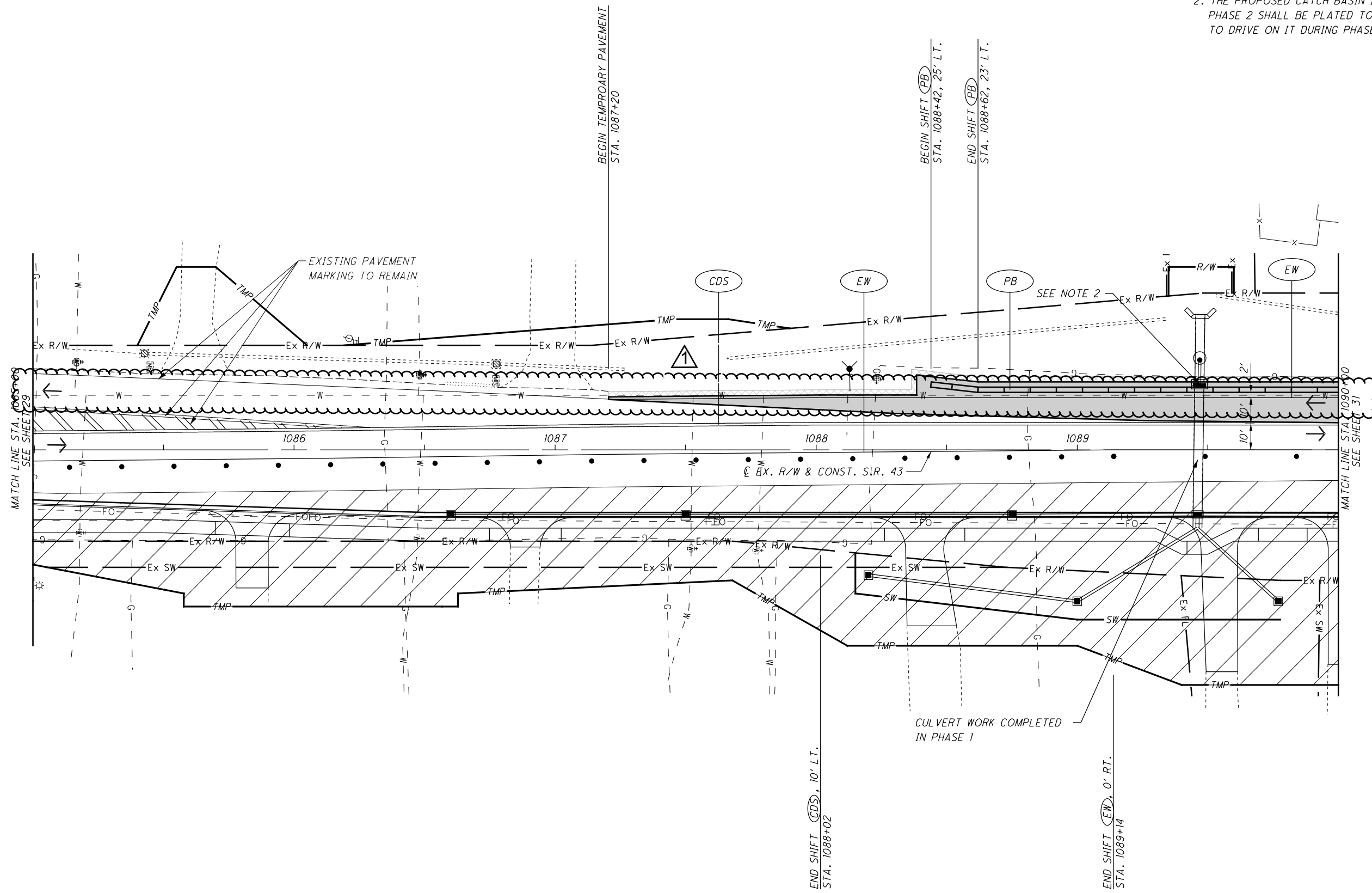


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▲ ADDENDUM #1 - REVISED 9-19-22



- NOTES:
1. THE CONTRACTOR SHALL COVER CONFLICTING SIGNING AND COVER OR REMOVE CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
 2. THE PROPOSED CATCH BASIN INSTALLED IN PHASE 2 SHALL BE PLATED TO ALLOW VEHICLES TO DRIVE ON IT DURING PHASE 3.

CALCULATED MBK CHECKED KRM

0 20 40
10' HORIZONTAL SCALE IN FEET

▲

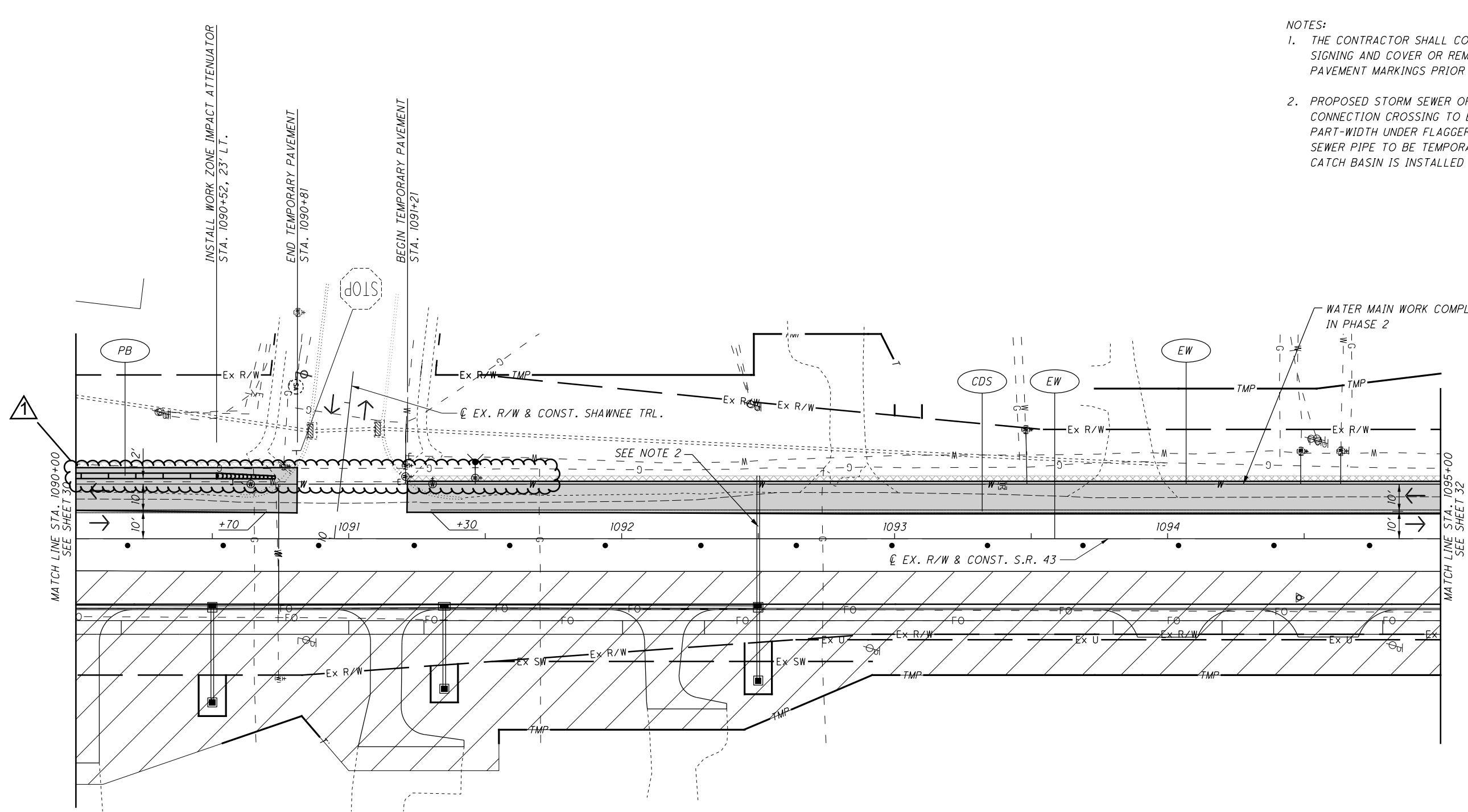
MAINTENANCE OF TRAFFIC - PHASE 3
STA. 1085+00 TO STA. 1090+00

POR-43-18.65

FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 28.

O:\2018\2018202\POR\06416\Design\M01\Sheets\06416MP004.dgn Design 9/19/2022 2:43:46 PM mthomas

▲ ADDENDUM #1 - REVISED 9-19-22



- NOTES:
1. THE CONTRACTOR SHALL COVER CONFLICTING SIGNING AND COVER OR REMOVE CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
 2. PROPOSED STORM SEWER OR WATER SERVICE CONNECTION CROSSING TO BE COMPLETED PART-WIDTH UNDER FLAGGER CONTROL. STORM SEWER PIPE TO BE TEMPORARILY PLUGGED UNTIL CATCH BASIN IS INSTALLED IN PHASE 4.

CALCULATED MBK
CHECKED KRM

0 20 40
HORIZONTAL SCALE IN FEET

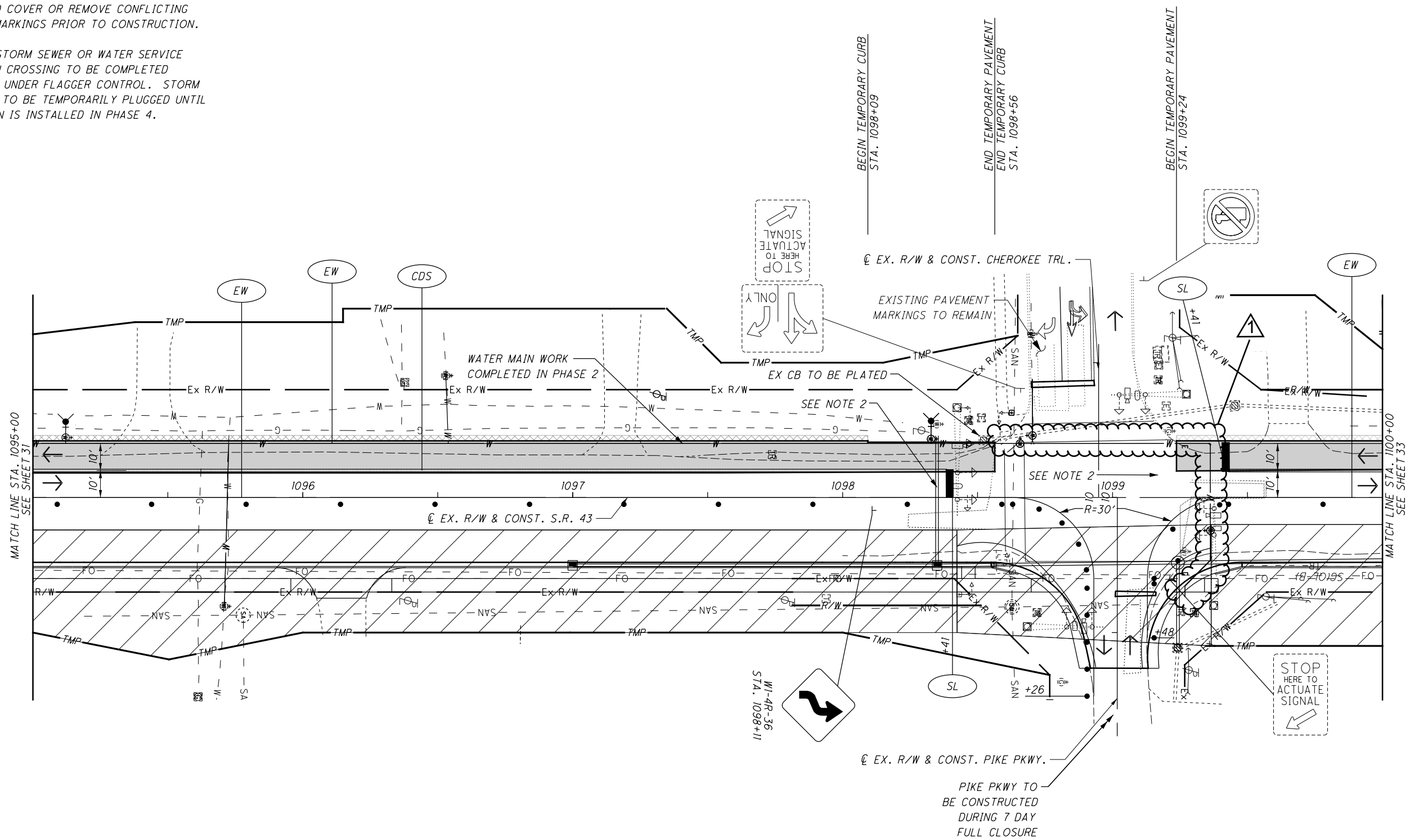
MAINTENANCE OF TRAFFIC - PHASE 3
STA. 1090+00 TO 1095+00

POR-43-18.65

FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 28.

NOTES:

1. THE CONTRACTOR SHALL COVER CONFLICTING SIGNING AND COVER OR REMOVE CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
2. PROPOSED STORM SEWER OR WATER SERVICE CONNECTION CROSSING TO BE COMPLETED PART-WIDTH UNDER FLAGGER CONTROL. STORM SEWER PIPE TO BE TEMPORARILY PLUGGED UNTIL CATCH BASIN IS INSTALLED IN PHASE 4.



CALCULATED MBK CHECKED KRM

0 20 40
HORIZONTAL SCALE IN FEET

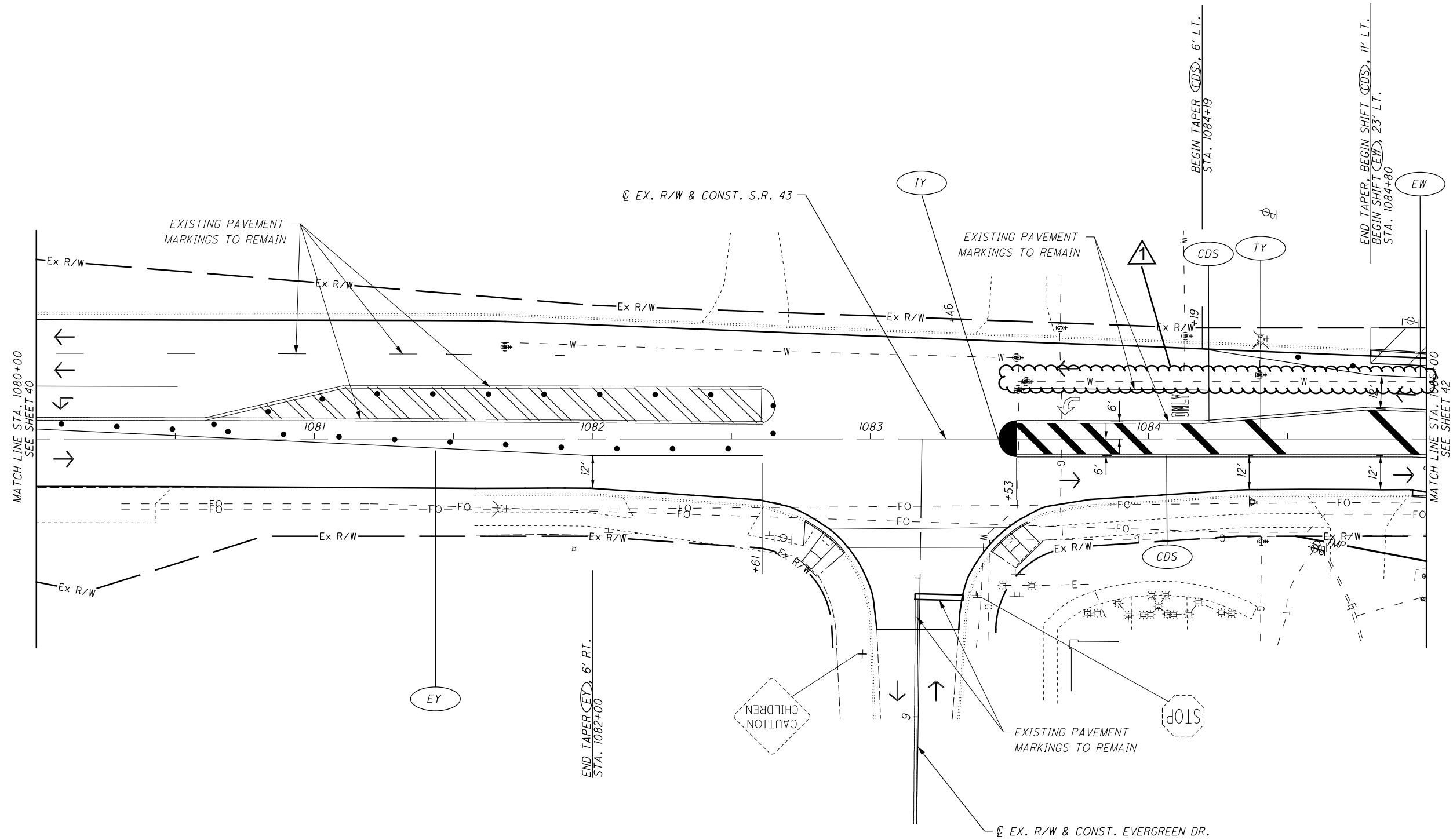
MAINTENANCE OF TRAFFIC - PHASE 3
STA. 1095+00 TO STA. 1100+00

POR-43-18.65

O:\2018\2018202\POR\06416\Design\M01\Sheets\06416MP005.dgn Design 8/29/2022 4:44:59 PM mthomas

O:\2018\2018202\POR\06416\Design\M01\Sheets\06416MP02.dgn Design 8/29/2022 4:46:33 PM mthomas

ADDENDUM #1 - REVISED 9-19-22



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

CALCULATED MBK CHECKED KRM

0 20 40
 HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 1080+00 TO STA. 1085+00

POR-43-18.65

FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 28.

