' LT ; ℄ CONST. HARPER RD
STA. 269+06.05, 21.00' LT ; ℄ CONST. HARPER RD SB
STA. 450+29.59, 22.00' RT ; ℄ CONST. RAMP 4B
Δ = 137°07'27"
R = 2.0'
L = 4.79'

D STA. 70+10.25, 82.40' LT ; ℄ CONST. HARPER RD
STA. 351+11.04, 25.57' LT ; ℄ CONST. RAMP 4A
Δ = 26°02'51"
R = 20.0'
L = 9.09'

E STA. 69+58.92, 25.53' LT ; ℄ CONST. HARPER RD
STA. 169+81.13, 24.00' LT ; ℄ CONST. HARPER RD NB
STA. 269+71.99, 24.00' LT ; ℄ CONST. HARPER RD SB
Δ = 40°13'34"
R = 5.0'
L = 3.51"

F STA. 69+59.07, 89.86' LT ; ℄ CONST. HARPER RD
STA. 269+50.14, 84.50' LT ; ℄ CONST. HARPER RD SB
Δ = 39°44'06"
R = 45.0'
L = 31.21'

G STA. 69+34.74, 72.35' LT ; ℄ CONST. HARPER RD
STA. 450+73.41, 22.32' RT ; ℄ CONST. RAMP 4B
Δ = 35°56'19"
R = 20.0'
L = 12.55'

FOR CURB RAMP DETAILS, SEE SHEETS 355-356

ALL ELEVATIONS ALONG THE FACE OF CURB ARE PAVEMENT ELEVATIONS.

HORIZONTAL SCALE IN FEET
0 5 10 20

INTERSECTION DETAIL RAMP 4A & 4B

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:38:04 AM USER: cluzier
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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	344
TOTAL	481

A STA. 70+20.33, 0.49' LT ; ℄ CONST. HARPER RD
STA. 270+38.71, 21.00' LT ; ℄ CONST. HARPER RD SB
STA. 170+30.11, 21.00' RT ; ℄ CONST. HARPER RD NB
Δ = 140°43'51"
R = 2.0'
L = 4.91'

B STA. 70+10.08, 5.00' LT ; ℄ CONST. HARPER RD
STA. 272+35.67, 28.00' LT ; ℄ CONST. HARPER RD SB
STA. 172+30.68, 18.00' RT ; ℄ CONST. HARPER RD NB
Δ = 167°35'31"
R = 2.0'
L = 5.85'

℄ CONST. RAMP 2A
POT 651+57.25
651
℄ CONST. HARPER RD SB
SHOULDER TRANSITION
271
270
CROWN
℄ CONST. HARPER RD
71
70
MATCH LINE STA. 69+58.92
SEE SHEET 346
SHOULDER TRANSITION
172
171
℄ CONST. HARPER RD NB
SHOULDER TRANSITION
170
POT 350+27.57
351
℄ CONST. RAMP 4A
D-41
D-40

ALL ELEVATIONS ALONG THE FACE OF CURB ARE PAVEMENT ELEVATIONS.

HORIZONTAL SCALE IN FEET
0 5 10 20

ISLAND DETAIL
STA. 72+50 TO STA. 69+58.92

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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 345 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:38:07 AM USER: cluzier
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MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:38:09 AM USER: cluzier
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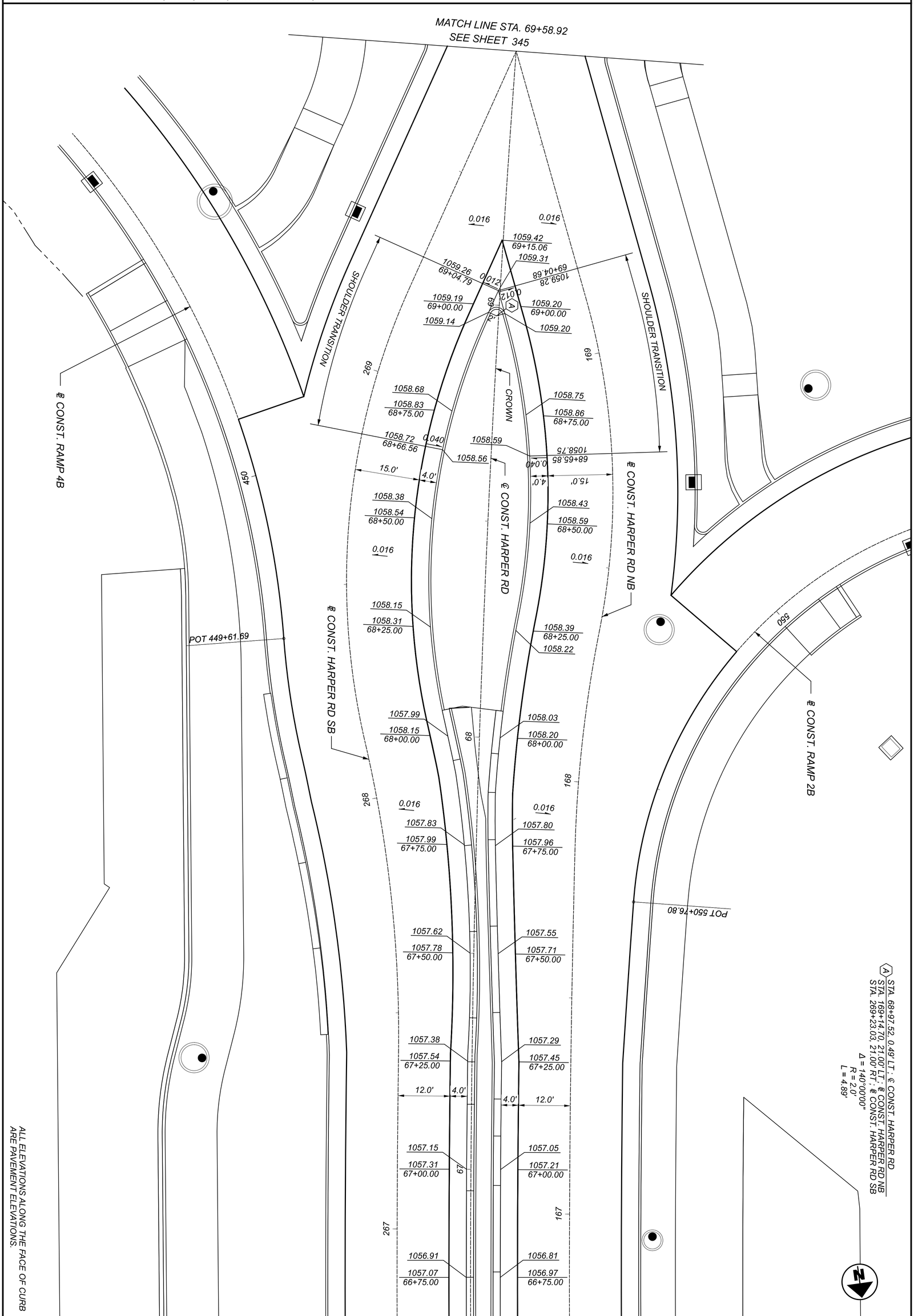

ALL ELEVATIONS ALONG THE FACE OF CURB ARE PAVEMENT ELEVATIONS.

ISLAND DETAIL
STA. 69+58.92 TO STA. 66+75.00

HORIZONTAL SCALE IN FEET
0 10
5 20

SHEET	TOTAL
346	481

PROJECT ID 113889
REVIEWER CWL 09/02/21
DESIGNER ATR
DESIGN AGENCY GPD GROUP

ISLAND DETAIL
STA. 65+75.00 TO STA. 62+83.75

HORIZONTAL SCALE IN FEET
0 5 10 20

N

(A) STA. 63+45.14, 0.49' LT ; ℄ CONST. HARPER RD
STA. 163+48.65, 21.00' LT ; ℄ CONST. HARPER RD NB
STA. 263+45.63, 21.00' RT ; ℄ CONST. HARPER RD SB
Δ = 140°00'00"
R = 2.0'
L = 4.89'

℄ CONST. HARPER RD NB
℄ CONST. HARPER RD
℄ CONST. HARPER RD SB
℄ CONST. RAMP 1B
℄ CONST. RAMP 3B
SHOULDER TRANSITION
SHOULDER TRANSITION
CROWN
POT 447+13.05
POT 543+48.24
MATCH LINE STA. 62+83.75
SEE SHEET 348

1056.68 65+75.00 | 1056.52 | 12.0' | 4.0'
1056.65 | 1056.81 65+50.00 | 1056.87 | 1057.02 65+25.00 | 1057.18 | 1057.33 65+00.00 | 0.016 | 1057.55 | 1057.71 64+75.00
165 | 447 | 15.0' | 1057.95 | 1058.12 64+50.00 | 1058.43 | 1058.60 64+25.00 | 0.016 | 1059.01 | 1059.17 64+00.00
164 | 15.0' | 4.0' | 0.040 | 1059.59 | 1059.66 | 1059.75 | 1059.79 63+75.00 | 63+76.47
1060.48 | 1060.48 63+50.00 | 1060.67 | 63+43.18 | 1060.67 | 63+37.98 | 1060.82 | 63+39.29 | 1060.84 | 0.016
763 | 63 | 263

4.0' | 12.0' | 1056.78 65+75.00 | 1056.62 | 1056.76 | 1056.92 65+50.00 | 1056.98 | 1057.14 65+25.00 | 15.0' | 1057.22 | 1057.39 65+00.00 | 0.016 | 1057.50 | 1057.68 64+75.00
68 | 265 | 64 | 4.0' | 15.0' | 1057.87 | 1058.04 64+50.00 | 0.016 | 1058.37 | 1058.53 64+25.00 | 1058.97 | 1059.12 64+00.00
264 | 1059.58 | 1059.63 | 0.040 | 1059.74 | 63+15.82 | 1059.76 63+75.00
1060.47 | 1060.46 63+50.00 | 1060.66 | 63+43.00 | 1060.67 | 63+37.81 | 1060.81 | 1061.11 63+27.60 | 0.016
544 | 63 | 263

ALL ELEVATIONS ALONG THE FACE OF CURB ARE PAVEMENT ELEVATIONS.

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:38:11 AM USER: cluzier
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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	347
TOTAL	481

ALL ELEVATIONS ALONG THE FACE OF CURB ARE PAVEMENT ELEVATIONS.

HORIZONTAL SCALE IN FEET
0 5 10 20

ISLAND DETAIL
STA. 62+83.75 TO STA. 60+00.00

℄ CONST. RAMP 1A

℄ CONST. HARPER RD SB

℄ CONST. HARPER RD

℄ CONST. HARPER RD NB

℄ CONST. RAMP 3A

SEE SHEET 347 MATCH LINE STA. 62+83.75

SHOULDER TRANSITION

CROWN

DV-2

DV-5

POT 346+22.52

346

262

261

260

64

62

61

09

644

162

161

D-11

D-12

A

B

C

0.016

0.040

0.019

4.0'

6.35'

15.0'

12.0'

15.5'

2'

62+83.75 0.00 0.00

62+61.86 1062.51

62+50.20 1062.79

62+51.59 1062.69

62+50.00 1062.87

62+46.35 1062.71

1062.72

1062.77

1062.90

62+30.70 1063.32

62+25.00 1063.43

1063.16

1063.25

1063.28

62+25.00 1062.97

1062.91

62+11.37 1063.44

62+00.00 1063.73

1063.94

1063.51

1063.68

62+00.00 1064.27

1064.50 61+75.00

1064.08

1064.24 61+75.00

1064.35

1064.78

1064.81

1064.51 61+63.61

1065.04 61+53.09

1065.12 61+50.00

1064.85 61+50.00

1064.94

1065.81 61+25.24

1065.77 61+25.00

1065.46

1065.44 61+27.34

1065.50 61+25.00

1065.82 61+22.91

1065.86

1065.52

1065.56

1065.52 61+11.86

A STA. 62+44.33, 8.17' LT ; ℄ CONST. HARPER RD
STA. 162+51.01, 6.00' RT ; ℄ CONST. HARPER RD NB
Δ = 140°51'24"
R = 2.0'
L = 5.63'

B STA. 61+60.87, 43.02' LT ; ℄ CONST. HARPER RD
STA. 161+64.89, 17.38' LT ; ℄ CONST. HARPER RD NB
Δ = 81°16'59"
R = 45.0'
L = 63.84'

C STA. 61+28.79, 14.39' LT ; ℄ CONST. HARPER RD
STA. 161+29.70, 6.00' RT ; ℄ CONST. HARPER RD NB
Δ =117°44'47"
R = 2.0'
L = 4.11'

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DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	348
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:38:14 AM USER: cluzier
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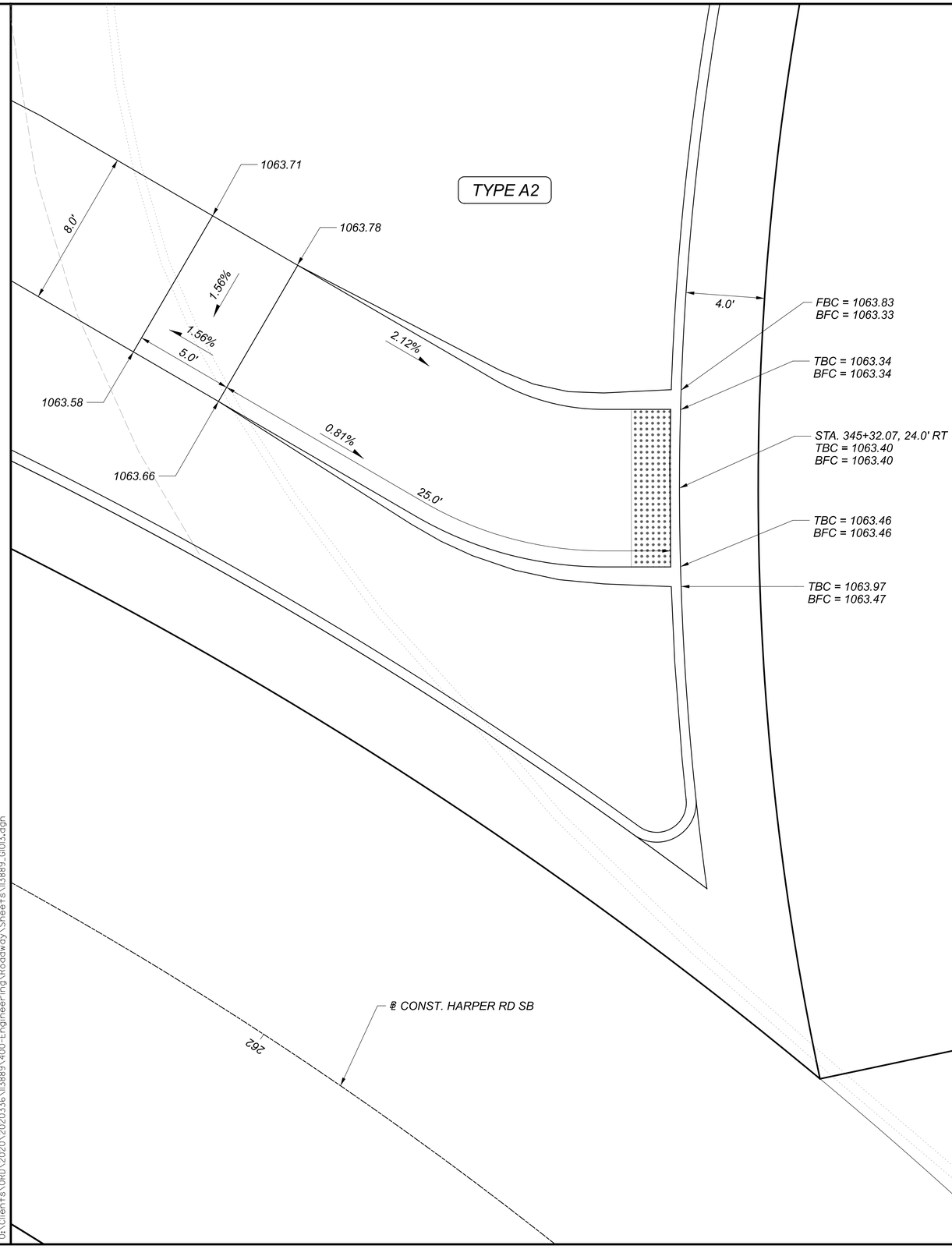
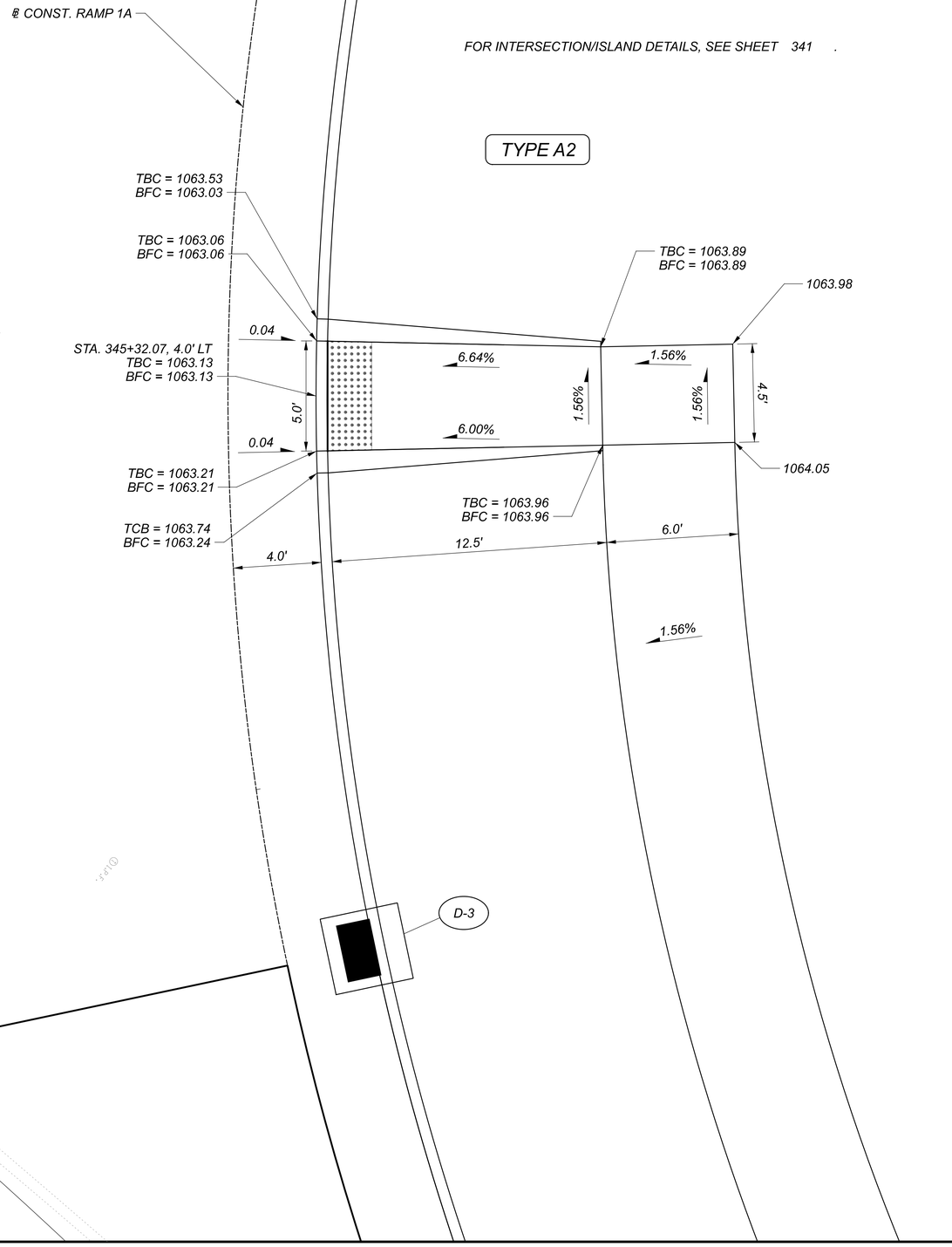
NOTES

1. FOR CURB RETURN GEOMETRY AND ELEVATIONS, REFER TO INTERSECTION DETAILS, SEE SHEET 341 .
2. ALL ELEVATIONS, LENGTHS, AND GRADES ARE GIVEN TO THE CENTERLINE OF PEDESTRIAN TRAVEL, UNLESS OTHERWISE SHOWN
3. TBC = TOP BACK OF CURB
   BFC = BOTTOM FACE OF CURB

FOR INTERSECTION/ISLAND DETAILS, SEE SHEET 341 .

HORIZONTAL SCALE IN FEET
0 1.5 3 6





CURB RAMP DETAIL
HARPER ROAD/RAMP 1A STA. 345+32.07

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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 349 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:38:17 AM USER: cluzier
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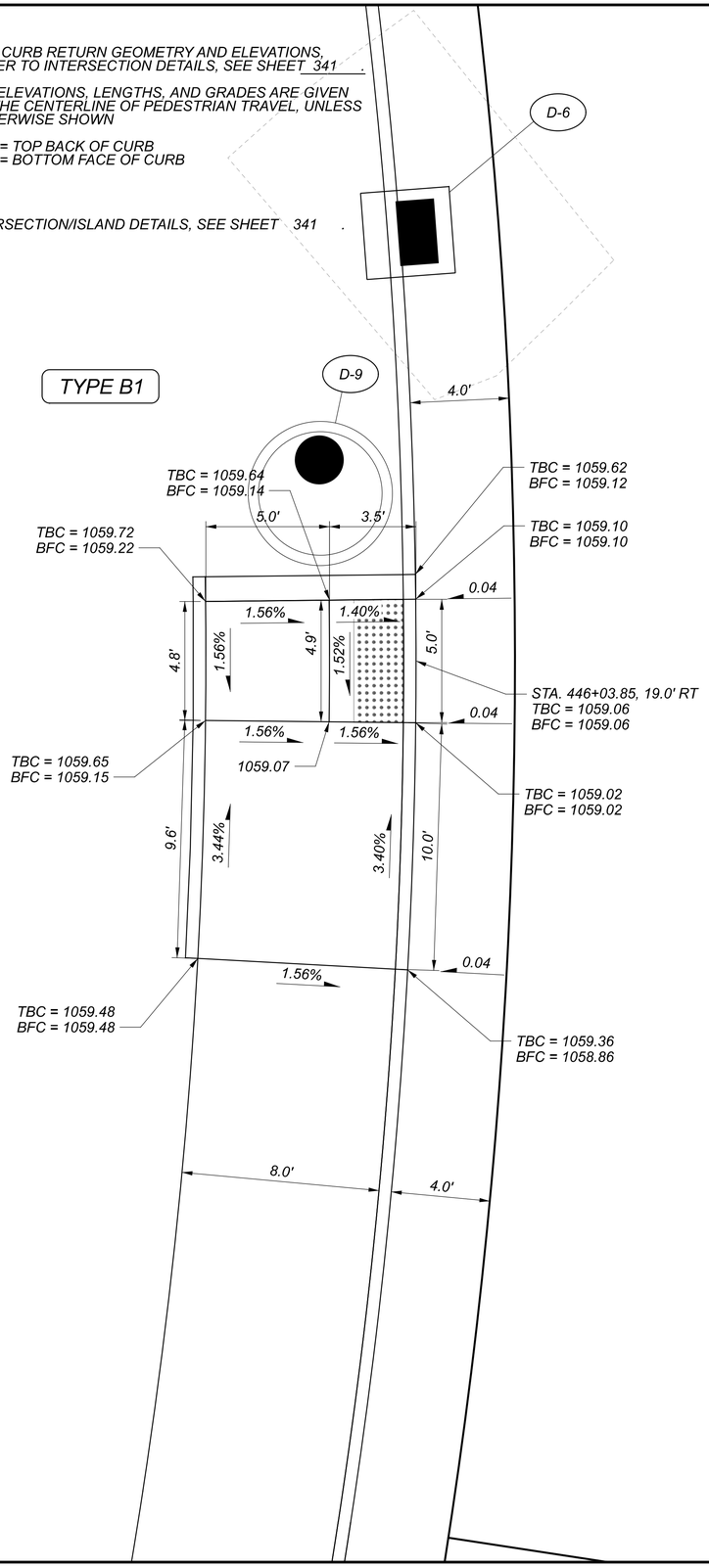
NOTES

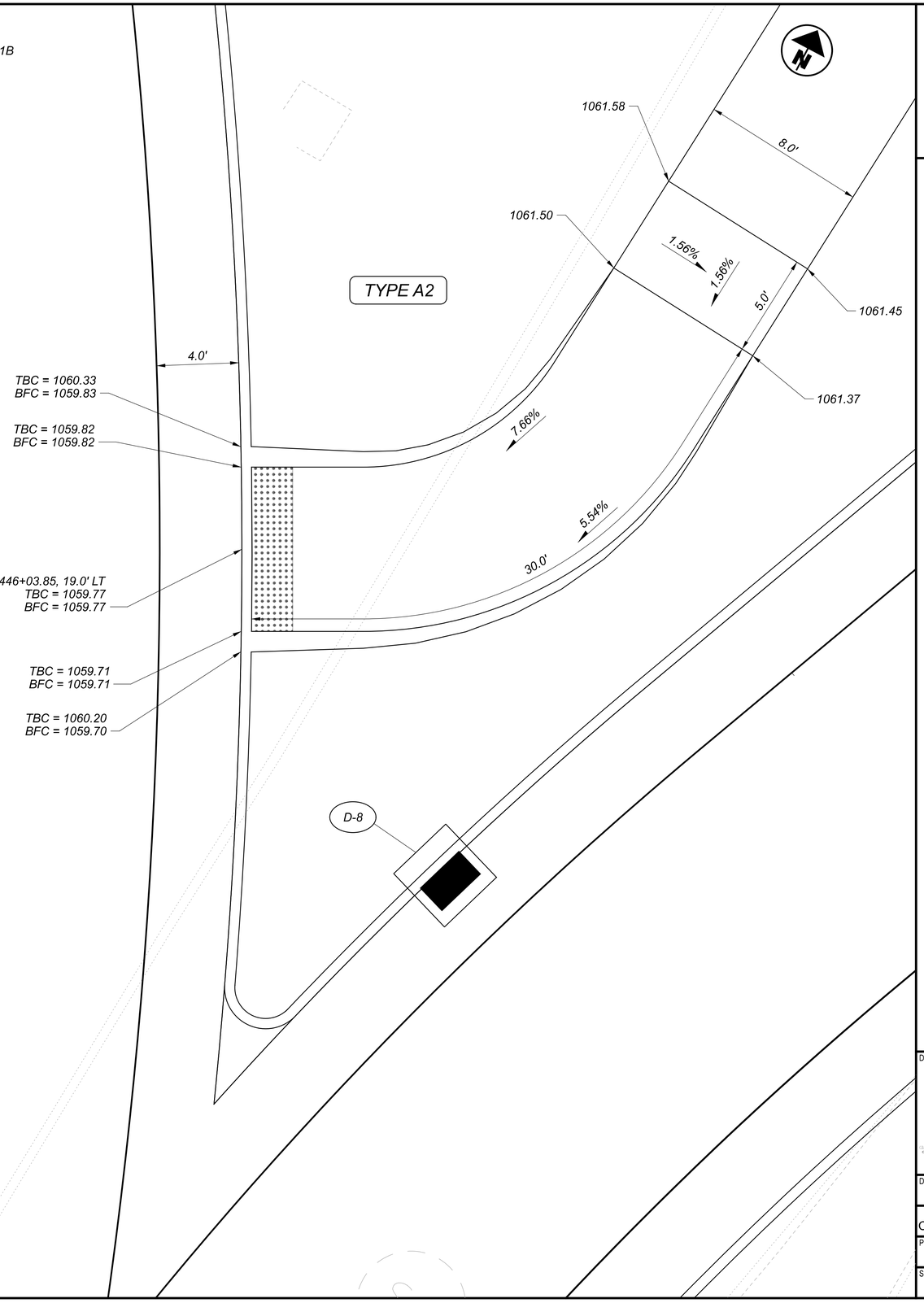
1. FOR CURB RETURN GEOMETRY AND ELEVATIONS, REFER TO INTERSECTION DETAILS, SEE SHEET 341 .
2. ALL ELEVATIONS, LENGTHS, AND GRADES ARE GIVEN TO THE CENTERLINE OF PEDESTRIAN TRAVEL, UNLESS OTHERWISE SHOWN
3. TBC = TOP BACK OF CURB
   BFC = BOTTOM FACE OF CURB

FOR INTERSECTION/ISLAND DETAILS, SEE SHEET 341 .



℄ CONST. RAMP 1B

446



HORIZONTAL SCALE IN FEET
0 1.5 3 6

CURB RAMP DETAIL
HARPER ROAD/RAMP 1B STA. 446+03.85

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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 350 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:38:19 AM USER: cluzier
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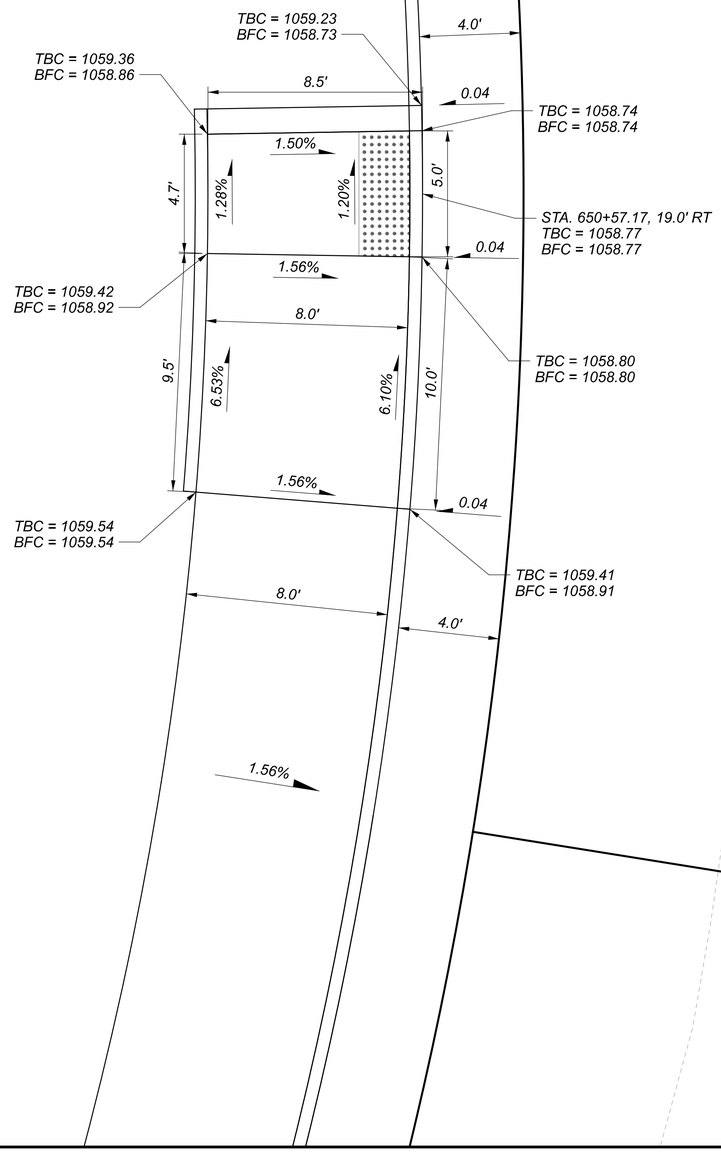
NOTES

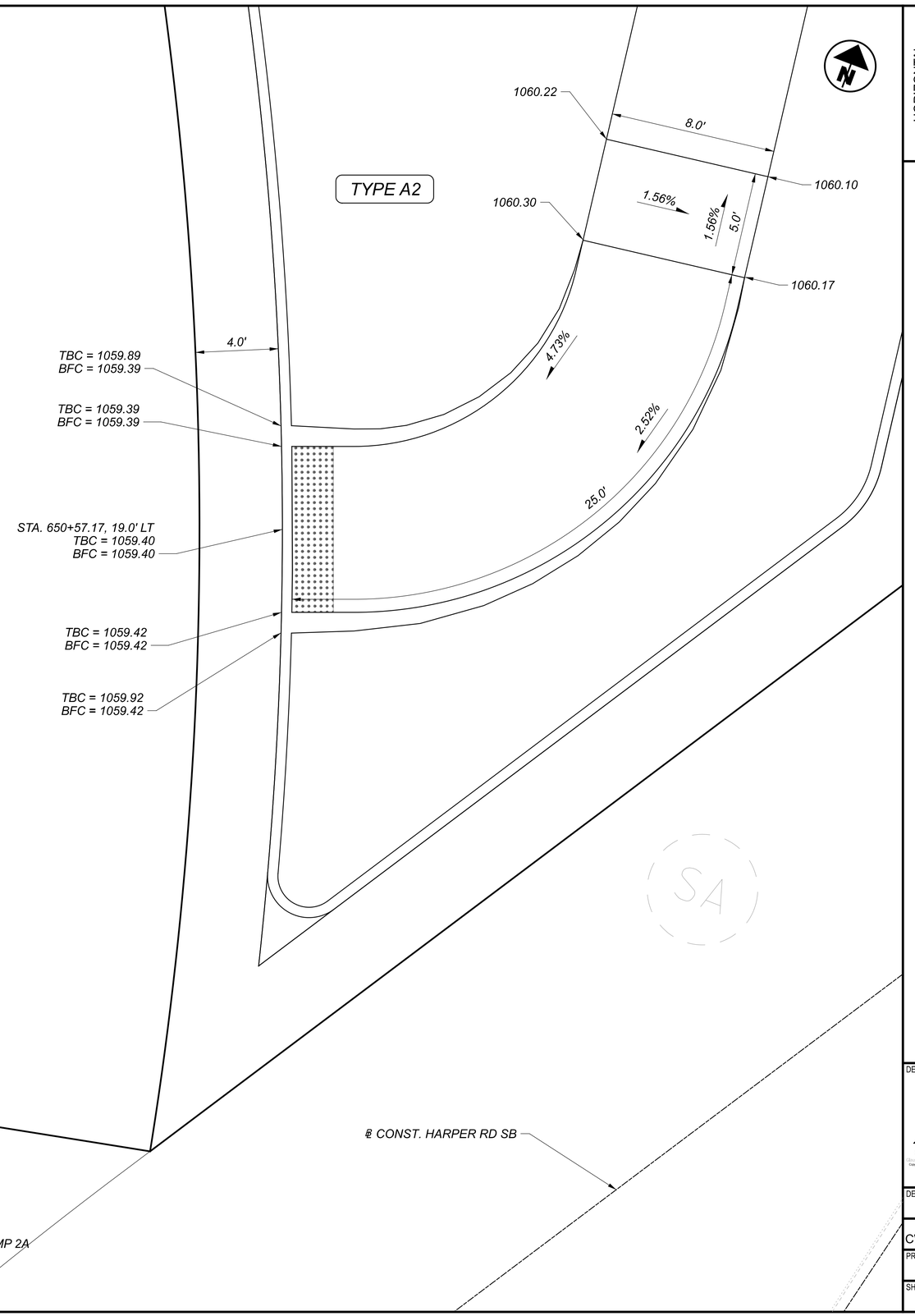
1. FOR CURB RETURN GEOMETRY AND ELEVATIONS, REFER TO INTERSECTION DETAILS, SEE SHEET 342 .
2. ALL ELEVATIONS, LENGTHS, AND GRADES ARE GIVEN TO THE CENTERLINE OF PEDESTRIAN TRAVEL, UNLESS OTHERWISE SHOWN
3. TBC = TOP BACK OF CURB
   BFC = BOTTOM FACE OF CURB

FOR INTERSECTION/ISLAND DETAILS, SEE SHEET 342 .

TYPE B1



TYPE A2



HORIZONTAL SCALE IN FEET
0 1.5 3 6

CURB RAMP DETAIL
HARPER ROAD/RAMP 2A STA. 650+57.17

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DESIGNER	KRM
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	351
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:38:21 AM USER: cluzier
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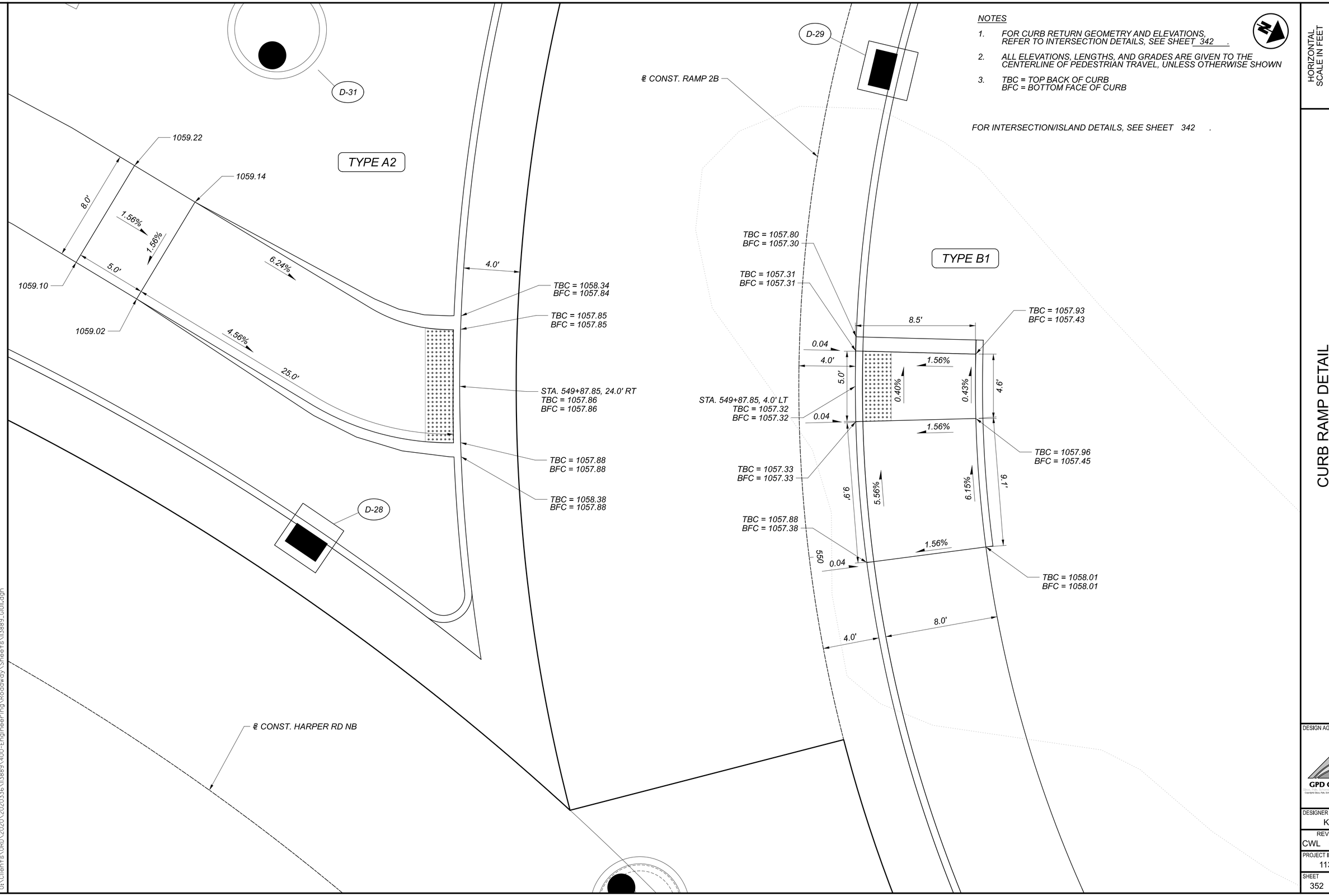
NOTES

1. FOR CURB RETURN GEOMETRY AND ELEVATIONS, REFER TO INTERSECTION DETAILS, SEE SHEET 342 .
2. ALL ELEVATIONS, LENGTHS, AND GRADES ARE GIVEN TO THE CENTERLINE OF PEDESTRIAN TRAVEL, UNLESS OTHERWISE SHOWN
3. TBC = TOP BACK OF CURB
   BFC = BOTTOM FACE OF CURB

FOR INTERSECTION/ISLAND DETAILS, SEE SHEET 342 .

HORIZONTAL SCALE IN FEET
0 1.5 3 6



CUY-422-16.20 (HARPER ROAD)

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CURB RAMP DETAIL
HARPER ROAD/RAMP 2B STA. 549+87.85

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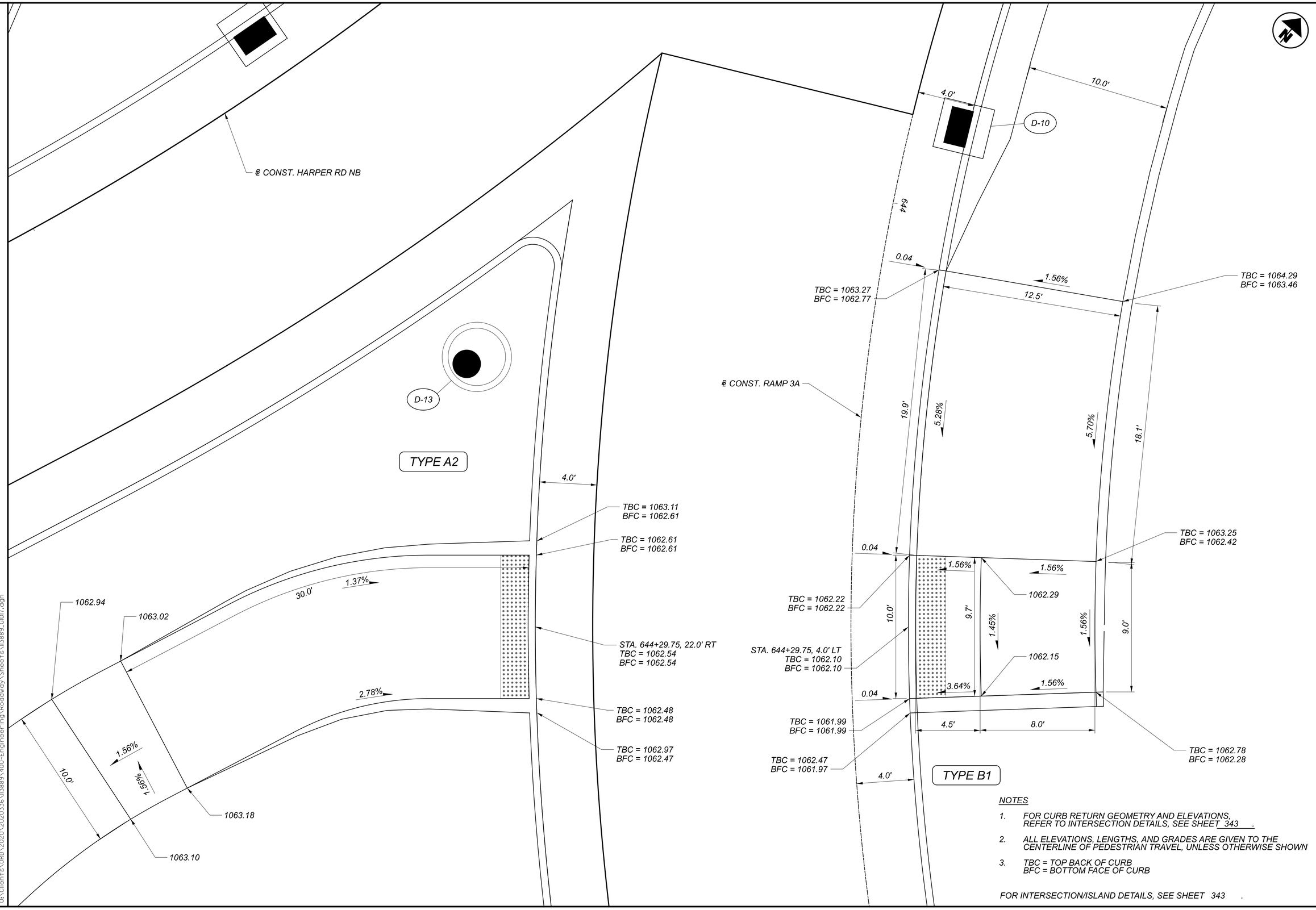
DESIGNER	KRM
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	352
TOTAL	481



NOTES

1. FOR CURB RETURN GEOMETRY AND ELEVATIONS, REFER TO INTERSECTION DETAILS, SEE SHEET 343 .
2. ALL ELEVATIONS, LENGTHS, AND GRADES ARE GIVEN TO THE CENTERLINE OF PEDESTRIAN TRAVEL, UNLESS OTHERWISE SHOWN
3. TBC = TOP BACK OF CURB
   BFC = BOTTOM FACE OF CURB

FOR INTERSECTION/ISLAND DETAILS, SEE SHEET 343 .

HORIZONTAL SCALE IN FEET
0 1.5 3 6

CURB RAMP DETAIL
HARPER ROAD/RAMP 3A STA. 644+29.75

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:38:24 AM USER: cluzier
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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 353 TOTAL 481

NOTES

1. FOR CURB RETURN GEOMETRY AND ELEVATIONS, REFER TO INTERSECTION DETAILS, SEE SHEET 343 .
2. ALL ELEVATIONS, LENGTHS, AND GRADES ARE GIVEN TO THE CENTERLINE OF PEDESTRIAN TRAVEL, UNLESS OTHERWISE SHOWN
3. TBC = TOP BACK OF CURB
   BFC = BOTTOM FACE OF CURB

FOR INTERSECTION/ISLAND DETAILS, SEE SHEET 343 .

HORIZONTAL SCALE IN FEET
0 1.5 3 6

544

℄ CONST. RAMP 3B

℄ CONST. HARPER RD SB

D-16

1059.42
4.5'
4.0'
0.04
10.0'
1.56%
1059.58

TBC = 1059.39
BFC = 1058.89

TBC = 1059.61
BFC = 1059.61

1.56%
1.56%
0.04

1059.46

TRANSITION FROM 1.56% TO 3.00%

3.22%
9.0'
9.7'
3.00%
10.0'

TBC = 1059.09
BFC = 1059.09

3.00%
0.04

1.56%
1059.23

TBC = 1059.88
BFC = 1059.38

9.0'
1.56%
1.45%
9.7'
10.0'

STA. 544+36.73, 4.0' RT
TBC = 1059.21
BFC = 1059.21

1059.37
1.56%
0.89%
0.04

TBC = 1060.02
BFC = 1059.52

10.0'
5.0'

TBC = 1059.33
BFC = 1059.33

4.0'

TBC = 1059.85
BFC = 1059.35

TYPE B1

D-17

4'

TBC = 1060.10
BFC = 1059.60

TBC = 1059.62
BFC = 1059.62

D-18

STA. 544+36.73, 22.0' LT
TBC = 1059.70
BFC = 1059.70

TBC = 1059.77
BFC = 1059.77

TBC = 1060.29
BFC = 1059.79

TYPE A2

40.0'

4.90%

1061.66
1061.58

5.63%

5.0'

DJ-62

1.56%
10.0'

1061.74

1.56%

1061.82

CURB RAMP DETAIL
HARPER ROAD/RAMP 3B STA. 544+36.73

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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 354 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

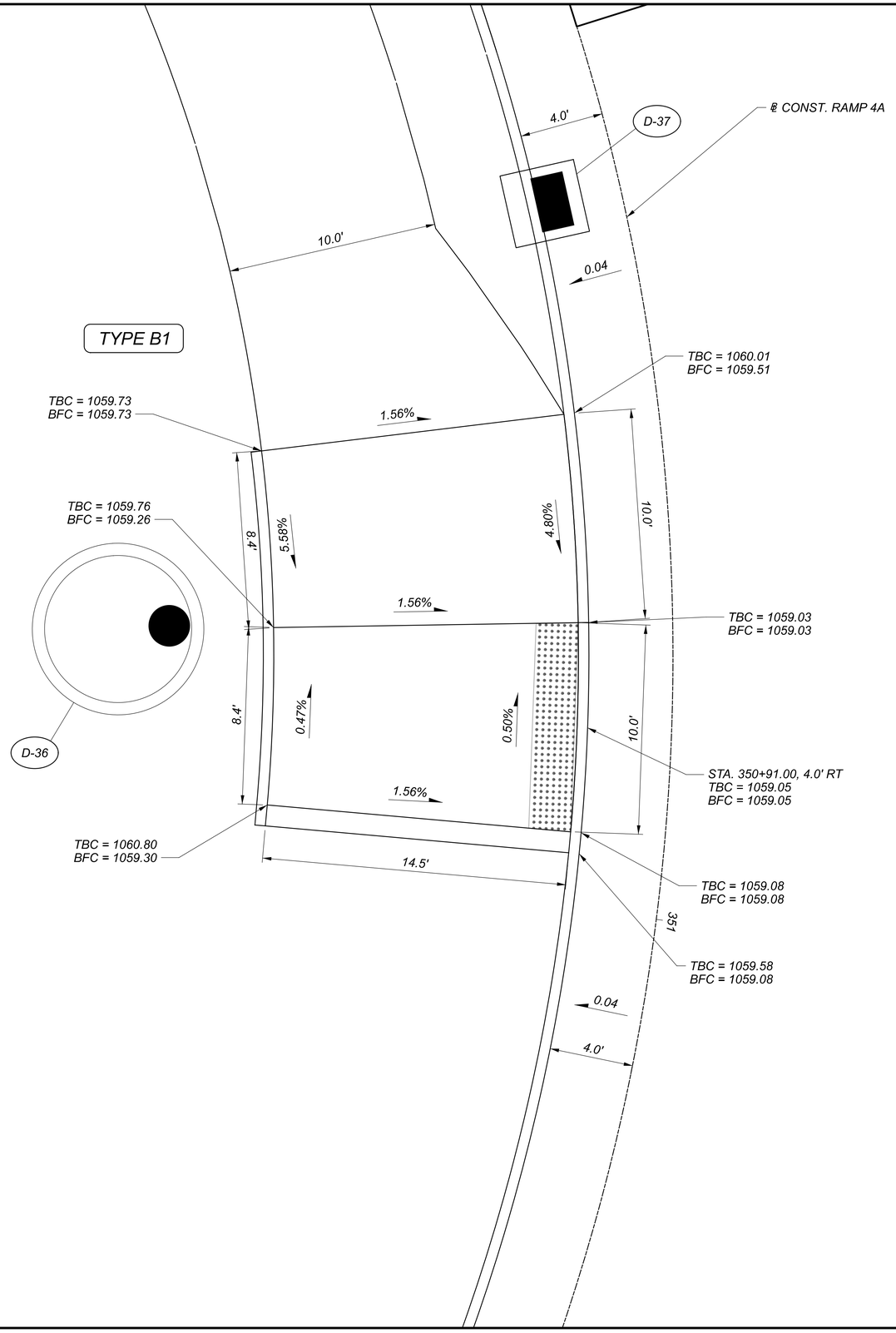
MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/6/2023 TIME: 7:38:26 AM USER: cluzier
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Roadway\Sheets\113889_CU016.dgn

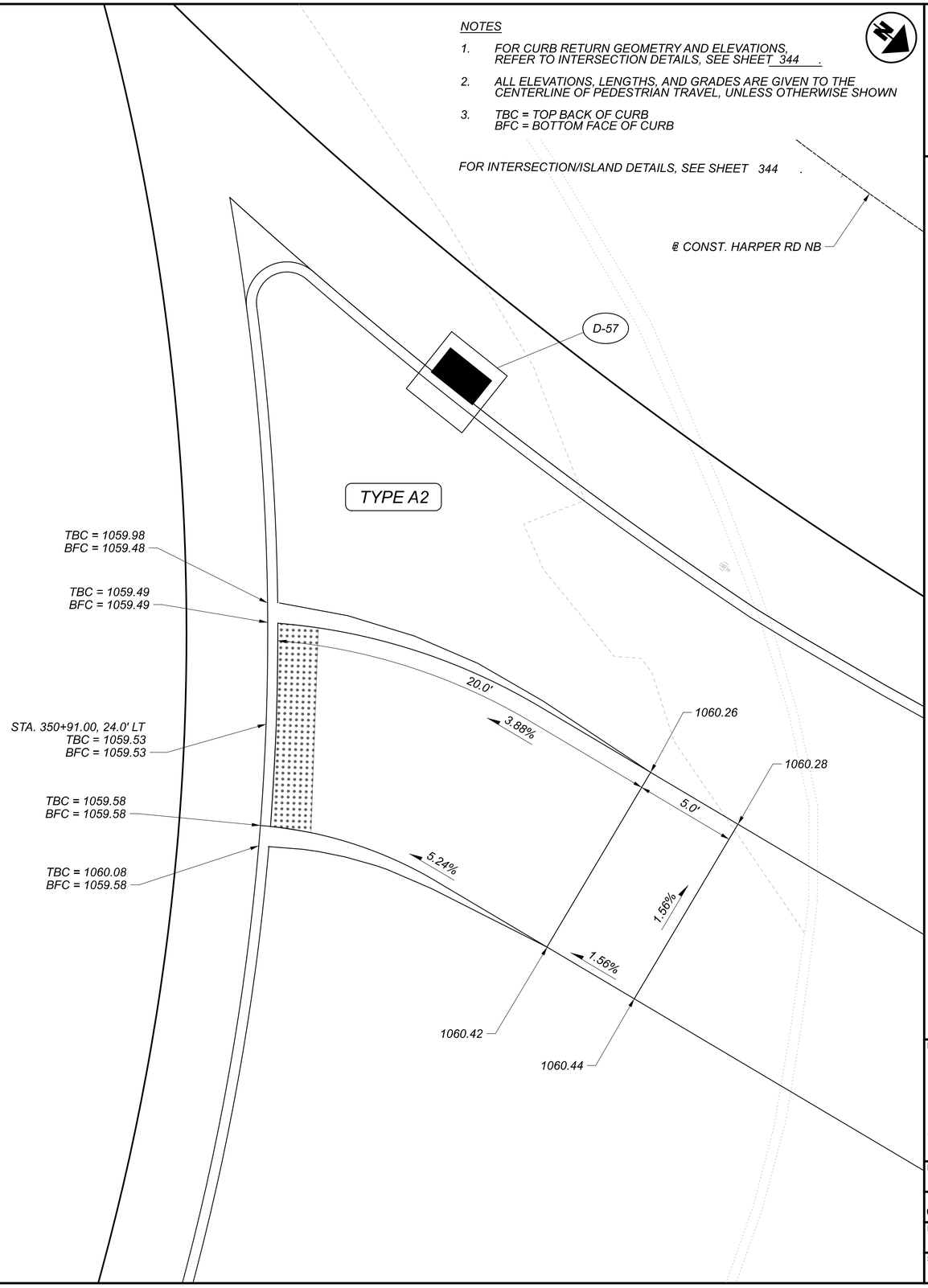
NOTES

1. FOR CURB RETURN GEOMETRY AND ELEVATIONS, REFER TO INTERSECTION DETAILS, SEE SHEET 344 .
2. ALL ELEVATIONS, LENGTHS, AND GRADES ARE GIVEN TO THE CENTERLINE OF PEDESTRIAN TRAVEL, UNLESS OTHERWISE SHOWN
3. TBC = TOP BACK OF CURB
   BFC = BOTTOM FACE OF CURB

FOR INTERSECTION/ISLAND DETAILS, SEE SHEET 344 .

HORIZONTAL SCALE IN FEET
0 1.5 3 6





CURB RAMP DETAIL
HARPER ROAD/RAMP 4A STA. 350+91.00

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DESIGNER KRM
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 355 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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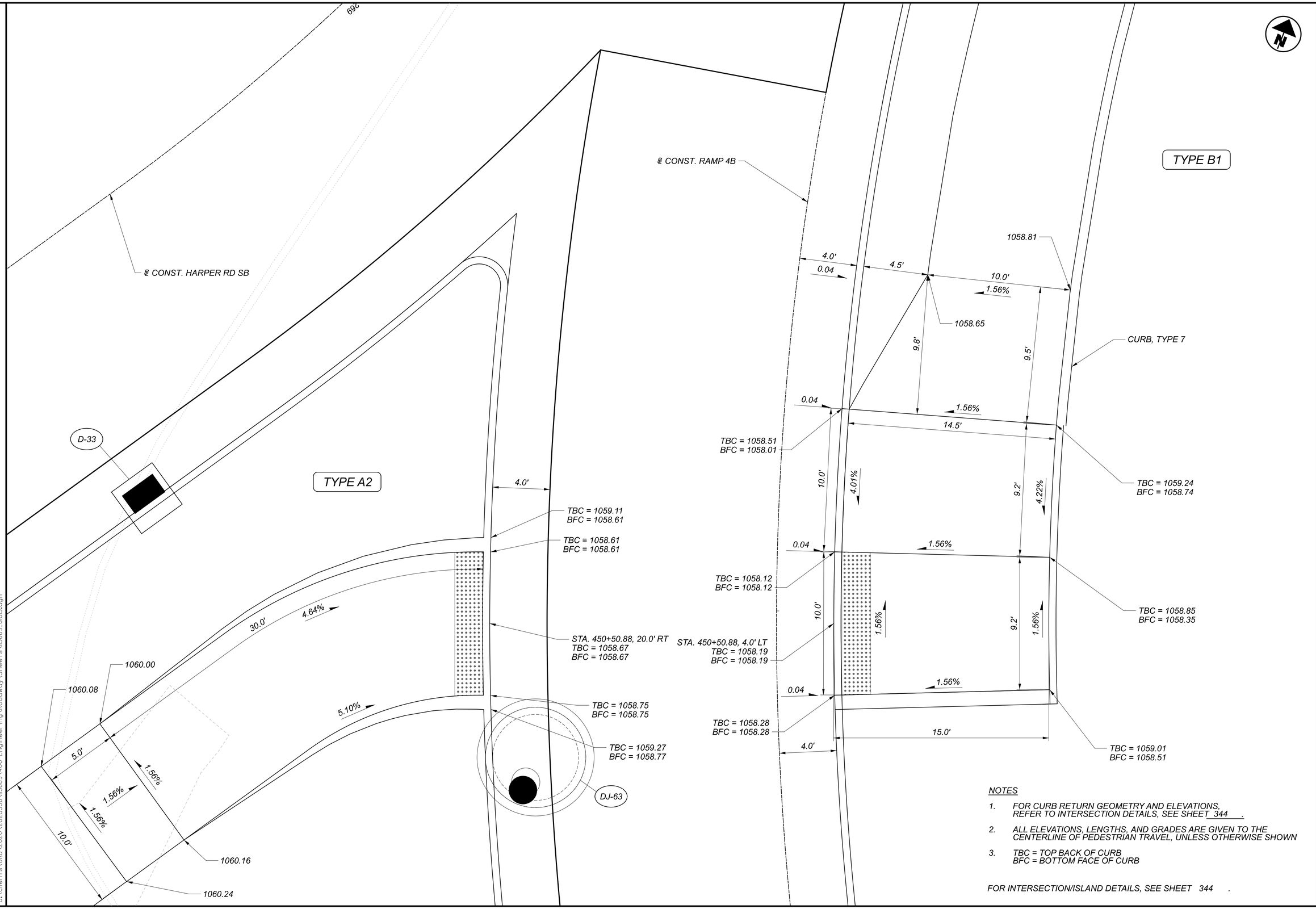

CUY-422-16.20 (HARPER ROAD)

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HORIZONTAL SCALE IN FEET
0 1.5 3 6

CURB RAMP DETAIL
HARPER ROAD/RAMP 4B STA. 450+50+88

NOTES

1. FOR CURB RETURN GEOMETRY AND ELEVATIONS, REFER TO INTERSECTION DETAILS, SEE SHEET 344 .
2. ALL ELEVATIONS, LENGTHS, AND GRADES ARE GIVEN TO THE CENTERLINE OF PEDESTRIAN TRAVEL, UNLESS OTHERWISE SHOWN
3. TBC = TOP BACK OF CURB
   BFC = BOTTOM FACE OF CURB

FOR INTERSECTION/ISLAND DETAILS, SEE SHEET 344 .

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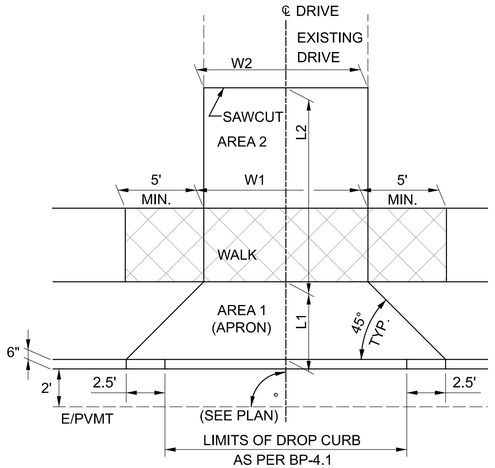
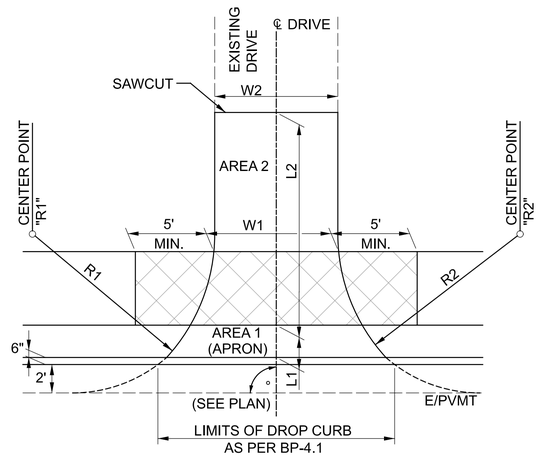
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 356 TOTAL 481



DRIVE DETAIL - TYPE 2
N.T.S.



DRIVE DETAIL - TYPE 1B
N.T.S.

EXISTING MATERIALS	USAGE	INSIDE LIMITS OF APRON (AREA 1)	OUTSIDE LIMITS OF APRON (AREA 2)
CONCRETE	RESIDENTIAL	6" ITEM 452 NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS 3" ITEM 304 AGGREGATE BASE, AS PER PLAN "B" ITEM 204 SUBGRADE COMPACTION	SAME COMPOSITION AS AREA 1
ASPHALT	COMMERCIAL	8" ITEM 452 NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS 3" ITEM 304 AGGREGATE BASE, AS PER PLAN "B" ITEM 204 SUBGRADE COMPACTION	1 1/4" ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS) ITEM 407 NON-TRACKING TACK COAT 1 3/4" ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS) 8" ITEM 304 AGGREGATE BASE, AS PER PLAN "B"
CONCRETE			SAME COMPOSITION AS AREA 1

ITEM 608 - 6"/8" CONCRETE WALK, AS PER PLAN. WALK THICKNESS SHALL BE 6" AT RESIDENTIAL APRONS AND 8" AT COMMERCIAL APRONS, AND CONCRETE CLASS QC MS.

SHEET NO.	REFERENCE NO.	STATION	DRIVE PROFILE SHEET NO.	SIDE	USAGE	TYPE	EXISTING MATERIAL	APRON LENGTH "L1"	DRIVEWAY LENGTH "L2"	WIDTH "W1"	WIDTH "W2"	RADIUS "R1" (LEFT FACING DRIVE)	CENTER POINT "R1"	RADIUS "R2" (RIGHT FACING DRIVE)	CENTER POINT "R2"	LENGTH OF CURB DROP TRANSITION
								FT.	FT.	FT.	FT.	FT.	STA./OFFSET	FT.	STA./OFFSET	FT.
190	DV-1	58+90.89 (HARPER RD)	358	RT	COMM.	1B	ASPH.	12.50	32.00	24.00	23.92	20.00	59+22.89/44.00' RT	20.00	58+58.89/44.00' RT	15.00
190	DV-2	60+32.62 (HARPER RD)	358	RT	COMM.	1B	ASPH.	12.50	24.50	24.50	24.47	20.00	60+64.87/44.00' RT	20.00	60+00.37/44.00' RT	15.00
190	DV-3	58+65.14 (HARPER RD)	358	LT	RES.	2	CONC.	4.50	26.00	18.00	18.31	-	-	-	-	2.50
190	DV-4	59+58.99 (HARPER RD)	359	LT	RES.	2	CONC.	4.50	21.00	12.00	9.10	-	-	-	-	2.50
190	DV-5	61+04.12 (HARPER RD)	359	LT	COMM.	1B	CONC.	4.74	61.60	39.85	22.54	50.00	60+42.37/65.19' LT	40.00	61+55.87/81.89' LT	20.00

FOR CITY OF SOLON SCD, SEE SHEET 361

DRIVE DETAILS

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/14/2024 TIME: 11:31:02 AM USER: cluzier
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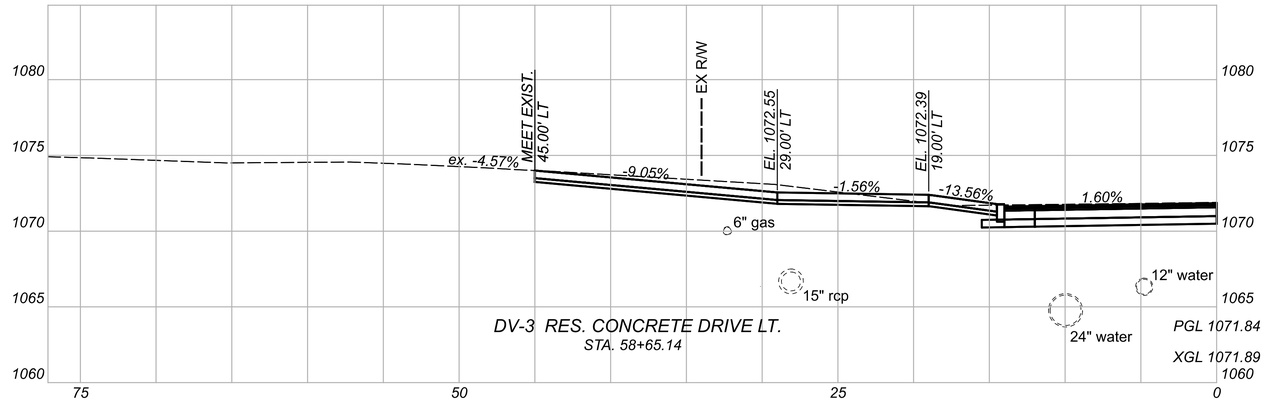
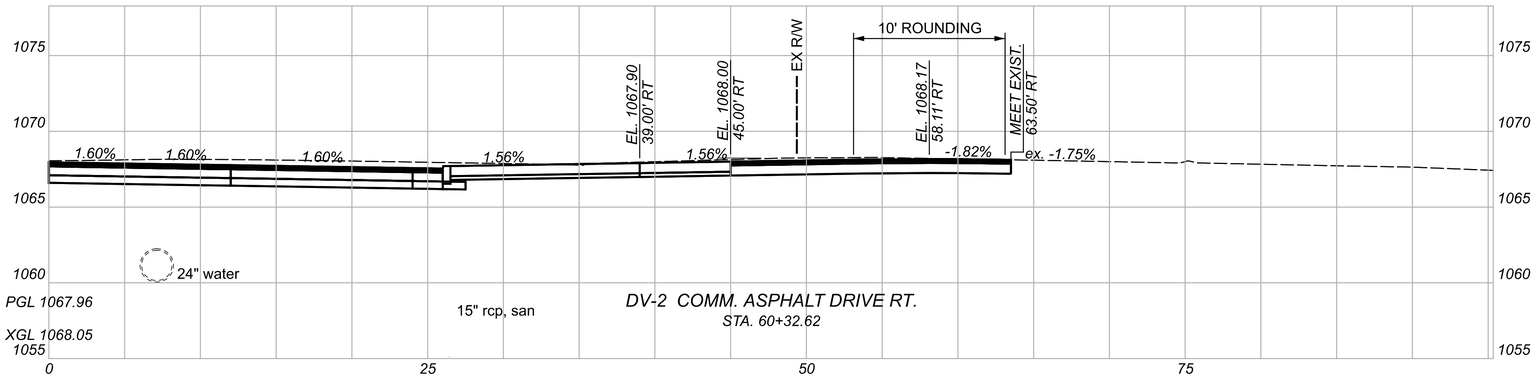
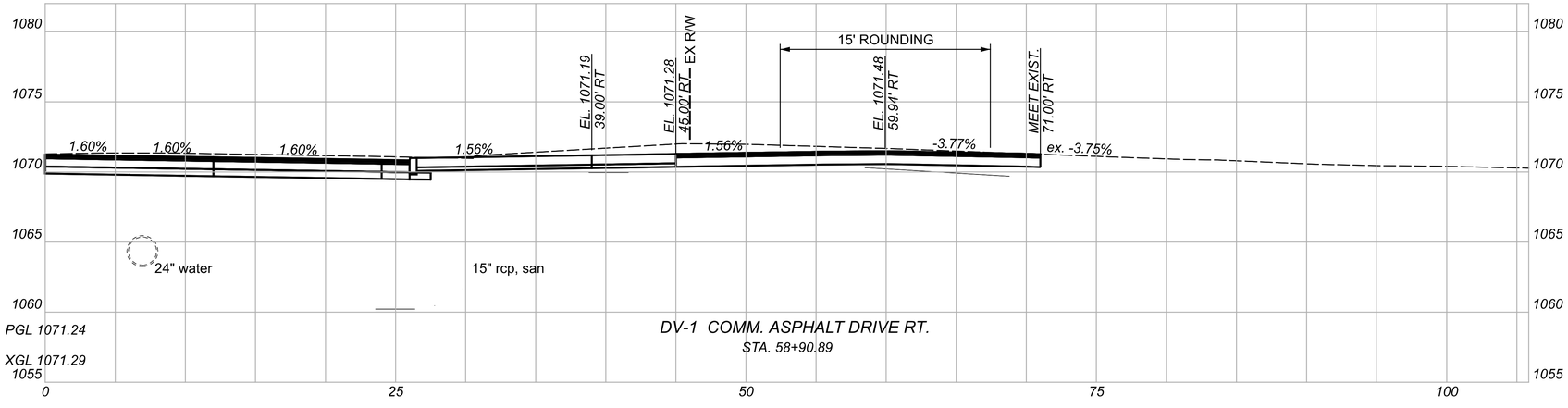
DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 357 TOTAL 481



DV-3 RES. CONCRETE DRIVE LT.
STA. 58+65.14



DV-2 COMM. ASPHALT DRIVE RT.
STA. 60+32.62



DV-1 COMM. ASPHALT DRIVE RT.
STA. 58+90.89

DRIVE PROFILES - HARPER ROAD
DV-1, DV-2, & DV-3 PROFILES

CUY-422-16.20 (HARPER ROAD)

MODEL: DVL_DV2_DV3 Profile Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:38:38 AM USER: cluzier
O:\Clients\ORD\2020\2020336\WI3889\400-Engineering\Roadway\Sheets\WI3889_GD101.dgn

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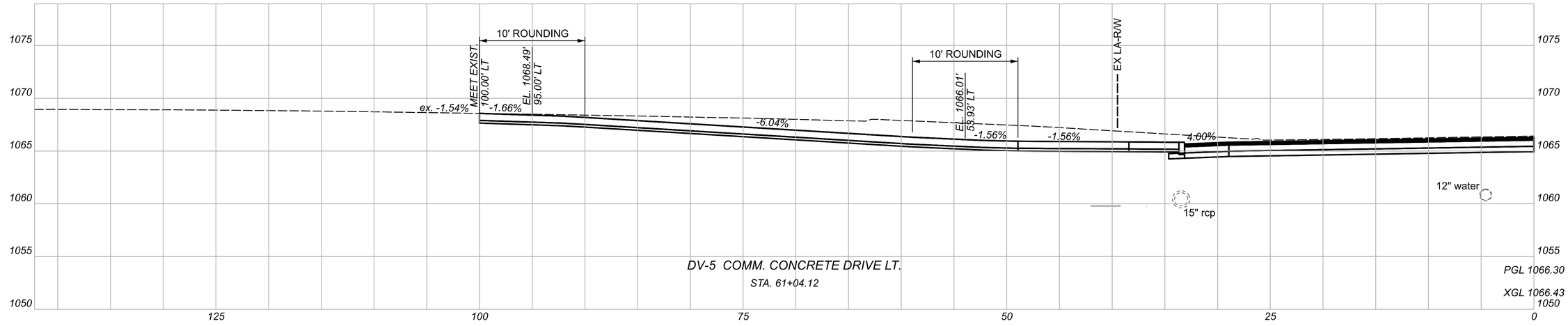
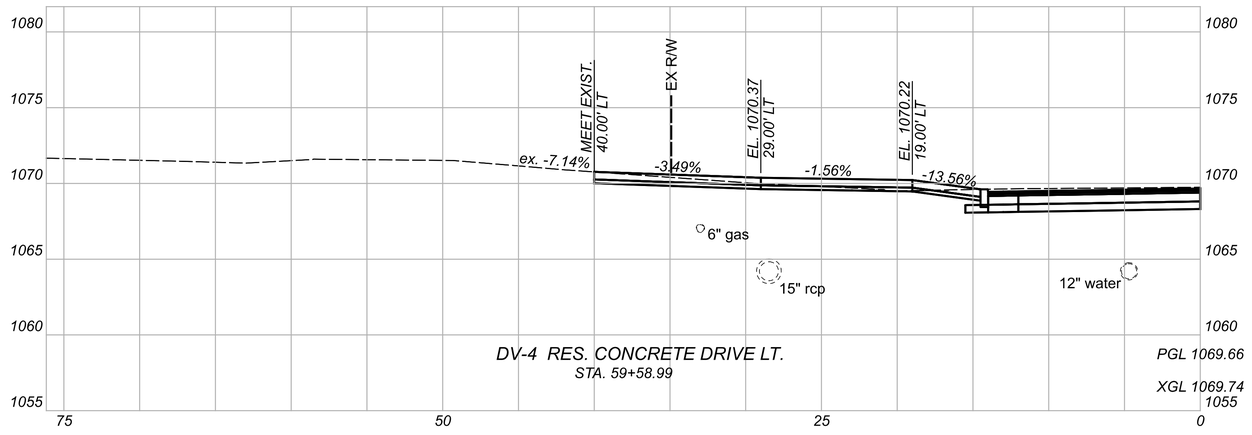
DESIGNER	ATR
REVIEWER	CWL 09/02/21
PROJECT ID	113889
SHEET	358
TOTAL	481

Sheet Totals		
Seeding	Cut	Fill
.	.	.



DV-5 COMM. CONCRETE DRIVE LT.

STA. 61+04.12



DV-4 RES. CONCRETE DRIVE LT.

STA. 59+58.99

DRIVE PROFILES - HARPER ROAD
DV-4 & DV-5 PROFILES

CUY-422-16.20 (HARPER ROAD)

MODEL: DV4_DV5 Profile Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:38:47 AM USER: cluzier
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DESIGN AGENCY

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ATR

REVIEWER
CWL 09/02/21

PROJECT ID
113889

Sheet Totals		
Seeding	Cut	Fill
-	-	-

SHEET 359 TOTAL 481

PAVEMENT REMOVAL PLAN

HORIZONTAL SCALE IN FEET
0 50 100 200

℄ EX. RAMP 5
℄ EX. RAMP 3
℄ EX. RAMP 4
℄ EX. RAMP 1
℄ EX. RAMP 2
℄ EX. R/W BAINBRIDGE ROAD
℄ EX. R/W HARPER ROAD
℄ EX. R/W CANNON ROAD
℄ EX. R/W US-422
LON STA. 851+20.68
R-1 R-2 R-3 R-4 R-5 R-6 R-7 R-8 R-9 R-10 R-11 R-12 R-13 R-14 R-15 R-16 R-17 R-18 R-19
G-7 GR-7

LEGEND

ITEM 202 - PAVEMENT REMOVED (COMPOSITE)
ITEM 202 - PAVEMENT REMOVED (CONCRETE)
ITEM 202 - CONCRETE SLOPE PROTECTION REMOVED
ITEM 202 - TRAFFIC ISLAND REMOVED / ITEM 202 - WALK REMOVED

FOR PAVEMENT REMOVED CALCULATIONS, SEE SHEET 183 .