O:\2018\2018202\POR\06416\Design\M01\Sheets\06416MP022.dgn Design 8/29/2022 4:47:53 PM mthomas

ADDENDUM #1 - REVISED 9-19-22

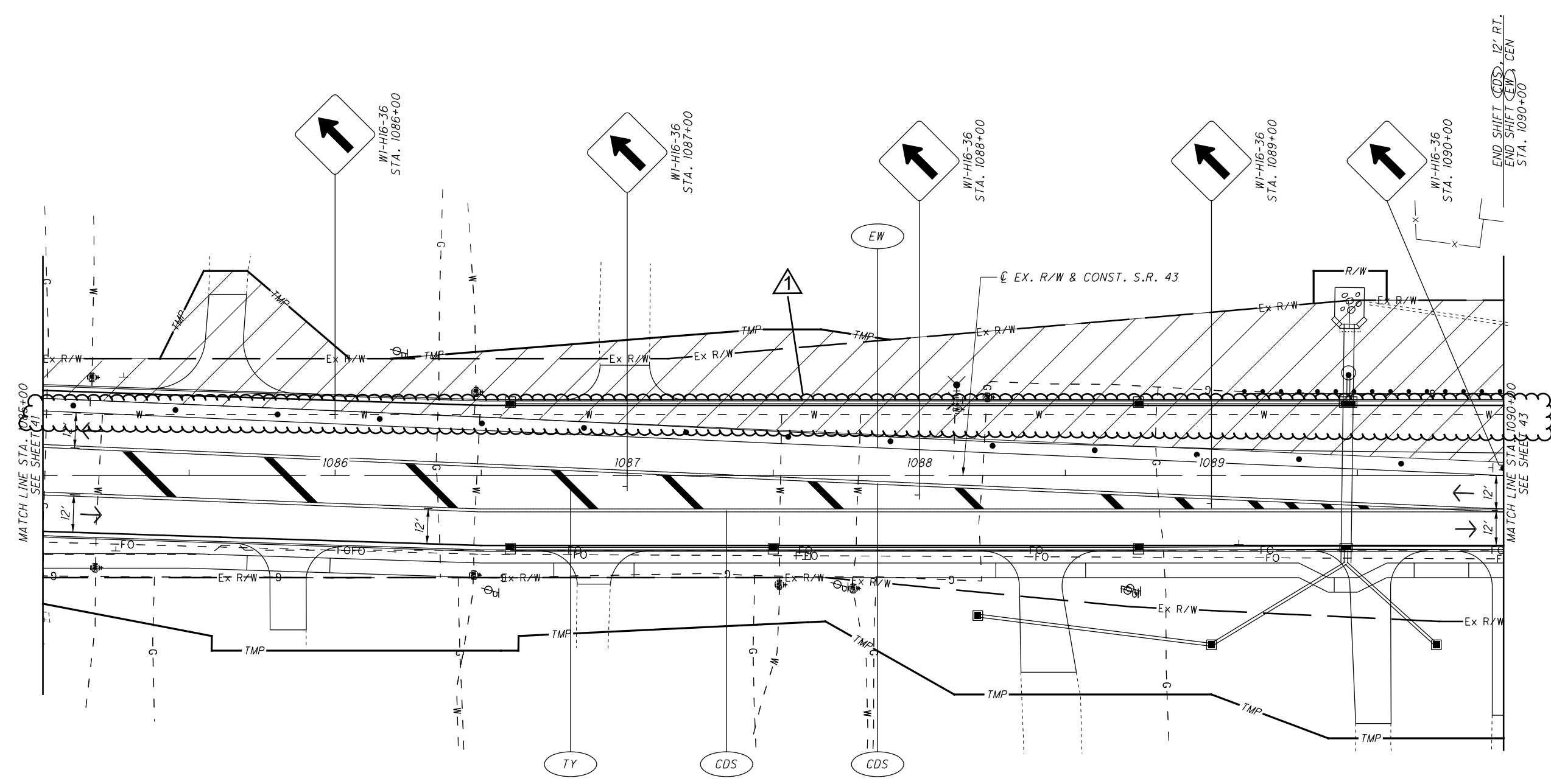
NOTES:
1. THE CONTRACTOR SHALL COVER CONFLICTING SIGNING AND COVER OR REMOVE CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.

CALCULATED	MBK	CHECKED	KRM

0 20 40
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 1085+00 TO STA. 1090+00

POR-43-18.65



FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 28.

O:\2018\2018202\POR\06416\Design\M01\Sheets\06416MP023.dgn Design 9/19/2022 2:46:44 PM mthomas

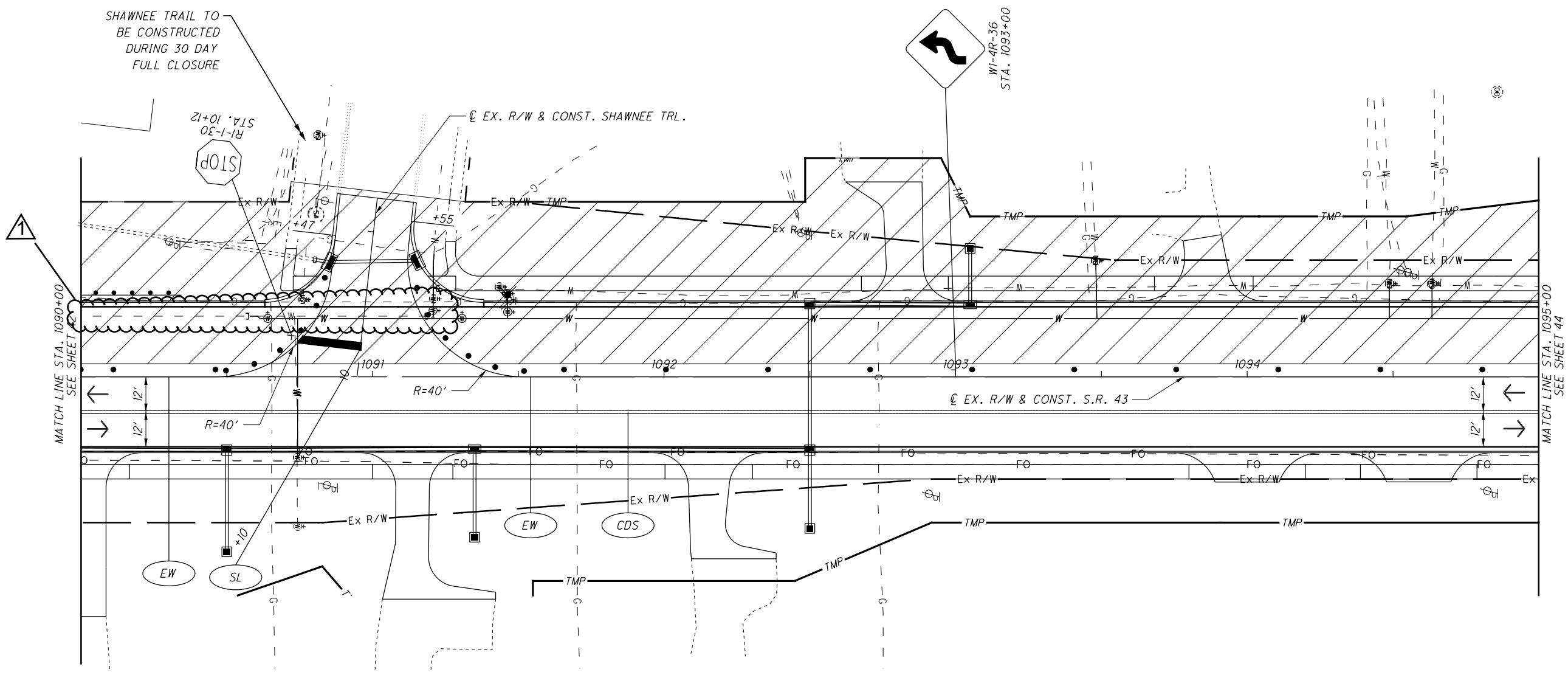
- NOTES:
1. THE CONTRACTOR SHALL COVER CONFLICTING SIGNING AND COVER OR REMOVE CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.
 2. STOP LINE AND STOP SIGN TO BE PROVIDED ON SHAWNEE RD WHEN ROAD IS NOT CLOSED. DRUMS TO BE RELOCATED TO ALLOW TRAFFIC TO ENTER AND EXIT ROAD.

CALCULATED MBK CHECKED KRM

0 20 40
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 1090+00 TO STA. 1095+00

POR-43-18.65



ADDENDUM #1 - REVISED 9-19-22

FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 28.

O:\2018\2018202\POR\06416\Design\M0T\Sheets\06416MP024.dgn Design 9/19/2022 2:48:26 PM mthomas

ADDENDUM #1 - REVISED 9-19-22

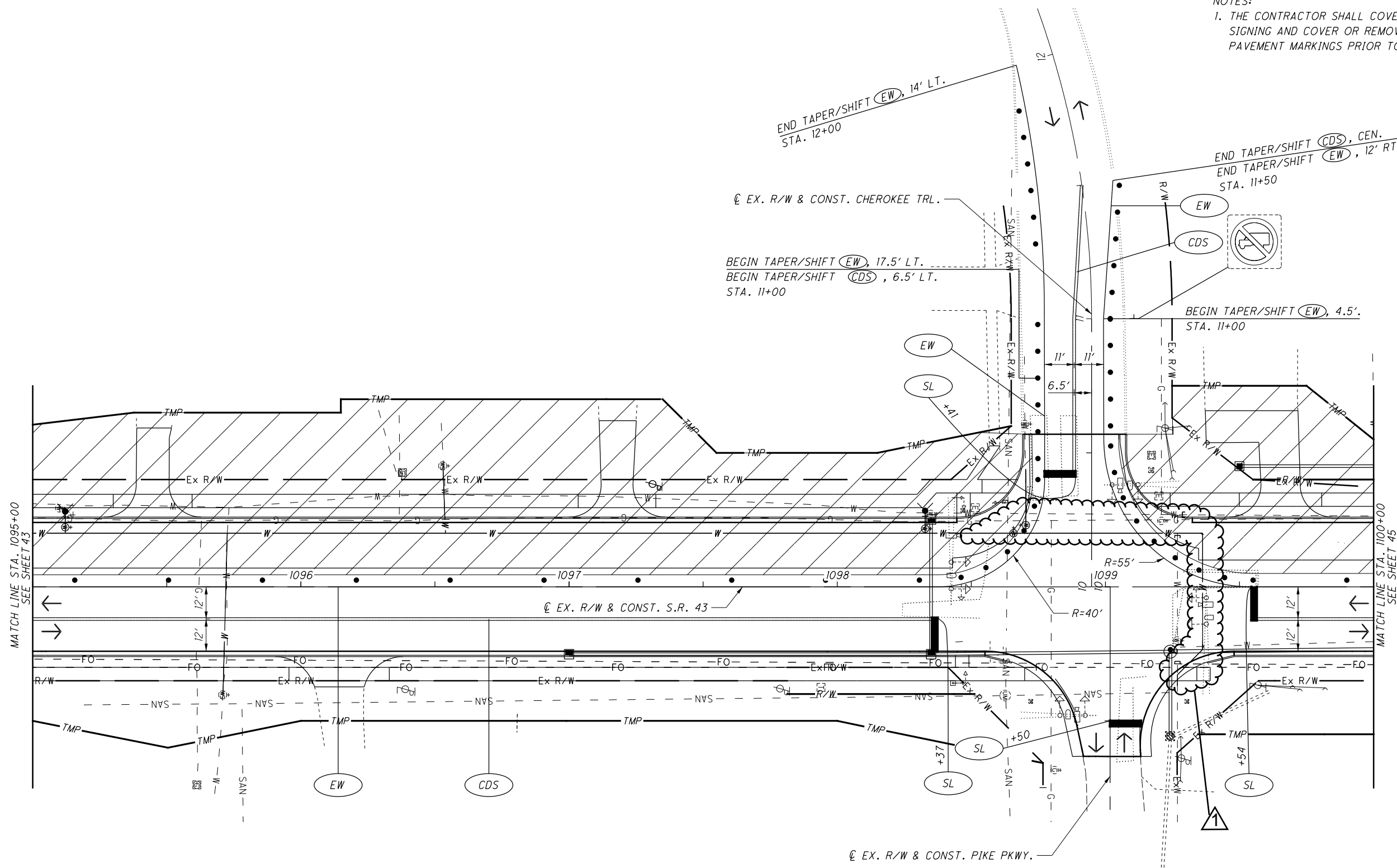
NOTES:
1. THE CONTRACTOR SHALL COVER CONFLICTING SIGNING AND COVER OR REMOVE CONFLICTING PAVEMENT MARKINGS PRIOR TO CONSTRUCTION.