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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 360 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Design PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:39:00 AM USER: dluzier
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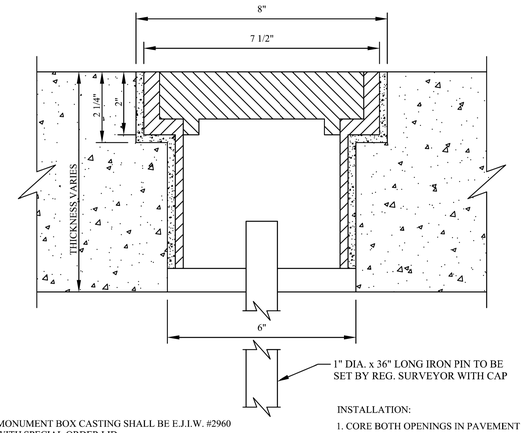


MONUMENT BOX CASTING SHALL BE E.J.I.W. #2960 WITH SPECIAL ORDER LID

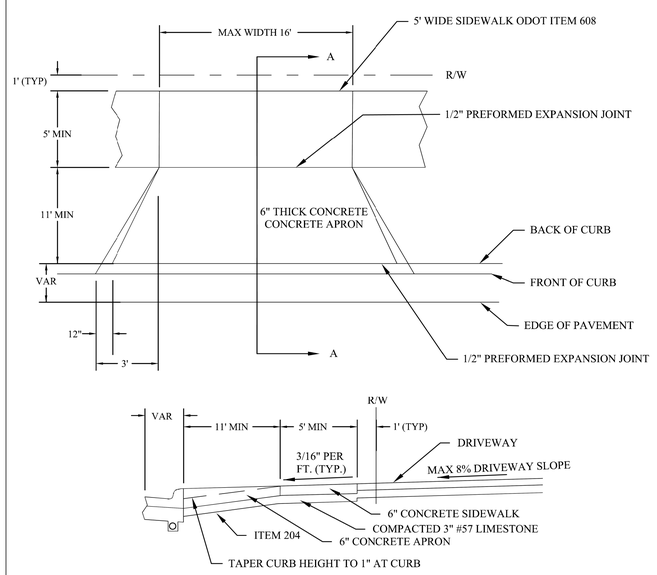
ANNULAR SPACE BETWEEN CASTING AND PAVEMENT SHALL BE FILLED WITH NON-SHRINK GROUT PER O.D.O.T. 705.20

FOR MONUMENT BOXES NOT ON PAVEMENT USE NEENAH 1978A OR E.J.I.W. 8365 CASTING OR EQUAL WITH 1" DIA. x 36" LONG IRON PIN

INSTALLATION:

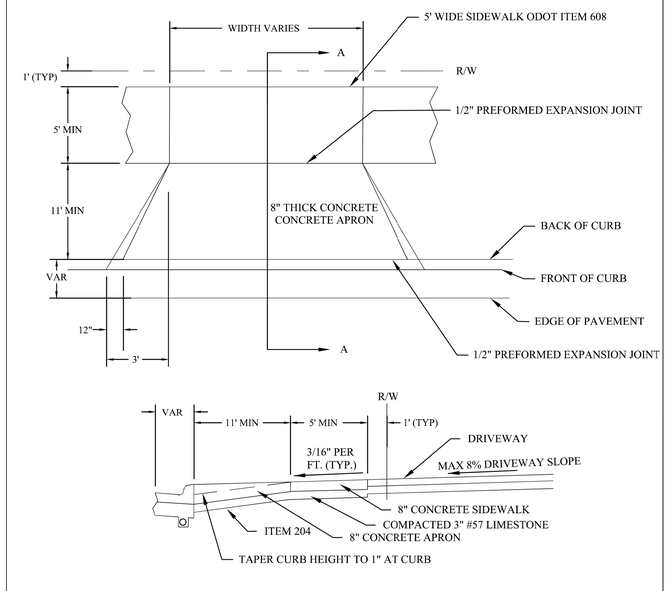
1. CORE BOTH OPENINGS IN PAVEMENT
2. REMOVE DEBRIS AND PREPARE CONC. FOR GROUT PER MANUFACTURERS INSTRUCTIONS
3. COAT PAVEMENT OPENING AND EXTERIOR OF CASTING WITH GROUT
4. INSTALL CASTING AND FINISH FLUSH WITH EXISTING PAVEMENT

CITY OF SOLON ENGINEERING DEPARTMENT	STANDARD DETAIL	CORED/BOXLESS MONUMENT IN RIGID OR FLEXIBLE PAVEMENT
		P-10



SECTION A-A

CITY OF SOLON ENGINEERING DEPARTMENT	STANDARD DETAIL	RESIDENTIAL DRIVEWAY APPROACH
		P-17



SECTION A-A

CITY OF SOLON ENGINEERING DEPARTMENT	STANDARD DETAIL	COMMERCIAL DRIVEWAY APPROACH
		P-18

ROADWAY DETAILS

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DESIGNER ATR

REVIEWER CWL 09/02/21

PROJECT ID 113889

SHEET 361 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:39:02 AM USER: cluzier
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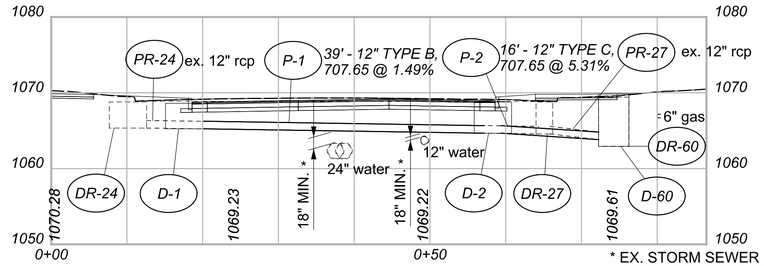
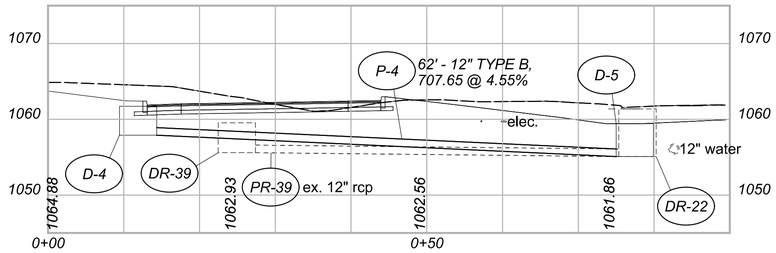


PIPE PROFILE P-1 & P-2 (LOOKING NORTH)

* EX. STORM SEWER REPLACED MATCHING EX. INVERTS AND EX. CLEARANCE



PIPE PROFILE P-4 (LOOKING NORTHEAST)

D-1
STA. 59+79.25, 26.00' RT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1068.61
12" (E) 1065.25
6" UD (N) 1065.78

D-2
STA. 59+79.59, 14.00' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1068.79
12" (W) 1064.67
12" (SE) 1064.67
6" UD (N) 1065.46

D-60
STA. 59+85.15, 28.59' LT.
℄ CONST. HARPER RD.
COS STANDARD MH ST-3
RIM ELEV. 1069.84
12" (NW) 1063.82
15" (N) 1062.94
15" (S) 1062.94

DR-24
STA. 59+79.15, 33.43' RT.
℄ CONST. HARPER RD.
EX. CB, GRATE ELEV 1068.80
EX. 12" RCP E 1065.35

DR-27
STA. 59+79.58, 21.55' LT.
℄ CONST. HARPER RD.
EX. CB, GRATE ELEV 1068.79
EX. 12" RCP W 1064.57
EX. 12" RCP SE 1064.57

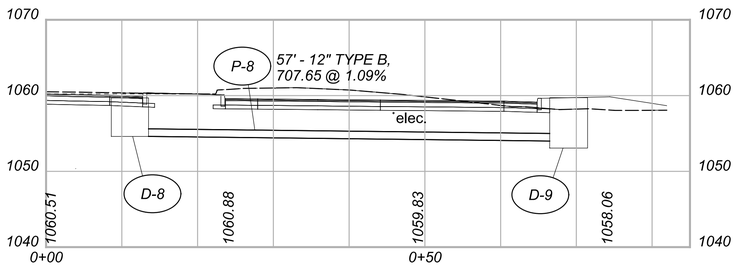
DR-60
STA. 59+85.15, 28.59' LT.
℄ CONST. HARPER RD.
EX. MH, RIM ELEV 1069.44
EX. 12" RCP NW 1063.82
EX. 15" RCP N 1062.94
EX. 15" RCP S 1062.94

D-4
STA. 344+74.73, 4.00' LT.
℄ CONST. RAMP 1A
COS STANDARD CB ST-5B
GRATE ELEV. 1061.73
12" (NE) 1057.90
12" (SE) 1057.90
6" UD (E) 1058.40
6" UD (W) 1058.40
6" UD (S) 1058.40

D-5
STA. 344+95.19, 53.88' RT.
℄ CONST. RAMP 1A
COS STANDARD CB ST-6B
GRATE ELEV. 1059.44
12" (NW) 1055.08
12" (S) 1055.08

DR-22
STA. 344+95.19, 53.88' RT.
℄ CONST. RAMP 1A
EX. CB, GRATE ELEV 1061.38
EX. 12" RCP NW 1055.08
EX. 12" RCP S 1055.08

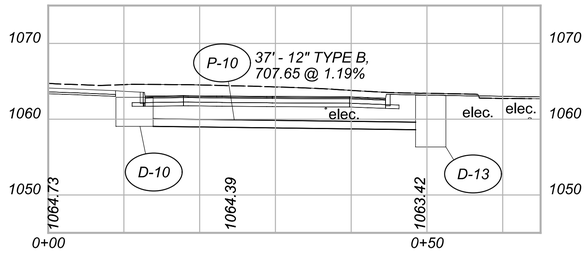
DR-39
STA. 344+70.82, 13.38' RT.
℄ CONST. RAMP 1A
EX. CB, GRATE ELEV 1059.55
EX. 12" RCP SE 1055.60



PIPE PROFILE P-8 (LOOKING SOUTH)

D-8
STA. 63+56.72, 29.46' RT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1059.70
12" (W) 1054.62
6" UD (N) 1056.37

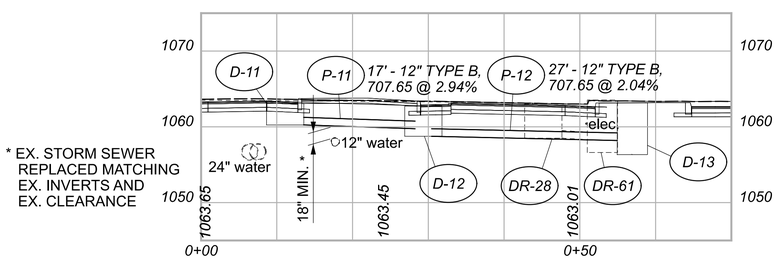
D-9
STA. 445+96.40, 22.77' RT.
℄ CONST. RAMP 1B
COS STANDARD MH ST-3
RIM ELEV. 1059.72
12" (N) 1054.00
12" (E) 1054.00
15" (NW) 1053.75
21" (S) 1053.43



PIPE PROFILE P-10 (LOOKING SOUTHEAST)

D-10
STA. 61+97.55, 58.45' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1062.88
12" (SW) 1059.05
6" UD (NW) 1059.55
6" UD (SW) 1059.55

D-13
STA. 62+31.62, 43.20' LT.
℄ CONST. HARPER RD.
COS STANDARD MH ST-3
RIM ELEV. 1063.17
12" (NW) 1058.20
12" (NE) 1058.61
15" (N) 1056.33
15" (S) 1056.33



* EX. STORM SEWER REPLACED MATCHING EX. INVERTS AND EX. CLEARANCE

PIPE PROFILE P-11 & P-12 (LOOKING NORTH)

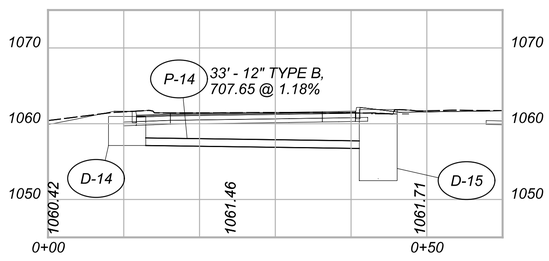
D-11
STA. 62+25.00, 0.16' RT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1063.08
12" (E) 1060.25
6" UD (N) 1060.75

D-12
STA. 62+25.00, 16.11' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1062.74
12" (W) 1059.75
12" (SE) 1058.75
6" UD (N) 1059.41

D-13
STA. 62+31.62, 43.20' LT.
℄ CONST. HARPER RD.
COS STANDARD MH ST-3
RIM ELEV. 1063.17
12" (NW) 1058.20
12" (NE) 1058.61
15" (N) 1056.33
15" (S) 1056.33

DR-28
STA. 62+23.48, 34.91' LT.
℄ CONST. HARPER RD.
EX. CB, GRATE ELEV 1063.05
EX. 12" RCP E 1058.51

DR-61
STA. 62+23.12, 41.13' LT.
℄ CONST. HARPER RD.
EX. MH, RIM ELEV 1063.54
EX. 12" RCP W 1058.29
EX. 15" RCP N 1056.62
EX. 15" RCP SE 1056.62



PIPE PROFILE P-14 (LOOKING SOUTHEAST)

D-14
STA. 645+18.47, 4.00' LT.
℄ CONST. RAMP 3A
COS STANDARD CB ST-5B
GRATE ELEV. 1060.96
12" (SW) 1057.13
6" UD (E) 1057.63
6" UD (W) 1057.63

D-15
STA. 645+05.31, 24.69' RT.
℄ CONST. RAMP 3A
MH-3, AS PER PLAN
GRATE ELEV. 1061.67
12" (NE) 1056.74
36" (N) 1052.49
36" (SW) 1052.49

CUY-422-16.20 (HARPER ROAD)

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PIPE PROFILES
P-1, P-2, P-4, P-8, P-10, P-11, P-12, P-14

DESIGN AGENCY
GPD GROUP*
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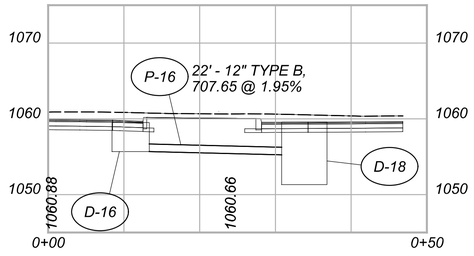
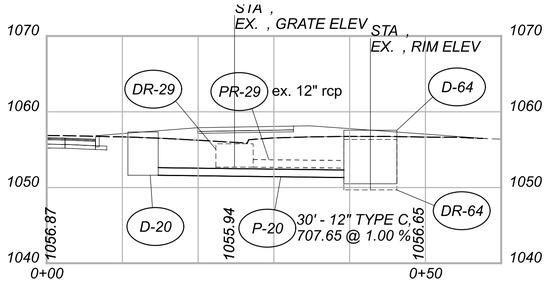
DESIGNER NRB
REVIEWER CJC 6-8-23
PROJECT ID 113889
SHEET 362 TOTAL 481



PIPE PROFILE P-16 (LOOKING NORTH)

D-16
STA. 63+53.62, 45.69' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1059.51
12" (E) 1055.68
6" UD (N) 1056.18

D-18
STA. 544+32.83, 18.31' LT.
℄ CONST. RAMP 3B
MH-3, AS PER PLAN
RIM ELEV. 1059.57
12" (W) 1055.25
42" (N) 1051.32
42" (S) 1051.32



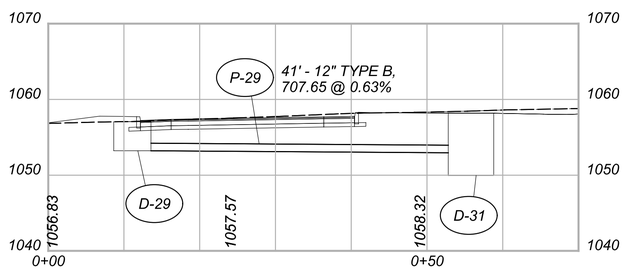
PIPE PROFILE P-20 (LOOKING NORTH)

D-20
STA. 65+45.45, 40.70' LT.
℄ CONST. HARPER RD.
COS STANDARD MH ST-3
RIM ELEV. 1057.33
12" (N) 1052.29
12" (SW) 1051.62
12" (SE) 1051.62
6" UD (W) 1052.79

D-64
STA. 65+50.06, 70.33' LT.
℄ CONST. HARPER RD.
MH-3, AS PER PLAN
RIM ELEV. 1057.57
12" (W) 1051.32
21" (E) 1051.65
42" (N) 1051.00
48" (S) 1050.50

DR-29
STA. 65+47.55, 54.23' LT.
℄ CONST. HARPER RD.
EX. CB, GRATE ELEV 1055.77
EX. 12" RCP NW 1052.69
EX. 12" RCP SW 1052.69
EX. 12" RCP SE 1052.69

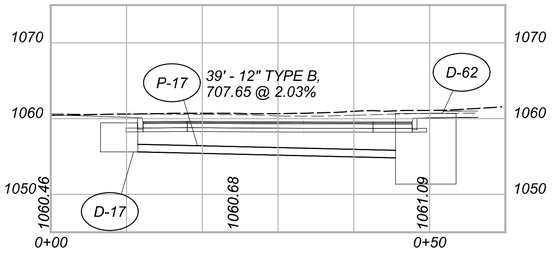
DR-64
STA. 65+50.06, 70.33' LT.
℄ CONST. HARPER RD.
EX. MH, RIM ELEV 1056.34
EX. 12" RCP W 1052.57
EX. 21" RCP E 1051.65
EX. 36" RCP N 1051.50
EX. 48" RCP S 1050.50



PIPE PROFILE P-29 (LOOKING NORTHEAST)

D-29
STA. 549+64.46, 4.00' LT.
℄ CONST. RAMP 2B
COS STANDARD CB ST-5B
GRATE ELEV. 1057.04
12" (SE) 1053.21
6" UD (E) 1053.71
6" UD (W) 1053.71

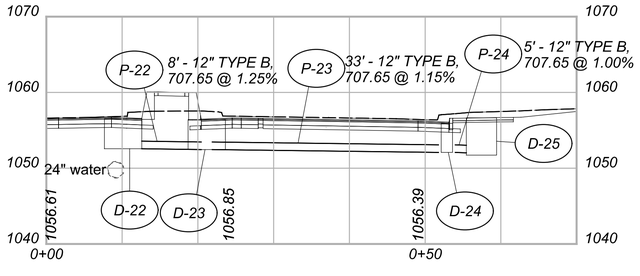
D-31
STA. 549+69.61, 39.23' RT.
℄ CONST. RAMP 2B
MH-3, AS PER PLAN
RIM ELEV. 1058.18
12" (NE) 1053.58
12" (W) 1053.58
12" (SE) 1053.58
12" (NW) 1052.95
30" (NE) 1049.95
30" (SW) 1049.95



PIPE PROFILE P-17 (LOOKING SOUTH)

D-17
STA. 544+53.17, 4.00' RT.
℄ CONST. RAMP 3B
COS STANDARD CB ST-5B
GRATE ELEV. 1059.45
12" (NW) 1055.62
6" UD (NE) 1056.12

D-62
STA. 63+24.50, 66.92' LT.
℄ CONST. HARPER RD.
MH-3, AS PER PLAN
RIM ELEV. 1060.68
12" (NE) 1056.26
12" (SE) 1054.83
15" (N) 1053.27
36" (NE) 1052.17
42" (S) 1051.36



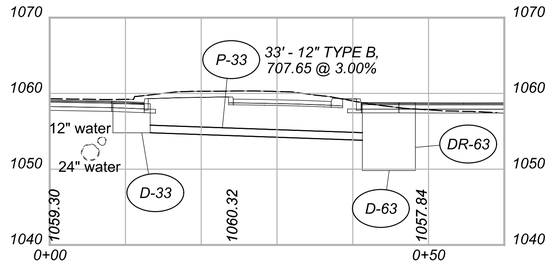
PIPE PROFILE P-22, P-23 & P-24 (LOOKING SOUTH)

D-22
STA. 66+06.81, 1.00' LT.
℄ CONST. HARPER RD.
CB-6, AS PER PLAN
GRATE ELEV. 1056.52
12" (W) 1052.56

D-23
STA. 66+06.80, 6.85' RT.
℄ CONST. HARPER RD.
CB-6, AS PER PLAN
GRATE ELEV. 1056.43
12" (E) 1052.46
12" (NW) 1052.46

D-24
STA. 66+00.00, 38.85' RT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1055.92
12" (SE) 1052.08
12" (W) 1052.08
6" UD (N) 1052.59
6" UD (S) 1052.59

D-25
STA. 66+00.02, 43.14' RT.
℄ CONST. HARPER RD.
COS STANDARD MH ST-3
RIM ELEV. 1056.64
12" (E) 1052.03
21" (N) 1051.97
24" (S) 1051.72



PIPE PROFILE P-33 (LOOKING NORTH)

D-33
STA. 69+19.68, 34.82' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1058.64
12" (E) 1054.81
6" UD (SW) 1055.31

D-63
STA. 450+59.49, 17.00' RT.
℄ CONST. RAMP 4B
MH-3, AS PER PLAN
RIM ELEV. 1058.75
12" (W) 1053.82
12" (E) 1051.58
48" (N) 1049.82
48" (S) 1049.82

DR-63
STA. 450+59.49, 17.00' RT.
℄ CONST. RAMP 4B
EX. MH, RIM ELEV 1057.09
EX. 12" RCP SE 1051.58
EX. 48" RCP N 1049.82
EX. 48" RCP S 1049.82

PIPE PROFILES

P-16, P-17, P-20, P-22, P-23, P-24, P-29, P-33

DESIGN AGENCY

GPD GROUP

DESIGNER NRB

REVIEWER CJC 6-8-23

PROJECT ID 113889

SHEET 363 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: DNC_P-16 (STA. 63+50) - Profile (Sheet) PAPERSIZE: 34x22 (in) DATE: 6/6/2023 TIME: 7:39:30 AM USER: cluzier
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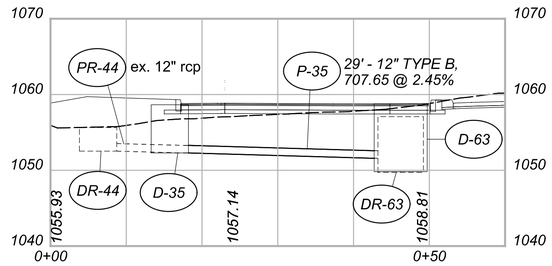


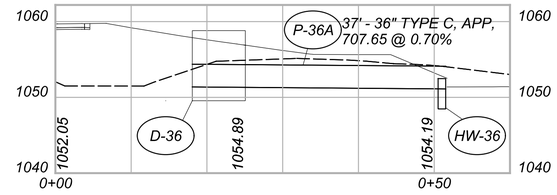
PIPE PROFILE P-35 (LOOKING SOUTH)

D-35
STA. 450+78.90, 4.00' LT.
℄ CONST. RAMP 4B
COS STANDARD CB ST-5B
GRATE ELEV. 1058.57
12" (SE) 1052.79
12" (NW) 1052.29
6" UD (SE) 1055.24

D-63
STA. 450+59.49, 17.00' RT.
℄ CONST. RAMP 4B
MH-3, AS PER PLAN
RIM ELEV. 1058.75
12" (W) 1053.82
12" (E) 1051.58
48" (N) 1049.82
48" (S) 1049.82

DR-44
STA. 450+86.69, 10.33' LT.
℄ CONST. RAMP 4B
EX. CB, GRATE ELEV 1055.64
EX. 12" RCP NW 1052.53

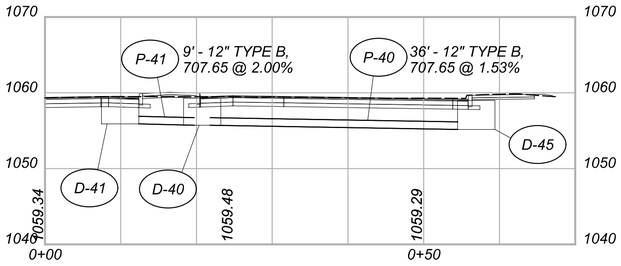
DR-63
STA. 450+59.49, 17.00' RT.
℄ CONST. RAMP 4B
EX. MH, RIM ELEV 1057.09
EX. 12" RCP SE 1051.58
EX. 48" RCP N 1049.82
EX. 48" RCP S 1049.82



PIPE PROFILE P-36A (LOOKING NORTH)

D-36
STA. 350+85.70, 26.40' RT.
℄ CONST. RAMP 4A
MH-3, AS PER PLAN
RIM ELEV. 1058.80
12" (W) 1054.14
36" (E) 1051.11
48" (N) 1049.55
48" (SW) 1049.55

HW-36
STA. 351+37.20, 43.16' RT.
℄ CONST. RAMP 4A
HW-2.1/2.2
36" (W) 1051.37

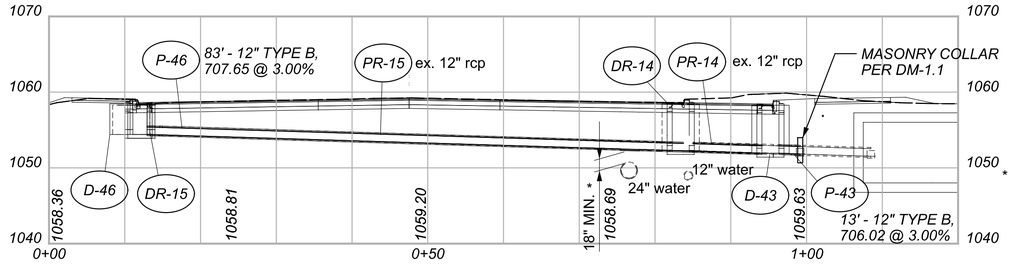


PIPE PROFILE P-40 & P-41 (LOOKING SOUTH)

D-40
STA. 71+91.56, 1.12' RT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1059.30
12" (E) 1055.72
12" (NW) 1055.72
6" UD (N) 1055.97
6" UD (S) 1055.97

D-41
STA. 71+91.56, 7.00' LT.
℄ CONST. HARPER RD
COS STANDARD CB ST-5B
GRATE ELEV. 1059.23
12" (W) 1055.90
6" UD (N) 1056.40
6" UD (S) 1056.40

D-45
STA. 71+85.70, 36.00' RT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1059.00
12" (SE) 1055.17
12" (S) 1055.17
6" UD (N) 1055.67



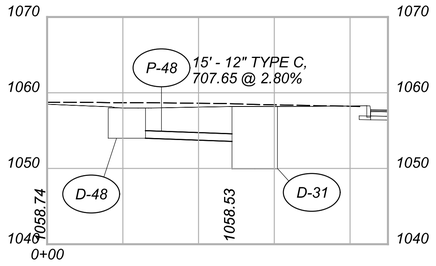
PIPE PROFILE P-43 & P-46 (LOOKING NORTH)

D-43
STA. 72+94.77, 48.00' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1058.27
12" (N) 1052.42
12" (W) 1051.92
12" (S) 1052.42
12" (E) 1051.92
6" UD (N) 1054.94
6" UD (S) 1054.94

D-46
STA. 72+94.77, 36.00' RT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1058.46
12" (N) 1054.41
12" (E) 1054.41
6" UD (N) 1056.13

DR-14
STA. 72+94.55, 36.14' LT.
℄ CONST. HARPER RD.
EX. CB, GRATE ELEV 1058.43
EX. 12" RCP NW 1052.28
EX. 12" RCP SE 1052.28

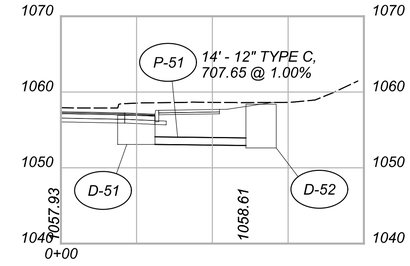
DR-15
STA. 72+94.75, 35.63' RT.
℄ CONST. HARPER RD.
EX. CB, GRATE ELEV 1058.28
EX. 12" RCP SE 1054.41



PIPE PROFILE P-48 (LOOKING SOUTHWEST)

D-31
STA. 549+69.61, 39.23' RT.
℄ CONST. RAMP 2B
MH-3, AS PER PLAN
RIM ELEV. 1058.18
12" (NE) 1053.58
12" (W) 1053.58
12" (SE) 1053.58
12" (NW) 1052.95
30" (NE) 1049.95
30" (SW) 1049.95

D-48
STA. 649+97.43, 52.03' RT.
℄ CONST. RAMP 2A
COS STANDARD CB ST-6B
GRATE ELEV. 1057.99
12" (NW) 1054.00



PIPE PROFILE P-51 (LOOKING SOUTH)

D-51
STA. 64+75.00, 42.94' RT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1056.91
12" (W) 1053.08
6" UD (N) 1053.58

D-52
STA. 64+77.23, 56.77' RT.
℄ CONST. HARPER RD.
COS STANDARD MH ST-3
RIM ELEV. 1058.39
12" (E) 1052.94
21" (N) 1052.62
21" (S) 1052.62

PIPE PROFILES
P-35, P-36A, P-40, P-41, P-43, P-46, P-48, P-51

DESIGN AGENCY
GPD GROUP
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DESIGNER NRB
REVIEWER CJC 6-8-23
PROJECT ID 113889
SHEET 364 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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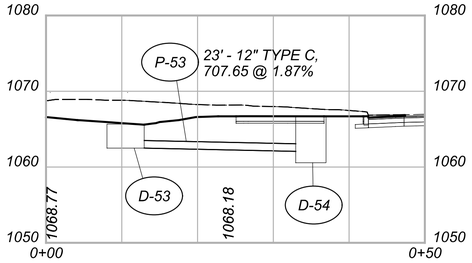
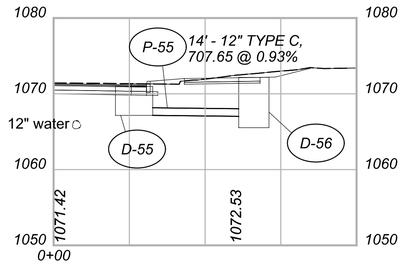


PIPE PROFILE P-53 (LOOKING SOUTH)

D-53
STA. 60+81.75, 53.70' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-6B
GRATE ELEV. 1065.67
12" (W) 1062.50

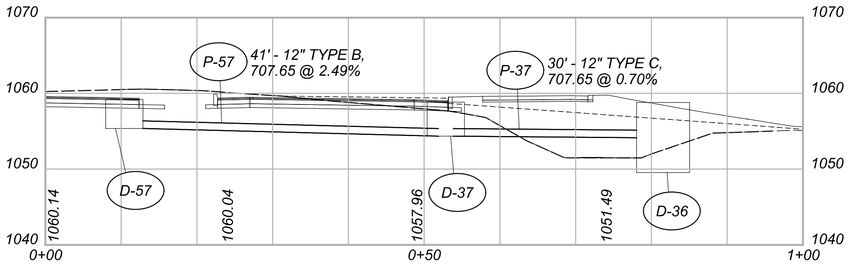
D-54
STA. 60+74.64, 31.83' LT.
℄ CONST. HARPER RD.
COS STANDARD MH ST-3
RIM ELEV. 1066.70
12" (E) 1062.07
15" (N) 1060.57
15" (S) 1060.57



PIPE PROFILE P-55 (LOOKING NORTH)

D-55
STA. 58+85.00, 14.00' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1070.99
12" (E) 1067.16
6" UD (N) 1067.66

D-56
STA. 58+85.00, 28.17' LT.
℄ CONST. HARPER RD.
COS STANDARD MH ST-3
GRATE ELEV. 1072.16
12" (W) 1067.03
15" (N) 1065.53
15" (S) 1065.53

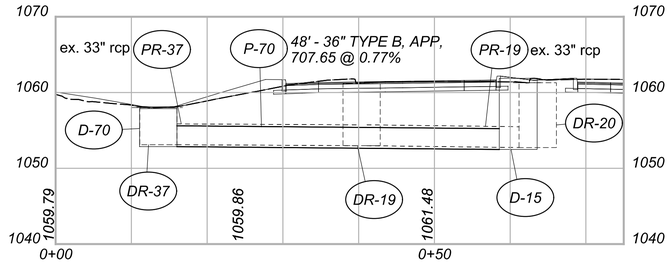


PIPE PROFILE P-57 & P-37 (LOOKING NORTHEAST/NORTH)

D-36
STA. 350+85.70, 26.40' RT.
℄ CONST. RAMP 4A
MH-3, AS PER PLAN
RIM ELEV. 1058.80
12" (W) 1054.14
36" (E) 1051.11
48" (N) 1049.55
48" (SW) 1049.55

D-37
STA. 350+64.89, 4.00' RT.
℄ CONST. RAMP 4A
COS STANDARD CB ST-5B
GRATE ELEV. 1058.85
12" (NW) 1054.35
12" (E) 1054.35
6" UD (NE) 1055.51
6" UD (SW) 1055.51

D-57
STA. 70+35.37, 47.57' LT.
℄ CONST. HARPER RD.
COS STANDARD CB ST-5B
GRATE ELEV. 1059.20
12" SE 1055.37
6" UD (N) 1055.87



PIPE PROFILE P-70 (LOOKING EAST)

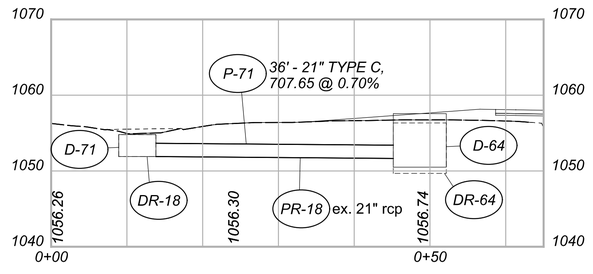
D-15
STA. 645+05.31, 24.69' RT.
℄ CONST. RAMP 3A
MH-3, AS PER PLAN
GRATE ELEV. 1061.67
12" (NE) 1056.74
36" (N) 1052.49
36" (SW) 1052.49

D-70
STA. 644+87.77, 19.62' LT.
℄ CONST. RAMP 3A
CB-4, GRATE ELEV. 1057.87
36" (S) 1052.86

DR-19
STA. 644+98.23, 4.78' RT.
℄ CONST. RAMP 3A
EX. CB, GRATE ELEV 1061.18
EX. 33" RCP N 1052.98
EX. 33" RCP S 1052.98

DR-20
STA. 645+05.75, 26.14' RT.
℄ CONST. RAMP 3A
EX. CB, GRATE ELEV 1061.29
EX. 12" STM E 1053.74
EX. 33" RCP W 1052.74
EX. 33" RCP W 1052.74

DR-37
STA. 644+87.77, 19.62' LT.
℄ CONST. RAMP 3A
EX. CB, GRATE ELEV 1058.01
EX. 33" RCP S 1053.11



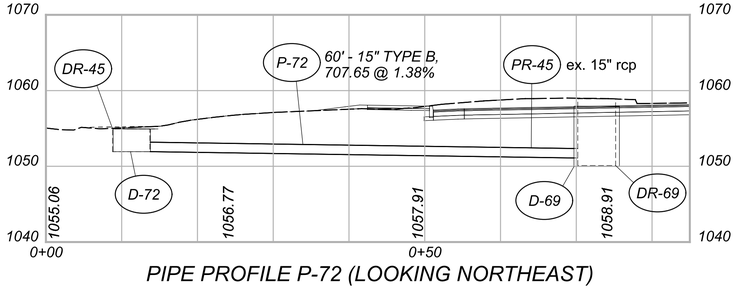
PIPE PROFILE P-71 (LOOKING SOUTH)

D-64
STA. 65+50.06, 70.33' LT.
℄ CONST. HARPER RD.
MH-3, AS PER PLAN
RIM ELEV. 1057.57
12" (W) 1051.32
21" (E) 1051.65
42" (N) 1051.00
48" (S) 1050.50

D-71
STA. 65+54.12, 106.62' LT.
℄ CONST. HARPER RD.
CB-5, GRATE ELEV. 1054.80
21" (W) 1051.90

DR-18
STA. 65+52.43, 104.55' LT.
℄ CONST. HARPER RD.
EX. CB, GRATE ELEV. 1054.80
EX. 21" RCP W 1051.90

DR-64
STA. 65+50.06, 70.33' LT.
℄ CONST. HARPER RD.
EX. MH, RIM ELEV 1056.34
EX. 12" RCP W 1052.57
EX. 21" RCP E 1051.65
EX. 36" RCP N 1051.50
EX. 48" RCP S 1050.50



PIPE PROFILE P-72 (LOOKING NORTHEAST)

D-69
STA. 68+26.49, 40.63' RT.
℄ CONST. HARPER RD.
MH-3, AS PER PLAN
RIM ELEV 1057.94
24" (N) 1050.61
15" (NW) 1051.11
30" (SW) 1050.11

D-72
STA. 550+02.32, 41.23' LT.
℄ CONST. RAMP 2B
CB-5, GRATE ELEV. 1054.94
12" (SE) 1051.94

DR-45
STA. 550+02.32, 41.23' LT.
℄ CONST. RAMP 2B.
EX. CB, GRATE ELEV. 1054.94
EX. 15" RCP SE 1051.94

DR-69
STA. 68+26.49, 40.63' RT.
℄ CONST. HARPER RD.
EX. MH, RIM ELEV 1058.91
EX. 15" RCP NW 1051.11
EX. 21" RCP N 1050.86
EX. 30" RCP SW 1050.11

PIPE PROFILES
P-53, P-55, P-57, P-37, P-70, P-71, P-72

DESIGN AGENCY
GPD GROUP
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DESIGNER
NRB
REVIEWER
CJC 6-8-23
PROJECT ID
113889
SHEET 365 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: DNC_P-53 (STA. 60+80) - Profile (Sheet) PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:39:39 AM USER: cluzier
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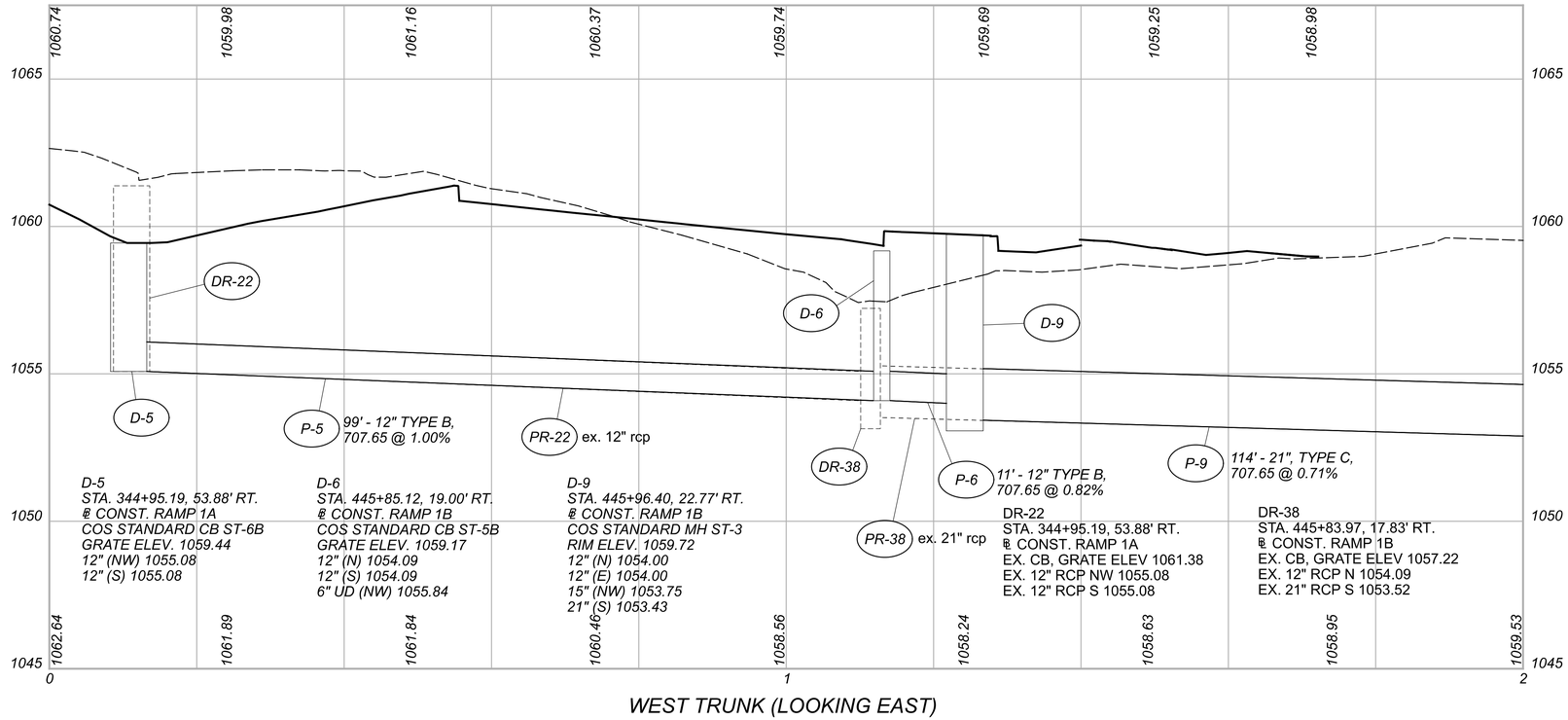
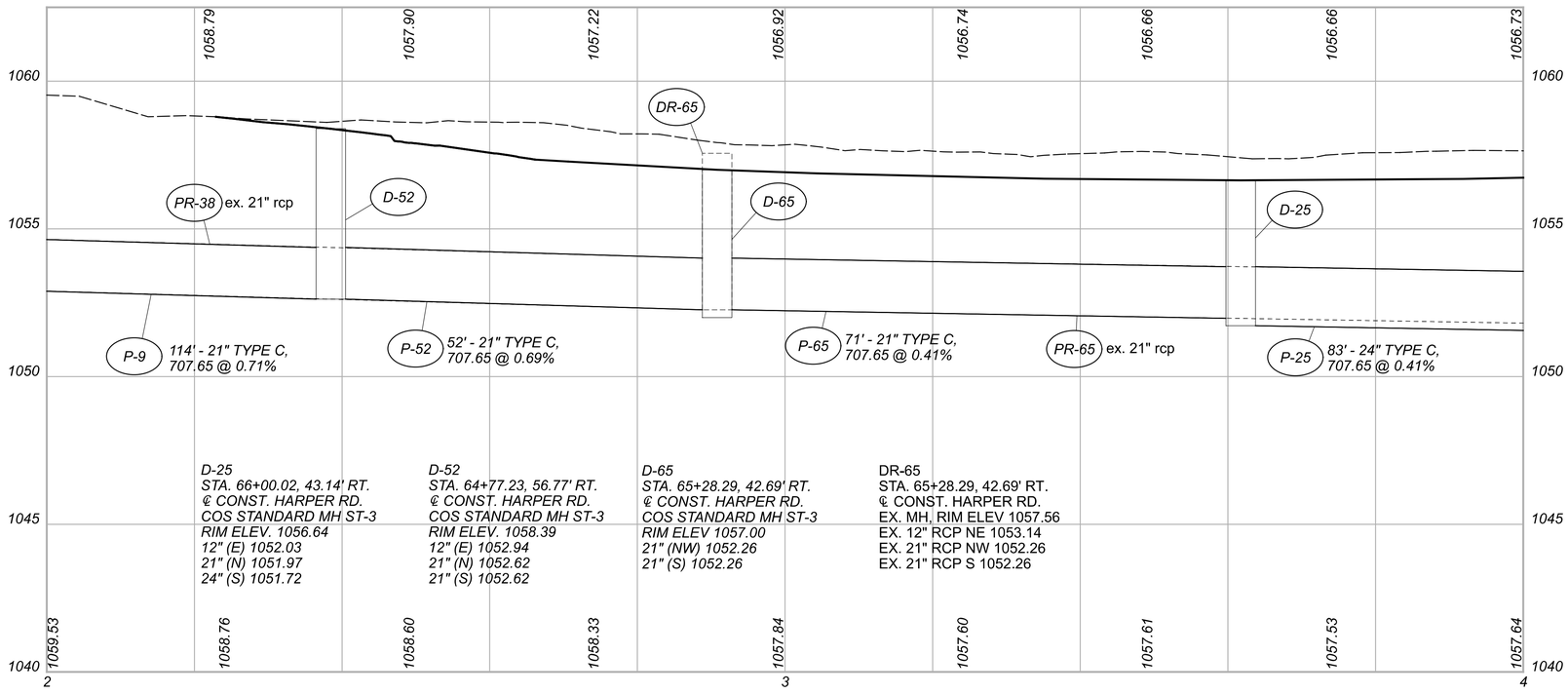


WEST TRUNK (LOOKING EAST)



WEST TRUNK (LOOKING EAST)

PIPE PROFILES - WEST TRUNK
P-5, P-6, P-9, P-52, P-65, P-25

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REVIEWER
CJC 6-8-23

PROJECT ID
113889

SHEET 366 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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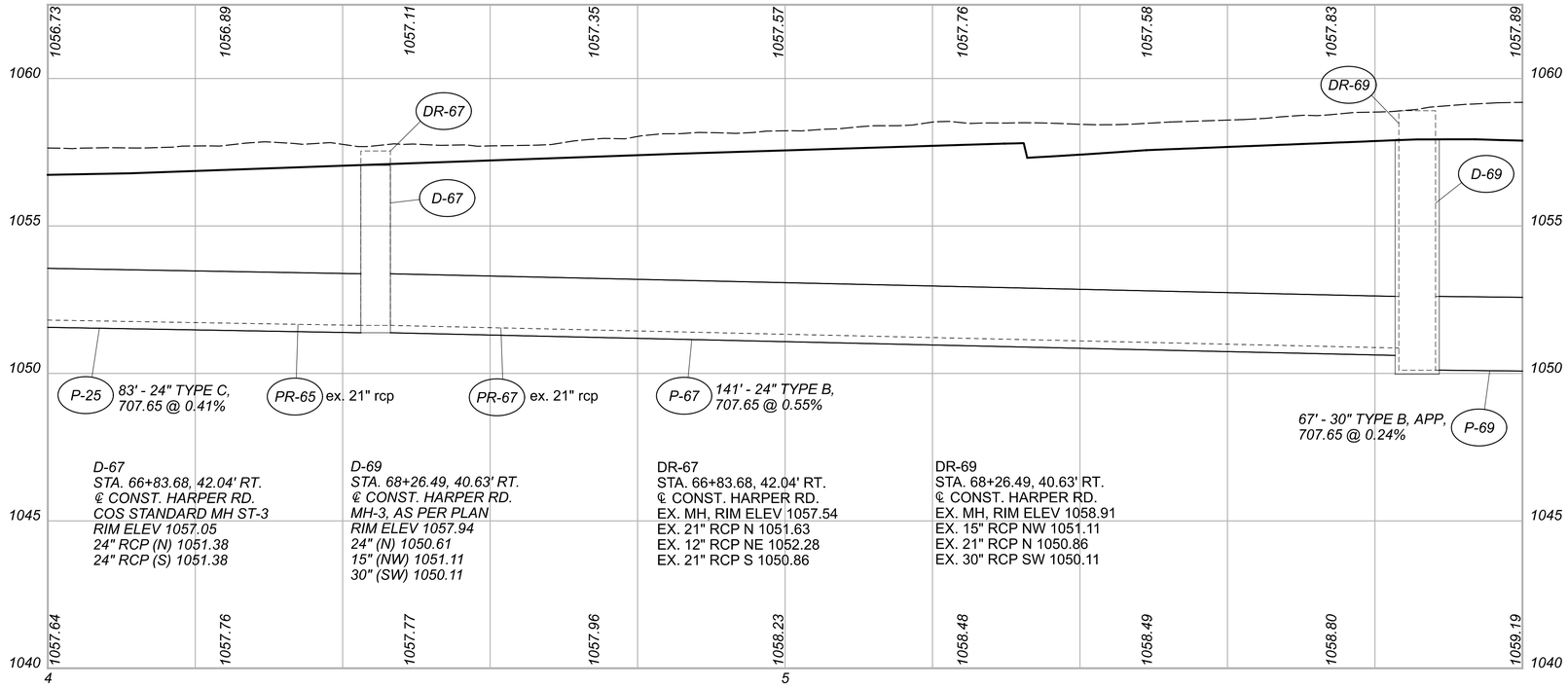
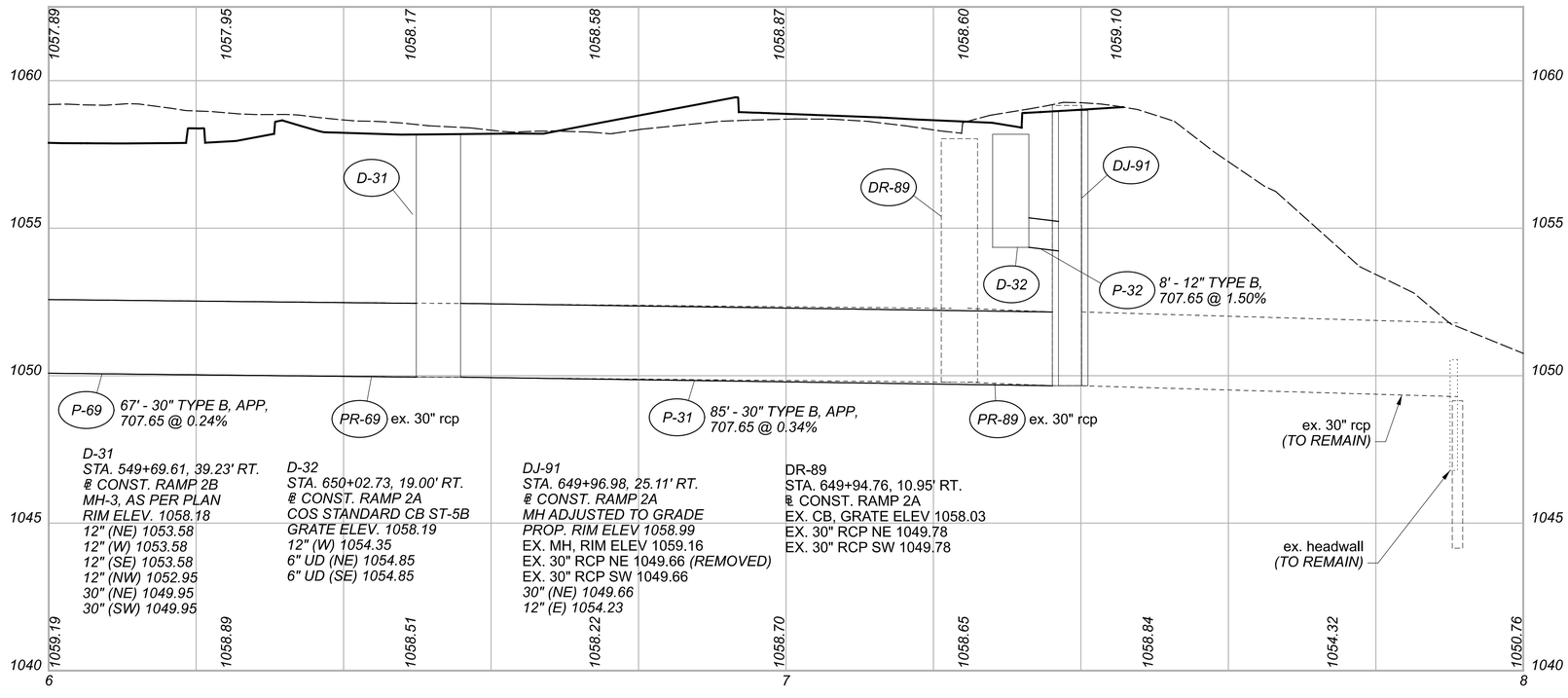


WEST TRUNK (LOOKING SOUTHEAST)



WEST TRUNK (LOOKING SOUTHEAST)

PIPE PROFILES - WEST TRUNK
P-25, P-67, P-69, P-31

CUY-422-16.20 (HARPER ROAD)

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DESIGNER	NRB
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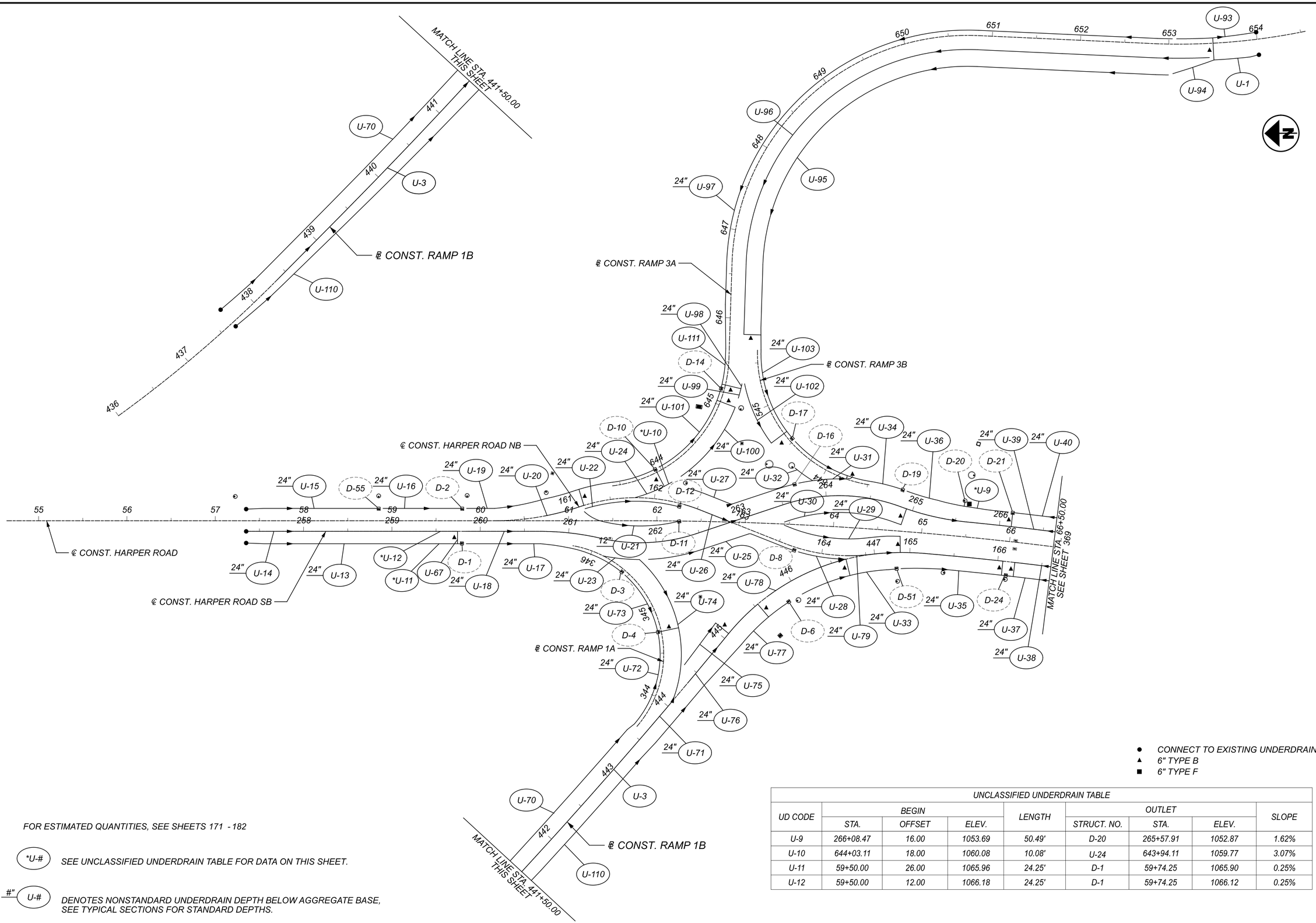
PROJECT ID	113889
SHEET	367
TOTAL	481



- ● CONNECT TO EXISTING UNDERDRAIN
- ▲ 6" TYPE B
- ■ 6" TYPE F

FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182

*U-# SEE UNCLASSIFIED UNDERDRAIN TABLE FOR DATA ON THIS SHEET.

#" U-# DENOTES NONSTANDARD UNDERDRAIN DEPTH BELOW AGGREGATE BASE, SEE TYPICAL SECTIONS FOR STANDARD DEPTHS.

UNCLASSIFIED UNDERDRAIN TABLE

UD CODE	BEGIN			LENGTH	OUTLET			SLOPE
	STA.	OFFSET	ELEV.		STRUCT. NO.	STA.	ELEV.	
U-9	266+08.47	16.00	1053.69	50.49'	D-20	265+57.91	1052.87	1.62%
U-10	644+03.11	18.00	1060.08	10.08'	U-24	643+94.11	1059.77	3.07%
U-11	59+50.00	26.00	1065.96	24.25'	D-1	59+74.25	1065.90	0.25%
U-12	59+50.00	12.00	1066.18	24.25'	D-1	59+74.25	1066.12	0.25%

UNDERDRAIN DETAILS

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DESIGNER ATR
REVIEWER CJC 09/02/21
PROJECT ID 113889
SHEET 368 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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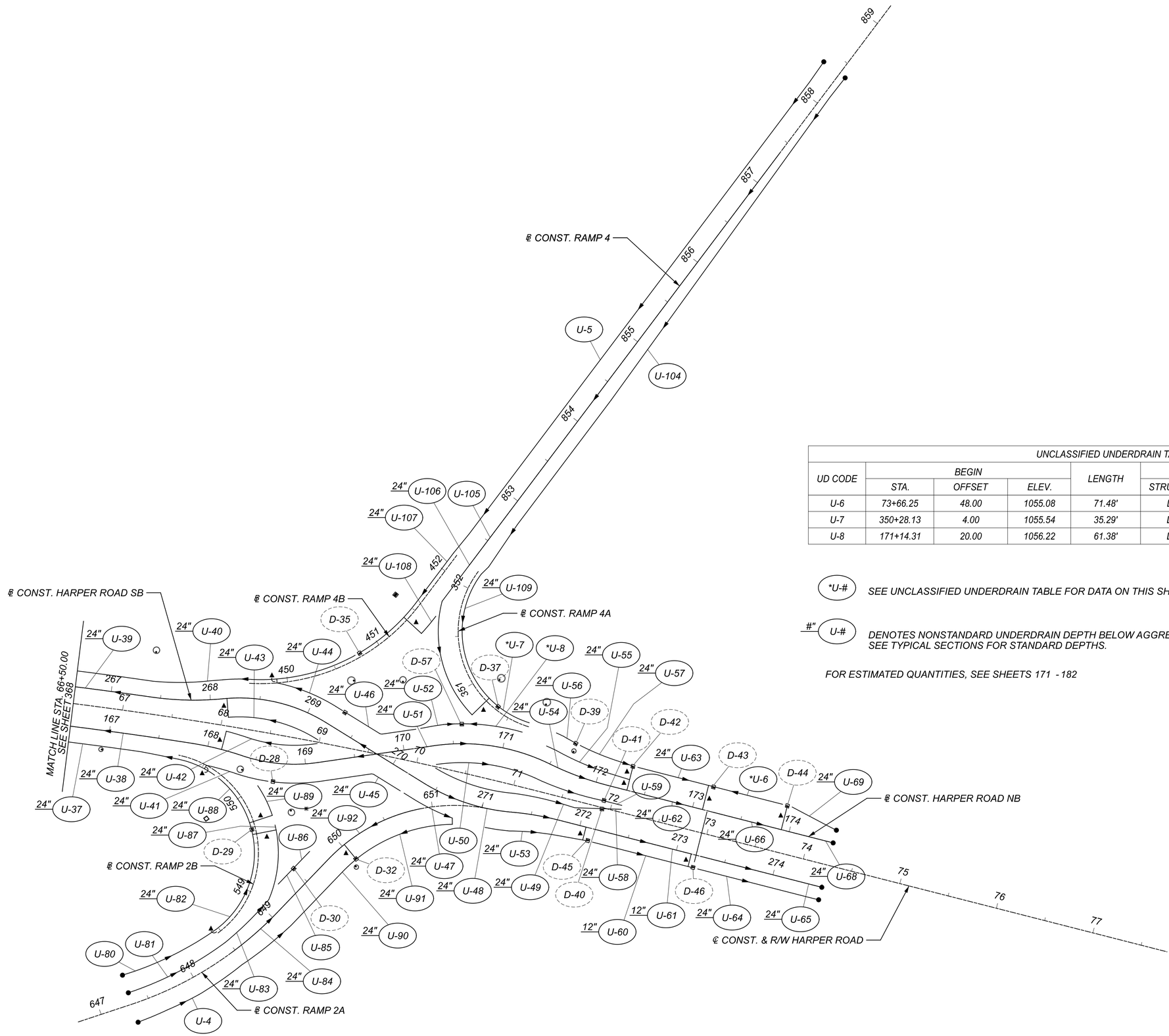

UNCLASSIFIED UNDERDRAIN TABLE								
UD CODE	BEGIN			LENGTH	OUTLET			SLOPE
	STA.	OFFSET	ELEV.		STRUCT. NO.	STA.	ELEV.	
U-6	73+66.25	48.00	1055.08	71.48'	D-43	72+94.77	1054.94	0.20%
U-7	350+28.13	4.00	1055.54	35.29'	D-37	170+58.51	1055.51	0.09%
U-8	171+14.31	20.00	1056.22	61.38'	D-57	70+35.60	1055.91	0.51%

*U-# SEE UNCLASSIFIED UNDERDRAIN TABLE FOR DATA ON THIS SHEET.

#" U-# DENOTES NONSTANDARD UNDERDRAIN DEPTH BELOW AGGREGATE BASE, SEE TYPICAL SECTIONS FOR STANDARD DEPTHS.

FOR ESTIMATED QUANTITIES, SEE SHEETS 171 - 182

- ● CONNECT TO EXISTING UNDERDRAIN
- ▲ 6" TYPE B
- ■ 6" TYPE F

HORIZONTAL SCALE IN FEET
0 25 50 100

UNDERDRAIN DETAILS

CUY-422-16.20 (HARPER ROAD)

MODEL: Design PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:39:53 AM USER: dluzier
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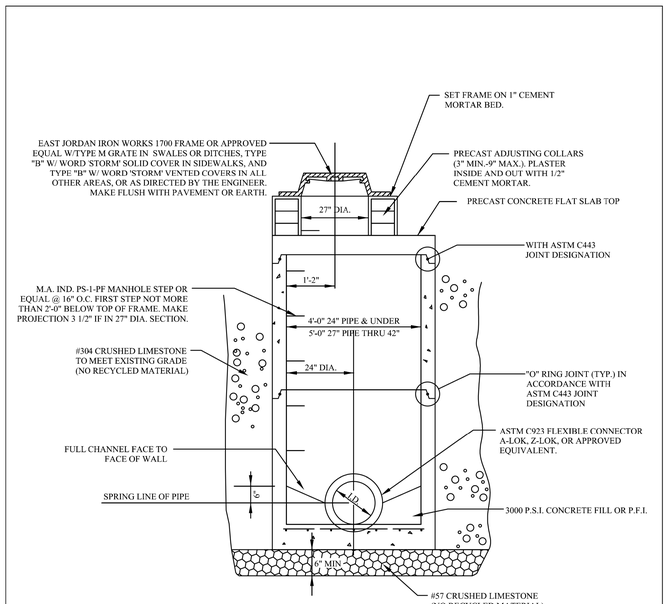
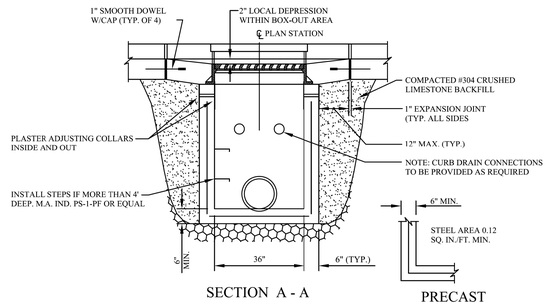
DESIGNER ATR
REVIEWER CJC 09/02/21
PROJECT ID 113889
SHEET 369 TOTAL 481



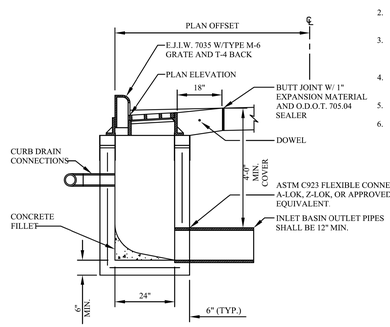
ALL PRECAST CONCRETE SHALL BE REINFORCED IN ACCORDANCE WITH THE LATEST REVISIONS OF A.S.T.M. DESIGNATION C478; ALL PRECAST CONCRETE SECTIONS SHALL BE MANUFACTURED AND FURNISHED AS SOLID SECTION WITHOUT LIFT HOLES OF ANY KIND.

CITY OF SOLON ENGINEERING DEPARTMENT	STANDARD DETAIL	STANDARD TYPE "C" ECCENTRIC PRECAST MANHOLE (STORM ONLY) (SHALLOW)
		ST-3



SECTION A - A

PRECAST

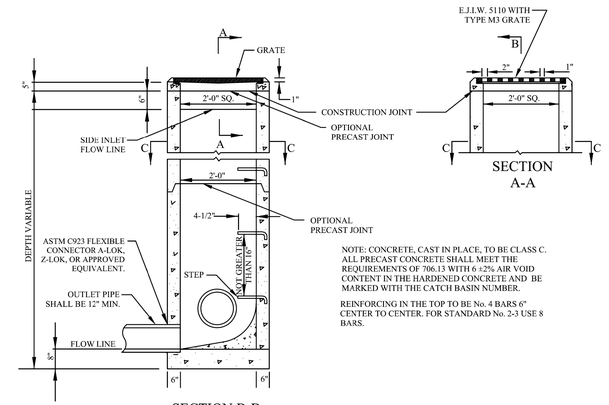


SECTION B - B

GENERAL NOTES:

1. ALL WORK TO CONFORM TO O.D.O.T. ITEM 604 UNLESS OTHERWISE SPECIFIED.
2. ALL BRICK SHALL BE RED SHALE BRICK CONFORMING TO O.D.O.T. ITEM 704.01 (A.S.T.M. C32), UNLESS APPROVED IN WRITING BY THE ENGINEER.
3. IF PRECAST UNITS ARE USED, THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL. PRECAST UNITS SHALL CONFORM TO O.D.O.T. ITEM 706.13.
4. THE ENTIRE AREA AROUND THE BASIN SHALL BE BACKFILLED WITH O.D.O.T. ITEM #304 CRUSHED LIMESTONE, MECHANICALLY COMPACTED IN 12" LIFTS.
5. PRECAST UNITS SHALL BE SET ON 6" - #57 CRUSHED LIMESTONE.
6. ALL SEWER PIPES SHALL HAVE BOOTED CONNECTIONS CAST INTO STRUCTURE.

CITY OF SOLON ENGINEERING DEPARTMENT	STANDARD DETAIL	VERTICAL CURB INLET
		ST-5B

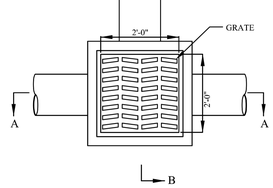


SECTION B-B

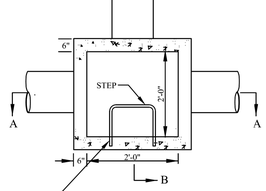
SECTION A-A

NOTE: CONCRETE, CAST IN PLACE, TO BE CLASS C. ALL PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13 WITH 6 ±2% AIR VOID CONTENT IN THE HARDENED CONCRETE AND BE MARKED WITH THE CATCH BASIN NUMBER.

REINFORCING IN THE TOP TO BE No. 4 BARS 6" CENTER TO CENTER. FOR STANDARD No. 2-3 USE 8 BARS.



PLAN



SECTION C-C

M.A. IND PS-1-PF OR EQUAL STEP

CITY OF SOLON ENGINEERING DEPARTMENT	STANDARD DETAIL	2-2B CATCH BASIN
		ST-6B

DRAINAGE DETAILS

DESIGN AGENCY

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DESIGNER ATR

REVIEWER CWL 09/02/21

PROJECT ID 113889

SHEET 370 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:39:56 AM USER: cluzier
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CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT

DEVELOPERS, ENGINEERS, AND CONTRACTORS ARE TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM/CONSTRUCTION/

GENERAL:

1. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY CLEVELAND WATER, SHALL BE AT THE EXPENSE OF THE PROJECT UNLESS OTHERWISE AGREED TO BY THE COMMISIONER OF THE CLEVELAND DIVISION OF WATER.

2. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF WORK/CHARGE LETTER, STRIP MAPS, AS BUILT DRAWINGS, AND GIS ARE TAKEN FROM EXISTING AVAILABLE RECORDS, AND THEIR ACCURACY IS NOT GUARANTEED.

3. CALL THE INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING AT LEAST 1 WEEK PRIOR TO STARTING CONSTRUCTION. THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY CONTRACTORS OR THEIR EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF THE CLEVELAND DIVISION OF WATER INSPECTOR. SEE ALSO NOTE 20 REGARDING ADDITIONAL ADVANCE NOTIFICATION REQUIRED IN AREAS SUSPECTED TO CONTAIN LEAD SERVICE CONNECTION (ALL AREAS INSTALLED PRIOR TO 1954).

4. PRIOR TO REQUESTING CHLORINATION, THE CONTRACTOR SHALL SUPPLY THE CLEVELAND WATER INSPECTOR WITH REDLINE DRAWINGS SHOWING CHANGES MADE FROM THE APPROVED DESIGN DRAWINGS AND ACTUAL MEASUREMENTS. CHLORINATION SHALL NOT OCCUR BEFORE THESE DRAWINGS ARE SUBMITTED.

5. FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL PROVIDE AND INSTALL, AT EACH OF THE CHLORINATION PIT LOCATIONS SHOWN AND AT OTHER LOCATIONS DETERMINED BY CLEVELAND WATER. FLUSHING / SAMPLING TAP SIZES ARE TO BE DETERMINED CLEVLEAND WATER. CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE AND ARE TO MEET OSHA STANDARDS. NO CUSTOMER TAPS SHALL BE INSTALLED PRIOR TO CHLORINATION.

6. A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CHLORINATION OF THE WATER MAIN INSTALLATION SHALL BE PROVIDED BY THE BUILDER/DEVELOPER AND/OR CONTRACTOR FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR, INCLUDING TAPS IF PERFORMED. SHOULD ANY LEAKS OCCUR AND REPAIRS BE REQUIRED DUE TO DEFECTIVE MATERIAL OR POOR WORKMANSHIP. A LETTER INDICATING THE COMMENCEMENT DATE AND END DATE OF THE WARRANTY SHALL BE INCLUDE WITH THE AS-BUILT SUBMISSION IN NOTE 12.

7. USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND WATER SERVICE CONNECTIONS ARE EXPOSED. (SEE CLEVELAND WATER STANDARD DETAIL STD-001)

8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT CLEVELAND WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH CLEVELAND WATER'S STANDARDS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONSTRUCTING OR CONNECTING THE NEW WATER MAIN. THIS SHALL INCLUDE LEADED JOINTS IN EXISTING FITTINGS WHICH MAY REQUIRE REPLACEMENT FITTINGS AT THE DISCRESION OF THE INSPECTOR IF IT IS DETERMINED THEY WERE DISTURBED. ALL REPAIRS TO DAMAGED EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE PROJECT' EXPENSE, TO THE SATISFACTION OF CLEVELAND WATER.

10. ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE CLEVELAND WATER INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI. THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO (2) HOURS WITH THE PRESSURE BEING MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE. SHOULD THE PRESSURE TEST FAIL THE CONTRACTOR SHALL FIND AND CORRECT THE DEFICIENCY(IES) TO THE SATISFACTION OF CLEVELAND WATER AND REPEAT THE TWO (2) HOUR PRESSURE TEST.

11. ALL BURIED WATER MAINS, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH V-BIO® ENHANCED POLYETHYLENE ENCASEMENT INSTALLED IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANSI/AWWA C-105/A21.5 MODIFIED METHOD "A".

12. THE PROJECT'S PROFESSIONAL ENGINEER OR A DESIGNATED PROFESSIONAL SURVEYOR SHALL OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CLEVELAND WATER INSPECTOR WITH AS-BUILT DRAWINGS MEETING CLEVELAND WATER STANDARDS WITHIN 30 DAYS OF THE WATER MAIN GOING INTO SERVICE AND ALL TAPS/RETAPS BEING MADE. ONE HARD COPY AND ONE PDF COPY SHALL BE PROVIDED. DRAWINGS SHALL BE SIGNED, DATED, AND STAMPED WITH THE ENGINEER OR SURVEYOR'S SEAL. REDLINE DRAWINGS ARE NOT SUFFICIENT. CLEVELAND WATER RESERVES THE RIGHT TO WITHHOLD PAYMENT AND/OR APPROVAL OF FUTURE WORK IF AS-BUILTS ARE NOT SUBMITTED.

WATER MAINS:

13. ALL PIPE, UNLESS OTHERWISE APPROVED BY CLEVELAND WATER, SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET AND INSTALLED AS PER THE MOST CURRENT REVISION OF AWWA C600.

14. ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED OR FUSION BONDED EPOXY COATED. ALL FITTINGS AND PIPE CONNECTED TO

CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT

FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C-110/A21.10 AND ANSI/AWWA C-111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C-153/A21.53. EXCEPT FOR ANCHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES WHEN BY CLEVELAND WATER, ALL FITTINGS ARE TO HAVE BELL ENDS.

15. ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING.

16. WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE AN APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.

17. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT PLUGS AS PER THE "PREVENTITIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED. THE STATIONING SHALL BE SHOWN BY THE USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE END.

PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CLEVELAND WATER INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. PHOTOS ARE TO INCLUDE STATIONING MARKERS. AS-BUILTS SHALL BE DEEMED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

HYDRANTS:

18. IN ALL HYDRANT INSTALLATIONS THE CONTRACTOR SHALL FACE ALL HYDRANT'S 4" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. ONLY CLEVELAND WATER APPROVED HYDRANT MODELS SHALL BE INSTALLED. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS. ALL HYDRANTS SHALL BE FACTORY EQUIPPED WITH THE APPROPRIATE HYDRANT NOZZLE.

HYDRANT BRANCHES SHALL BE FULLY RESTRAINED AND INSTALLED PER THE APPROPRIATE HYDRANT CLEVELAND WATER HYDRANT DETAIL. HYDRANT BRANCH VALVES SHALL BE PLACED DIRECTLY AFTER THE HYDRANT TEE UNLESS OTHERWISE APPROVED BY THE INSPECTOR IN WRITING.

VALVES:

19. ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515. VALVE OPERATING NUTS SHALL BE TAPERED (1 7/8" TO 2" FROM TOP TO BOTTOM) AND 2" DEEP. VALVES MORE THAN 10 YEARS OLD AT TIE IN POINTS TO EXISTING MAINS SHALL BE REPLACED AT THE PROJECT'S EXPENSE UNLESS OTHERWISE DIRECTED.

LEAD SERVICE CONNECTIONS:

20. LEAD SERVICES: A MINIMUM OF 45 DAYS BEFORE THE PRECONSTRUCTION MEETING, CWD SHALL PROVIDE A NOTICE TO ALL AFFECTED CUSTOMERS THAT THEIR WATER SERVICE LINE WILL BE DISTURBED. A MINIMUM OF 75 DAYS BEFORE THE PRECONSTRUCTION MEETING, THE CONTRACTOR OR ENGINEER SHALL PROVIDE CWD (AND THE LOCAL MUNICIPALITY OF OUTSIDE THE CITY OF CLEVELAND) A LIST OF ALL CUSTOMER ADDRESSES THAT WILL BE AFFECTED BY THE WATER MAIN REPLACEMENT PROJECT. FAILURE TO PROVIDE A LIST OF CUSTOMER ADDRESSES IN A TIMELY MANNER MAY RESULT IN PROJECT DELAYS.

ANY CITY-OWNED LEAD SERVICE LINE ENCOUNTERED SHALL BE REPLACED WITH TYPE K COPPER. THE REPLACEMENT SERVICE LINE SHALL BE SIZE-ON-SIZE WITH A 1-INCH MINIMUM DIAMETER. IF A CUSTOMER-OWNED LEAD SERVICE LINE IS ENCOUNTERED, THE CONTRACTOR SHALL LEAVE A CWD-SUPPLIED CUSTOMER NOTIFICATION DOOR HANGER ON ALL ACCESSIBLE POINTS OF ENTRY TO THE HOME AND IMMEDIATELY NOTIFY THE CWD INSPECTOR. IF THE CWD INSPECTOR IS NOT AVAILABLE, CALL PAYTON HALL AT (216) 664-2444, EXT. 73000 OR (216) 971-2721. CUSTOMERS WITH A CUSTOMER-OWNED LEAD SERVICE LINE SHALL NOT BE RECONNECTED TO THE NEW WATER MAIN WITHOUT EXPRESS WRITTEN APPROVAL FROM PAYTON HALL, OR HIS APPROVED REPRESENTATIVE AT CWD.

AS PART OF THIS CONTRACT, THE CONTRACTOR SHALL OFFER EACH CUSTOMER TO REPLACE LEAD SERVICES FROM THE CORPORATION STOP TO THE INLET STOP & WASTE VALVE INSIDE THE CUSTOMER'S HOME. IF THE REPLACEMENT IS NOT COVERED UNDER THE BID ITEMS, THE CONTRACTOR SHALL PROVIDE CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND) WITH A CHANGE ORDER AND COST ESTIMATES FOR THE CUSTOMER-OWNED LEAD SERVICE LINE REPLACEMENT. UPON APPROVAL FROM CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND), THE CONTRACTOR SHALL PERFORM THE REPLACEMENT OF THE CUSTOMER-OWNED LEAD SERVICE LINE. AS STATED ABOVE, CUSTOMERS WITH CUSTOMER-OWNED LEAD SERVICE LINES SHALL NOT BE RECONNECTED TO THE NEW WATER MAIN WITHOUT EXPRESS WRITTEN APPROVAL FROM PAYTON HALL, OR HIS APPROVED REPRESENTATIVE AT CWD.

IN THE EVENT THAT A CWD WAIVER IS GRANTED SUCH THAT A CUSTOMER-OWNED LEAD SERVICE LINE IS NOT REPLACED, CWD SHALL SUPPLY THE CONTRACTOR WITH LEAD FILTERS AND PITCHERS THAT THE CONTRACTOR SHALL DISTRIBUTE TO EACH RESIDENCE WITHIN THE PROJECT AREA, INCLUDING TO ALL UNITS OF MULTI-UNIT HOUSING BUILDINGS. THE FILTERS SHALL BE POUR-THROUGH PITCHER TYPE LEAD FILTERS THAT ARE NSF/ANSI-53 CERTIFIED TO REMOVE

WATER WORK NOTES

DESIGN AGENCY
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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 371 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:40:10 AM USER: cluzier
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CLEVELAND WATER NOTES FOR WATER MAIN INSTALLATION AND/OR REPLACEMENT

LEAD. THE PITCHER, A 3-MONTH SUPPLY OF FILTERS, AND CWD-SUPPLIED USE INSTRUCTIONS AND OTHER APPLICABLE MATERIALS SHALL BE DISTRIBUTED. RECORDS OF RESIDENTS WHO RECEIVED AND WHO REFUSED THE FILTERS SHALL BE PROVIDED BY THE CONTRACTOR TO CWD (AND THE LOCAL MUNICIPALITY IF OUTSIDE THE CITY OF CLEVELAND).

AT THE BEGINNING OF THE DAY THAT A CUSTOMER IS SCHEDULED TO BE CONNECTED TO THE NEW WATER MAIN, THE CONTRACTOR SHALL DISTRIBUTE THE APPROPRIATE CWD-SUPPLIED CUSTOMER NOTIFICATION DOOR HANGER AND OTHER APPLICABLE MATERIALS ON ALL ACCESSIBLE POINTS OF ENTRY TO THE HOME AND IN A PROMINENT LOCATION AT ALL MULTI-UNIT HOUSING BUILDINGS. THE APPROPRIATE DOOR NOTIFICATION WILL BE DETERMINED BY (1) WHETHER A CUSTOMER-OWNED LEAD SERVICE LINE REMAINS IN THE PROJECT AREA AND (2) THE TYPE OF MATERIAL OF THE INDIVIDUAL CUSTOMER-OWNED SERVICE LINE.

21. DIELECTRIC COUPLINGS: IN THE EVENT THAT A CWD WAIVER IS GRANTED SUCH THAT A CUSTOMER-OWNED LEAD SERVICE LINE IS NOT REPLACED, AND A NEW SERVICE IS CONNECTED TO A CUSTOMER-OWNED LEAD SERVICE LINE, A DIELECTRIC COUPLING SHALL BE PROVIDED TO TRANSITION FROM THE NEW MATERIALS TO THE LEAD PIPE. THE MODEL COUPLING USED IS SUBJECT TO APPROVAL FROM CWD. HARCO – PHILMAC UTC OR CWD-APPROVED EQUAL.

GENERAL SERVICE CONNECTIONS:

22. AS PART OF THE AS BUILT SUBMISSION IN NOTE 12, THE CONTRACTOR SHALL PROVIDE A TABLE SHOWING ALL EXISTING CONNECTIONS, IDENTIFIED BY CLEVELAND WATER CONNECTION NUMBER, SHOWING THE FOUND CONNECTION MATERIAL FOR BOTH THE CITYSIDE AND OWNERSIDE CONNECTION, AS WELL AS THE NEW CONNECTION MATERIAL FOR ALL CONNECTIONS REPLACED. THE TABLE SHALL ALSO NOTE ANY REVISED CONNECTION MEASUREMENTS AND SIZES. A SAMPLE TABLE WILL BE PROVIDED. THE SUBMISSION SHALL BE IN MICRSOFT EXCEL FORMAT. CLEVELAND WATER SHALL REQUIRE THE DELIVERY AND ACCEPTANCE OF THIS TABLE BEFORE THE PRESSURE TEST AND CHLORINATION / DISINFECTION OF THE MAIN WILL BE PERMITTED.

23. NEW WATER SERVICE CONNECTIONS LOCATIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. THE SPECIFIC LOCATION FOR EACH CONNECTION WILL BE DETERMINED BY CLEVELAND WATER PRIOR TO THE TAPS BEING INSTALLED. ALL PERMITS FOR TAPS AND METERS FOR PARCELS ASSOCIATED WITH THE WATER MAINS INSTALLED ON THIS PROJECT ARE TO BE OBTAINED BY THE LAND OWNER OF SAID IMPROVEMENT PLANS. IT IS THE LAND OWNERS RESPONSIBILITY TO ARRANGE FOR OBTAINING PERMITS FOR ALL WATER SERVICE CONNECTIONS BEFORE ANY SERVICE CONNECTION WORK MAY PROCEED. ALL FEES CAN BE OBTAINED FROM THE CLEVELAND WATER PERMITS AND SALES SECTION AT 216-664-3130 PROMPT #7 OR 216-664-2444 X75209.

ACCOUNTS SHALL BE INITIATED IN THE LAND OWNER'S NAME AS PART OF THE PERMITTING PROCESS. ALL RESPONSIBILITIES ASSOCIATED WITH EACH WATER SERVICE, INCLUDING, THE OWNER SIDE INSPECTIONS, METER SET/METER PIPING INSPECTION AND THE METER INSTALLATION SHALL BE THE RESPONSIBILITY OF SAID OWNER.
METERS INSTALLATIONS WILL NOT BE AUTHORIZED TO BE INSTALLED UNTIL ALL INSPECTIONS HAVE BEEN COMPLETED. ESTIMATED BILLS MAY ENSUE IF A HOME IS IDENTIFIED AS HAVING WATER SERVICE BUT NO METER HAS BEEN INSTALLED. IF NEW OWNERS, ONCE PARCELS ARE SOLD OFF AND TRANSFER TITLE, DO NOT CONTACT CLEVELAND WATER TO ESTABLISH ACCOUNTS IN THEIR NAME, ACCOUNTS AND THEIR ASSOCIATED BILLS WILL REMAIN IN THE NAME OF OUR LAST OWNER OF RECORD WHICH MAY BE THE DEVELOPER OR BUILDER. IT IS THE RESPONSIBILITY OF THE NEW OWNER TO TRANSFER ACCOUNTS INTO THEIR NAME WHEN THE PROPERTIES LEGALLY TRANSFER. UPON TRANSFER OF PROPERTY, SELLER OF PROPERTY MUST COMMUNICATE ALL UNCOMPLETED PORTIONS OF THE REFERENCED RESPONSIBILITIES TO THE NEW OWNER.

24. ONE INCH SERVICE CONNECTIONS SHALL BE PERMITTED TO SERVICE NEW HOMES (AS SHOWN ON APPROVED WATER MAIN EXTENSION PLANS) BASED ON THE FOLLOWING CRITERIA:

- PEAK FLOW DEMANDS DO NOT EXCEED 25 GPM FOR AN INDIVIDUAL HOME/UNIT. INCLUSIVE OF ALL USAGE (DOMESTIC AND/OR IRRIGATION),
- LENGTH OF ONE INCH CONNECTION DOES NOT EXCEED 75 FEET AS MEASURED FROM THE MAIN TO THE POINT OF ENTRY INTO THE PROPOSED HOME/UNIT.
- THE CONNECTIONS DO NOT INCLUDE LIMITED AREA OR NFPA 13D SPRINKLER SYSTEMS

ANY SERVICE REQUESTS DIFFERING FROM THE STATED CRITERIA SHALL REQUIRE THE SUBMITTAL OF A COMPLETE WATER SERVICE APPLICATION FOR EACH WATER SERVICE REQUESTED.

25. ALL CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE. CURB VALVES SHALL BE PLACED APPROXIMATELY 2 FEET OFF THE CURB. CURB VALVES IN EASEMENTS SHALL BE PLACED APPROXIMATELY 3 FEET OFF THE WATER MAIN. IF VALVE BOXES OR METER VAULTS ARE INSTALLED OUTSIDE OF A DEDICATED RIGHT OF WAY OR EASEMENT FOR THE PURPOSES OF WATER SUPPLY, A STANDARD CLEVELAND EASEMENT FOR A VAULT SHALL BE PROVIDED.

EMERGENCIES:

26. IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, PLEASE NOTIFY CLEVELAND WATER AT 216-664-3060. THIS LINE IS AVAILABLE 24/7/365

DATE 01/01/2019 BY: FSR STD-011 (PAGE 3 OF 3)

WATER WORK NOTES

DESIGN AGENCY

GPD GROUP

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DESIGNER ATR

REVIEWER CWL 09/02/21

PROJECT ID 113889

SHEET 372 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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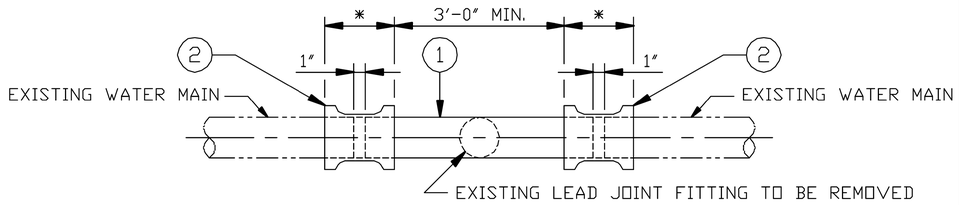


SPOOL PIECE INSTALLATION DETAIL

NOT TO SCALE

1) PLAIN END x PLAIN END DUCTILE IRON PIPE AS SPECIFIED (CUT TO SUIT).

2) *CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS.

COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

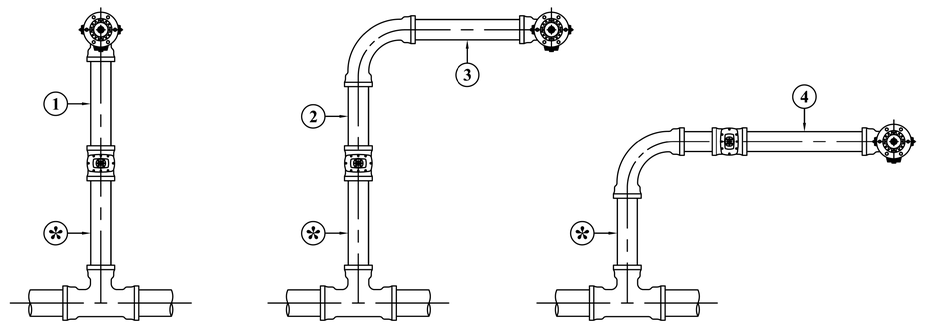
3) ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE 'RETAINED' TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.

STD-008 | DATE: 10-1-97 | BY: RSK

*** IF CUTS ARE REQUIRED BETWEEN THE TEE AND VALVE, TOTAL REPLACEMENT WILL BE REQUIRED. SEE DETAILS STD-H06 STD-H07.**

**** IF EXISTING HYDRANT BRANCH VALVE IS 4" IN DIAMETER TOTAL REPLACEMENT WILL BE REQUIRED UNLESS SPECIFIC PERMISSION IS GRANTED BY THE DIVISION OF WATER ON A CASE BY CASE BASIS.**

CUT AT	SEE DETAIL
1	STD-H02 FOR STRAIGHT TYPE
2	STD-H03 FOR OFFSET TYPE 1
3	STD-H04 FOR OFFSET TYPE 2
4	STD-H05 FOR OFFSET TYPE 3
TOTAL REPLACEMENT	STD-H06 FOR STRAIGHT TYPE STD-H07 FOR OFFSET TYPE 1 & TYPE 2 & TYPE 3

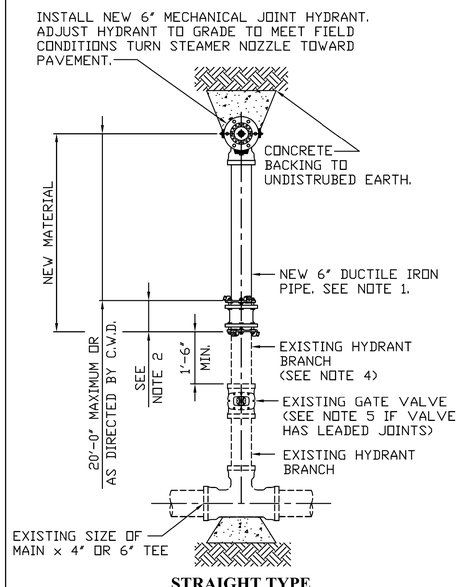


STRAIGHT TYPE **OFFSET TYPE 1 & 2** **OFFSET TYPE 3**

DISTURBING EXISTING LEADED HYDRANTS AND LEADED FITTINGS

- NOT TO SCALE -

STD-H01 | DATE: 5-4-2006 | BY: RSK



STRAIGHT TYPE

1) PLAIN END x PLAIN END DUCTILE IRON PIPE AS SPECIFIED (CUT TO SUIT).

2) CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250, RETAINED MECHANICAL JOINT REDUCERS WHERE EXISTING PIPE IS 4" IN DIAMETER, OR COMPRESSION COUPLINGS WITH ROD AND CLAMPS AS DIRECTED BY C.W.D. INSPECTOR.

COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS. MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536). THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 (STRAIGHT TYPE), 162 (TRANSITION TYPE), 253 (REDUCING TYPE); OR SMITH-BLAIR 441 (STRAIGHT AND TRANSITION TYPE), R441 (REDUCING TYPE); OR ROMAC STYLE 501 (STRAIGHT AND TRANSITION TYPE), STYLE RC501 (REDUCING TYPE).

IF THE BRANCH IS TO BE SHORTENED, NO NEW IS PIPE REQUIRED.

3) ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE 'RETAINED' TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.

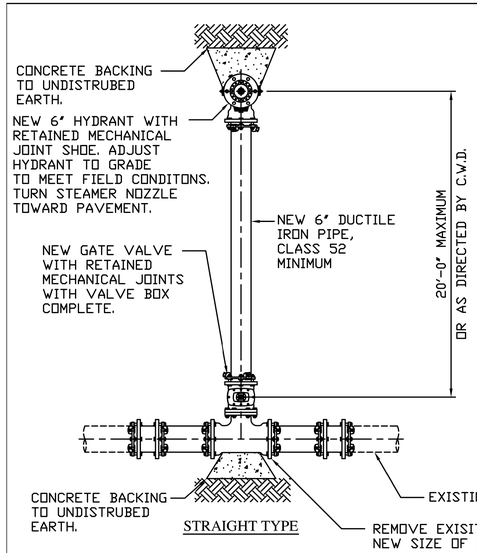
4) IF EXISTING PIPING IS 4" USE 4" TO 6" REDUCING MJ REDUCER OR REDUCING TRANSITION COUPLING WITH ROD & CLAMP IF APPROVED BY CWD.

5) IN HIGH PRESSURE AREAS THE EXISTING VALVE MAY NEED TO BE RESTRAINED TO EXISTING TEE OR FITTING USING ROD & CLAMP AS DIRECTED BY CWD. SEE STD-H01 FOR EXISTING LEAD JOINT REQUIREMENTS.

EXTEND, SHORTEN AND ADJUST HYDRANT TO GRADE, STRAIGHT TYPE

- NOT TO SCALE -

STD-H02 | DATE: 8-20-2012 | BY: RSK



1) PLAIN END x PLAIN END DUCTILE IRON PIPE AS SPECIFIED (CUT TO SUIT).

2) ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE 'RETAINED' TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.

REPLACING EXISTING HYDRANT WITH NEW 6" HYDRANT ASSEMBLY, STRAIGHT TYPE

- NOT TO SCALE -

STD-H06 | DATE: 5-4-2006 | BY: RSK

WATER WORK DETAILS

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DESIGNER ATR
REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 373 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:40:27 AM USER: dluzier
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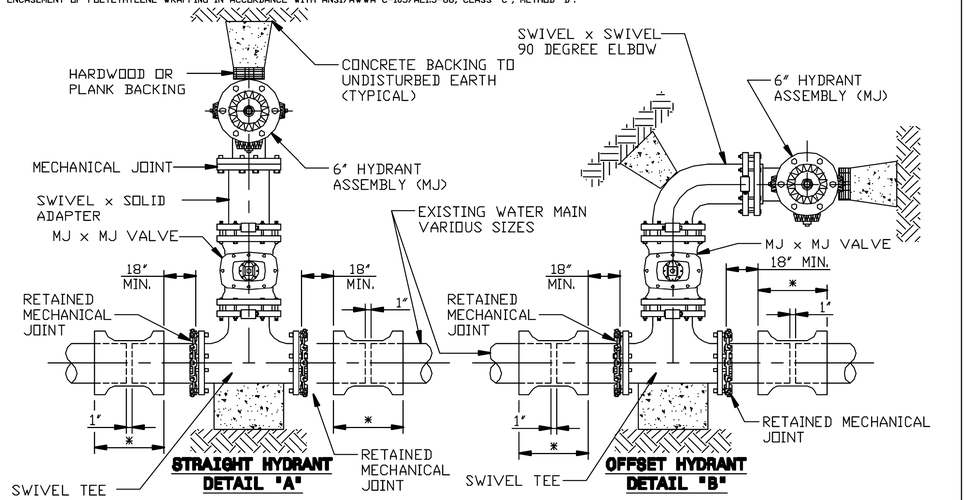
*CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS. COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS, TWO (2) FOLLOWER GLANDS, TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.
MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).
THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS. ROD AND CLAMP COMPRESSION COUPLING AS DIRECTED BY C.W.D. INSPECTOR.
ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS 'C', METHOD 'B'.