CALCULATED
MBK
CHECKED
KRM

0 20 40
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC - PHASE 4
STA. 1095+00 TO STA. 1100+00

POR-43-18.65

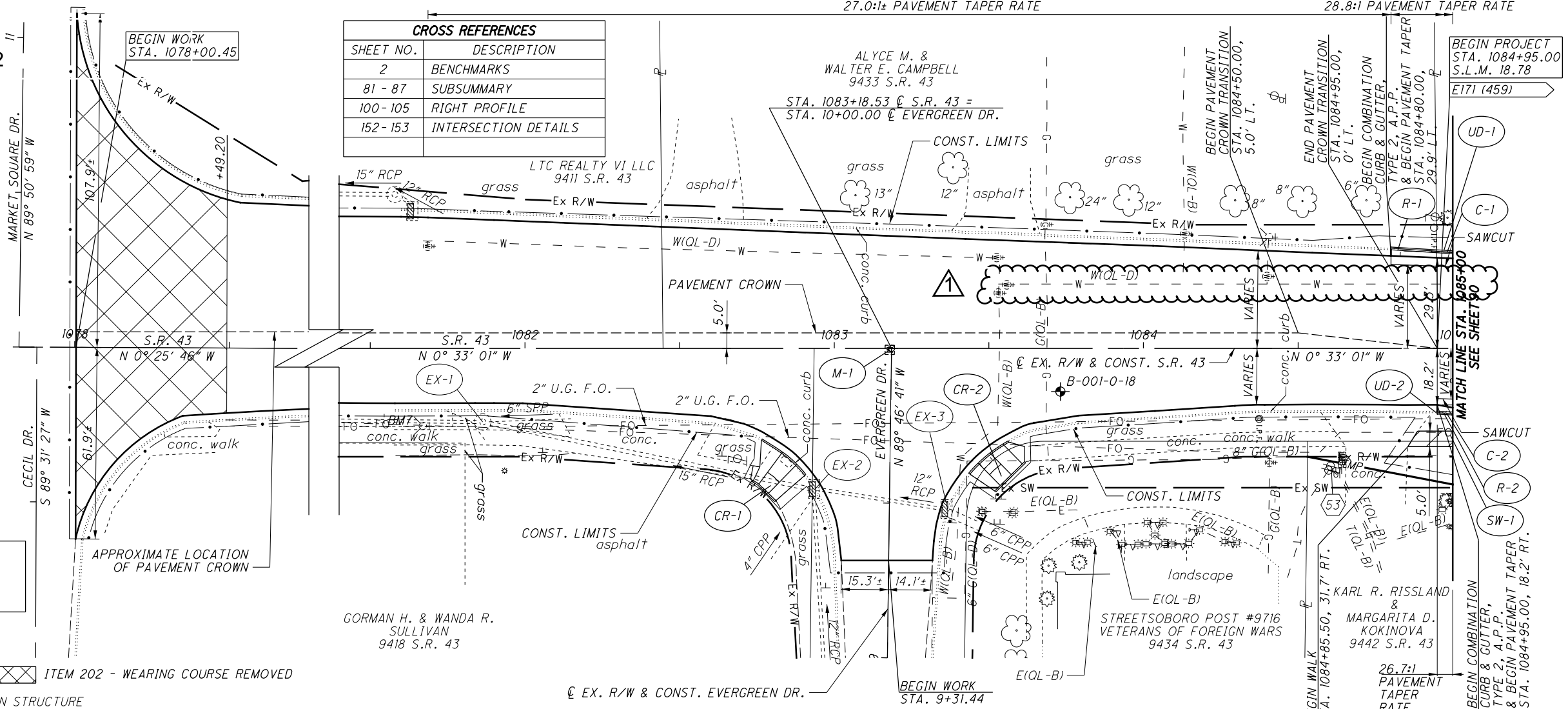


**ADDENDUM #1-
REVISED 9-19-22**

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	BENCHMARKS
81 - 87	SUBSUMMARY
100-105	RIGHT PROFILE
152-153	INTERSECTION DETAILS

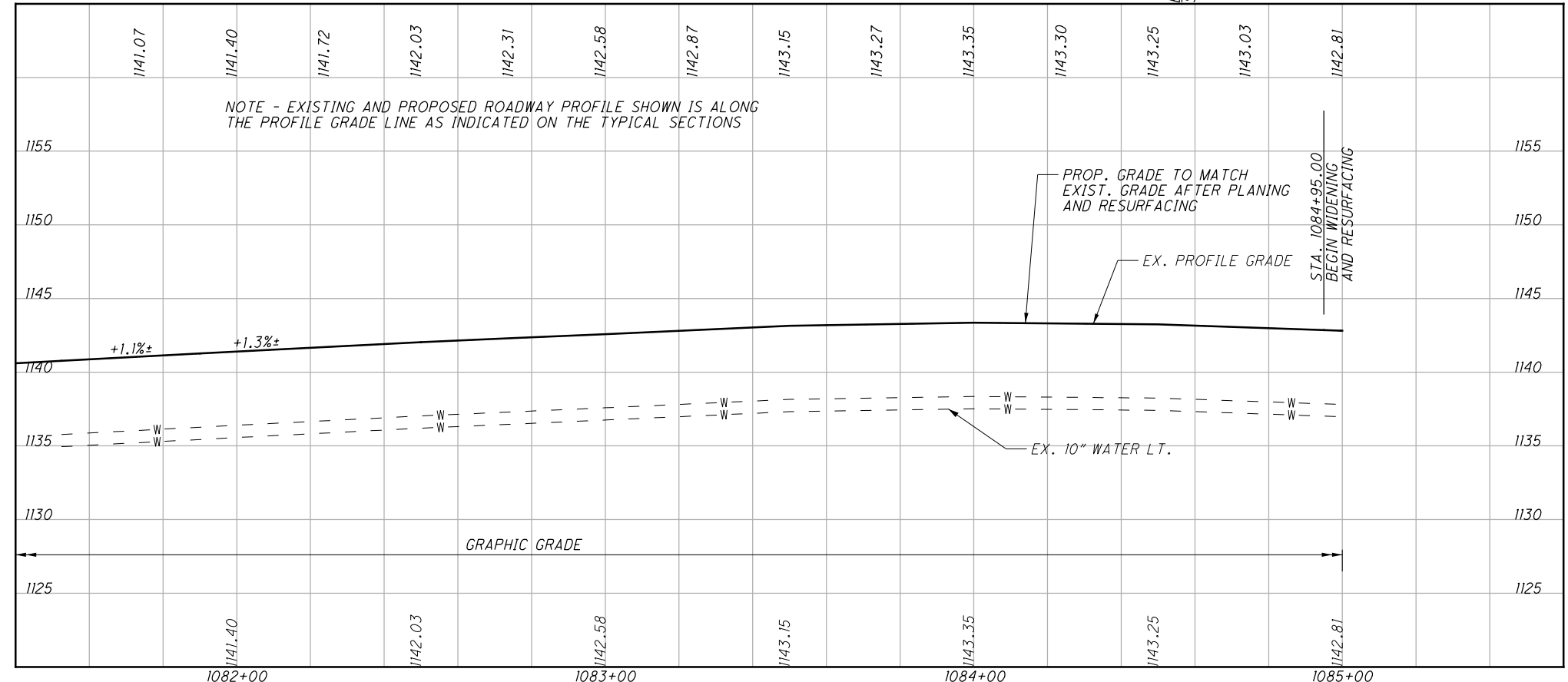
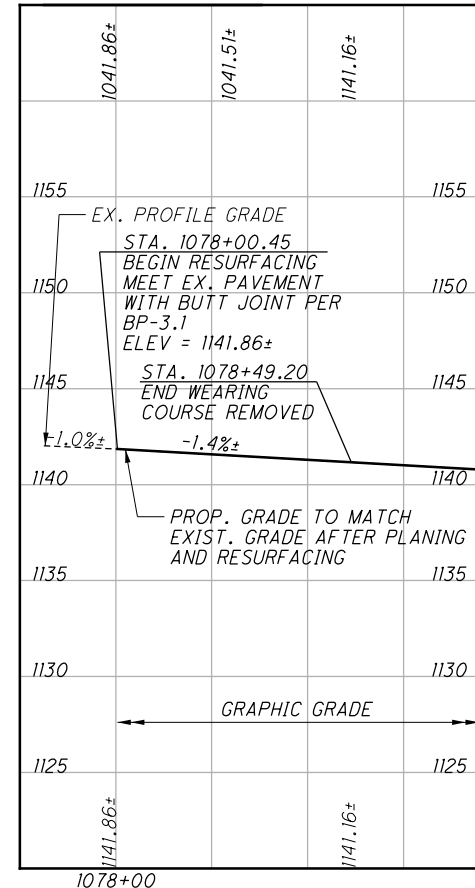
27.0:1± PAVEMENT TAPER RATE

28.8:1 PAVEMENT TAPER RATE



BENCHMARK #BM7
"X" ON WEST BOLT ON
HYDRANT FLANGE
STA. 1081+67.10, 24.95' RT.
ELEV. = 1142.91

- LEGEND**
- SOIL BORING
 - PROP. CONC. WALK
 - ITEM 202 - WEARING COURSE REMOVED
 - OHIO EDISON TRANSMISSION STRUCTURE



NOTE - EXISTING AND PROPOSED ROADWAY PROFILE SHOWN IS ALONG THE PROFILE GRADE LINE AS INDICATED ON THE TYPICAL SECTIONS

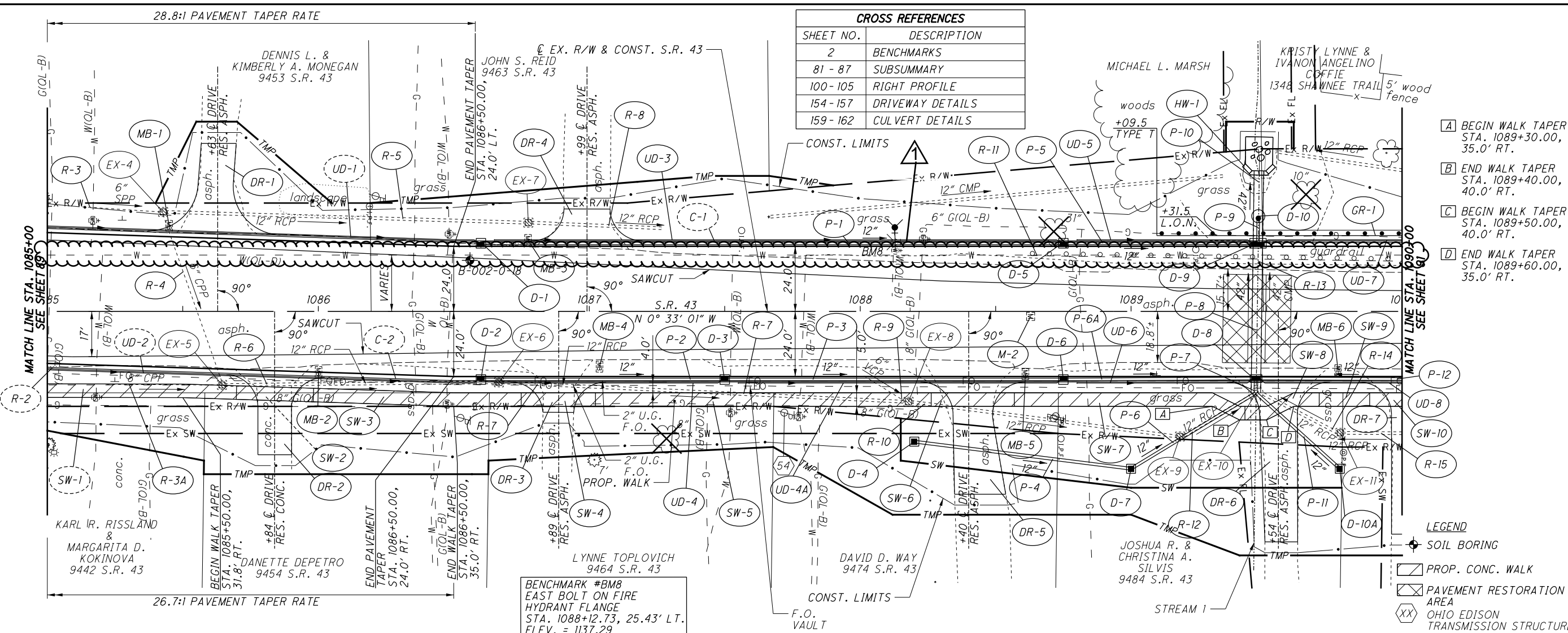


**PLAN AND LEFT PROFILE - S.R. 43
STA. 1077+80 TO STA. 1085+00**

POR-43-18.65

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8/29/2022 3:41:10 PM mthomas
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 \Roadway\Sheets\Alternate C:\106416pp003.dgn Design
 \Roadway\Sheets\Alternate C:\106416pp003.dgn Design



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	BENCHMARKS
81 - 87	SUBSUMMARY
100-105	RIGHT PROFILE
154-157	DRIVEWAY DETAILS
159-162	CULVERT DETAILS

- A BEGIN WALK TAPER STA. 1089+30.00, 35.0' RT.
- B END WALK TAPER STA. 1089+40.00, 40.0' RT.
- C BEGIN WALK TAPER STA. 1089+50.00, 40.0' RT.
- D END WALK TAPER STA. 1089+60.00, 35.0' RT.

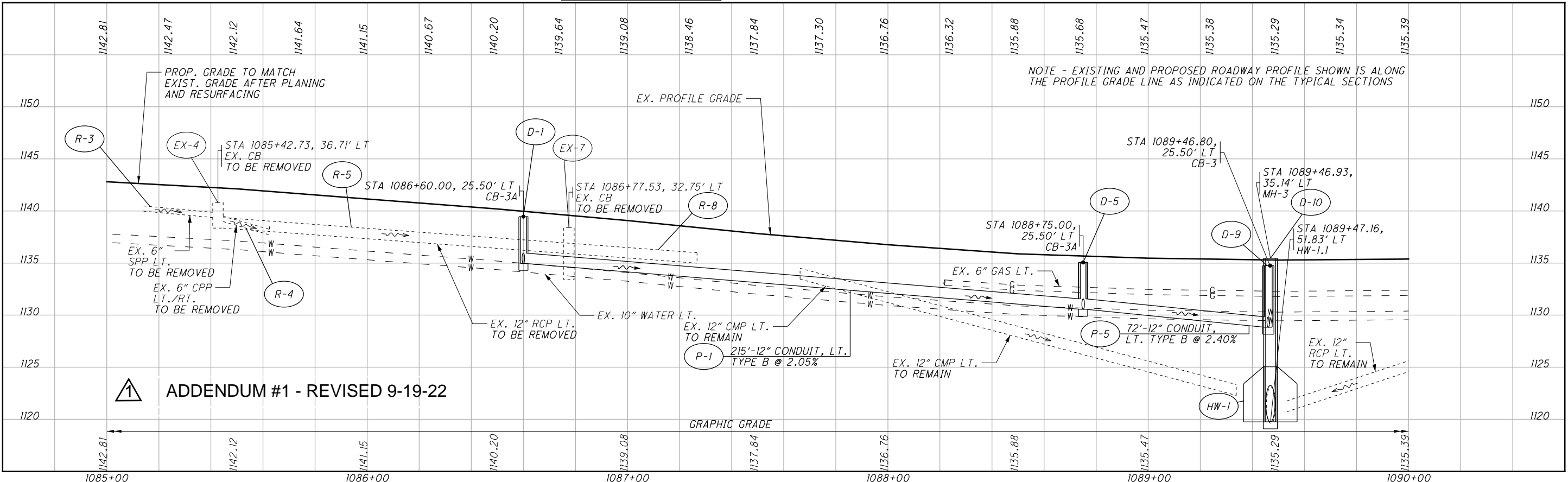
- LEGEND
- SOIL BORING
 - PROP. CONC. WALK
 - PAVEMENT RESTORATION AREA
 - OHIO EDISON TRANSMISSION STRUCTURE



PLAN AND LEFT PROFILE - S.R. 43
 STA. 1085+00 TO STA. 1090+00

POR-43-18.65

90
 252



ADDENDUM #1 - REVISED 9-19-22

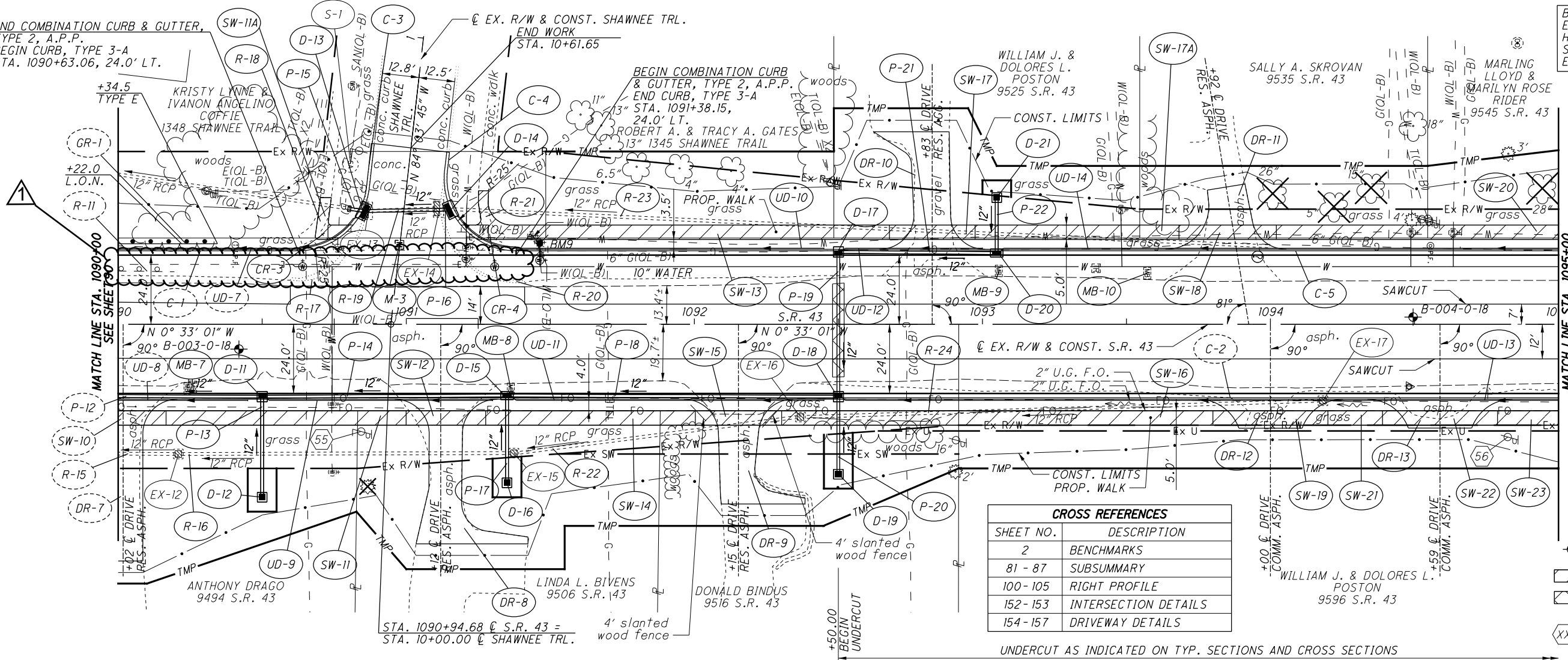
NOTE - EXISTING AND PROPOSED ROADWAY PROFILE SHOWN IS ALONG THE PROFILE GRADE LINE AS INDICATED ON THE TYPICAL SECTIONS

END COMBINATION CURB & GUTTER, TYPE 2, A.P.P.
 BEGIN CURB, TYPE 3-A
 STA. 1090+63.06, 24.0' LT.

BENCHMARK #BM9
 EAST BOLT ON FIRE
 HYDRANT FLANGE
 STA. 1091+47.07, 25.87' LT.
 ELEV. = 1139.35







 0 20 40
 HORIZONTAL
 SCALE IN FEET
 CALCULATED
 MJT
 CHECKED
 ERS

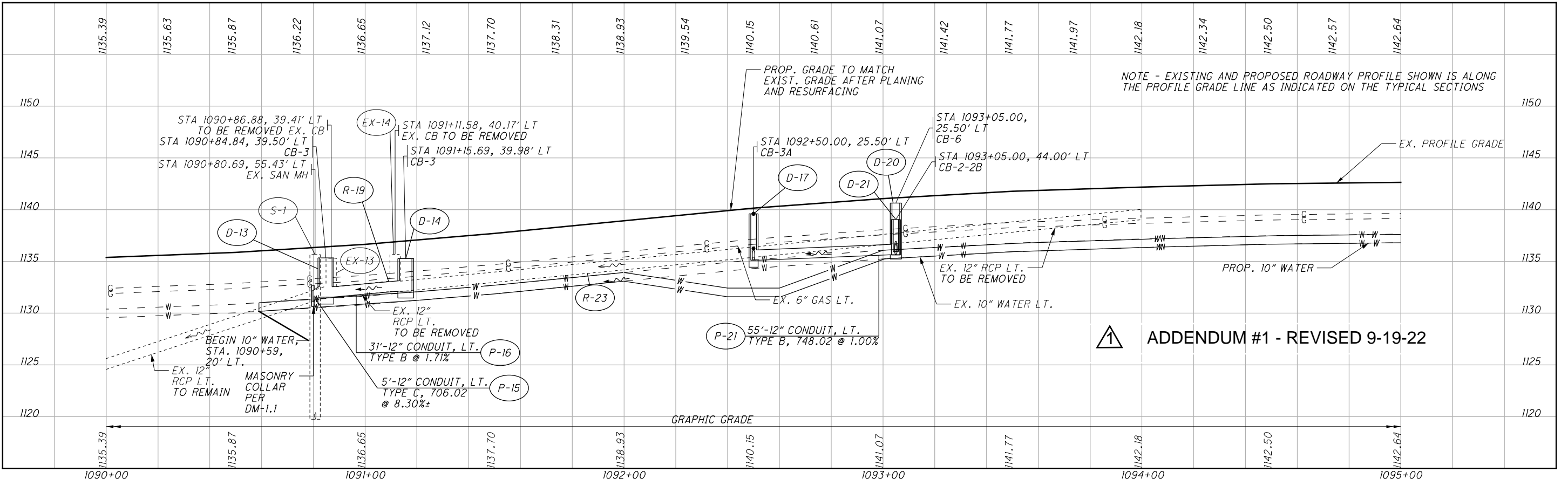


CROSS REFERENCES

SHEET NO.	DESCRIPTION
2	BENCHMARKS
81 - 87	SUBSUMMARY
100 - 105	RIGHT PROFILE
152 - 153	INTERSECTION DETAILS
154 - 157	DRIVEWAY DETAILS

- LEGEND**
-  SOIL BORING
 -  PROP. CONC. WALK
 -  PAVEMENT RESTORATION AREA
 -  OHIO EDISON TRANSMISSION STRUCTURE

UNDERCUT AS INDICATED ON TYP. SECTIONS AND CROSS SECTIONS

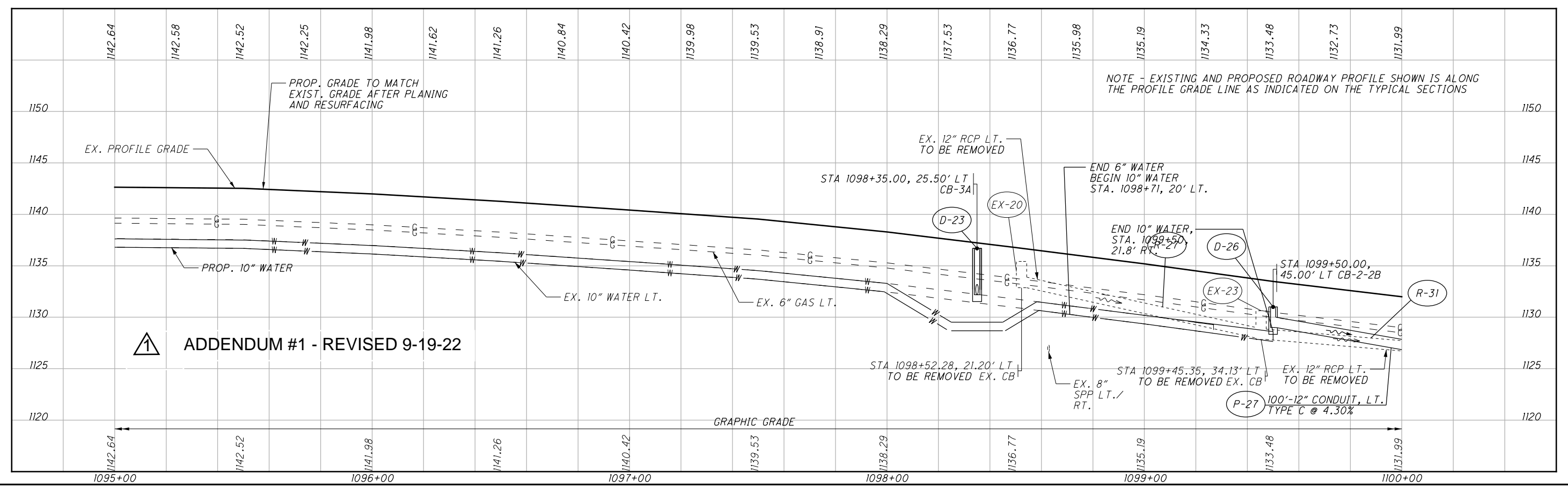
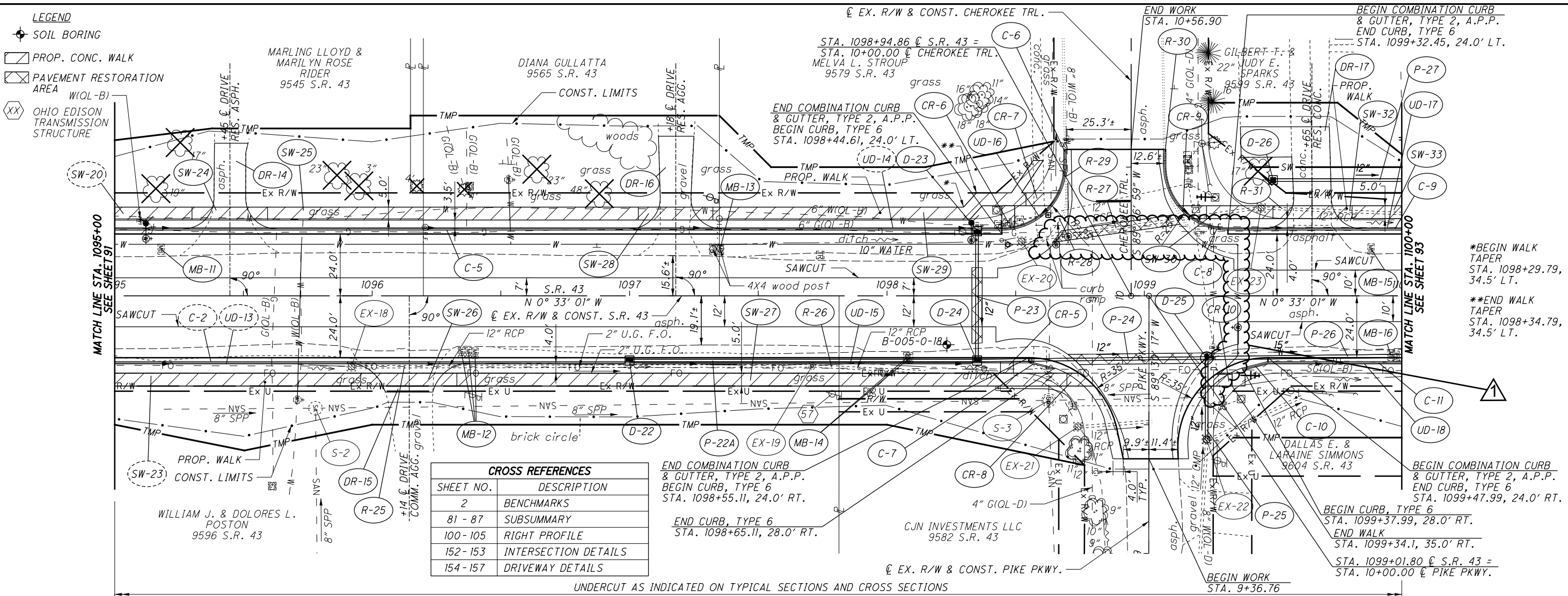


9/19/2022 2:50:43 PM mthomas
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 \Roadway\Sheets\Alternate C:\106416pp004.dgn Design
 \Roadway\Sheets\Alternate C:\106416pp004.dgn Design

PLAN AND LEFT PROFILE - S.R. 43
STA. 1090+00 TO STA. 1095+00

POR-43-18.65

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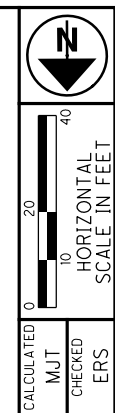


ADDENDUM #1 - REVISED 9-19-22

PLAN AND LEFT PROFILE - S.R. 43
 STA. 1095+00 TO STA. 1100+00
 POR-43-18.65
 92
 252

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	BENCHMARKS
81 - 87	SUBSUMMARY
100 - 105	RIGHT PROFILE
152 - 153	INTERSECTION DETAILS

ADDENDUM #1 - REVISED 9-19-22

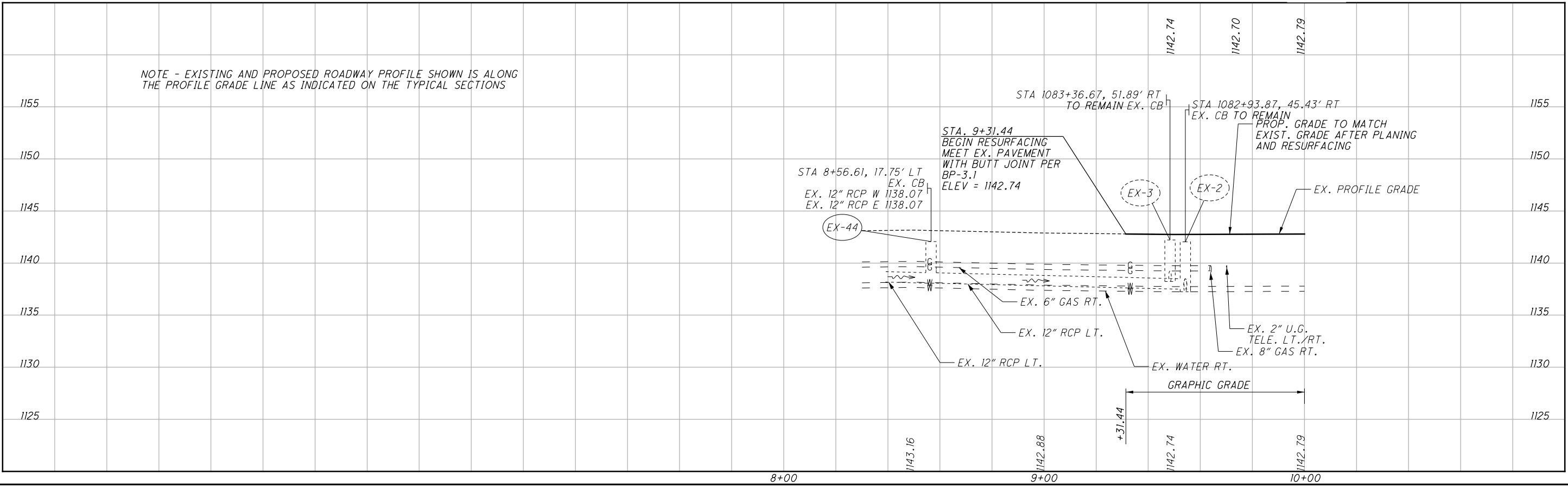
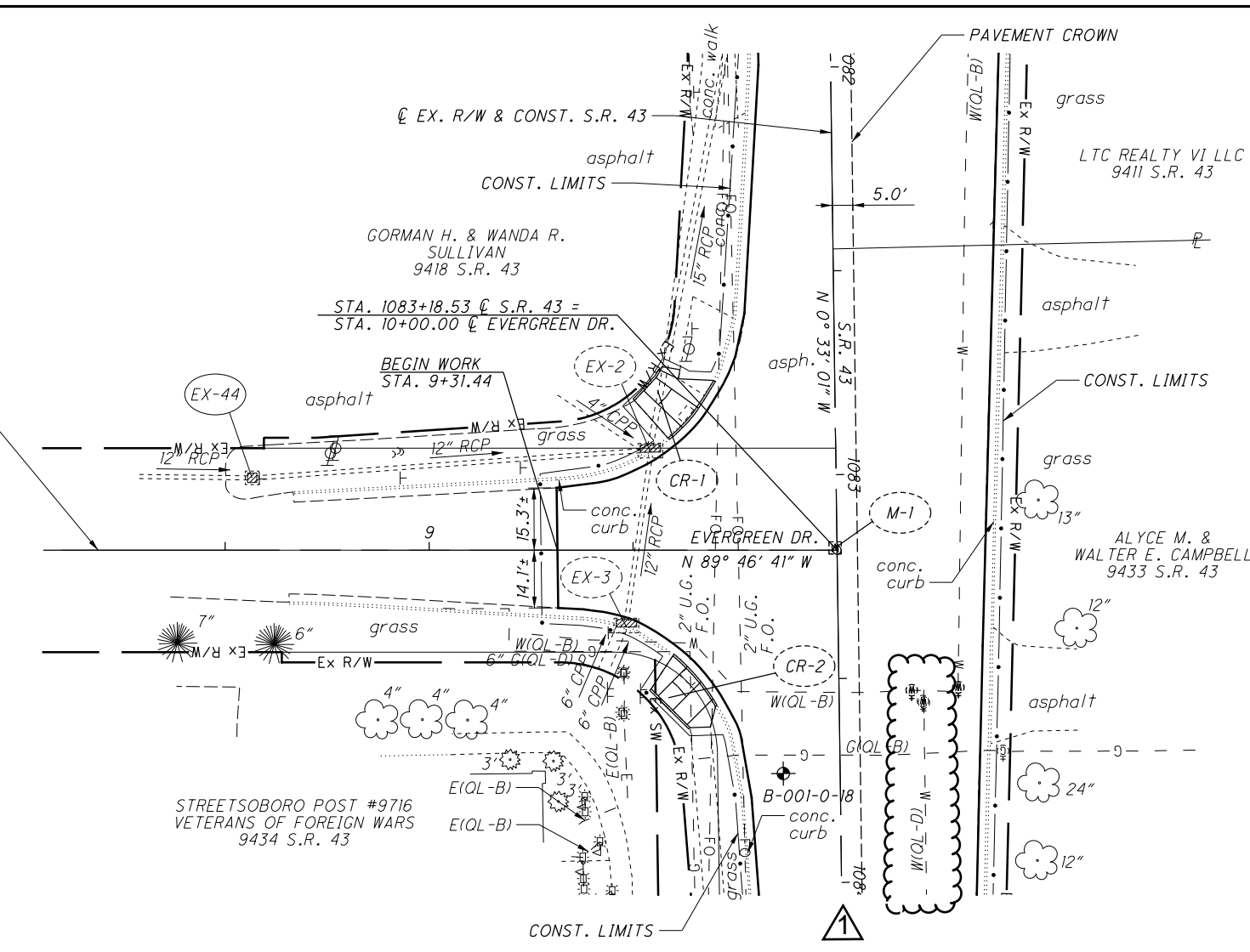