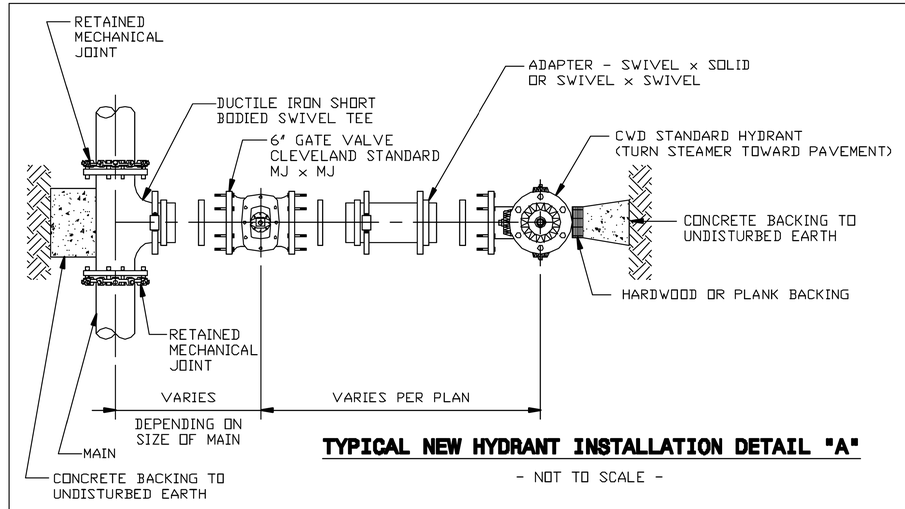


CUT-IN TEE FOR NEW HYDRANT INSTALLATION ON EXISTING WATER MAIN

FOR EXPLODED VIEW OF HYDRANT BRANCH SEE (STD-H09 OR STD-H10).

- NOT TO SCALE -

STD-H08 | DATE: 10-1-97 | BY: RSK



TYPICAL NEW HYDRANT INSTALLATION DETAIL "A"

- NOT TO SCALE -

NOTE: IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-1-5/A21.5-88 CLASS "C" METHOD 'B'.

ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

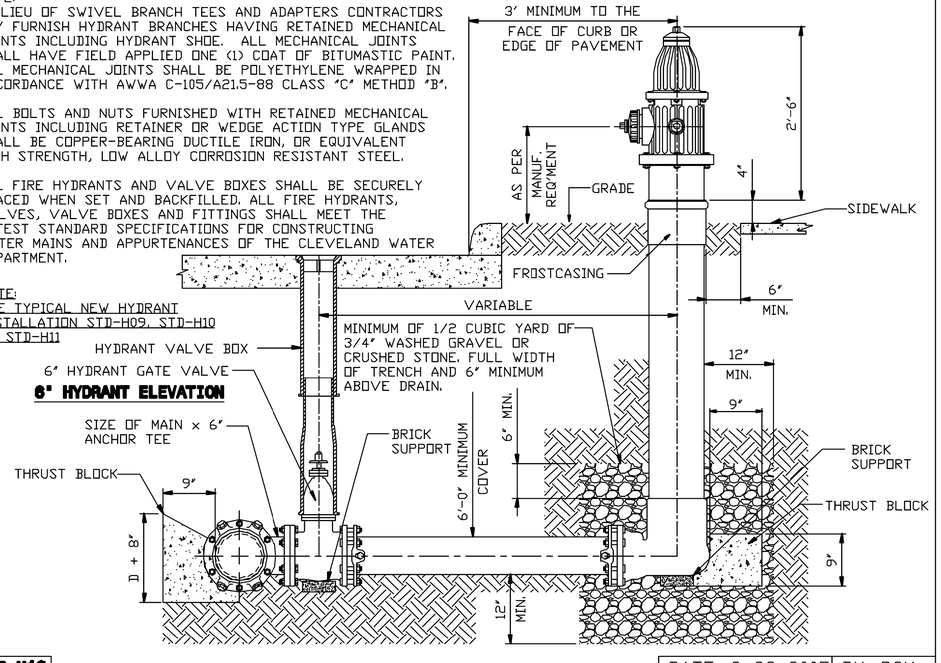
STD-H09 | DATE: 3-4-2002 | BY: RSK

NOTE:
IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-105/A21.5-88 CLASS "C" METHOD 'B'.

ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

ALL FIRE HYDRANTS AND VALVE BOXES SHALL BE SECURELY BRACED WHEN SET AND BACKFILLED. ALL FIRE HYDRANTS, VALVES, VALVE BOXES AND FITTINGS SHALL MEET THE LATEST STANDARD SPECIFICATIONS FOR CONSTRUCTING WATER MAINS AND APPURTENANCES OF THE CLEVELAND WATER DEPARTMENT.

NOTE:
SEE TYPICAL NEW HYDRANT INSTALLATION STD-H09, STD-H10 OR STD-H11



6" HYDRANT ELEVATION

STD-H13 | DATE: 2-23-2005 | BY: RSK

WATER WORK DETAILS

DESIGN AGENCY
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REVIEWER CWL 09/02/21
PROJECT ID 113889
SHEET 374 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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National Engineering & Architectural Services Inc.

National Engineering & Architectural Services, INC. (NEAS)
2800 Corporate Exchange Dr.
Suite 240
Columbus, Ohio 43231
Office: (614) 714-0299
Fax: (614) 714-0251

LEVEL A TEST HOLE CERTIFICATION FORM

PROJECT NAME: CUY-422-16.23, PID#: 113889
NEAS PROJECT #: 20-0078
PROJECT LOCATION (CTY., CITY, ST.): CUY, SOLON., HARPER RD.
FOREMAN/TRUCK: N. MILLER, B. MOULTON, M. LUCAS
DATE OF EXCAVATION: 02-15-22
WEATHER CONDITIONS: 30° CLOUDY

TEST HOLE #: 1
UTILITY TO BE LOCATED: CABLE TV (FOUND) (A)
FIBER OPTIC (FOUND) (B)
STORM LINE (FOUND) (C)

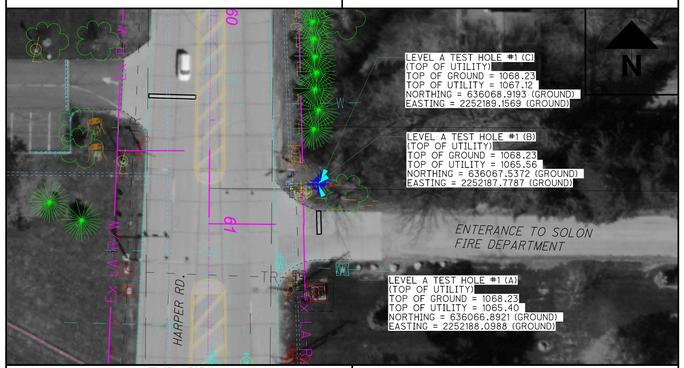
CONTROL POINT: CP6 (GROUND)
NORTHING: 635925.4871
EASTING: 2252193.2700
ELEVATION: 1063.83

TEST HOLE LOCATION (PAV., BERM, ETC): GRASS BERM
EXISTING SURFACE GRADE ELEVATION: 1068.23
PAVING CONDITION PRIOR TO WORK: N/A
PAVING THICKNESS AND TYPE: N/A
SOIL TYPE: DIRT & ROCK FIELD CONDITIONS: WET
COLOR OF RIBBON INSTALLED IN TEST HOLE: N/A

FIELD REMARKS: N/A

SIZE OF UTILITY: 1" (A), 3/4" (B), 6" (C)
MATERIAL OF FOUND UTILITY: PLASTIC (A), PLASTIC (B), SPP (C)
THE UTILITY N/A IN GOOD CONDITION
THERE WERE ADDITIONAL UTILITIES IN THE TEST HOLE
SURVEYED ELEVATION TOP OF UTILITY: *SEE BELOW*
SURVEYED ELEVATION BOTTOM OF HOLE (IF REQ.): N/A
SURVEYED NORTHING TOP OF UTILITY: *SEE BELOW* (GROUND)
SURVEYED EASTING TOP OF UTILITY: *SEE BELOW* (GROUND)
DEPTH OF TOP OF UTILITY FROM SURFACE: 2.8' (A), 2.7' (B), 1.1' (C)
DIRECTION OF UTILITY LINE: NW TO SE (A, B, C)
PHOTO IMAGE NUMBERS: 150-152

UTILITY REMARKS: N/A



UTILITY LEGEND

GAS, WATER, TELEPHONE, ELECTRIC, SANITARY SEWER, STORM SEWER, FIBER OPTIC, CABLE TV, TRAFFIC
TEST HOLE, FIRE HYDRANT, WATER VALVE, GAS MARKER, GAS VALVE, F.O. MARKER, UNKNOWN P.B.
ELEC. P.B., POWER POLE, POWER/LIGHT, LIGHT POLE, SAN M.H., TRAFFIC P.B., GROUND SHOT

I, Charles W. Price, JR. do hereby certify that the positioning of the utility facilities provided utilizing the Quality Levels was performed in accordance with ODOT's SULS specifications.

Charles W. Price, JR., P.S.
DATE 02-28-22

STATE OF OHIO CHARLES W. PRICE, JR. S-7825 PROFESSIONAL SURVEYOR

National Engineering & Architectural Services Inc.

National Engineering & Architectural Services, INC. (NEAS)
2800 Corporate Exchange Dr.
Suite 240
Columbus, Ohio 43231
Office: (614) 714-0299
Fax: (614) 714-0251

LEVEL A TEST HOLE CERTIFICATION FORM

PROJECT NAME: CUY-422-16.23, PID#: 113889
NEAS PROJECT #: 20-0078
PROJECT LOCATION (CTY., CITY, ST.): CUY, SOLON., HARPER RD.
FOREMAN/TRUCK: N. MILLER, B. MOULTON, M. LUCAS
DATE OF EXCAVATION: 02-15-22
WEATHER CONDITIONS: 28° CLOUDY

TEST HOLE #: 2
UTILITY TO BE LOCATED: GAS LINE (FOUND)

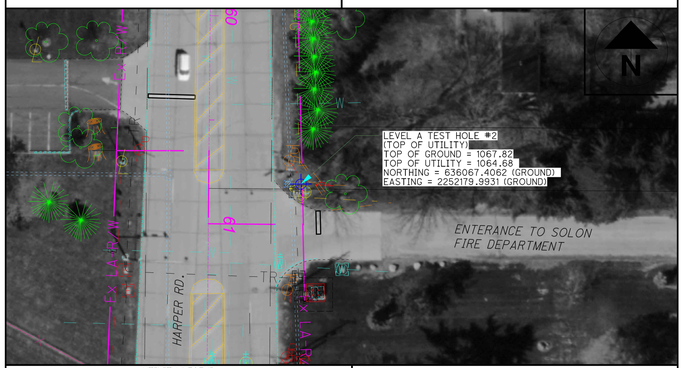
CONTROL POINT: CP6 (GROUND)
NORTHING: 635925.4871
EASTING: 2252193.2700
ELEVATION: 1063.83

TEST HOLE LOCATION (PAV., BERM, ETC): GRASS BERM
EXISTING SURFACE GRADE ELEVATION: 1067.82
PAVING CONDITION PRIOR TO WORK: N/A
PAVING THICKNESS AND TYPE: N/A
SOIL TYPE: DIRT & ROCK FIELD CONDITIONS: WET
COLOR OF RIBBON INSTALLED IN TEST HOLE: N/A

FIELD REMARKS: N/A

SIZE OF UTILITY: 6"
MATERIAL OF FOUND UTILITY: SMP
THE UTILITY N/A IN GOOD CONDITION
THERE WERE NOT ADDITIONAL UTILITIES IN THE TEST HOLE
SURVEYED ELEVATION TOP OF UTILITY: 1064.68
SURVEYED ELEVATION BOTTOM OF UTILITY (IF REQ.): N/A
SURVEYED NORTHING TOP OF UTILITY: 636067.4062 (GROUND)
SURVEYED EASTING TOP OF UTILITY: 2252179.9931 (GROUND)
DEPTH OF HOLE FROM SURFACE: 3.14'
DIRECTION OF UTILITY LINE: NORTH TO SOUTH
PHOTO IMAGE NUMBERS: 148-149

UTILITY REMARKS: N/A



UTILITY LEGEND

GAS, WATER, TELEPHONE, ELECTRIC, SANITARY SEWER, STORM SEWER, FIBER OPTIC, CABLE TV, TRAFFIC
TEST HOLE, FIRE HYDRANT, WATER VALVE, GAS MARKER, GAS VALVE, F.O. MARKER, UNKNOWN P.B.
ELEC. P.B., POWER POLE, POWER/LIGHT, LIGHT POLE, SAN M.H., TRAFFIC P.B., GROUND SHOT

I, Charles W. Price, JR. do hereby certify that the positioning of the utility facilities provided utilizing the Quality Levels was performed in accordance with ODOT's SULS specifications.

Charles W. Price, JR., P.S.
DATE 02-28-22

STATE OF OHIO CHARLES W. PRICE, JR. S-7825 PROFESSIONAL SURVEYOR

National Engineering & Architectural Services Inc.

National Engineering & Architectural Services, INC. (NEAS)
2800 Corporate Exchange Dr.
Suite 240
Columbus, Ohio 43231
Office: (614) 714-0299
Fax: (614) 714-0251

LEVEL A TEST HOLE CERTIFICATION FORM

PROJECT NAME: CUY-422-16.23, PID#: 113889
NEAS PROJECT #: 20-0078
PROJECT LOCATION (CTY., CITY, ST.): CUY, SOLON., HARPER RD.
FOREMAN/TRUCK: N. MILLER, B. MOULTON, M. LUCAS
DATE OF EXCAVATION: 02-15-22
WEATHER CONDITIONS: 30° CLOUDY

TEST HOLE #: 3
UTILITY TO BE LOCATED: WATER LINE (POSSIBLY FOUND)

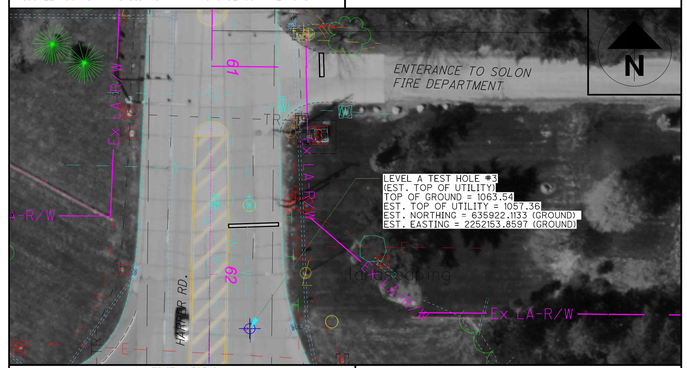
CONTROL POINT: CP6 (GROUND)
NORTHING: 635925.4871
EASTING: 2252193.2700
ELEVATION: 1063.83

TEST HOLE LOCATION (PAV., BERM, ETC): CONC. ROAD
EXISTING SURFACE GRADE ELEVATION: 1063.54
PAVING CONDITION PRIOR TO WORK: GOOD
PAVING THICKNESS AND TYPE: 0.4' CONC.
SOIL TYPE: SAND & CLAND FIELD CONDITIONS: WET
COLOR OF RIBBON INSTALLED IN TEST HOLE: N/A

FIELD REMARKS: COULD NOT VISUALLY CONFIRM PIPE. WE THINK WE FOUND IT PROBING, BUT SAND WAS COLLAPSING TO FAST TO VISUALLY CONFIRM AND DID NOT WANT TO UNDERCUT THE ROAD.

SIZE OF UTILITY: EST. 12"
MATERIAL OF FOUND UTILITY: N/A
THE UTILITY N/A IN GOOD CONDITION
THERE WERE NOT ADDITIONAL UTILITIES IN THE TEST HOLE
SURVEYED ELEVATION EST. TOP OF UTILITY: 1057.36
SURVEYED ELEVATION EST. BOTTOM OF UTILITY (IF REQ.): N/A
SURVEYED NORTHING EST. TOP OF UTILITY: 635922.1133 (GROUND)
SURVEYED EASTING EST. TOP OF UTILITY: 2252153.8597 (GROUND)
EST. TOP OF UTILITY FROM SURFACE: 6.17'
DIRECTION OF UTILITY LINE: NORTH TO SOUTH
PHOTO IMAGE NUMBERS: 153-154

UTILITY REMARKS: SHOT ESTIMATED HORIZONTAL LOCATION FROM ABOVE BASED ON PROBE.



UTILITY LEGEND

GAS, WATER, TELEPHONE, ELECTRIC, SANITARY SEWER, STORM SEWER, FIBER OPTIC, CABLE TV, TRAFFIC
TEST HOLE, FIRE HYDRANT, WATER VALVE, GAS MARKER, GAS VALVE, F.O. MARKER, UNKNOWN P.B.
ELEC. P.B., POWER POLE, POWER/LIGHT, LIGHT POLE, SAN M.H., TRAFFIC P.B., GROUND SHOT

I, Charles W. Price, JR. do hereby certify that the positioning of the utility facilities provided utilizing the Quality Levels was performed in accordance with ODOT's SULS specifications.

Charles W. Price, JR., P.S.
DATE 02-28-22

STATE OF OHIO CHARLES W. PRICE, JR. S-7825 PROFESSIONAL SURVEYOR

TEST HOLE CERTIFICATION

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/6/2023 TIME: 7:41:01 AM USER: cluzier
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DESIGN AGENCY

GPD GROUP*

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DESIGNER ATR
REVIEWER CWL 03-04-22
PROJECT ID 113889
SHEET 375 TOTAL 481

TRAFFIC CONTROL LEGEND	
	PROPOSED SIGN
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED AND REERECTED
	EXISTING SIGN TO BE REMOVED
	SIGN SUPPORT
	EXISTING CANTILEVER SIGN SUPPORT
	PROPOSED CANTILEVER SIGN SUPPORT
	PROPOSED TRUSS SIGN SUPPORT
	RPM (RAISED PAVEMENT MARKER)
	DELINATOR
R-#	EXISTING SIGN TO BE REMOVED
S-#	PROPOSED SIGN
OSS-#	PROPOSED OVERHEAD SIGN
EW	EDGE LINE, WHITE
EY	EDGE LINE, YELLOW
LL	LANE LINE
CDS	CENTER LINE, DOUBLE SOLID
CH	CHANNELIZING LINE
CW	CROSSWALK LINE
LA	LANE ARROW
DW	DOTTED LINE, WHITE
DY	DOTTED LINE, YELLOW
SL	STOP LINE
Y	YIELD LINE
TY	TRANSVERSE/DIAGONAL LINE, YELLOW
TW	TRANSVERSE/DIAGONAL LINE, WHITE
LR	LANE REDUCTION ARROW

ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN

THE EXISTING REGIONAL TRANSIT AUTHORITY (RTA) SIGNS SHALL BE REMOVED AND STORED BY THE CONTRACTOR FOR PICKUP BY THE RTA AS SHOWN IN THE PLANS. PRIOR TO THE REMOVAL OF THE RTA SIGNS THE CONTRACTOR SHALL CONTACT TIMOTHY SMITH (330) 762-7267 TO COORDINATE THE INSTALLATION OF NEW RTA SIGNS AT ANY LOCATION WHERE THE EXISTING SIGNS ARE BEING REMOVED. IT IS THE INTENT TO NOT LEAVE THE EXISTING BUS STOP LOCATIONS UNSIGNED. THE RTA IS RESPONSIBLE FOR THE INSTALLATION OF ANY NEW RTA SIGNS. PAYMENT FOR ALL WORK DESCRIBED ABOVE SHALL BE CONSIDERED INCIDENTAL AND INCLUDED WITH THE PAYMENT TO REMOVE THE EXISTING RTA SIGNS.

EXISTING GROUND MOUNTED METROPARK SIGNS SHALL BE REMOVED BY THE CONTRACTOR AND STORED FOR PICK UP BY THE CLEVELAND METROPARKS, 4101 FUTLON PARKWAY, CLEVELAND, OHIO 44144, (216-635-3200).

PAYMENT FOR ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH.

ITEM 630 - SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN

FLAT SHEET SIGNS SHALL BE RIGIDLY ATTACHED TO TRAFFIC SIGNAL MAST ARMS WITH THE SIGN CENTERED VERTICALLY ON THE ARM, USING THE SIGN BRACKET DETAIL ON STANDARD CONSTRUCTION DRAWING TC-16.22, OR ANOTHER METHOD OF RIGID ATTACHMENT AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL ENSURE THAT THE SIGN FACE IS MOUNTED PERPENDICULAR (90) DEGREES) TO THE DIRECTION OF TRAFFIC.

PAYMENT FOR ITEM 630 - SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND ALL PARTS NECESSARY TO ATTACH ONE SIGN.

ITEM 630 - SIGN ERECTED, FLAT SHEET, AS PER PLAN

CUY-D500 SIGNS ERECTED UNDER THIS ITEM WILL BE SUPPLIED AND INSTALLED BY THE CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS. THE CONTRACTOR MUST GIVE FOUR WEEKS ADVANCE NOTICE TO THE CUYAHOGA COUNTY SIGN SHOP, 4000 BROOKPARK ROAD, CLEVELAND, OHIO 44134 (216-741-3019), PRIOR TO DESIRED INSTALLATION OF THE SIGNS.

PAYMENT FOR ITEM 630 - SIGN ERECTED, FLAT SHEET, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER SQUARE FOOT.

ITEM 620 - REMOVAL OF DELINEATOR

DELINEATORS SHALL BE REMOVED WITHIN THE PROJECT LIMITS ON ALL EXISTING RAMPS. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 620 - REMOVAL OF DELINEATOR 50 EACH

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

RAISED PAVEMENT MARKERS SHALL BE REMOVED WITHIN THE PROJECT LIMITS ON ALL EXISTING RAMPS. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 621 - RAISED PAVEMENT MARKER REMOVED 65 EACH

MAINTENANCE OF TRAFFIC PAVEMENT MARKING RESTORATION

WHEN IT IS NECESARY FOR MAINTENANCE OF TRAFFIC LIMITS TO EXCEED THE WORK LIMITS, THE CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE PAVEMENT MARKINGS TO THEIR ORIGINAL STATE.

IN LIEU OF A PAVEMENT MARKING PLAN, THE CONTRACTOR SHALL, PRIOR TO THE START OF CONSTRUCTION, PREPARE AN INVENTORY AND LOG ALL EXISTING PAVEMENT MARKNGS FOR USE IN RESTORING THE MARKINGS AT THE END OF CONSTRUCTION. THE CONTRACTOR SHALL DELIVER TWO (2) COPIES OF THE INVENTORY AND LOG TO THE ENGINEER BEFORE BEGINNING ANY PAVEMENT REMOVALS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF THE VARIOUS FINAL PAVEMENT MARKINGS, INCLUDING LOCATION OF NO PASSING ZONES, CENTER LINES, EDGE LINES AND STOP LINES ON THE FINAL SURFACE COURSE IN ACCORDANCE WITH SECTION 641.06.

UNLESS DIRECTED OTHERWISE BY THE ENGINEER, THE FINAL PAVEMENT MARKINGS SHALL BE RESTORED IN THEIR ORIGINAL PATTERNS AND LOCATION. FINAL LOCATION OF ALL PAVEMENT MARKINGS (PRE-LINE LAYOUT) SHALL BE APPROVED BY THE CITY OF SOLON IN THE FIELD.

THE COST OF LOGGING AND PREMARKING SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS PAVEMENT MARKING ITEMS. NO SEPARATE PAYMENT WILL BE MADE.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 642 - LANE LINE, 4", TYPE 1	0.35	MILE
ITEM 642 - CENTER LINE, TYPE 1	0.30	MILE
ITEM 642 - CHANNELIZING LINE, 8", TYPE 1	300	FT
ITEM 642 - STOP LINE, TYPE 1	105	FT
ITEM 642 - TRANSVERSE/DIAGONAL LINE, TYPE 1	335	FT
ITEM 642 - LANE ARROW, TYPE 1	13	FT
ITEM 642 - WORD ON PAVEMENT, 72", TYPE 1	2	EACH
ITEM 644 - EDGE LINE, 6"	1.30	MILE
ITEM 644 - CHANNELIZING LINE, 12"	500	FT
ITEM 644 - LANE ARROW	6	EACH

ITEM 644 - REMOVAL OF PAVEMENT MARKINGS

THE CONTRACTOR SHALL REMOVE THE EXISTING CONFLICTING PAVEMENT MARKINGS PER CONSTRUCTION AND MATERIALS SPECIFICATION (CURRENT VERSION) SECTION 614.11G. THE FOLLOWING LIMITS SHALL BE USED WHEN REMOVING THE EXISTING CONFLICTING PAVEMENT MARKINGS ON EXISTING RAMP 5 BETWEEN STA. 837+90 TO STA. 850+75:

ITEM 644 - EDGE LINE, 6"	0.22	MILE
ITEM 644 - DOTTED LINE, 6"	1030	FT
ITEM 644 - CHANNELIZING LINE, 12"	470	FT

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 644 - REMOVAL OF PAVMENT MARKING	0.22	MILE
ITEM 644 - REMOVAL OF PAVMENT MARKING	1500	FT

TRAFFIC CONTROL NOTES

CUY-422-16.20 (HARPER ROAD)

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DESIGNER
DLS

REVIEWER
AKF 09/02/21

PROJECT ID
113889

SHEET 376 TOTAL 481

ITEM 620 - DELINEATOR SUBSUMMARY

ROADWAY	SHEET NO.	STATION TO STATION		SIDE	INTERVAL	TYPE C POST	TYPE D POST
HARPER RD SB/RAMP 1A	414	260+55	345+00	RT/LT	200	1	
HARPER RD NB/RAMP 3A	414	161+55	645+00	LT/LT	200	1	
HARPER RD/RAMP 3B	414	65+00	545+00	RT/LT	200		1
RAMP 4B	415	450+18	451+00	LT	200		1
RAMP 2B	415	549+50	550+13	LT	200		1
RAMP 1B	417	437+67	442+00	RT	200		2
RAMP 1B/RAMP 1A	418	442+00	345+00	LT/LT	200	2	
RAMP 1B	418	442+00	445+00	RT	200		2
RAMP 2A	419	647+33	650+00	RT	200	2	
RAMP 3A	420	645+00	650+00	LT	200	3	
RAMP 3B/RAMP 3A	420	545+00	650+00	RT/RT	200		2
RAMP 3A	421	650+00	654+00	LT	200	2	
RAMP 3A	421	650+00	654+00	RT	200		2
RAMP 4B/RAMP 4A	422	451+00	855+00	LT/LT	200		2
RAMP 4A	422	351+12	855+00	RT	200	2	
RAMP 4A	423	855+00	858+37	LT	200		1
RAMP 4A	423	855+00	858+37	RT	200	2	
TOTALS						15	14
TOTALS CARRIED TO GENERAL SUMMARY						29	

ITEM 621 - RAISED PAVEMENT MARKER SUBSUMMARY

ROADWAY	SHEET NO.	STATION TO STATION		SIDE	INTERVAL	1-WAY WHITE	2-WAY YEL/RED	2-WAY WH/RED
RAMP 1A	414	345+00	346+00	RT	80			
RAMP 1A	414	345+00	345+58	RT	80		1	
RAMP 1B	414	445+00	446+42	LT	80			
RAMP 1B	414	445+00	446+09	CEN	80	2		
RAMP 1B/HARPER RD	414	446+09	65+00	CEN/RT	80			1
RAMP 1B/HARPER RD	414	445+00	65+00	RT/RT	80		3	
HARPER RD/RAMP 3A	414	161+55	645+00	LT/CEN	80			
RAMP 3A	414	643+94	645+00	RT	80		2	
RAMP 3B	414	544+01	545+00	LT	80			
RAMP 3B	414	543+48	545+00	LT	80		2	
HARPER RD/RAMP 4B	415	268+40	451+00	LT/RT	80		2	
RAMP 4B	415	450+18	451+00	RT	80			2
RAMP 2B	415	549+50	550+13	RT	40			2
RAMP 2B/HARPER RD	415	549+50	167+78	RT/RT	80		2	
RAMP 2A/HARPER RD	415	650+00	70+00	LT/LT	80		1	
RAMP 2A	415	650+00	650+44	CEN	40			2
RAMP 2A/HARPER RD	415	650+00	70+00	RT	80			1
RAMP 4A/HARPER RD	416	350+27	351+12	CEN	80			1
RAMP 4A	416	350+37	351+12	LT	80		1	
HARPER RD/RAMP 2A	416	70+00	670+34	RT/LT	80		1	
HARPER RD/SB HARPER RD	416	70+00	271+04	RT/RT	80			1
RAMP 1B	417	437+67	442+00	LT	80			6
RAMP 1B	417	437+67	442+00	RT	80		5	
RAMP 1B/RAMP 1A	418	442+00	345+00	LT/LT	80			3
RAMP 1B/RAMP 1A	418	444+38	345+00	LT/RT	80		2	
RAMP 1B/RAMP 1A	418	444+38	445+00	LT	40			1
RAMP 1B	418	443+07	445+00	CEN	80	2		
RAMP 1B	418	442+00	445+00	RT	80		4	
RAMP 2A/RAMP 2B	419	647+33	549+50	LT/RT	80		2	
RAMP 2A/RAMP 2B	419	647+33	549+20	LT/RT	40			5
RAMP 2A	419	647+33	650+00	CEN	40			6
RAMP 2A	419	647+33	650+00	RT	80			3
RAMP 3A	420	645+00	650+00	CEN	80			7
RAMP 3A	420	645+36	650+00	RT	40			12
RAMP 3B/RAMP 3A	420	545+00	650+00	RT	80		6	
RAMP 3A	421	650+00	654+00	RT	80			5
RAMP 3A	421	650+00	652+90	RT	40			7
RAMP 3A	421	650+00	654+00	RT	80		5	
RAMP 4B/RAMP 4A	422	451+00	855+00	RT/LT	80		5	
RAMP 4B/RAMP 4A	422	451+00	854+37	LT/RT	80			4
RAMP 4A	422	351+12	352+80	LT	80		2	
RAMP 4A	422	351+12	855+00	LT/RT	80			5
RAMP 4A	423	855+00	858+37	LT	80		4	
RAMP 4A	423	855+00	858+37	RT	80			4
TOTALS						4	50	78
TOTALS CARRIED TO GENERAL SUMMARY						132		

DELINEATOR & RPM SUBSUMMARY

CUY-422-16.20 (HARPER ROAD)

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DESIGNER
DLS

REVIEWER
AKF 08/31/22

PROJECT ID
113889

SHEET 377 TOTAL 481

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 EDGE LINE, 4" WHITE, TYPE 1	642 EDGE LINE, 4" YELLOW, TYPE 1	642 LANE LINE, 4", TYPE 1	642 CENTER LINE, (DOUBLE SOLID), TYPE 1	642 CHANNELIZING LINE, 8", TYPE 1	642 STOP LINE, TYPE 1	642 TRANSVERSE/DIAGONAL LINE, YELLOW, TYPE 1	642 LANE ARROW, TYPE 1	642 DOTTED LINE, 4", WHITE, TYPE 1	642 DOTTED LINE, 4", YELLOW, TYPE 1	644 EDGE LINE, 6" WHITE	644 EDGE LINE, 6", YELLOW	644 LANE LINE, 6"	644 CHANNELIZING LINE, 12"	644 STOP LINE	644 CROSSWALK LINE, 12"	644 TRANSVERSE/DIAGONAL LINE, WHITE	644 LANE ARROW	644 LANE REDUCTION ARROW	644 DOTTED LINE, 6", WHITE	644 DOTTED LINE, 6", YELLOW	644 YIELD LINE
						FT	FT	FT	FT	FT	FT	FT	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	FT	FT	FT
413	EW	HARPER RD	57+35	60+00	LT	265																					
413	CDS	HARPER RD	57+35	60+00	RT/LT				265																		
413	LL	HARPER RD	57+95	60+00	RT			205																			
413	LA	HARPER RD	58+08		RT								1														
413	LA	HARPER RD	58+08		RT								1														
413	LA	HARPER RD	58+74		RT								1														
413	LA	HARPER RD	58+74		RT								1														
413	LA	HARPER RD	59+40		RT								1														
413	LA	HARPER RD	59+40		RT								1														
413	EW	HARPER RD	57+35	60+00	RT	265																					
414	EW	HARPER RD/RAMP 3A	60+00	644+24	LT/CEN	277																					
414	CDS	HARPER RD NB	160+16	161+27	CEN				111																		
414	TY	HARPER RD NB	160+16	161+27	RT							58															
414	CDS	HARPER RD	60+00	61+27	CEN				127																		
414	SL	HARPER RD NB	161+41		LT						15																
414	EY	HARPER RD NB	161+27	162+70	CEN		143																				
414	DW	HARPER RD NB	161+55	162+09	LT									54													
414	CW	RAMP 3A	644+24		RT																36						
414	SL	RAMP 3A	644+40		RT															18							
414	EY	RAMP 3A	643+94	645+00	RT												106										
414	EW	HARPER RD NB	162+09	162+85	LT	76																					
414	DY	HARPER RD NB	162+70	163+14	CEN										44												
414	DW	HARPER RD NB	162+85	163+33	LT									48													
414	EW	HARPER RD NBHARPER RD	163+33	65+00	LT/RT	175																					
414	SL	HARPER RD NB	163+43		LT						15																
414	LA	HARPER RD NB	163+53		LT								1														
414	EY	HARPER RD NB	163+14	163+98	CEN		84																				
414	CH	RAMP 1B/HARPER RD NB	446+09	65+00	CEN/CEN														142								
414	EW	RAMP 1B	445+00	446+42	LT											142											
414	LL	RAMP 1B	445+00	446+01	CEN													101									
414	CW	RAMP 1B	446+09		LT/RT																60						
414	LA	RAMP 1B	446+32		LT																		1				
414	LA	RAMP 1B	446+32		RT																		1				
414	LA	RAMP 1B	447+03		LT																		1				
414	LA	RAMP 1B	447+03		RT																		1				
414	EY	RAMP 1B	445+00	446+42	RT												142										
414	LA	HARPER RD SB	260+06		LT								1														
414	LA	HARPER RD SB	260+06		RT								1														
414	LL	HARPER RD SB	260+00	260+14	CEN			14																			
414	SL	HARPER RD SB	260+16		LT/RT						24																
414	EY	HARPER RD SB	261+27	262+70	LT		143																				
414	LA	HARPER RD SB	261+17		LT								1														
414	LA	HARPER RD SB	261+17		RT								1														
414	LA	HARPER RD SB	261+83		LT								1														
414	LA	HARPER RD SB	261+83		RT								1														
414	LA	HARPER RD SB	262+49		LT								1														
414	LA	HARPER RD SB	262+49		RT								1														
414	CH	HARPER RD SB	260+16	262+57	CEN					241																	
414	SL	HARPER RD SB	262+59		LT/RT						30																
414	EW	HARPER RD SB	260+00	261+16	RT	116																					
414	DW	HARPER RD SB	261+16	261+77	RT									61													
414	EW	RAMP 1A	345+00	346+16	CEN											116											
414	LA	RAMP 1A	345+52		RT																		1				
414	CW	RAMP 1A	345+27		RT																40						
414	EY	RAMP 1A	345+00	345+58	RT												58										
414	EW	HARPER RD SB	261+77	263+06	RT	129																					
TOTALS CARRIED TO PAVEMENT MARKING SHEET 6 OF 6						1673		219	503	241	84	58	15	207		564		101	142	18	136		5				

CUY-422-16.20 (HARPER ROAD)

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PAVEMENT MARKING SUBSUMMARY SHEET 1 OF 6

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DESIGNER
DLS

REVIEWER
AKF 08/31/22

PROJECT ID
113889

SHEET 378 TOTAL 481

PAVEMENT MARKING SUBSUMMARY SHEET 2 OF 6

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 EDGE LINE, 4" WHITE, TYPE 1 FT	642 EDGE LINE, 4" YELLOW, TYPE 1 FT	642 LANE LINE, 4", TYPE 1 FT	642 CENTER LINE, (DOUBLE SOLID), TYPE 1 FT	642 CHANNELIZING LINE, 8", TYPE 1 FT	642 STOP LINE, TYPE 1 FT	642 TRANSVERSE/DIAGONAL LINE, YELLOW, TYPE 1 FT	642 LANE ARROW, TYPE 1 EACH	642 DOTTED LINE, 4", WHITE, TYPE 1 FT	642 DOTTED LINE, 4", YELLOW, TYPE 1 FT	644 EDGE LINE, 6" WHITE FT	644 EDGE LINE, 6", YELLOW FT	644 LANE LINE, 6" FT	644 CHANNELIZING LINE, 12" FT	644 STOP LINE FT	644 CROSSWALK LINE, 12" FT	644 TRANSVERSE/DIAGONAL LINE, WHITE FT	644 LANE ARROW EACH	644 LANE REDUCTION ARROW EACH	644 DOTTED LINE, 6", WHITE FT	644 DOTTED LINE, 6", YELLOW FT	644 YIELD LINE FT
414	DY	HARPER RD SB	262+70	262+93	LT										23												
414	EY	HARPER RD SB	262+93	263+92	LT		99																				
414	DY	HARPER RD SB	263+92	264+46	LT										54												
414	EY	HARPER RD SB/HARPER RD	264+46	65+00	LT/LT		65																				
414	DW	HARPER RD SB	262+59	263+34	CEN									75													
414	LL	HARPER RD SB/HARPER RD	263+34	65+00	CEN/LT			173																			
414	DW	HARPER RD SB	263+06	263+30	RT									24													
414	EW	HARPER RD SB/HARPER RD	263+30	65+00	RT/RT	178																					
414	LA	HARPER RD SB	263+30		LT								1														
414	LA	HARPER RD SB	263+30		RT								1														
414	EW	RAMP 3B	544+01	545+00	LT											99											
414	CW	RAMP 3B	544+31		LT																36						
414	SL	RAMP 3B	544+47		LT															18							
414	EY	RAMP 3B	543+80	545+00	CEN												120										
414	EW	RAMP 3A	644+24	645+00	CEN											76											
414	EY	RAMP 1B/HARPER RD	446+42	65+00	RT/RT		94																				
415	EY	HARPER RD SB	265+00	268+40	LT		340																				
415	EY	RAMP 4B	449+64	451+00	CEN												136										
415	CW	RAMP 4B	450+57		RT																32						
415	LA	RAMP 4B	450+26		RT																			1			
415	EW	RAMP 4B	450+18	451+00	RT											82											
415	DY	HARPER RD SB	268+40	268+90	LT										50												
415	EY	HARPER RD SB	268+90	269+75	LT		85																				
415	DY	HARPER RD SB/HARPER RD	269+75	70+00	LT/LT										45												
415	LL	HARPER RD SB	265+00	267+41	CEN			241																			
415	CH	HARPER RD SB	267+41	269+19	CEN					178																	
415	EW	HARPER RD SB	265+00	269+40	RT	440																					
415	LA	HARPER RD SB	269+11		LT								1														
415	LA	HARPER RD SB	269+11		RT								1														
415	SL	HARPER RD SB	269+21		LT/RT						30																
415	DW	HARPER RD SB/HARPER RD	269+21	70+00	LT/RT									103													
415	DW	HARPER RD SB	269+40	269+87	RT									47													
415	LA	HARPER RD SB	270+22		LT								1														
415	LA	HARPER RD SB	270+22		RT								1														
415	EW	HARPER RD SB/HARPER RD	269+87	70+00	RT/RT	44																					
415	EW	HARPER RD NB	165+00	169+31	LT	431																					
415	DW	HARPER RD NB	169+31	169+78	LT									47													
415	EW	HARPER RD NB/HARPER RD	169+78	70+00	LT/LT	44																					
415	CH	HARPER RD NB	165+00	169+13	CEN					413																	
415	DW	HARPER RD NB/HARPER RD	169+13	70+00	CEN/LT									104													
415	LA	HARPER RD NB	165+31		LT								1														
415	LA	HARPER RD NB	165+31		RT								1														
415	LA	HARPER RD NB	165+97		LT								1														
415	LA	HARPER RD NB	165+97		RT								1														
415	LA	HARPER RD NB	166+63		LT								1														
415	LA	HARPER RD NB	166+63		RT								1														
415	LA	HARPER RD NB	167+29		LT								1														
415	LA	HARPER RD NB	167+29		RT								1														
415	LA	HARPER RD NB	169+13		LT								1														
415	LA	HARPER RD NB	169+13		RT								1														
415	EY	HARPER RD NB	165+00	167+78	RT		278																				
415	DY	HARPER RD NB	167+78	168+46	RT										68												
415	EY	HARPER RD NB	168+46	169+67	RT		121																				
415	DY	HARPER RD NB/HARPER RD	169+67	70+00	RT/RT										44												
TOTALS CARRIED TO PAVEMENT MARKING SHEET 6 OF 6						2219		414		591	30		16	684		513				18	68		1				

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID 113889

SHEET 379 TOTAL 481

PAVEMENT MARKING SUBSUMMARY SHEET 3 OF 6

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 EDGE LINE, 4" WHITE, TYPE 1 FT	642 EDGE LINE, 4" YELLOW, TYPE 1 FT	642 LANE LINE, 4", TYPE 1 FT	642 CENTER LINE, (DOUBLE SOLID), TYPE 1 FT	642 CHANNELIZING LINE, 8", TYPE 1 FT	642 STOP LINE, TYPE 1 FT	642 TRANSVERSE/DIAGONAL LINE, YELLOW, TYPE 1 FT	642 LANE ARROW, TYPE 1 EACH	642 DOTTED LINE, 4", WHITE, TYPE 1 FT	642 DOTTED LINE, 4", YELLOW, TYPE 1 FT	644 EDGE LINE, 6" WHITE FT	644 EDGE LINE, 6", YELLOW FT	644 LANE LINE, 6" FT	644 CHANNELIZING LINE, 12" FT	644 STOP LINE FT	644 CROSSWALK LINE, 12" FT	644 TRANSVERSE/DIAGONAL LINE, WHITE FT	644 LANE ARROW EACH	644 LANE REDUCTION ARROW EACH	644 DOTTED LINE, 6", WHITE FT	644 DOTTED LINE, 6", YELLOW FT	644 YIELD LINE FT
415	EW	RAMP 2B	549+50	550+13	RT											63											
415	CW	RAMP 2B	549+93		RT																39						
415	SL	RAMP 2B	549+75		RT															19							
415	EY	RAMP 2B	549+50	550+67	CEN												117										
415	EY	RAMP 2A/HARPER RD	650+00	70+00	LT/RT											87											
415	CH	RAMP 2B	650+00	650+44	CEN												44										
415	SL	RAMP 2B	650+46		LT/RT															30							
415	CW	RAMP 2B	650+62		LT/RT																60						
415	DW	RAMP 2A/HARPER RD	650+62	70+00	CEN/RT																				11		
415	EW	RAMP 2A/HARPER RD	650+00	70+00	RT/RT											58											
415	LA	RAMP 2B	650+36		LT																		1				
415	LA	RAMP 2B	650+36		RT																		1				
416	EW	RAMP 4A	350+37	351+12	CEN											75											
416	CW	RAMP 4A	350+97		LT																40						
416	LA	RAMP 4A	350+75		LT																		1				
416	EY	RAMP 4A	350+87	351+12	LT												25										
416	CH	RAMP 4A	350+37	350+87	LT														50								
416	EW	HARPER RD NB/HARPER RD	171+06	74+25	LT/LT	340																					
416	LA	HARPER RD NB	171+32		LT								1														
416	LA	HARPER RD NB	171+98		LT								1														
416	LA	HARPER RD NB	172+64		LT								1														
416	LA	HARPER RD NB	173+30		LT								1														
416	EW	HARPER RDHARPER RD NB	70+00	170+37	LT/LT	42																					
416	CH	HARPER RD NB	170+37	173+86	LT					349																	
416	DW	HARPER RDHARPER RD NB	70+00	170+30	LT/CEN									14													
416	DW	HARPER RD NB	70+00	70+03	LT									3													
416	DW	HARPER RD NB	70+00	70+03	RT									3													
416	SL	HARPER RD NB	170+30		LT/RT						30																
416	CH	HARPER RD NB	170+32	172+36	CEN					204																	
416	LL	HARPER RD NB/HARPER RD	172+36	70+25	CEN/LT			210																			
416	LA	HARPER RD NB	170+40		LT								1														
416	LA	HARPER RD NB	170+40		RT								1														
416	LA	HARPER RD NB	171+06		LT								1														
416	LA	HARPER RD NB	171+06		RT								1														
416	LA	HARPER RD NB	171+72		LT								1														
416	LA	HARPER RD NB	171+72		RT								1														
416	LA	HARPER RD NB	172+38		LT								1														
416	LA	HARPER RD NB	172+38		RT								1														
416	LA	HARPER RD NB	173+04		LT								1														
416	LA	HARPER RD NB	173+04		RT								1														
416	LA	HARPER RD NB	173+70		LT								1														
416	LA	HARPER RD NB	173+70		RT								1														
416	EY	HARPER RD	70+03	72+15	LT		212																				
416	EY	HARPER RD	70+03	72+15	RT		212																				
416	CDS	HARPER RD	72+15	74+25	LT				210																		
416	TY	HARPER RD	72+15	74+25	LT							37															
416	CDS	HARPER RD	72+15	72+65	RT/LT				50																		
416	CH	HARPER RD	72+75	74+25	CEN					150																	
416	CH	HARPER RD	72+27	74+25	RT					198																	
416	DW	HARPER RD/HARPER RD SB	70+00	270+53	RT/CEN									29													
416	LL	HARPER RD SB/HARPER RD	270+53	74+25	CEN/RT			398																			
416	EW	HARPER RD/HARPER RD SB	70+00	270+34	RT/RT	5																					
416	DW	HARPER RD SB	270+34	271+04	RT									70													
416	EY	RAMP 2A/HARPER RD SB	70+00	270+34	LT/RT												5										
416	DY	RAMP 2A/HARPER RD SB	270+34	271+07	LT										73												
416	DW	HARPER RD/HARPER RD SB	70+00	271+00	RT/RT																					84	
416	EW	HARPER RD/HARPER RD SB	70+00	271+04	RT/RT											83											
416	EW	HARPER RD SB/HARPER RD	271+04	74+25	RT/RT	347																					
TOTALS CARRIED TO PAVEMENT MARKING SHEET 6 OF 6						1158		608	260	901	30	37	16	192		557			50	49	139		3		95		

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID 113889

SHEET 380 TOTAL 481

PAVEMENT MARKING SUBSUMMARY SHEET 4 OF 6

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 EDGE LINE, 4" WHITE, TYPE 1 FT	642 EDGE LINE, 4" YELLOW, TYPE 1 FT	642 LANE LINE, 4", TYPE 1 FT	642 CENTER LINE, (DOUBLE SOLID), TYPE 1 FT	642 CHANNELIZING LINE, 8", TYPE 1 FT	642 STOP LINE, TYPE 1 FT	642 TRANSVERSE/DIAGONAL LINE, YELLOW, TYPE 1 FT	642 LANE ARROW, TYPE 1 EACH	642 DOTTED LINE, 4", WHITE, TYPE 1 FT	642 DOTTED LINE, 4", YELLOW, TYPE 1 FT	644 EDGE LINE, 6" WHITE FT	644 EDGE LINE, 6", YELLOW FT	644 LANE LINE, 6" FT	644 CHANNELIZING LINE, 12" FT	644 STOP LINE FT	644 CROSSWALK LINE, 12" FT	644 TRANSVERSE/DIAGONAL LINE, WHITE FT	644 LANE ARROW EACH	644 LANE REDUCTION ARROW EACH	644 DOTTED LINE, 6", WHITE FT	644 DOTTED LINE, 6", YELLOW FT	644 YIELD LINE FT
416	LA	HARPER RD	72+46		RT								1														
416	LA	HARPER RD	72+46		RT								1														
416	LA	HARPER RD	73+12		LT								1														
416	LA	HARPER RD	73+12		RT								1														
416	LA	HARPER RD	73+12		RT								1														
416	LA	HARPER RD	73+12		RT								1														
416	LA	HARPER RD	73+78		LT								1														
416	LA	HARPER RD	73+78		RT								1														
416	LA	HARPER RD	73+78		RT								1														
416	LA	HARPER RD	73+78		RT								1														
417	EW	RAMP 1B	437+67	442+00	LT											433											
417	DW	RAMP 1B	437+67	442+00	LT/CEN																				433		
417	EY	RAMP 1B	437+67	442+00	RT												433										
418	EW	RAMP 1B/RAMP 1A	442+00	345+00	LT/CEN											300											
418	Y	RAMP 1A	344+49		RT																						20
418	LR	RAMP1B	443+07		LT																				1		
418	DW	RAMP 1B	442+00	443+07	CEN																					107	
418	LL	RAMP 1B	443+07	445+00	CEN													193									
418	EY	RAMP 1A	344+39	345+00	RT												61										
418	EW	RAMP 1B	444+38	445+00	LT											62											
418	EY	RAMP 1B	442+00	445+00	RT												300										
419	EY	RAMP 2A/RAMP 2B	647+33	549+50	LT/CEN												210										
419	CH	RAMP 2A/RAMP 2B	647+33	549+20	LT/RT														223								
419	EW	RAMP 2B	549+20	549+50	RT											30											
419	CH	RAMP 2A	648+83	649+33	LT														50								
419	EY	RAMP 2A	649+33	650+00	LT												67										
419	CH	RAMP 2A	647+33	650+00	CEN														267								
419	EW	RAMP 2A	647+33	650+00	RT											267											
419	LA	RAMP 2A	647+67		LT																			1			
419	LA	RAMP 2A	647+67		LT																			1			
419	LA	RAMP 2A	647+67		RT																			1			
419	LA	RAMP 2A	648+33		LT																			1			
419	LA	RAMP 2A	648+33		LT																			1			
419	LA	RAMP 2A	648+33		RT																			1			
419	LA	RAMP 2B	548+92		RT																			1			
419	LA	RAMP 2A	648+99		LT																			1			
419	LA	RAMP 2A	648+99		RT																			1			
419	LA	RAMP 2A	649+65		LT																			1			
419	LA	RAMP 2A	649+65		RT																			1			
TOTALS CARRIED TO PAVEMENT MARKING SHEET 6 OF 6													10			2163		193	540				11	1	540	20

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID 113889

SHEET 381 TOTAL 481

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 EDGE LINE, 4" WHITE, TYPE 1 FT	642 EDGE LINE, 4" YELLOW, TYPE 1 FT	642 LANE LINE, 4", TYPE 1 FT	642 CENTER LINE, (DOUBLE SOLID), TYPE 1 FT	642 CHANNELIZING LINE, 8", TYPE 1 FT	642 STOP LINE, TYPE 1 FT	642 TRANSVERSE/DIAGONAL LINE, YELLOW, TYPE 1 FT	642 LANE ARROW, TYPE 1 EACH	642 DOTTED LINE, 4", WHITE, TYPE 1 FT	642 DOTTED LINE, 4", YELLOW, TYPE 1 FT	644 EDGE LINE, 6" WHITE FT	644 EDGE LINE, 6", YELLOW FT	644 LANE LINE, 6" FT	644 CHANNELIZING LINE, 12" FT	644 STOP LINE FT	644 CROSSWALK LINE, 12" FT	644 TRANSVERSE/DIAGONAL LINE, WHITE FT	644 LANE ARROW EACH	644 LANE REDUCTION ARROW EACH	644 DOTTED LINE, 6", WHITE FT	644 DOTTED LINE, 6", YELLOW FT	644 YIELD LINE FT
420	EW	RAMP 3A	645+00	650+00	CEN											500											
420	EY	RAMP 3A	645+00	645+36	RT												36											
420	CH	RAMP 3A	645+36	650+00	RT														464									
420	EW	RAMP 3B	545+00	545+36	LT											36												
420	EY	RAMP 3B/RAMP 3A	545+00	650+00	RT												500											
420	LA	RAMP 3A	645+36		RT																		1					
420	LA	RAMP 3A	645+36		RT																		1					
420	LA	RAMP 3A	646+02		RT																		1					
420	LA	RAMP 3A	646+02		RT																		1					
420	LA	RAMP 3A	646+68		RT																		1					
420	LA	RAMP 3A	646+68		RT																		1					
420	LA	RAMP 3A	647+39		RT																		1					
420	LA	RAMP 3A	647+39		RT																		1					
420	LA	RAMP 3A	648+09		RT																		1					
420	LA	RAMP 3A	648+09		RT																		1					
420	LA	RAMP 3A	648+80		RT																		1					
420	LA	RAMP 3A	648+80		RT																		1					
420	LA	RAMP 3A	649+50		RT																		1					
420	LA	RAMP 3A	649+50		RT																		1					
421	EW	RAMP 3A	650+00	654+00	CEN											400												
421	CH	RAMP 3A	650+00	652+90	RT														290									
421	EY	RAMP 3A	650+00	654+00	RT												400											
421	LA	RAMP 3A	650+20		RT																		1					
421	LA	RAMP 3A	650+20		RT																		1					
421	LA	RAMP 3A	650+88		RT																		1					
421	LA	RAMP 3A	650+88		RT																		1					
421	LA	RAMP 3A	651+56		RT																		1					
421	LA	RAMP 3A	651+56		RT																		1					
421	LA	RAMP 3A	652+22		RT																		1					
421	LA	RAMP 3A	652+22		RT																		1					
421	LA	RAMP 3A	652+88		RT																		1					
421	LA	RAMP 3A	652+88		RT																		1					
422	EY	RAMP 4B/RAMP 4A	451+00	855+00	CEN/LT												400											
422	EW	RAMP 4B	451+00	451+56	RT											56												
422	CH	RAMP 4B/RAMP 4A	451+56	854+37	RT/LT														275									
422	DW	RAMP 4A	854+37	855+00	LT																				63			
422	LR	RAMP 4A	854+36		CEN																			1				
422	EY	RAMP 4A	351+12	852+80	LT												185											
422	EW	RAMP 4A	351+12	855+00	RT											388												
423	EY	RAMP 4A	855+00	858+37	LT												337											
423	DW	RAMP 4A	855+00	858+37	LT																				337			
423	EW	RAMP 4A	855+00	858+37	RT											337												
TOTALS CARRIED TO PAVEMENT MARKING SHEET 6 OF 6																3575			1029				24	1	400		

PAVEMENT MARKING SUBSUMMARY SHEET 5 OF 6

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SHEET 382 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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PAVEMENT MARKING SUBSUMMARY SHEET 6 OF 6

SHEET NO.	REF. NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 EDGE LINE, 4" WHITE, TYPE 1 FT	642 EDGE LINE, 4" YELLOW, TYPE 1 FT	642 LANE LINE, 4", TYPE 1 FT	642 CENTER LINE, (DOUBLE SOLID), TYPE 1 FT	642 CHANNELIZING LINE, 8", TYPE 1 FT	642 STOP LINE, TYPE 1 FT	642 TRANSVERSE/DIAGONAL LINE, YELLOW, TYPE 1 FT	642 LANE ARROW, TYPE 1 EACH	642 DOTTED LINE, 4", WHITE, TYPE 1 FT	642 DOTTED LINE, 4", YELLOW, TYPE 1 FT	644 EDGE LINE, 6" WHITE FT	644 EDGE LINE, 6", YELLOW FT	644 LANE LINE, 6" FT	644 CHANNELIZING LINE, 12" FT	644 STOP LINE FT	644 CROSSWALK LINE, 12" FT	644 TRANSVERSE/DIAGONAL LINE, WHITE FT	644 LANE ARROW EACH	644 LANE REDUCTION ARROW EACH	644 DOTTED LINE, 6", WHITE FT	644 DOTTED LINE, 6", YELLOW FT	644 YIELD LINE FT
424	EW	US 422	837+90	842+50	LT											460											
425	EW	US 422	842+50	847+50	LT											500											
425	TW	US 422	844+50	847+50	LT																	362					
426	EW	US 422	847+50	850+75	LT											325											
426	TW	US 422	847+50	850+75	LT																	529					
TOTAL THIS SHEET																1285						891					
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY SHEET 1 OF 6						1673	219	503	241	84	58	15	207	564	101	142	18	136		5							
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY SHEET 2 OF 6						2219	414		591	30		16	684	513			18	68		1							
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY SHEET 3 OF 6						1158	608	260	901	30	37	16	192	557		50	49	139		3			95				
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY SHEET 4 OF 6												10		2163	193	540				11	1	540	20				
TOTALS CARRIED FROM PAVEMENT MARKING SUBSUMMARY SHEET 5 OF 6														3575		1029				24	1	400					
TOTALS						5050	1241	763	1733	144	95	57	1083	8657	294	1761	85	343	891	44	2	1035	20				
TOTAL MILE						0.96	0.24	0.15						1.64	0.06												
TOTALS CARRIED TO GENERAL SUMMARY						0.96	0.24	0.15	1733	144	95	57	1083	1.64	0.06	1761	85	343	891	44	2	1035	20				

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID 113889

SHEET 383 TOTAL 481

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30 EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-17.10 EACH
390	R-1	HARPER RD		LT	R3-H8bh		1			2					
390	R-2	HARPER RD		LT	R3-H8bh		1			2					
390	R-3	HARPER RD		RT	M4-5		1			1					
					M1-1-3		1								
					M5-1R		1								
390	R-4	HARPER RD		RT	W11-8		1			1					
391	R-5	HARPER RD		LT	R10-13							1			
391	R-6	HARPER RD		LT	SPECIAL								1		
391	R-7	HARPER RD		LT	W4-2R								1		
					R5-2								1		
391	R-8	RAMP 3		LT	R1-1		1			2					
					R5-1		1								
					R6-1R		1								
					R6-1L		1								
391	R-9	RAMP 3		LT	R3-H8bd		1			2					
					SPECIAL			1							
					SPECIAL			1							
391	R-10	RAMP 3		RT	R3-H8bd		1			2					
391	R-11	RAMP 3		RT	R1-1		1			2					
					R5-1		1								
					R6-1R		1								
					R6-1L		1								
391	R-12	RAMP 5		RT	W8-5		1			2					
391	R-13	HARPER RD		LT	W11-8		1			1					
391	R-14	HARPER RD		LT	SPECIAL				1		2				
391	R-15	HARPER RD		RT	R2-1								1		
391	R-16	HARPER RD		RT	R10-13							1			
391	R-17	HARPER RD		RT	M4-5								1		
					M1-1-3								1		
					M5-1R								1		
391	R-18	HARPER RD		RT	SPECIAL							1		1	
391	R-19	HARPER RD		CEN	R3-2		1			1					
					R4-7		1								
391	R-20	HARPER RD		RT	SPECIAL				1		2				
		TOTALS CARRIED TO SIGNING REMOVAL SUBSUMMARY SHEET 3 OF 3					20	2	2	18	4	3	7	1	

SIGNING REMOVAL SUBSUMMARY SHEET 1 OF 3

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID 113889

SHEET 384 TOTAL 481

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30 EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-17.10 EACH
392	R-21	HARPER RD		LT	W1-11		1			2					
					W13-1P		1								
392	R-22	HARPER RD		LT	SPECIAL				1		2				
392	R-23	HARPER RD		LT	SPECIAL							1		1	
					SPECIAL							1			
392	R-24	HARPER RD		LT	M4-5								1		
					M1-5-2								1		
					M6-1R								1		
392	R-25	HARPER RD		LT	R10-3e								1		
392	R-26	RAMP 4		RT	R5-H10e		1			1					
392	R-27	HARPER RD		LT	SPECIAL							1			
					D3-1							1			
392	R-28	HARPER RD		LT	R10-3e								1		
392	R-29	HARPER RD		LT	R4-7b		1			1					
392	R-30	HARPER RD		RT	R10-3e								1		
392	R-31	HARPER RD		RT	R6-1L		1			2					
					R6-1R		1								
					R5-1		1								
					SPECIAL		1								
					SPECIAL		1								
392	R-32	RAMP 2		LT	R3-H8cd		1			2					
392	R-33	RAMP 2		RT	R3-H8cd		1			2					
392	R-34	HARPER RD		RT	R6-1R		1			2					
					R6-1L		1								
					R5-1		1								
					OM-3L		1								
					SPECIAL		1								
					SPECIAL		1								
					OM-3R		1								
					R12-H7		1								
					R12-H7		1								
392	R-35	HARPER RD		LT	R10-3e								1		
393	R-36	HARPER RD		LT	SPECIAL			1							
393	R-37	HARPER RD		LT	M4-5		1			1					
					M1-1-3		1								
					M6-3		1								
393	R-38	HARPER RD		LT	M4-5		1			1					
					M1-5-2		1								
					M5-1R		1								
393	R-39	HARPER RD		LT	R4-7		1			1					
393	R-40	HARPER RD		RT	SPECIAL								1		
393	R-41	HARPER RD		LT/RT	R3-5L							1			1
					R3-5L							1			
					R3-5a							1			
					R3-5a							1			
393	R-42	HARPER RD		RT	W11-2		1			1					
394	R-43	RAMP 1		LT	SPECIAL		1			2					
394	R-44	RAMP 1		RT	W4-1R		1			2					
395	R-45	RAMP 1		LT	D10-H5a		1			1					
		TOTALS CARRIED TO SIGNING REMOVAL SUBSUMMARY SHEET 3 OF 3					31	1	1	21	2	8	8	1	1

SIGNING REMOVAL SUBSUMMARY SHEET 2 OF 3

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID 113889

SHEET 385 TOTAL 481

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30 EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-17.10 EACH
396	R-46	RAMP 2		LT	SPECIAL			1		2					
					SPECIAL			1							
					R5-1a		1								
					R5-1a		1								
396	R-47	RAMP 2		RT	D1-H16a				1		2				
					D1-H15a				1						
396	R-48	RAMP 2		RT	R5-1a		1			2					
					R5-1a		1								
397	R-49	RAMP 3		LT	R5-1a		1			2					
					R5-1a		1								
					R3-H8bd		1								
					SPECIAL		1								
397	R-50	RAMP 3		LT	W1-6L		1			2					
397	R-51	RAMP 3		LT	D10-H5a		1			1					
397	R-52	RAMP 3		RT	R5-1a		1			2					
					R5-1a		1								
					R3-H8bd		1								
					SPECIAL		1								
397	R-53	RAMP 3		RT	D10-H5a		1			1					
398	R-54	RAMP 3		LT	D1-H15a				1		2				
					D1-H16a				1						
398	R-55	RAMP 3		LT	R5-1a		1			2					
					R5-1a		1								
398	R-56	RAMP 3		RT	R5-1a		1			2					
					R5-1a		1								
399	R-57	RAMP 4		RT	D10-H5a		1			1					
400	R-58	RAMP 4		LT	W4-1R		1			2					
401	R-59	RAMP 5		RT	RW4-1R		1			2					
TOTALS THIS SHEET							22	2	4	21	4				
TOTALS CARRIED FROM SIGNING REMOVAL SUBSUMMARY SHEET 1 OF 3							20	2	2	18	4	3	7	1	
TOTALS CARRIED FROM SIGNING REMOVAL SUBSUMMARY SHEET 2 OF 3							31	1	1	21	2	8	8	1	1
TOTALS CARRIED TO GENERAL SUMMARY							73	5	7	60	10	11	15	2	1

SIGNING REMOVAL SUBSUMMARY SHEET 3 OF 3

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID 113889

SHEET 386 TOTAL 481

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 SIGN POST REFLECTOR EACH	630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EACH	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN ERECTED, FLAT SHEET, AS PER PLAN SF
402	S-1	HARPER RD	55+10	LT	R3-H8bh-36	36 X 30		13.0				7.5	
402	S-2	HARPER RD	57+40	LT	R3-H8bh-36	36 X 30		13.0				7.5	
402	S-3	HARPER RD	59+25	LT	SPECIAL	30 X 24	12.5						5.0
402	S-4	HARPER RD	57+00	RT	M4-5-24	24 X 12		13.6				2.0	
					M1-1-30-3	30 X 24						5.0	
					M5-6-24	24 X 18						3.0	
402	S-5	HARPER RD	57+91	RT	W11-8-36	36 X 36					1	9.0	
403	S-6	SP-2			R10-13-42	42 X 30				1		8.8	
403	S-7	SP-1			R10-13-42	42 X 30				1		8.8	
403	S-8	SP-3			R3-1-36	36 X 36				1		9.0	
403	S-9	SP-2			R3-2-36	36 X 36				1		9.0	
403	S-10	HARPER RD	60+50	LT	R5-2-24	24 X 24	12.5					2.0	
403	S-11	RAMP 3A	644+39	RT	W11-15-30	30 X 30		14.1				6.3	
					W16-7PR-24	24 X 12						2.0	
403	S-12	RAMP 3A	644+39	LT	W11-15-30	30 X 30		14.1				6.3	
					W16-7PL-24	24 X 12						2.0	
403	S-13	RAMP 3B	544+45	LT	W11-15-30	30 X 30		14.1				6.3	
					W16-7PL-24	24 X 12						2.0	
403	S-14	RAMP 3B	544+45	RT	W11-15-30	30 X 30		14.1				6.3	
					W16-7PR-24	24 X 12						2.0	
403	S-15	HARPER RD SB	261+93	RT	M4-5-24	24 X 12		13.6				2.0	
					M1-5-24-2	24 X 24						4.0	
					M6-3-21	21 X 15						2.2	
403	S-16	RAMP 1A	345+43	RT	M4-5-24	24 X 12		13.6				2.0	
					M1-1-30-3	30 X 24						5.0	
					M6-2R-21	21 X 15						2.2	
403	S-17	RAMP 1A	345+40	LT	W11-2-30	30 X 30		14.1				6.3	
					W16-7PL-24	24 X 12						2.0	
403	S-18	RAMP 1A	345+26	RT	W11-2-30	30 X 30		14.1				6.3	
					W16-7PR-24	24 X 12						2.0	
403	S-19	HARPER RD SB	262+36	LT	R5-1-36	36 X 36		13.5	1			9.0	
403	S-20	HARPER RD	62+48	LT	R4-7-24	24 X 30	13.0					5.0	
403	S-21	HARPER RD NB	163+30	RT	R5-1-36	36 X 36		13.5	1			9.0	
403	S-22	RAMP 1B	445+92	RT	W11-2-30	30 X 30		14.1				6.3	
					W16-7PR-24	24 X 12						2.0	
403	S-23	RAMP 1B	446+10	LT	W11-2-30	30 X 30		14.1				6.3	
					W16-7PL-24	24 X 12						2.0	
403	S-24	RAMP 1B	446+18	LT	M4-5-24	24 X 12					1	2.0	
					M1-1-30-3	30 X 24					1	5.0	
					M6-2L-21	21 X 15					1	2.2	
403	S-25	HARPER RD	63+48	LT	R4-8-24	24 X 30	13.0					5.0	
TOTALS CARRIED TO SIGNING SUBSUMMARY SHEET 2 OF 2							51.0	206.6	2	4	4	192.6	5.0

GROUND MOUNTED SIGNING SUBSUMMARY SHEET 1 OF 2

CUY-422-16.20 (HARPER ROAD)

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PROJECT ID
113889

SHEET 387 | TOTAL 481

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 SIGN POST REFLECTOR EACH	630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN EACH	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN ERECTED, FLAT SHEET, AS PER PLAN SF
404	S-26	SP-3			R3-2-36	36 X 36				1		9.0	
404	S-27	SP-2			R3-1-36	36 X 36				1		9.0	
404	S-28	RAMP 4B	450+43	RT	W11-15-30	30 X 30		14.1				6.3	
					W16-7PL-24	24 X 12						2.0	
404	S-29	RAMP 4B	450+59	LT	W11-15-30	30 X 30		14.1				6.3	
					W16-7PR-24	24 X 12						2.0	
404	S-30	HARPER RD NB	269+17	LT	R5-1-36	36 X 36		13.5	1			9.0	
404	S-31	RAMP 2B	549+82	LT	W11-2-30	30 X 30		14.1				6.3	
					W16-7PR-24	24 X 12						2.0	
404	S-32	RAMP 2B	5495+82	RT	W11-2-30	30 X 30		14.1				6.3	
					W16-7PL-24	24 X 12						2.0	
404	S-33	HARPER RD	68+95	LT	R4-8-24	24 X 30	13.0					5.0	
404	S-34	RAMP 2A	650+46	RT	W11-2-30	30 X 30		14.1				6.3	
					W16-7PL-24	24 X 12						2.0	
404	S-35	RAMP 2A	650+46	LT	W11-2-30	30 X 30		14.1				6.3	
					W16-7PR-24	24 X 12						2.0	
405	S-36	RAMP 4A	351+00	RT	W11-15-30	30 X 30		14.1				6.3	
					W16-7PL-24	24 X 12						2.0	
405	S-37	RAMP 4A	350+78	LT	W11-15-30	30 X 30		14.1				6.3	
					W16-7PR-24	24 X 12						2.0	
405	S-38	HARPER RD	72+07	LT	R4-7-24	24 X 30	13.0					5.0	
405	S-39	HARPER RD	74+25	LT	M4-5-24	24 X 12		13.6				2.0	
					M1-1-30-3	30 X 24						5.0	
					M5-4-24	24 X 18						3.0	
405	S-40	HARPER RD	74+25	LT	M4-5-24	24 X 12		13.6				2.0	
					M1-5-24-2	24 X 24						4.0	
					M6-2R-21	21 X 15						2.2	
405	S-41	HARPER RD	70+22	RT	R4-7-24	24 X 30	13.0					5.0	
405	S-42	HARPER RD NB	170+32	LT	R5-1-36	36 X 36		13.5	1			9.0	
405	S-43	HARPER RD NB	173+00	RT	SPECIAL	36 X 30					1		7.5
406	S-44	RAMP 3A	647+00	LT	SPECIAL	36 X 48		14.5/14.5				12.0	
406	S-45	RAMP 3A	648+50	LT	W1-6L-60	60 X 30		10.0/10.0	2			12.5	
406	S-46	RAMP 3A	649+50	LT	D10-H5a-30	30 X 30		13.0				6.3	
406	S-47	RAMP 3A	647+00	RT	SPECIAL	36 X 48		14.5/14.5				12.0	
407	S-49	RAMP 3A	653+00	LT	R3-H8bd-30	30 X 30		13.0				6.3	
407	S-50	RAMP 3A	653+00	RT	R3-H8bd-30	30 X 30		13.0				6.3	
408	S-51	RAMP 4A	853+00	RT	W4-2R-48	48 X 48		16.2/16.2				16.0	
408	S-52	RAMP 4A	855+00	RT	D10-H5a-30	30 X 30		13.0				6.3	
409	S-53	RAMP 4A	856+75	LT	W4-1R-48	48 X 48		16.2/16.2				16.0	
410	S-54	RAMP 1B	440+50	LT	R21-H2-30	30 X 36		13.5				7.5	
410	S-55	RAMP 1B	441+00	LT	D10-H5a-30	30 X 30		13.0				6.3	
410	S-56	RAMP 1B	438+60	RT	W4-1R-48	48 X 48		16.2/16.2				16.0	
411	S-57	RAMP 1B	443+75	LT	W4-2R-48	48 X 48		16.2/16.2				16.0	
411	S-58	RAMP 1A	344+50	LT	R2-1-48	48 X 48 X 48		13.4/13.4		2		7.0	
412	S-59	RAMP 2A	648+50	LT	SPECIAL	36 X 48		16.2/16.2				12.0	
					SPECIAL	36 X 24						6.0	
450	S-60	EX. SIGNAL SUPPORT			R10-10L-30	30 X 36				1		7.5	
TOTALS THIS SHEET							39.0	512.3	4	5	1	307.6	7.5
TOTALS FROM SIGNING SUBSUMMARY SHEET 1 OF 2							51.0	206.6	2	4	4	192.6	5.0
TOTALS CARRIED TO GENERAL SUMMARY							90.0	718.9	6	9	5	500.2	12.5

GROUND MOUNTED SIGNING SUBSUMMARY SHEET 2 OF 2

CUY-422-16.20 (HARPER ROAD)

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AKF 08/31/22

PROJECT ID
113889

SHEET 388 | TOTAL 481

SHEET NO.	REFERENCE NO.	LOCATION	SIDE	DETAIL PAGE	STATION	625 GROUND ROD EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-9.31, DESIGN 2 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 1 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2 EACH	630 SIGN, FLAT SHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH
402	OSS-1	HARPER RD	LT/RT	427	57+91	2				1			126.0		2
403	OSS-2	HARPER RD SB	RT	429	262+00	1			1				48.0		1
403	OSS-3	RAMP 1B	LT	429	446+18	1			1				48.0		1
404	OSS-4	HARPER RD NB	LT	430	269+13	1			1				48.0		1
405	OSS-5 & OSS-6	HARPER RD NB	LT/RT	428	173+00	2					1	30.0	151.0		2
407	S-48	RAMP 3A	LT	431	651+00		22.1/22.2	2				66.0		2	
412	S-60	RAMP 2A	RT	431	647+50		19.5/21.5	2				66.0		2	
TOTALS CARRIED TO GENERAL SUMMARY						7	85.3	4	3	1	1	162.0	421.0	4	7

CUY-422-16.20 (HARPER ROAD)

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OVERHEAD & BEAM SIGNING SUBSUMMARY

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SHEET 389 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_TP500l PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:46:50 AM USER: dstlmson
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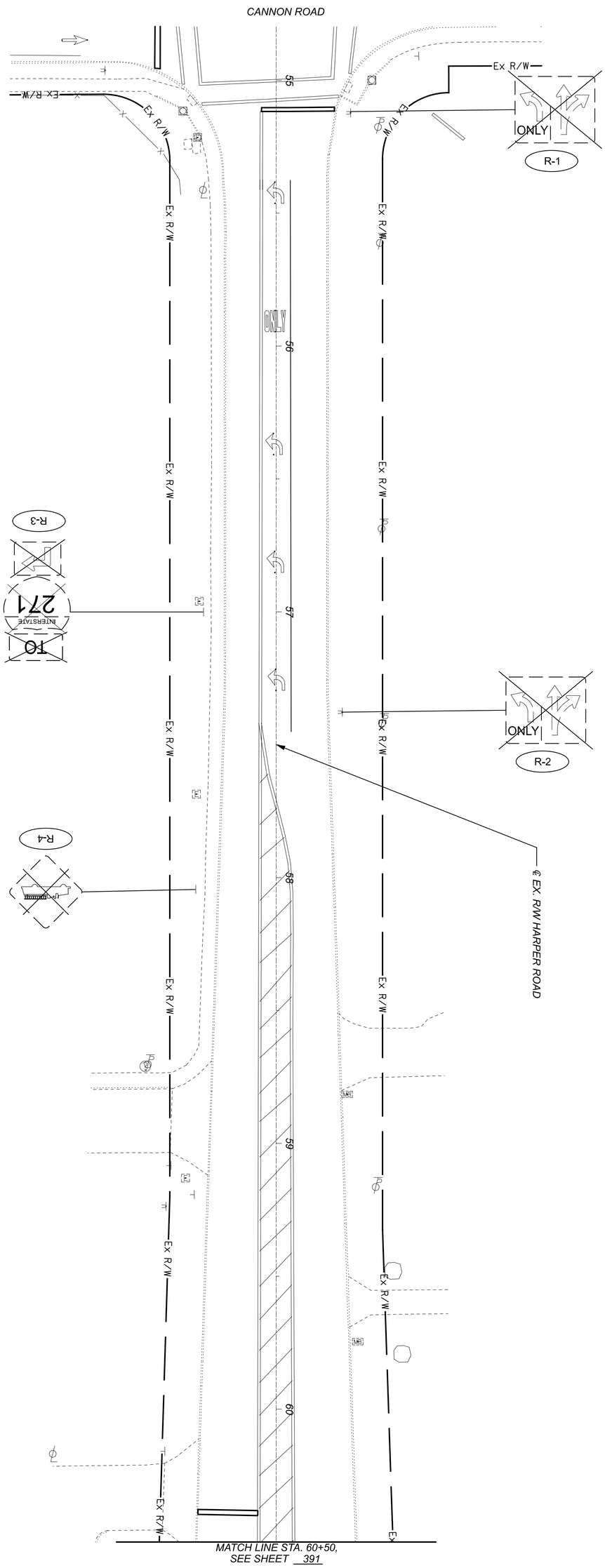

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SIGNING REMOVAL PLAN - HARPER ROAD
BEGIN TO STA. 60+50

HORIZONTAL SCALE IN FEET
0 20
10 40

SHEET	TOTAL
390	481

PROJECT ID 113889
REVIEWER AKF 01-21-22
DESIGNER DLS
DESIGN AGENCY GPD GROUP

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_TP5002 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:46:55 AM USER: dstimson
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP5002.dgn

SIGNING REMOVAL PLAN - HARPER ROAD STA. 60+50 TO STA. 65+50

HORIZONTAL SCALE IN FEET
0 10 20 40

R-5 EMERGENCY SIGNAL
R-6 HARPER RD CANNON ROAD 600 FEET AHEAD
R-7
R-8 STOP DO NOT ENTER ONE-WAY ONE-WAY
R-9 Cleveland Metroparks Scenic Drive Recreation ONLY ONLY
R-10 ONLY ONLY
R-11 STOP DO NOT ENTER ONE-WAY ONE-WAY
R-12
R-13
R-14 422 WEST Cleveland
R-15 SPEED LIMIT 35
R-16 EMERGENCY SIGNAL
R-17 271 INTERSTATE TO
R-18 422 WEST Cleveland
R-19
R-20 422 EAST Warren

MATCH LINE STA. 60+50, SEE SHEET 390
MATCH LINE STA. 845+00, SEE SHEET 397
MATCH LINE STA. 860+50, SEE SHEET 397
MATCH LINE STA. 65+50, SEE SHEET 392
MATCH LINE STA. 845+00, SEE SHEET 395

℄ EX. R/W RAMP 3
℄ EX. R/W RAMP 5
℄ EX. R/W RAMP 1
℄ EX. R/W HARPER ROAD

Ex LA-R/W
R/W

844 846 861 862

61 62 63 64 65

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

DESIGN AGENCY
GPD GROUP
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DESIGNER DLS
REVIEWER AKF 01-21-22
PROJECT ID 113889
SHEET 391 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_TP5003 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:46:56 AM USER: dstimson
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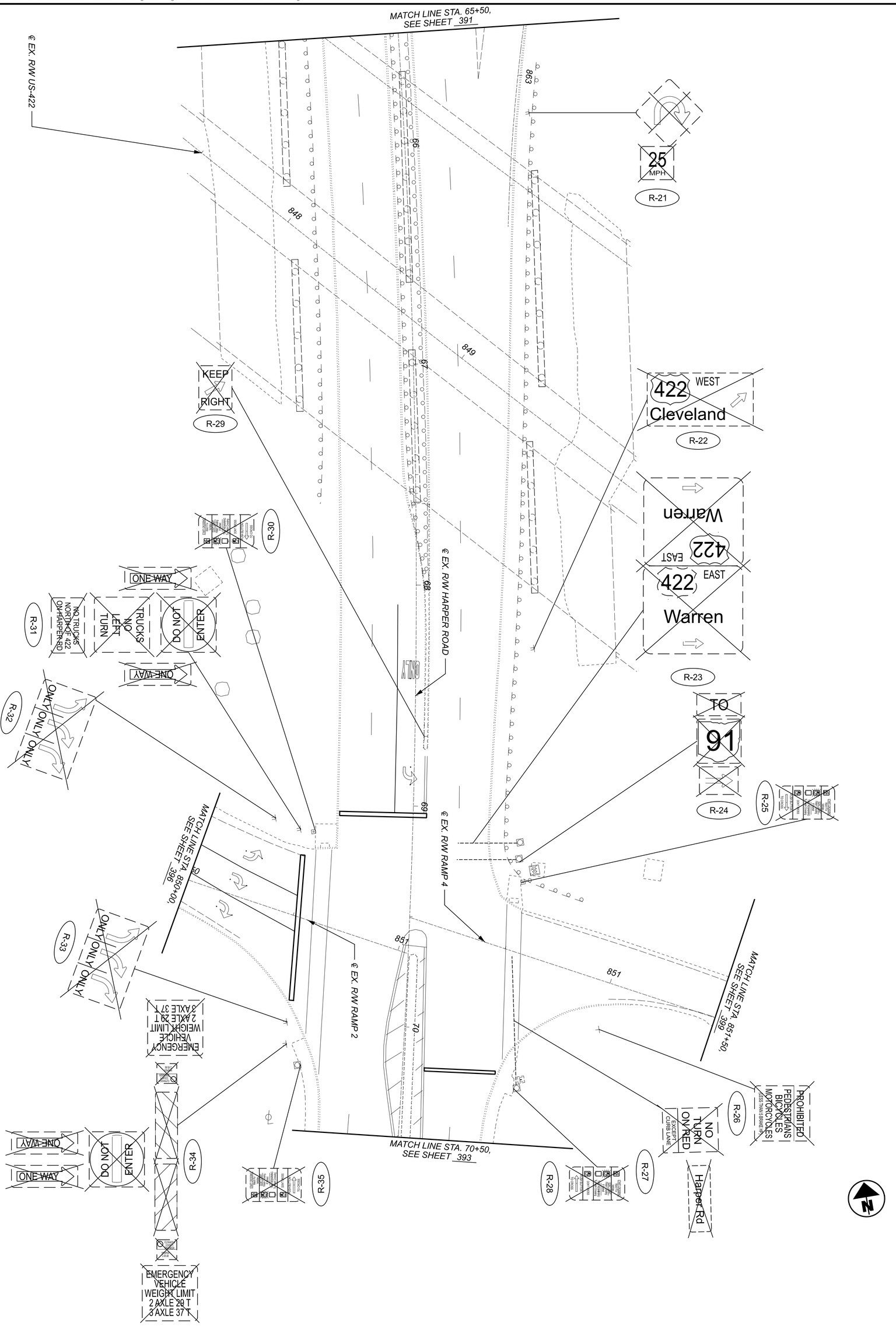