PLAN AND PROFILE - EVERGREEN DRIVE
STA. 8+30 TO STA. 10+00

POR-43-18.65

- LEGEND**
- SOIL BORING
 - ITEM 202 - WEARING COURSE REMOVED

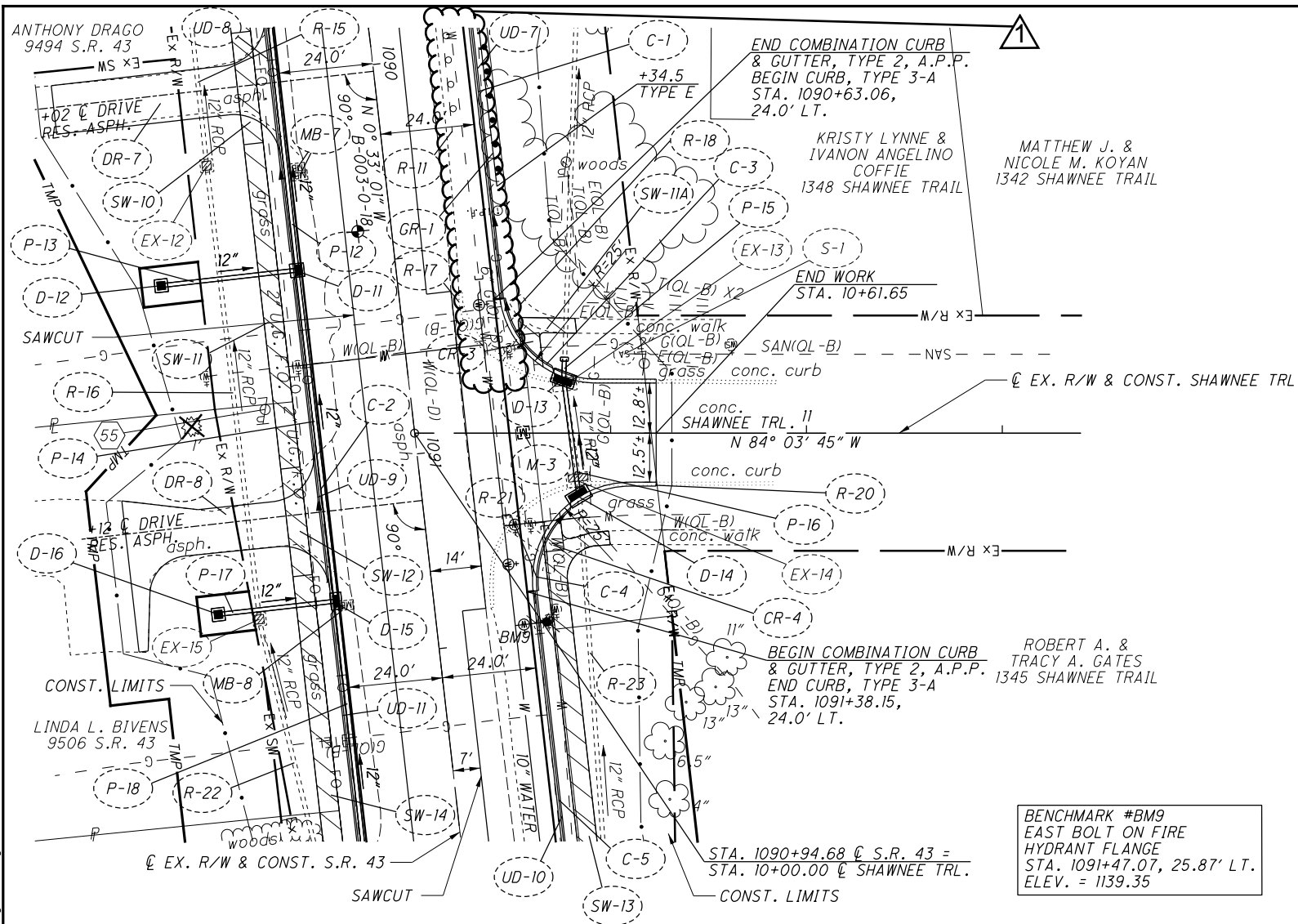
☉ EX. R/W & CONST. EVERGREEN DR.



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 #TIMES 0
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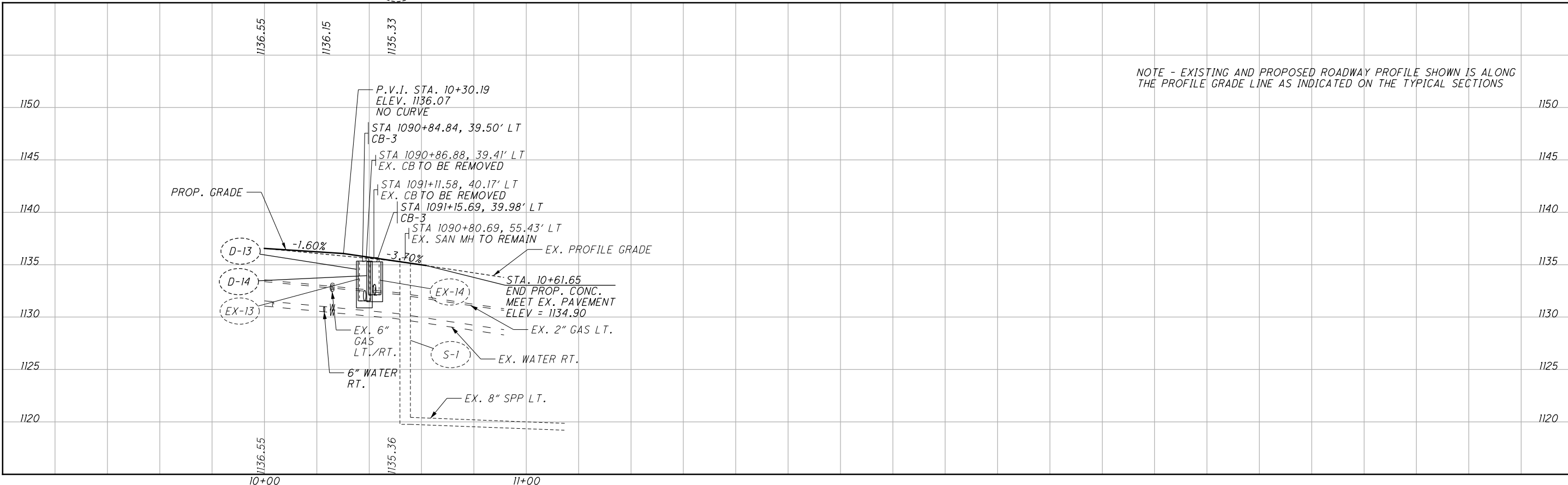
ADDENDUM #1 - REVISED 9-19-22

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	BENCHMARKS
81 - 87	SUBSUMMARY
100 - 105	RIGHT PROFILE
152 - 153	INTERSECTION DETAILS
154 - 157	DRIVEWAY DETAILS



BENCHMARK #BM9
EAST BOLT ON FIRE
HYDRANT FLANGE
STA. 1091+47.07, 25.87' LT.
ELEV. = 1139.35

- LEGEND**
- SOIL BORING
 - PROP. CONC. WALK
 - OHIO EDISON TRANSMISSION STRUCTURE



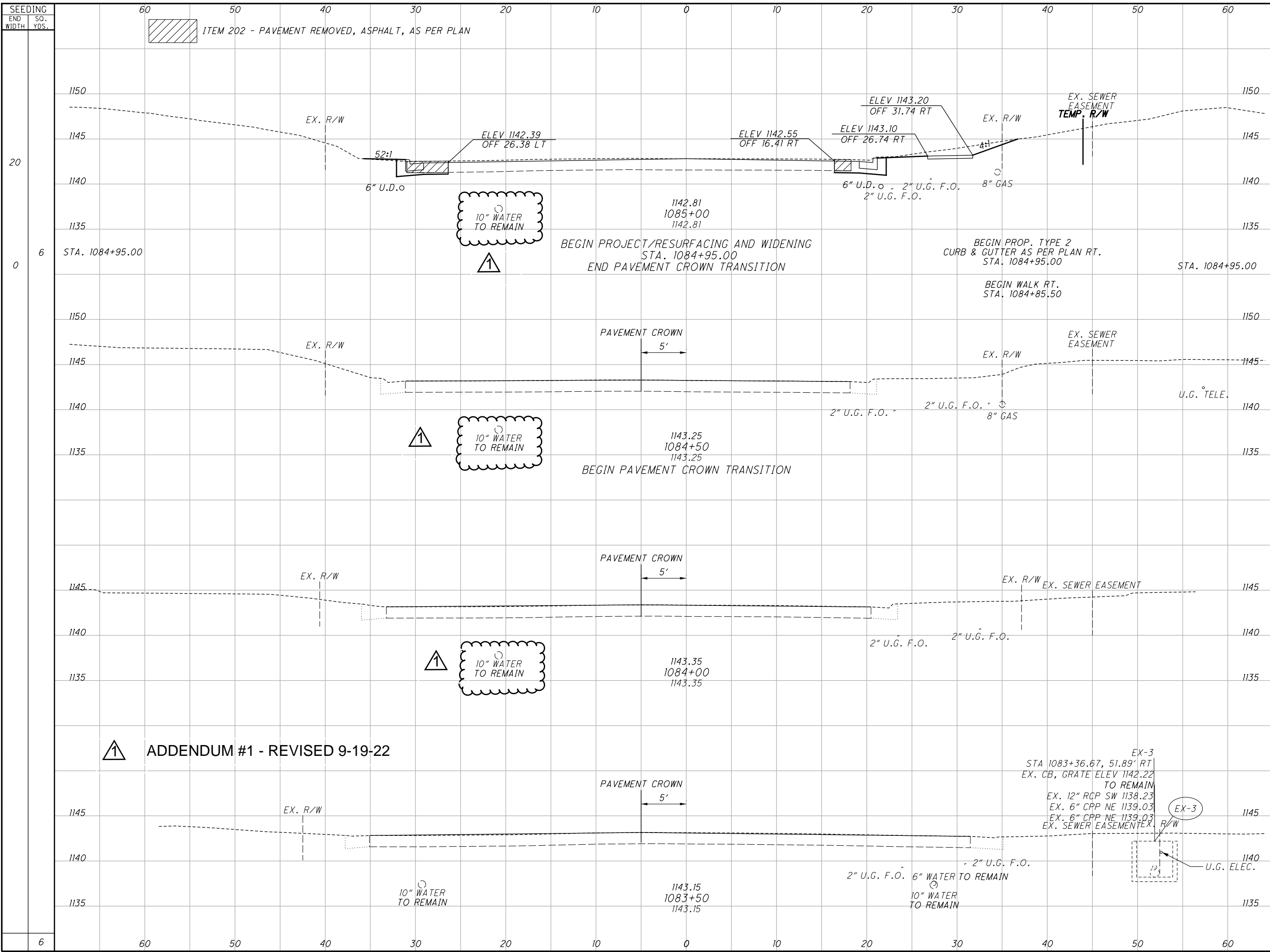
NOTE - EXISTING AND PROPOSED ROADWAY PROFILE SHOWN IS ALONG THE PROFILE GRADE LINE AS INDICATED ON THE TYPICAL SECTIONS

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PLAN AND PROFILE - SHAWNEE TRAIL
 STA. 10+00 TO STA. 11+00

POR-43-18.65

#FILES: 6
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 C:\Users\mthomas\OneDrive\Documents\Roadway\Sheets\Alternate C:\064\Exs001.dgn Design 8/29/2022 3:48:48 PM mthomas



END AREA	VOLUME	CALCULATED		CHECKED	
		CUT	FILL	MJT	ERS
17	1				
0	0	2	1		
		2	1		

CROSS SECTIONS - S.R. 43
STA. 1083+50 TO STA. 1085+00

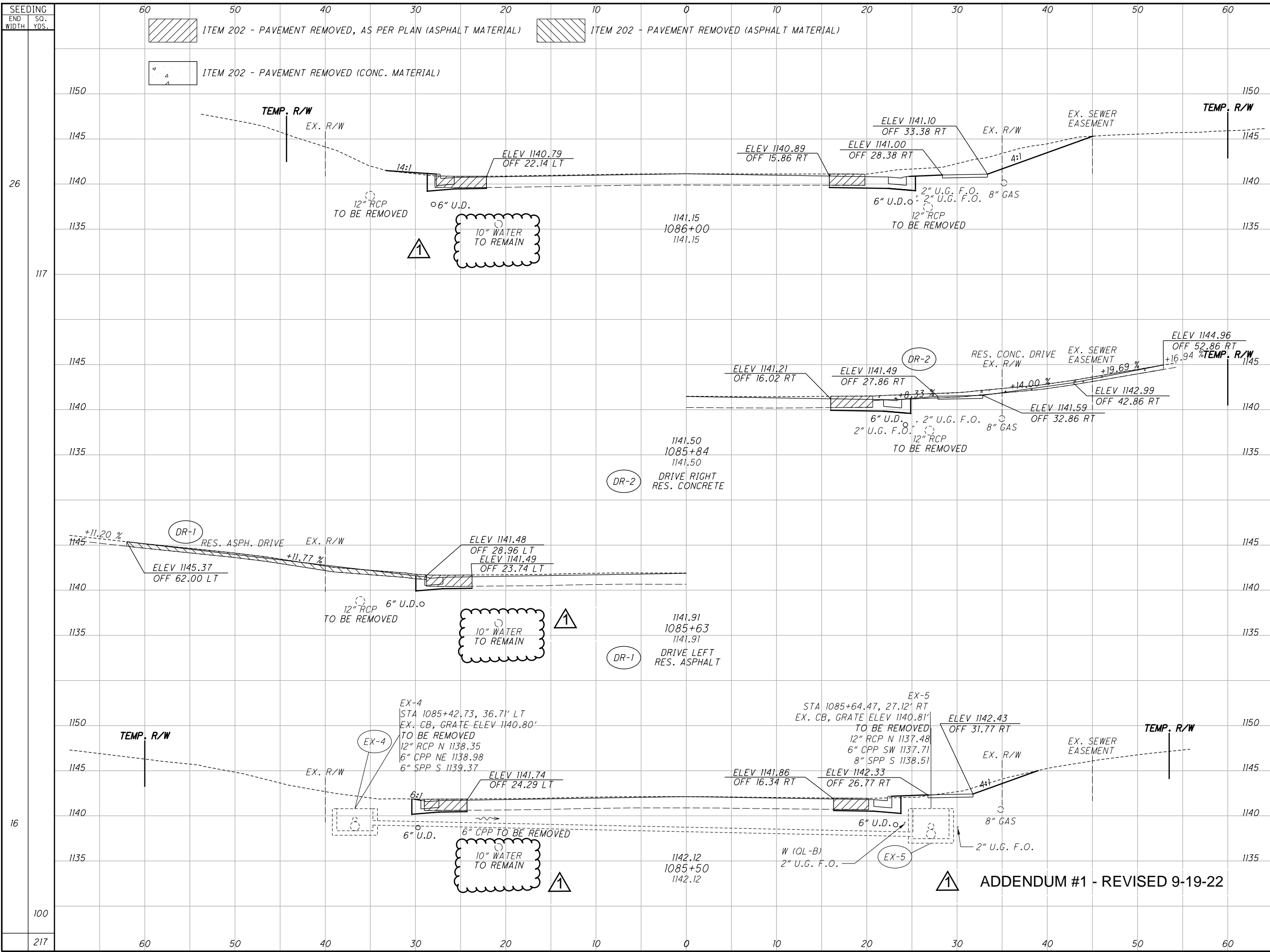
POR-43-18.65

111
252

ADDENDUM #1 - REVISED 9-19-22

EX-3
 STA 1083+36.67, 51.89' RT
 EX. CB, GRATE ELEV 1142.22
 TO REMAIN
 EX. 12" RCP SW 1138.23
 EX. 6" CPP NE 1139.03
 EX. 6" CPP NE 1139.03
 EX. SEWER EASEMENT EX. R/W

ITEM 202 - PAVEMENT REMOVED, ASPHALT, AS PER PLAN

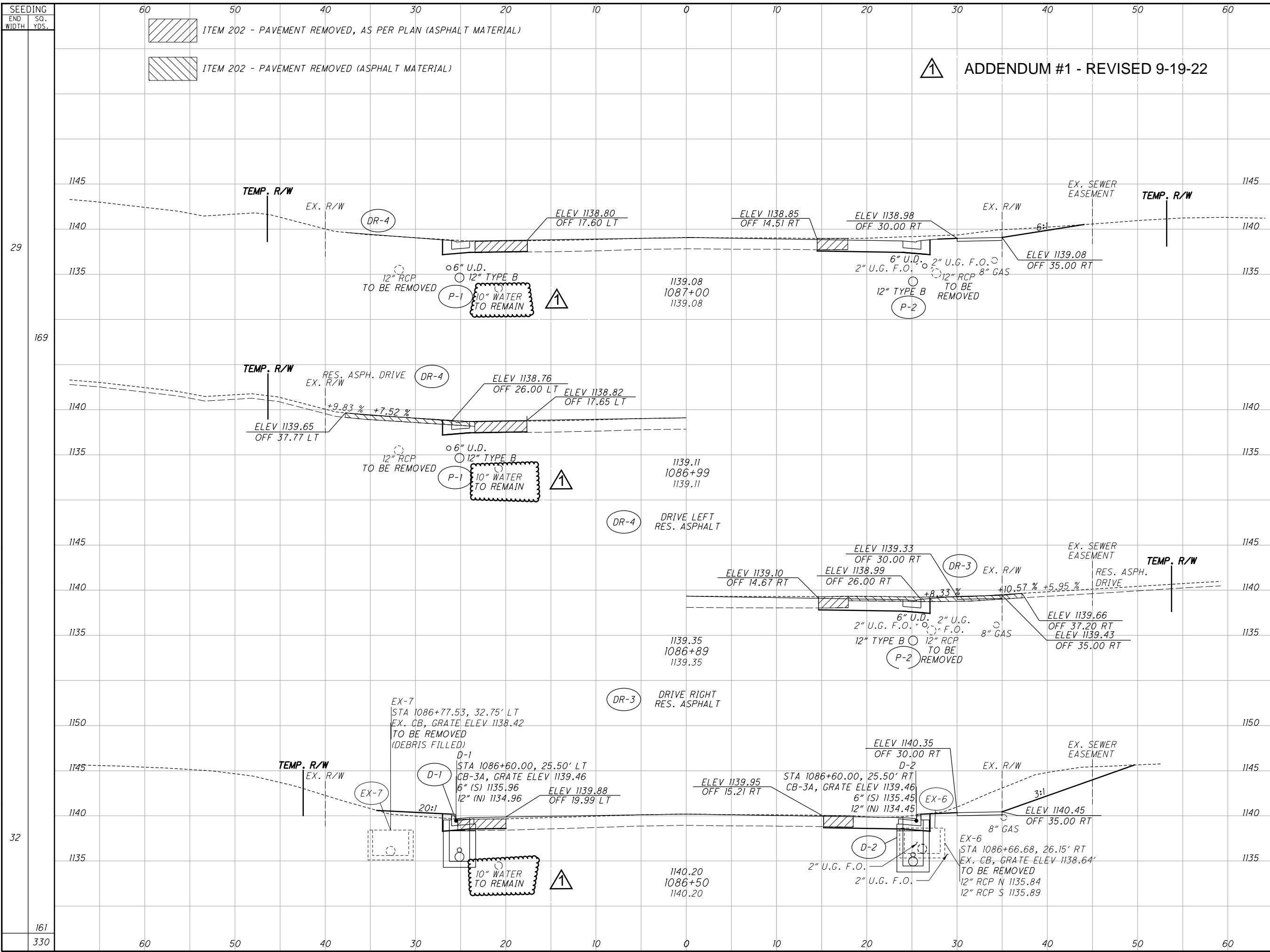


SEEDING	END AREA		VOLUME		CALCULATED	MUT	CHECKED	ERS
	CUT	FILL	CUT	FILL				
26			36	1				
117			45	2				
16			13	1				
100			28	2				
217			73	4				

**CROSS SECTIONS - S.R. 43
STA. 1085+50 TO STA. 1086+00**

POR-43-18.65

#FILES 330
 #DAYS 169
 #TIMES 29
 8/29/2022 3:49:27 PM mthomas



ADDENDUM #1 - REVISED 9-19-22

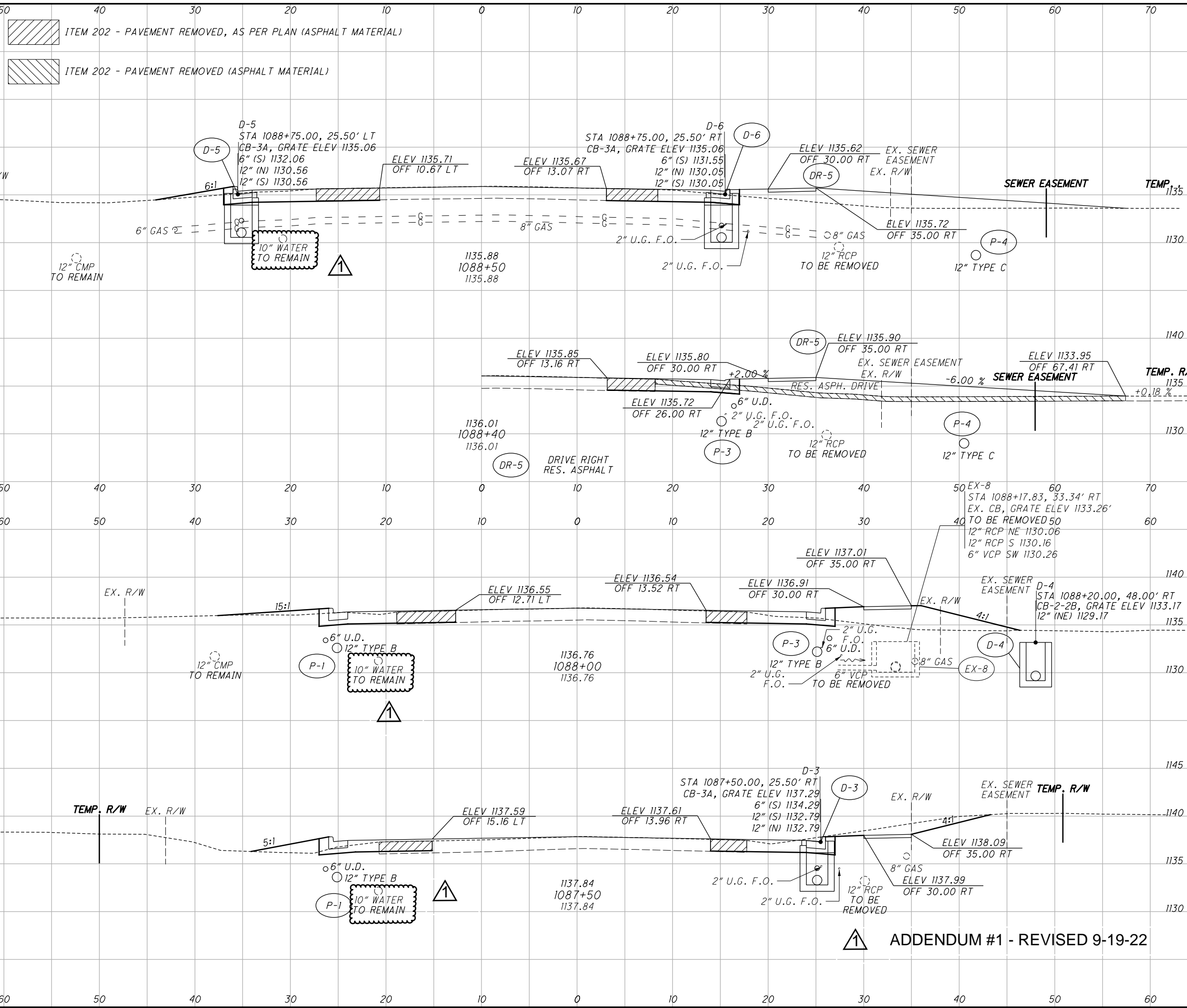
END AREA	VOLUME	CALCULATED	MUT	CHECKED	ERS
29	1				
169	74		5		
32	51		4		
161	81		5		
330	155		10		

CROSS SECTIONS - S.R. 43
 STA. 1086+50 TO STA. 1087+00

POR-43-18.65

113
 252

SEEDING	END SO.	
	WIDTH	YDS.
	60	528
	50	25
	40	150
	31	156
	222	49



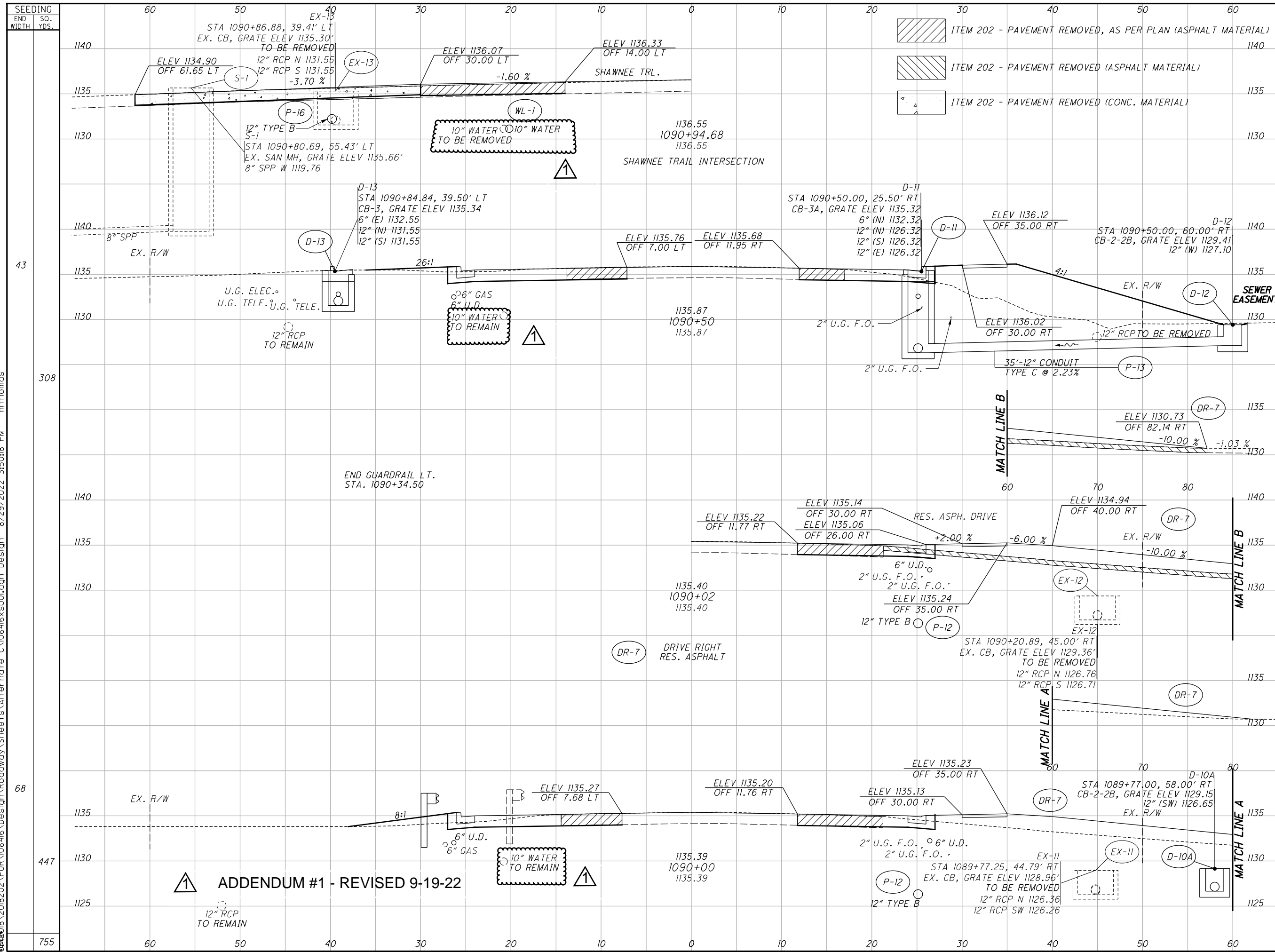
END AREA	VOLUME		CALCULATED	MUT	CHECKED	ERS
	CUT	FILL				
	20	41				
			33			53
	16	16				
			40			17
	27	2				
			52			3
			125			73

**CROSS SECTIONS - S.R. 43
STA. 1087+50 TO STA. 1088+50**

POR-43-18.65

ADDENDUM #1 - REVISED 9-19-22

#FILES 4
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 #SHEET 18
 #PROJECT 10646-2018202-POR-10646-Design\Roadway\Sheets\Alternate C\10646x001.dgn Design 8/29/2022 3:50:18 PM mthomas



- ITEM 202 - PAVEMENT REMOVED, AS PER PLAN (ASPHALT MATERIAL)
- ITEM 202 - PAVEMENT REMOVED (ASPHALT MATERIAL)
- ITEM 202 - PAVEMENT REMOVED (CONC. MATERIAL)

▲
 ADDENDUM #1 - REVISED 9-19-22
 ▲

SEEDING		END AREA		VOLUME		CALCULATED MUT	CHECKED ERS
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL		
60	1140						
60	1135						
60	1130						
43	1140			23	101		
43	1135						
43	1130						
308	1140			37	155		
308	1135						
308	1130						
68	1140						
68	1135						
68	1130						
68	1125			17	66		
447	1130			29	239		
447	1125						
755	1140			66	394		