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET	TOTAL
392	481

PROJECT ID 113889

REVIEWER AKF 01-21-22

DESIGNER DLS

GPD GROUP

DESIGN AGENCY

SIGNING REMOVAL PLAN - HARPER ROAD
STA. 65+50 TO STA. 70+50

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: ll3889_TP5004 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:46:57 AM USER: dstlmson
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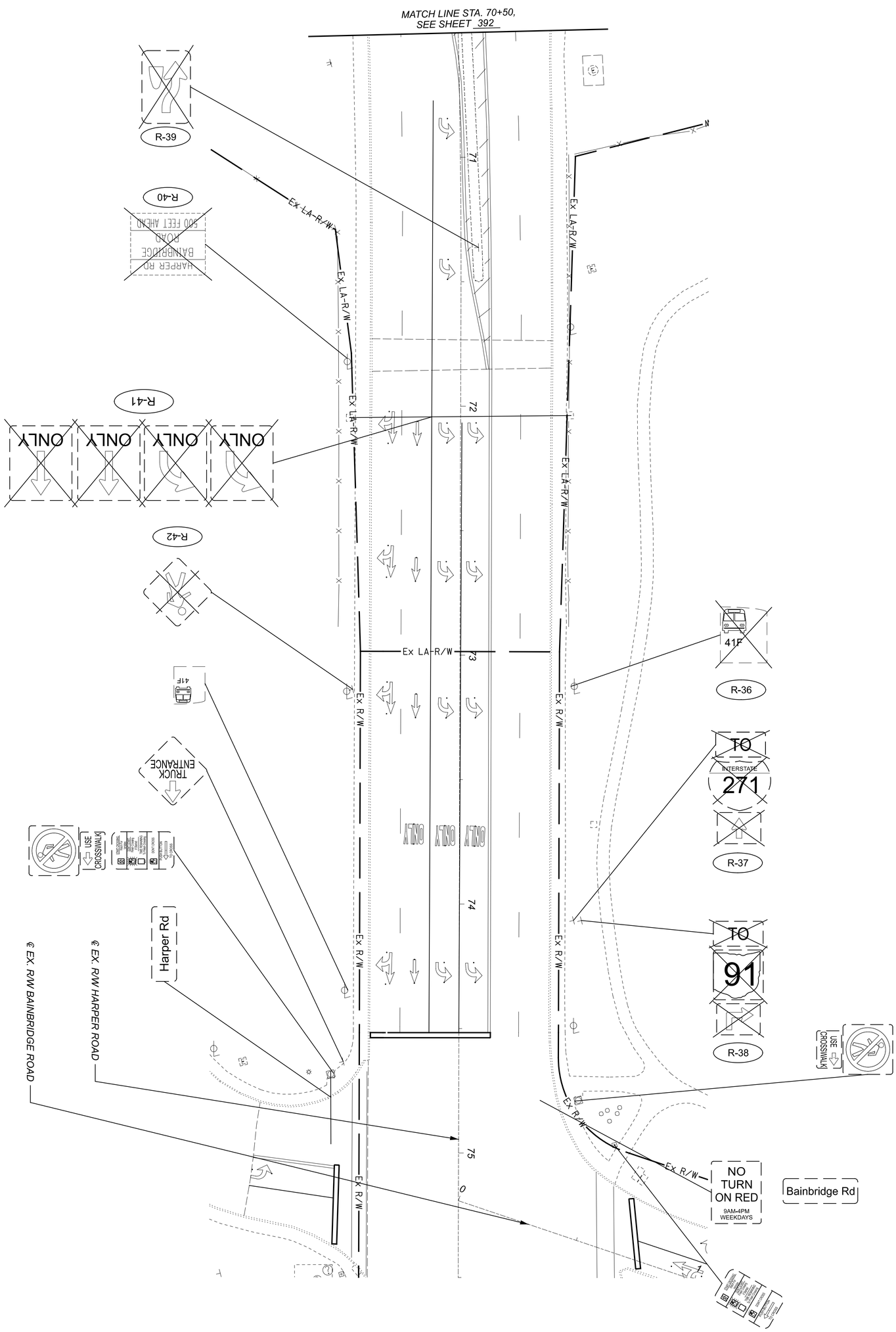
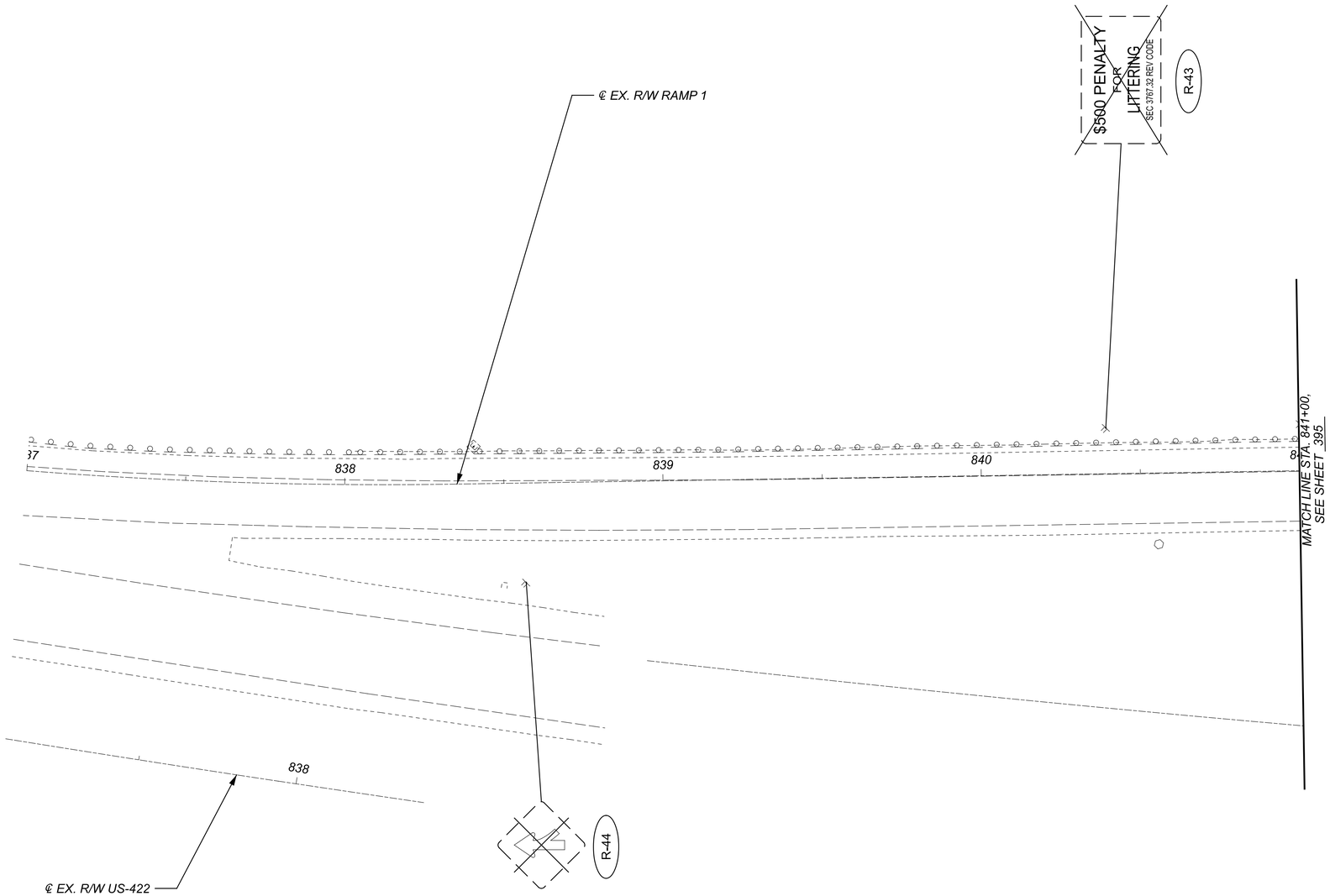


FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET 393 / TOTAL 481	DESIGNER DLS	DESIGN AGENCY GPD GROUP	SIGNING REMOVAL PLAN - HARPER ROAD STA. 70+50 TO END
PROJECT ID 113889	REVIEWER AKF 01-21-22		HORIZONTAL SCALE IN FEET 0 20 10 40



HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING REMOVAL PLAN - RAMP 1 BEGIN TO STA. 841+00

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_TP5005 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:46:57 AM USER: dstimson
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP5005.dgn

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DESIGNER
DLS

REVIEWER
AKF 01-21-22

PROJECT ID
113889

SHEET 394 | TOTAL 481

MODEL: ll3889_TP5006 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:46:58 AM USER: dstimson
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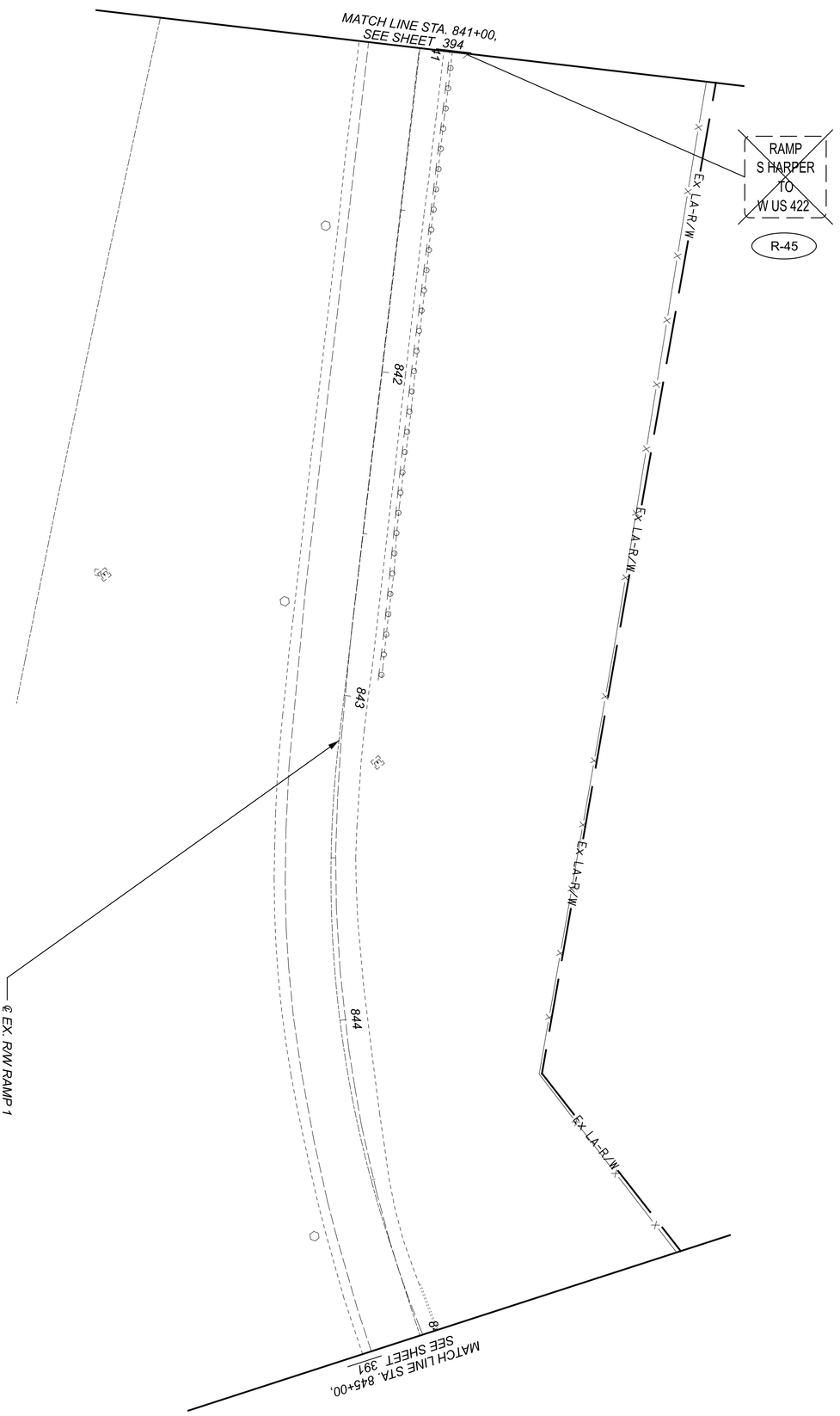

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET	395
TOTAL	481
PROJECT ID	113889
REVIEWER	AKF 01-21-22
DESIGNER	DLS
DESIGN AGENCY	GPD GROUP

SIGNING REMOVAL PLAN - RAMP 1
STA. 841+00 TO STA. 845+00

HORIZONTAL SCALE IN FEET
0 20
10 40

CUY-422-16.20 (HARPER ROAD)

MODEL: ll3889_TP5007 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:46:59 AM USER: dstlmson
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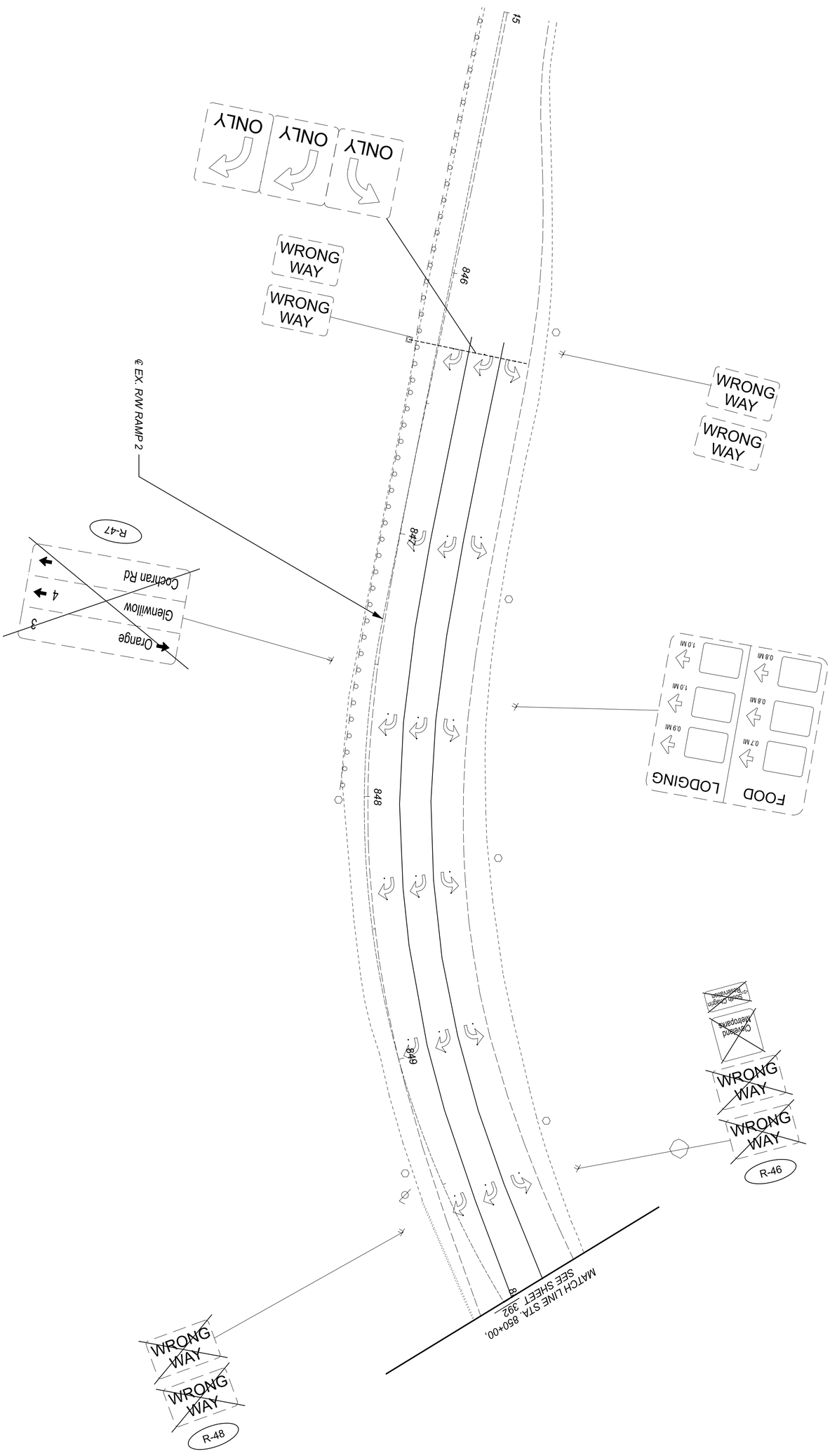


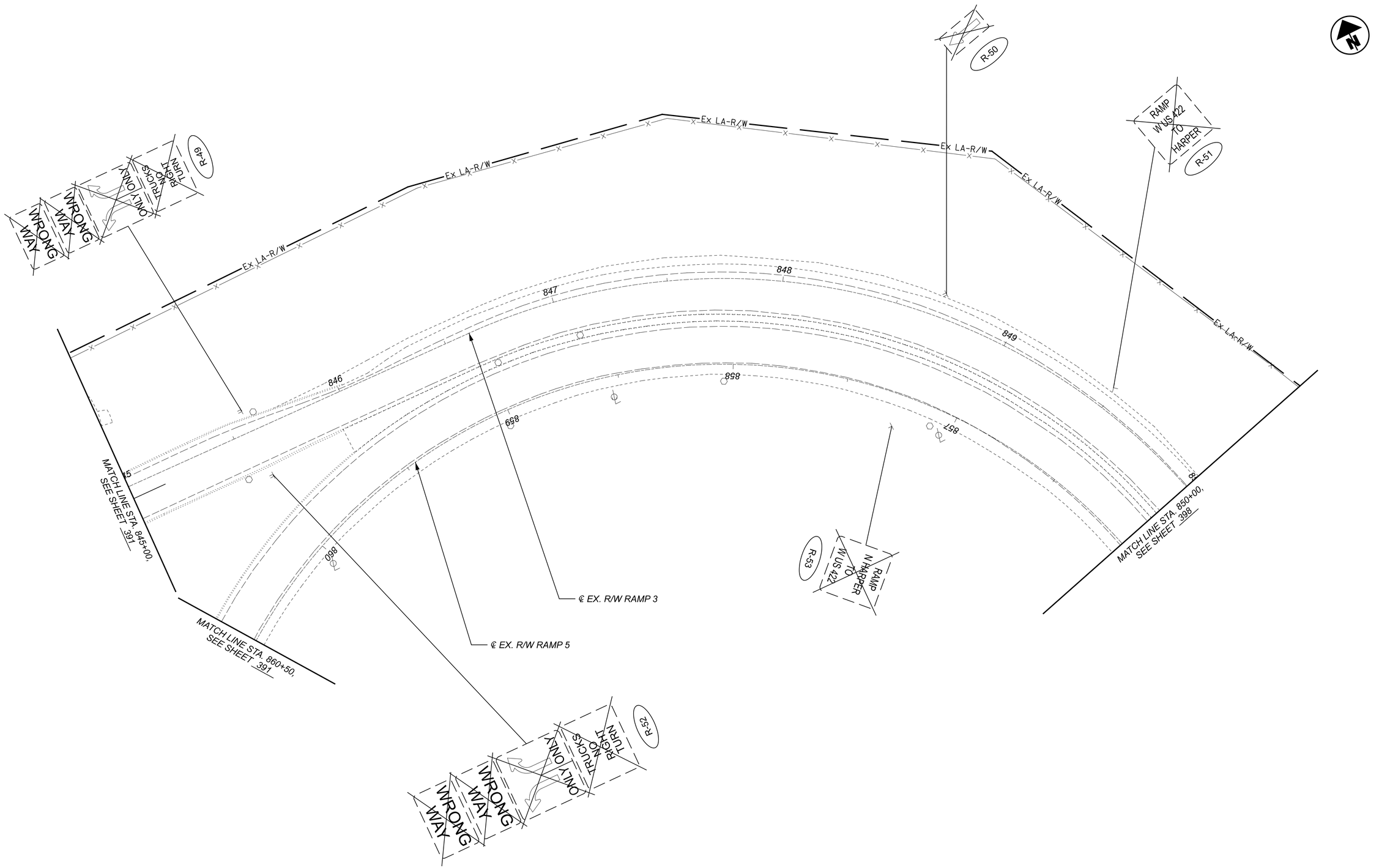
FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SIGNING REMOVAL PLAN - RAMP 2
BEGIN TO STA. 850+00

HORIZONTAL SCALE IN FEET
0 20
10 40

SHEET	TOTAL
396	481

PROJECT ID 113889
REVIEWER AKF 01-21-22
DESIGNER DLS
DESIGN AGENCY GPD GROUP



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING REMOVAL PLAN - RAMP 3
STA. 845+00 TO STA. 850+00

DESIGN AGENCY
GPD GROUP
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DESIGNER	DLS
REVIEWER	AKF 01-21-22
PROJECT ID	113889
SHEET	397
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_TP5008 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:46:59 AM USER: dstimson
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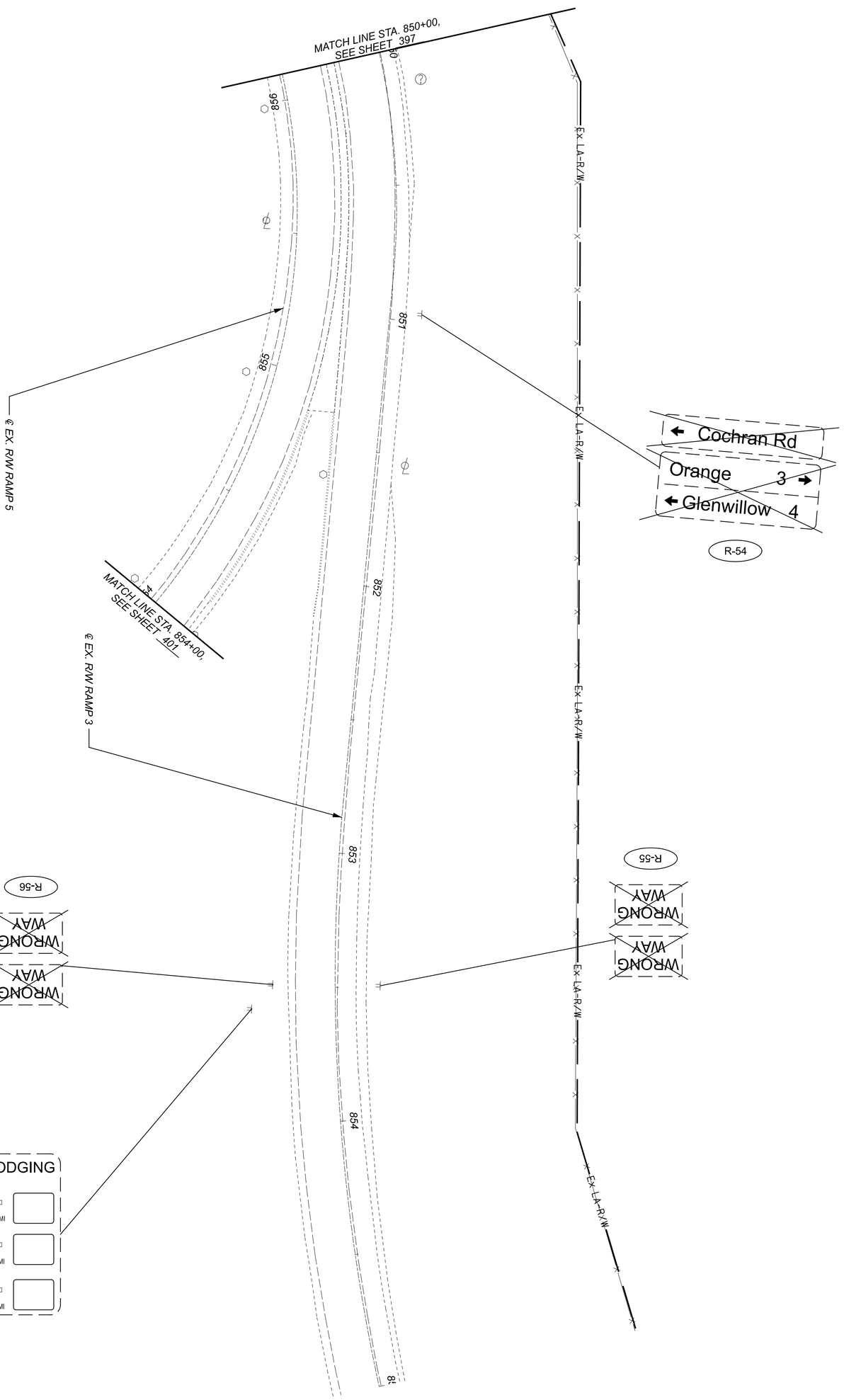

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SIGNING REMOVAL PLAN - RAMP 3
STA. 850+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40

SHEET	398
TOTAL	481
PROJECT ID	113889
REVIEWER	AKF 01-21-22
DESIGNER	DLS
DESIGN AGENCY	GPD GROUP

MODEL: II3889_TP50II PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:01 AM USER: dstlmson
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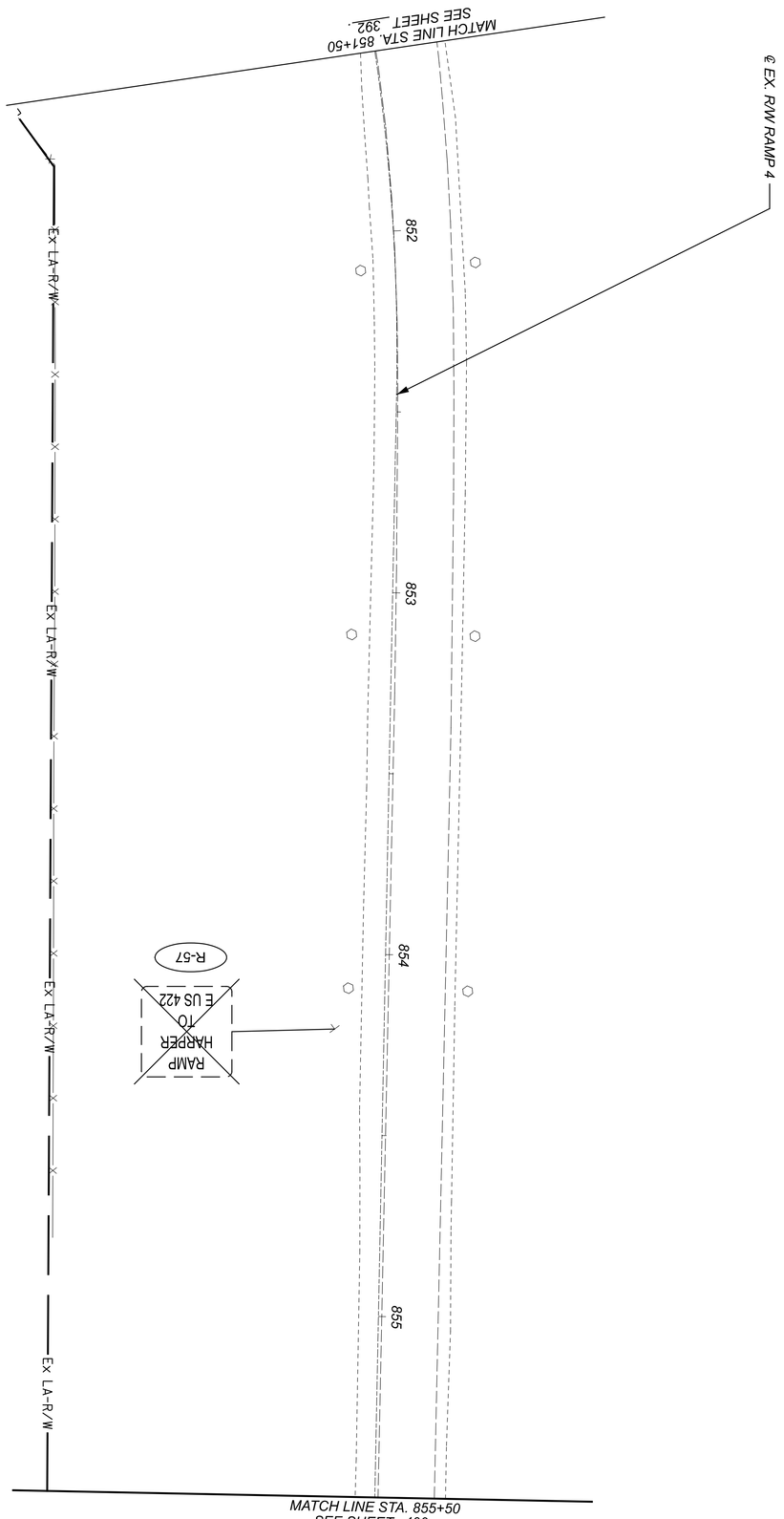


FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

DESIGN AGENCY: GPD GROUP

DESIGNER: DLS

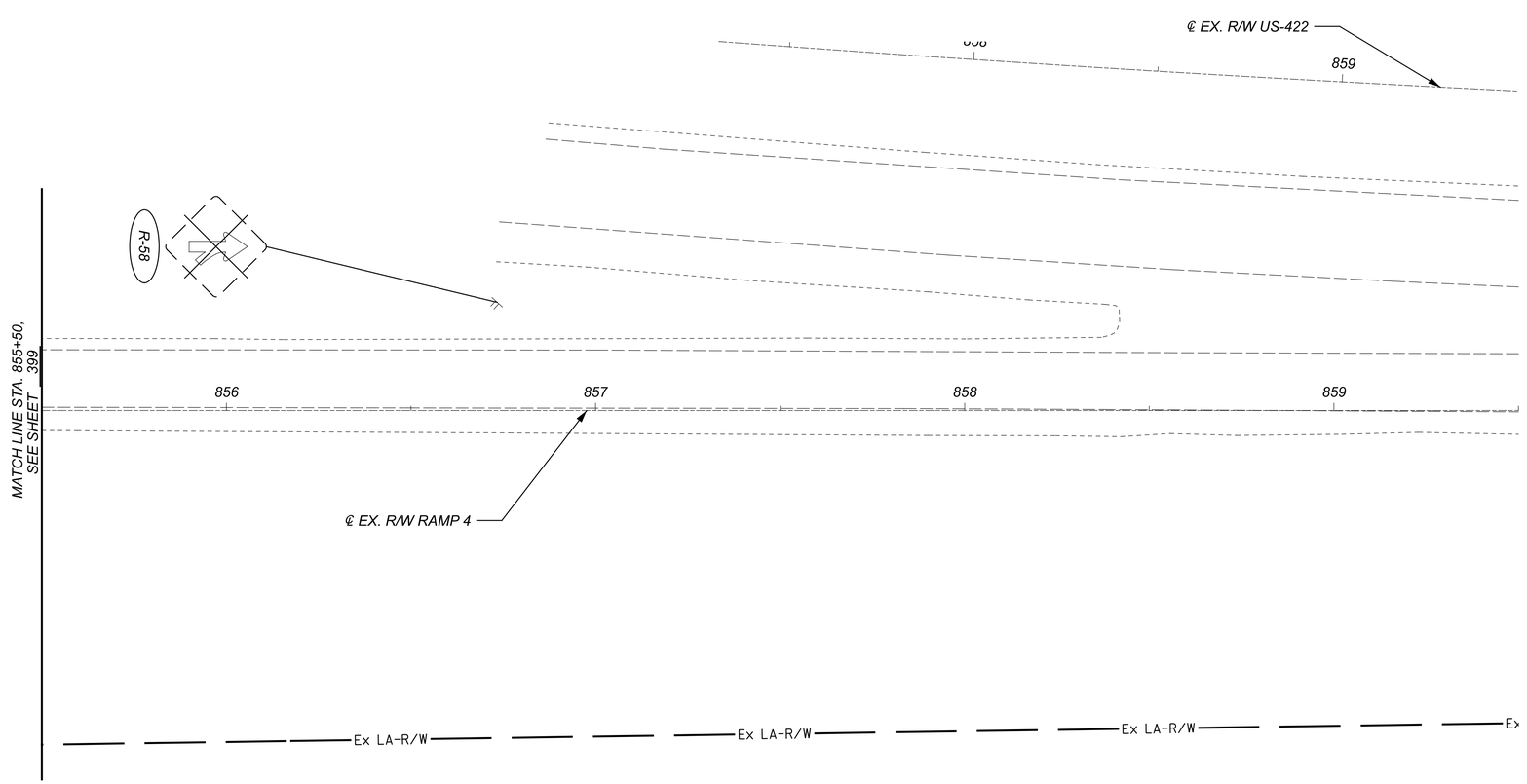
REVIEWER: AKF 01-21-22

PROJECT ID: 113889

SHEET 399 | TOTAL 481

SIGNING REMOVAL PLAN - RAMP 4
STA. 851+50 TO STA. 855+50

HORIZONTAL SCALE IN FEET
0 20
10 40



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING REMOVAL PLAN - RAMP 4
STA. 855+50 TO END

DESIGN AGENCY

GPD GROUP®

DESIGNER DLS

REVIEWER AKF 01-21-22

PROJECT ID 113889

SHEET 400 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_TP5012 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:01 AM USER: dsfimson
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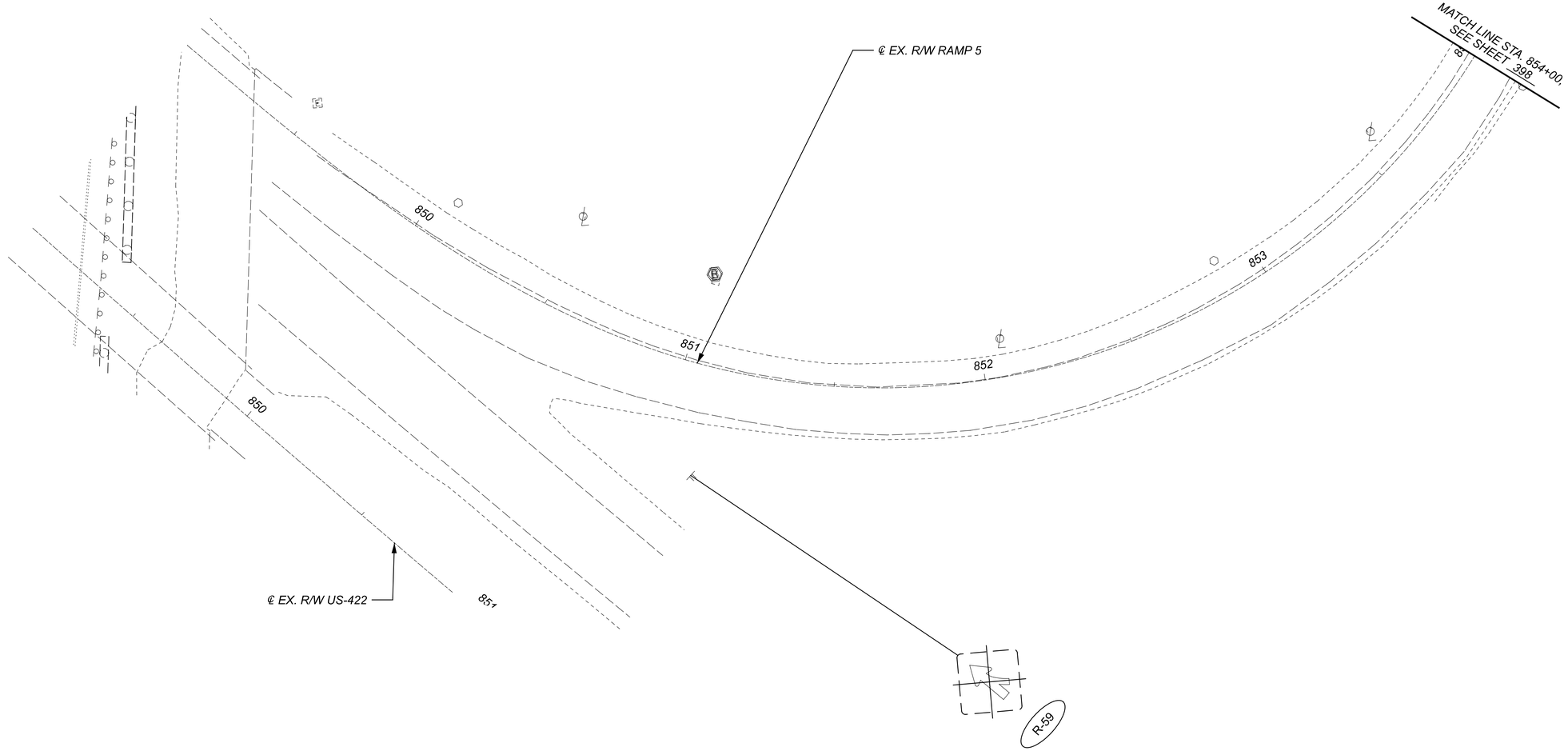

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING REMOVAL PLAN - RAMP 5
BEGIN TO STA. 854+00

DESIGN AGENCY
GPD GROUP*
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DESIGNER: DLS
REVIEWER: AKF 01-21-22
PROJECT ID: 113889
SHEET: 401 TOTAL: 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Il3889_TP5010 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:47:02 AM USER: dsfmson
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MODEL: CLP_C018 - Plan | PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:09 AM USER: dstimson
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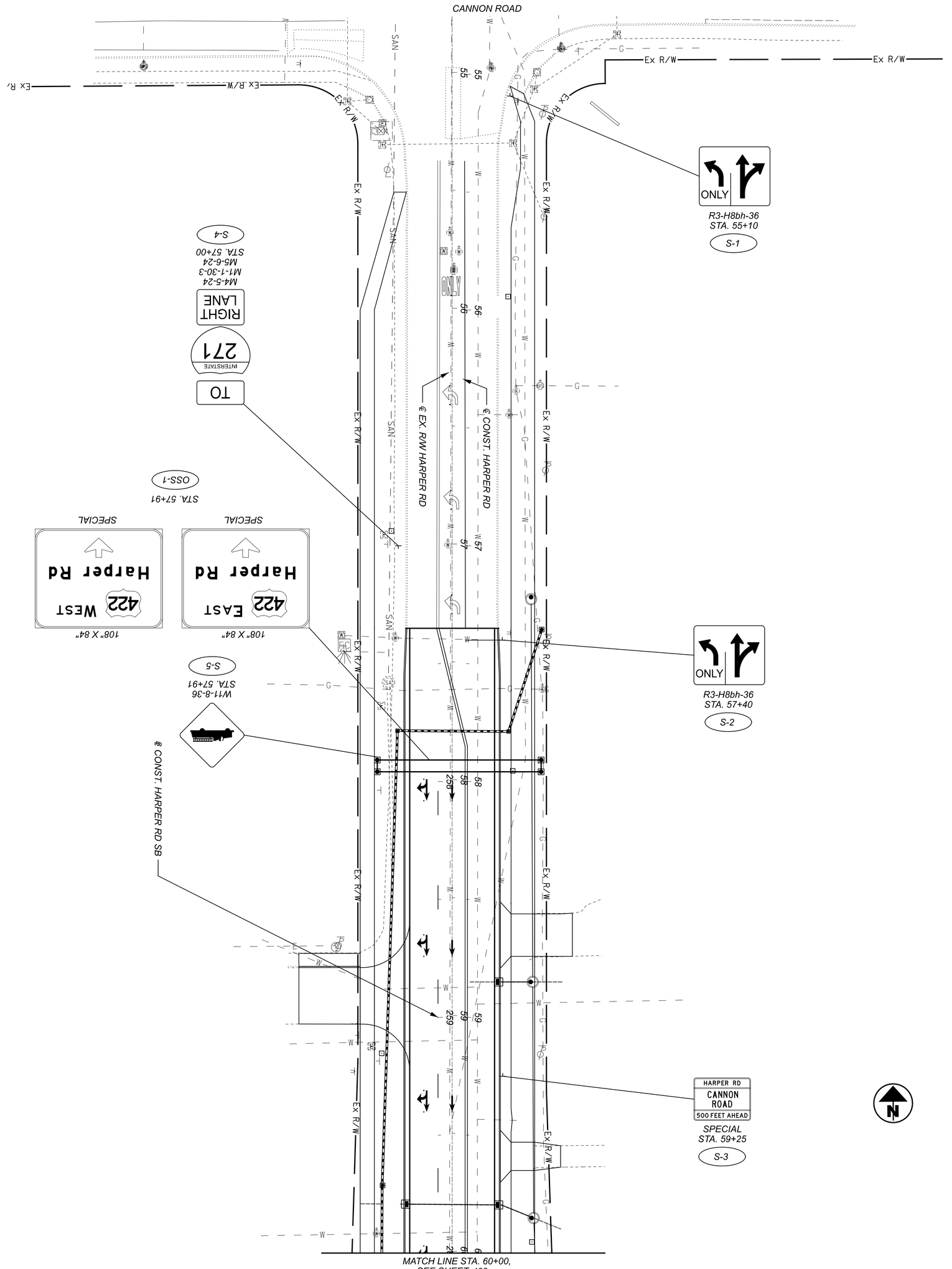

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET 402 | TOTAL 481
PROJECT ID 113889
REVIEWER AKF 09/02/21
DESIGNER DLS
GPD GROUP
DESIGN AGENCY

SIGNING PLAN - HARPER ROAD
BEGIN TO STA. 60+00

HORIZONTAL SCALE IN FEET
0 20
10 40

SIGNING PLAN - HARPER ROAD
STA. 60+00 TO STA. 65+00

HORIZONTAL SCALE IN FEET
0 10 20 40

MAST ARM SIGNS

EMERGENCY SIGNAL	R3-1-36	R3-2-36
R10-13-42	(B)	(C)
(A)		
S-6 S-7	S-8	S-9

℄ CONST. HARPER RD
℄ CONST. RAMP 3A
℄ CONST. RAMP 3B
℄ CONST. HARPER RD NB
℄ CONST. HARPER RD SB
℄ CONST. RAMP 1A
℄ CONST. RAMP 1B
℄ EX. R/W HARPER RD
Ex LA-R/W
Ex R/W
LA-R/W
R/W
PS-1
PS-2
PS-3
PS-4
SP-1
SP-2
SP-3
SP-4
R5-2-24 STA. 60+50 S-10
W11-15-30 W16-7PL-24 STA. 644+39 S-12
W11-15-30 W16-7PR-24 STA. 644+39 S-11
W11-15-30 W16-7PL-24 STA. 544+45 S-13
W11-15-30 W16-7PR-24 STA. 544+45 S-14
MATCH LINE STA. 645+00 ℄ CONST. RAMP 3A SEE SHEET 406
MATCH LINE STA. 545+00 ℄ CONST. RAMP 3B SEE SHEET 406
MATCH LINE STA. 60+00, SEE SHEET 402
MATCH LINE STA. 65+00, SEE SHEET 404
MATCH LINE STA. 345+00 ℄ CONST. RAMP 1A SEE SHEET 411
MATCH LINE STA. 445+00 ℄ CONST. RAMP 1B SEE SHEET 411
M4-5-24 M11-5-24-2 M6-3-21 STA. 261+93 S-15
M4-5-24 M1-1-30-3 M6-3-21 STA. 345+43 S-16
M4-5-24 M11-2-30 W16-7PL-24 STA. 345+40 S-17
M11-2-30 W16-7PR-24 STA. 345+26 S-18
R5-1-36 STA. 262+36 S-19
R4-7-24 STA. 62+48 S-20
R5-1-36 STA. 163+30 S-21
W11-2-30 W16-7PR-24 STA. 445+92 S-22
W11-2-30 W16-7PL-24 STA. 446+10 S-23
R4-8-24 STA. 63+48 S-25
M4-5-24 M1-1-30-3 M6-2L-21 STA. 446+18 S-24
SPECIAL STA. 262+00 OSS-2
SPECIAL STA. 446+18 OSS-3
96" X 72"
96" X 72"
91 TO
271 TO INTERSTATE
422 WEST
422 WEST
DO NOT ENTER
DO NOT ENTER

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C018 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 7/12/2023 TIME: 8:43:20 AM USER: jhobrath
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GPD GROUP
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DESIGNER	DLS
REVIEWER	AKF 09/02/21
PROJECT ID	113889
SHEET	403
TOTAL	481

MAST ARM SIGNS

R3-2-36 (A) S-26

R3-1-36 (B) S-27

℄ EX. R/W US 422

℄ CONST. RAMP 4B

℄ CONST. HARPER RD SB

℄ CONST. HARPER RD

℄ EX. R/W HARPER RD

℄ CONST. HARPER RD NB

℄ CONST. RAMP 2B

℄ CONST. RAMP 2A

W11-15-30
W16-7PR-24
STA. 450+59
S-29

W11-15-30
W16-7PL-24
STA. 450+43
S-28

SPECIAL
STA. 269+13
OSS-4

422 EAST
96" X 72"

MATCH LINE STA. 451+00
℄ CONST. RAMP 4B
SEE SHEET 408

DO NOT ENTER
R5-1-36
STA. 269+17
S-30

MATCH LINE STA. 65+00,
SEE SHEET 403

MATCH LINE STA. 70+00,
SEE SHEET 405

MATCH LINE STA. 549+50
℄ CONST. RAMP 2B
SEE SHEET 412

MATCH LINE STA. 650+00
℄ CONST. RAMP 2A
SEE SHEET 412

R4-8-24
STA. 68+95
S-33

W11-2-30
W16-7PR-24
STA. 549+82
S-31

W11-2-30
W16-7PL-24
STA. 549+82
S-32

W11-2-30
W16-7PL-24
STA. 650+46
S-34

W11-2-30
W16-7PR-24
STA. 650+46
S-35

PS-1 PS-2 PS-3 PS-4 PS-5

SP-1 SP-2 SP-3

OSS

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING PLAN - HARPER ROAD STA. 65+00 TO STA. 70+00

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C018 - Plan 3 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:47:18 AM USER: dsthmson
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DESIGN AGENCY
GPD GROUP*

DESIGNER DLS
REVIEWER AKF 09/02/21
PROJECT ID 113889
SHEET 404 TOTAL 481

MODEL: CLP_C018 - Plan 4 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:20 AM USER: dstimson
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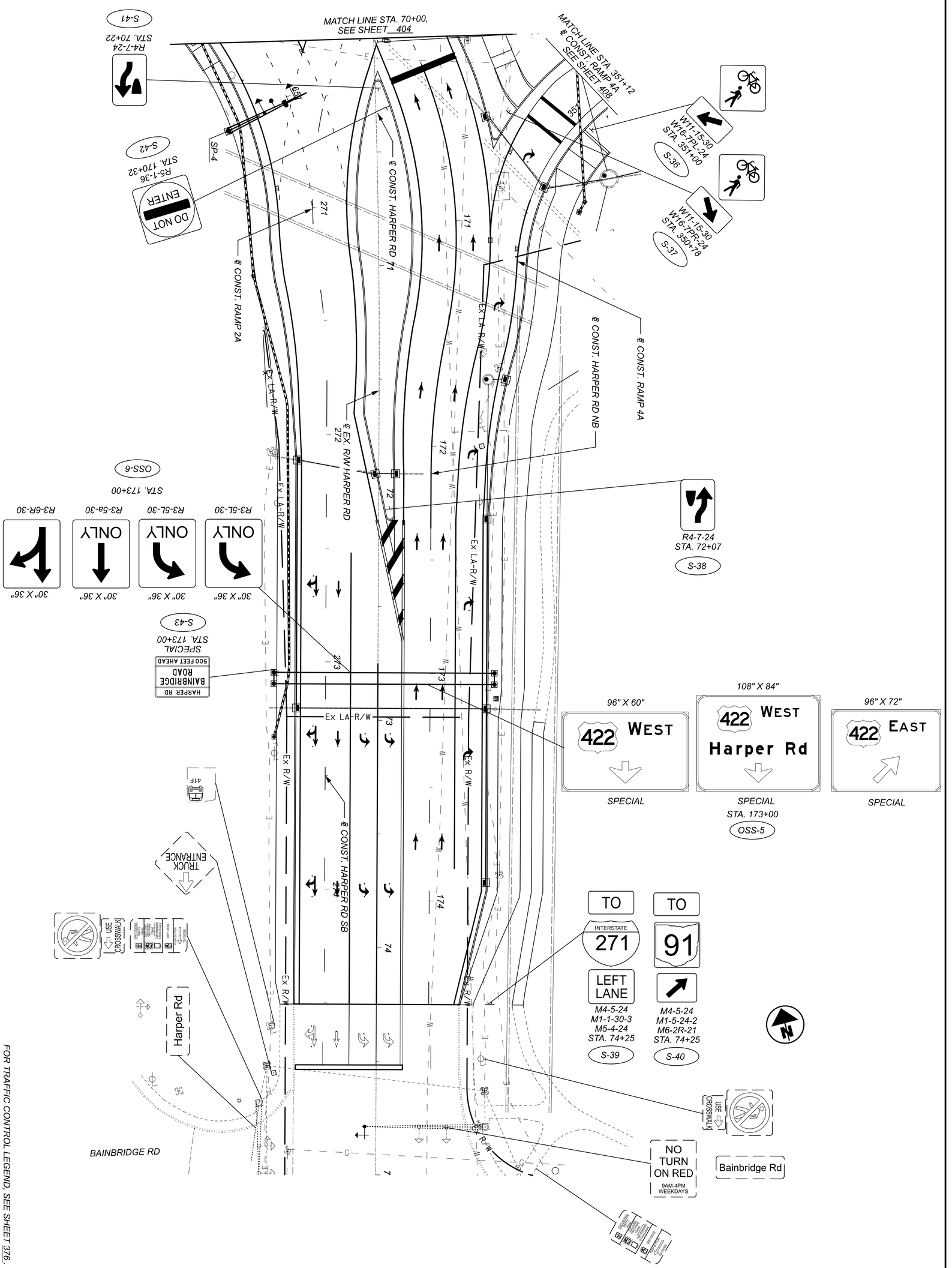
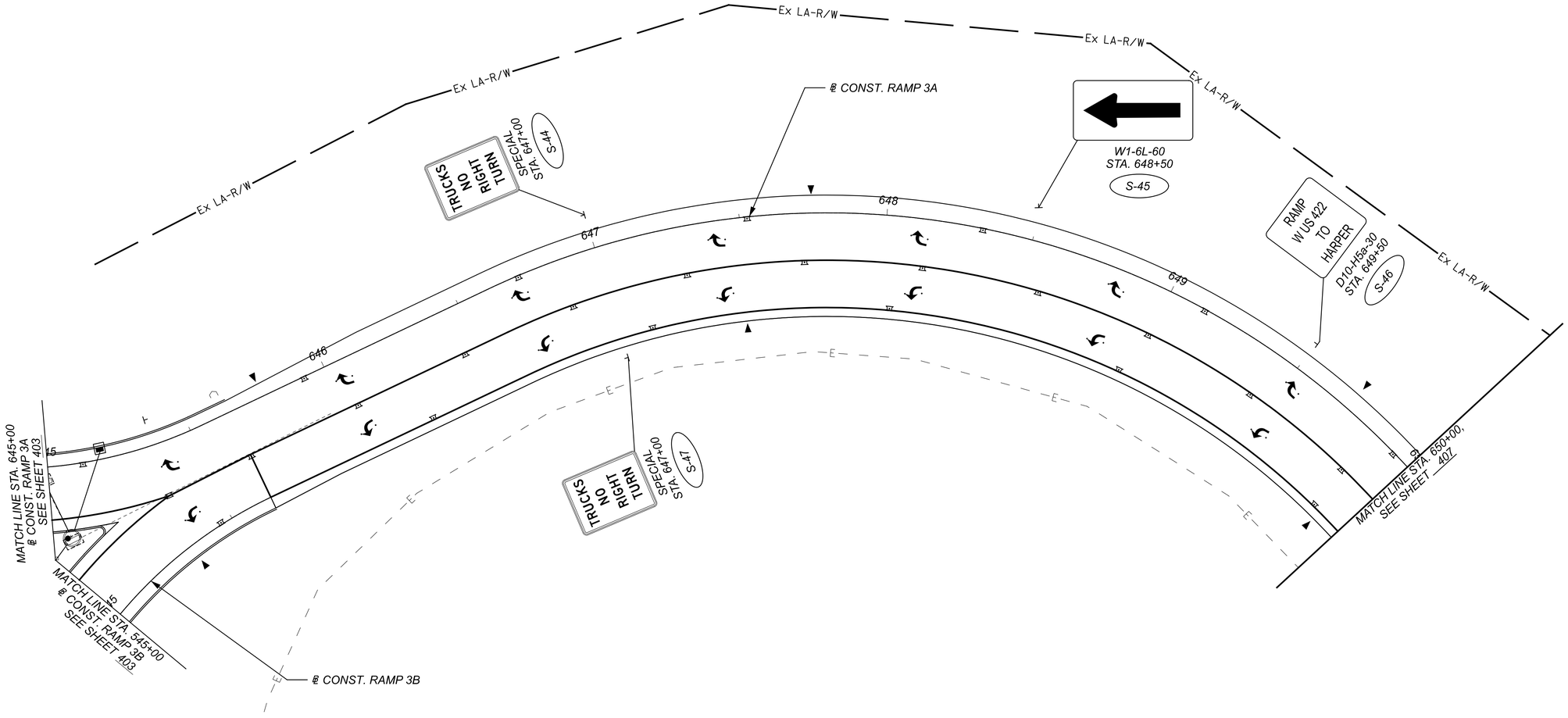


FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET	405
TOTAL	481
PROJECT ID	113889
REVIEWER	AKF 09/02/21
DESIGNER	DLS
DESIGN AGENCY	GPD GROUP

SIGNING PLAN - HARPER ROAD
STA. 70+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING PLAN - RAMP 3A
STA. 645+00 TO STA. 650+00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0183A - Plan 6 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:41:23 AM USER: dsthnson
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP805.dgn

DESIGN AGENCY
GPD GROUP
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DESIGNER
DLS

REVIEWER
AKF 09/02/21

PROJECT ID
113889

SHEET 406 TOTAL 481

MODEL: BLP_R0183A - Plan 7 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:25 AM USER: dstlmson
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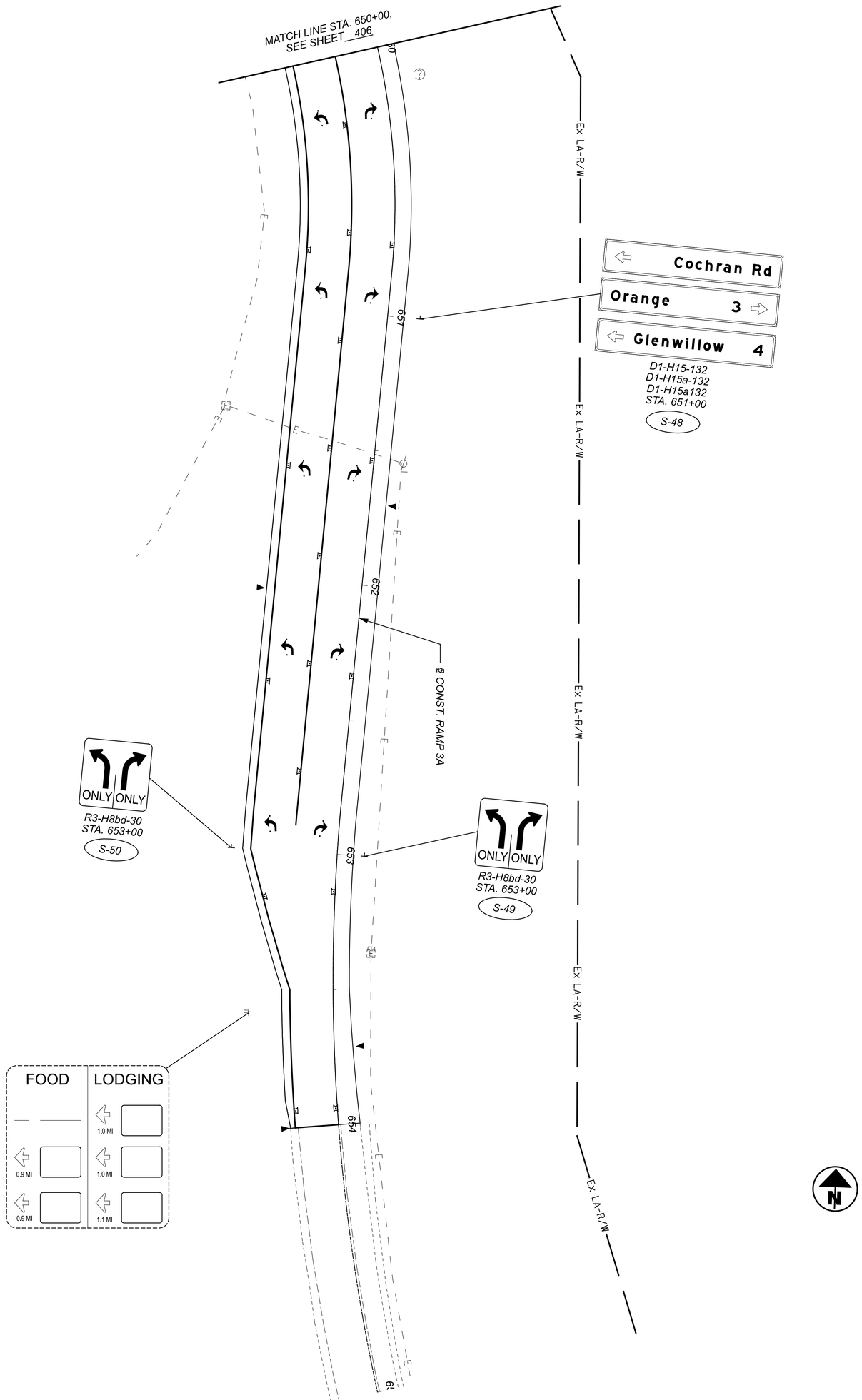

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET 407 TOTAL 481	PROJECT ID 113889	REVIEWER AKF 09/02/21	DESIGNER DLS

GPD GROUP

DESIGN AGENCY

SIGNING PLAN - RAMP 3A
STA. 650+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: BLP_R0184A - Plan 5 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:27 AM USER: dstimson
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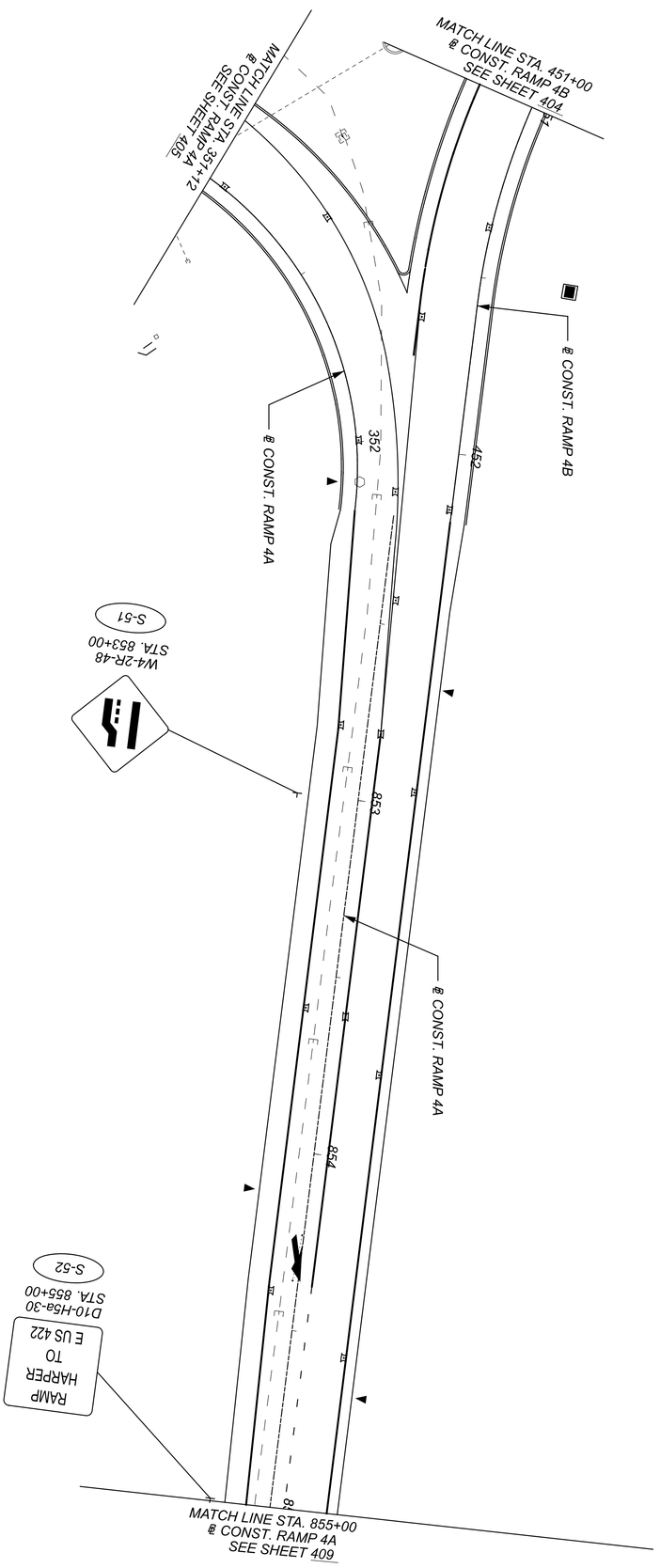
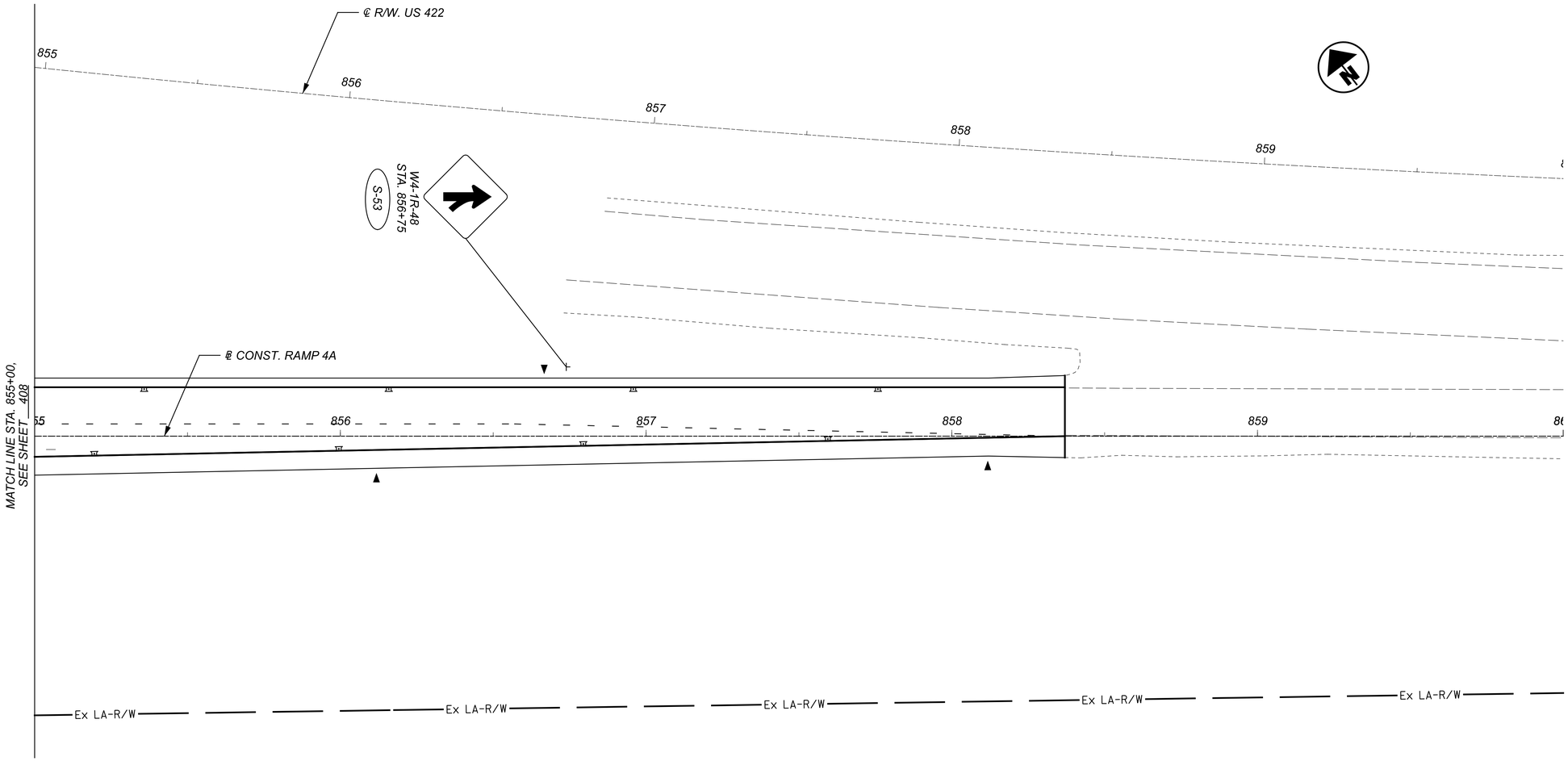


FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET 408 TOTAL 481
PROJECT ID 113889
REVIEWER AKF 09/02/21
DESIGNER DLS
DESIGN AGENCY GPD GROUP

SIGNING PLAN - RAMP 4A
STA. 351+12 TO STA. 855+00

HORIZONTAL SCALE IN FEET
0 20
10 40



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL
SCALE IN FEET
0 10 20 40

SIGNING PLAN - RAMP 4A
STA. 855+00 TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_RI85 - Plan | PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:47:29 AM USER: dstimson
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP808.dgn

DESIGN AGENCY
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DESIGNER	DLS
REVIEWER	AKF 09/02/21
PROJECT ID	113889
SHEET	409
TOTAL	481

Ex SW
Ex SW
Ex SW
Ex SW
Ex SW
Ex SW
Ex LA-R/W
Ex LA-R/W
Ex LA-R/W
Ex LA-R/W
Ex LA-R/W

$500 FINE FOR LITTERING
ORC SEC 3767.32
R21-H2-30
STA. 440+50
S-54

RAMP HARPER TO W US 422
D10-H5a-30
STA. 441+00
S-55

℄ CONST. RAMP 1B

437
438
439
440
441
442

MATCH LINE STA. 442+00,
SEE SHEET 411

838
839
840

℄ R/W US 422

W4-1R-48
STA. 438+60
S-56

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING PLAN - RAMP 1B
BEGIN TO STA. 442+00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R01B1B - Plan 5 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:47:31 AM USER: dstimson
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP809.dgn

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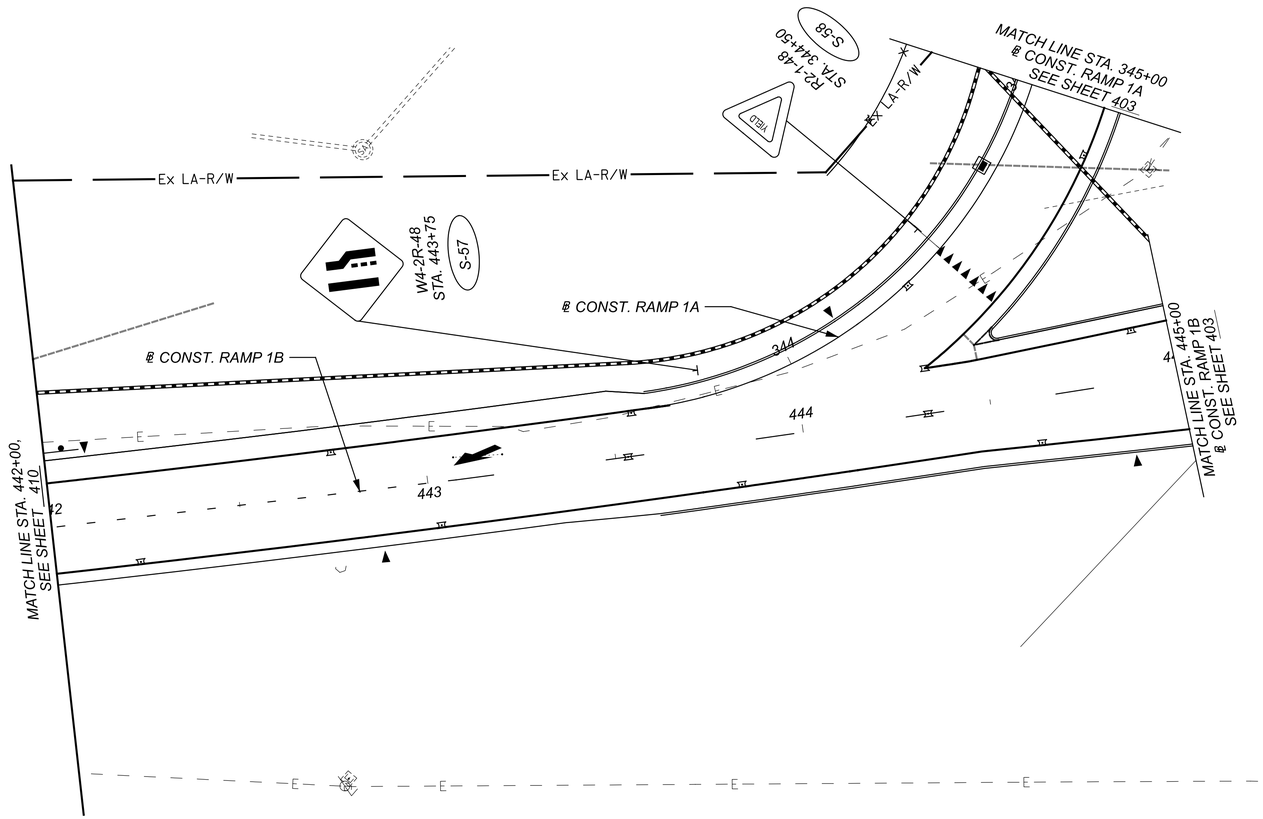
DESIGNER
DLS
REVIEWER
AKF 09/02/21
PROJECT ID
113889
SHEET 410
TOTAL 481



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING PLAN - RAMP 1B
STA. 442+00 TO STA. 445+00

DESIGN AGENCY
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DESIGNER: DLS
REVIEWER: AKF 09/02/21
PROJECT ID: 113889
SHEET: 411 TOTAL: 481

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R01BIB - Plan 6 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:33 AM USER: dsfimson
C:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP810.dgn

MODEL: BLP_R0182A - Plan 5 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:35 AM USER: dstimson
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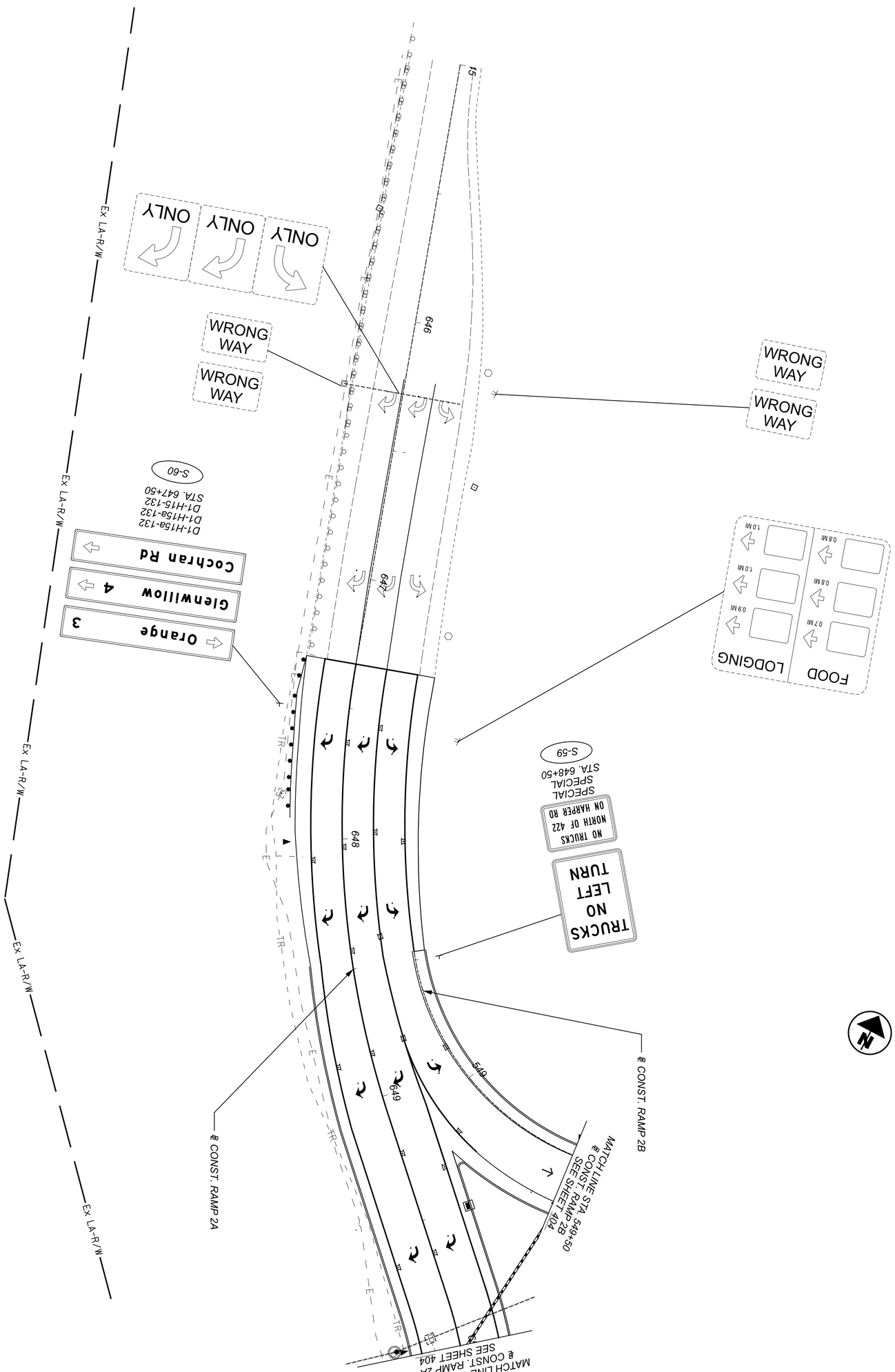


FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET 412 / TOTAL 481	PROJECT ID 113889	REVIEWER AKF 09/02/21	DESIGNER DLS

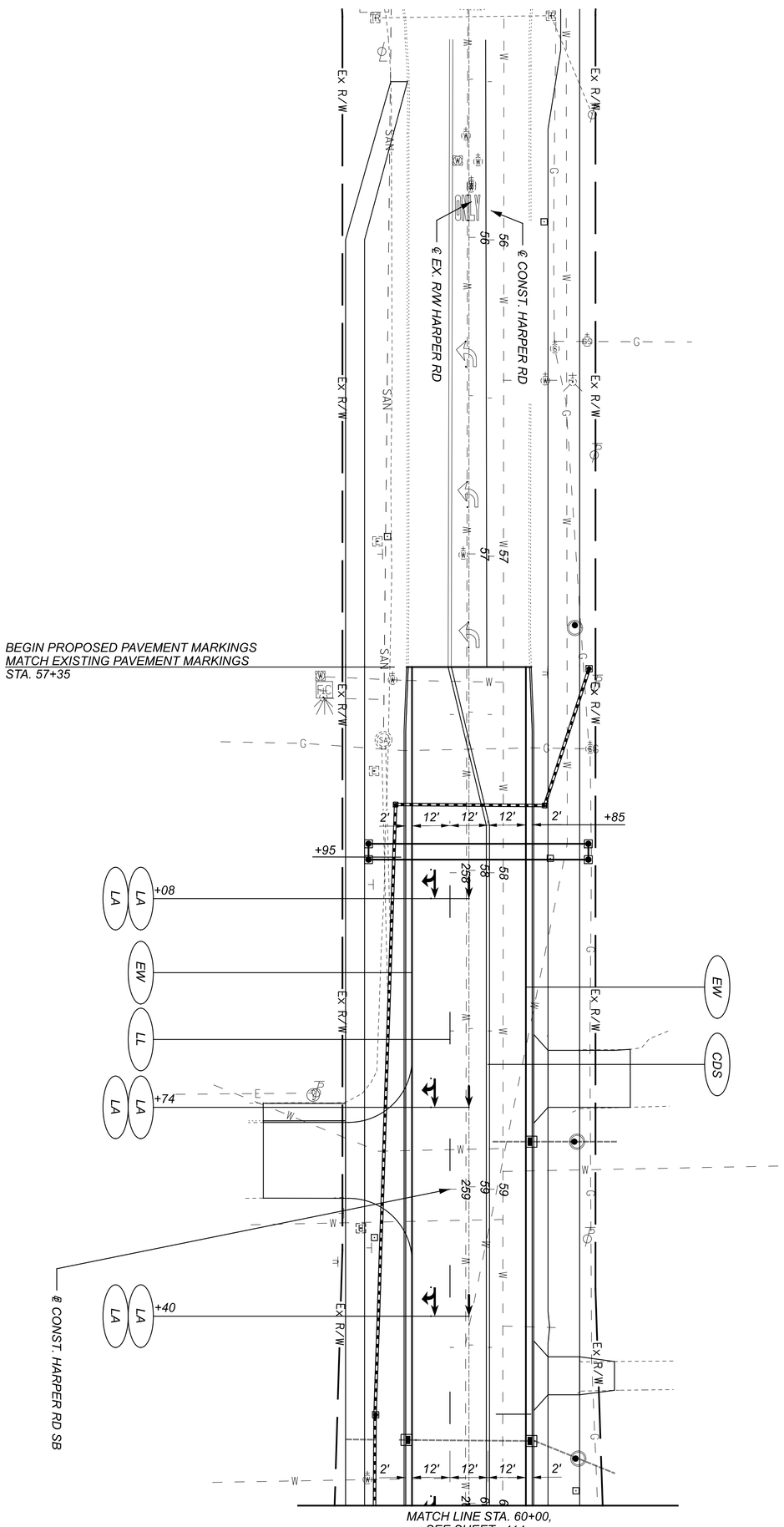
GPD GROUP

DESIGN AGENCY

SIGNING PLAN - RAMP 2A
BEGIN TO STA. 650+00

HORIZONTAL SCALE IN FEET
0 20
10 40

MODEL: CLP_C018 - Plan | PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:37 AM USER: dstimson
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP001.dgn



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET 413 / TOTAL 481	PROJECT ID 113899	REVIEWER AKF 09/02/21	DESIGNER DLS

DESIGN AGENCY: GPD GROUP

PAVEMENT MARKING PLAN - HARPER ROAD
BEGIN TO STA. 60+00

HORIZONTAL SCALE IN FEET
0 20
10 40

PAVEMENT MARKING PLAN - HARPER ROAD
STA. 60+00 TO STA. 65+00

HORIZONTAL SCALE IN FEET
0 10 20 40

℄ CONST. HARPER RD NB
℄ CONST. RAMP 3A
MATCH LINE STA. 645+00 ℄ CONST. RAMP 3A SEE SHEET 420
MATCH LINE STA. 545+00 ℄ CONST. RAMP 3B SEE SHEET 420
℄ CONST. RAMP 3B
℄ CONST. HARPER RD
MATCH LINE STA. 60+00, SEE SHEET 413
MATCH LINE STA. 65+00, SEE SHEET 415
MATCH LINE STA. 345+00 ℄ CONST. RAMP 1A SEE SHEET 418
MATCH LINE STA. 445+00 ℄ CONST. RAMP 1B SEE SHEET 418
℄ CONST. RAMP 1B
℄ CONST. HARPER RD SB
℄ EX. R/W HARPER RD
℄ CONST. RAMP 1A
Ex R/W
Ex LA-R/W
LA-R/W
PS-1
PS-2
PS-3
PS-4
SP-1
SP-2
SP-3
SP-4

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

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DESIGNER	DLS
REVIEWER	AKF 09/02/21
PROJECT ID	113889
SHEET	414
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C018 - Plan 2 PAPERSIZE: 34x22 (In.) DATE: 7/12/2023 TIME: 8:43:27 AM USER: jhobrath
G:\Clients\ORD\2020\2020336\NI3889\400-Engineering\Traffic\Sheets\NI3889_TP002.dgn

MODEL: CLP_C018 - Plan 3 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:41 AM USER: dstimson
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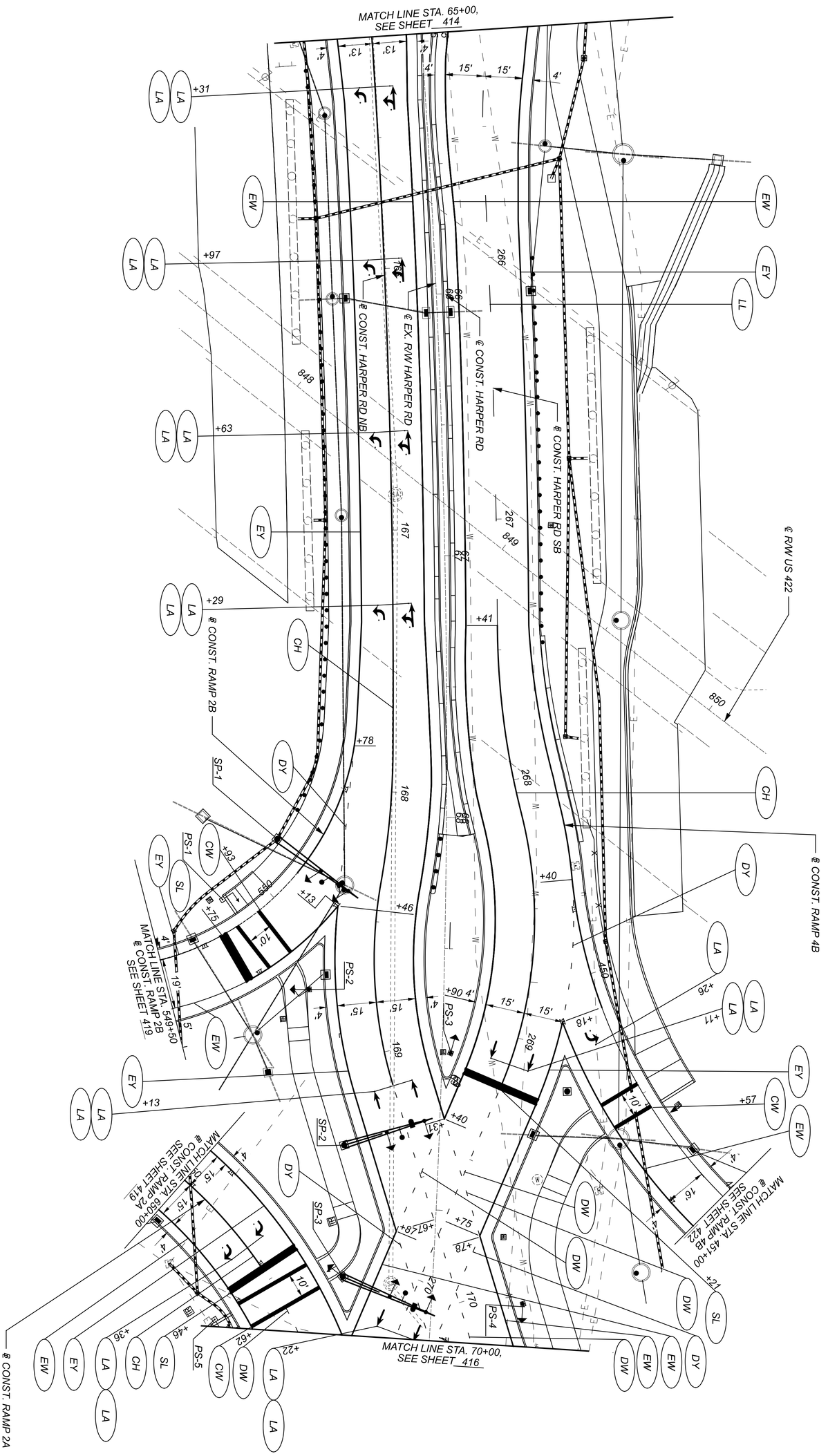


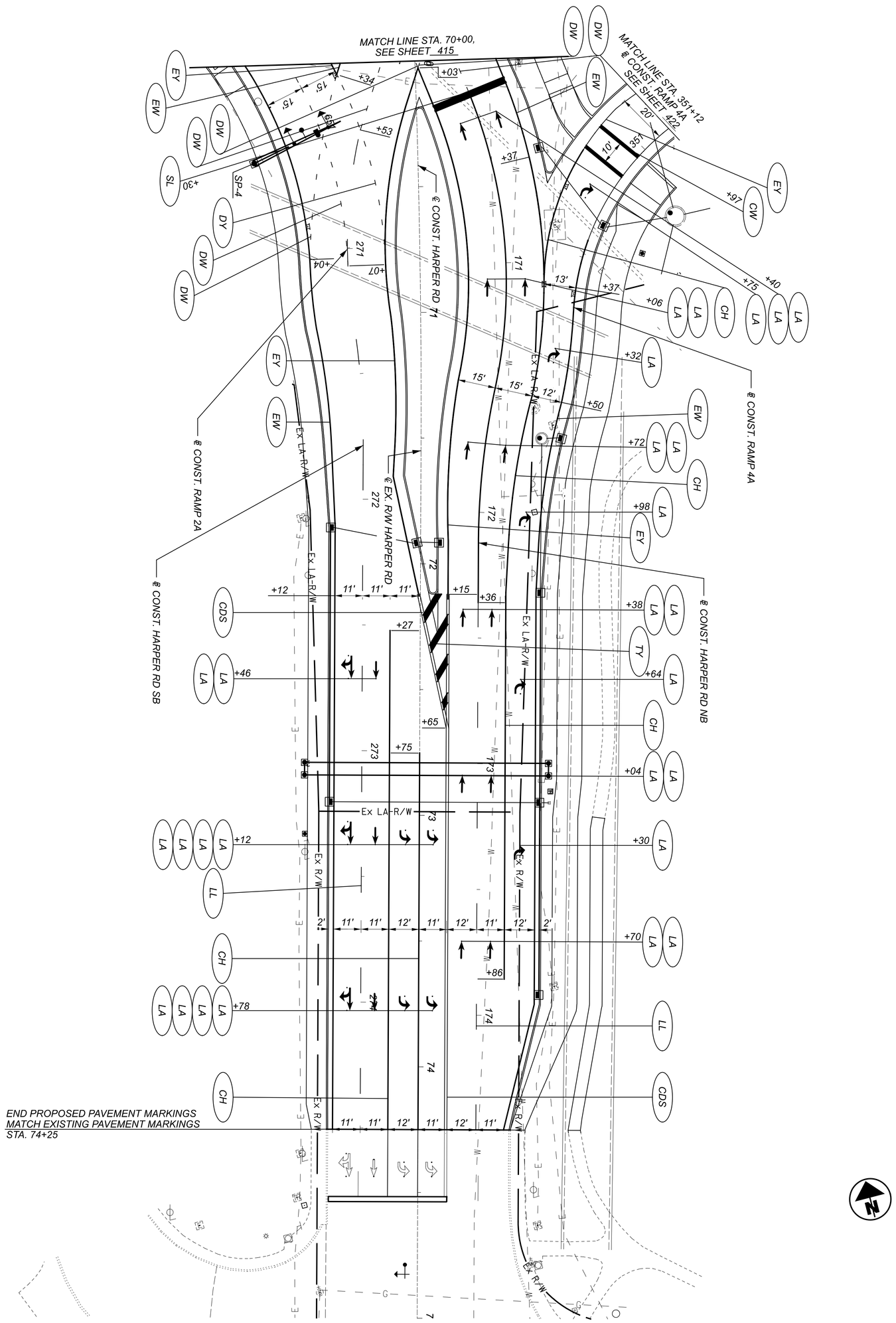
FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

PAVEMENT MARKING PLAN - HARPER ROAD
STA. 65+00 TO STA. 70+00

HORIZONTAL SCALE IN FEET
0 20
10 40

DESIGNER DLS
REVIEWER AKF 09/02/21
PROJECT ID 113889
SHEET 415 TOTAL 481
DESIGN AGENCY GPD GROUP

MODEL: CLP_C018 - Plan 4 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:47:44 AM USER: dstimson
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP004.dgn



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET 416 TOTAL 481	PROJECT ID 113889	REVIEWER AKF 09/02/21	DESIGNER DLS

GPD GROUP

DESIGN AGENCY

PAVEMENT MARKING PLAN - HARPER ROAD
STA. 70+00 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

PAVEMENT MARKING PLAN - RAMP 1B
BEGIN TO STA. 442+00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R01BB - Plan 5 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:47:47 AM USER: dsimson
C:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP301.dgn

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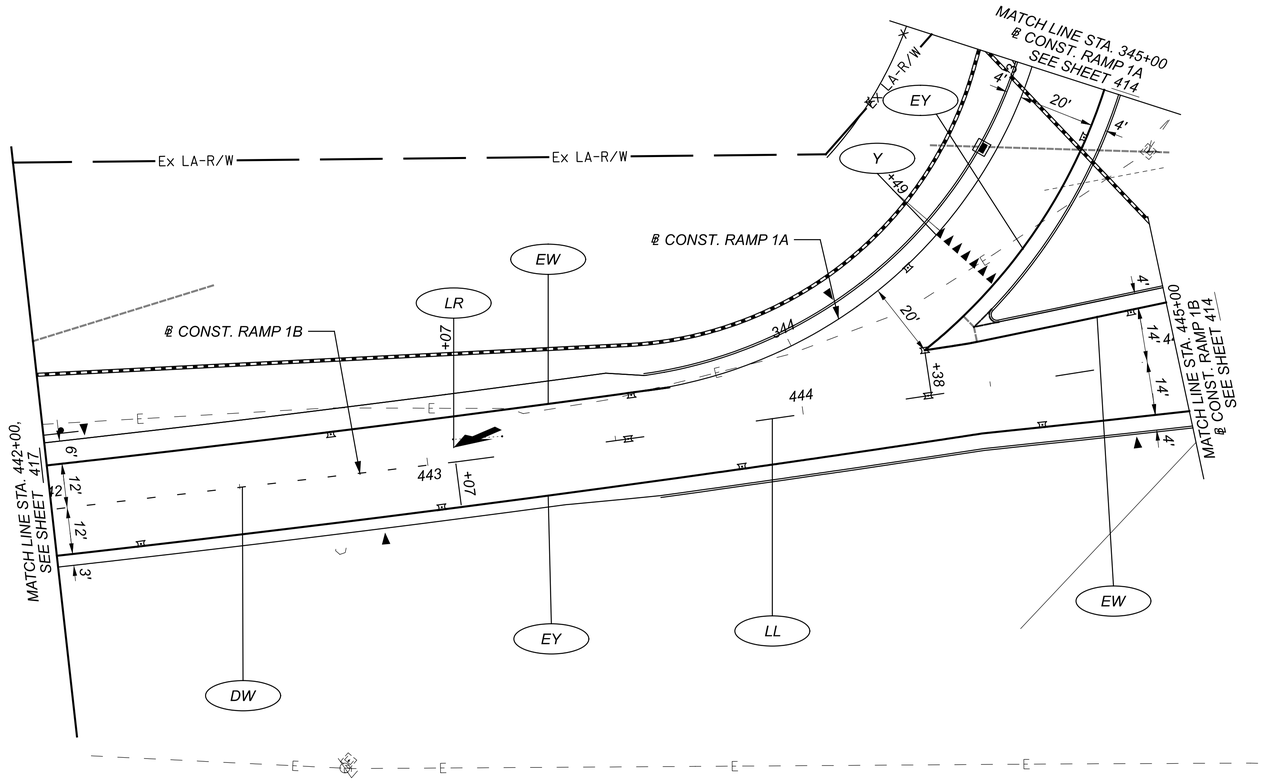
DESIGNER	DLS
REVIEWER	AKF 09/02/21
PROJECT ID	113889
SHEET	417
TOTAL	481



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

PAVEMENT MARKING PLAN - RAMP 1B
STA. 442+00 TO STA. 445+00

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DESIGNER: DLS
REVIEWER: AKF 09/02/21
PROJECT ID: 113889
SHEET: 418 TOTAL: 481

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R01BIB - Plan 6 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:47:48 AM USER: dsfimson
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP302.dgn

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0182A - Plan 5 PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 7:47:50 AM USER: dstimson
C:\Clients\ORD\2020\202036\113889\400-Engineering\Traffic\Sheets\113889_TP401.dgn

PAVEMENT MARKING PLAN - RAMP 2A
BEGIN TO STA. 650+00

HORIZONTAL SCALE IN FEET
0 10 20 40

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

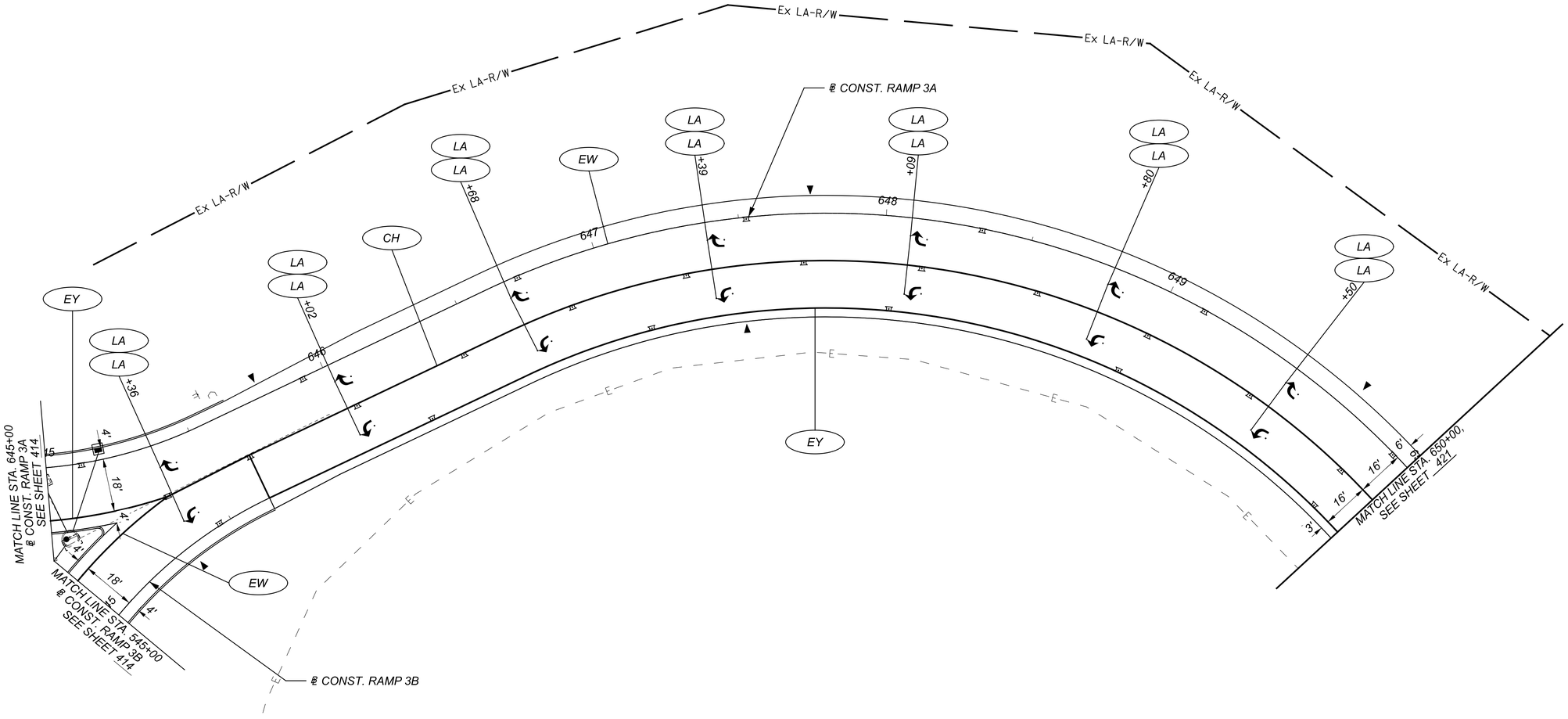
DESIGN AGENCY
GPD GROUP*

DESIGNER
DLS

REVIEWER
AKF 09/02/21

PROJECT ID
113889

SHEET 419 TOTAL 481



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

PAVEMENT MARKING PLAN - RAMP 3A
STA. 645+00 TO STA. 650+00

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_ROI83A - Plan 6 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:41:53 AM USER: dsthmson
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TPI01.dgn

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DESIGNER	DLS
REVIEWER	AKF 09/02/21
PROJECT ID	113899
SHEET	420
TOTAL	481

FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

PAVEMENT MARKING PLAN - RAMP 3A
STA. 650+00 TO END

DESIGN AGENCY
GPD GROUP*

DESIGNER	DLS
REVIEWER	AKF 09/02/21
PROJECT ID	113889
SHEET	421
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0183A - Plan 7 PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 7:47:54 AM USER: dstimson
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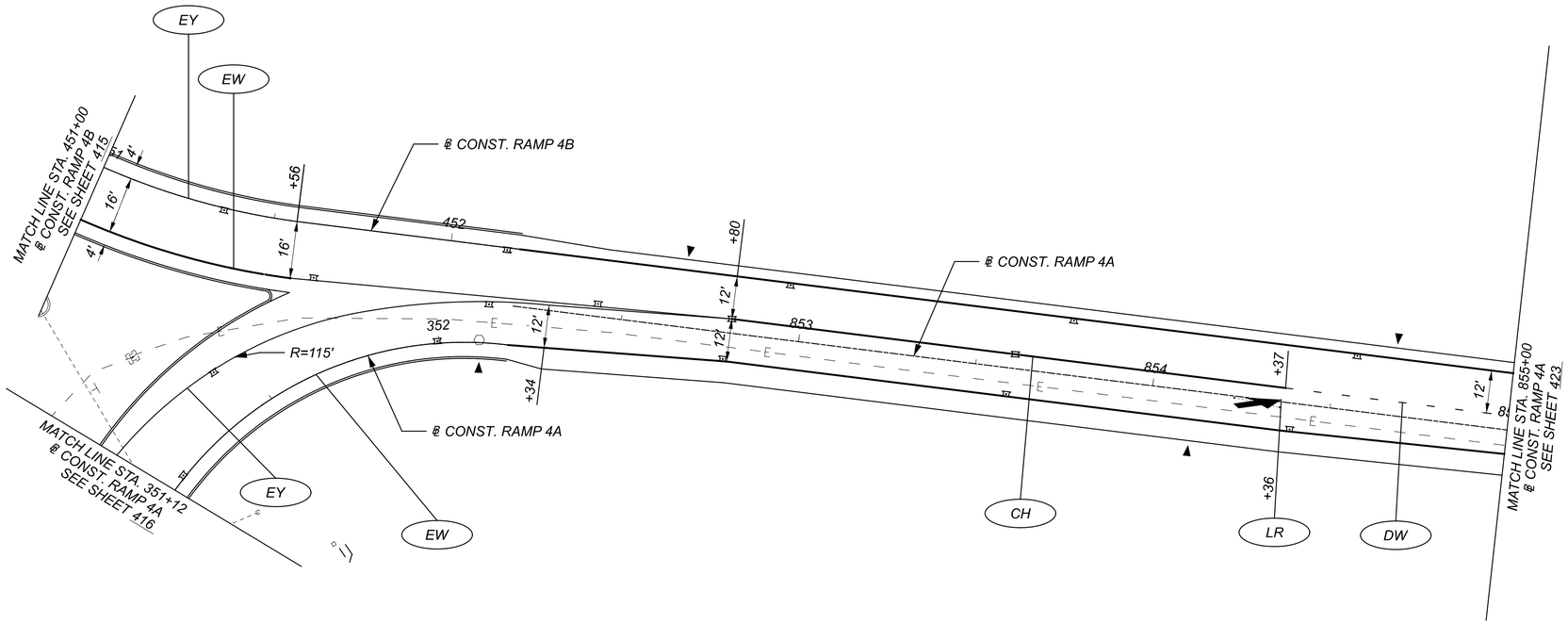


FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

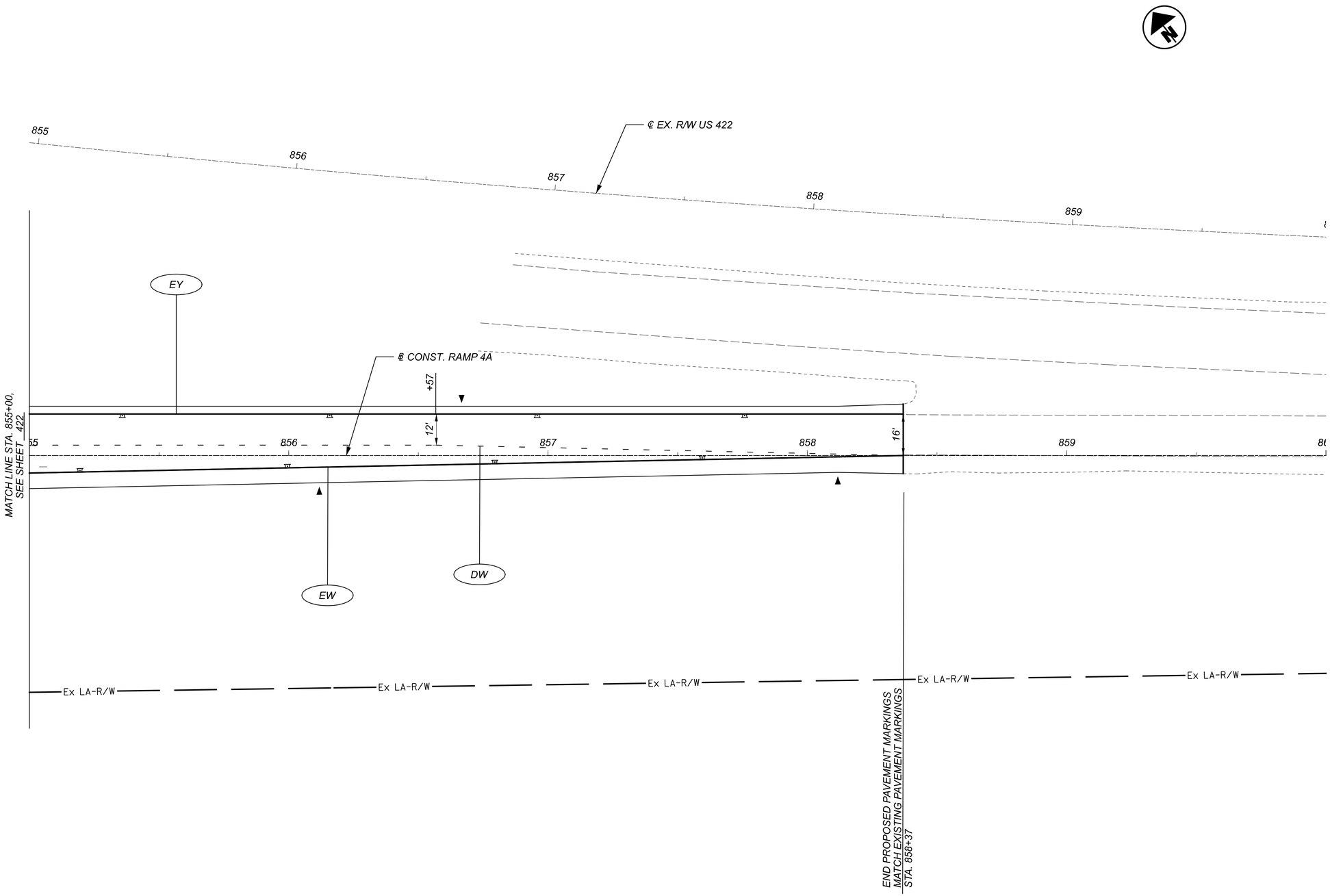
PAVEMENT MARKING PLAN - RAMP 4A
STA. 351+12 TO STA. 855+00

DESIGN AGENCY
GPD GROUP*

DESIGNER DLS
REVIEWER AKF 09/02/21
PROJECT ID 113889
SHEET 422 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0184A - Plan 5 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:47:56 AM USER: dstimson
G:\Clients\ORD\2020\2020336\Il3889\400-Engineering\Traffic\Sheets\Il3889_TP20i.dgn



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL SCALE IN FEET
0 10 20 40

PAVEMENT MARKING PLAN - RAMP 4A
STA. 855+00 TO END

DESIGN AGENCY
GPD GROUP*

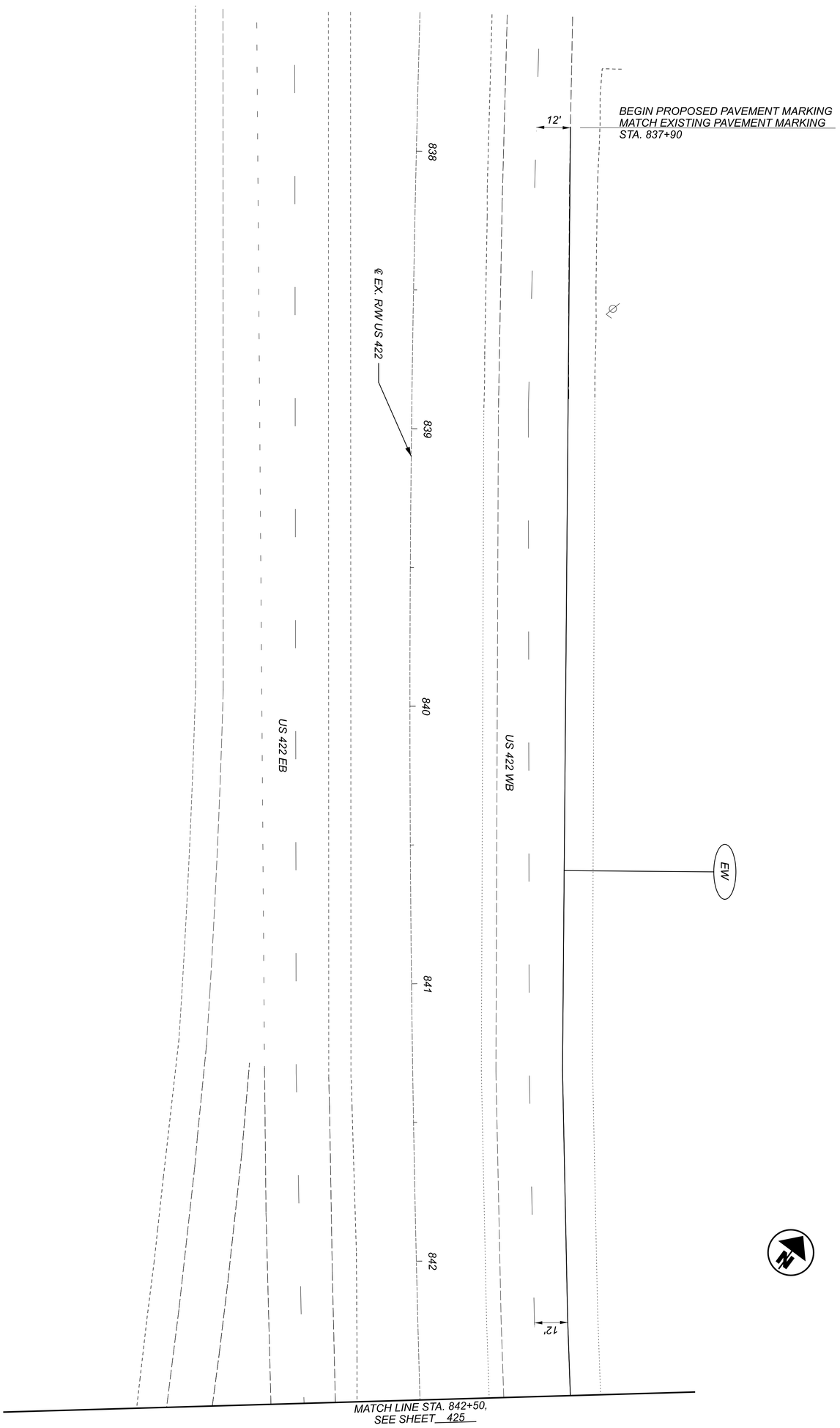
DESIGNER: DLS
REVIEWER: AKF 09/02/21
PROJECT ID: 113889
SHEET: 423 TOTAL: 481

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_RIB5 - Plan | PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:47:59 AM USER: dstimson
C:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TP202.dgn

CUY-422-16.20 (HARPER ROAD)

MODEL: CLX_RW_U422 - Plan | PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:48:00 AM USER: dstimson
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TPI001.dgn



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

SHEET	TOTAL
424	481

PROJECT ID: 113889

REVIEWER: AKF 09/02/21

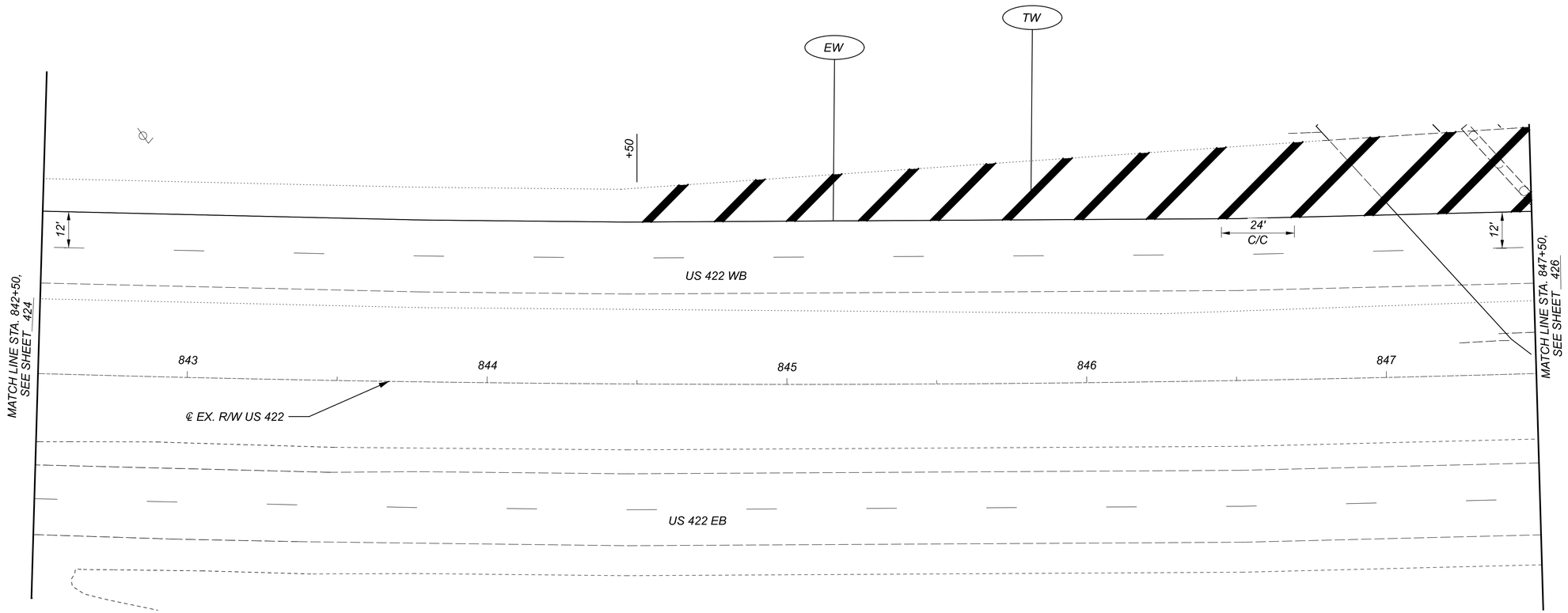
DESIGNER: DLS

DESIGN AGENCY: GPD GROUP

PAVEMENT MARKING PLAN - US 422
BEGIN TO STA. 842+50

HORIZONTAL SCALE IN FEET

0 20
10 40



FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376 .

HORIZONTAL
SCALE IN FEET
0 10 20 40

PAVEMENT MARKING PLAN - US 422
STA. 842+50 TO STA. 847+50

DESIGN AGENCY

GPD GROUP®

DESIGNER
DLS

REVIEWER
AKF 09/02/21

PROJECT ID
113889

SHEET 425 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: CLX_RW_U422 - Plan 2 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:48:03 AM USER: dstimson
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TPI002.dgn

MODEL: CLX_RW_U422 - Plan 3 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:48:05 AM USER: dstlmson
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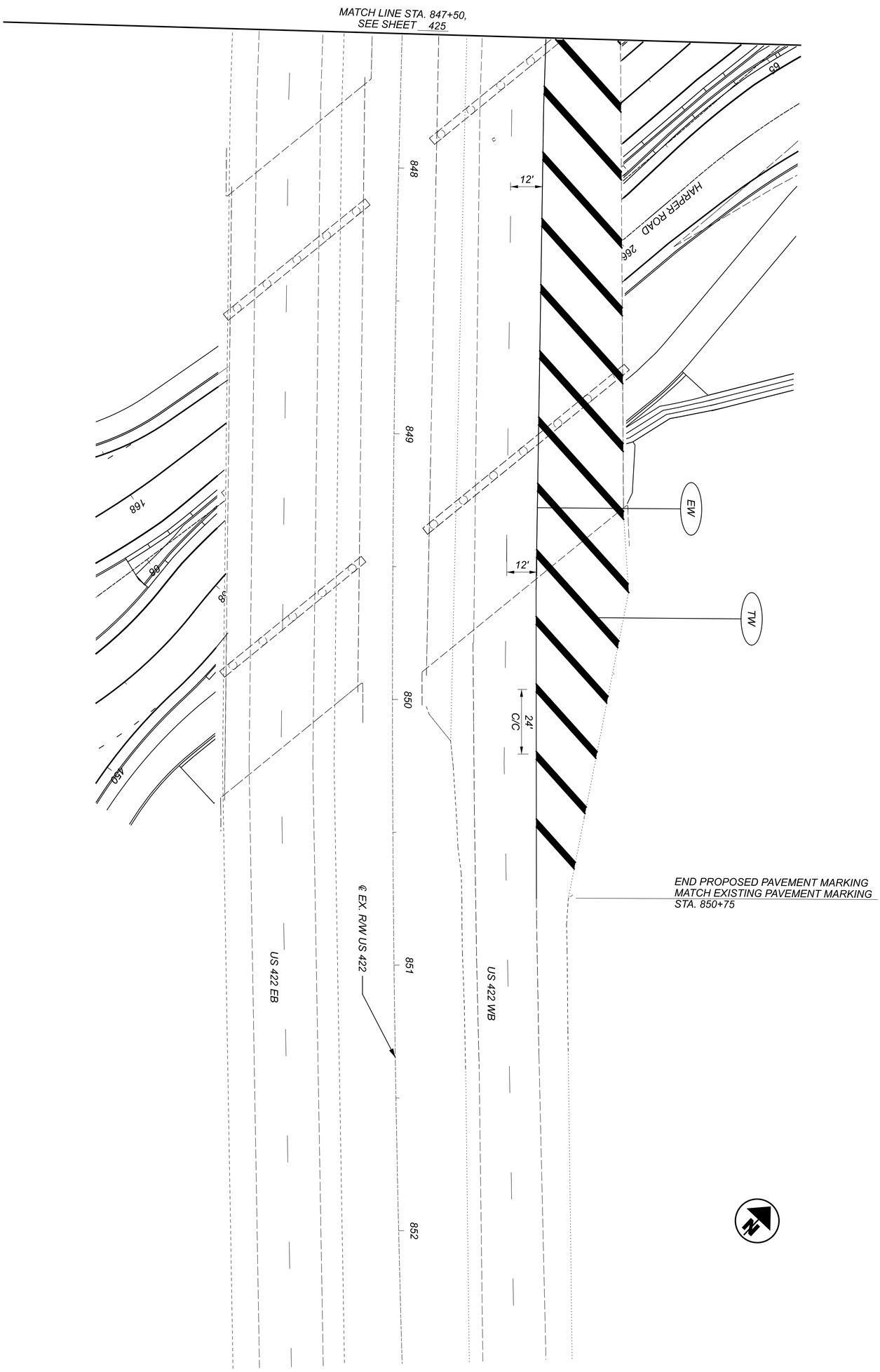


FOR TRAFFIC CONTROL LEGEND, SEE SHEET 376.

DESIGN AGENCY: GPD GROUP

DESIGNER: DLS

REVIEWER: AKF 09/02/21

PROJECT ID: 113889

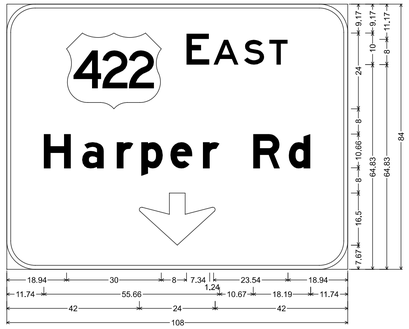
SHEET 426 | TOTAL 481

PAVEMENT MARKING PLAN - US 422
STA. 847+50 TO END

HORIZONTAL SCALE IN FEET
0 20
10 40

PANEL A	
DESIGN LEVEL:	3
TEXT FONT:	E MOD / E
PANEL SIZE:	9' X 7'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
NUMBER OF BRACKETS:	2
PANEL B	
DESIGN LEVEL:	3
TEXT FONT:	E MOD / E
PANEL SIZE:	9' X 7'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
NUMBER OF BRACKETS:	2
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	126.0 SQ. FT.
TOTAL SPAN LENGTH:	69.5 FT.
DESIGN TYPE:	TC-15.116, DESIGN 1

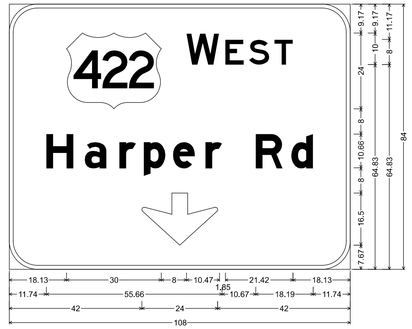
SUPPORT FOUNDATION INFORMATION		
SUPPORT TYPE	DISTANCE BETWEEN FOUNDATIONS	FOUNDATION DEPTH
TYPE TC-15.116, DES. 1	3'-0"	12'-0"



9.00" Radius, 1.25" Border, White on Green;
US 422 M1-4; "EAST", E; "Harper", E Mod; "Rd", E Mod;
Down Arrow C-2 & C-3 - 16.00" 270 ;
Table of letter and object lefts

	E	A	S	r		
18.94	56.94	65.52	75.16	83.19		
H	a	r	p	e	r	R	d
11.74	23.90	34.85	42.60	51.85	62.14	78.07	89.33
42.00							

PANEL A



9.00" Radius, 1.25" Border, White on Green;
US 422 M1-4; "WEST", E; "Harper", E Mod; "Rd", E Mod;
Down Arrow C-2 & C-3 - 16.00" 270 ;
Table of letter and object lefts

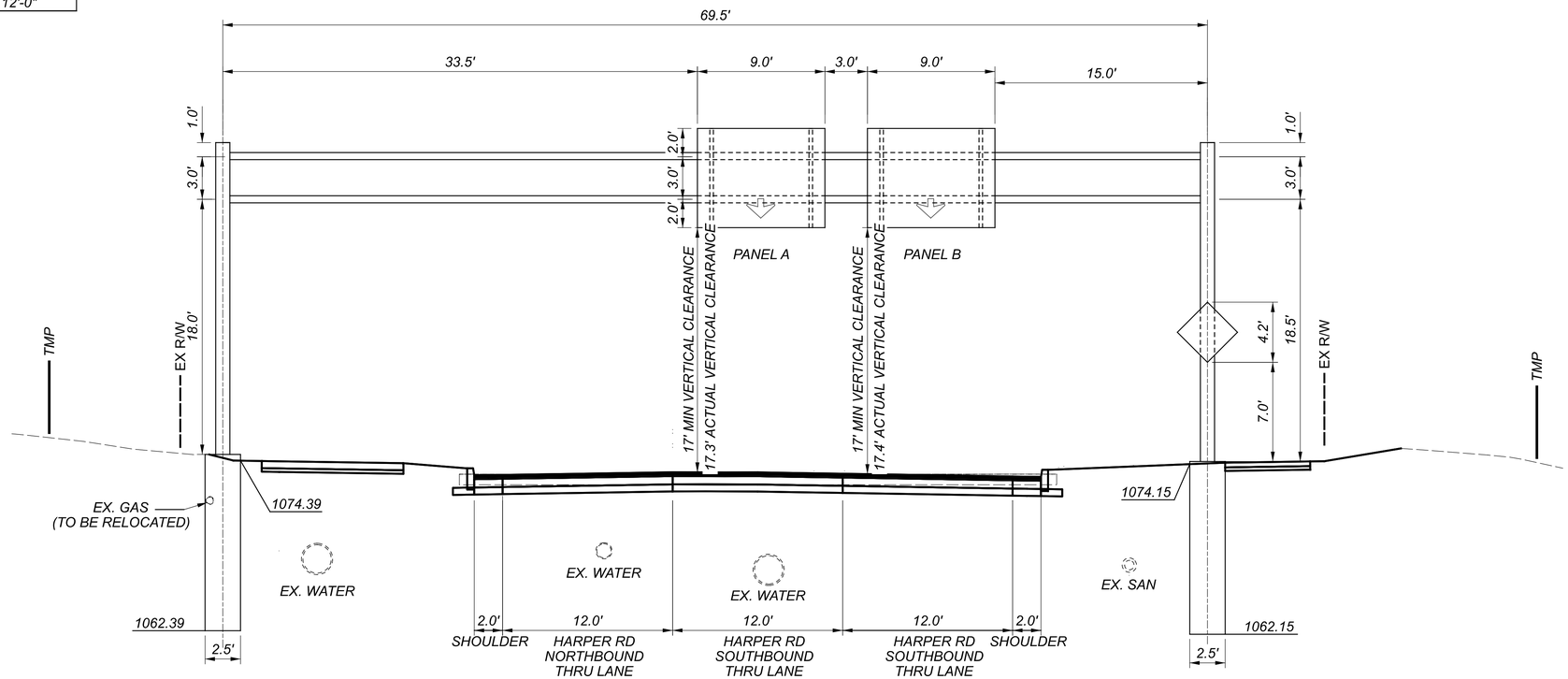
	W	E	S	T		
18.13	56.13	68.45	75.97	84.00		
H	a	r	p	e	r	R	d
11.74	23.90	34.85	42.60	51.85	62.14	78.07	89.33
42.00							

PANEL B

W11-8-36

S-5

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISITNG 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.



OSS-1 — OVERHEAD SIGN SUPPORT TYP TC-15.116, DESIGN 1
STA. 57+91, SOUTHBOUND

SEE SHEET 402 FOR PLAN VIEW.

OVERHEAD SIGN SUPPORT DETAILS
OSS-1

DESIGN AGENCY
GPD GROUP
Consulting Engineers, Planners & Landscape Architects
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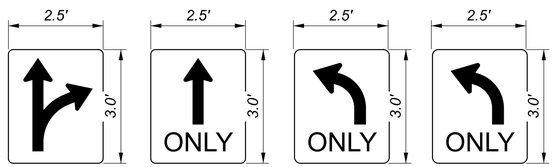
DESIGNER: DLS
REVIEWER: AKF 08/31/22
PROJECT ID: 113889
SHEET: 427 TOTAL: 481

CUY-422-16.20 (HARPER ROAD)

MODEL: CLX_RW_C018 - 57+91.00 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:48:44 AM USER: dsimson
G:\Clients\ORD\2020\2020336\NI3889\400-Engineering\Traffic\Sheets\NI3889_TE101.dgn

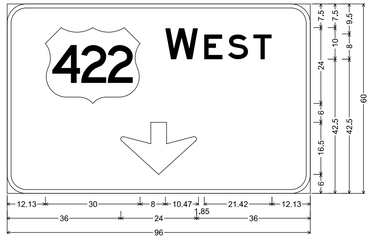
PANEL A	
SIGN DESIGNATION:	R3-6R-30
PANEL SIZE:	2.5' X 3'
BACKGROUND:	WHITE
FILL COLOR:	BLACK
NUMBER OF BRACKETS:	2
PANEL B	
SIGN DESIGNATION:	R3-5a-30
PANEL SIZE:	2.5' X 3'
BACKGROUND:	WHITE
FILL COLOR:	BLACK
NUMBER OF BRACKETS:	2
PANEL C	
SIGN DESIGNATION:	R3-5L-30
PANEL SIZE:	2.5' X 3'
BACKGROUND:	WHITE
FILL COLOR:	BLACK
NUMBER OF BRACKETS:	2
PANEL D	
SIGN DESIGNATION:	R3-5L-30
PANEL SIZE:	2.5' X 3'
BACKGROUND:	WHITE
FILL COLOR:	BLACK
NUMBER OF BRACKETS:	2
PANEL E	
DESIGN LEVEL:	3
TEXT FONT:	E MOD / E
PANEL SIZE:	8' X 5'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
NUMBER OF BRACKETS:	2
PANEL F	
DESIGN LEVEL:	3
TEXT FONT:	E MOD / E
PANEL SIZE:	9' X 7'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
NUMBER OF BRACKETS:	2
PANEL G	
DESIGN LEVEL:	3
TEXT FONT:	E MOD / E
PANEL SIZE:	8' X 6'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
NUMBER OF BRACKETS:	2
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	181.0 SQ. FT.
TOTAL SPAN LENGTH:	97.0 FT.
DESIGN TYPE:	TC-15.116, DESIGN 2

SUPPORT FOUNDATION INFORMATION		
SUPPORT TYPE	DISTANCE BETWEEN FOUNDATIONS	FOUNDATION DEPTH
TYPE, TC-15.116, DES. 2	5'-0"	14'-0"



R3-6R-30 PANEL A | R3-5a-30 PANEL B | R3-5L-30 PANEL C | R3-5L-30 PANEL D

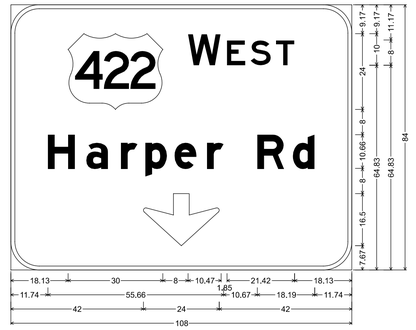
S-43



6.00" Radius, 1.25" Border, White on Green;
US 422 M1-4; "WEST", E; Down Arrow C-2 & C-3 - 16.00" 270°;
Table of letter and object lefts

12.13	W 50.13	E 62.45	S 69.97	T 78.00
36.00				

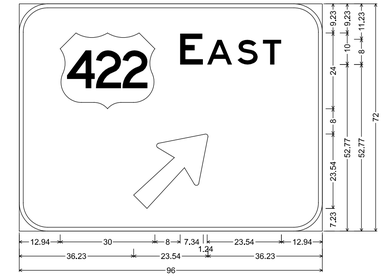
PANEL E



9.00" Radius, 1.25" Border, White on Green;
US 422 M1-4; "WEST", E; "Harper", E Mod; "Rd", E Mod;
Down Arrow C-2 & C-3 - 16.00" 270°;
Table of letter and object lefts

18.13	W 56.13	E 68.45	S 75.97	T 84.00
H 11.74	a 23.90	r 34.85	p 42.60	e 51.85	r 62.14	R 78.07	d 89.33
42.00							

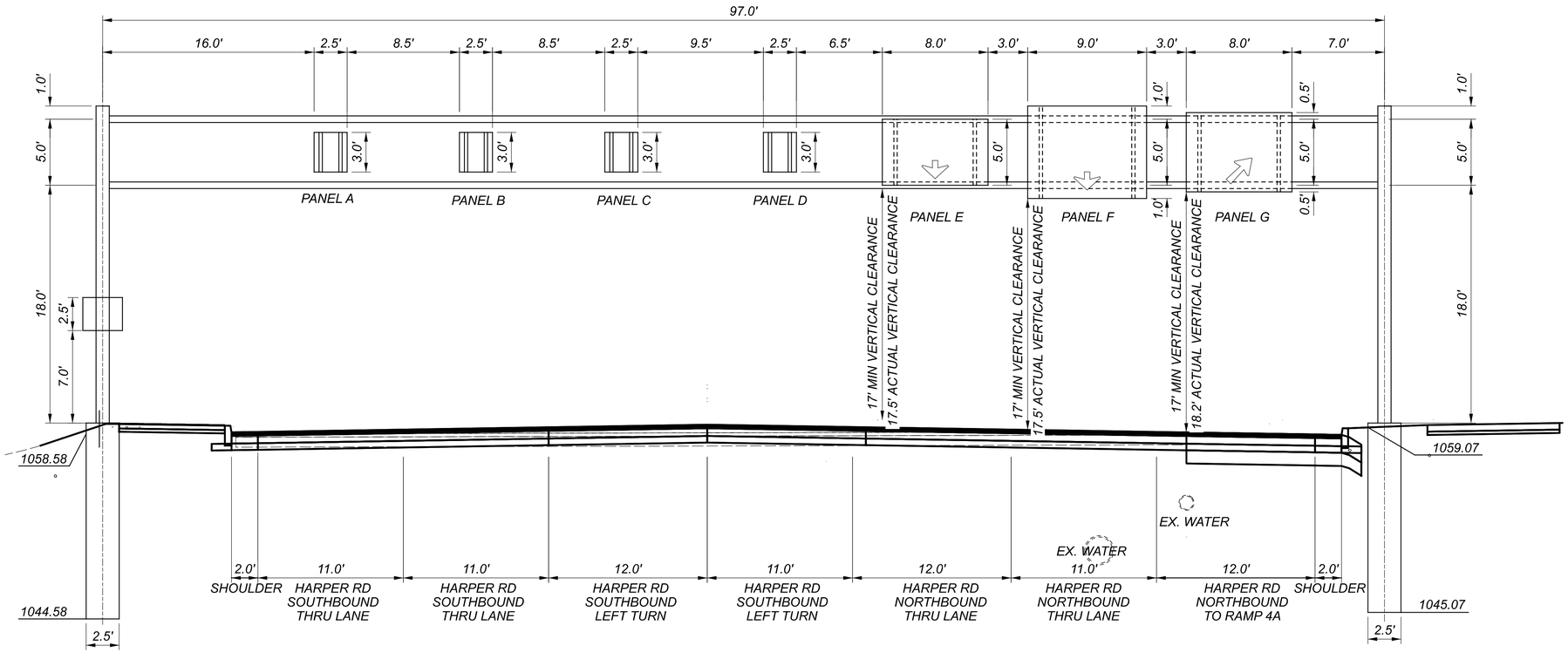
PANEL F



9.00" Radius, 1.25" Border, White on Green;
US 422 M1-4; "EAST", E; Arrow A-3 - 30.00" 45°;
Table of letter and object lefts

12.94	E 50.94	A 59.52	S 69.16	T 77.19
36.23				

PANEL G



OSS-5
OSS-6

OVERHEAD SIGN SUPPORT TYP TC-15.116, DESIGN 2
STA. 173+00, NORTHBOUND

SEE SHEET 405 FOR PLAN VIEW.

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISITNG ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL. CONTRACTOR SHALL MOUNT PANELS A-D TO BE VISIBILE FROM THE NORTHBOUND.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.

OVERHEAD SIGN SUPPORT DETAILS
OSS-5 & OSS-6

CUY-422-16.20 (HARPER ROAD)

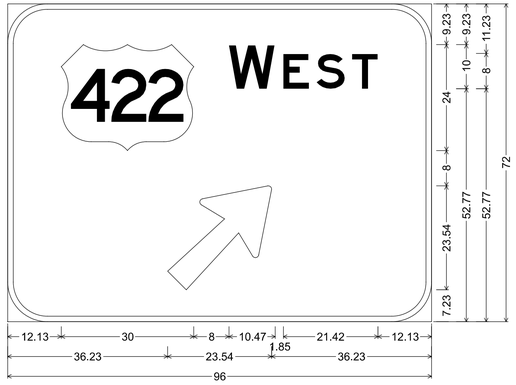
MODEL: BLP_COINB - 173+00.00 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:48:49 AM USER: dstimson
O:\Clients\ORD\2020\2020336\WI3889\400-Engineering\Traffic\Sheets\WI3889_TEI02.dgn

DESIGN AGENCY
GPD GROUP
Copyright GPD Group, Akron, Ohio, Public, Schooler, Burns & Johnson, Inc., 2020

DESIGNER DLS
REVIEWER AKF 08/31/22
PROJECT ID 113889
SHEET 428 TOTAL 481

PANEL A	
DESIGN LEVEL:	3
TEXT FONT:	E MOD / E
PANEL SIZE:	8' X 6'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
NUMBER OF BRACKETS:	2
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	48.0 SQ. FT.
DESIGN TYPE:	TC-9.31, DESIGN 2
FOUNDATION INFORMATION	
DIAMETER:	3.0'
DEPTH:	10.0'

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISITNG 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.

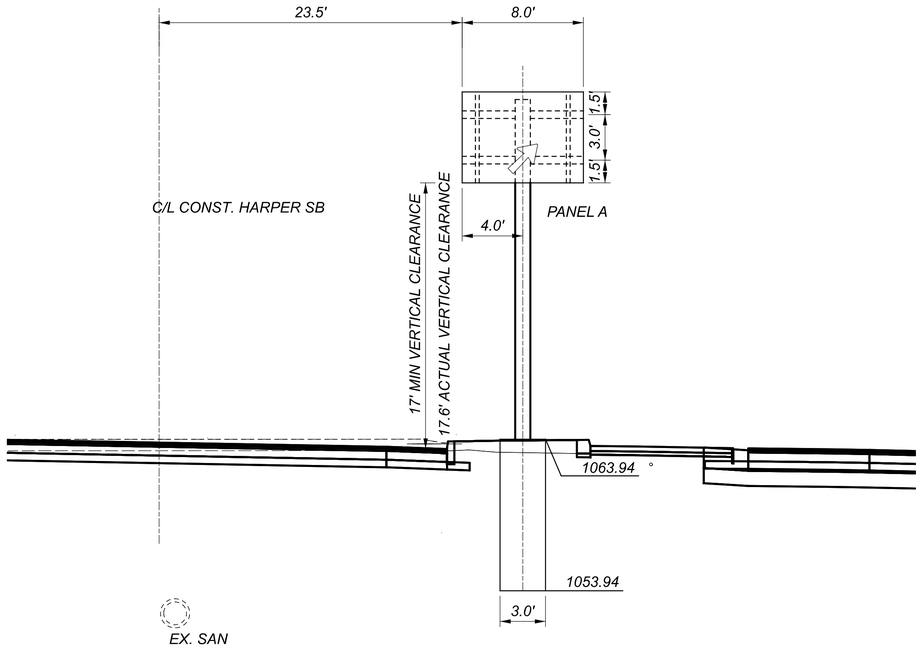


9.00" Radius, 1.25" Border, White on Green;
US 422 M1-4; "WEST", E; Arrow A-3 - 30.00" 45°;
Table of letter and object lefts

422	W	E	S	T
12.13	50.13	62.45	69.97	78.00

36.23

PANEL A

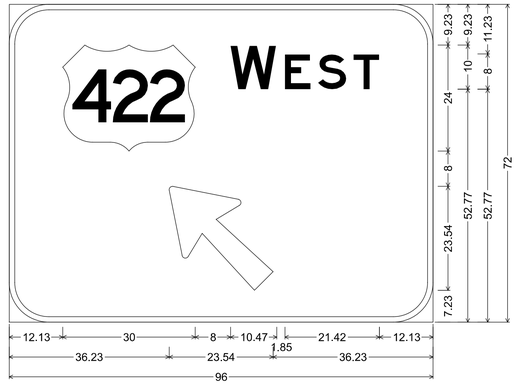


OSS-2 — OVERHEAD SIGN SUPPORT TYP TC-9.31, DESIGN 2
STA. 262+00, C/L CONST. HARPER ROAD SOUTHBOUND

SEE SHEET 404 FOR PLAN VIEW.

PANEL A	
DESIGN LEVEL:	3
TEXT FONT:	E MOD / E
PANEL SIZE:	8' X 6'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
NUMBER OF BRACKETS:	2
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	48.0 SQ. FT.
DESIGN TYPE:	TC-9.31, DESIGN 2
FOUNDATION INFORMATION	
DIAMETER:	3.0'
DEPTH:	10.0'

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISITNG 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.

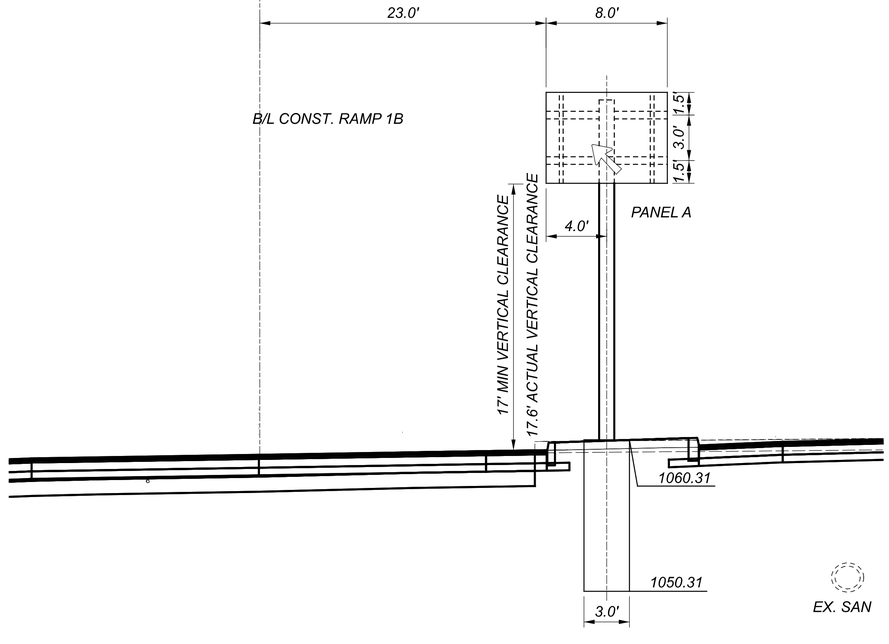


9.00" Radius, 1.25" Border, White on Green;
US 422 M1-4; "WEST", E; Arrow A-3 - 30.00" 135°;
Table of letter and object lefts

422	W	E	S	T
12.13	50.13	62.45	69.97	78.00

36.23

PANEL A



OSS-3 — OVERHEAD SIGN SUPPORT TYP TC-9.31, DESIGN 2
STA. 446+18 B/L CONST. RAMP 1B

SEE SHEET 404 FOR PLAN VIEW.

OVERHEAD SIGN SUPPORT DETAILS
OSS-2 & OSS-3

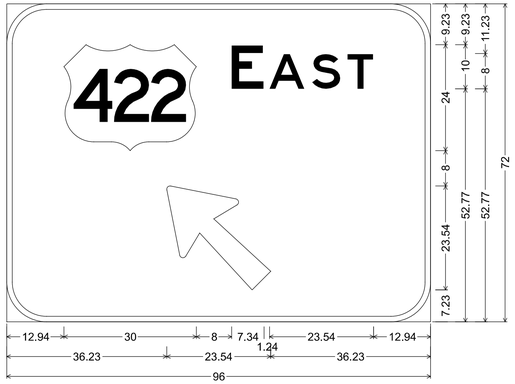
CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_CO85B - 262+00.00 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:48:58 AM USER: dstimson
G:\Clients\ORD\2020\2020336\13889\400-Engineering\Traffic\Sheets\13889_TE103.dgn

DESIGN AGENCY
GPD GROUP
Copyright Glaus, Pyle, Schomer, Burns & DeHaven, Inc. 2020

DESIGNER: DLS
REVIEWER: AKF 08/31/22
PROJECT ID: 113889
SHEET: 429 TOTAL: 481

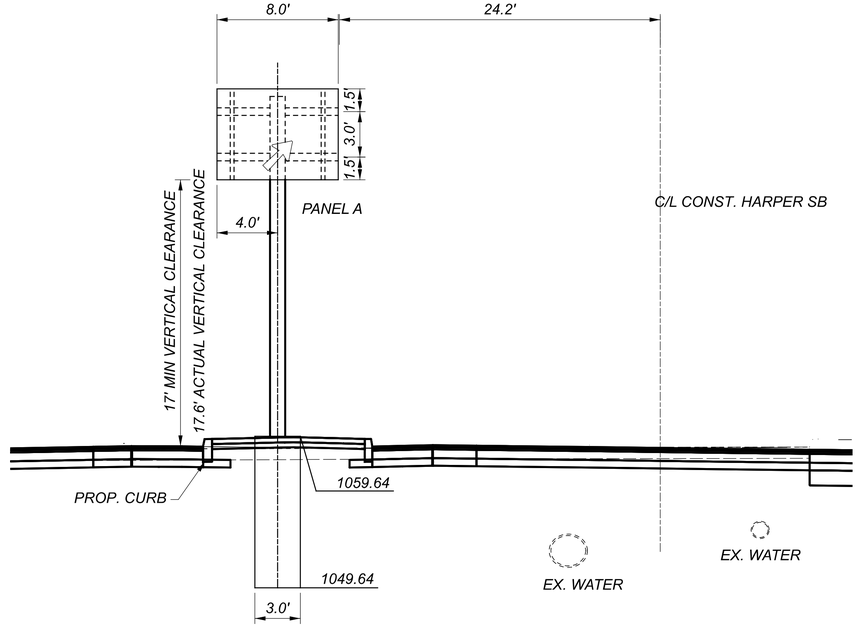
PANEL A	
DESIGN LEVEL:	3
TEXT FONT:	E MOD / E
PANEL SIZE:	8' X 6'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
NUMBER OF BRACKETS:	2
SIGN SUPPORT INFORMATION	
TOTAL SIGN AREA:	48.0 SQ. FT.
DESIGN TYPE:	TC-9.31, DESIGN 2
FOUNDATION INFORMATION	
DIAMETER:	3.0'
DEPTH:	10.0'



9.00" Radius, 1.25" Border, White on Green;
US 422 M1-4; "EAST", E; Arrow A-3 - 30.00" 135□;
Table of letter and object lefts

422	E	A	S	T
12.94	50.94	59.52	69.16	77.19

36.23



OSS-4 — OVERHEAD SIGN SUPPORT TYP TC-9.31, DESIGN 2
STA. 269+13, C/L CONST. HARPER ROAD SOUTHBOUND

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISITNG 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.

SEE SHEET 404 FOR PLAN VIEW.

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_C085B-I- 269+13.00 PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 7:49:00 AM USER: dsimson
C:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TE104.dgn

OVERHEAD SIGN SUPPORT DETAILS
OSS-4

DESIGN AGENCY
GPD GROUP®
Glaus, Pyle, Schomer, Burns & DeWeese, Inc.
Copyright Glaus, Pyle, Schomer, Burns & DeWeese, Inc. 2020

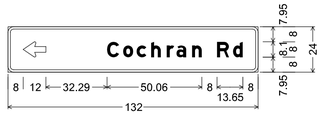
DESIGNER	DLS
REVIEWER	AKF 08/31/22
PROJECT ID	113889
SHEET	430
TOTAL	481

PANEL A	
SIGN DESIGNATION:	D1-H15-132
PANEL SIZE:	11' X 2'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL B	
SIGN DESIGNATION:	D1-H15a-132
PANEL SIZE:	11' X 2'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL C	
SIGN DESIGNATION:	D1-H15a-132
PANEL SIZE:	11' X 2'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PROPOSED BEAM INFORMATION	
TOTAL SIGN AREA:	66.0 SQ. FT.
DESIGN TYPE:	W10X12
SIZE:	9-7/8" X 4"
FOUNDATION INFORMATION	
DIAMETER:	2.5'
DEPTH:	6.0'

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.

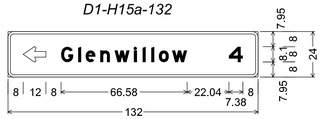


3.00" Radius, 1.25" Border, White on Green;
Standard Arrow Custom 12.00" X 8.10" 180°;
"Cochran", E Mod; "Rd", E Mod;

D1-H15-132

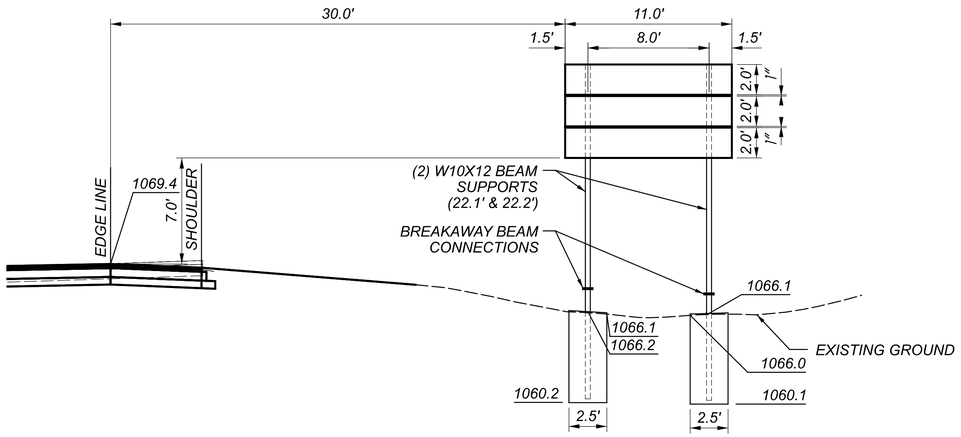
3.00" Radius, 1.25" Border, White on Green;
"Orange", E Mod; "3", E Mod;
Standard Arrow Custom 12.00" X 8.10" 0°;

D1-H15a-132



3.00" Radius, 1.25" Border, White on Green;
Standard Arrow Custom 12.00" X 8.10" 180°;
"Glenwillow", E Mod; "4", E Mod;

D1-H15a-132



S-48 BEAM SUPPORT TYPE W10X12
STA. 651+00, RAMP 3A

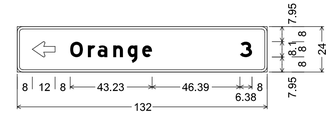
SEE SHEET 407 FOR PLAN VIEW.

PANEL A	
SIGN DESIGNATION:	D1-H15a-132
PANEL SIZE:	11' X 2'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL B	
SIGN DESIGNATION:	D1-H15a-132
PANEL SIZE:	11' X 2'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PANEL C	
SIGN DESIGNATION:	D1-H15-132
PANEL SIZE:	11' X 2'
BACKGROUND:	GREEN
FILL COLOR:	WHITE
PROPOSED BEAM INFORMATION	
TOTAL SIGN AREA:	66.0 SQ. FT.
DESIGN TYPE:	W10X12
SIZE:	9-7/8" X 4"
FOUNDATION INFORMATION	
DIAMETER:	2.5'
DEPTH:	6.0'

NOTES: 1. CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS PRIOR TO THE ORDERING OF ANY MATERIALS.

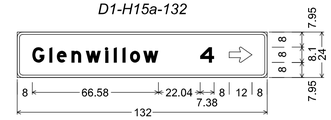
2. ALL SIGNS ARE VIEWED IN THE DIRECTION OF TRAVEL.

3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN FIELD PRIOR TO ANY EXCAVATION.



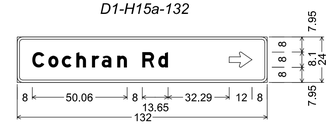
3.00" Radius, 1.25" Border, White on Green;
Standard Arrow Custom 12.00" X 8.10" 180°;
"Orange", E Mod; "3", E Mod;

D1-H15a-132



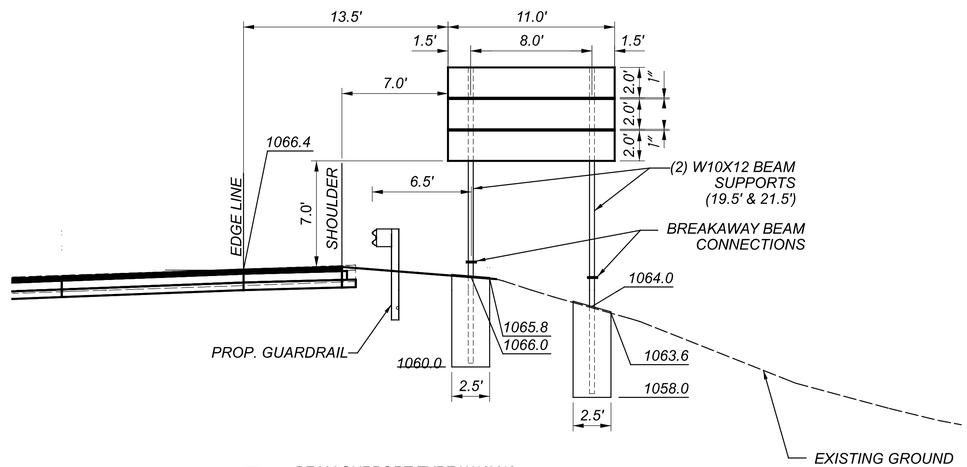
3.00" Radius, 1.25" Border, White on Green;
"Glenwillow", E Mod; "4", E Mod;
Standard Arrow Custom 12.00" X 8.10" 0°;

D1-H15a-132



3.00" Radius, 1.25" Border, White on Green;
"Cochran", E Mod; "Rd", E Mod;
Standard Arrow Custom 12.00" X 8.10" 0°;

D1-H15-132



S-60 BEAM SUPPORT TYPE W10X12
STA. 647+50, RAMP 2A

SEE SHEET 412 FOR PLAN VIEW.

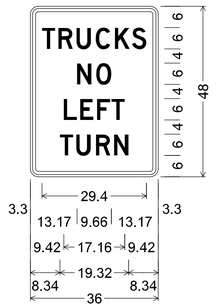
BEAM MOUNTED SIGN SUPPORT DETAILS
S-48 & S-60

DESIGN AGENCY
GPD GROUP
Copyright Glace, Fabi, Schirmer, Burns & Gilchrist, Inc. 2020

DESIGNER: DLS
REVIEWER: AKF 08/31/22
PROJECT ID: 113889
SHEET 431 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

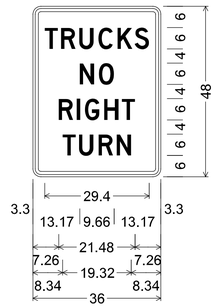
MODEL: BLP_R0183A-2 - 65I+00.00 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:49:02 AM USER: dsimson
G:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TEI05.dgn



2.25" Radius, 0.88" Border, 0.63" Indent, Black on White;
"TRUCKS", D 2K;
"NO", D 2K;
"LEFT", D 2K;
"TURN", D 2K;
Table of widths and spaces

3.30	T 3.72	0.90	R 4.08	1.02	U 4.08	1.32	C 4.08	1.32	K 4.20	0.60	S 4.08	3.30		
13.17	N 4.08	1.32	O 4.26	13.17										
9.42	L 3.72	0.90	E 3.72	1.02	F 3.72	0.36	T 3.72	9.42						
8.34	T 3.72	0.90	U 4.08	1.44	R 4.08	1.02	N 4.08	8.34						

SIGNCAD
N.T.S.

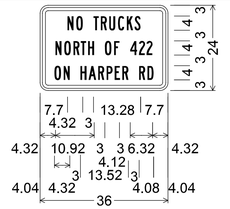


2.25" Radius, 0.88" Border, 0.63" Indent, Black on White;
"TRUCKS", D 2K;
"NO", D 2K;
"RIGHT", D 2K;
"TURN", D 2K;
Table of widths and spaces

3.30	T 3.72	0.90	R 4.08	1.02	U 4.08	1.32	C 4.08	1.32	K 4.20	0.60	S 4.08	3.30		
13.17	N 4.08	1.32	O 4.26	13.17										
7.26	R 4.08	1.02	I 0.96	1.32	G 4.08	1.32	H 4.08	0.90	T 3.72	7.26				
8.34	T 3.72	0.90	U 4.08	1.44	R 4.08	1.02	N 4.08	8.34						

SIGNCAD
N.T.S.

ALL DIMENSIONS ARE INCHES.



2.25" Radius, 0.88" Border, 0.63" Indent, Black on White;
"NO", B 2K;
"TRUCKS", B 2K;
"NORTH", B 2K;
"OF", B 2K;
"422", B 2K;
"ON", B 2K;
"HARPER", B 2K;
"RD", B 2K;
Table of widths and spaces

7.70	N 1.72	0.76	O 1.84											
	3.00	T 1.52	0.56	R 1.72	0.64	U 1.72	0.76	C 1.72	0.76	K 1.76	0.40	S 1.72	7.70	
4.32	N 1.72	0.76	O 1.84	0.76	R 1.72	0.32	T 1.52	0.56	H 1.72					
	3.00	O 1.84	0.76	F 1.52										
	3.00	4 1.96	0.52	2 1.72	0.40	2 1.72	4.32							
4.04	O 1.84	0.76	N 1.72											
	3.00	H 1.72	0.56	A 2.16	0.56	R 1.72	0.64	P 1.72	0.56	E 1.52	0.64	R 1.72		
	3.00	R 1.72	0.64	D 1.72	4.04									

SIGNCAD
N.T.S.

ALL DIMENSIONS ARE INCHES.

SIGNCAD DETAILS

DESIGN AGENCY
GPD GROUP
Copyright Glaus, Pyle, Schomer, Burns & DeHaven, Inc. 2020

DESIGNER
DLS

REVIEWER
AKF 02/10/22

PROJECT ID
113889

SHEET 432 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 7:49:03 AM USER: dstimson
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Traffic\Sheets\113889_TD001.dgn

NOTIFICATION

THE CONTRACTOR SHALL GIVE THE PROJECT ENGINEER AND THE CITY OF SOLON, (440) 349-6745, 10 WORKING DAYS NOTICE PRIOR TO THE NEW SIGNALS BEING PLACED IN OPERATION.

THE SIGNAL INSTALLATIONS SHALL BE INSPECTED BY CITY OF SOLON TRAFFIC PERSONNEL. ALL DEFICIENCIES SHALL BE CORRECTED BY THE CONTRACTOR AND APPROVED BY THE CITY OF SOLON.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 2 YEARS 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: CONTROLLER, CABINET, UNINTERRUPTIBLE POWER SUPPLY, VEHICLE DETECTION EQUIPMENT, LED LAMP UNITS, NETWORK AND COMMUNICATION/INTERCONNECT EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE CITY OF SOLON 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.

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP-AND-GO MODE AND/OR REMOVING THE EXISTING TRAFFIC SIGNAL FROM SERVICE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC.). IF THERE ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER, AND THE CITY OF SOLON. THE PROJECT ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE CITY OF SOLON AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE TRAVELING PUBLIC AND/OR THE EFFICIENCY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND REINSPECTED BY THE DESIGNATED PERSONNEL PRIOR TO FINAL ACCEPTANCE. THE CITY OF SOLON SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER AND THE CITY OF SOLON WITH 72-HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

ITEM 625 - ARC FLASH CALCULATIONS AND LABEL, TRAFFIC SIGNAL CONTROLLER CABINET

THE SPECIFICATIONS AND REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 825 SHALL APPLY TO THE TRAFFIC SIGNAL CONTROLLER CABINET AND DISCONNECT SWITCH.

THE FOLLOWING QUANTITES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 625 - ARC FLASH CALCULATIONS AND LABEL 3 EACH

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE TC SERIES OF 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. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
   E. 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.
   F. 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	VEHICULAR 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	BLUW	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. PAYMENT – ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

DETECTION MAINTENANCE

IF VEHICLE DETECTION BECOMES UNEXPECTEDLY DISABLED, REQUIRES MODIFICATION, OR IS SCHEDULED TO BE TEMPORARILY REMOVED DURING THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND CITY OF SOLON.

IF THE LOSS OF VEHICLE DETECTION IS KNOWN PRIOR TO THE START OF CONSTRUCTION, IT SHALL BE DISCUSSED AT THE PRECONSTRUCTION MEETING. AT SUCH TIME, THE CITY OF SOLON SHALL ADVISE THE PROJECT ENGINEER AND CONTRACTOR ON THE APPROPRIATE ACTION TO RECTIFY ANY LOSS OF VEHICLE DETECTION. THIS MAY INCLUDE PLACING THE TRAFFIC SIGNAL ON MINIMUM OR MAXIMUM RECALL, MODIFYING THE MINIMUM GREEN TIMES, AND REMOVING THE MALFUNCTION-ING DETECTION FROM SERVICE. WHERE NON-INTRUSIVE DETECTION (I.E. VIDEO, RADAR) ALREADY EXISTS, THE CONTRACTOR SHALL INSURE THAT DETECTION IS OPERATING AND MAINTAINED BY RECONFIGURING THE DETECTION UNITS ACCORDINGLY DURING ALL CONSTRUCTION PHASES. THIS IS TO AVOID THE SIGNAL FROM MAXING OUT THE EFFECTED SIGNAL PHASE AND CREATING UNNECESSARY DELAYS.

LOCATIONS WHERE NON-INTRUSIVE DETECTION IS PROPOSED AND THE EXISTING VEHICLE DETECTION IS TO BE ABANDONED, THE NON-INTRUSIVE VEHICLE DETECTION SHALL BE INSTALLED, CONFIGURED AND MADE FULLY FUNCTIONAL PRIOR TO THE EXISTING DETECTION BEING DISABLED. THE CONTRACTOR SHALL CONTINUE TO MAINTAIN AND MODIFY THE DETECTION UNTIL FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL. THIS IS TO ENSURE VEHICLE DETECTION REMAINS FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.

ITEM 633 - CONTROLLER ITEM, MISC.: CONTROLLER MODIFICATIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE EXISTING CONTROLLER TO INCORPORATE THE CHANGES DESCRIBED IN THE DETAILED TRAFFIC SIGNAL PLANS. THESE CHANGES SHALL INCLUDE, BUT NOT LIMITED TO, UPDATING THE EXISTING CONTROLLER WITH THE NEW PHASING PROVIDED.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH AND SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO MODIFY THE CONTROLLER AS INDICATED IN THE PLANS AND RETURN THE TRAFFIC SIGNAL TO A FULLY OPERATIONAL STATUS.

ITEM 632 - TEST HOLE PERFORMED

IT IS ANTICIPATED THAT THE CONTRACTOR WILL ENCOUNTER UNDERGROUND UTILITIES WHILE EXCAVATING FOR SIGNAL SUPPORT FOUNDATIONS OR SIMILAR FOUNDATIONS. AFTER ACCURATELY IDENTIFYING THE PROPOSED LOCATION OF THE FOUNDATION, AS SHOWN IN THE PLANS AND AFTER MODIFYING THAT LOCATION, IF NECESSARY, BASED ON THE FIELD MARKING OF UNDERGROUND UTILITY LOCATION, THE CONTRACTOR DISCOVERS A UTILITY CONFLICT DURING THE EXCAVATION OPERATION, THE CONTRACTOR WILL BE COMPENSATED FOR EACH PARTIAL FOUNDATION EXCAVATION ACCORDING TO THE BID PRICE.

BEFORE THE CONTRACTOR BEGINS THE EXCAVATION AT THE MODIFIED LOCATION, THE CONTRACTOR SHALL VERIFY THAT THERE WILL BE NO OVERHEAD UTILITY CONFLICTS RESULTING FROM THE NEW SIGNAL SUPPORT LOCATION. NEW SUPPORT LOCATIONS ARE TO BE APPROVED BY THE ENGINEER.

THE WORK WILL INCLUDE BACKFILLING, COMPACTING, AND RESTORATION OF THE EXCAVATION TO THE SITE?S ORIGINAL CONDITION.

EXCAVATIONS SHALL NOT BE LEFT OPEN OVERNIGHT.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID PER EACH ITEM 632 TEST HOLE PERFORMED TO BE USED AT THE DIRECTION OF THE ENGINEER. A QUANTITY OF 10 HAS BEEN CARRIED TO THE GENERAL SUMMARY.

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 SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
3. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
4. THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.
5. NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED AND SHALL BE BLACK IN COLOR. BRACKETS USED TO MOUNT THE PEDESTRIAN SIGNAL HEADS TO THE SIGNAL SUPPORT AND PEDESTALS SHALL BE BOLTED. ALUMINUM BANDING IS NOT PERMITTED.
6. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04. THE CONTRACTOR SHALL PROVIDE THE CITY OF SOLON, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

PAYMENT FOR ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

ITEM 633 - CONTROLLER ITEM, MISC.: PROGRAMMING OF CENTRACS SYSTEM

THIS ITEM OF WORK SHALL INCLUDE THE PROGRAMMING OF THE FOLLOWING INTERSECTIONS INTO THE CITY OF SOLON'S CENTRACS TRAFFIC SIGNAL SYSTEM MANAGEMENT SOFTWARE:

1. HARPER RD. / FIRE STATION DRIVE
2. HARPER RD. / WESTBOUND US 422 RAMPS
3. HARPER RD. / EASTBOUND US 422 RAMPS

THE CONTRACTOR SHALL IMPLEMENT AN IP ADDRESS FOR THE INTERSECTION AND ESTABLISH COMMUNICATION BETWEEN THE NEW TRAFFIC SIGNALS AND THE CITY'S CENTRACS SYSTEM VIA THE CITY'S FIBER OPTIC NETWORK.

PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY. A QUANTITY OF 1 HAS BEEN CARRIED TO THE GENERAL SUMMARY.

TRAFFIC SIGNAL NOTES

CUY-422-16.20 (HARPER ROAD)
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:47:06 PM USER: jhobrath
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DESIGN AGENCY
GPD GROUP
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DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 433 TOTAL 481

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, PULL BOXES, 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 SOLON.

THE ITEMS TO BE REVISED, DELIVERED OR DISPOSED OF SHALL BE PER THE TRAFFIC SIGNAL REMOVAL CHARTS FOR THE FOLLOWING INTERSECTIONS:

1. HARPER RD. / EASTBOUND US 422 RAMPS
2. HARPER RD. / FIRE STATION DR.

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.

ITEMS NOT SPECIFIED FOR STORAGE SHALL BE DISPOSED OF BY THE CONTRACTOR.

ITEM 632 - SIGNAL SUPPORT FOUNDATION

PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT OHIO811 TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD. THEN THE CONTRACTOR SHALL MEET THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORTS.

DUE TO THE FURTHER POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATION FOR THIS ITEM, AND CONSEQUENTLY, THE DESIGN OF THE SUPPORT AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THE ITEM UNTIL THE FOUNDATIONS HAVE BEEN INSTALLED, AT FINAL GRADE, AND THE CONTRACTOR HAS RECEIVED, FROM ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THE ITEM.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAINTAINING AGENCY, WHO WILL DETERMINE THE REVISED LOCATION AND IF NEEDED, THE SUPPORT DESIGN. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY AND AUTHORIZE THE CONTRACTOR TO ORDER THE SUPPORT.

THE CONTRACTOR SHALL, WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR ORDERING, MANUFACTURING, DELIVERY, AND INSTALLATION OF THE SUPPORT ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

NO PAYMENTS FOR DELIVERED MATERIALS FOR THE FOUNDATION OR SUPPORT ITEMS SHALL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THIS ITEM ARE REQUIRED, NO PAYMENT SHALL BE MADE FOR THE ITEMS MANUFACTURED TO THE ORIGINAL DESIGN.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 633 - CABINET FOUNDATION, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT C&MS 633, 733 AND SCD TC-83.20, THE CONTROLLER FOUNDATION SHALL BE CONSTRUCTED PER THE DETAIL ON SHEET 457 .

ITEM 633 - CONTROLLER WORK PAD, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT C&MS 633, 733 AND SCD TC-83.20, THE CONTROLLER WORK PAD SHALL BE CONSTRUCTED TO MATCH THE WIDTH OF THE CABINET FOUNDATION, PER THE DETAIL ON SHEET 457 .

ITEM 633 - CABINET, TYPE TS-2, AS PER PLAN

THE CABINET SHALL BE FURNISHED AND INSTALLED ACCORDING TO CMS 633.08 AND 733.03(B) AND SHALL BE PAINTED GLOSS BLACK (FEDERAL COLOR 17038) ON THE EXTERIOR AND WHITE ON THE INTERIOR.

THE GROUND MOUNTED CABINET SHALL BE A NEMA TS2, TYPE 1 CABINET AND SHALL INCLUDE THE FOLLOWING ADDITIONAL ITEMS:

1. LED SERVICE LAMP IN LIEU OF AN INCANDESCENT LAMP;
2. DETECTOR RACK, (SIX-PLACE MINIMUM) INCLUDING RACK-MOUNTED POWER SUPPLY THAT OUTPUTS 24V DC AT 0.5 AMPS;
3. DUMMY LOAD SWITCHES ON LEFT-TURN PHASES REGARDLESS OF CONTROLLER PROGRAMMING CAPABILITIES;
4. MANUAL PUSHBUTTON IN THE POLICE DOOR;
5. UNDER-MOUNTED DRAWER FOR STORAGE AND CAPABLE OF SUPPORTING A LAPTOP COMPUTER, WITH A MEANS TO RETAIN THE WORK SURFACE IN THE FOLD-UP POSITION;
6. ADDITIONAL 20-AMP CIRCUIT BREAKER MOUNTED NEAREST THE DOOR AND NEXT TO THE 30-AMP CIRCUIT BREAKER FOR BATTERY BACKUP;
7. ADDITIONAL 3-POSITION TERMINAL BLOCK FOR BATTERY BACKUP;
8. GENERATOR HOOK-UP ON THE EXTERIOR OF THE CABINET;
9. CAPABILITY TO BRING FULL MOTION VIDEO BACK TO THE TRAFFIC CONTROL CENTER;
10. ALL ETHERNET ENABLED COMPONENTS.
11. THE CABINET SHALL BE A DOUBLE DOOR SYSTEM WITH A SEPARATE, BUT ATTACHED COMPARTMENT FOR THE UPS EQUIPMENT.

PAYMENT FOR ITEM 633 - CABINET, TYPE TS-2, AS PER PLAN WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH CONTROLLER IN PLACE, INCLUDING A PRE-WIRED CABINET AND ALL CONNECTIONS COMPLETELY INSTALLED, WIRED TESTED AND ACCEPTED.

FIBER OPTIC EQUIPMENT TO REMAIN

THE CONTRACTOR SHALL TAKE GREAT CARE TO NOT DAMAGE THE EXISTING FIBER OPTIC EQUIPMENT TO REMAIN WHICH INCLUDES, BUT NOT LIMITED TO, CONDUIT, FIBER OPTIC CABLE AND SPLICE ENCLOSURES. IF IT IS DETERMINED, BY THE ENGINEER, THAT ANY EQUIPMENT DESIGNATED TO REMAIN HAS BEEN DAMAGED DUE TO CONTRACTOR NEGLIGENCE, THE CONTRACTOR SHALL REPLACE THE EQUIPMENT IN LIKE KIND AT THE COST TO THE CONTRACTOR.

ITEM 809 - ATC CONTROLLER, AS PER PLAN

THE CONTROLLER UNIT SHALL BE FURNISHED AND INSTALLED PER SS 809 AND BE LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS (TAP) LIST.

THE CONTROLLER SHALL BE AN ECONOLITE COBALT WITH EOS CONTROLLER SOFTWARE AND COMPATIBLE WITH THE CABINET TYPE BEING INSTALLED.

PAYMENT FOR ITEM 809 - ATC CONTROLLER, AS PER PLAN SHALL BE MADE AT THE CONTRACT BID PRICE PER EACH AND SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND OTER INCIDENTALS NECESSARY TO INSTALL THE CONTROLLER UNIT, COMPLETE IN PLACE, INCLUDING ALL CONNECTIONS MADE AND WIRING COMPLETE, FULLY TESTED AND ACCEPTED.

GENERAL

THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC CONTROL EQUIPMENT AND MATERIALS IN CONFORMANCE TO THESE PLANS AND SPECIFICATIONS AND THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (CURRENT EDITION) AND ALL SUPPLEMENTAL SPECIFICATIONS. BEFORE ANY EQUIPMENT IS ORDERED OR INSTALLATION IS BEGUN, ONE (1) SET OF A COMPLETE SCHEDULE OF EQUIPMENT INCLUDING CATALOG CUTS, DIAGRAMS, BROCHURES OR OTHER DESCRIPTIVE DATA SHALL BE ELECTRONICALLY SUBMITTED TO THE CITY FOR APPROVAL OF ALL TRAFFIC RELATED ITEMS.

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, A CABINET RISER (8 INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS. THE UPS SHALL BE INSTALLED IN AN OVERSIZE, COMPARTMENTALIZED CONTROLLER CABINET WITH THE TRAFFIC CONTROL EQUIPMENT, RATHER THAN A SEPARATE ENCLOSURE. THE CABINET AND RISER SHALL BE PAINTED BLACK IN COLOR.

THE UPS CABINET SHALL INCLUDE A GENERATOR POWER PANEL WITH A HEAVY DUTY POWER RELAY VERSUS THE LINE VOLTAGE GENERATOR SWITCH. THE GENERATOR INLET SHALL BE A RECESSED PANEL WITH A DOOR THAT IS FLUSH WITH THE EXTERNAL SIDE OF THE UPS CABINET. IT SHALL INCLUDE A RECESSED PLUG, AUTOMATIC TRANSFER SWITCH AND A DOOR THAT SECURELY CLOSES OVER THE POWER CORD.

THE CABINET SHALL HAVE A DOOR STOP MECHANISM AND THERMOSTATICALLY CONTROLLED FAN.

THE CABINET SHALL INCLUDE A BATTERY BALANCING DEVICE THAT REGULATES THE BATTERIES AND OPTIMIZES PERFORMANCE.

AFTER FOUR (4) HOURS OF BATTERY RUNTIME, THE SYSTEM SHALL BE PROGRAMMED TO SWITCH THE INTERSECTION FROM FULL OPERATION TO CONTROLLER AUTOMATIC FLASH OPERATION THROUGH THE MONITOR. THE CONTROLLER SHALL BE PROGRAMMED SO THAT FLASH OPERATION SHALL BEGIN ONCE THE INTERSECTION RUNS MINOR STREET GREEN (TYP. PH. 4 & 8), ALL-RED CLEARANCE, AND THEN FLASH OPERATION.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL OR THROUGH THE CONTROLLER WITH A C11 TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

THIS ITEM SHALL INCLUDE BOTH RED AND GREEN LED STATUS INDICATOR LAMPS TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/SHATTER RESISTANT. THE RED AND GREEN LED STATUS INDICATOR LAMPS SHALL BE DOMED ENCLOSURES CONTAINING COLORED LENSES WITH LED THAT ARE VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURES AND LED MODULES SHOULD BE PLACED AND CENTERED ON THE TOP SURFACE OF THE UPS CABINET AND SEALED FROM WATER INTRUSION. THEY SHOULD 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. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

ITEM 804 - FIBER OPTIC CABLE, ARMORED, 18 FIBER, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 804.05, THIS ITEM SHALL INCLUDE A TRACER WIRE WHERE THE FIBER OPTIC CABLE IS PROPOSED TO BE UNDERGROUND.

ITEM 632 - SIGNAL SUPPORT, TYPE TC-81.22 DESIGN (), AS PER PLAN

ITEM 632 - COMBINATION SIGNAL SUPPORT, TYPE TC-81.22 DESIGN (), AS PER PLAN

ITEM 632 - PEDESTAL, (), TRANSFORMER BASE, AS PER PLAN

ITEM 632 - PEDESTAL, MISC.: PEDESTAL, 19', TRANSFORMER BASE

ITEM 632 - BRACKET ARM, (), AS PER PLAN

ALL SIGNAL SUPPORTS SHALL CONFORM TO C&MS ITEM 632.15 AND 732.11, EXCEPT THAT ALL POLES SHALL BE TAPERED TUBES OF CONTINUOUS TAPER. POLES CONSISTING OF STRAIGHT SECTIONS WITH A TAPERED EFFECT ACCOMPLISHED BY THE USE OF REDUCERS SHALL NOT BE PERMITTED. OCTAGON SHAPED POLES ARE NOT PERMITTED.

ALL PEDESTALS SHALL CONFORM TO C&MS ITEM 632.19 AND 732.15 AND SHALL BE EQUIPPED WITH A TRANSFORMER BASE.

ATTACH PEDESTRIAN SIGNAL HEAD BRACKET ARMS TO THE POLES BY UTILIZING ONE AND ONE-HALF INCH (1-1/2") BLIND HALF COUPLING WELDED INTO THE POLE TO GALVANIZING. DO NOT FIELD INSTALL WIRING HOLES FOR PEDESTRIAN SIGNALS.

THE SIGNAL SUPPORT, MAST ARMS, BRACKET ARMS, PEDESTALS AND BASES AND ALL EXPOSED HARDWARE SHALL HAVE A GLOSS BLACK FINISH (FEDERAL COLOR 17038). PAINTING OF THE EQUIPMENT SHALL BE IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 916.

ALL PAINTED EQUIPMENT SHALL BE SHIPPED IN A MANNER TO MINIMIZE DAMAGE IN TRANSIT. PAINTED SURFACES WILL BE PROTECTED BY FOAM PADDING, CARDBOARD WRAPPING, SPIRAL WRAPPING WITH WAXED PAPER, CRATING, OR A COMBINATION OF THE LISTED METHODS. THE METHOD UTILIZED SHALL BE SELECTED BY THE SUPPORT MANUFACTURER AS MOST APPROPRIATE FOR THE PROJECT BASED ON POLE SIZES, QUANTITIES, CONFIGURATIONS AND METHOD OF TRANSPORTATION.

PAYMENT FOR PAINTING SHALL BE INCIDENTAL AND INCLUDED IN THE UNIT BID PRICE PER EACH AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO INSTALL THE PROPOSED EQUIPMENT COMPLETE AND IN PLACE.

ITEM 632 - PEDESTRIAN PUSHBUTTON, AS PER PLAN

IN ORDER TO CONFORM TO THE AMERICANS WITH DISABILITIES ACT (ADA). THE REQUIREMENTS OF THE C&MS ITEMS 632.09 AND 732.06 ARE MODIFIED AS FOLLOWS:

1. THE PUSHBUTTON SHALL BE RAISED AND SHALL BE A MINIMUM OF 2 INCHES (50 MILLIMETERS) AT ITS SMALLEST DIMENSION.
2. THE PUSHBUTTON SHALL BE EQUIPPED TO EMIT AN AUDIBLE CHIRP AS THE BUTTON IS PUSHED TO CONFIRM THAT THE PEDESTRIAN CALL HAS BEEN PLACED.
3. THE PUSHBUTTON SHALL BE EQUIPPED WITH A RED INDICATION LIGHT.
4. THE PUSHBUTTON AND ALL ATTACHMENT HARDWARE SHALL BE BLACK IN COLOR.
5. SEAL THE PUSHBUTTON HOUSING TO THE SIGNAL SUPPORT/PEDESTAL WITH BLACK SILICONE.