CROSS SECTIONS - S.R. 43
 STA. 1090+00 TO STA. 1090+94.68

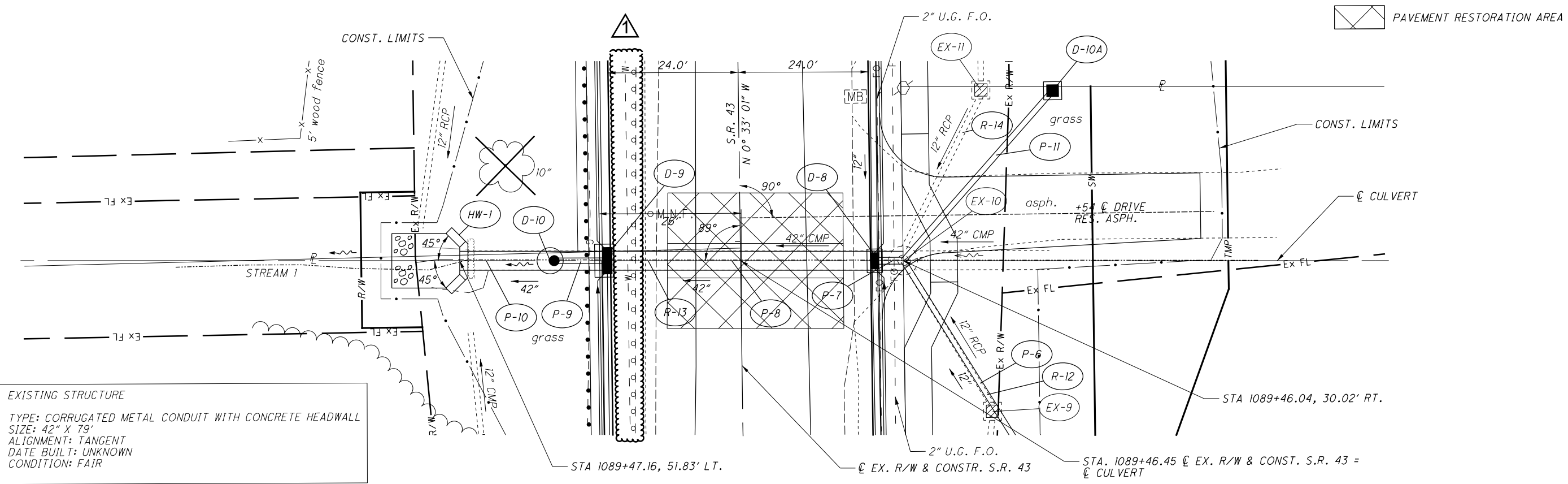
POR-43-18.65



CALCULATED
MUT
CHECKED
ERS

CULVERT DETAIL
S.R. 43 - STA. 1089 + 46.45

POR-43-18.65



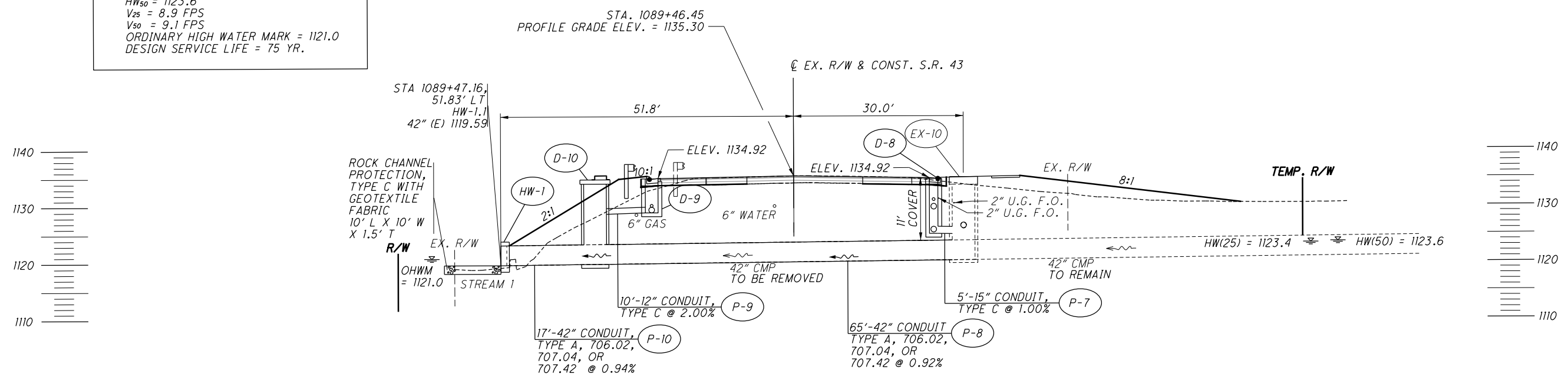
EXISTING STRUCTURE

TYPE: CORRUGATED METAL CONDUIT WITH CONCRETE HEADWALL
 SIZE: 42" X 79'
 ALIGNMENT: TANGENT
 DATE BUILT: UNKNOWN
 CONDITION: FAIR

HYDRAULIC DESIGN DATA

DRAINAGE AREA = 34 Ac.
 $Q_{25} = 46$ CFS
 $Q_{50} = 50$ CFS
 $HW_{25} = 1123.4$
 $HW_{50} = 1123.6$
 $V_{25} = 8.9$ FPS
 $V_{50} = 9.1$ FPS
 ORDINARY HIGH WATER MARK = 1121.0
 DESIGN SERVICE LIFE = 75 YR.

FOR ESTIMATED QUANTITIES, SEE SHEET'S 81 - 86



HW-1
 STA 1089+47.16,
 51.83' LT
 HW-1.1
 42" (E) 1119.59

D-8
 STA 1089+46.10, 25.50' RT
 CB-6, GRATE ELEV 1134.75
 6" (N&S) 1130.84
 12" (N) 1125.28
 12" (S) 1129.34
 15" (E) 1125.03

D-9
 STA 1089+46.80, 25.50' LT
 CB-3, GRATE ELEV 1134.75
 6" (N&S) 1129.83
 12" (W) 1128.83
 12" (S) 1128.83

D-10
 STA 1089+46.93, 35.14' LT
 MH-3, RIM ELEV 1135.45
 42" (E&W) 1119.75
 12" (E) 1128.63

EX-10
 STA 1089+46.04, 30.02' RT
 EX. MH, GRATE ELEV 1133.70'
 RECONST. TO GRADE - RIM ELEV. 1135.04
 42" CMP W 1120.35
 12" RCP NE 1125.95
 12" RCP SE 1126.00
 42" CMP E 1120.45
 12" (SE) 1126.00
 15" (W) 1124.98
 42" (W) 1120.35

ADDENDUM #1 - REVISED 9-19-22

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REF. NO.	SHEET NO.	LOCATION	STATION		SIDE	202 VALVE BOX REMOVED EACH	638			638	638	638	638	638	638	638	638	638	638			
			FROM	TO			638 WATER WORK, MISC.: 6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 FT	638 WATER WORK, MISC.: 8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 FT	638 WATER WORK, MISC.: 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 FT	638 6" GATE VALVE AND VALVE BOX EACH	638 8" GATE VALVE AND VALVE BOX EACH	638 10" GATE VALVE AND VALVE BOX EACH	638 FIRE HYDRANT EXTENDED AND ADJUSTED TO GRADE EACH	638 FIRE HYDRANT ADJUSTED TO GRADE EACH	638 VALVE BOX ADJUSTED TO GRADE EACH	638 VALVE BOX ADJUSTED TO GRADE, AS PER PLAN EACH	638 SERVICE BOX ADJUSTED TO GRADE EACH	638 WATER WORK, MISC.: WATER MAIN ABANDONED FT	638 WATER WORK, MISC.: FIRE HYDRANT REMOVED FOR STORAGE (CITY OF STREETSBORO) EACH	638 WATER WORK, MISC.: 6" FIRE HYDRANT (CITY OF STREETSBORO) EACH	638 WATER WORK, MISC.: 6" FIRE HYDRANT WITH REMOTE SENSING (CITY OF STREETSBORO) EACH	638 WATER WORK, MISC.: 3/4" COPPER WATER SERVICE LINE (CITY OF STREETSBORO) FT
FH-1	170	S.R. 43	1088+12.78		LT.																	
FH-2	170	S.R. 43	1088+12.78		LT.		9			1									1			
FH-3	171	S.R. 43	1091+47.08		LT.														1			
FH-4	171	S.R. 43	1091+46.36		LT.		9			1									1			
FH-5	172	S.R. 43	1095+12.12		LT.		8			1									1			
FH-6	172	S.R. 43	1095+13.08		LT.		11												1			
FH-6A	172	S.R. 43	1098+32.81		LT.		8			1										1		
FH-7	174	S.R. 43	1109+30.17		RT.									1								
FH-8	176	S.R. 43	1115+76.33		RT.									1								
FH-9	177	S.R. 43	1122+98.52		RT.									1								
FH-10	178	S.R. 43	1128+77.39		RT.		5			1									1			
FH-11	178	S.R. 43	1128+77.39		RT.														1			
WA-1	171 - 173	S.R. 43	1091+22.00	1101+36.73	LT.														1015			
WA-2	175 - 176	S.R. 43	1112+55.00	1115+64.00	RT.														298			
WA-3	176 - 177	S.R. 43	1119+33.00	1120+58.89	RT.														126			
WL-1	171 - 172	S.R. 43	1090+55.05	1099+36.26	LT./RT.		19	44	928													
WL-1A	173	S.R. 43	1101+00.00	1101+50.00	RT.				50													
WL-1B	173	S.R. 43	1102+75.00	1104+25.00	RT.				150													
WL-2	175 - 176	S.R. 43	1112+55.00	1115+75.00	RT.				328													
WL-3	176 - 177	S.R. 43	1119+34.00	1120+69.89	RT.		149															
WS-1	171	S.R. 43	1090+74.27	1090+74.27	LT.															48		
WS-1A	171	S.R. 43	1093+48.07	1093+48.46	LT.															20		
WS-2	171	S.R. 43	1094+48.88	1094+48.73	LT.															11		
WS-3	171	S.R. 43	1094+63.38	1094+63.43	LT.															11		
WS-4	172	S.R. 43	1095+70.95	1095+72.57	LT./RT.															60		
WS-5	172	S.R. 43	1096+52.98	1096+53.88	LT.															25		
WS-6	173	S.R. 43	1100+02.13	1100+03.66	LT./RT.															53		
WS-7	173	S.R. 43	1101+00.73	1101+02.43	LT./RT.															53		
WS-8	173	S.R. 43	1101+63.37	1101+65.12	LT./RT.															54		
WS-9	175	S.R. 43	1113+95.90	1113+96.68	LT./RT.															51		
WS-10	176	S.R. 43	1115+28.12	1115+32.52	LT./RT.															55		
WS-11	176	S.R. 43	1119+84.52	1119+85.17	LT./RT.															48		
WS-12	178	S.R. 43	1126+01.02	1126+04.69	LT./RT.															57		
WV-1	169	S.R. 43	1083+52.53		LT.																	
WV-2	169	S.R. 43	1083+53.06		LT.																	
WV-3	169	S.R. 43	1083+55.78		LT.																	
WV-4	169	S.R. 43	1084+39.93		LT.																	
WV-5	170	S.R. 43	1085+16.80		LT.																	
WV-6	170	S.R. 43	1085+17.85		RT.																	
WV-7	170	S.R. 43	1086+47.56		RT.																	
WV-8	170	S.R. 43	1086+48.32		LT.																	
WV-9	170	S.R. 43	1087+52.12		RT.																	
WV-10	170	S.R. 43	1087+77.35		RT.																	
WV-11	170	S.R. 43	1088+12.98		LT.	1																
WV-12	171	S.R. 43	1090+64.05		LT.																	
WV-13	171	S.R. 43	1090+74.27		RT.	1																
WV-14	171	S.R. 43	1091+20.76		LT.																	
WV-14A	171	S.R. 43	1091+20.92		LT.	1																
WV-15	171	S.R. 43	1091+30.74		LT.																	
WV-16	171	S.R. 43	1091+43.46		LT.	1																
WV-17	171	S.R. 43	1093+48.07		LT.	1																
WV-18	171	S.R. 43	1094+48.79		LT.	1																
WV-19	171	S.R. 43	1094+63.38		LT.	1																
SUBTOTALS CARRIED TO SHEET NO. 165						7	218	44	1456	5	1	2	1	3	1	3	7	1439	4	4	1	546

ADDENDUM #1 - REVISED 9-19-22

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WATER WORK SUBSUMMARY

POR-43-18.65

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REF. NO.	SHEET NO.	LOCATION	STATION		SIDE	202 VALVE BOX REMOVED EACH	638 WATER WORK, MISC.: 6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 FT	638 WATER WORK, MISC.: 8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 FT	638 WATER WORK, MISC.: 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 FT	638 6" GATE VALVE AND VALVE BOX EACH	638 8" GATE VALVE AND VALVE BOX EACH	638 10" GATE VALVE AND VALVE BOX EACH	638 FIRE HYDRANT EXTENDED AND ADJUSTED TO GRADE EACH	638 FIRE HYDRANT ADJUSTED TO GRADE EACH	638 VALVE BOX ADJUSTED TO GRADE EACH	638 VALVE BOX ADJUSTED TO GRADE, AS PER PLAN EACH	638 SERVICE BOX ADJUSTED TO GRADE EACH	638 8" CUTTING IN SLEEVE, VALVE AND VALVE BOX EACH	638 8" CUTTING IN SLEEVE EACH	638 10" CUTTING-IN SLEEVE, VALVE AND VALVE BOX EACH	638 10" X 10" TAPPING SLEEVE, VALVE AND VALVE BOX EACH	638 WATER WORK, MISC.: WATER MAIN ABANDONED FT	638 WATER WORK, MISC.: FIRE HYDRANT REMOVED FOR STORAGE (CITY OF STREETSBORO) EACH	638 WATER WORK, MISC.: 6" FIRE HYDRANT (CITY OF STREETSBORO) EACH	638 WATER WORK, MISC.: 6" FIRE HYDRANT WITH REMOTE SENSING (CITY OF STREETSBORO) EACH	638 WATER WORK, MISC.: 3/4" COPPER WATER SERVICE LINE (CITY OF STREETSBORO) FT		
			FROM	TO																								
WV-20	172	S.R. 43	1095+09.97		LT.	1																						
WV-21	172	S.R. 43	1095+70.95		RT.	1																						
WV-22	172	S.R. 43	1096+52.98		LT.	1																						
WV-23	172	S.R. 43	1098+35.17		LT.	1																						
WV-24	172	S.R. 43	1098+65.73		LT.																							
WV-25	172	S.R. 43	1098+70.35		LT.																							
WV-26	172	S.R. 43	1099+36.26		RT.																							
WV-26A	172	S.R. 43	1099+36.26		RT.																							
WV-27	172	S.R. 43	1099+26.87		LT.																							
REF. NO. WV-28 THRU WV-30 NOT USED																												
WV-31	173	S.R. 43	1100+02.13		LT.	1																						
WV-32	173	S.R. 43	1100+25.60		RT.																							
WV-33	173	S.R. 43	1101+00.73		LT.	1																						
WV-34	173	S.R. 43	1101+01.54		RT.	1																						
WV-35	173	S.R. 43	1101+63.37		LT.	1																						
REF. NO. WV-36 NOT USED																												
WV-37	173	S.R. 43	1102+19.33		RT.																							
WV-38	173	S.R. 43	1102+76.87		RT.																							
REF. NO. WV-39 NOT USED																												
WV-41	174	S.R. 43	1105+82.46		RT.																							
WV-42	174	S.R. 43	1106+03.33		RT.																							
WV-43	174	S.R. 43	1108+84.30		RT.																							
WV-44	174	S.R. 43	1109+13.41		RT.																							
WV-45	174	S.R. 43	1109+30.22		RT.																							
WV-46	175	S.R. 43	1112+60.00		RT.																							
WV-47	175	S.R. 43	1113+95.80		LT.																							
WV-48	176	S.R. 43	1115+28.12		LT.																							
WV-49	176	S.R. 43	1115+70.00		RT.																							
WV-50	176	S.R. 43	1115+77.39		RT.																							
WV-51	176	S.R. 43	1116+23.61		LT.																							
WV-52	176	S.R. 43	1117+16.89		LT.																							
WV-53	176	S.R. 43	1118+77.17		LT.																							
WV-54	176	S.R. 43	1119+29.00		RT.																							
WV-55	176	S.R. 43	1119+84.52		RT.																							
WV-56	177	S.R. 43	1120+64.89		RT.																							
WV-57	177	S.R. 43	1120+71.90		LT.																							
WV-58	177	S.R. 43	1121+59.20		LT.																							
WV-59	177	S.R. 43	1122+80.86		LT.																							
WV-60	177	S.R. 43	1122+92.85		RT.																							
WV-61	177	S.R. 43	1122+98.58		RT.																							
WV-62	177	S.R. 43	1124+36.48		LT.																							
WV-63	178	S.R. 43	1125+20.57		LT.																							
WV-64	178	S.R. 43	1125+29.29		RT.																							
WV-65	178	S.R. 43	1126+00.48		LT.	1																						
WV-66	178	S.R. 43	1126+29.78		RT.																							
WV-67	178	S.R. 43	1128+77.26		RT.	1																						
WV-68	179	S.R. 43	1130+39.28		RT.																							
SUBTOTALS						10																						
SUBTOTALS CARRIED FROM SHEET NO. 164						7	218	44	1456	5	1	2	1	3	1	3	6	12	1	1	4	1		1439	4	4	1	546
TOTALS CARRIED TO THE GENERAL SUMMARY						17	218	44	1456	5	2	4	1	3	9	9	19	1	1	4	1		1439	4	4	1	546	

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WATER WORK SUBSUMMARY

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ADDENDUM #1 - REVISED 9-19-22

STREETSBORO DEPARTMENT OF WATER (SWD)

ALL REQUIREMENTS CONTAINED HEREIN FOR THE STREETSBORO DEPARTMENT OF WATER (SWD) SHALL APPLY FOR ALL WATER WORK THAT IS THE PROPERTY OF THE CITY OF STREETSBORO.