THIS ITEM SHALL INCLUDE ALL LABOR AND MATERIAL COSTS ASSOCIATED WITH THE PROVISIONS AND INSTALLATION OF THE PUSHBUTTON AS OUTLINED ABOVE. PAYMENT FOR THIS WORK SHALL BE AT THE CONTRACT UNIT PRICE FOR ITEM 632 - PEDESTRIAN PUSHBUTTON, AS PER PLAN AND WILL BE MEASURED BY THE NUMBER OF COMPLETE UNITS FURNISHED, INSTALLED AND ACCEPTED.

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DESIGN AGENCY
GPD GROUP
Glaus, Pyle, Schomer, Burns & DeWeese, Inc.
DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 434 TOTAL 481

ITEM 809 - EMERGENCY VEHICLE PREEMPTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION EQUIPMENT IN THE LOCATIONS AND LOCAL CONTROLLERS AS SHOWN IN THE PLANS. THE PREEMPTION SHALL CONFORM TO ODOT SUPPLEMENTAL SPECIFICATION 809 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 SOUND DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE SYSTEM SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH AN EMITTING DEVICE 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 CONTROLLER.

THE EQUIPMENT SHALL BE SHELF OR RACK MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. SUPPLY EQUIPMENT COMPLETELY WIRED IN THE CONTROLLER CABINET AND TESTED. 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 AT LEAST 2000 FEET FROM THE INTERSECTION IN AN 80dB-A NOISE ENVIRONMENT.

ALL PREEMPTION PLANS SHOULD BE PROGRAMMED TO PREVENT THE YELLOW TRAP, UNLESS AS DIRECTED BY THE DISTRICT TRAFFIC ENGINEER. YELLOW TRAP PREVENT WILL FORCE THE TRANSITION THROUGH YELLOW CHANGE AND RED CLEARANCE FOR RESOLUTION OF YELLOW TRAP IF ANY PHASE OPPOSING THE PREEMPTION CLEARANCE PHASE(S) IS ACTIVE AND DISPLAYING A GREEN OR FLASHING YELLOW ARROW INDICATION WHEN THE PREEMPTION PLAN IS ACTIVATED AND THE PREEMPTION CLEARANCE PHASE(S) ARE GREEN.

SUPPLY EACH INTERSECTION SHOWN IN THE PLANS WITH THE FOLLOWING COMPONENTS, EACH BID SEPARATELY:

1. PREEMPT RECEIVING UNIT.
2. PREEMPT DETECTOR CABLE.
3. PREEMPT PHASE SELECTOR ASSEMBLY AND INTERFACE WIRING PANEL.
4. CONFIRMATION LIGHT.

THE CONTRACTOR SHALL INVENTORY THE CITY'S EMERGENCY VEHICLES TO DETERMINE COMPATIBILITY OF THE SIRENS WITH THE SYSTEM. EACH VEHICLE THAT IS DETERMINED TO BE NOT COMPATIBLE SHALL BE SUPPLIED WITH NEW SIRENS AT COST INCIDENTAL TO THE SYSTEM. THE MODEL SUPPLIED SHALL BE SONEM 2000 MANUFACTURED BY TRAFFIC SYSTEMS LLC.

THE CITY SHALL BE SUPPLIED WITH SOFTWARE REQUIRED TO CALIBRATE, LOG, AND OPERATE THE SYSTEM. TWO (2) OPERATING AND INSTRUCTION MANUALS SHALL BE SUPPLIED WITH THE SOFTWARE.

THE CONTRACTOR SHALL THOROUGHLY TEST 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.

PAYMENT FOR ITEM 809 EMERGENCY VEHICLE PREEMPTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PREEMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS, EXCEPT FOR THOSE ITEMS BID SEPARATELY.

ITEM 809 - PREEMPT RECEIVING UNIT, AS PER PLAN

RECEIVING UNITS SHALL CONSIST OF A LIGHTWEIGHT, WEATHER-PROOF AND DIRECTIONAL ASSEMBLY. EACH RECEIVING UNIT SHALL BE 360 DEGREE ADJUSTABLE. THE RECEIVING UNIT SHALL BE CAPABLE OF SENDING THE PROPER ELECTRICAL SIGNAL TO THE TRAFFIC SIGNAL CONTROLLER VIA THE PREEMPTION DETECTOR CABLE. RECEIVING UNITS SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE AS SHOWN IN THE PLANS.

THE RECEIVING UNIT SHALL EMPLOY SOUND/SIREN DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE UNIT SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH THE EMITTING DEVICES 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 NEMA CONTROLLERS.

FURNISH PREEMPTION RECEIVING UNITS WITH 60-MONTH WARRANTIES OR FOR THE MANUFACTURER'S STANDARD WARRANTY WHICHEVER IS GREATER. ENSURE THAT THE WARRANTY PERIOD BEGINS ON THE DATE OF SHIPMENT TO THE PROJECT. ENSURE THAT EACH UNIT HAS A PERMANENT LABEL OR STAMP INDICATING THE DATE OF SHIPMENT.

THE RECEIVING UNIT, MOUNTING HARDWARE AND ANY EXPOSED SURFACES SHALL BE BLACK IN COLOR.

PAYMENT FOR ITEM 809 PREEMPT RECEIVING, AS PER PLAN UNIT SHALL BE AT THE CONTRACT UNIT FOR EACH RECEIVING UNIT IN PLACE, COMPLETELY INSTALLED AT THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM 809 - PREEMPT DETECTOR CABLE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION DETECTOR HOME RUN CABLE IN THE LOCATIONS SHOWN IN THE PLANS. IT SHALL CONNECT THE PREEMPT RECEIVING UNITS TO THE PHASE SELECTORS IN THE LOCAL CONTROLLER CABINET.

PREEMPTION DETECTOR CABLE SHALL CONFORM TO ODOT SPECIFICATION 632. ONLY ONE EXTERNAL SPLICE SHALL BE PERMITTED BETWEEN PREEMPTION RECEIVER UNIT AND CONTROLLER CABINET. THIS SPLICE SHALL MEET THE REQUIREMENTS OF C&MS 632.23 USING A WATERPROOF EPOXY SPLICE KIT. 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.

PAYMENT FOR ITEM 809 PREEMPT DETECTOR CABLE SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT FOR THE CABLE FURNISHED, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

ITEM 809 - PREEMPT PHASE SELECTOR

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT PHASE SELECTORS INCLUDING WIRING INTERFACE PANELS IN THE LOCAL CONTROLLER CABINET AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTORS 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.

FURNISH PREEMPT PHASE SELECTORS WITH 60-MONTH WARRANTIES OR FOR THE MANUFACTURER'S STANDARD WARRANTY WHICHEVER IS GREATER. ENSURE THAT THE WARRANTY PERIOD BEGINS ON THE DATE OF SHIPMENT TO THE PROJECT. ENSURE THAT EACH UNIT HAS A PERMANENT LABEL OR STAMP INDICATING THE DATE OF SHIPMENT.

PAYMENT FOR ITEM 809 PREEMPT PHASE SELECTOR SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PHASE SELECTOR IN PLACE, COMPLETELY INSTALLED IN THE LOCAL CONTROLLER SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM 809 - PREEMPT CONFIRMATION LIGHT, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT CONFIRMATION LIGHTS INCLUDING HARDWARE 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 DIRECTION APPROACHING THE INTERSECTION TO INDICATE THAT THE EMERGENCY VEHICLE HAS ACHIEVED CONTROL OF THE TRAFFIC SIGNAL.

THE CONFIRMATION LIGHT SHALL BE A LED VAPOR TIGHT ALUMINUM LIGHTING FIXTURE. IT SHALL BE SUPPLIED WITH A WHITE LED, DIRECTIONAL, LOW POWER, HIGH OUTPUT LAMP WITH THE FOLLOWING SPECIFICATIONS:

OPERATING TEMPERATURE: -40°C TO +75°C
STORAGE TEMPERATURE: -40°C TO +100°C
LENS MATERIAL: POLYCARBONATE UL 94V-0, EDISON BASED
OPERATING VOLTAGE: 120 VAC

ALL MOUNTING HARDWARE TO ATTACH TO CONFIRMATION LIGHT TO THE TRAFFIC SIGNAL MAST ARM SHALL BE PROVIDED. ATTACHMENT HARDWARE SHALL BE BLACK IN COLOR. THE CONFIRMATION LIGHT SHALL BE POWERED BY A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER. SIGNAL CABLE CONFORMING TO 732.19 SHALL BE USED FOR CONFIRMATION LIGHTS. A MINIMUM OF 2-CONDUCTIR CABLE SHALL BE USED WITH THE GREEN WIRE SERVING AS THE SAFETY GROUND CONDUCTOR.

PAYMENT FOR ITEM 809 PREEMPT CONFIRMATION LIGHT, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH LIGHT IN PLACE, COMPLETELY INSTALLED IN THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM 809 - ADVANCE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN ADVANCE DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.
8. THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING/DISABLING EXISTING LOOPS.
9. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.

PAYMENT FOR ITEM 809 ADVANCE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

FIRE STATION EMERGENCY PREEMPTION SYSTEM

THE EMERGENCY PREEMPTION SYSTEM AT THE HARPER RD. / FIRE STATION DRIVE TRAFFIC SIGNAL SHALL MATCH THE SPECIFICATIONS FOR THE BASE BID EMERGENCY VEHICLE PREEMPTION SYSTEM, AS PER PLAN, EXCEPT THAT THE PREEMPTION SYSTEM SHALL BE LIGHT BASED IN LIEU OF THE SOUND-BASED SYSTEM INSTALLED AT THE OTHER PROJECT INTERSECTIONS. THE PREEMPTION SYSTEM SHALL BE AN OPTICOM IR MODEL AS MANUFACTURED BY GLOBAL TRAFFIC TECHNOLOGIES.

THE CITY SHALL BE PROVIDED WITH EIGHT (8) EMITTERS TO OUTFIT THE DESIGNATED VEHICLES THAT WILL NEED TO ACTIVATE THE EMERGENCY PREEMPTION. THE EMITTERS SHALL BE SUPPLIED AT COST INCIDENTAL TO THE SYSTEM. THE CONTRACTOR SHALL COORDINATE WITH MARK VEDDER, FIRE CHIEF, 440-349-6333, TO DETERMINE A MUTUALLY AGREEABLE TIME TO INSTALL THE EMITTERS INTO THE EMERGENCY VEHICLES.

THE CONTROLLERS AT THE FOLLOWING INTERSECTIONS SHALL BE PROGRAMMED TO INITIATE THE PREEMPTION SEQUENCE TO PRIORITIZE A SOUTHBOUND EMERGENCY MOVEMENT THROUGH THE INTERCHANGE:

- HARPER RD. / EB US 422 RAMPS
- HARPER RD. / WB US 422 RAMPS
- HARPER RD. / BAINBRIDGE RD.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR UNDER ITEM 809 EMERGENCY VEHICLE PREEMPTION, AS PER PLAN FOR EACH PREEMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS, EXCEPT FOR THOSE ITEMS BID SEPARATELY.

ITEM 633 - CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET SWITCH

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN INDUSTRY HARDENED, FULLY MANAGED ETHERNET SWITCH PROVIDING DUAL FIBER OPTIC GIGABIT ETHERNET (100BASEX) PORTS USING INDUSTRY STANDARD SC FIBER OPTIC CONNECTORS AND 8 FAST ETHERNET (10/100BASE TX) RJ45 COPPER PORTS. THE SWITCH SHALL OPERATE ON 120VAC, 10 WATTS AND SHALL MEET OR EXCEED NEMA TS2 ENVIRONMENTAL REQUIREMENTS.

THE FIBER OPTIC SWITCH 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 SWITCH SHALL BE CAPABLE OF OPERATING IN A FAULT TOLERANT FIBER OPTIC LOOP.

PROVIDE A SWITCH THAT IS FULLY COMPLIANT WITH IEEE 802.3, 802.3U AND 802.3Z. THE SWITCH SHALL PROVIDE FULL-DUPLEX OPERATION AND FLOW CONTROL.

PROVIDE A SIMPLE INTUITIVE USER INTERFACE FOR CONFIGURATION ND MONITORING OF THE SWITCH VIA STANDARD HTML GRAPHICAL WEB BROWSER, INCLUDING DETAILED ONLINE HELP.

EVENT LOGGING AND RECORDING SHALL BE INCLUDED. ALL SIGNIFICANT EVENTS SHALL BE STORED IN A NON-VOLATILE SYSTEM LOG.

THE OPTICAL ETHERNET SWITCH SHALL CONNECT TO ALL ETHERNET DEVICES IN THE CONTROLLER CABINET INCLUDING CONTROLLER, MMU, UPS, VIDEO DETECTION COMMUNICATIONS INTERFACE PANEL AND VIDEO SERVERS, AND ANY OTHER EHTERNET DEVICES USING PROPERLY RATED CAT5E CABLES WITH RJ45 CONNECTORS.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH FIBER OPTIC ETHERNET SWITCH IN PLACE, COMPLETELY INSTALLED IN THE LOCAL CONTROLLER SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

PULL BOX, MISC.: PULL BOX, 24"X 35"X 26"

PULL BOXES SHALL HAVE NOMINAL OPENING DIMENSIONS OF 24 INCHES BY 35 INCHES. MATERIALS SHALL CONFORM TO 725.06. THE WORD "TRAFFIC" SHALL BE INTEGRALLY CAST AS PART OF THE COVER OR SECURELY FASTENED WITH CORROSION RESISTANT HARDWARE. THE SUPPLIED PULL BOXES SHALL SUPPORT A 20,000-POUND MINIMUM VERTICAL LOADING WITHOUT PERMANENT DAMAGE OR DEFLECTION TO THE UNIT. DISPOSE OF SURPLUS MATERIAL AND RESTORE DISTURBED FACILITIES AND SURFACES.

THE LARGEST BEND RADIUS POSSIBLE SHALL BE MAINTAINED FOR THE FIBER OPTIC CABLE.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 625 PULL BOX, MISC.: PULL BOX, 24"X 35"X 26.

TRAFFIC SIGNAL NOTES

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DESIGN AGENCY
GPD GROUP
Gbuss, Pyle, Schomer, Burns & Deneven, Inc.
DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 435 TOTAL 481

ITEM 632 - POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER C&MS ITEM 632.24 AND SCD TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

1. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.
2. THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES.
3. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN 5 FEET HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND.
4. THE METER BASE AND DISCONNECT SWITCH SHALL BE MOUNTED ON THE CONTROLLER CABINET AS DETAILED ON SHEET 458 . FIELD ADJUSTMENTS MAY BE MADE IN MOUNTING THE METER BASE AND DISCONNECT SWITCH WITH THE APPROVAL OF THE ENGINEER.
5. THE METER BASE AND DISCONNECT SWITCH SHALL BE PAINTED BLACK IN COLOR TO MATCH THE FINISH OF THE CONTROLLER CABINET.

THE CONTRACTOR SHALL OBTAIN A METER PROVIDED BY THE ILLUMINATING COMPANY. DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS 632.24 SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE ILLUMINATING COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE ILLUMINATING COMPANY (CUSTOMER SERVICE, 800-589-3101) MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE ILLUMINATING COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE ILLUMINATING COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE CITY OF SOLON.

DUE TO THE INTENDED RELOCATION OF EXISTING UTILITY POLES, THE PROPOSED POWER SOURCE LOCATION HAS NOT BEEN IDENTIFIED AT ALL PROJECT INTERSECTIONS. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE POWER SOURCE LOCATION AT ANY INTERSECTION THAT HAS NOT BEEN PREVIOUSLY IDENTIFIED IN THE PLANS. ALL POWER SOURCE LOCATIONS SHALL BE APPROVED BY THE ENGINEER. REGARDLESS OF WHETHER THE POWER SOURCE LOCATION HAS BEEN IDENTIFIED IN THE PLANS OR NOT, ALL ITEMS ASSOCIATED WITH THE POWER SERVICE THAT ARE NECESSARY TO PROVIDE COMPLETE ELECTRICAL SERVICE TO EACH TRAFFIC SIGNAL INSTALLATION, INCLUDING, BUT NOT LIMITED TO CONDUIT RISERS, CONDUIT, TRENCHING, PULL BOXES AND POWER SERVICE CABLE, SHALL BE INCIDENTAL TO AND INCLUDED UNDER ITEM 632 - POWER SERVICE, AS PER PLAN, AS PER C&MS 632.24.

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 - PEDESTAL FOUNDATION, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732 AND STANDARD CONSTRUCTION DRAWINGS TC-83.20 AND HL-10.13, THE PEDESTAL FOUNDATIONS FOR THE PROPOSED 19' PEDESTALS SHALL MEET THE FOLLOWING REQUIREMENTS:

1. THE FOUNDATION SHALL BE 4' DEEP.
2. THE ANCHOR BOLTS SHALL BE 1" IN DIAMETER AND 36" IN LENGTH.
3. THE FOUNDATION SHALL INCLUDE (6)-NO. 6 VERTICAL REBARS.

PAYMENT FOR ITEM 632 - PEDESTAL FOUNDATION, AS PER PLAN SHALL BE AT THE CONTRACT PRICE BID PER EACH AND SHALL INCLUDE ALL MATERIALS, TOOLS AND LABOR NECESSARY TO INSTALL THE PROPOSED FOUNDATIONS, COMPLETE AND IN PLACE.

POWER SERVICE FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM CEI FIRST ENERGY, THE ILLUMINATING COMPANY, AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS.

CEI FIRST ENGERGY
THE ILLUMINATING COMPANY
7755 AUBURN ROAD, BLDG. #4
CONCORD TWP., OHIO 44077
(440) 358-4991

THE CONTRACTOR SHALL CONTACT THE CITY OF SOLON FOR PERMITS, INSPECTIONS AND TO SCHEDULE ELECTRICAL HOOK-UP FOR TRAFFIC SIGNALS FROM FIRST ENERGY.

ITEM 625 - CONDUIT, 725.051, AS PER PLAN, BY SIZE

ALL UNDERGROUND CONDUIT USED FOR TRAFFIC SIGNALS AND INTERCONNECT CABLES SHALL MEET THE REQUIREMENTS OF ODOT 725.051, EXCEPT THE CONDUIT SHALL BE POLYVINYL CHLORIDE EPC-80 IN LIEU OF PVC SCHEDULE 40 CONDUIT.

ITEM 632 - COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN

ITEM 632 - COVERING OF PEDESTRIAN SIGNAL HEAD, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632, VEHICULAR AND PEDESTRIAN SIGNAL HEADS SHALL BE COVERED IMMEDIATELY FOLLOWING INSTALLATION AND REMAIN COVERED UNTIL ENERGIZED. THE COVERING MATERIAL SHALL BE LARGE ENOUGH TO COVER THE FRONT AND BOTH SIDES OF THE VEHICULAR OR PEDESTRIAN SIGNAL HEADS. THE COVERING MATERIAL SHALL BE A CANVAS OR SIMILAR DURABLE MATERIAL. USE OF POLYETHYLENE TRASH BAGS AS A COVERING MATERIAL SHALL NOT BE PERMITTED. THE COVERING SHALL NOT BE BLACK.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH.

MISCELLANEOUS MOUNTING HARDWARE

ALL ITEMS SUCH AS SIGNAL HEADS, SIGNS, PREEMPTION DETECTORS, DILEMMA ZONE DETECTORS, CONFIRMATION LIGHTS AND OTHER MISCELLANEOUS ITEMS SHALL BE CONNECTED TO SIGNAL SUPPORT POLES USING CABLE MOUNTED ASTRO BRACKETS ONLY. ALL ITEMS AND HARDWARE ARE TO BE PAINTED BLACK (FEDERAL STANDARD 595C, COLOR NO. 17038).

ITEM 632 - VEHICULAR SIGNAL HEAD, (LED), (BY TYPE), 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK

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 WITH VISORS AS SPECIFIED IN THE PLANS AND MEET ITE SPECIFICATIONS.
2. PROPER EXTERIOR COLORS SHALL BE IN ACCORDANCE WITH THE DETAILED PLANS AND BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
3. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
4. ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE YELLOW LENS LOCATED IN FRONT OF THE MAST ARM.
5. ALUMINUM BACKPLATES SHALL BE IN ACCORDANCE WITH THE C&MS AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.
6. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04. IN ADDITION, THE MODULES SHALL BE LONG LIFE WITH A MINIMUM WARRANTY OF 15 YEARS. THE CONTRACTOR SHALL PROVIDE THE CITY OF SOLON, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.
7. SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.
8. SIGNAL HEADS SHALL INCLUDE FULL TUNNEL TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.
9. APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.

PAYMENT FOR ITEM 632 - VEHICULAR SIGNAL HEAD, (LED), (BY TYPE), 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN (ALTERNATE 1)

IN ADDITION TO MEETING THE REQUIREMENTS OF ODOT SUPPLEMENTAL SPECIFICATIONS 816 AND 907, THE VIDEO DETECTION SYSTEM SHALL BE ABLE TO PROVIDE A VIDEO FEED FOR ALL CAMERAS AT EACH OF THE PROJECT INTERSECTIONS SIMULTANEOUSLY BACK TO THE CITY OF SOLON'S CENTRAL SIGNAL SYSTEM CONTROL STATION (CSSCS).

THE CAMERAS SHALL BE MOUNTED NO HIGHER THAN 30 FEET ABOVE THE ROAD SURFACES, RISER EXTENSIONS SHALL BE FURNISHED AND INSTALLED WHEN REQUIRED, AS DETERMINED BY THE ENGINEER. THE CAMERA, RISER EXTENSIONS, MOUNTING HARDWARE AND ANY EXPOSED SURFACES SHALL BE BLACK IN COLOR.

AFTER INSTALLATION IS COMPLETE, THE CONTRACTOR SHALL TEST AND CERTIFY THE FUNCTIONALITY OF THE VIDEO DETECTION SYSTEM.

PAYMENT FOR ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN (ALTERNATE 1) SHALL BE MADE AT THE CONTRACT BID PRICE PER EACH AND SHALL INCLUDE THE COST OF ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, TESTING AND CERTIFICATION NECESSARY TO PROVIDE A VIDEO DETECTION SYSTEM COMPLETE IN PLACE.

ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN (AUTOSCOPE VISION) (ALTERNATE 2)

IN ADDITION TO MEETING THE REQUIREMENTS OF THE BASE BID ITEM, THE VIDEO DETECTION SYSTEM SHALL BE AN AUTOSCOPE VISION MODEL AS MANUFACTURED BY ECONOLITE CONTROL PRODUCTS, INC.

PAYMENT FOR ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN (AUTOSCOPE VISION) (ALTERNATE 2) SHALL BE MADE AT THE CONTRACT BID PRICE PER EACH AND SHALL INCLUDE THE COST OF ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, TESTING AND CERTIFICATION NECESSARY TO PROVIDE A VIDEO DETECTION SYSTEM COMPLETE AND IN PLACE.

TRAFFIC SIGNAL NOTES

CUY-422-16.20 (HARPER ROAD)
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:47:11 PM USER: jhobrath
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DESIGN AGENCY
GPD GROUP
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DESIGNER
BEB

REVIEWER
KMG 6-8-23

PROJECT ID
113889

SHEET 436 TOTAL 481

TRAFFIC SIGNAL SUBSUMMARY

SHEET	LOCATION	625 BRACKET ARM, 10', AS PER PLAN (EACH)	625 BRACKET ARM, 15', AS PER PLAN (EACH)	625 BRACKET ARM, 25', AS PER PLAN (EACH)	625 CONDUIT, 2", 725.051, AS PER PLAN (FT)	625 CONDUIT, 3", 725.051, AS PER PLAN (FT)	625 CONDUIT, 4", 725.051, AS PER PLAN (FT)	625 TRENCH (FT)	625 PULL BOX, 725.06, SIZE 7 (EACH)	625 PULL BOX, 725.06, SIZE 18 (EACH)	625 PULL BOX, MISC.: PULL BOX, 24" X 35" X 26" (EACH)	625 GROUND ROD (EACH)	625 UNDERGROUND WARNING/MARKING TAPE (FT)	632 VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK (EACH)	632 PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN (EACH)	632 COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN (EACH)	632 COVERING OF PEDESTRIAN SIGNAL HEAD, 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 SIGNAL SUPPORT FOUNDATION (EACH)	632 PEDESTAL FOUNDATION (EACH)	632 PEDESTAL FOUNDATION, AS PER PLAN (EACH)	632 LOOP DETECTOR LEAD-IN CABLE (FT)
439	HARPER RD. / FIRE STATION DRIVE					32	138	170	1		1	4	170	6		6				632	2			568
442	HARPER RD. / WESTBOUND US 422 RAMPS	1	1	2	74	205	381	588	4	1	1	11	588	12	4	12	4	4	1422	930	4	2	3	1451
446	HARPER RD. / EASTBOUND US 422 RAMPS		4		62	220	346	554	4	2		11	554	12	4	12	4	4	1473	881	4	2	3	1454
450	HARPER RD. / BAINBRIDGE RD.													1		1			181					
TOTALS CARRIED TO GENERAL SUMMARY		1	5	2	136	457	865	1312	9	3	2	26	1312	31	8	31	8	8	3076	2443	10	4	6	3473

SHEET	LOCATION	632 POWER SERVICE, AS PER PLAN (EACH)	632 SIGNAL SUPPORT, TYPE TC-12.31 DESIGN 6 POLE, WITH MAST ARMS TC-81.22 DESIGN 4 AND DESIGN 4, AS PER PLAN (EACH)	632 SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN (EACH)	632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN (EACH)	632 COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN (EACH)	632 PEDESTAL, 8', TRANSFORMER BASE, AS PER PLAN (EACH)	632 PEDESTAL, MISC.: PEDESTAL, 19', TRANSFORMER BASE (EACH)	632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN (EACH)	633 CABINET, TYPE TS-2, AS PER PLAN (EACH)	633 CABINET FOUNDATION, AS PER PLAN (EACH)	633 CONTROLLER WORK PAD, AS PER PLAN (EACH)	633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN (EACH)	633 CONTROLLER ITEM, MISC.: CONTROLLER MODIFICATIONS (EACH)	809 ADVANCE RADAR DETECTION, AS PER PLAN (EACH)	809 ATC CONTROLLER, AS PER PLAN (EACH)	809 EMERGENCY VEHICLE PREEMPTION, AS PER PLAN (EACH)	809 PREEMPT RECEIVING UNIT, AS PER PLAN (EACH)	809 PREEMPT DETECTOR CABLE (FT)	809 PREEMPT PHASE SELECTOR (EACH)	809 PREEMPT CONFIRMATION LIGHT, AS PER PLAN (EACH)	816 VIDEO DETECTION SYSTEM, AS PER PLAN (ALTERNATE 1) (EACH)	816 VIDEO DETECTION SYSTEM, AS PER PLAN (AUTOSCOPE VISION) (ALTERNATE 2) (EACH)
439	HARPER RD. / FIRE STATION DRIVE	1	1	1					1	1	1	1	1			1	1	1	214	1	3			
442	HARPER RD. / WESTBOUND US 422 RAMPS	1			1	3	2	3		1	1	1	1		2	1	1	4	880	1	4	1	1	
446	HARPER RD. / EASTBOUND US 422 RAMPS	1			4		2	3	1	1	1	1	1		2	1	1	4	822	4	4	1	1	
450	HARPER RD. / BAINBRIDGE RD.													1										
TOTALS CARRIED TO GENERAL SUMMARY		3	1	1	5	3	4	6	2	3	3	3	3	1	4	3	3	9	1916	6	11	2	2	

DESIGN AGENCY

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REVIEWER KMG 6-8-23

PROJECT ID 113889

SHEET 437 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/26/2025 TIME: 9:48:05 AM USER: cluzier
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SHEET	LOCATION	625 CONDUIT, 2", 725.051, AS PER PLAN	625 CONDUIT, 4", 725.051, AS PER PLAN	625 TRENCH	625 PULL BOX, 725.06, SIZE 7	625 UNDERGROUND WARNING/MARKING TAPE	633 CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET SWITCH	804 FIBER OPTIC CABLE, ARMORED, 18 FIBER, AS PER PLAN	804 DROP CABLE, 6 FIBER	804 FIBER TERMINATION PANEL, 12 FIBER	804 SPLICE ENCLOSURE, BUTT SPLICE												
		FT	FT	FT	EACH	FT	EACH	FT	EACH	EACH	EACH												
452	BEGIN TO STA. 60+50	521		521	1	521		573															
453	STA. 60+50 TO STA. 65+50	396		396		396	2	601	2	2	2												
454	STA. 65+50 TO STA. 70+50	388	244	632	3	632	1	537	1	1	1												
455	STA. 70+50 TO END	422		422	1	422		497															
	TOTALS CARRIED TO GENERAL SUMMARY	1727	244	1971	5	1971	3	2208	3	3	3												

SHEET	LOCATION
	TOTALS CARRIED TO GENERAL SUMMARY

INTERCONNECT SUBSUMMARY

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PROJECT ID 113889

SHEET 438 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:47:12 PM USER: jhobrath
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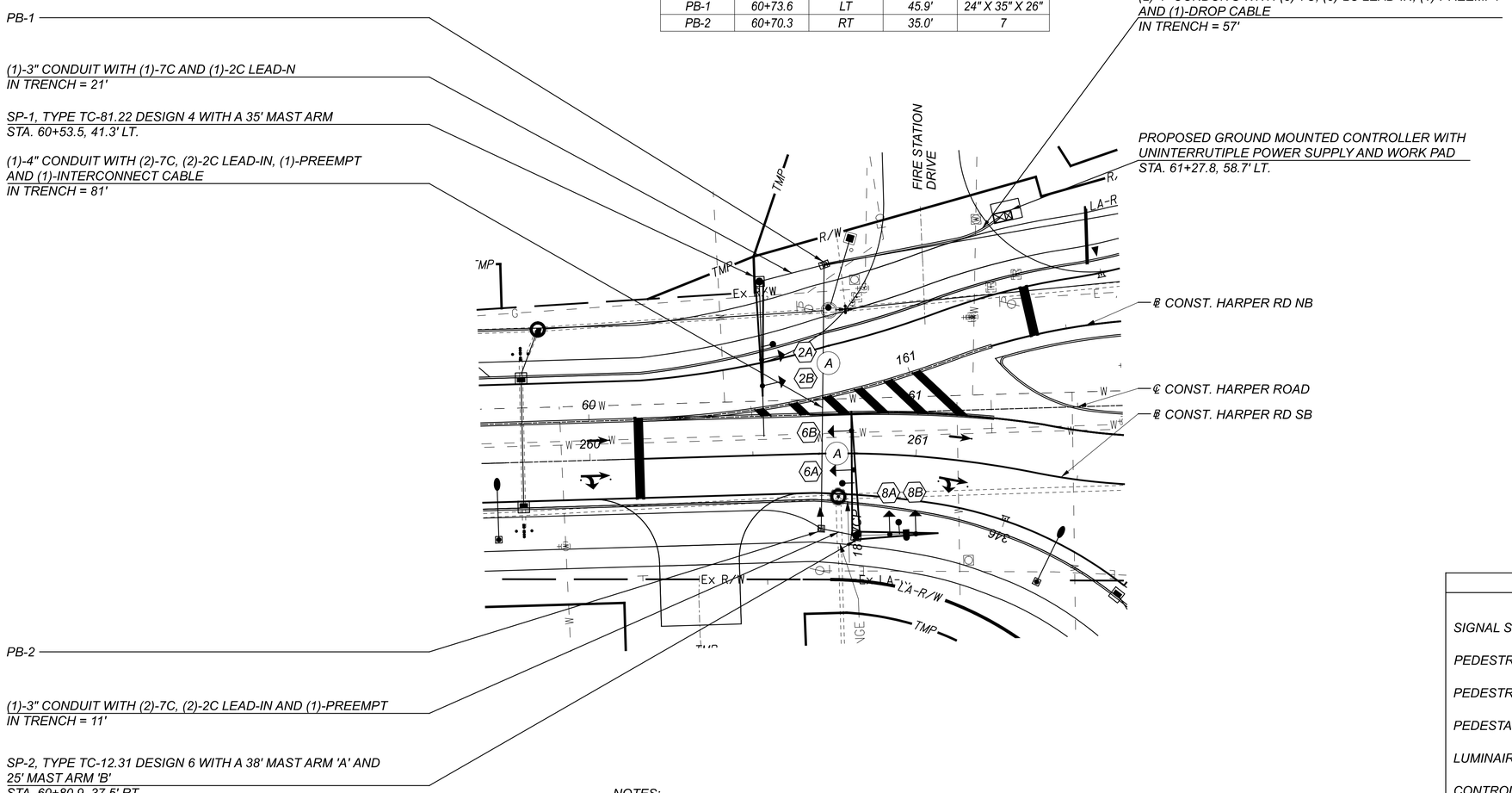
PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
PB-1	60+73.6	LT	45.9'	24" X 35" X 26"
PB-2	60+70.3	RT	35.0'	7



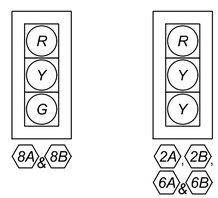
REMOVAL CHART

QUANTITY	REMOVED ITEM DESCRIPTION	DELIVERED	DISPOSED
6	VEHICULAR SIGNAL HEADS	X	
1	CONTROLLER	X	
1	CONTROLLER CABINET	X	
2	SIGNAL SUPPORTS		X
1	PTZ CAMERA	X	
LUMP	VIDEO DETECTION SYSTEM	X	
LUMP	PREEMPTION SYSTEM	X	
LUMP	SIGNAL CABLES		X
LUMP	PULL BOXES		X

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. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO EXCAVATION.
3. POWER SERVICE LOCATION TO BE VERIFIED IN THE FIELD AND APPROVED BY THE ENGINEER. ALL ITEMS ASSOCIATED WITH THE POWER SERVICE THAT ARE NECESSARY TO PROVIDE A COMPLETE ELECTRICAL SERVICE TO THE TRAFFIC SIGNAL INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED UNDER ITEM 632-POWER SERVICE, AS PER PLAN, AS PER C&MS 632.24.
4. FOR INTERCONNECT PLANS, SEE SHEET 452 - 455
5. FOR REFERENCE TO SIGN (A), SEE SHEET 403.

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE TUNNEL TYPE.

LEGEND

- SIGNAL SUPPORT POLE
- PEDESTRIAN HEAD
- PEDESTRIAN PUSHBUTTON
- PEDESTAL SUPPORT
- LUMINAIRE, CONVENTIONAL
- CONTROLLER CABINET AND WORK PAD (TS-2)
- TRAFFIC SIGNAL, 3 UNIT HEAD, 12"
- VIDEO DETECTION CAMERA
- PREEMPTION RECEIVING UNIT
- PREEEMPTION CONFIRMATION LIGHT
- ADVANCE RADAR DETECTION UNIT
- PTZ CAMERA

TRAFFIC SIGNAL PLAN
HARPER RD. / FIRE STATION DRIVE

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DESIGNER JAK
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 439 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_CPII PAPERSIZE: 34x22 (in.) DATE: 6/4/2025 TIME: 12:33:31 PM USER: jhobrath
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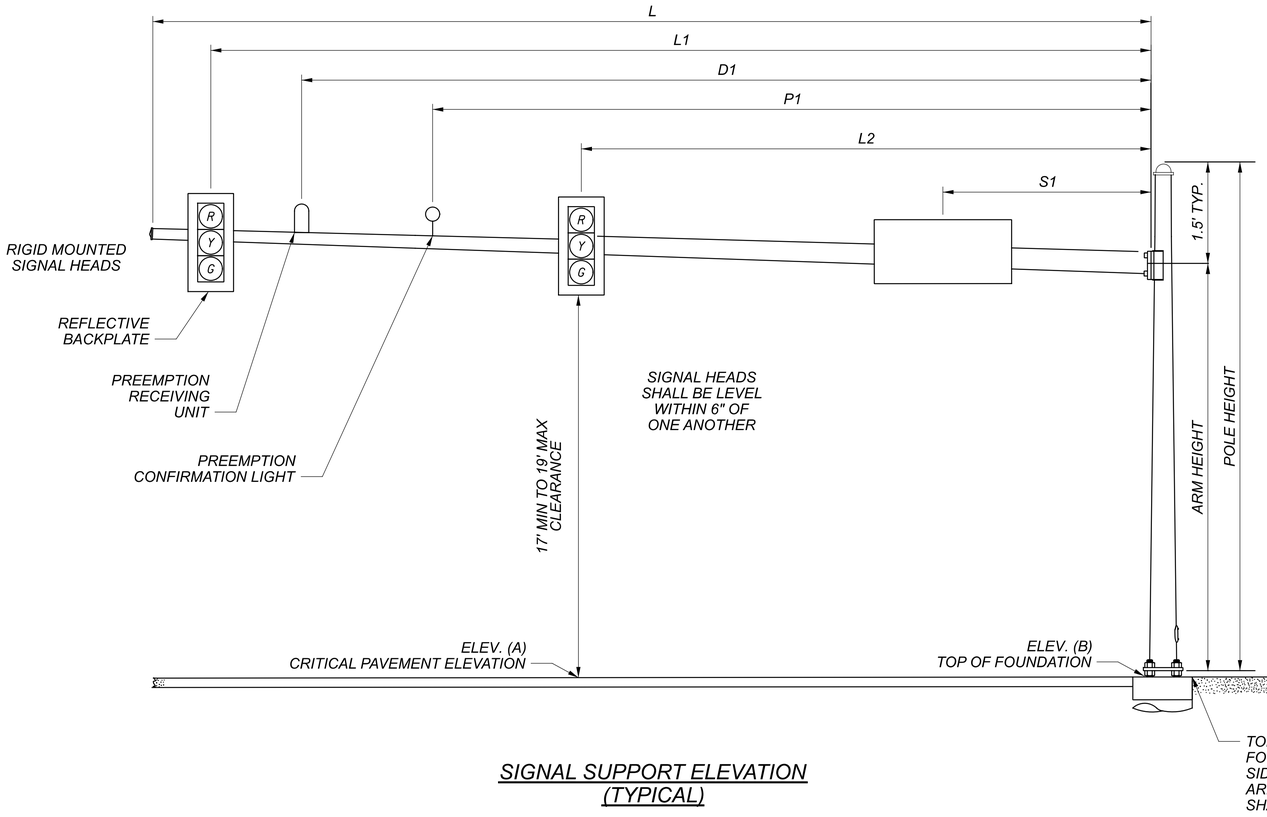
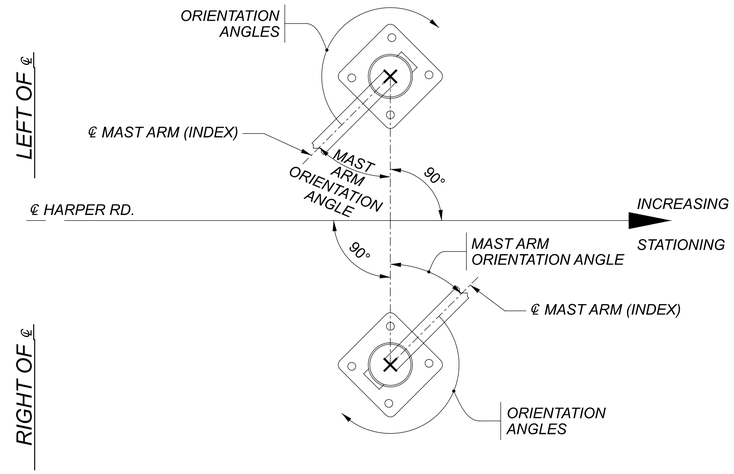


SIGNAL SUPPORT ELEVATION (TYPICAL)



POLE ORIENTATION

MAST ARM TABLE

SUPPORT NO.	ARM	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS										MAST ARM A ANGLE	ORIENTATION ANGLES FROM MAST ARM		
				A (Pavt. Elev.)	B (Top of Found.)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	D1	P1	S1		MAST ARM B ANGLE	POWER SERVICE	HANDHOLE
								FT	FT	FT	FT	FT	FT	FT	FT	DEG	DEG	DEG	DEG
SP-1	A	60+53.5	41.3' LT.	1067.32	1067.97	TC-81.22	4	21	19.5	35	32	24	-	20	28	0	-	180	180
SP-2	A	60+80.9	37.5' RT.	1066.76	1067.37	TC-12.31	6	21	19.5	38	32	20	-	16	26	0	-	-	180
-	B	-	-	1066.88	-	-	-	-	19.5	25	18.5	10.5	15.5	13.5	-	-	90	-	

TRAFFIC SIGNAL DETAILS
HARPER RD. / FIRE STATION DRIVE

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SHEET 440 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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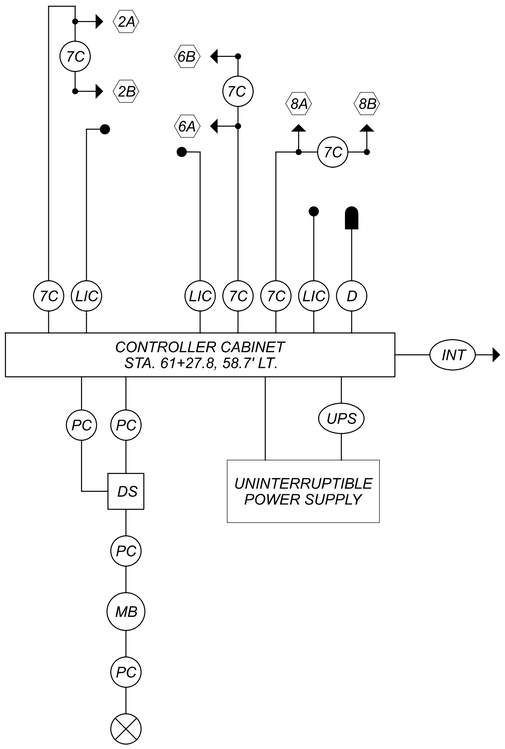
WIRING DIAGRAM



FIELD WIRING HOOK UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A,2B	R	Ø2 R	Y
	Y	Ø2 Y	
(NB)	Y	Ø2 Y	
6A, 6B	R	Ø6 R	Y
	Y	Ø6 Y	
(SB)	Y	Ø6 Y	
8A, 8B	R	Ø8 R	R
	Y	Ø8 Y	
(WB)	G	Ø8 G	

SIGNAL INDICATION AND TIMING CHART

SIGNAL PHASE	Ø2+Ø6	Ø8	INTERVAL DURATION
RECALL	FLASH YELLOW	FLASH RED	REST IN FLASH
CHANGE INERVAL	SOLID YELLOW	SOLID RED	4.3 SECONDS
CLEARANCE INTERVAL	SOLID RED	SOLID RED	1.0 SECONDS
PREEMPTION	SOLID RED	GREEN	-

PREEMPTION NOTES

1. SIGNAL SHALL REST IN FLASH UNTIL RECEIPT OF PREEMPTION SIGNAL.
2. THE SIGNAL SHALL IMMEDIATLY TIME ITS YELLOW AND ALL RED CLEARANCE INTERVALS UPON REECEIPT OF PREEMPTION SIGNAL.
3. AFTER RELEASE FROM PREEMPT, SIGNAL SHALL RETURN TO RECALL PHASE (REST IN FLASH).

LEGEND

- TRAFFIC SIGNAL, 3 UNIT, 12"
- VIDEO DETECTION CAMERA
- PREEMPTION RECIEVING UNIT
- PREEMPTION CONFIRMATION LIGHT
- PTZ CAMERA
- DILEMMA ZONE RADAR DETECTION UNIT
- PEDESTRIAN SIGNAL
- PEDESTRIAN PUSH BUTTON
- (5E) CAT 5E CABLE
- (R) RADAR DETECTION CABLE
- (D) PREEMPTION DETECTOR CABLE
- (INT) INTERCONNECT CABLE
- (5C) SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
- (7C) SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
- (VC) VIDEO DETECTION CAMERA
- (LIC) LOOP DETECTOR LEAD-IN CABLE
- (PC) POWER CABLE, 2 CONDUCTOR, NO. 4 AWG
- (MB) METER BASE
- [DS] SIGNAL DISCONNECT SWITCH
- POWER SOURCE
- [SP #] SIGNAL SUPPORT POLE NO. __

TRAFFIC SIGNAL DETAILS
HARPER RD. / FIRE STATION DRIVE

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DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 441 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:47:31 PM USER: jhobrath
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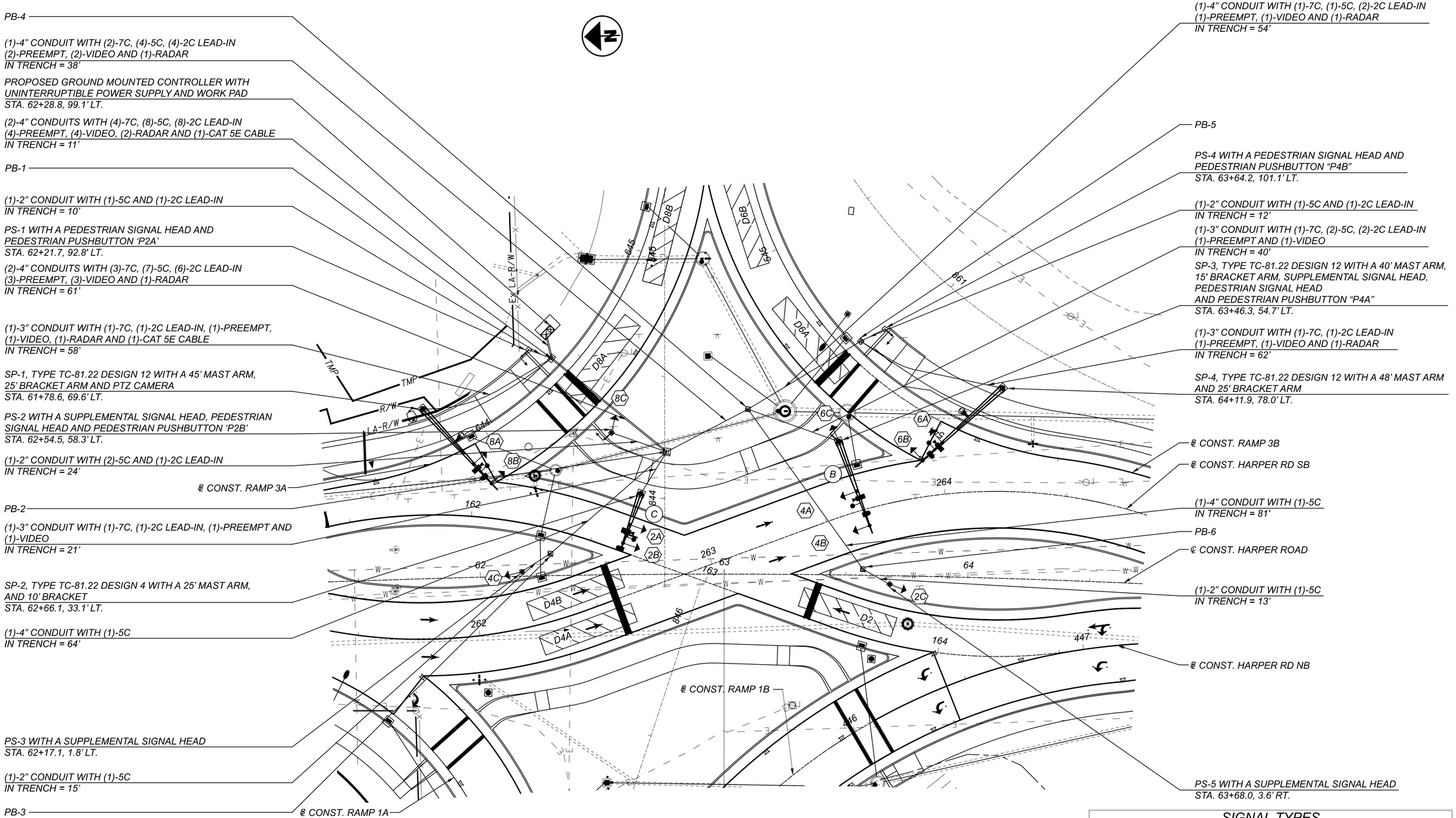

HORIZONTAL SCALE IN FEET
0 10 20 40

TRAFFIC SIGNAL PLAN
HARPER RD. / WESTBOUND US 422 RAMPS

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_CPI PAPERSIZE: 34x22 (in.) DATE: 6/4/2025 TIME: 1:56 PM USER: jhobrath
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PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
PB-1	62+30.8	LT	89.1'	24" X 35" X 26"
PB-2	62+76.7	LT	50.2'	18
PB-3	62+28.9	LT	9.0'	7
PB-4	63+09.6	LT	67.7'	7
PB-5	63+54.6	LT	95.9'	7
PB-6	63+56.9	LT	2.5'	7

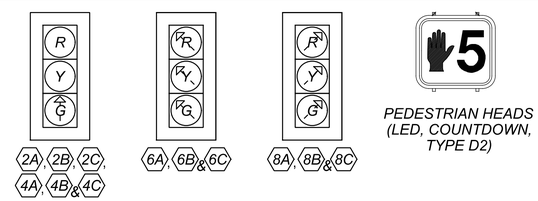
NOTES:

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. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO EXCAVATION.
3. POWER SERVICE LOCATION TO BE VERIFIED IN THE FIELD AND APPROVED BY THE ENGINEER. ALL ITEMS ASSOCIATED WITH THE POWER SERVICE THAT ARE NECCESSARY TO PROVIDE A COMPLETE ELECTRICAL SERVICE TO THE TRAFFIC SIGNAL INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED UNDER ITEM 632-POWER SERVICE, AS PER PLAN, AS PER C&MS 632.24.
4. FOR REFERENCE TO SIGN Ⓑ & Ⓒ, SEE SHEET 403 .
5. FOR INTERCONNECT PLANS, SEE SHEETS 452 - 455 .
6. FOR TRAFFIC SIGNAL LEGEND, SEE SHEET 439 .

PEDESTRIAN SIGN

R10-3E-9
3 - LEFT ARROWS (SP-3, PS-2, PS-4)
1 - RIGHT ARROW (PS-1)

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE TUNNEL TYPE.

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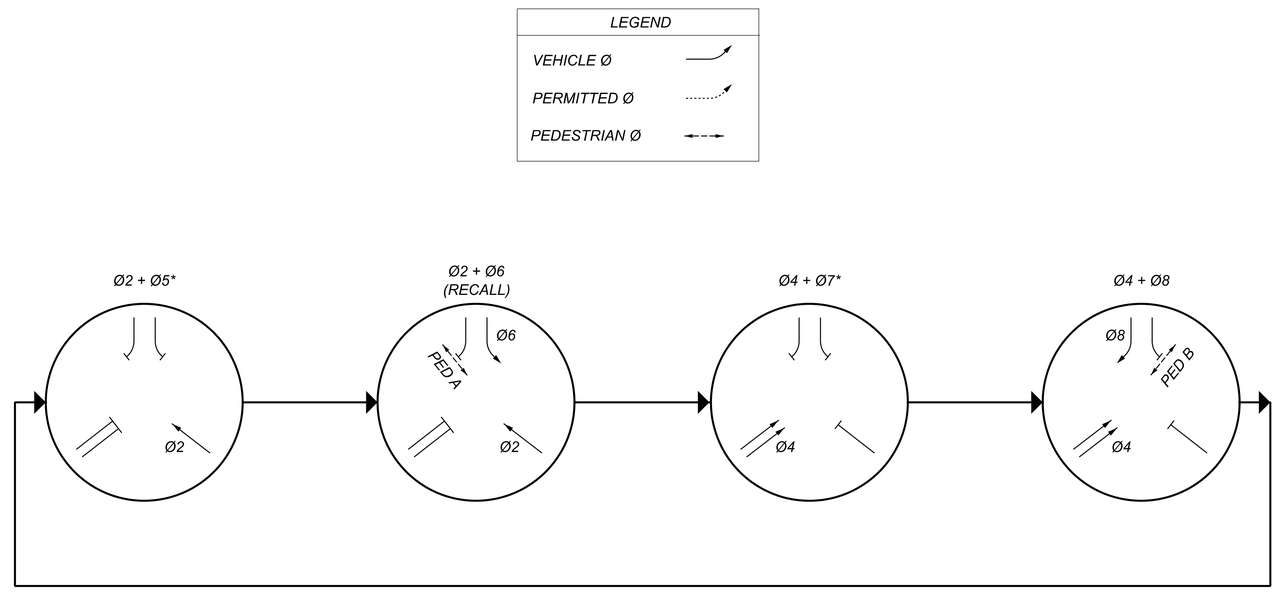
DESIGNER JAK
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 442 TOTAL 481

SIGNAL TIMING CHART

INTERSECTION: HARPER RD. / WESTBOUND US 422 RAMPS									
MAINTAINING AGENCY: CITY OF SOLON									
START UP		DUAL ENTRY: YES			PHASES:		2, 4, 6, 8		
		REST IN RED:			RING 1 -		RING 2 -		
START IN: YELLOW/RED FLASH		OVERLAP				A	B	C	D
TIME FOR: FLASH , ALL RED (SEC.): 9, 6									
FIRST PHASE(S): Ø2+Ø6		PHASES				-	-	-	-
COLOR DISPLAYED: GREEN									
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)		1	2	3	4	5*	6	7*	8
DIRECTION		-	NB	-	SB	-	EB	-	WB
MINIMUM GREEN (INITIAL)	(SEC.)	-	20	-	20	-	20	-	20
ADDED INITIAL	*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL	(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC.)	-	3.0	-	3.0	-	3.0	-	3.0
TIME BEFORE REDUCTION	*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP	*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE	*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I	(SEC.)	-	60	-	60	1	60	1	60
MAXIMUM GREEN II	(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE	(SEC.)	-	4.0	-	4.3	1.0	4.0	1.0	4.3
ALL RED CLEARANCE	(SEC.)	-	2.4	-	2.5	2.0	2.4	2.0	2.5
DELAYED GREEN (LPI) #	(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^	(SEC.)	-	-	-	-	-	-	-	-
WALK	(SEC.)	-	7	-	7	-	-	-	-
PEDESTRIAN CLEARANCE	(SEC.)	-	4	-	4	-	-	-	-
RECALL	MAXIMUM (ON/OFF)	-	-	-	-	MAX	-	MAX	-
	MINIMUM (ON/OFF)	-	MIN	-	-	-	MIN	-	-
	PEDESTRIAN (ON/OFF)	-	-	-	-	-	-	-	-
MEMORY	(ON/OFF)	-	-	-	-	-	-	-	-

*VOLUME DENSITY CONTROLS

PHASING DIAGRAM



NOTE:

- ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THRU MOVEMENT SHOULD HAVE MIN RECALL ACTIVE TO REST IN GREEN.
- COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.
- ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.

* Ø5 & Ø7 SHALL BE UTILIZED FOR THE CROSSOVER CLEARNACE TIME.

RADAR DETECTION CHART

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	PURPOSE	DISTANCE FROM STOP BAR
D6B	EB	PULSE	Ø6	EB CALL	50-MAX
D8B	WB	PULSE	Ø8	WB CALL	50-MAX

VIDEO DETECTION CHART

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
D2	NB	PRESENCE	Ø2	NB CALL	40
D4A	SB	PRESENCE	Ø4	SB CALL	40
D4B	SB	PRESENCE	Ø4	SB CALL	40
D6A	EB	PRESENCE	Ø6	EB CALL	40
D8A	WB	PRESENCE	Ø8	WB CALL	40

PREEMPT CHANNELS

CHANNEL 3 = Ø2 (NORTHBOUND)

CHANNEL 4 = Ø4 (SOUTHBOUND)

CHANNEL 5 = Ø6 (EASTBOUND)

CHANNEL 6 = Ø8 (WESTBOUND)

PREEMPT NOTES:

1. UPON PREEMPTION, ACTIVE WALK INDICATIONS SHALL IMMEDIATELY BE TERMINATED, FOLLOWED BY THE TIMING OF THE PEDESTRIAN CLEARANCE INTERVAL.
2. IF ANY ACTIVE PHASE OPPOSES THE PREEMPT PHASE, ALL ACTIVE PHASES SHALL TIME THEIR YELLOW AND ALL RED CLEARANCE INTERVALS UPON COMPLETION OF ANY PEDESTRIAN INTERVALS PRIOR TO TRANSITIONING TO THE PREEMPT PHASE IN ORDER TO AVOID POTENTIAL FOR YELLOW BALL TRAP.
3. AFTER RELEASE FROM PREEMPT, YELLOW AND ALL RED CLEARANCE INTERVALS SHALL BE DISPLAYED AND RETURN TO NORMAL COORDINATED TIMING PROGRESSION PER CURRENT COORDINATION RECOVERY SETTINGS.

TRAFFIC SIGNAL DETAILS
HARPER RD. / WESTBOUND US 422 RAMPS

DESIGN AGENCY
GPD GROUP
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DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 443 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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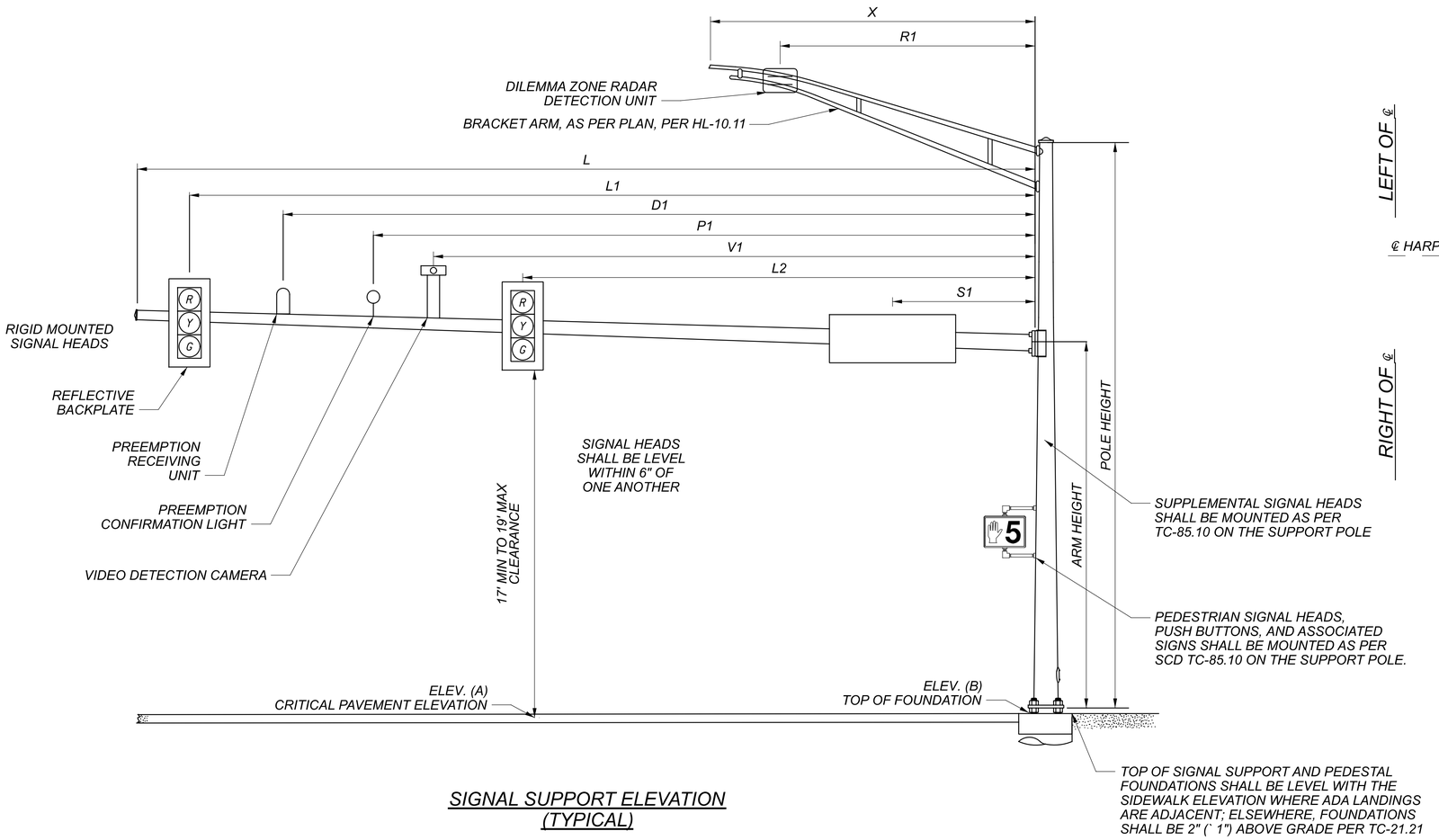
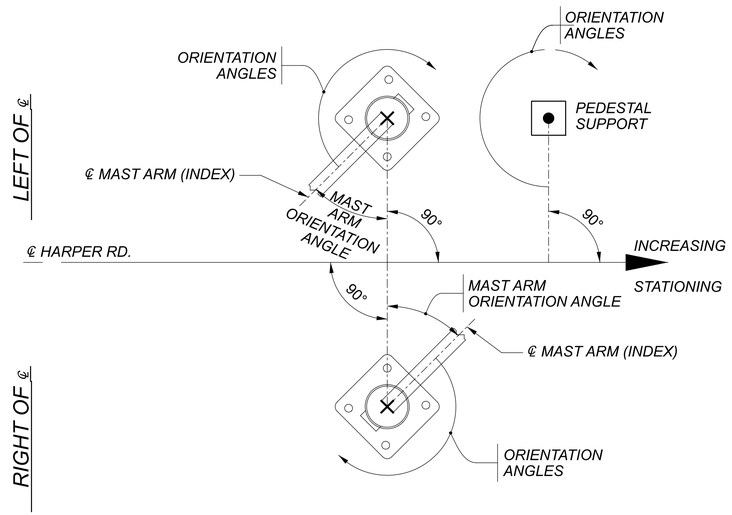


SIGNAL SUPPORT ELEVATION (TYPICAL)



POLE ORIENTATION

MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS												MAST ARM A ANGLE	ORIENTATION ANGLES FROM MAST ARM / INDEX LINE				
			A (Pavt. Elev.)	B (Top of Found.)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	D1	P1	V1	R1	S1	X		PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	POWER SERVICE	BRACKET ARM	HANDHOLE
							FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	DEG	DEG	DEG	DEG	DEG	DEG
SP-1	61+78.6	69.6' LT.	1063.37	1065.28	TC-81.22	12	27	18.5	45	41.5	30.5	37.5	34.5	33	19	-	25	320	-	-	180	0	180
SP-2	62+66.1	33.1' LT.	1062.51	1062.94	TC-81.22	4	27	19.5	25	21.5	13.5	24	17.5	16	-	7	10	20	-	-	-	0	180
SP-3	63+46.3	54.7' LT.	1060.06	1060.42	TC-81.22	12	27	19.5	40	37	22	32	27	25.5	-	11	15	340	150	150	-	0	180
SP-4	64+11.9	78.0' LT.	1059.01	1059.34	TC-81.22	12	27	19.5	48	44	33	40	37	35.5	19	-	25	45	-	-	-	0	180
PS-1	62+21.7	92.8' LT.	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	45	45	-	-	180
PS-2	62+54.5	58.3' LT.	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	45	45	-	-	180
PS-3	62+17.1	1.8' LT.	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180
PS-4	63+64.2	101.1' LT.	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	315	315	-	-	180
PS-5	63+68.0	3.6' LT.	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180

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CUY-422-16.20 (HARPER ROAD)

TRAFFIC SIGNAL DETAILS
HARPER RD. / WESTBOUND US 422 RAMPS

DESIGN AGENCY
GPD GROUP
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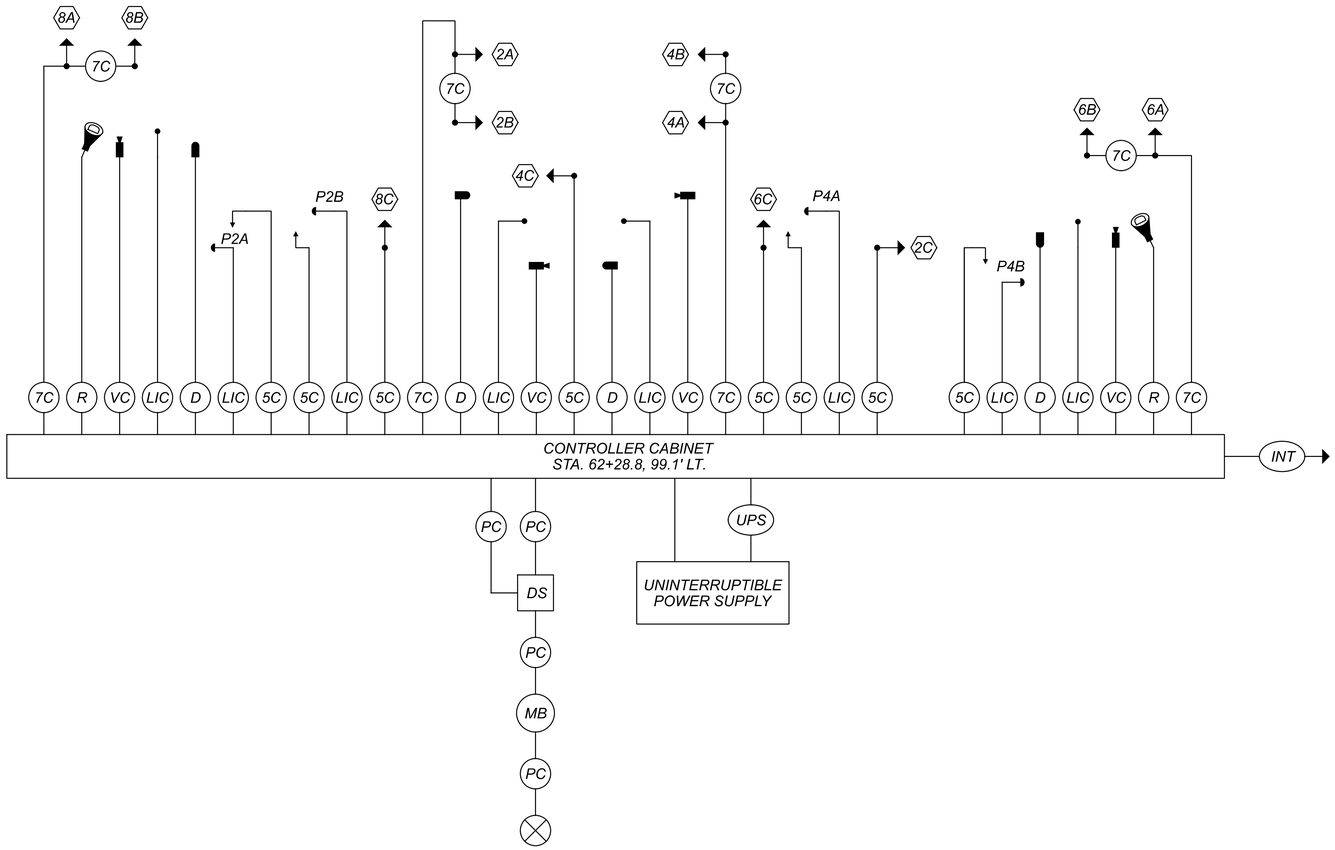
DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 444 TOTAL 481

WIRING DIAGRAM



FIELD WIRING HOOK UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A,2B,2C	R	Ø2 R	R
	Y	Ø2 Y	
(NB)	G	Ø2 G	
4A,4B,4C	R	Ø4 R	R
	Y	Ø4 Y	
(SB)	G	Ø4 G	
6A,6B,6C	R	Ø6 R	R
	Y	Ø6 Y	
(EB)	G	Ø6 G	
8A,8B,8C	R	Ø8 R	R
	Y	Ø8 Y	
(WB)	G	Ø8 G	
PEDESTRIAN MOVEMENTS			
PED A	W	Ø2 PED / LS 9 G	OUT
	DW	Ø2 PED / LS 9 R	
PED B	W	Ø4 PED / LS 10 G	OUT
	DW	Ø4 PED / LS 10 R	
LS = LOAD SWITCH			

NOTE: FOR WIRING DIAGRAM LEGEND, SEE SHEET 441 .

TRAFFIC SIGNAL DETAILS
HARPER RD. / WESTBOUND US 422 RAMPS

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PROJECT ID 113889
SHEET 445 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
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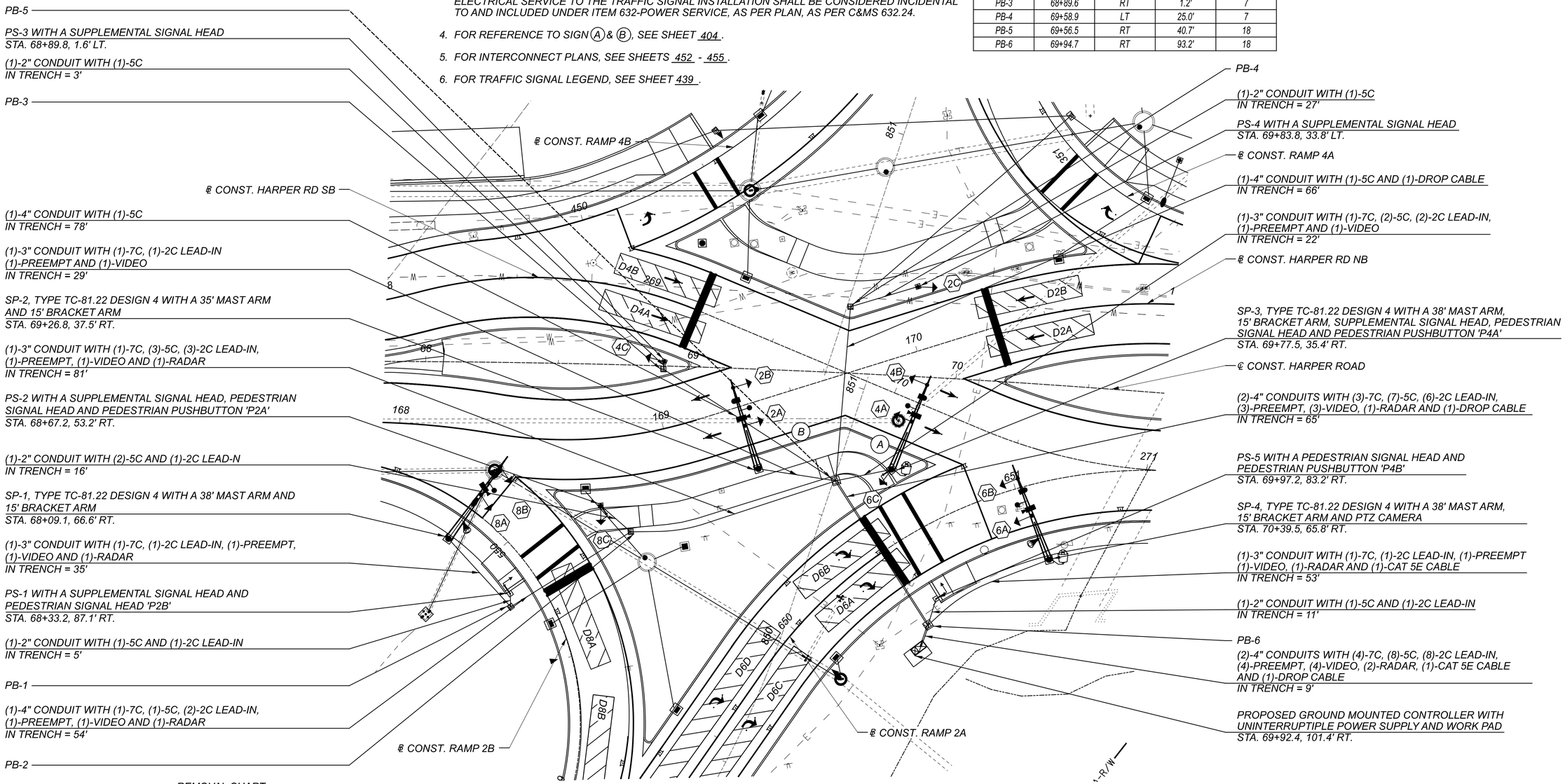
NOTES:

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. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO EXCAVATION.
3. POWER SERVICE LOCATION TO BE VERIFIED IN THE FIELD AND APPROVED BY THE ENGINEER. ALL ITEMS ASSOCIATED WITH THE POWER SERVICE THAT ARE NECCESSARY TO PROVIDE A COMPLETE ELECTRICAL SERVICE TO THE TRAFFIC SIGNAL INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED UNDER ITEM 632-POWER SERVICE, AS PER PLAN, AS PER C&MS 632.24.
4. FOR REFERENCE TO SIGN Ⓐ & Ⓑ, SEE SHEET 404 .
5. FOR INTERCONNECT PLANS, SEE SHEETS 452 - 455 .
6. FOR TRAFFIC SIGNAL LEGEND, SEE SHEET 439 .

PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
PB-1	68+33.4	RT	92.0'	7
PB-2	68+79.0	RT	62.8'	7
PB-3	68+89.6	RT	1.2'	7
PB-4	69+58.9	LT	25.0'	7
PB-5	69+56.5	RT	40.7'	18
PB-6	69+94.7	RT	93.2'	18



PB-5

PS-3 WITH A SUPPLEMENTAL SIGNAL HEAD
STA. 68+89.8, 1.6' LT.

(1)-2" CONDUIT WITH (1)-5C
IN TRENCH = 3'

PB-3

(1)-4" CONDUIT WITH (1)-5C
IN TRENCH = 78'

(1)-3" CONDUIT WITH (1)-7C, (1)-2C LEAD-IN
(1)-PREEMPT AND (1)-VIDEO
IN TRENCH = 29'

SP-2, TYPE TC-81.22 DESIGN 4 WITH A 35' MAST ARM
AND 15' BRACKET ARM
STA. 69+26.8, 37.5' RT.

(1)-3" CONDUIT WITH (1)-7C, (3)-5C, (3)-2C LEAD-IN,
(1)-PREEMPT, (1)-VIDEO AND (1)-RADAR
IN TRENCH = 81'

PS-2 WITH A SUPPLEMENTAL SIGNAL HEAD, PEDESTRIAN
SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON 'P2A'
STA. 68+67.2, 53.2' RT.

(1)-2" CONDUIT WITH (2)-5C AND (1)-2C LEAD-N
IN TRENCH = 16'

SP-1, TYPE TC-81.22 DESIGN 4 WITH A 38' MAST ARM AND
15' BRACKET ARM
STA. 68+09.1, 66.6' RT.

(1)-3" CONDUIT WITH (1)-7C, (1)-2C LEAD-IN, (1)-PREEMPT,
(1)-VIDEO AND (1)-RADAR
IN TRENCH = 35'

PS-1 WITH A SUPPLEMENTAL SIGNAL HEAD AND
PEDESTRIAN SIGNAL HEAD 'P2B'
STA. 68+33.2, 87.1' RT.

(1)-2" CONDUIT WITH (1)-5C AND (1)-2C LEAD-IN
IN TRENCH = 5'

PB-1

(1)-4" CONDUIT WITH (1)-7C, (1)-5C, (2)-2C LEAD-IN,
(1)-PREEMPT, (1)-VIDEO AND (1)-RADAR
IN TRENCH = 54'

PB-2

PB-4

(1)-2" CONDUIT WITH (1)-5C
IN TRENCH = 27'

PS-4 WITH A SUPPLEMENTAL SIGNAL HEAD
STA. 69+83.8, 33.8' LT.

(1)-4" CONDUIT WITH (1)-5C AND (1)-DROP CABLE
IN TRENCH = 66'

(1)-3" CONDUIT WITH (1)-7C, (2)-5C, (2)-2C LEAD-IN,
(1)-PREEMPT AND (1)-VIDEO
IN TRENCH = 22'

SP-3, TYPE TC-81.22 DESIGN 4 WITH A 38' MAST ARM,
15' BRACKET ARM, SUPPLEMENTAL SIGNAL HEAD, PEDESTRIAN
SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON 'P4A'
STA. 69+77.5, 35.4' RT.

(2)-4" CONDUITS WITH (3)-7C, (7)-5C, (6)-2C LEAD-IN,
(3)-PREEMPT, (3)-VIDEO, (1)-RADAR AND (1)-DROP CABLE
IN TRENCH = 65'

PS-5 WITH A PEDESTRIAN SIGNAL HEAD AND
PEDESTRIAN PUSHBUTTON 'P4B'
STA. 69+97.2, 83.2' RT.

SP-4, TYPE TC-81.22 DESIGN 4 WITH A 38' MAST ARM,
15' BRACKET ARM AND PTZ CAMERA
STA. 70+39.5, 65.8' RT.

(1)-3" CONDUIT WITH (1)-7C, (1)-2C LEAD-IN, (1)-PREEMPT
(1)-VIDEO, (1)-RADAR AND (1)-CAT 5E CABLE
IN TRENCH = 53'

(1)-2" CONDUIT WITH (1)-5C AND (1)-2C LEAD-IN
IN TRENCH = 11'

PB-6

(2)-4" CONDUITS WITH (4)-7C, (8)-5C, (8)-2C LEAD-IN,
(4)-PREEMPT, (4)-VIDEO, (2)-RADAR, (1)-CAT 5E CABLE
AND (1)-DROP CABLE
IN TRENCH = 9'

PROPOSED GROUND MOUNTED CONTROLLER WITH
UNINTERRUPTIPLE POWER SUPPLY AND WORK PAD
STA. 69+92.4, 101.4' RT.

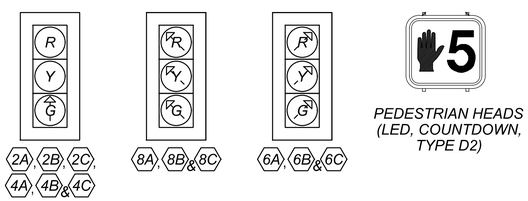
REMOVAL CHART

QUANTITY	REMOVED ITEM DESCRIPTION	DELIVERED	DISPOSED
7	VEHICULAR SIGNAL HEADS	X	
1	CONTROLLER	X	
1	CONTROLLER CABINET	X	
4	PEDESTRIAN SIGNAL HEADS		X
4	PEDESTRIAN PUSHBUTTONS		X
3	SIGNAL SUPPORTS		X
2	PEDESTAL SUPPORTS		X
1	PTZ CAMERA	X	
LUMP	PREEMPTION SYSTEM	X	
LUMP	VIDEO DETECTION SYSTEM	X	
LUMP	SIGNAL CABLES		X
LUMP	PULL BOXES		X

PEDESTRIAN SIGN

R10-3E-9
2 - LEFT ARROWS (PS-1, PS-2)
2 - RIGHT ARROWS (SP-3, PS-5)

SIGNAL TYPES



1. ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.
2. ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.
3. ALL SIGNAL HEAD VISORS SHALL BE TUNNEL TYPE.

HORIZONTAL SCALE IN FEET
0 10 20 40

TRAFFIC SIGNAL PLAN
HARPER RD. / EASTBOUND US 422 RAMPS

DESIGN AGENCY
GPD GROUP
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DESIGNER JAK
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 446 TOTAL 481

CUY-422-16.20 (HARPER ROAD)
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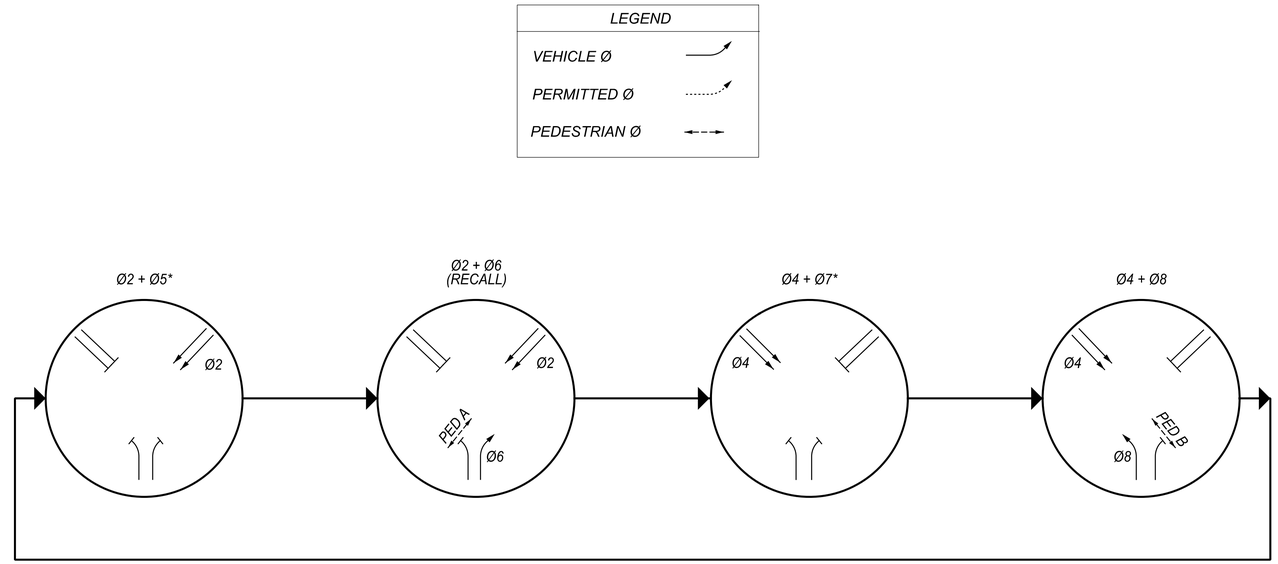
SIGNAL TIMING CHART

INTERSECTION:			HARPRER RD. / EASTBOUND US 422 RAMPS						
MAINTAINING AGENCY:			CITY OF SOLON						
START UP			DUAL ENTRY:	YES	PHASES:		2, 4, 6, 8		
			REST IN RED:		RING 1	-		RING 2	-
START IN:	YELLOW/RED FLASH		OVERLAP			A	B	C	D
TIME FOR: FLASH , ALL RED (SEC.):		9, 6							
FIRST PHASE(S):	Ø2+Ø6		PHASES			-	-	-	-
COLOR DISPLAYED:	GREEN								
INTERVAL OR FEATURE			CONTROLLER MOVEMENT NO.						
INTERSECTION MOVEMENT (PHASE)			1	2	3	4	5*	6	7*	8
DIRECTION			-	NB	-	SB	-	EB	-	WB
MINIMUM GREEN (INITIAL)		(SEC.)	-	20	-	20	-	20	-	20
ADDED INITIAL	*(SEC./ACTUATION)		-	-	-	-	-	-	-	-
MAXIMUM INITIAL		(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)		(SEC.)	-	3.0	-	3.0	-	3.0	-	3.0
TIME BEFORE REDUCTION		*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP		*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE		*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I		(SEC.)	-	60	-	60	1	60	1	60
MAXIMUM GREEN II		(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE		(SEC.)	-	4.0	-	4.0	1.0	4.0	1.0	4.0
ALL RED CLEARANCE		(SEC.)	-	2.4	-	2.4	2.0	2.4	2.0	2.4
DELAYED GREEN (LPI) #		(SEC.)	-	-	-	-	-	-	-	-
FLASHING YELLOW ARROW DELAY^		(SEC.)	-	-	-	-	-	-	-	-
WALK		(SEC.)	-	7	-	7	-	-	-	-
PEDESTRIAN CLEARANCE		(SEC.)	-	4	-	8	-	-	-	-
RECALL	MAXIMUM	(ON/OFF)	-	-	-	-	MAX	-	MAX	-
	MINIMUM	(ON/OFF)	-	MIN	-	-	-	MIN	-	-
	PEDESTRIAN	(ON/OFF)	-	-	-	-	-	-	-	-
MEMORY		(ON/OFF)	-	-	-	-	-	-	-	-

*VOLUME DENSITY CONTROLS

PHASING DIAGRAM



NOTE:

- ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THRU MOVEMENT SHOULD HAVE MIN RECALL ACTIVE TO REST IN GREEN.
- COUNTDOWN PEDESTRIAN SIGNALS SHALL GO TO ZERO ON YELLOW PER OMUTCD FIGURE 4E-2.
- ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.

* Ø5 & Ø7 TO BE UTILIZED FOR CROSSOVER CLEARANCE TIME.

RADAR DETECTION CHART

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	PURPOSE	DISTANCE FROM STOP BAR
D6C	EB	PRESENCE	Ø6	NB CALL	50-MAX
D6D	EB	PRESENCE	Ø6	NB CALL	50-MAX
D8B	WB	PRESENCE	Ø8	SB CALL	50-MAX

VIDEO DETECTION CHART

DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
D2A	NB	PULSE	Ø2	NB CALL	40
D2B	NB	PULSE	Ø2	NB CALL	40
D4A	SB	PULSE	Ø4	SB CALL	40
D4B	SB	PULSE	Ø4	SB CALL	40
D6A	EB	PULSE	Ø6	EB CALL	40
D6B	EB	PULSE	Ø6	EB CALL	40
D8A	WB	PULSE	Ø8	WB CALL	40

PREEMPT CHANNELS

CHANNEL 3 = Ø2 (NORTHBOUND)

CHANNEL 4 = Ø4 (SOUTHBOUND)

CHANNEL 5 = Ø6 (EASTBOUND)

CHANNEL 6 = Ø8 (WESTBOUND)

PREEMPT NOTES:

1. UPON PREEMPTION, ACTIVE WALK INDICATIONS SHALL IMMEDIATELY BE TERMINATED, FOLLOWED BY THE TIMING OF THE PEDESTRIAN CLEARANCE INTERVAL.
2. IF ANY ACTIVE PHASE OPPOSES THE PREEMPT PHASE, ALL ACTIVE PHASES SHALL TIME THEIR YELLOW AND ALL RED CLEARANCE INTERVALS UPON COMPLETION OF ANY PEDESTRIAN INTERVALS PRIOR TO TRANSITIONING TO THE PREEMPT PHASE IN ORDER TO AVOID POTENTIAL FOR YELLOW BALL TRAP.
3. AFTER RELEASE FROM PREEMPT, YELLOW AND ALL RED CLEARANCE INTERVALS SHALL BE DISPLAYED AND RETURN TO NORMAL COORDINATED TIMING PROGRESSION PER CURRENT COORDINATION RECOVERY SETTINGS.

TRAFFIC SIGNAL DETAILS
HARPER RD. / EASTBOUND US 422 RAMPS

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DESIGNER BEB

REVIEWER KMG 6-8-23

PROJECT ID 113889

SHEET 447 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

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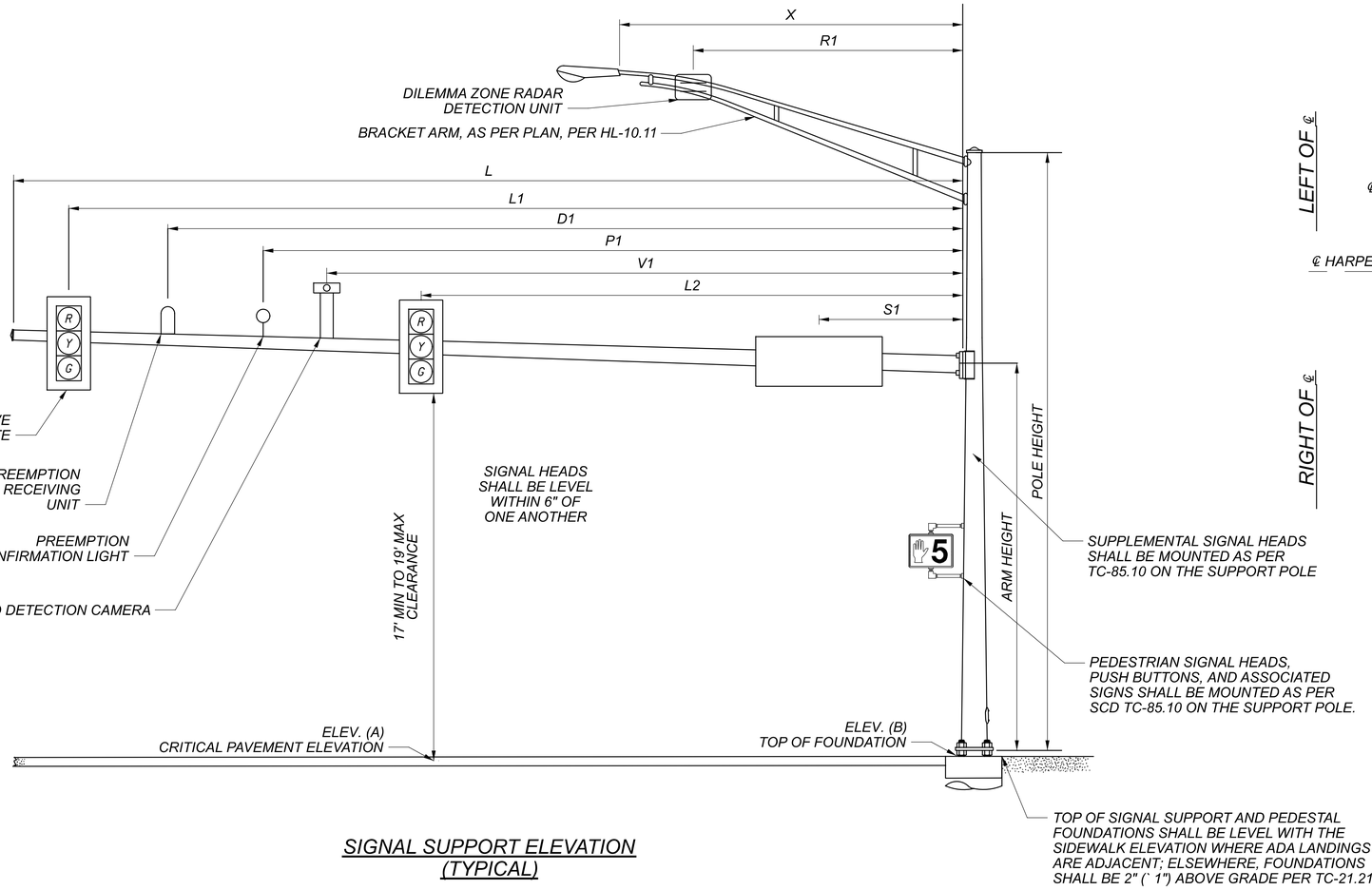
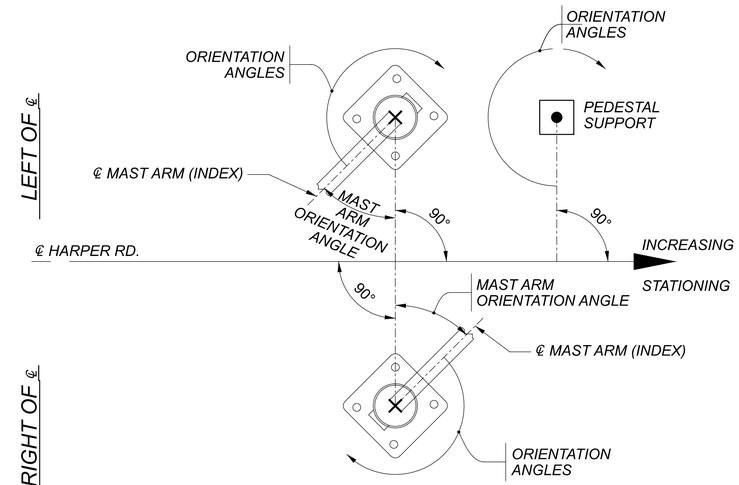


SIGNAL SUPPORT ELEVATION (TYPICAL)



POLE ORIENTATION

MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS													MAST ARM A ANGLE	ORIENTATION ANGLES FROM MAST ARM				
			A (Pavt. Elev.)	B (Top of Found.)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	D1	P1	V1	R1	S1	X		PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	POWER SERVICE	BRACKET ARM	HANDHOLE
							FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	DEG	DEG	DEG	DEG	DEG	DEG
SP-1	68+09.1	66.6' RT.	1057.98	1058.01	TC-81.22	4	27	20.5	38	33.5	20.5	29.5	24.5	23	9	-	15	35	-	-	-	0	180
SP-2	69+26.8	37.5' RT.	1059.32	1059.80	TC-81.22	4	27	20.5	35	32	17	27	22	20.5	-	9	15	340	-	-	-	0	180
SP-3	69+77.5	35.4' RT.	1060.03	1059.95	TC-81.22	4	27	20.5	38	34.5	19.5	29.5	24.5	23	-	10	15	20	215	215	-	0	180
SP-4	70+39.5	65.8' RT.	1059.66	1059.91	TC-81.22	4	27	19.5	38	33	18	28	23	21.5	9	-	15	340	-	-	180	0	180
PS-1	68+33.2	87.1' RT.	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	325	325	-	-	180
PS-2	68+67.2	53.2' RT.	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	145	145	-	-	180
PS-3	68+89.8	1.6' LT.	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180
PS-4	69+83.8	33.8' LT.	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180
PS-5	69+97.2	83.2' RT.	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	60	60	-	-	180

TRAFFIC SIGNAL DETAILS
HARPER RD. / EASTBOUND US 422 RAMPS

DESIGN AGENCY
GPD GROUP
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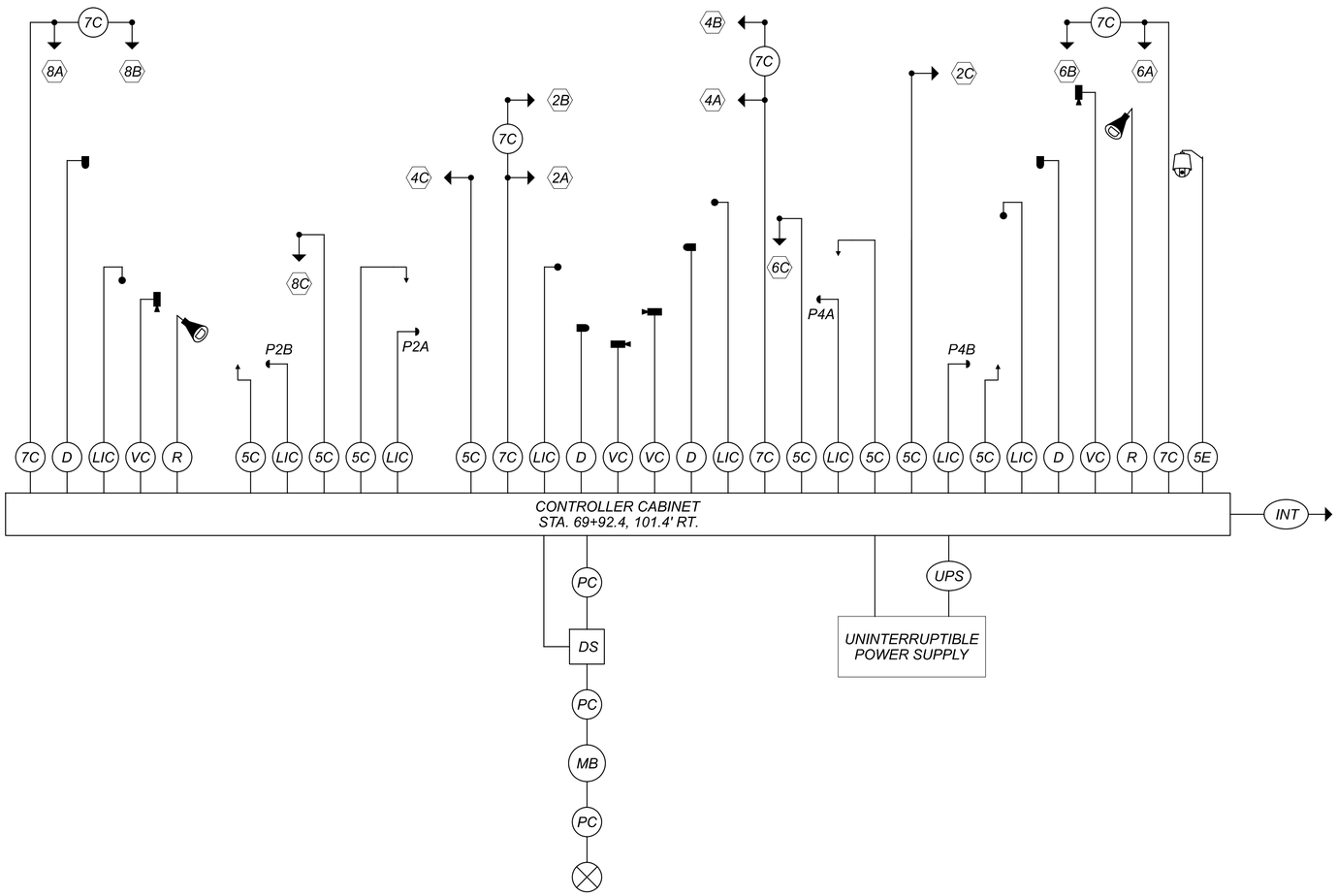
DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 448 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 6/7/2023 TIME: 2:47:44 PM USER: jhobrath
G:\Clients\ORD\2020\202036\113889\400-Engineering\Signals\Sheets\113889_CD01.dgn

WIRING DIAGRAM



FIELD WIRING HOOK UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A,2B,2C	R	Ø2 R	R
	Y	Ø2 Y	
(NB)	G	Ø2 G	
4A,4B,4C	R	Ø4 R	R
	Y	Ø4 Y	
(SB)	G	Ø4 G	
6A,6B,6C	R	Ø6 R	R
	Y	Ø6 Y	
(EB)	G	Ø6 G	
8A,8B,8C	R	Ø8 R	R
	Y	Ø8 Y	
(WB)	G	Ø8 G	
PEDESTRIAN MOVEMENTS			
PED A	W	Ø2 PED / LS 9 G	OUT
	DW	Ø2 PED / LS 9 R	
PED B	W	Ø4 PED / LS 10 G	OUT
	DW	Ø4 PED / LS 10 R	
LS = LOAD SWITCH			

NOTE: FOR WIRING DIAGRAM LEGEND, SEE SHEET 441 .

TRAFFIC SIGNAL DETAILS
HARPER RD. / EASTBOUND US 422 RAMPS

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DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 449 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:47:45 PM USER: jhobrath
D:\Clients\ORD\2020\2020336\113889\400-Engineering\Signals\Sheets\113889_CD012.dgn

MAST ARM SIGNS
LEFT TURN SIGNAL
R10-10-36 (A)
S-60

EXISTING CONDUIT TO REMAIN

EXISTING CONTROLLER CABINET TO REMAIN
STA. 75+09.1, 71.7' LT.

(1)-NEW 5C AND (1)-NEW INTERCONNECT CABLE
IN EXISTING CONDUIT = 5'
(SEE INTERCONNECT PLANS)

EXISTING PULL BOX TO REMAIN
STA. 75+12.6, 69.3' LT.

(1)-NEW 5C AND (1)-NEW INTERCONNECT CABLE
IN EXISTING CONDUIT = 55'
(SEE INTERCONNECT PLANS)

EXISTING SIGNAL SUPPORT TO REMAIN
WITH (1)-NEW VEHICULAR SIGNAL HEAD
STA. 74+78.8, 48.0' LT.
(SEE NOTE 1)

(1)-NEW 5C
IN EXISTING CONDUIT = 16'

EXISTING PULL BOX TO REMAIN
STA. 74+62.9, 47.8' LT.

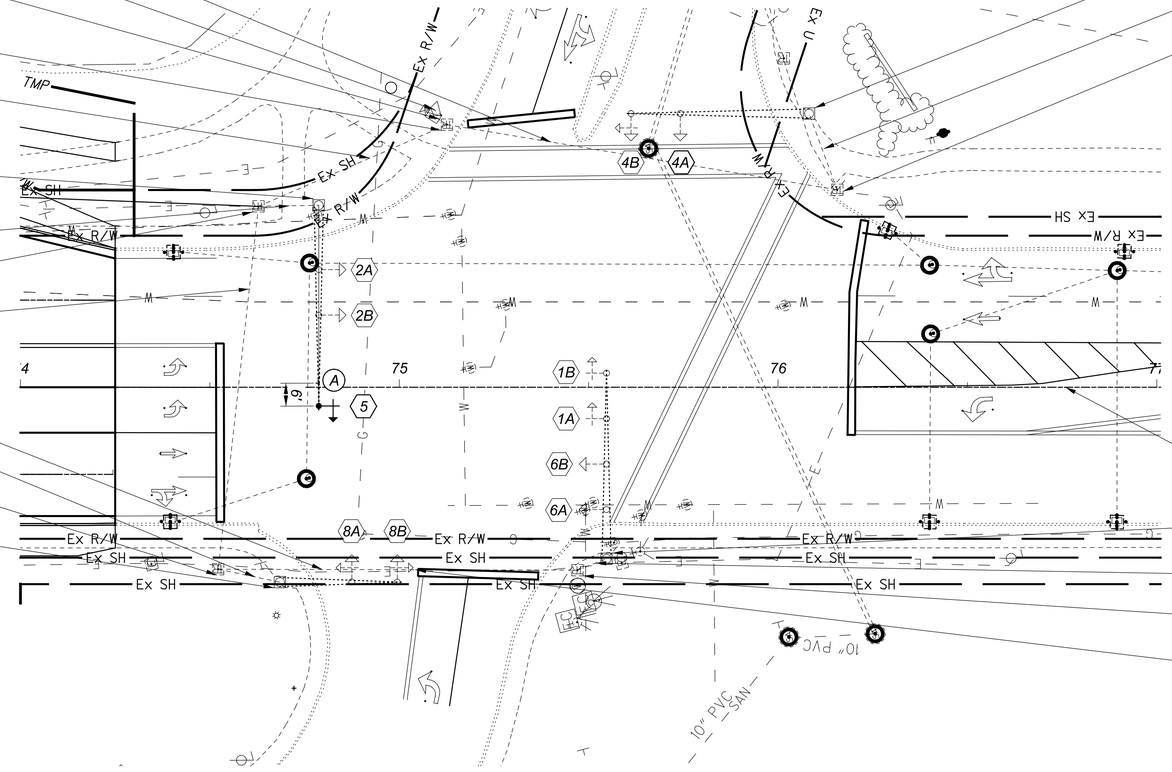
EXISTING CONDUIT TO REMAIN

EXISTING CONDUIT TO REMAIN

EXISTING CONDUIT TO REMAIN

EXISTING PULL BOX TO REMAIN
STA. 74+52.2, 48.0' RT.

EXISTING SIGNAL SUPPORT TO REMAIN
STA. 74+68.5, 51.4' RT.



EXISTING SIGNAL SUPPORT TO REMAIN
STA. 76+08.2, 72.2' LT.

EXISTING CONDUIT TO REMAIN

EXISTING PULL BOX TO REMAIN
STA. 76+15.7, 52.1' LT.

℄ CONST. HARPER ROAD

EXISTING SIGNAL SUPPORT TO REMAIN
STA. 75+54.7, 45.3' RT.

EXISTING CONDUIT TO REMAIN

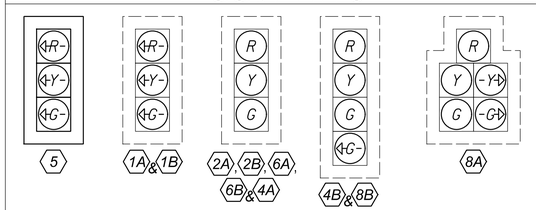
EXISTING PULL BOX TO REMAIN
STA. 75+47.0, 48.3' RT.

EXISTING CONDUIT TO REMAIN

NOTES:

1. *THE CONTRACTOR SHALL REMOVED THE EXISTING 5-SECTION VEHICULAR SIGNAL HEAD FOR THE NORTHBOUND LEFT TURN MOVEMENT AND REPLACE IT WITH A 3-SECTION VEHICULAR SIGNAL HEAD WITH LEFT TURN ARROWS AT THE SAME LOCATION ON THE MAST ARM.*
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. *THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO EXCAVATION.*
5. *FOR INTERCONNECT PLANS, SEE SHEETS 452 - 455.*
6. *FOR TRAFFIC SIGNAL LEGEND, SEE SHEET 439.*

SIGNAL TYPES



1. *ALL SIGNAL HEADS SHALL HAVE 12" LED LENSES.*
2. *ALL SIGNAL HEADS SHALL BE BLACK IN COLOR AND HAVE BACKPLATES.*
3. *ALL SIGNAL HEAD VISORS SHALL BE TUNNEL TYPE.*

HORIZONTAL SCALE IN FEET
0 10 20 40

TRAFFIC SIGNAL PLAN
HARPER RD. / BAINBRIDGE RD.

DESIGN AGENCY
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DESIGNER	BEB
REVIEWER	KMG 6-8-23
PROJECT ID	113889
SHEET	450
TOTAL	481

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C20 - 113889_CP3 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:47:50 PM USER: jhobrath
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SIGNAL TIMING CHART

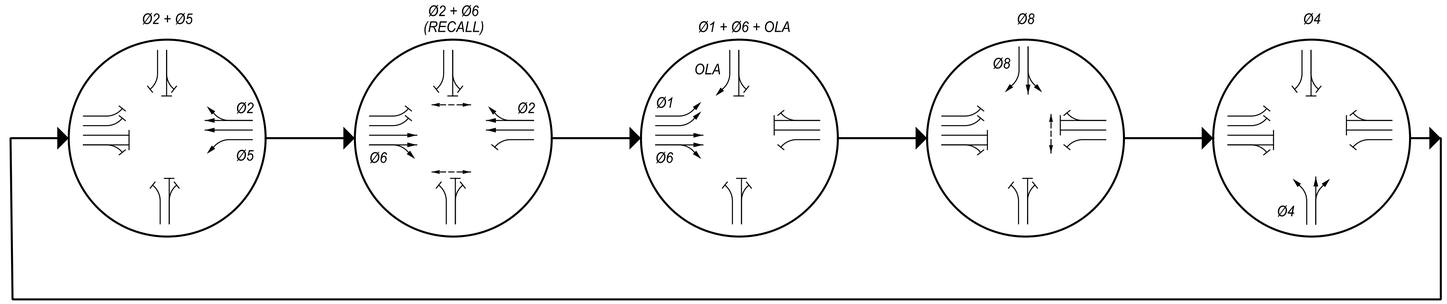
DETECTION CHART

PREEMPT NOTES

THE CONTRACTOR SHALL UTILIZE THE EXISTING TIMINGS, DETECTION AND PREEMPT CHANNELS FOR THE HARPER RD. / BAINBRIDGE RD. TRAFFIC SIGNAL.

PHASING DIAGRAM

LEGEND	
VEHICLE Ø	
PERMITTED Ø	
PEDESTRIAN Ø	

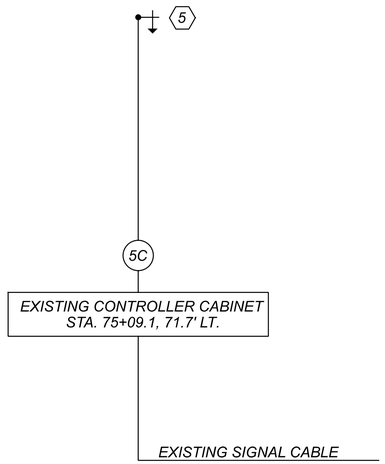


FIELD WIRING HOOK UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
5 (NB LT)	R	£5 R	Y
	Y	£5 Y	
	G	£5 G	

THE CONTRACTOR SHALL CONNECT THE NEW CABLES FOR THE NEW VEHICULAR SIGNAL TO THE EXISTING TERMINALS USED FOR PHASE 5 (NORTHBOUND LEFT).

WIRING DIAGRAM



TRAFFIC SIGNAL DETAIL
HARPER RD. / BAINBRIDGE RD.

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in) DATE: 6/7/2023 TIME: 2:47:51 PM USER: jhobrath
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DESIGN AGENCY

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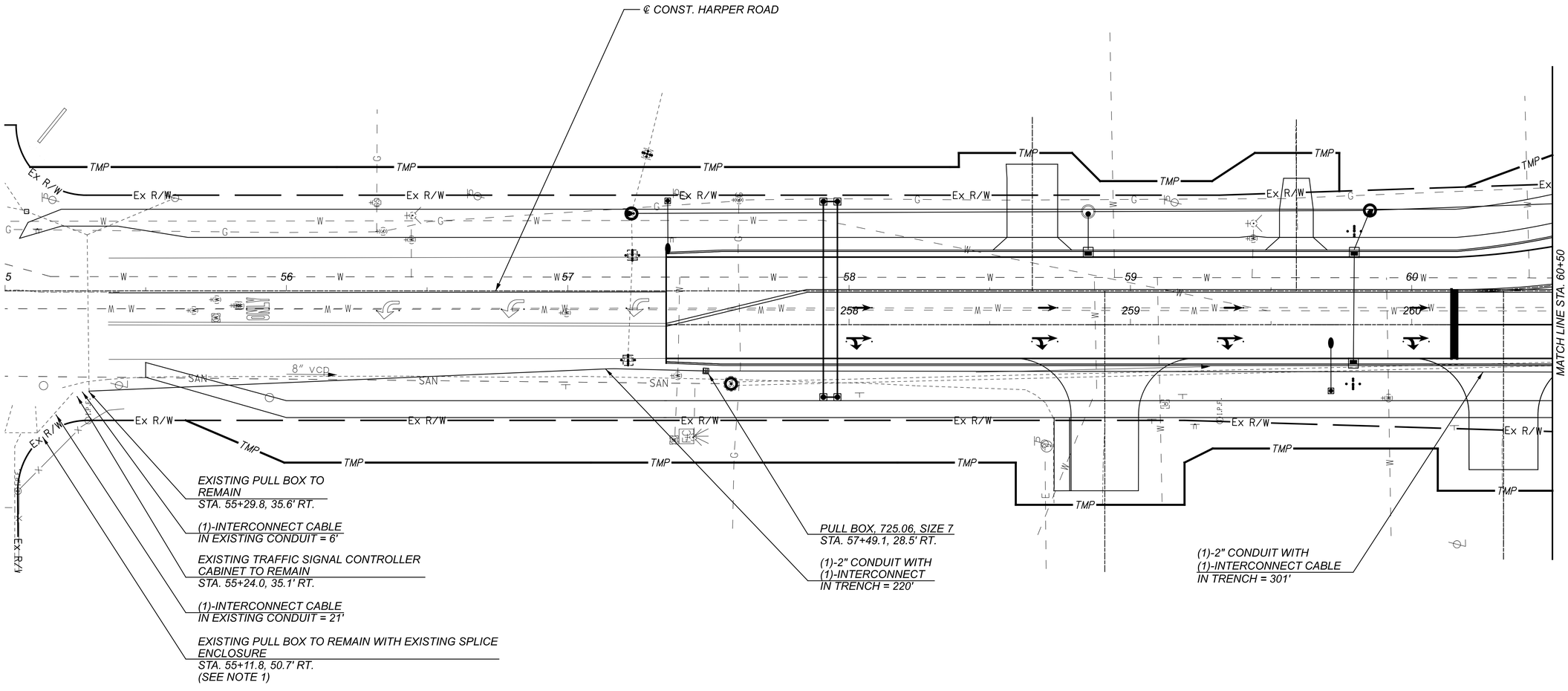
DESIGNER	BEB
REVIEWER	AKF 6-8-23
PROJECT ID	113889
SHEET	451
TOTAL	481



LEGEND

CONTROLLER CABINET AND WORK PAD (TS-2)	
PULL BOX	TR
SPLICE ENCLOSUE	

NOTES:

1. THE CONTRACTOR SHALL SPLICE THE PROPOSED INTERCONNECT CABLE WITH THE EXISTING INTERCONNECT CABLE UTILIZING THE EXISTING SPLICE ENCLOSURE.

HORIZONTAL SCALE IN FEET
0 10 20 40

INTERCONNECT PLAN
BEGIN TO STA. 60+50

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C19 - CP099 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:47:56 PM USER: jhobrath
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DESIGNER: BEB
REVIEWER: KMG 6-8-23
PROJECT ID: 113889
SHEET: 452 TOTAL: 481

PULL BOX, 725.06, SIZE 18
STA. 62+76.7, 50.2' LT.
(SEE TRAFFIC SIGNAL PLANS)

(1)-INTERCONNECT CABLE
IN SIGNAL CONDUIT = 61'

PROPOSED CONTROLLER CABINET
STA. 62+28.8, 99.1' LT.
(SEE TRAFFIC SIGNAL PLANS)

(1)-DROP CABLE
IN SIGNAL CONDUIT = 11'

24" X 35" X 26" PULL BOX, 725.06
WITH PROPOSED SPLICE ENCLOSURE
STA. 62+30.8, 89.1' LT.
(SEE TRAFFIC SIGNAL PLANS)

(1)-2" CONDUIT WITH
(1)-INTERCONNECT CABLE
IN TRENCH = 166'

24"X 35" X 36" PULL BOX,
725.06, WITH PROPOSED
SPLICE ENCLOSURE
STA. 60+73.6, 45.9' LT.
(SEE TRAFFIC SIGNAL PLANS)

(1)-INTERCONNECT CABLE
IN SIGNAL CONDUIT = 81'
(SEE TRAFFIC SIGNAL PLANS)

(1)-INTERCONNECT CABLE
IN SIGNAL CONDUIT = 38'

PULL BOX, 725.06, SIZE 7
STA. 63+09.6, 67.7' LT.
(SEE TRAFFIC SIGNAL PLANS)

(1)-INTERCONNECT CABLE
IN SIGNAL CONDUIT = 54'

PULL BOX, 725.06, SIZE 7
STA. 63+54.6, 95.9' LT.
(SEE TRAFFIC SIGNAL PLANS)

(1)-2" CONDUIT WITH
(1)-INTERCONNECT CABLE
IN TRENCH = 208'

℄ CONST. RAMP 3A

℄ CONST. RAMP 3B

℄ CONST. HARPER ROAD SB

MATCH LINE STA. 60+50

MATCH LINE STA. 65+50

TMP

R/W

LA-R/W

644

844

846

862

161

162

261

262

263

264

265

447

165

164

61

62

63

64

65

2A

2B

6A

6B

8A

8B

18" CMP

PIPE SIZE CHANGE

24" PULL BOX, 725.06, SIZE 7
STA. 60+70.3, 35.0' RT.
(SEE TRAFFIC SIGNAL PLAN)

(1)-2" CONDUIT WITH
(1)-INTERCONNECT CABLE
IN TRENCH = 22'

℄ CONST. RAMP 1A

℄ CONST. RAMP 1B

℄ CONST. HARPER ROAD

℄ CONST. HARPER ROAD NB

NOTES:

1. FOR INTERCONNECT LEGEND, SEE SHEET 452 .

HORIZONTAL
SCALE IN FEET
0 10 20 40

INTERCONNECT PLAN
STA. 60+50 TO STA. 65+50

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DESIGNER
BEB

REVIEWER
KMG 6-8-23

PROJECT ID
113889

SHEET 453 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C018 - CP100 PAPERSIZE: 34x22 (in) DATE: 7/12/2023 TIME: 8:45:29 AM USER: jhobrath
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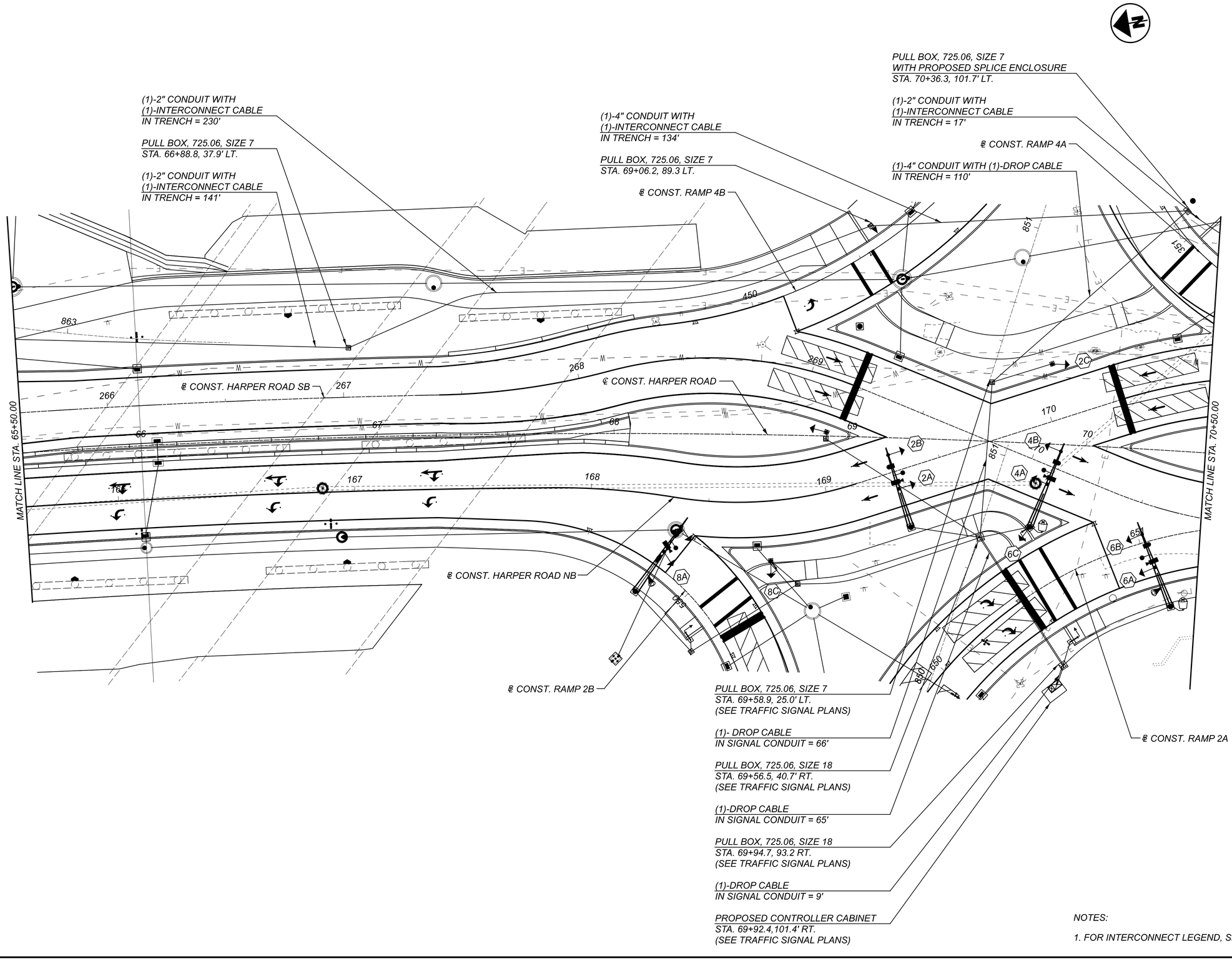

NOTES:

1. FOR INTERCONNECT LEGEND, SEE SHEET 452 .

HORIZONTAL SCALE IN FEET
0 10 20 40

INTERCONNECT PLAN
STA. 65+50 TO STA. 70+50

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DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 454 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C018 - CP101 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:48:01 PM USER: jhobrath
D:\Clients\ORD\2020\2020336\113889\400-Engineering\Signals\Sheets\113889_CP101.dgn

EXISTING PULL BOX TO REMAIN
WITH EXISTING SPLICE ENCLOSURE
STA. 75+12.6, 69.3' LT.
(SEE NOTE 1)

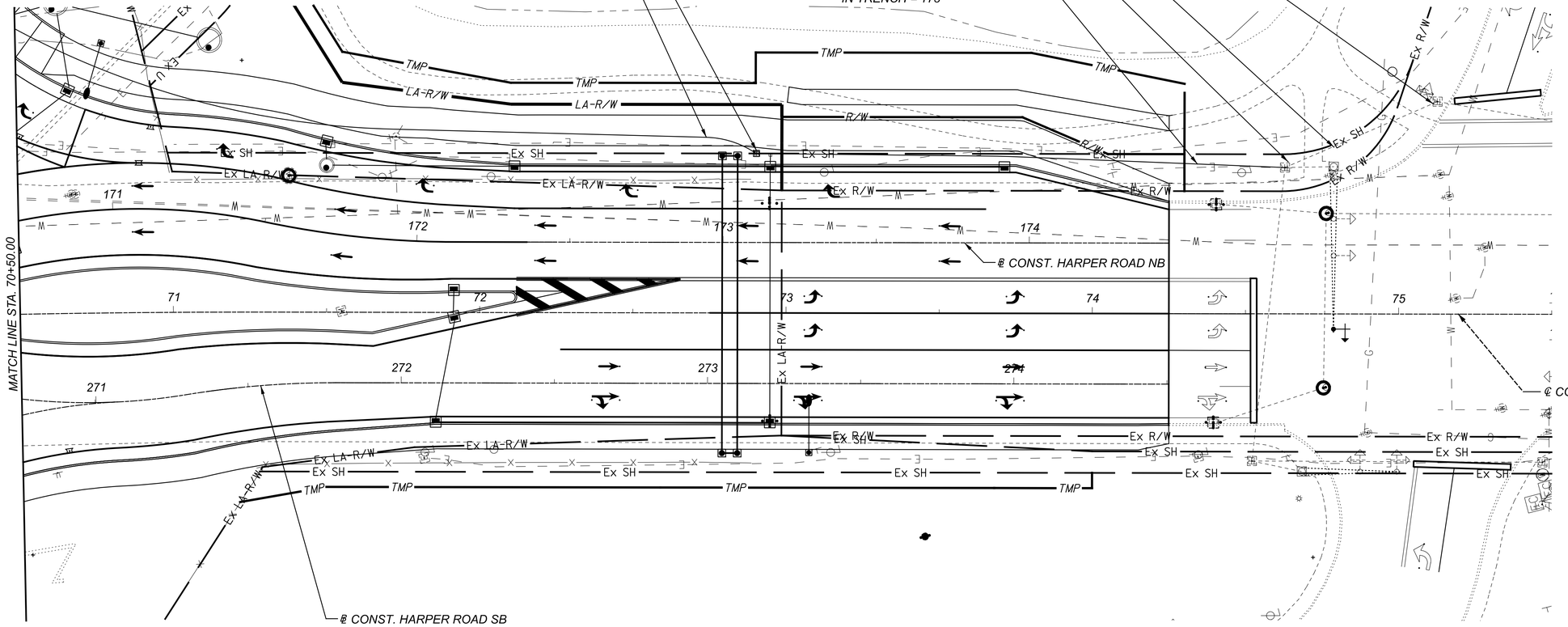
(1)-INTERCONNECT CABLE
IN EXISTING CONDUIT = 55'

EXISTING PULL BOX TO REMAIN
STA. 74+62.9, 47.8' LT.

(1)-2" CONDUIT WITH
(1)-INTERCONNECT CABLE
IN TRENCH = 173'

PULL BOX, 725.06, SIZE 7
STA. 72+90.3, 52.0' LT.

(1)-2" CONDUIT WITH
(1)-INTERCONNECT CABLE
IN TRENCH = 249'



NOTES:

1. THE CONTRACTOR SHALL SPLICE THE PROPOSED INTERCONNECT CABLE WITH THE EXISTING INTERCONNECT CABLE UTILIZING THE EXISITNG SPLICE ENCLOSURE.

2. FOR INTERCONNECT LEGEND, SEE SHEET 452 .

HORIZONTAL
SCALE IN FEET
0 10 20 40

INTERCONNECT PLAN
STA. 70+50 TO END

DESIGN AGENCY
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DESIGNER
BEB

REVIEWER
KMG 6-8-23

PROJECT ID
113889

SHEET 455 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: CLP_C018 - CP102 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:48:03 PM USER: jhobrath
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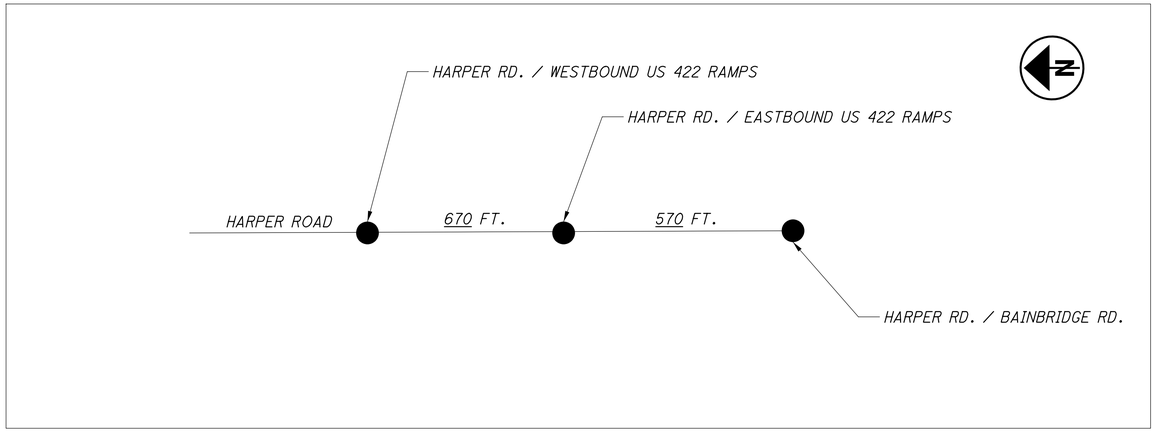
COORDINATION TIMING CHART

HARPER RD. / WESTBOUND US 422 RAMPS									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	NB	-	SB	-	EB	-	WB	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	-	60	-	40	4	56	4	36	35
12	-	60	-	40	5	55	5	35	55
13	-	60	-	40	4	56	4	36	30

HARPER RD. / EASTBOUND US 422 RAMPS									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	-	NB	-	SB	-	EB	-	WB	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	-	70	-	30	4	66	4	26	40
12	-	65	-	35	5	60	5	30	60
13	-	65	-	35	4	61	4	31	35

HARPER RD. / BAINBRIDGE RD.									
PHASE	1	2	3	4	5	6	7	8	OFFSET (%)
DIRECTION	SBL	NB	-	EB	NBL	SB	-	WB	
PLAN NO.	SPLITS (G+Y+AR) IN PERCENT								
11	31	34	-	22	13	52	-	13	0
12	23	37	-	18	18	42	-	22	15
13	21	38	-	22	12	47	-	19	0

CORRIDOR LAYOUT



COORDINATION TIMING PLANS

COORDINATION TIMING PLANS			
DAY(S) OF WEEK	HOURS	PLAN NO.	CYCLE LENGTH (SEC)
MON - FRI	00:00 - 06:00	FREE	-
MON - FRI	06:00 - 09:00	11	120
MON - FRI	09:00 - 14:30	12	90
MON - FRI	14:30 - 18:00	13	120
MON - FRI	18:00 - 19:30	12	90
MON - FRI	19:30 - 24:00	FREE	-
SAT - SUN	00:00 - 08:00	FREE	-
SAT - SUN	08:00 - 20:00	12	90
SAT - SUN	20:00 - 24:00	FREE	-

NOTES:

- OFFSETS ARE MEASURED FROM REFERENCE PHASE(S) NUMBERED ϕ2+ϕ6 "BEGINNING OF YELLOW."

TRAFFIC SIGNAL COORDINATION PLAN

DESIGN AGENCY

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DESIGNER BEB

REVIEWER KMG 6-8-23

PROJECT ID 113889

SHEET 456 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:48:04 PM USER: jhobraith
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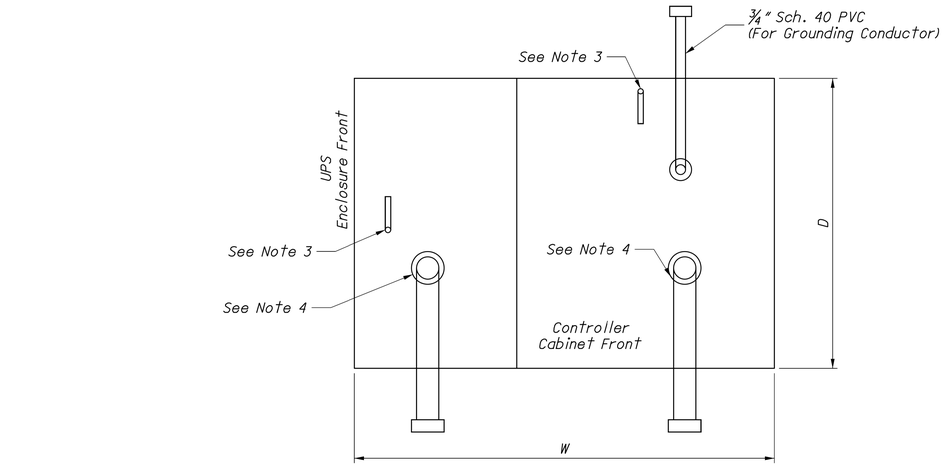
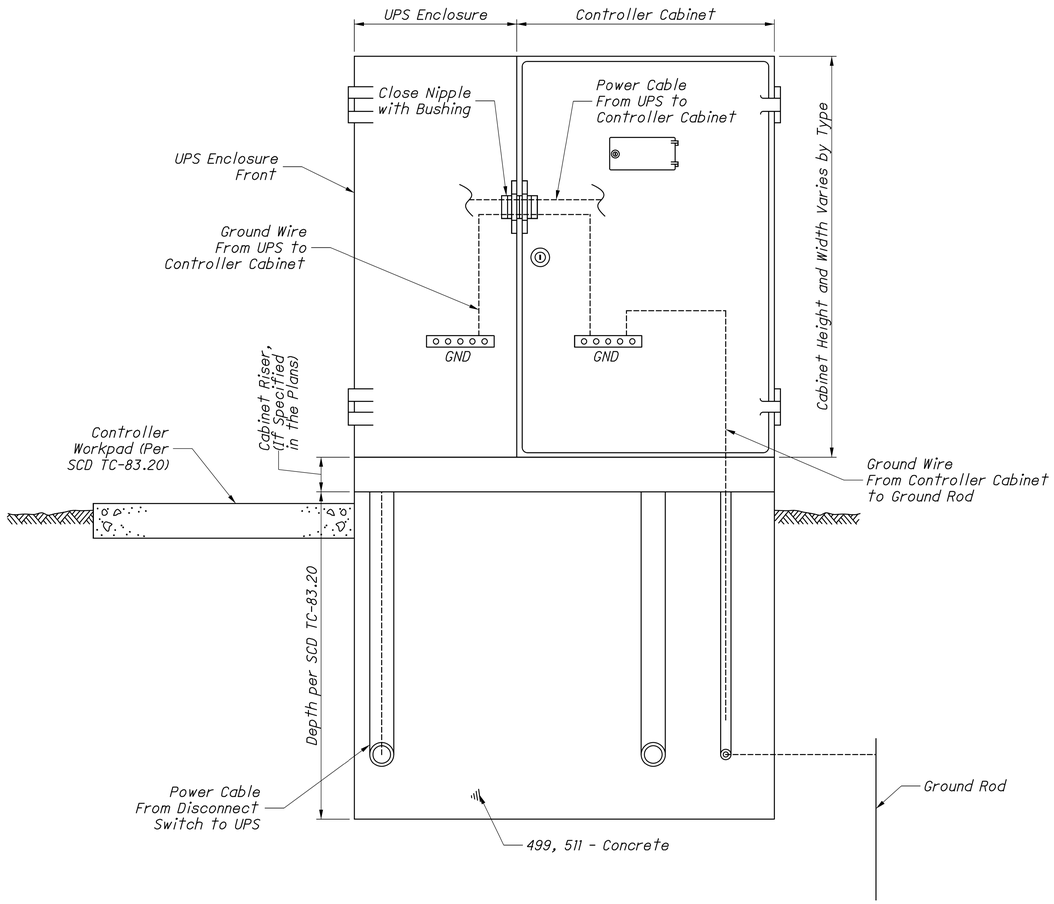




NOTES:

1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.
2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing (SCD) TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc.
3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.
4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a ¾" schedule 40 PVC shall be installed in each foundation.
5. 1/2" preformed joint filler as per CMS 705.03 shall be used between foundations and adjacent paved areas.
6. See SCD TC-83.20 for further details.

TYPE	W (IN.)	D (IN.)	FOUNDATION CONCRETE (CU. YD.)
TS-1	60	24	1.23
TS-2	70	36	2.16
2070/170	50	36	1.54

THIS DRAWING REPLACES PIS 208320 DATED 04-20-2012.

PLAN INSERT SHEET
UNINTERRUPTIBLE POWER SUPPLY (UPS) AND CONTROLLER CABINET FOUNDATION

PIS 208320

1 / 1

0 / 0

REVISION DATE 07-18-2014 | DESIGNED XXX | REVIEWED XXX | CHECKED | CHECKED

OFFICE OF ROADWAY ENGINEERING

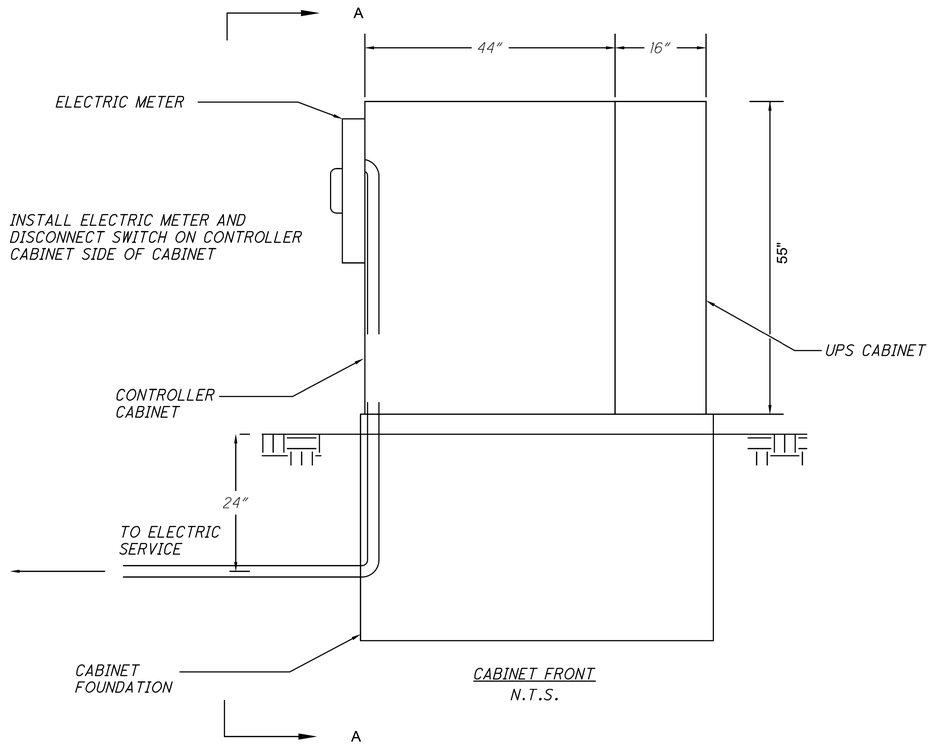
DESIGN AGENCY
GPD GROUP®

DESIGNER BEB
REVIEWER KMG 6-8-23
PROJECT ID 113889
SHEET 457 TOTAL 481

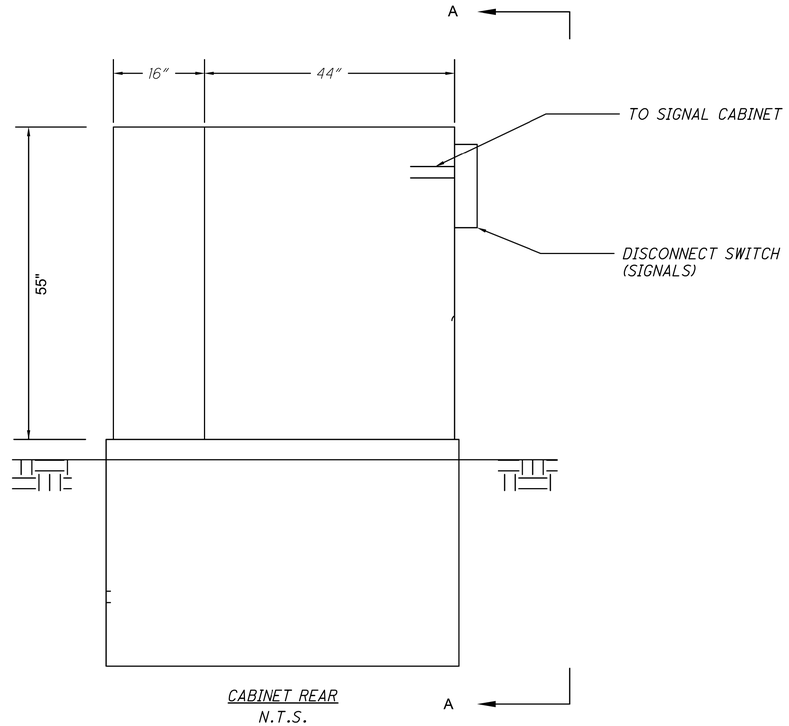
PLAN INSERT SHEET

CUY-422-16.20 (HARPER ROAD)

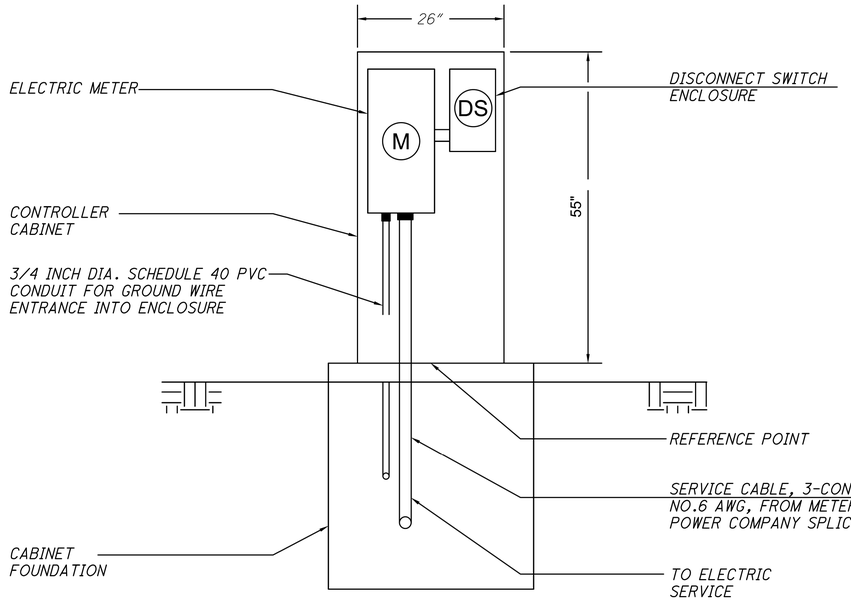
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:48:05 PM USER: jhobrath
O:\Clients\ORD\2020\2020336\113889\400-Engineering\Signals\Sheets\113889_CD500.dgn



CABINET FRONT
N.T.S.



CABINET REAR
N.T.S.



VIEW A-A
N.T.S.

TRAFFIC SIGNAL DETAIL

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 2:48:23 PM USER: jhobrath
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DESIGN AGENCY

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DESIGNER
BEB

REVIEWER
KMG 6-8-23

PROJECT ID
113889

SHEET 458 | TOTAL 481

ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID-STATE (LED), AS PER PLAN, IES-III-M, 17,000-19,000 LUMENS

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION SPECIFICATIONS, LUMINAIRE FOR CONVENTIONAL LIGHTING SHALL BE LED, TYPE III, MVOLT, 4000K COLOR TEMPERATURE, HAVE AN OUTPUT BETWEEN 17,000-19,000 LUMENS AND A 1050 MA DRIVE CURRENT.

THE LUMINAIRE HOUSING AND ATTACHMENT HARDWARE SHALL HAVE A GLOSS BLACK FINISH (FEDERAL COLOR 17038) AND BE PAINTED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 916.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER C&MS ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, IES-III-M, 17,000-19,000 LUMENS FOR EACH LUMINAIRE INSTALLED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO PERFORM THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHT POLE, CONVENTIONAL, AS PER PLAN

IN ADDITION TO C&MS 725.21, THE LIGHTING EQUIPMENT SHALL HAVE A GLOSS BLACK FINISH (FEDERAL COLOR 17038) AND BE PAINTED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 916.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO PERFORM THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN C&MS 625.15 AND 725.19. ELECTRIC POWER SHALL BE OBTAINED FROM THE ILLUMINATING COMPANY AT A LOCATION THAT IS TO BE DETERMINED IN THE FIELD AND APPROVED BY THE PROJECT ENGINEER. THE POWER SERVICE SHALL BE GROUND MOUNTED WITH THE METER BASE AND DISCONNECT SWITCH HOUSED IN AN ALUMINUM CABINET ENCLOSURE. DISCONNECT SWITCH ENCLOSURES FURNISHED SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER. THE CABINET SHALL BE POWDER COATED BLACK IN COLOR TO MEET FEDERAL SPECIFICATION 595B AND CONFORM TO COLOR NO. 17038. A SERVICE PANEL TO ACCESS THE LIGHTING DISCONNECT SHALL BE PROVIDED.

THE CONTRACTOR SHALL COORDINATE RELATED WORK WITH THE ILLUMINATING COMPANY (CUSTOMER SERVICE, 800-589-3101), WHO WILL MAKE THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE THE POWER CABLE INTO THE ILLUMINATING COMPANY'S CIRCUITRY. ANY FEES ASSOCIATED WITH OBTAINING POWER SHALL BE RESPONSIBILITY OF THE CONTRACTOR. POWER SUPPLIED SHALL BE 480 VOLTS.

THE COST FOR ALL NECESSARY ITEMS AND ASSOCIATED LABOR SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 625 - POWER SERVICE, AS PER PLAN.

ITEM 625 - CONDUIT, 725.051, AS PER PLAN, BY SIZE

ALL UNDERGROUND CONDUIT USED FOR TRAFFIC SIGNALS AND INTERCONNECT CABLES SHALL MEET THE REQUIREMENTS OF ODOT 725.051, EXCEPT THE CONDUIT SHALL BE POLYVINYL CHLORIDE EPC-80 IN LIEU OF PVC SCHEDULE 40 CONDUIT.

ITEM 625 - LIGHT POLE FOUNDATION, 24" X 8' DEEP, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 625.10, THE CONTRACTOR SHALL PROVIDE ANCHOR BOLTS FOR THE EXISTING LIGHT POLES THAT WILL BE RELOCATED ON NEW FOUNDATIONS. PRIOR TO ORDERING THE ANCHOR BOLTS THE CONTRACTOR SHALL MEASURE THE CURRENT BOLTS, BOLT PATTERN AND BOLT CIRCLE TO ENSURE A PROPER FIT.

THE CONTRACTOR SHALL CONTACT OHIO811 TO HAVE ALL UTILITIES LOCATED IN THE FIELD AND THEN MEET WITH THE PROJECT ENGINEER TO LOCATE THE PROPOSED FOUNDATION LOCATIONS TO ENSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE LIGHT POLES.

PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH FOUNDATION FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 625 - LIGHTING, MISC.: EXISTING LIGHT POLE, BRACKET ARM AND LUMINAIRE TO BE REMOVED AND REERECTED

THE CONTRACTOR SHALL REMOVE THE EXISTING LIGHT POLES, BRACKET ARMS AND LUMINAIRES AND REERECT THEM IN THE LOCATIONS SPECIFIED IN THE DETAILED LIGHTING PLANS.

THE CONTRACTOR SHALL TAKE GREAT CARE NOT TO DAMAGE THE EXISTING POLE, BRACKET ARM, LUMINAIRE AND POLE AND BRACKET CABLE, AS IT IS THE DESIGNER'S INTENT TO REUSE THE AFOREMENTIONED ITEMS. IF THE PROJECT ENGINEER HAS DETERMINED ANY EQUIPMENT PROPOSED TO BE REUSED HAS BEEN DAMAGED DUE TO CONTRACTOR NEGLIGENCE, THE CONTRACTOR SHALL REPLACE THE EQUIPMENT IN LIKE KIND, AS APPROVED BY THE ENGINEER, AT THE CONTRACTOR'S COST.

PAYMENT FOR ITEM 625 - LIGHTING, MISC.: EXISTING LIGHT POLE, BRACKET ARM AND LUMINAIRE TO BE REMOVED AND REERECTED SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM 625 - ARC FLASH CALCULATIONS AND LABEL, LIGHTING CONTROL CENTER

THE SPECIFICATIONS AND REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 825 SHALL APPLY TO THE LIGHTING CONTROL CENTER AND DISCONNECT SWITCH.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 625 - ARC FLASH CALCULATIONS AND LABEL 1 EACH

EXISTING LIGHTING SYSTEM REMOVAL

THE CONTRACTOR SHALL REMOVE THE EXISTING LIGHTING EQUIPMENT WITHIN THE PROJECT AREA IN ACCORDANCE WITH C&MS 625.21 AND THE DETAIL LIGHTING PLANS.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 625 - LIGHT POLE REMOVED	9 EACH
ITEM 625 - LIGHT POLE FOUNDATION REMOVED	9 EACH
ITEM 625 - LUMINAIRE REMOVED	11 EACH
ITEM 625 - POWER SERVICE REMOVED	1 EACH

LIGHTING NOTES

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PROJECT ID
113889

SHEET 459 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:08:30 PM USER: jhobrath
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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	625 CONNECTION, FUSED PULL APART EACH	625 LIGHT POLE, CONVENTIONAL, AS PER PLAN, AT15B35 EACH	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP EACH	625 NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE FT	625 NO. 10 AWG POLE AND BRACKET CABLE FT	625 CONDUIT, 2", 725.051, AS PER PLAN FT	625 CONDUIT, 3", 725.051, AS PER PLAN FT	625 CONDUIT, 4", 725.051, AS PER PLAN FT	625 LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, IES-III-M, 17,000-19,000 LUMENS EACH	625 LUMINAIRE, UNDERPASS, SOLID STATE (LED) EACH	625 TRENCH FT	625 PULL BOX, 725.06, SIZE 4 EACH	625 GROUND ROD EACH	625 POWER SERVICE, AS PER PLAN EACH	625 UNDERGROUND WARNING/MARKING TAPE FT	625 LIGHTING, MISC.: EXISTING LIGHT POLE, BRACKET ARM AND LUMINAIRE TO BE REMOVED AND REERECTED EACH		
1	464	57+35.6		LT	2	1	1		135				1			1			46			
2	464	57+35.6	57+78.8	LT				176		46					46							
3	464	57+78.8		LT												1						
4	464	57+78.8	57+78.4	LT/RT				159			48				48				48			
5	464	57+78.4		RT												1						
6	464	57+78.4	59+71.3	RT				602		193					193				193			
7	464	59+71.3		RT	2	1	1		135				1				1					
8	464	59+71.3	60+00	RT				95		29					29				29			
9	465	60+00	61+35.9	RT				437		138					138				138			
10	465	61+35.9		RT	2	1	1		135				1				1					
11	465	61+35.9	61+83.3	RT				236		71					71				71			
12	465	61+83.3		RT												1						
13	465	61+83.3	63+00	RT				684			114				114				114			
14	465	61+83.3	344+50	RT/LT				156		47					47				47			
15	466	545+00	63+43.5	RT/LT				108		31					31				31			
16	466	63+43.5		LT												1						
17	466	63+43.5	63+49.2	LT				47		8					8				8			
18	466	63+49.2		LT	2	1	1		135				1				1					
19	466	63+49.2	65+13.2	LT				567		179					179				179			
20	466	65+13.2		LT	2	1	1		135				1				1					
21	466	65+13.2	65+50.4	LT				128		40					40				40			
22	466	65+50.4		LT												1						
23	466	65+50.4	65+57.8	LT				477				9			9				9			
24	466	65+57.8		LT													2	1				
25	466	65+50.4	66+00	LT				153		51					51				51			
26	466	63+00	63+27.7	RT				192			27				27				27			
27	466	63+27.7		RT												1						
28	466	63+27.7	65+68.7	RT				1512			252				252				252			
29	466	65+50.4	65+58.7	LT/RT				784				96			96				96			
30	466	65+68.7		RT												1						
31	466	65+68.7	65+68.6	RT				72			7				7				7			
32	466	65+68.6		RT					90					1								
33	466	65+68.7	66+00	RT				186			31				31				31			
34	467	66+00	66+63.7	LT				210		65					65				65			
35	467	66+63.7		LT												1						
36	467	66+63.7	66+64.1	LT				78			8				8				8			
37	467	66+64.1		LT					90					1								
38	467	66+63.7	67+68.7	LT				672			107				107				107			
39	467	67+68.7		LT												1						
40	467	67+68.7	67+69.4	LT				30			5				5				5			
41	467	67+69.4		LT					90					1								
42	467	66+63.7	68+45.8	LT				573		186					186				186			
43	467	68+45.8		LT												1						
44	467	68+45.8	69+00	LT				171			57				57				57			
45	467	66+00	66+85.4	RT				540			85				85				85			
46	467	66+85.4		RT												1						
47	467	66+85.4	66+85.6	RT				30			5				5				5			
48	467	66+85.6		RT					90					1								
49	467	66+85.4	68+09.2	RT				801			126				126				126			
50	467	68+09.2		RT	2				135				1									
51	467	68+09.2	68+45.9	RT				369			54				54				54			
52	467	68+45.9		RT												1						
53	467	68+45.9	69+00	RT				318			53				53				53			
TOTALS CARRIED TO GENERAL SUMMARY					12	5	5	10563	1170	1084	979	105	6	4	2168	12	7	1	2168			

LIGHTING SUBSUMMARY

CUY-422-16.20 (HARPER ROAD)

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REVIEWER KMG 02/22/22

PROJECT ID 113889

SHEET 460 TOTAL 481

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	625 CONNECTION, FUSED PULL APART EACH	625 LIGHT POLE, CONVENTIONAL, AS PER PLAN, AT15B35 EACH	625 LIGHT POLE FOUNDATION, 24" X 8' DEEP EACH	625 NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE FT	625 NO. 10 AWG POLE AND BRACKET CABLE FT	625 CONDUIT, 2", 725.051, AS PER PLAN FT	625 CONDUIT, 3", 725.051, AS PER PLAN FT	625 CONDUIT, 4", 725.051, AS PER PLAN FT	625 LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, IES-III-M, 17,000-19,000 LUMENS EACH	625 LUMINAIRE, UNDERPASS, SOLID STATE (LED) EACH	625 TRENCH FT	625 PULL BOX, 725.06, SIZE 4 EACH	625 GROUND ROD EACH	625 POWER SERVICE, AS PER PLAN EACH	625 UNDERGROUND WARNING/MARKING TAPE FT	625 LIGHTING, MISC.: EXISTING LIGHT POLE, BRACKET ARM AND LUMINAIRE TO BE REMOVED AND REERECTED EACH		
54	468	69+00	69+69.1	LT				234		73					73				73				
55	468	69+69.1		LT												1							
56	468	69+69.1	70+73.0	LT				336			107				107				107				
57	468	70+73.0		LT												1							
58	468	70+73.0	70+77.4	LT				41		6					6				6				
59	468	70+77.4		LT	2	1	1		135				1				1						
60	468	69+76.5	69+87.3	RT				48		16					16				16				
61	468	69+00	69+87.3	RT				546			86				86				86				
62	468	69+87.3		RT												1							
63	468	69+87.3	71+04.5	RT				393		126					126				126				
64	468	71+04.5		RT												1							
65	468	71+04.5	72+00	RT				294		98					98				98				
66	469	72+00	73+07.5	RT				350		109					109				109				
67	469	73+07.5		RT	2	1	1		135				1				1						
68	470	545+00	645+72.6	RT				221		66					66				66				
69	470	645+67.0		RT																	1		
70	470	645+72.6		RT	2		1										1						
71	470	645+72.6	647+16.8	RT				435		135					135				135				
72	470	647+16.9		RT																	1		
73	470	647+16.8		RT	2		1										1						
74	470	647+16.8	648+90.7	RT				468		146					146				146				
75	471	441+50.1	344+50	LT				891		292					292				292				
TOTALS CARRIED TO GENERAL SUMMARY					8	2	4	4257	270	1067	193		2		1260	4	4		1260	2			

LIGHTING SUBSUMMARY

CUY-422-16.20 (HARPER ROAD)

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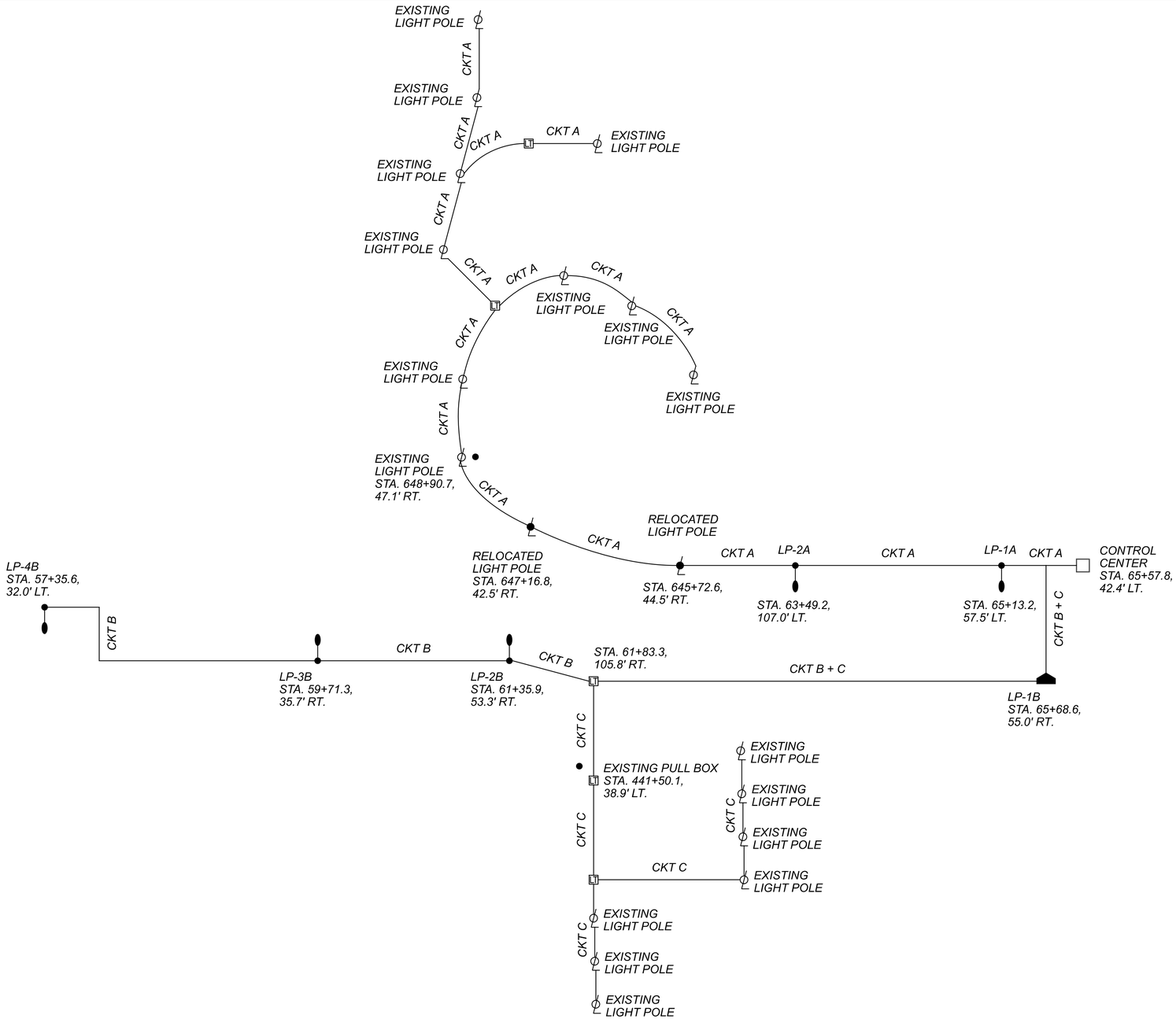
SHEET 461 TOTAL 481

LIGHTING CIRCUIT DIAGRAM - CIRCUITS A, B & C



LEGEND

- PROPOSED LED LUMINAIRE
- EXISTING LUMINAIRE
- RELOCATED LUMINAIRE
- PULL BOX
- CONTROL CENTER
- SPLICE ENCLOSURE
- PROPOSED UNDERPASS LUMINAIRE

CONTROL CENTER DATA

CONTROL CENTER DESIGNATION	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
STA. 65.57.8, 42.4' LT.	480	16.2	4	60	A	13.12	20	4	CITY OF SOLON
					B	2.05	10	4	
					C	10.22	20	4	
					D	0.97	10	4	
					E	1.42	10	4	
					F	6.05	10	4	

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PROJECT ID 113889
SHEET 462 TOTAL 481

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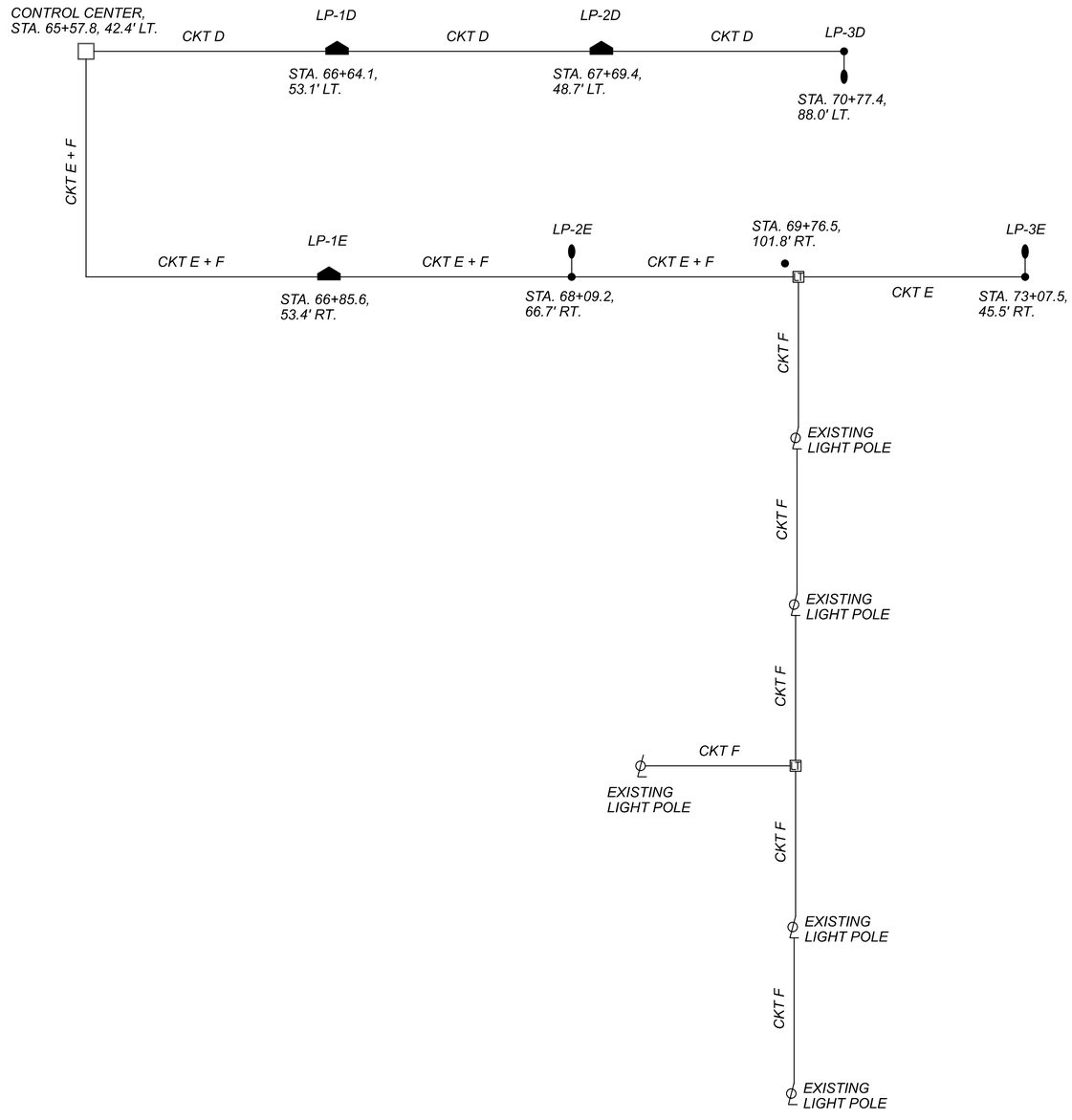

NOTES:

1. *FOR CONTROL CENTER DATA AND CIRCUIT DIAGRAM LEGEND, SEE SHEET 462 .*

LIGHTING CIRCUIT DIAGRAM - CIRCUITS D, E & F

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SHEET 463 | TOTAL 481

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MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:08:32 PM USER: jhobrath
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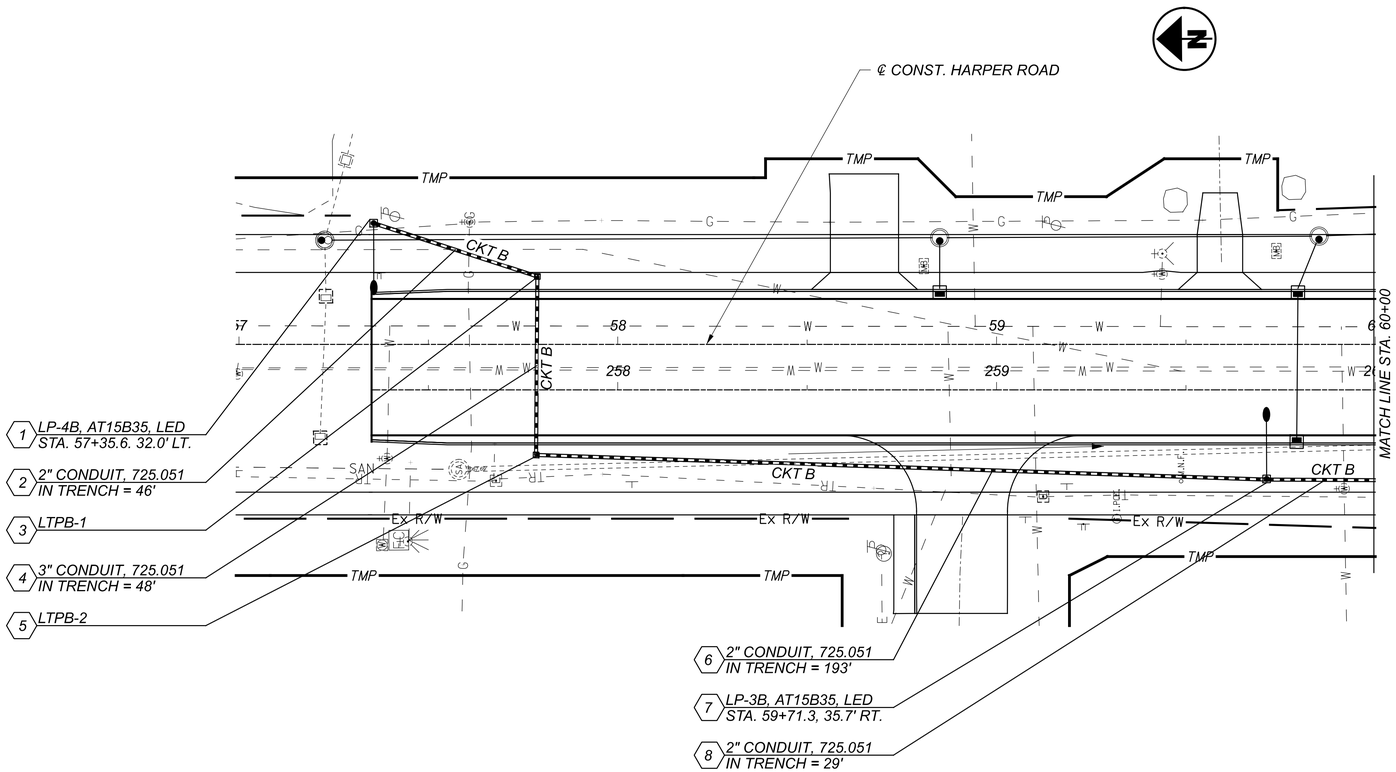

PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
LTPB-1	57+78.8	LT	17.9'	4
LTPB-2	57+78.4	RT	29.2'	4

LEGEND

- LIGHTING CIRCUIT
- PULL BOX, 725.06, SIZE 4
- EXISTING LIGHT POLE TO REMAIN OR TO BE REMOVED AND REERECTED
- RELOCATED LIGHT POLE
- SUB-SUMMARY REFERENCE NUMBER
- PROPOSED LED LUMINAIRE, BRACKET ARM ON COMBINATION SIGNAL POLE
- PROPOSED LIGHT POLE WITH CONVENTIONAL LUMINAIRE
- PROPOSED UNDERPASS LUMINAIRE
- SPLICE ENCLOSURE

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
BEGIN TO STA. 60+00

CUY-422-16.20 (HARPER ROAD)

MODEL: I13889_LPI PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:08:50 PM USER: jhobrath
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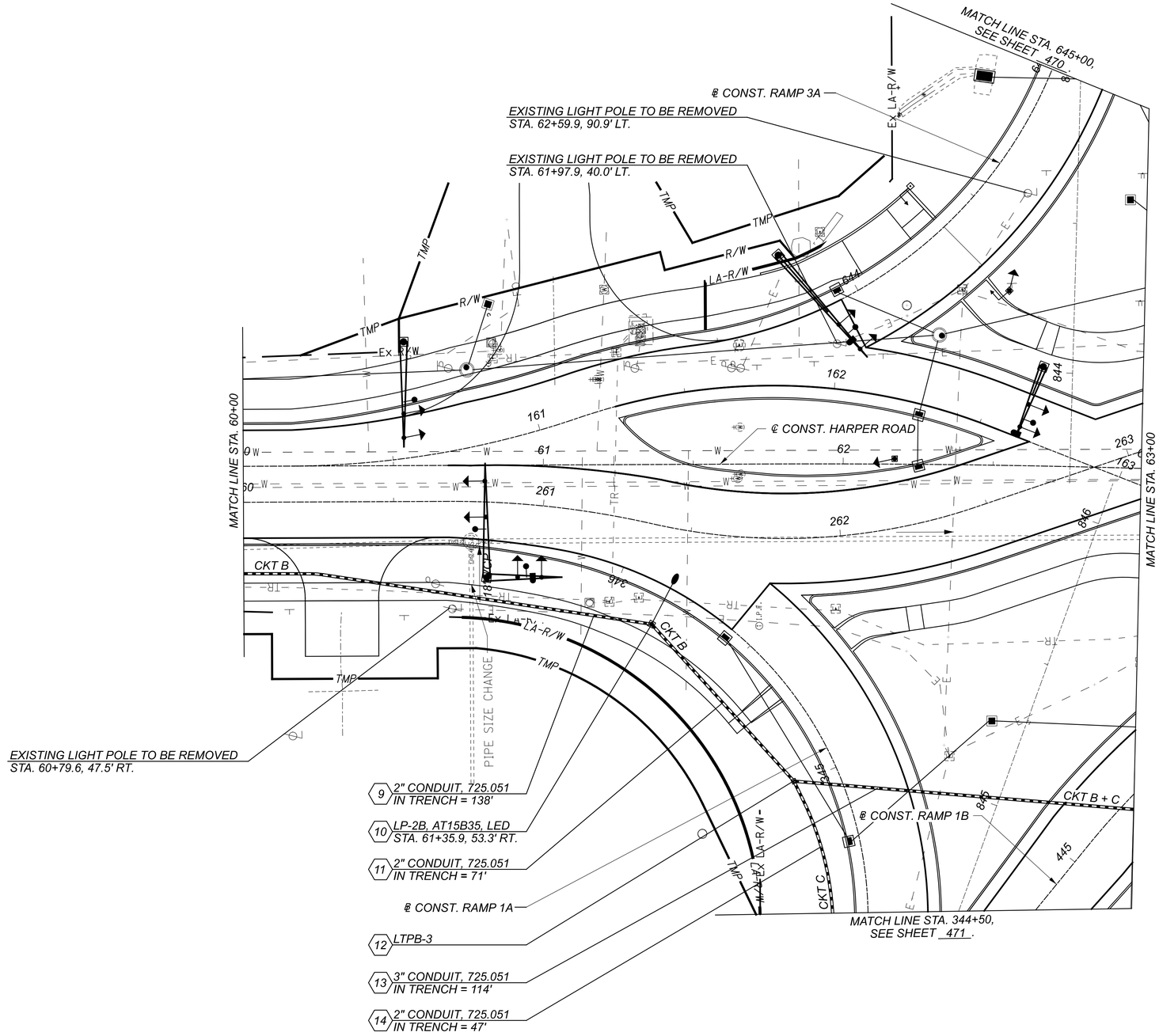
PROJECT ID 113889
SHEET 464 TOTAL 481



PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
LTPB-3	61+83.3	RT	105.8'	4

NOTES:
1. FOR THE LIGHTING LEGEND, SEE SHEET 464.

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
STA. 60+00 TO STA. 63+00

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PROJECT ID 113889
SHEET 465 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_LP4 PAPERSIZE: 34x22 (in.) DATE: 1/12/2023 TIME: 8:44:09 AM USER: jhobrath
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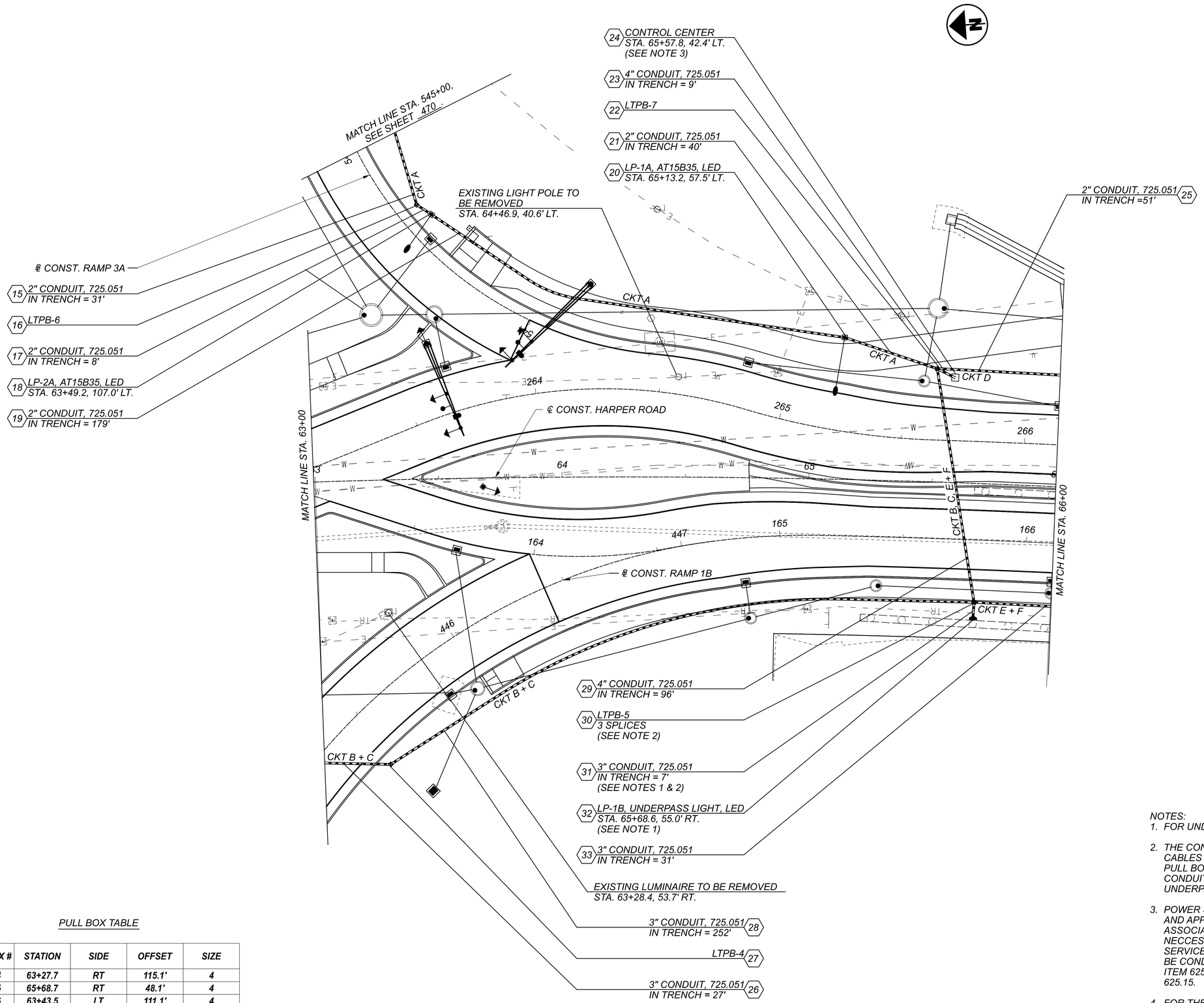

PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
LTPB-4	63+27.7	RT	115.1'	4
LTPB-5	65+68.7	RT	48.1'	4
LTPB-6	63+43.5	LT	111.1'	4
LTPB-7	65+50.4	LT	45.9'	4

NOTES:
1. FOR UNDERPASS LIGHTING DETAILS, SEE SHEET 472 .
2. THE CONTRACTOR SHALL SPLICE THE DISTRIBUTION CABLES WITH POLE AND BRACKET CABLE IN PROPOSED PULL BOX. THE CONTRACTOR SHALL INSTALL A 2" CONDUIT RISER AND POLE AND BRACKET CABLE TO THE UNDERPASS LIGHT FIXTURE.
3. POWER SERVICE LOCATION TO BE VERIFIED IN THE FIELD AND APPROVED BY THE ENGINEER. ALL ITEMS ASSOCIATED WITH THE POWER SERVICE THAT ARE NECCESSARY TO PROVIDE A COMPLETE ELECTRICAL SERVICE TO THE CONTROL CENTER INSTALLATION SHALL BE CONDIDERED INCIDENTAL TO AND INCLUDED UNDER ITEM 625 - POWER SERVICE, AS PER PLAN, AS PER C&MS 625.15.
4. FOR THE LIGHTING LEGEND, SEE SHEET 464 .

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
STA. 63+00 TO STA. 66+00

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REVIEWER KMG 02/22/22
PROJECT ID 113889
SHEET 466 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_LP5 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:08:59 PM USER: jhobrath
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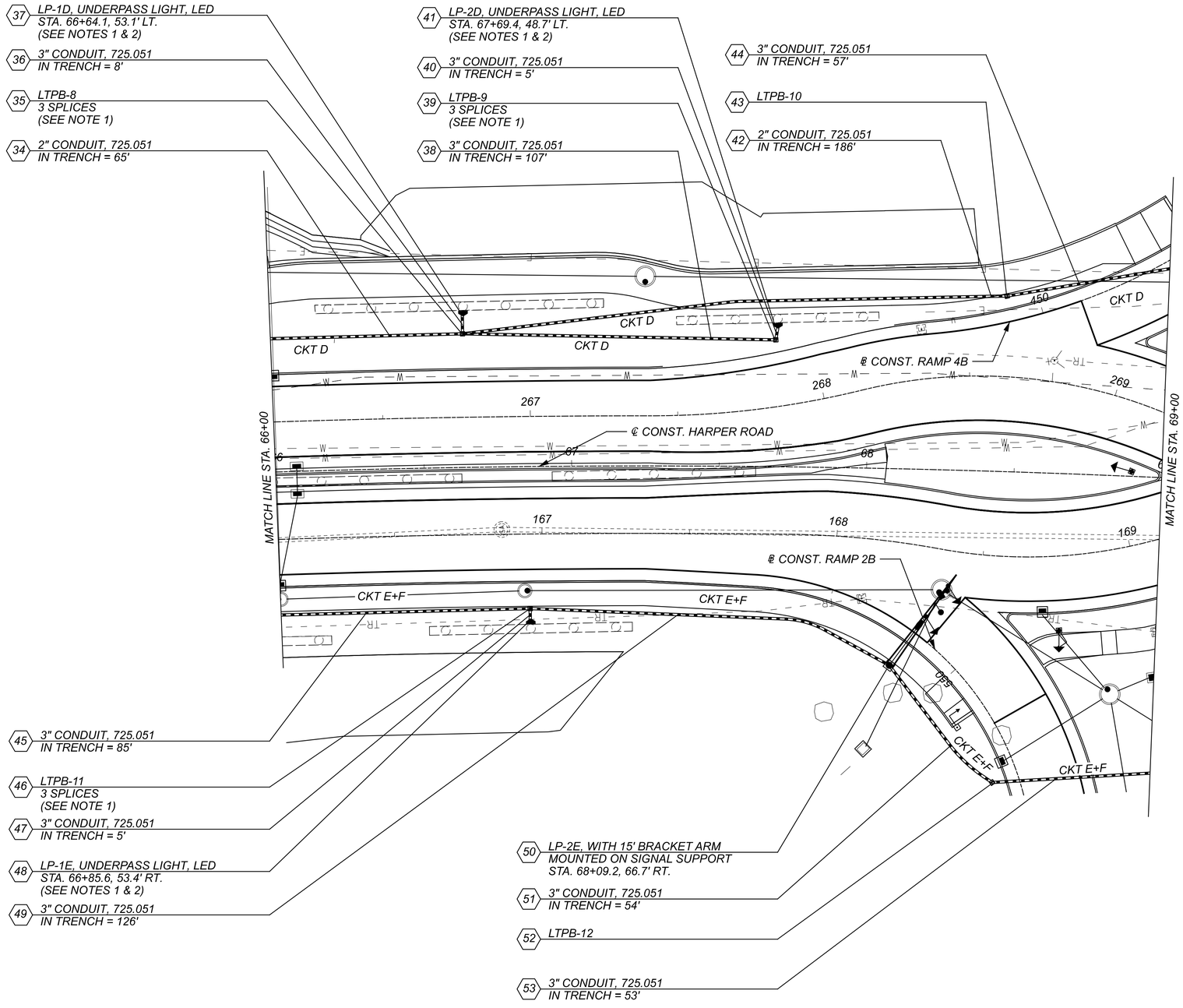

PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
LTPB-8	66+63.7	LT	45.3'	4
LTPB-9	67+68.7	LT	43.0'	4
LTPB-10	68+45.8	LT	59.5'	4
LTPB-11	66+85.4	RT	48.1'	4
LTPB-12	68+45.9	RT	105.4'	4

NOTES:
1. FOR UNDERPASS LIGHTING DETAILS, SEE SHEET 472 .
2. THE CONTRACTOR SHALL SPLICE THE DISTRIBUTION CABLES WITH POLE AND BRACKET CABLE IN PROPOSED PULL BOX. THE CONTRACTOR SHALL INSTALL A 2" CONDUIT RISER AND POLE AND BRACKET CABLE TO THE UNDERPASS LIGHT FIXTURE.
4. FOR THE LIGHTING LEGEND, SEE SHEET 464 .

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
STA. 66+00 TO STA. 69+00

DESIGN AGENCY
GPD GROUP
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DESIGNER JAK
REVIEWER KMG 02/22/22
PROJECT ID 113889
SHEET 467 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: li3889_LP6 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:09:02 PM USER: jhobrath
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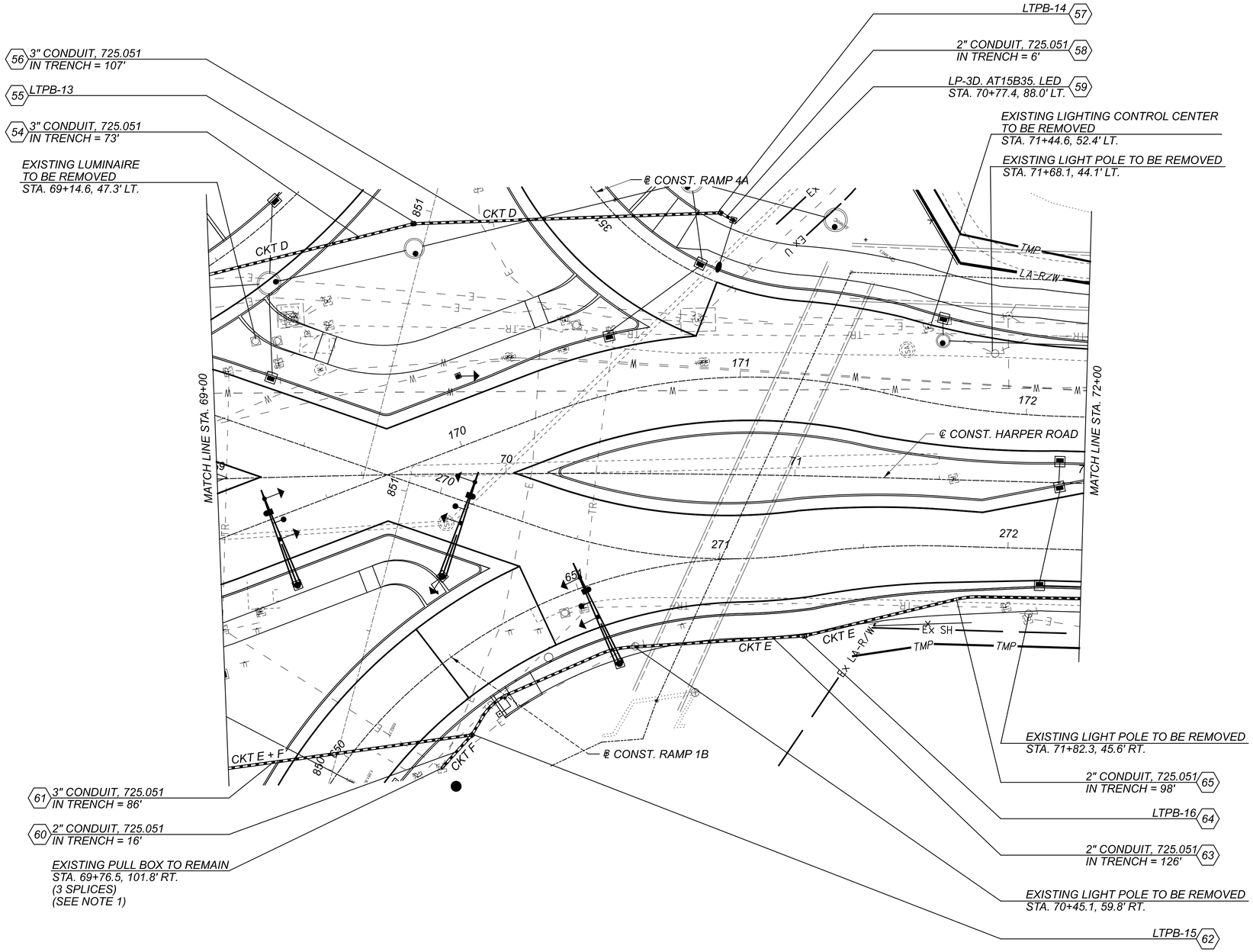

PULL BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE
LTPB-13	69+69.1	LT	86.8'	4
LTPB-14	70+73.0	LT	90.5'	4
LTPB-15	69+87.3	RT	90.4'	4
LTPB-16	71+04.5	RT	55.3'	4

NOTES:

1. THE CONTRACTOR SHALL CONNECT THE EXISTING DISTRIBUTION CABLE WITH THE EXISTING DISTRIBUTION CABLE LOCATED IN THE EXISTING PULL BOX TO REMAIN. THE CONTRACTOR SHALL UTILIZE A WEATHER-TIGHT SPLICE ENCLOSURE TO CONNECT THE EXISTING DISTRIBUTION CABLE TO THE PROPOSED DISTRIBUTION CABLE. THE COST OF ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO SPLICE THE DISTRIBUTION CABLE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PROPOSED DISTRIBUTION CABLE. FOR CIRCUIT INFORMATION, SEE SHEETS 462 - 463 .
2. FOR THE LIGHTING LEGEND, SEE SHEET 464 .

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
STA. 69+00 TO STA. 72+00

DESIGN AGENCY
GPD GROUP
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DESIGNER JAK
REVIEWER KMG 02/22/22
PROJECT ID 113889
SHEET 468 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_LP7 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:09:04 PM USER: jhobrath
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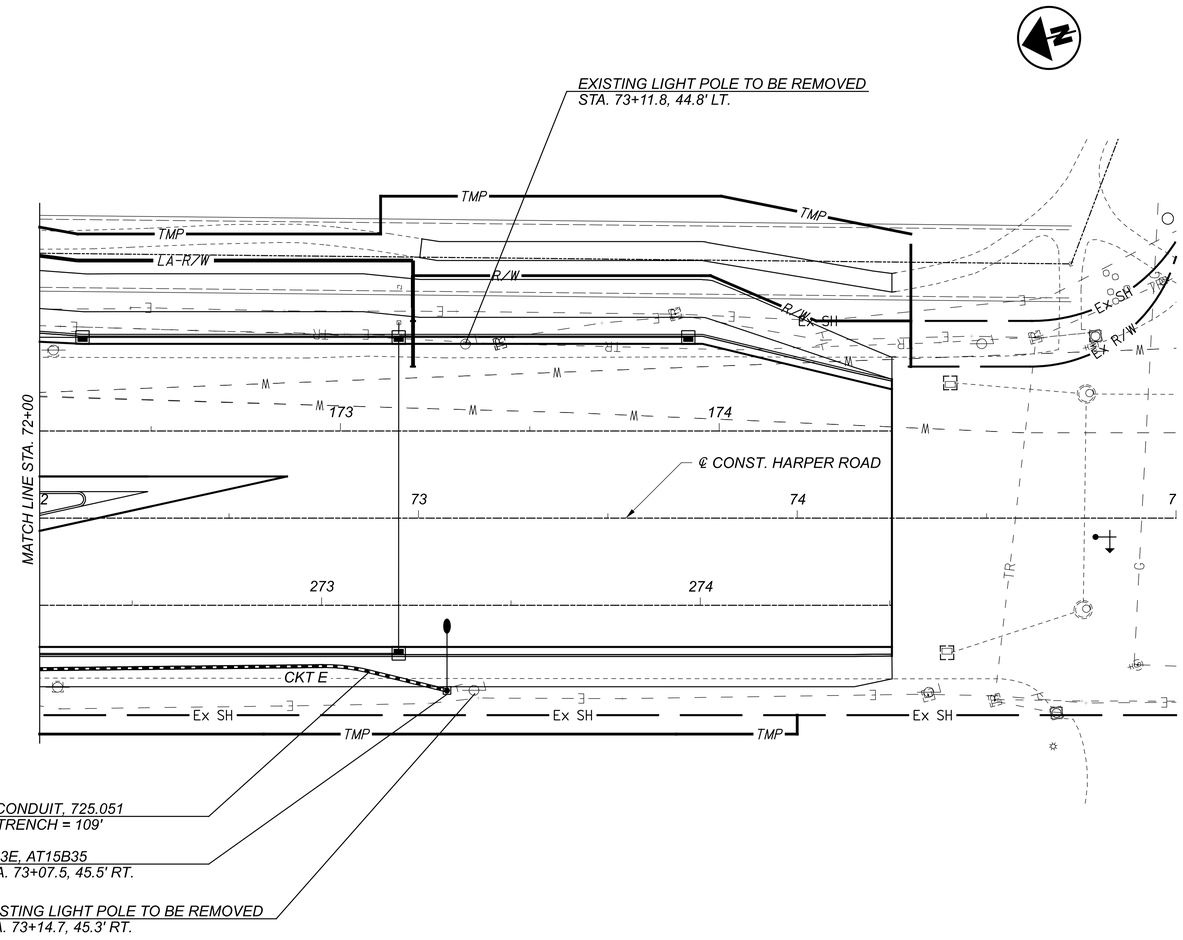

NOTES:
1. FOR THE LIGHTING LEGEND, SEE SHEET 464.

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
STA. 72+00 TO END

DESIGN AGENCY
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DESIGNER
JAK

REVIEWER
KMG 02/22/22

PROJECT ID
113889

SHEET 469 TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: 113889_LP8 PAPERSIZE: 34x22 (In) DATE: 6/7/2023 TIME: 3:09:06 PM USER: jhobrath
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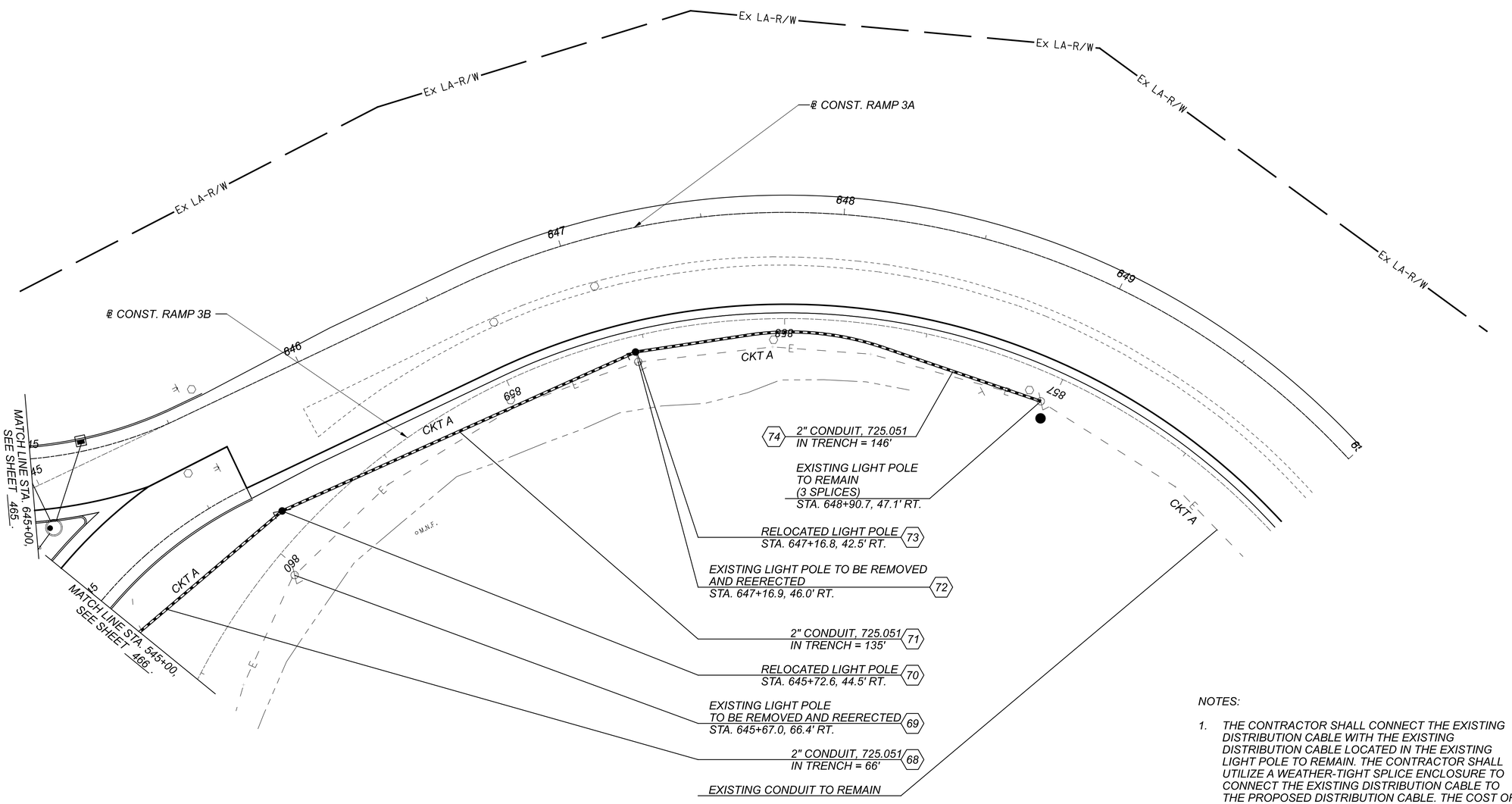

NOTES:

1. THE CONTRACTOR SHALL CONNECT THE EXISTING DISTRIBUTION CABLE WITH THE EXISTING DISTRIBUTION CABLE LOCATED IN THE EXISTING LIGHT POLE TO REMAIN. THE CONTRACTOR SHALL UTILIZE A WEATHER-TIGHT SPLICE ENCLOSURE TO CONNECT THE EXISTING DISTRIBUTION CABLE TO THE PROPOSED DISTRIBUTION CABLE. THE COST OF ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO SPLICE THE DISTRIBUTION CABLE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PROPOSED DISTRIBUTION CABLE. FOR CIRCUIT INFORMATION, SEE SHEETS 462 - 463 .
2. FOR THE LIGHTING LEGEND, SEE SHEET 464 .

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
STA. 645+00 TO END

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R0183A-I- LPI00 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:09:09 PM USER: jhobrath
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DESIGN AGENCY
GPD GROUP
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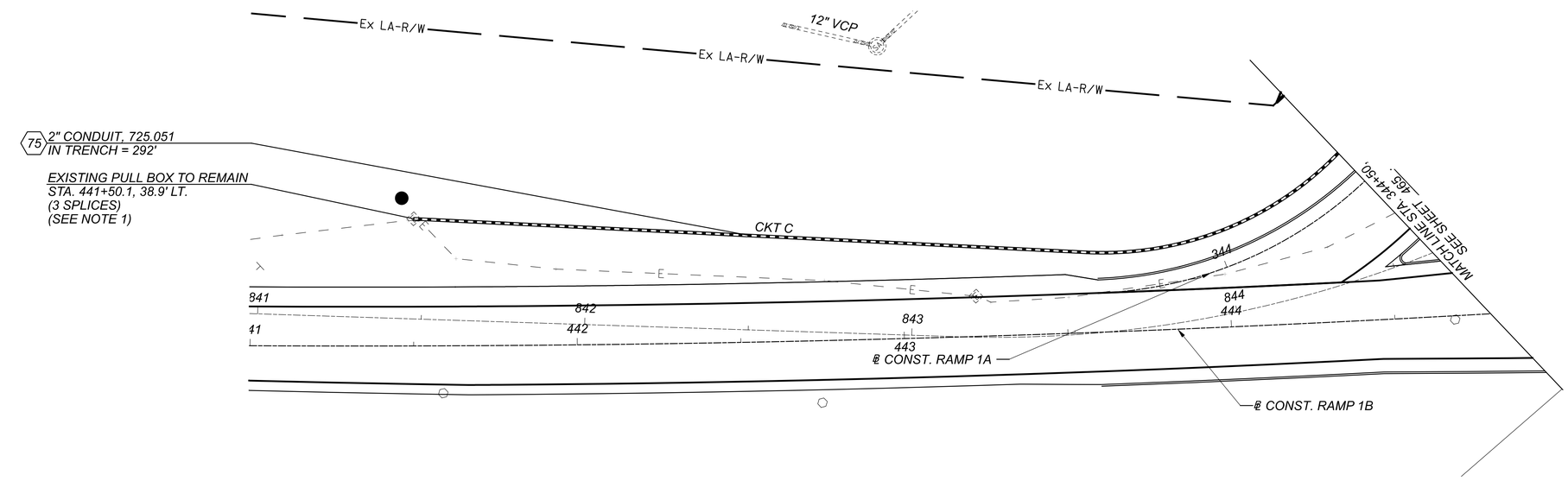
DESIGNER BEB
REVIEWER KMG 02/22/22
PROJECT ID 113889
SHEET 470 TOTAL 481



NOTES:

1. THE CONTRACTOR SHALL CONNECT THE EXISTING DISTRIBUTION CABLE WITH THE EXISTING DISTRIBUTION CABLE LOCATED IN THE EXISTING PULL BOX TO REMAIN. THE CONTRACTOR SHALL UTILIZE A WEATHER-TIGHT SPLICE ENCLOSURE TO CONNECT THE EXISTING DISTRIBUTION CABLE TO THE PROPOSED DISTRIBUTION CABLE. THE COST OF ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO SPLICE THE DISTRIBUTION CABLE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PROPOSED DISTRIBUTION CABLE. FOR CIRCUIT INFORMATION, SEE SHEETS 462 - 463 .
2. FOR THE LIGHTING LEGEND, SEE SHEET 464 .

HORIZONTAL SCALE IN FEET
0 10 20 40

LIGHTING PLAN
BEGIN TO STA. 344+50

CUY-422-16.20 (HARPER ROAD)

MODEL: BLP_R01B1B - LP200 PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:09:13 PM USER: jhobrath
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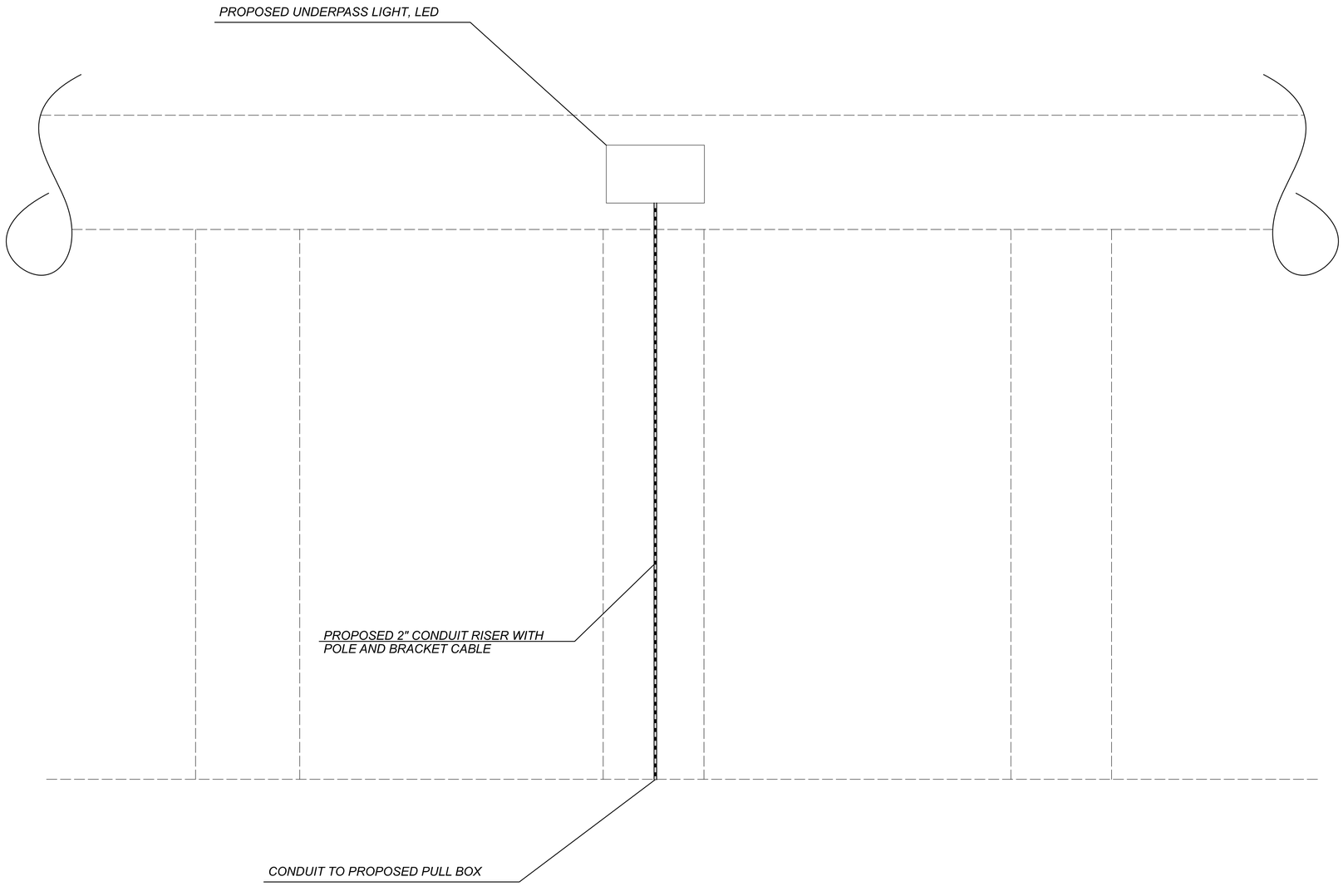
DESIGNER
BEB

REVIEWER
KMG 02/22/22

PROJECT ID
113889

SHEET 471 | TOTAL 481



TYPICAL ELEVATION SECTION
(NOT TO SCALE)

LIGHTING DETAIL

CUY-422-16.20 (HARPER ROAD)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 6/7/2023 TIME: 3:09:14 PM USER: jhobrath
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DESIGN AGENCY

GPD GROUP

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DESIGNER
BEB

REVIEWER
KMG 02/22/22

PROJECT ID
113889

SHEET 472 | TOTAL 481

STRUCTURE GENERAL NOTES

DESIGN SPECIFICATIONS:

THESE STRUCTURES CONFORM TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1965, AND "INTERIM SPECIFICATIONS", 1966-1967, ALSO INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800 DATED 7-18-25

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 518 - STRUCTURE DRAINAGE, MISC.: DRAINAGE COLLECTION SYSTEM

THIS ITEM INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL A DRAINAGE COLLECTION SYSTEM FROM THE EXISTING BRIDGE SCUPPERS TO THE PROPOSED DRAINAGE FACILITIES AT THE LOCATIONS DESIGNATED IN THE PLANS.

MATERIALS AND CONSTRUCTION PROCEDURES FOR ALL STRUCTURAL STEEL MEMBERS SHALL BE IN ACCORDANCE WITH CMS 513. MATERIALS AND CONSTRUCTION PROCEDURES FOR PAINTING OF NEW STEEL MEMBERS AND TOUCH-UP PAINTING OF EXISTING STEEL MEMBERS SHALL BE IN ACCORDANCE WITH CMS 514. MATERIALS AND CONSTRUCTION PROCEDURES FOR ALL HORIZONTAL CONDUCTORS, FITTINGS, AND HANGER ASSEMBLIES SHALL BE IN ACCORDANCE WITH CMS 518. MATERIALS AND CONSTRUCTION PROCEDURES FOR UNDERGROUND CONDUIT SHALL BE IN ACCORDANCE WITH CMS 611.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND ACCEPTANCE IN ACCORDANCE WITH CMS 501.05.B.

PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY FOR TWO (2) COMPLETED DRAINAGE COLLECTION SYSTEMS SHALL BE INCLUDED IN A LUMP SUM UNIT PRICE FOR ITEM 518 - STRUCTURE DRAINAGE, MISC.: DRAINAGE COLLECTION SYSTEM.

ITEM SPECIAL - URETHANE TOP COAT SEALER

ALL PIER 2 COLUMN SURFACES THAT ARE TO REMAIN EXPOSED SHALL RECIEVE A URETHANE TOP COAT SEALER OVER THE CURED COMPOSITE FIBER WRAP SYSTEM. ALL MATERIALS AND CONSTRUCTION PROCEDURES SHALL BE IN ACCORDANCE WITH CMS 512.

ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM

THE EXISTING PIER 2 COLUMNS SHALL BE WRAPPED WITH A COMPOSITE FIBER WRAP SYSTEM CAPABLE OF PROVIDING A CONFINING STRESS OF 0.150 KSI FOR THE ENTIRE LENGTH OF THE COLUMNS FROM TOP OF FOOTING TO BOTTOM OF PIER CAP. ALL DESIGN AND INSTALLATION WORK SHALL BE IN ACCORDANCE WITH PROPOSAL NOTE 519.

EXISTING COATINGS ON THE PIER COLUMNS SHALL BE COMPLETELY REMOVED AND ALL UNSOUND CONCRETE SHALL BE PATCHED PRIOR TO THE INSTALLATION OF THE COMPOSITE FIBER WRAP SYSTEM. REMOVAL OF EXISTING COATINGS IS CONSIDERED INCIDENTAL TO THIS ITEM. PATCHING OF UNSOUND CONCRETE SURFACES SHALL BE INCLUDED UNDER A SEPARATE ITEM.

PAYMENT FOR ALL DESIGN, LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT OF COLUMN SURFACE TREATED FOR ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM.

ITEM 518 - STRUCTURE DRAINAGE, MISC.: WEEP HOLE RECONSTRUCTION

THIS ITEM INCLUDES THE REMOVAL AND REPLACEMENT OF THE EXISTING DETERIORATED WEEP HOLES THAT OUTLET THROUGH THE EXISTING CONCRETE SLOPE PROTECTION.

THE DEPARTMENT WILL MEASURE THE WEEP HOLE RECONSTRUCTION BY EACH OUTLET LOCATION. PAYMENT WILL INCLUDE ALL MATERIAL LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS INCLUDING THE REMOVAL OF THE EXISTING PIPE, CONSTRUCTION OF THE PROPOSED PIPE AND GROUTING TO THE EXISTING STRUCTURE. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITY AT THE CONTRACT PRICE PER EACH ITEM OF 518 STRUCTURE DRAINAGE, MISC.: WEEP HOLE RECONSTRUCTION.

THIS WORK APPLIES TO THE FOLLOWING BRIDGES:
SFN 1814907
SFN 1814915

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR THE WORK NOTED ABOVE:

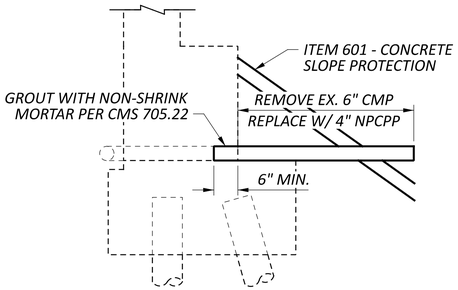
ITEM 518 - STRUCTURE DRAINAGE, MISC.: WEEP HOLE RECONSTRUCTION 24 EACH

ITEM 203 - EMBANKMENT, AS PER PLAN
ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN

THE EXISTING EMBANKMENT MATERIAL BENEATH THE EXISTING CONCRETE SLOPE PROTECTION THAT IS BEING REPLACED AS PART OF THIS PROJECT HAS BEEN WASHED OUT IN AREAS. ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN (ESTIMATED 6" BEDDING DEPTH) AND ITEM 203 - EMBANKMENT, AS PER PLAN (ESTIMATED 12" DEPTH) HAVE BEEN PROVIDED TO FILL IN THE AREAS BENEATH THE PROPOSED ITEM 601 CONCRETE SLOPE PROTECTION LIMITS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

ITEM 203 - EMBANKMENT, AS PER PLAN 392 CY
ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN 196 CY



ITEM 518: DRAINAGE MISC.: WEEP HOLE RECONSTRUCTION

STRUCTURE ESTIMATED QUANTITIES

CALCULATED: MOJ DATE: 5-25-2023
CHECKED: TJW DATE: 5-25-2023

ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	AS PER PLAN REFERENCE SHEET
203	20001	392	CY	EMBANKMENT, AS PER PLAN	392				1
203	35001	196	CY	GRANULAR EMBANKMENT, AS PER PLAN	196				1
503	21100	2	CY	UNCLASSIFIED EXCAVATION				2	
512	10100	188	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		188			
518	62200	24	EACH	STRUCTURE DRAINAGE, MISC.: WEEP HOLE RECONSTRUCTION	24				1
518	63300	LS		STRUCTURE DRAINAGE, MISC.: DRAINAGE COLLECTION SYSTEM					1
519	11100	160	SF	PATCHING CONCRETE STRUCTURE		160			
SPECIAL	512E71500	115	SY	SPECIAL - URETHANE TOP COAT SEALER		115			1
SPECIAL	519E00100	1,570	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM		1,570			1

STRUCTURE GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. CUY-422-1627L/R
U.S. 422 OVER C.R. 18 (HARPER ROAD)

SFN 1814907
SFN 1814915
DESIGN AGENCY
GPD GROUP
DESIGNER MOJ | CHECKER TJW
REVIEWER DGN 6-8-23
PROJECT ID 113889
SUBSET 1 | TOTAL 2
SHEET 473 | TOTAL 481

CUY-422-16.20 (HARPER ROAD)

MODEL: SN001 PAPERSIZE: 34x22 (in.) DATE: 10/2/2025 TIME: 11:12:16 AM USER: cluzier
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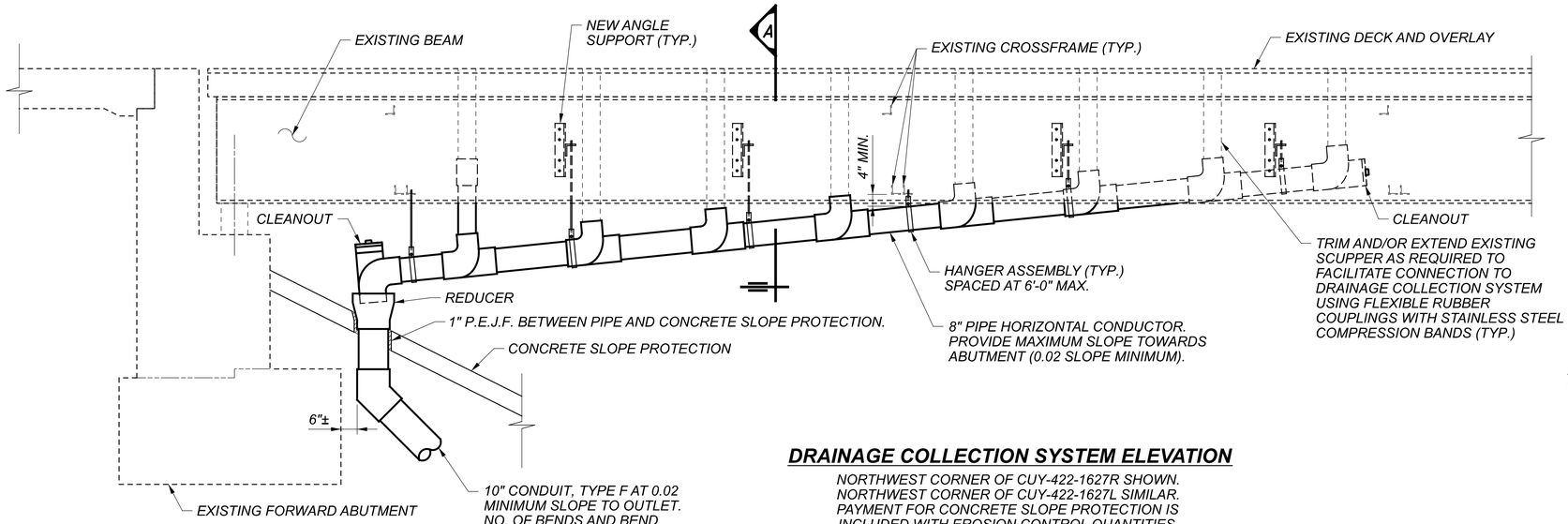
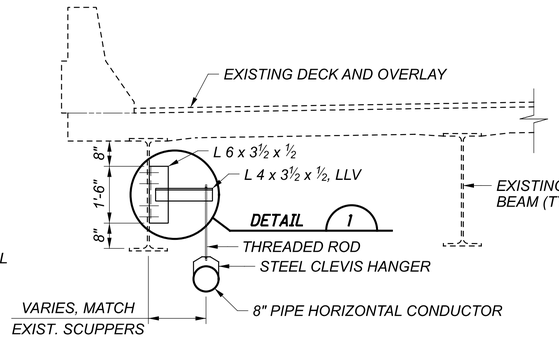
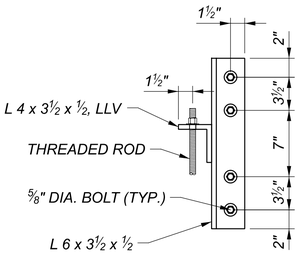


DRAINAGE COLLECTION SYSTEM ELEVATION

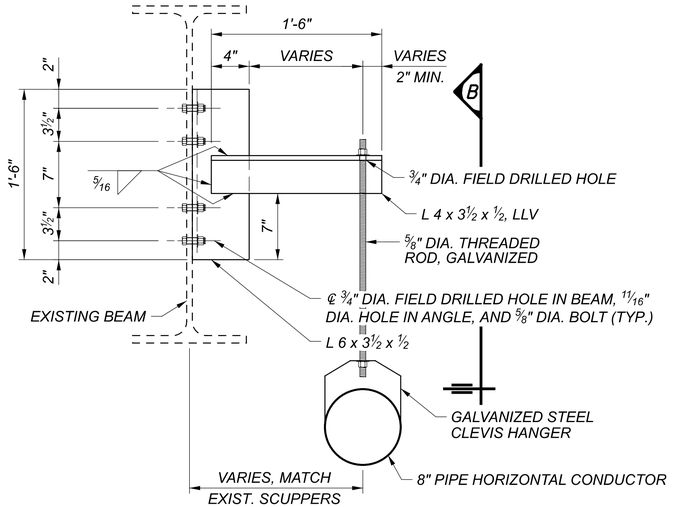
NORTHWEST CORNER OF CUY-422-1627R SHOWN.
NORTHWEST CORNER OF CUY-422-1627L SIMILAR.
PAYMENT FOR CONCRETE SLOPE PROTECTION IS INCLUDED WITH EROSION CONTROL QUANTITIES.



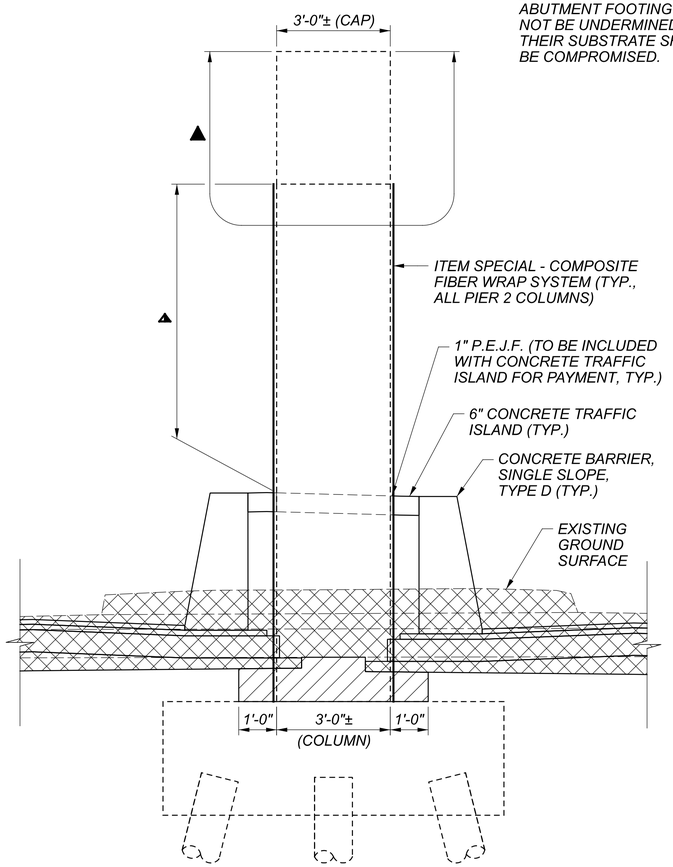
SECTION A



SECTION B



DETAIL 1



PIER 2 SECTION

PAYMENT FOR CONCRETE BARRIER AND TRAFFIC ISLAND ITEMS IS INCLUDED WITH ROADWAY AND PAVEMENT QUANTITIES.

CONDUIT OUTLET DATA:

BRIDGE	OUTLET STRUCTURE	STATION	OFFSET	INVERT ELEVATION
CUY-422-1627L	PAVED GUTTER (DAYLIGHT)	66+30.35	74.87' LT.	1058.75
CUY-422-1627R	MANHOLE (D-26)	67+25.00	64.27' LT.	1055.75

LEGEND:

- LIMITS OF REMOVAL AND EXCAVATION UNDER ROADWAY ITEMS
- LIMITS OF ITEM 503 - UNCLASSIFIED EXCAVATION
- ▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- ▲ LIMITS OF ITEM SPECIAL - URETHANE TOP COAT SEALER

NOTES:

1. PRIOR TO COMPOSITE FIBER WRAPPING OPERATIONS, ALL UNSOUND AREAS OF CONCRETE ON THE COLUMN SURFACES OF PIER 2 SHALL BE PATCHED UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE. ESTIMATED AREAS BASED ON SOUNDING DURING AN ARM'S REACH INSPECTION ARE 55 SF FOR BRIDGE CUY-422-1627L AND 105 SF FOR BRIDGE CUY-422-1627R, WHICH INCLUDE A 50% CONTINGENCY.
2. IF AN EXISTING CROSSFRAME IS IN GOOD CONDITION AND ITS SPACING FACILITATES PLACEMENT OF HANGER SUPPORTS, THEN THE HANGER MAY BE ATTACHED TO THE HORIZONTAL CROSSFRAME ANGLE IN LIEU OF A NEW ANGLE SUPPORT.
3. STEEL ANGLES SHALL BE ASTM A36, YIELD STRENGTH 36 KSI, OR BETTER.
4. HIGH STRENGTH BOLTS SHALL BE 5/8" DIAMETER ASTM F3125, GRADE A325, TYPE 1.
5. NEW STEEL MEMBERS SHALL BE FIELD PAINTED WITH A THREE-COAT PAINT SYSTEM CONSISTING OF AN INORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT, AND A URETHANE FINISH COAT.
6. PORTIONS OF THE EXISTING PROTECTIVE COATING SYSTEM THAT BECOME DAMAGED FROM CONNECTION OF HANGER ASSEMBLY MEMBERS SHALL BE FIELD PAINTED WITH A THREE-COAT PAINT SYSTEM CONSISTING OF AN ORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT, AND A URETHANE FINISH COAT.
7. THE URETHANE TOP COAT ON STEEL ITEMS SHALL BE TINTED TO CLOSELY MATCH THE COLOR AND SHEEN OF THE EXISTING BEAMS.
8. ALL ITEMS REQUIRED TO INSTALL THE DRAINAGE COLLECTION SYSTEM AT THE NORTHEAST CORNER OF BRIDGES CUY-422-1627L/R (TWO LOCATIONS) SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 518 - STRUCTURE DRAINAGE, MISC.: DRAINAGE COLLECTION SYSTEM. APPROXIMATE QUANTITIES FOR DRAINAGE COLLECTION SYSTEM ITEMS ARE AS FOLLOWS (FOR INFORMATION ONLY):

BRIDGE:	CUY-422-1627L,	CUY-422-1627R
HANGER ASSEMBLIES:	6 EACH,	6 EACH
8" PIPE HORIZONTAL CONDUCTOR:	30 FT,	30 FT
10" CONDUIT, TYPE F:	35 FT,	50 FT
1" P.E.J.F.	2 SF,	2 SF

CUY-422-16.20 (HARPER ROAD)

MODEL: SS001 PAPERSIZE: 34x22 (in.) DATE: 7/14/2025 TIME: 7:41:22 AM USER: mjurcak
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STRUCTURE DETAILS
BRIDGE NO. CUY-422-1627L/R
U.S. 422 OVER C.R. 18 (HARPER ROAD)

SFN	1814907
SFN	1814915
DESIGN AGENCY	GPD GROUP
DESIGNER	MOJ
CHECKER	TJW
REVIEWER	DGN 6-8-23
PROJECT ID	113889
SUBSET	2
TOTAL	2
SHEET	474
TOTAL	481

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PROJECT DESCRIPTION

THIS PROJECT, CUY-HARPER RD, IS THE RECONFIGURATION OF THE US-422 WESTBOUND INTERCHANGE AT HARPER ROAD IN THE CITY OF SOLON, CUYAHOGA COUNTY, OHIO. ASPECTS OF THE PROJECT INCLUDE IMPROVING THE INTERCHANGE TO A DIVERGING DIAMOND INTERCHANGE (DDI), ELIMINATING THE EXISTING NORTHBOUND TO WESTBOUND LOOP RAMP, AND LENGTHENING THE EXISTING TURN LANES ON THE US-422 WESTBOUND EXIT RAMP.

HISTORIC RECORDS

TWO HISTORIC BORINGS DRILLED FOR PROJECT CUY-422-13.73 (US 422 BRIDGE OVER HARPER ROAD) ARE PRESENTED ON THIS SOIL PROFILE. DUE TO THEM BEING STRUCTURE BORINGS AND THIS IS A ROADWAY PROJECT, ONLY A PORTION OF THE TOTAL DEPTH OF THE HISTORIC BORINGS IS SHOWN FOR PURPOSES OF CLARITY.

GEOLOGY

THIS SITE IS LOCATED IN THE AKRON CANTON INTERLOBATE PLATEAU OF THE GLACIATED ALLEGHENY PLATEAUS SECTION OF THE APPALACHIAN PLATEAU PHYSIOGRAPHIC PROVINCE. THE TOPOGRAPHY OF THIS ARE IS FLAT TO ROLLING.

THE SOILS IN THIS AREA ARE GLACIAL IN ORIGIN. THE SOILS ARE LAVERY TILL, WHICH IS A GROUND MORAINE, CONSISTING OF SILT AND CLAY WITH SOME SAND. THE ARE WISCONSIN IN AGE.

BEDROCK IN THIS AREA IS APPROXIMATELY 75 FEET BELOW THE SURFACE. THE BEDROCK IS MISSISSIPPIAN IN AGE AND CONSISTS OF SHALE AND SANDSTONE.

RECONNAISSANCE

A SITE VISIT WAS CONDUCTED ON NOVEMBER 10, 2020. THE LAND USAGE AROUND THE PROJECT IS DOMINATED BY THE HIGHWAY INTERCHANGE WITH A CHURCH AND FIRE STATION NEAR THE NORTH END OF THE PROJECT LIMITS AND COMMERCIAL PROPERTIES NEAR THE SOUTH END OF THE PROJECT LIMITS. THE PAVEMENT SURFACE SHOWS DISTRESS SUCH AS LONGITUDINAL AND TRANSVERSE CRACKING WITH SPALLING, JOINT SEAL DAMAGE, AND REFLECTIVE AND ALLIGATOR CRACKING. SPALLED CRACKS ARE SOMETIMES FILLED WITH ASPHALT PATCH. THE GRADE OF HARPER RD FALLS 17 FEET FROM NORTH TO SOUTH. US 422 ENTRANCE RAMPS RISE TO MEET THE HIGHWAY WHILE US 422 EXIT RAMPS FALL TO MEET HARPER ROAD.

SUBSURFACE EXPLORATION

FOURTEEN (14) TEST BORINGS WERE COMPLETED AS PART OF THIS SUBSURFACE EXPLORATION ON NOVEMBER 19 AND 20, 2020. THE BORINGS WERE DRILLED WITH A TRUCK OR ATV MOUNTED ROTARY DRILL RIG, USING 2¼-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE HOLES THROUGH SOIL. DISTURBED SOIL SAMPLES WERE OBTAINED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT CONTINUOUS 1.5-FOOT SAMPLES IN THE UPPER 6 FEET OF SUBGRADE. TWO DRILL RIGS USED WITH HAMMERS CALIBRATED ON JULY 29, 2019 AND HAVING DRILL ROD ENERGIES OF 81.9 % AND 83.7%. NO UNDISTURBED SAMPLES, AUGER SAMPLES, OR ROCK CORING WAS PERFORMED AS PART OF THIS SUBSURFACE EXPLORATION.

EXPLORATION FINDINGS

BETWEEN 4.5 AND 8.5 FEET OF FILL SOIL WAS ENCOUNTERED AT THE SUBGRADE SURFACE AT 12 OF THE 14 BORING LOCATIONS, WITH THE OTHER TWO LOCATIONS DESIGNATED AS POSSIBLE FILL MATERIAL. THE FILL MATERIAL VARIED IN COMPOSITION WITH BOTH GRANULAR AND COHESIVE SOILS ENCOUNTERED, CLASSIFIED AS ODOT A-1-A, A-1-B, A-2-4, A-4A, A-6A, AND A-7-6. THICKER LAYERS OF CRUSHED LIMESTONE OR GRAVEL WERE ENCOUNTERED AT BORINGS B-001-0-20, B-010-0-20, AND B-014-0-20.

BELOW THE FILL SOIL, MAINLY COHESIVE SOIL WAS ENCOUNTERED, GENERALLY CLASSIFIED AS ODOT A-4A AND A-6A.
GROUNDWATER WAS MEASURED BETWEEN 4.5 AND 8.5 FEET BELOW EXISTING GRADES AT BORINGS B-001-0-20, B-006-0-20, B-007-0-20 AND B-009-0-20. THE OTHER BORING LOCATIONS WERE DRY AT THE TIME OF DRILLING OPERATIONS.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATION, DATED JULY 2020.

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	*A-1-a*	-	*3*
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	*A-1-b*	*2*	*2*
GRAVEL AND/OR ST. FRAGS. WITH SAND AND SILT	*A-2-4*	*1*	*1*
SANDY SILT	*A-4a*	*15*	*14*
SILT AND CLAY	*A-6a*	*9*	*15*
CLAY	*A-7-6*	*1*	*2*
	TOTAL	*28*	*37*
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	*VISUAL*		
TOPSOIL = X = APPROXIMATE THICKNESS	*VISUAL*		

EXPLORATION LOCATION - PLAN VIEW

HISTORIC BORING LOCATION - PLAN VIEW - CUY-422-13.73, 1965

WC — INDICATES WATER CONTENT IN PERCENT.

N_{60} — INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60 % DRILL ROD ENERGY RATIO.

N — INDICATES STANDARD PENETRATION RESISTANCE.

SS — INDICATES A SPLIT-SPOON SAMPLE.

NP — INDICATES A NON-PLASTIC SAMPLE.

X/D" — NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT):
X/D" = NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.

HISTORIC BORING DESCRIPTIONS	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR ST. FRAGS. W/SAND & SILT	*A-2-4*	-	*4*
	TOTAL	-	*4*

LOCATION MAP

SCALE IN MILES

0 1/32 1/16 3/32 1/8

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 MAX.
HARPER RD. BEGIN	66+50	4	4	-	<1 FT	<1 FT
HARPER RD. 66+50	END	5	5	-	<1 FT	<1 FT
RAMP 1B 437+67	446+40	6	6	-	<1 FT	<1 FT
RAMP 3A 645+00	654+00	7	7	-	<1 FT	<1 FT

RECON. - MSR 11/10/20
DRILLING - PS 11/19/20 AND 11/20/20
DRAWN - MSR 08/16/21 - 04/15/22
REVIEWED - MRR 08/19/21, 02/09/22, 04/15/22

SOIL PROFILE

CUY-HARPER RD

DESIGN AGENCY

ECS

DESIGNER MSR

REVIEWER MRR 04-15-22

PROJECT ID 113889

1 / 7

SHEET 475 TOTAL 481

SUMMARY OF SOIL TEST DATA
HARPER ROAD

EXPLORATION NO., STATION & OFFSET	FROM TO	SAMPLE ID	N60	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)		ppm SO4
B-001-0-20	01.00 - 02.50	SS-1	24	78	-	MED. DENSE, BROWN, GRAVEL AND/OR STONE FRAGS								5	A-1-a	(VISUAL)	
STA. 58+38, 5' RT.	02.50 - 04.00	SS-2	6	89	0.50	21	10	20	30	19	27	20	7	15	A-4a	(3)	240
LATITUDE = 41.408437	04.00 - 05.50	SS-3	15	67	2.50	6	4	13	35	42	31	17	14	15	A-6a	(10)	
LONGITUDE = -81.466720	05.50 - 07.00	SS-4	18	44	3.00	SAME AS SS-3								16	A-6a	(VISUAL)	
B-002-0-20	00.00 - 00.50	SS-1A	11	100	-	TOPSOIL								-	-		
STA. 62+11, 76' RT.	00.50 - 01.50	SS-1B			1.50	1	4	37	58		25	16	9	22	A-4a	(5)	<100
LATITUDE = 41.407419	01.50 - 03.00	SS-2	18	100	1.75	SAME AS SS-1B								16	A-4a	(VISUAL)	
LONGITUDE = -81.467007	03.00 - 04.50	SS-3	12	100	1.50	6	4	27	42	21	NP	NP	NP	13	A-4a	(6)	
	04.50 - 06.00	SS-4	11	100	1.50	SAME AS SS-3								14	A-4a	(VISUAL)	
	08.50 - 10.00	SS-5	15	100	2.00	STIFF, GRAY, SILTY CLAY, MOIST								17	A-6a	(VISUAL)	
B-003-0-20	00.00 - 00.50	SS-1A	10	100	-	TOPSOIL								-	-		
STA. 62+35, 67' LT.	00.50 - 01.50	SS-1B			0.50	40	9	13	21	17	31	21	10	17	A-4a	(1)	300
LATITUDE = 41.407343	01.50 - 03.00	SS-2	10	100	1.50	0	2	16	39	43	41	19	22	13	A-7-6	(13)	
LONGITUDE = -81.466489	03.00 - 04.50	SS-3	7	100	1.50	SAME AS SS-2								18	A-7-6	(VISUAL)	
	04.50 - 06.00	SS-4	7	100	1.25	SAME AS SS-2								21	A-7-6	(VISUAL)	
	08.50 - 10.00	SS-5	15	100	-	MEDIUM DENSE, GRAY, SILTY SAND, WET								20	A-2-4	(VISUAL)	
B-004-0-20	00.00 - 00.50	SS-1A	12	100	-	TOPSOIL								-	-		
STA. 63+29, 75' RT.	00.50 - 01.50	SS-1B			2.00	SAME AS SS-3								14	A-4a	(VISUAL)	
LATITUDE = 41.407101	01.50 - 03.00	SS-2	19	100	2.00	SAME AS SS-3								15	A-4a	(VISUAL)	
LONGITUDE = -81.467020	03.00 - 04.50	SS-3	22	100	2.50	22	11	15	31	21	23	17	6	14	A-4a	(3)	400
	04.50 - 06.00	SS-4	25	100	2.50	7	5	8	41	39	28	18	10	12	A-4a	(8)	
	08.50 - 10.00	SS-5	19	100	2.50	SAME AS SS-4								12	A-4a	(VISUAL)	
B-005-0-20	00.00 - 00.50	SS-1A	18	100	-	TOPSOIL								-	-		
STA. 63+49, 60' LT.	00.50 - 01.50	SS-1B			1.50	14	8	34	24	20	20	15	5	15	A-4a	(2)	120
LATITUDE = 41.407026	01.50 - 02.08	SS-2	50/1"	86	-	SAME AS SS-1B								10	A-4a	(VISUAL)	
LONGITUDE = -81.466533	03.00 - 04.50	SS-3	8	100	1.50	5	6	13	42	34	24	19	5	19	A-4a	(8)	
	04.50 - 06.00	SS-4	14	100	1.50	SAME AS SS-3								17	A-4a	(VISUAL)	
	08.50 - 10.00	SS-5	20	100	2.50	VERY STIFF, BROWN, SILTY CLAY, MOIST								13	A-6a	(VISUAL)	
B-006-0-20	01.50 - 03.00	SS-1	11	100	1.50	6	5	14	40	35	34	22	12	18	A-6a	(9)	760
STA. 67+62, 17' RT.	03.00 - 04.50	SS-2	24	100	2.25	8	9	19	32	32	28	17	11	31	A-6a	(6)	
LATITUDE = 41.405919	04.50 - 05.50	SS-3A	10	100	1.50	SAME AS SS-2								23	A-6a	(VISUAL)	
LONGITUDE = -81.466986	05.50 - 06.00	SS-3B			1.50												
	06.00 - 07.50	SS-4	7	33	1.50	STIFF TO VERY STIFF, GRAY, SANDY SILT								22	A-4a	(VISUAL)	
	07.50 - 09.00	SS-5	28	67	3.00	SAME AS SS-4								13	A-4a	(VISUAL)	
B-007-0-20	00.00 - 01.50	SS-1	16	78	2.00	15	7	14	31	33	22	15	7	13	A-4a	(6)	1480
STA. 68+60, 101' RT.	01.50 - 03.00	SS-2	16	44	1.75	11	9	18	33	29	21	14	7	14	A-4a	(5)	
LATITUDE = 41.405699	03.00 - 04.50	SS-3	11	78	1.75	SAME AS SS-2								33	A-4a	(VISUAL)	
LONGITUDE = -81.467348	04.50 - 06.00	SS-4	18	100	2.00	SAME AS SS-2								14	A-4a	(VISUAL)	
	08.50 - 10.00	SS-5	30	100	3.00	VERY STIFF, GRAY, SILTY CLAY "AND" GRAVEL								9	A-6a	(VISUAL)	
B-008-0-20	00.00 - 00.50	SS-1A	11	100	-	TOPSOIL								-	-		
STA 68+97, 61' LT.	00.50 - 01.50	SS-1B			1.50	7	6	12	32	43	28	18	10	14	A-4a	(8)	<100
LATITUDE = 41.405511	01.50 - 02.25	SS-2	50/3"	100	-	6	6	13	33	42	31	18	13	13	A-6a	(9)	
LONGITUDE = -81.466795	03.00 - 03.42	SS-3	50/5"	100	-	SAME AS SS-2								6	A-6a	(VISUAL)	
	04.50 - 06.00	SS-4	46	100	3.00	HARD, BROWN, SILT AND CLAY, MOIST								10	A-6a	(VISUAL)	
	08.50 - 08.92	SS-5	50/4"	50	-	SAME AS SS-4								1	A-6a	(VISUAL)	
B-009-0-20	00.00 - 00.50	SS-1A	10	100	-	TOPSOIL								-	-		
STA. 70+23, 82' LT.	00.50 - 01.50	SS-1B			1.50	17	4	9	34	36	32	20	12	13	A-6a	(8)	380
LATITUDE = 41.405156	01.50 - 03.00	SS-2	33	100	2.75	SAME AS SS-1B								11	A-6a	(VISUAL)	
LONGITUDE = -81.466824	03.00 - 03.75	SS-3	50/3"	89	-	8	7	18	35	32	32	20	12	10	A-6a	(7)	
	04.50 - 06.00	SS-4	10	67	2.00	SAME AS SS-3								9	A-6a	(VISUAL)	
	08.50 - 10.00	SS-5	16	78	2.75	VERY STIFF, GRAY, SILT AND CLAY, MOIST								10	A-6a	(VISUAL)	
B-010-0-20	02.00 - 03.50	SS-1	15	78	-	SAME AS SS-2								15	A-1-b	(VISUAL)	
STA. 73+46, 4' LT.	03.50 - 05.00	SS-2	17	100	-	25	33	31	4	7	NP	NP	NP	10	A-1-b	(0)	<100
LATITUDE = 41.404351	05.00 - 06.50	SS-3	21	100	-	23	31	33	7	6	NP	NP	NP	17	A-1-b	(0)	
LONGITUDE = -81.467408	06.50 - 08.00	SS-4	15	100	-	SAME AS SS-3								18	A-1-b	(VISUAL)	

SUMMARY OF SOIL TEST DATA
RAMP 1B

EXPLORATION NO., STATION & OFFSET	FROM TO	SAMPLE ID	N_{60}	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)		ppm SO_4
B-011-0-20	02.50 - 04.00	SS-1	20	44	2.50	18	13	18	29	22	26	17	9	11	A-4a	(3)	<100
STA. 440+45, 15' RT.	04.00 - 05.50	SS-2	27	100	2.50			SAME AS SS-1						9	A-4a	(VISUAL)	
LATITUDE = 41.408115	05.50 - 07.00	SS-3	18	86	2.00			SAME AS SS-1						12	A-4a	(VISUAL)	
LONGITUDE = -81.468381	07.00 - 08.50	SS-4	24	100	2.50	14	6	12	45	23	23	15	8	14	A-4a	(3)	
B-012-0-20	02.50 - 04.00	SS-1	29	89	3.25	24	6	15	26	29	30	18	12	22	A-6a	(5)	2600
STA. 442+67, 3' RT.	04.00 - 05.50	SS-2	35	89	3.50			SAME AS SS-1						12	A-6a	(VISUAL)	
LATITUDE = 41.407671	05.50 - 07.00	SS-3	35	100	3.50	4	5	14	42	35	40	26	14	10	A-6a	(10)	
LONGITUDE = -81.467828	07.00 - 08.50	SS-4	24	100	3.50			SAME AS SS-3						13	A-6a	(VISUAL)	

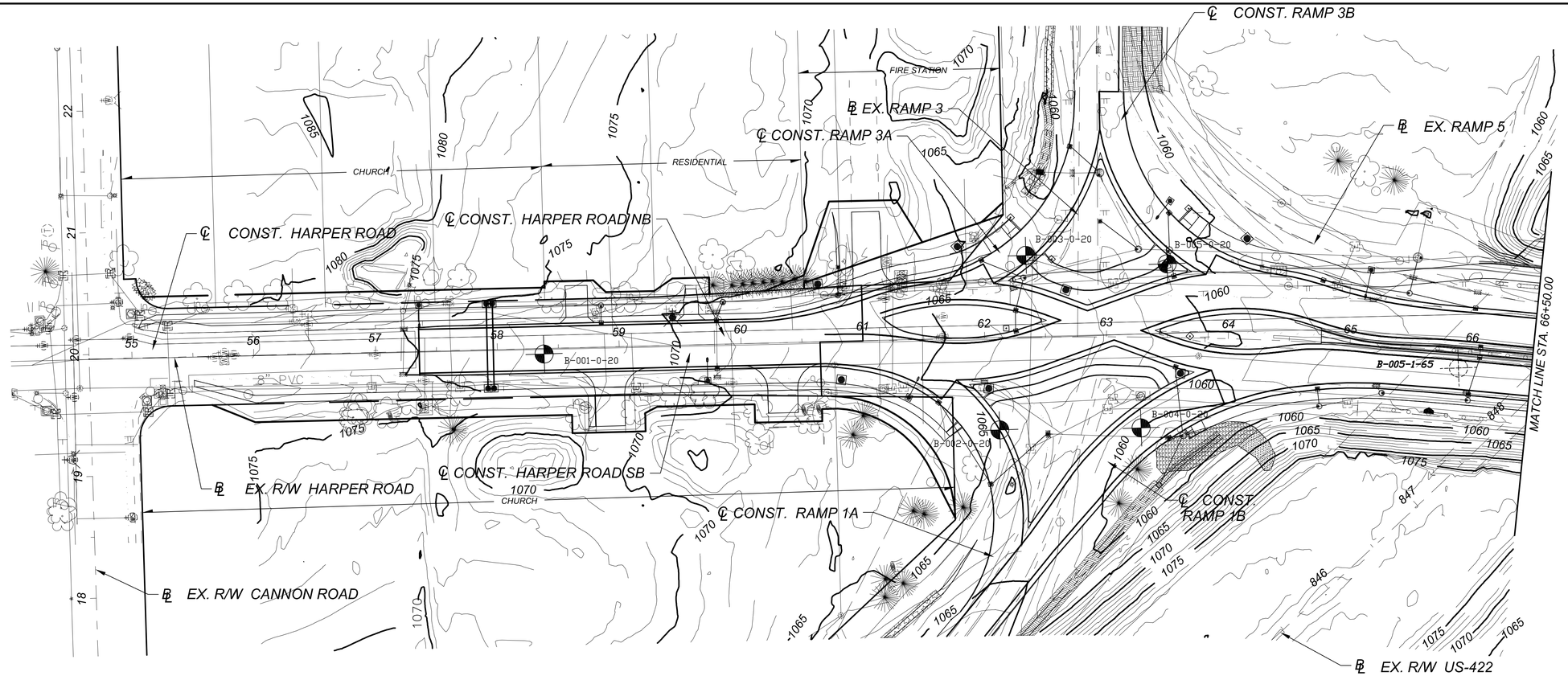
SUMMARY OF SOIL TEST DATA
RAMP 3A

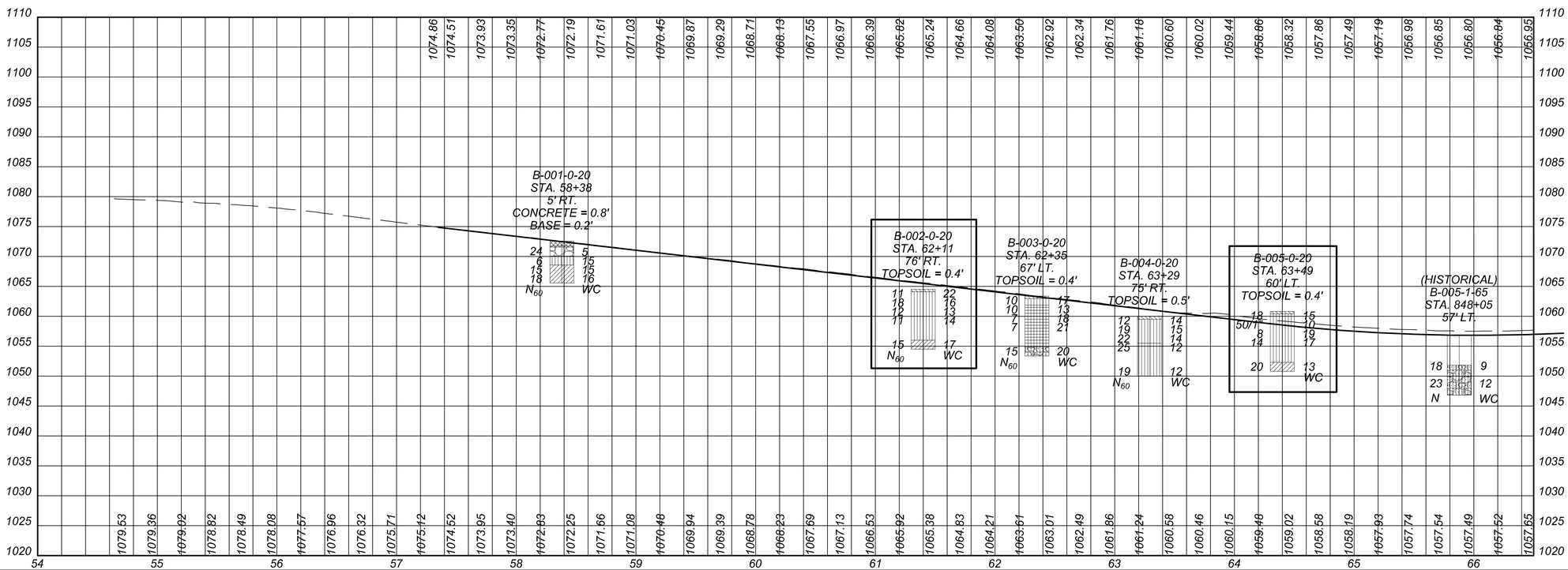
EXPLORATION NO., STATION & OFFSET	FROM TO	SAMPLE ID	N_{60}	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)		ppm SO_4
B-013-0-20	02.50 - 04.00	SS-1	25	100	2.50	30	8	23	19	20	27	15	12	12	A-6a	(1)	240
STA. 647+58, 1' RT.	04.00 - 05.50	SS-2	18	100	2.50	28	12	16	25	19	27	19	8	4	A-4a	(2)	
LATITUDE = 41.407128	05.50 - 07.00	SS-3	13	100	2.00			SAME AS SS-2						16	A-4a	(VISUAL)	
LONGITUDE = -81.465314	07.00 - 08.50	SS-4	7	78	1.75	MEDIUM STIFF TO STIFF, GRAY, SILTY CLAY, MOIST								18	A-6a	(VISUAL)	
	08.50 - 10.00	SS-5	13	78	1.75	SAME AS SS-4								17	A-6a	(VISUAL)	
B-014-0-20	01.50 - 03.00	SS-1	13	67	-	MED. DENSE, BROWN, GRAVEL AND/OR STONE FRAGS								6	A-1-a	(VISUAL)	
STA. 650+11, 22' RT.	03.00 - 04.50	SS-2	10	67	-	SAME AS SS-1								6	A-1-a	(VISUAL)	
LATITUDE = 41.406599	04.50 - 06.00	SS-3	24	67	2.25	21	10	18	28	23	26	19	7	14	A-4a	(3)	360
LONGITUDE = -81.464831	06.00 - 07.50	SS-4	25	100	-	43	14	14	17	12	28	21	7	17	A-2-4	(0)	

SUMMARY OF SOIL TEST DATA
HARPER ROAD HISTORIC BORINGS

EXPLORATION NO., STATION & OFFSET	FROM TO	SAMPLE ID	N	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS
B-005-1-65	04.00 - 06.00	SS-1	18	59	7	13	15	6	NP	NP	NP	9	A-2-4
BL CONST. HARPER ROAD, STA 65+88, 25' RT.	06.00 - 08.00	SS-2	23	56	14	11	12	7	NP	NP	NP	12	A-2-4
(BL EX. HARPER ROAD, STA. 848+05, 57' LT.)													
B-012-1-65	04.00 - 06.00	SS-1	22	31	15	21	23	10	NP	NP	NP	25	A-2-4
BL CONST. HARPER ROAD, STA. 67+92, 154' LT.	06.00 - 08.00	SS-2	28	50	21	11	- 18 -		NP	NP	NP	13	A-2-4
(BL EX. HARPER ROAD, STA. 850+39, 60' RT.)													

SOIL PROFILE
SUMMARY OF SOIL TEST DATA





CUY-HARPER RD

HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN & PROFILE - HARPER ROAD
BEGIN TO STA. 66+50.00

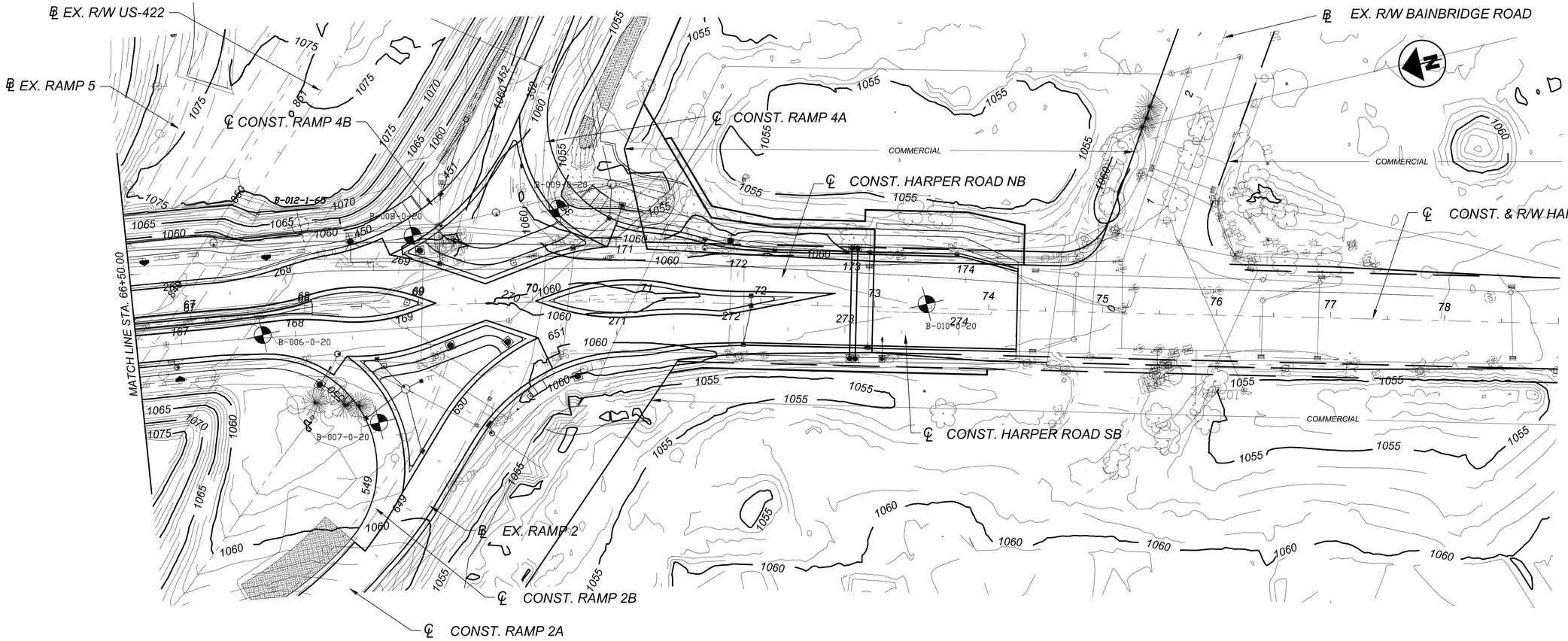
DESIGN AGENCY
ECS

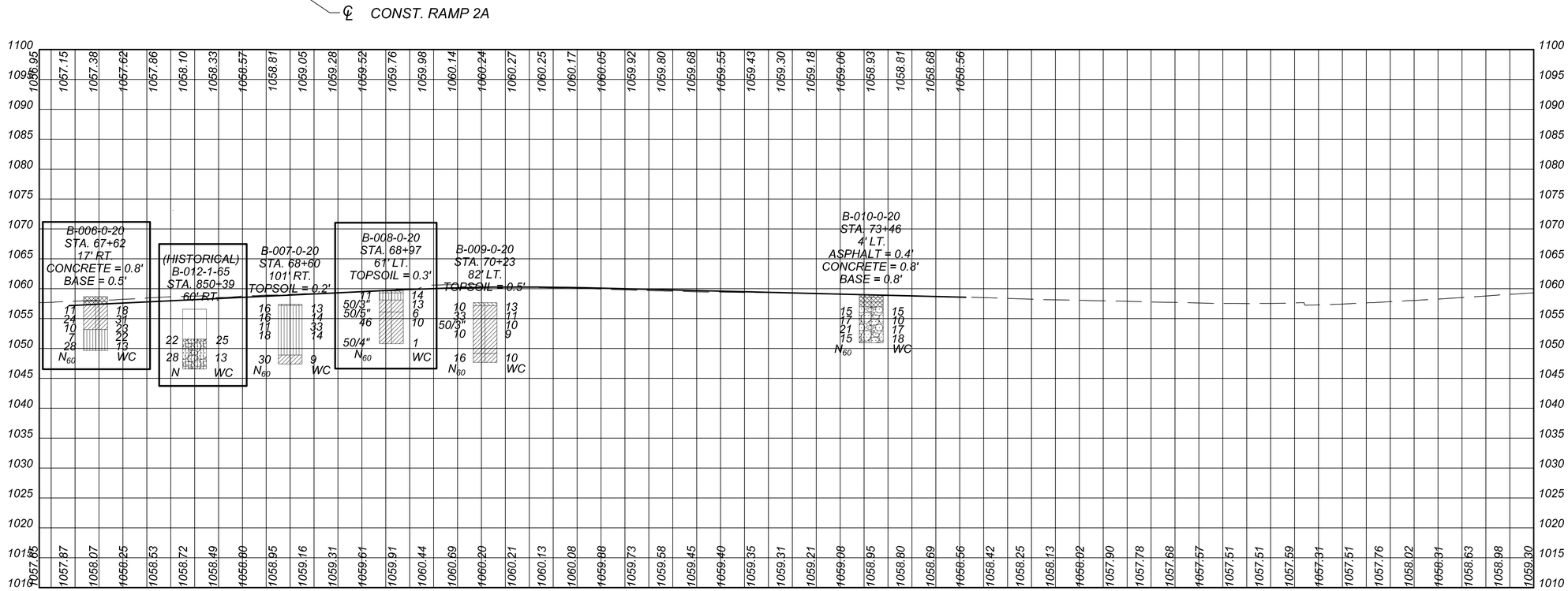
DESIGNER
MSR

REVIEWER
MRR 04-15-22

PROJECT ID
113889

SHEET 478 | TOTAL 481





HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN AND PROFILE - HARPER ROAD
STA. 66+50.00 TO END

CUY-HARPER RD

DESIGN AGENCY

DESIGNER MSR

REVIEWER MRR 04-15-22

PROJECT ID 113889

SHEET 5 | TOTAL 7

SHEET 479 | TOTAL 481

CUY-HARPER RD

℄ CONST. RAMP 3A

℄ CONST. RAMP 3B

℄ CONST. HARPER ROAD SB

℄ CONST. RAMP 1A

℄ EX. RAMP 5

CHURCH

℄ EX. RAMP 1

℄ CONST. RAMP 1B

℄ CONST. HARPER ROAD NB

℄ EX. R/W US-422

℄ EX. RAMP 2

B-003-0-20

B-005-0-20

B-002-0-20

B-004-0-20

B-012-0-20

B-011-0-20

B-011-0-20
STA. 440+45
15' RT.
ASPHALT = 0.4'
CONCRETE = 0.7'
BASE = 1.0'

20	11
27	9
18	12
24	14
N_{60}	WC

B-012-0-20
STA. 442+67
3' RT.
ASPHALT = 0.4'
CONCRETE = 0.8'
BASE = 1.0'

29	22
35	12
35	10
24	13
N_{60}	WC

HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN AND PROFILE RAMP 1B

DESIGN AGENCY

ECS

DESIGNER MSR

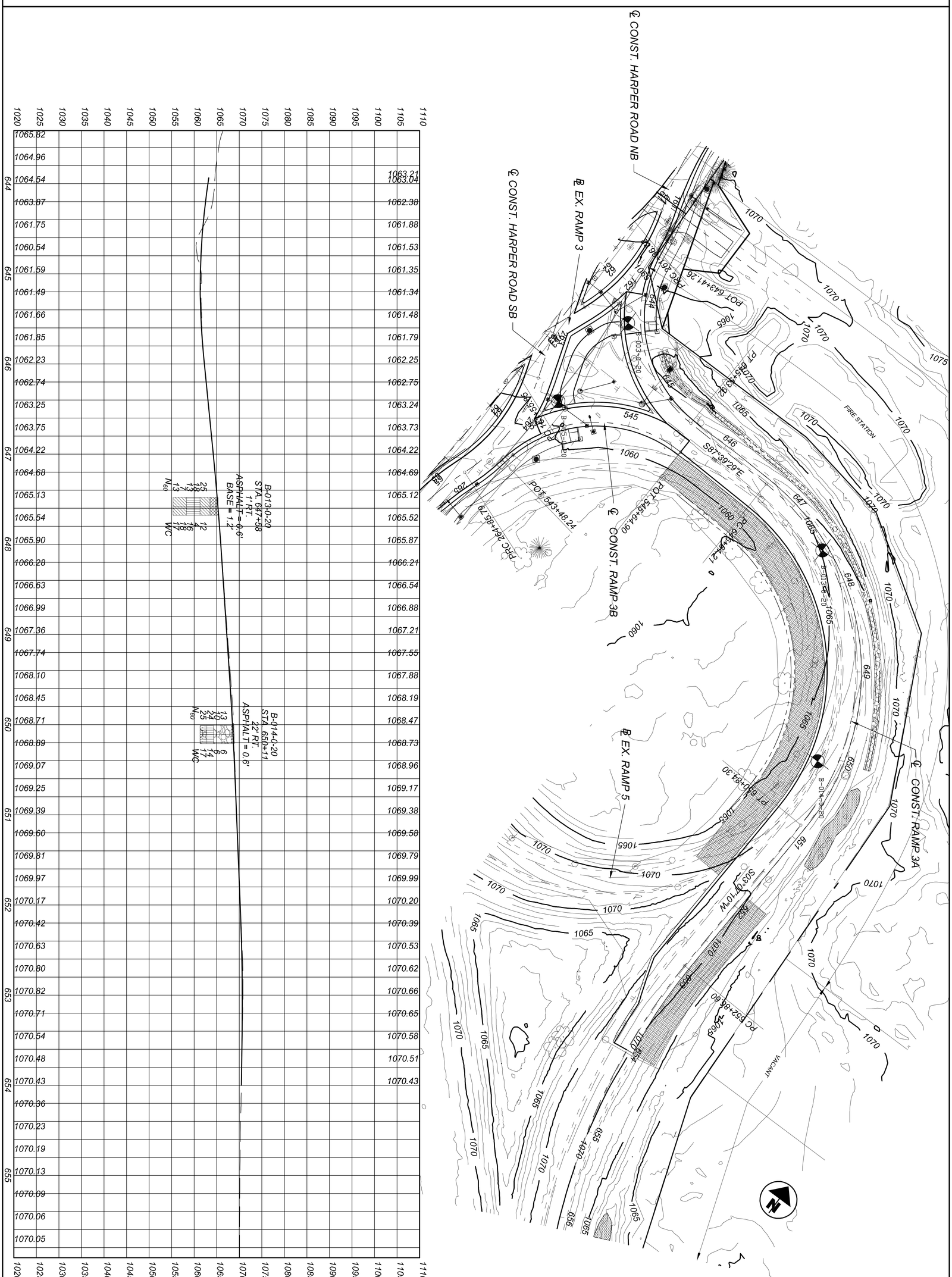
REVIEWER MRR 04-15-22

PROJECT ID 113889

6 / 7

SHEET 480 | TOTAL 481

CUY-HARPER RD



DESIGNER	DESIGN AGENCY
MSR	
REVIEWER	
MPR 04-15-22	
PROJECT ID	
113889	
SHEET	TOTAL
481	481

PLAN AND PROFILE
RAMP 3A

HORIZONTAL SCALE IN FEET
0 50
25 100