STREETSBORO DEPARTMENT OF WATER (SWD) NOTES FOR NEW WATER MAIN INSTALLATION

CONTRACTOR SHALL ABIDE BY THE MOST CURRENT VERSION OF THE REGULATIONS AND SPECIFICATIONS OF THE CITY OF STREETSBORO DEPARTMENT OF WATER. IN ADDITION, THE DESIGN OF THE WATERLINE MUST COMPLY WITH "TEN STATE STANDARDS - 2012".

GENERAL:

- ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE STREETSBORO DEPARTMENT OF WATER, SHALL BE AT THE EXPENSE OF THE PROJECT.
- THE CONTRACTOR SHALL COMPLY WITH CHAPTER 925 AND 137.02 OF THE CODIFIED ORDINANCE AND THESE NOTES.
- CONTACT THE INSPECTION AND ENFORCEMENT UNIT AT 330-626-2856 TO SCHEDULE A PRECONSTRUCTION MEETING. 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 CITY OF STREETSBORO WATER INSPECTOR.
- THE CITY OF STREETSBORO DEPARTMENT OF WATER (SWD) WILL REQUIRE THE CONTRACTOR TO OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CITY ENGINEER WITH RECORD PRINTS IN A FORM ACCEPTABLE TO THE CITY OF STREETSBORO. THE CITY OF STREETSBORO AND THE CITY OF STREETSBORO DEPARTMENT OF WATER WILL REQUIRE THE DELIVERY AND ACCEPTANCE OF TWO COPIES OF RECORD (AS-BUILT) PRINTS BEFORE THE PRESSURE TEST AND CHLORINATION OF THE MAIN.
- LOCATION OF NEW CONNECTIONS SHALL BE APPROVED BY STREETSBORO DEPARTMENT OF WATER (SWD)
- THE CONTRACTOR SHALL PROVIDE A WARRANTY FOR THE DURATION OF THE PROJECT FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR, INCLUDING RETAPS, SHOULD ANY LEAKS OCCUR AND REPAIR REQUIRED. WATERLINE WORK WILL BE INSPECTED BY THE CITY OF STREETSBORO WATER DEPARTMENT THROUGHOUT THE DURATION OF THE PROJECT. ANY DEFECTS IDENTIFIED BY THE STREETSBORO WATER DEPARTMENT SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
- USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING WATER MAINS AND WATER SERVICE CONNECTIONS ARE EXPOSED. (SEE WATER DETAILS CONTAINED IN THE DRAWINGS).
- ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIAL SPECIFICATIONS AND OTHER WATER APPURTENANCES SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT STREETSBORO DEPARTMENT OF WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STREETSBORO DEPARTMENT OF WATER STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONNECTING THE NEW WATER MAIN FOR THE HYDROSTATIC TEST. ALL REPAIRS TO DAMAGED EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE STREETSBORO DEPARTMENT OF WATER.
- ALL THE HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE CITY OF STREETSBORO'S WATER INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 200 PSI FOR 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 THE SWD AND REPEAT THE TWO (2) HOUR PRESSURE TEST. UNTIL A PASSING TEST IS OBTAINED.
- WHERE SHOWN ON THE PLANS, OR WHERE OTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE MEGA LUG CONNECTION JOINTS WITH STAINLESS STEEL LUGS.
- AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT PLUGS PER THE PREVENTATIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO 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 SWD INSPECTOR OR CITY ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. AS-BUILTS SHALL BE CONSIDERED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.
- ALL TEES AND VALVES SHALL BE RESTRAINED EXCEPT FOR THE TEE CONNECTING WV-12 AND VALVE WV-12.

HYDRANTS:

- IN ALL HYDRANT INSTALLATIONS THE CONTRACTOR SHALL FACE THE HYDRANT'S 4" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. CONTRACTOR SHALL SEE S.W.D. REGULATIONS AND SPECIFICATIONS FOR HYDRANT MODEL AND NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS.
- ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515.

STREETSBORO DEPARTMENT OF WATER (SWD) NOTES FOR NEW WATER MAIN INSTALLATION CONT'D

16. WATER CONNECTIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. ADDITIONAL PERMITS FOR ANY NEW SERVICE CONNECTIONS MUST BE OBTAINED FROM THE STREETSBORO DEPARTMENT OF WATER PRIOR TO INSTALLATION OF ANY PORTION OF THE SERVICE CONNECTION(S). IT IS THE CONTRACTORS RESPONSIBILITY TO ARRANGE FOR PERMITS FOR ALL SIZE WATER SERVICE CONNECTIONS BEFORE PERFORMING ANY WORK. THE AMOUNT OF CHARGES FOR ANY NEW SERVICE CONNECTION MUST BE OBTAINED FROM THE STREETSBORO DEPARTMENT OF WATER AT 330-626-2856. THE COST FOR THE PERMITS SHALL BE INCLUDED IN VARIOUS ITEMS OF THE WATER WORK PLANS UNLESS ITEMIZED SEPARATELY.

17. ALL SERVICE TAPS SHALL BE FROM THE WATER MAIN ALONG THE FRONTAGE OF THE PROPERTY WITHIN THE GREEN SPACE (NO SERVICE TAPS SHALL BE PLACED WITHIN THE DRIVEWAY UNLESS OTHERWISE APPROVED IN WRITING BY THE CITY SERVICE DIRECTOR) PER SECTION 102.01 OF THE WATER RULES AND REGULATIONS, ORDINANCE NO. 2005-40, PASSED MARCH 28, 2005.

EMERGENCIES

18. IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, PLEASE NOTIFY THE STREETSBORO DEPARTMENT OF WATER AT 330-626-2856.

CLEARANCES:

AN 18 INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND STORM SEWER AT ALL CROSSINGS.

A 10 FOOT MINIMUM HORIZONTAL CLEARANCE (OUT-TO-OUT, CLEAR) SHALL BE MAINTAINED FROM THE EDGE OF ALL WATER PIPE TO THE EDGE OF ALL STORM SEWER PIPE.

A 10 FOOT MINIMUM HORIZONTAL CLEARANCE SHALL BE MAINTAINED FROM THE EDGE OF ALL WATER PIPE TO THE EDGE OF ALL SANITARY SEWER OR FORCE MAIN PIPES.

AN 18 INCH MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE EDGE OF ALL WATER PIPE TO THE EDGE OF ALL SANITARY SEWER PIPE.

MATERIALS:

CARRIER PIPE: FOR WATER MAIN INSTALLED UNDER PAVEMENT, A CARRIER PIPE IS REQUIRED PER AWWA C600-93, SECTION 6.2.

PVC PLASTIC C909 PIPE: (4" THRU 24") PLASTIC C909 PIPE SHALL MEET ALL REQUIREMENTS OF AWWA C605-13 UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) AND MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PRESSURE PIPE AND FITTINGS, AND ASTM D1784 CELL CLASS 12454 WITH PUSH ON JOINTS. ALL PIPE SHALL CONSIST OF MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PRESSURE PIPE C-909 DR-18, PRESSURE CLASS 235.

FITTINGS: FITTINGS SHALL BE CAST IRON OR DUCTILE IRON IN ACCORDANCE WITH THE SECTION "DUCTILE IRON AND CAST IRON FITTINGS" AND ANSI/AWWA C110/A21.10 "DUCTILE-IRON AND GRAY-IRON FITTINGS" OR ANSI/AWWA C153/A21.53 "DUCTILE-IRON COMPACT FITTINGS". ALL DUCTILE IRON FITTINGS SHALL HAVE AT LEAST TWO (2) FULL LENGTHS OF RESTRAINED JOINT PIPE EITHER OR ALL SIDES OF THE FITTING.

PIPE JOINTS: JOINTS FOR DUCTILE AND CAST IRON PIPE AND FITTINGS SHALL CONFORM TO ANSI/AWWA C111/A21.11 "RUBBER-GASKET JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS" AND THE FOLLOWING:

PUSH-ON JOINTS: ALL PIPE, UNLESS OTHERWISE REQUIRED, SHOWN ON CONTRACT DRAWINGS, DIRECTLY SPECIFIED, OR CONNECTED TO FITTINGS, VALVES AND HYDRANTS, SHALL HAVE SOCKET BY PLAIN END RUBBER GASKET PUSH ON JOINTS WITH RADIALLY COMPRESSED LOCKED IN PLACE RUBBER RING GASKETS. PUSH-ON COMPRESSION JOINTS SHALL CONFORM TO THE REGULAR AND SPECIAL REQUIREMENTS FOR PUSH ON JOINTS IN THE AMERICAN NATIONAL STANDARD, ANSI/AWWA C111/A21.11, "RUBBER-GASKET JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS," FOR DUCTILE IRON PIPE.

MECHANICAL JOINTS/RESTRAINED MECHANICAL JOINTS: UNLESS OTHERWISE REQUIRED, SHOWN ON THE CONTRACT DRAWINGS, OR DIRECTLY SPECIFIED, ALL FITTINGS AND ALL PIPE ENDS CONNECTED TO FITTINGS, SUCH AS BENDS, TEES, CROSSES, HYDRANT BRANCHES, ETC.,

STREETSBORO DEPARTMENT OF WATER (SWD) NOTES FOR NEW WATER MAIN INSTALLATION CONT'D

MECHANICAL JOINTS/RESTRAINED MECHANICAL JOINTS: (CONTINUED)

SHALL HAVE BELL OR PLAIN END JOINTS OF THE MECHANICAL BOLTED STUFFING BOX TYPE WITH SEALING GASKET AND BOLTED DUCTILE IRON FOLLOWER GLAND AND SHALL BE OF THE SPECIFIED RESTRAINED TYPE. BOLTS AND NUTS FOR MECHANICAL JOINTS SHALL BE CORROSION RESISTANT, HIGH STRENGTH, STAINLESS STEEL. MECHANICAL JOINT PIPE AND FITTINGS SHALL CONFORM WITH THE REGULAR AND SPECIAL REQUIREMENT THAT ALL GLANDS SHALL BE DUCTILE IRON WITH JOINT DIMENSIONS AND TOLERANCES, BOLT HOLES AND SLOTS, GASKETS, RUBBER, QUALITY CONTROL, BOLTS AND NUTS, AND MARKING, BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARD, ANSI/AWWA C111/A21.11, "RUBBER-GASKET JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS," AND ALL SUBSEQUENT AMENDMENTS THERETO.

ALL PIPE AND FITTING JOINTS AS ORDERED, SHALL BE PROPERLY SECURED TO PREVENT THRUST FORCES FROM PULLING THE PIPELINE JOINTS APART. ALL TIED JOINTS SHALL BE HARNESSSED BY USING STAINLESS STEEL TIE RODS AND CLAMPS OR BY PIPE MANUFACTURERS STANDARD RESTRAINED JOINT ARRANGEMENTS CONFORMING TO THESE SPECIFICATIONS.

PIPE AND FITTING BELL JOINT AND GASKETS SHALL BE FURNISHED AS SPECIFIED. GLANDS FOR RESTRAINED MECHANICAL JOINTS SHALL BE BOLTED TYPE OF DUCTILE IRON MATERIAL CONFORMING TO AMERICAN NATIONAL STANDARD, ANSI/AWWA C111/A21.11, "RUBBER GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS," AND CONFORMING WITH ASTM A536, LATEST EDITION, "SPECIFICATION FOR DUCTILE-IRON CASTINGS." MECHANICAL JOINT RESTRAINT SHALL BE INCORPORATED IN THE DESIGN OF THE FOLLOWER GLAND AND SHALL INCLUDE A RESTRAINING MECHANISM WHICH, WHEN ACTUATED, IMPARTS MULTIPLE WEDGING ACTION AGAINST THE PIPE, INCREASING ITS RESISTANCE AS THE PRESSURE INCREASES. FLEXIBILITY OF THE JOINT SHALL BE MAINTAINED AFTER BURIAL. RESTRAINED MECHANICAL JOINT FOLLOWER GLANDS SHALL BE EQUAL TO THE "MEG-A-LUG" AS MANUFACTURED BY EBAA IRON SALES, INC.; THE "ONE-LOK" AS MANUFACTURED BY THE SIGMA CORPORATION; OR THE UNI-FLANGE SERIES 1400 "BLOCK BUSTER" AS MANUFACTURED BY THE FORD METER COMPANY. DIMENSIONS OF THE GLAND SHALL BE SUCH THAT IT CAN BE USED WITH THE STANDARDIZED MECHANICAL JOINT BELL AND STAINLESS STEEL TEE-HEAD BOLTS CONFORMING TO ANSI/AWWA C111/A21.11 AND ANSI/AWWA C153/A21.53 OR LATEST REVISION. STAINLESS STEEL TWIST-OFF NUTS SHALL BE USED TO INSURE PROPER ACTUATING OF THE RESTRAINING DEVICES. PROPER TORQUE SHALL BE THAT AS RECOMMENDED BY THE RETAINER GLAND MANUFACTURER. WHERE JOINT DEFLECTION IS NECESSARY FOR ALIGNMENT, SUCH DEFLECTION SHALL BE LIMITED TO MANUFACTURER'S MAXIMUM JOINT OPENING. ALL RESTRAINED JOINTS SHALL BE RATED FOR MINIMUM 350 PSI WORKING PRESSURE.

STAINLESS STEEL TIE RODS AND CLAMP HARNESSING ARRANGEMENTS SHALL BE INSTALLED UTILIZING STAINLESS STEEL LUGGED FITTINGS AND PIPE WITH SADDLE CLAMPS PLACED TO BEAR AGAINST THE PIPE BELLS. SADDLE CLAMPS AROUND THE BARREL OF THE PIPE WHICH DEPEND ON FRICTION OR SET SCREWS TO PREVENT SLIDING OF THE CLAMP ARE NOT ACCEPTABLE. THE PIPE CLAMPS, TIE RODS AND THEIR ASSEMBLY SHALL MEET THE REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN NO. 24, LATEST EDITION. AFTER EACH TIED JOINT IS COMPLETED, ALL PIPE CLAMPS, BOLTS, HEADS, TIE RODS AND NUTS SHALL BE COATED WITH A BITUMINOUS COATING IN ACCORDANCE WITH ANSI/AWWA SPECIFICATION C151/A21.51.

THE PIPE MANUFACTURER'S STANDARD RESTRAINED JOINTS SHALL BE OF THE TYPE UTILIZING STAINLESS STEEL LUGS, SHOP WELDED STAINLESS STEEL RETAINER LUGS, RETAINER RINGS BEARING AGAINST PIPE SHOULDERS, OR RETAINER RINGS IN PIPE GROOVES. WHERE THE RESTRAINED JOINT IS OF THE GROOVED TYPE, THE WALL THICKNESS BENEATH THE GROOVE SHALL BE EQUAL TO OR GREATER THAN THE MINIMUM SPECIFIED WALL THICKNESS. RETAINER GLANDS OR UNIFLANGE ADAPTERS UTILIZING SET SCREWS BEARING AGAINST THE PIPE WALL ARE NOT ACCEPTABLE FOR BURIED PIPE HARNESSING. FIELD WELDING OF THE RESTRAINED JOINT OR COMPONENTS IS NOT ACCEPTABLE.

BOLTLESS RESTRAINED PUSH-ON JOINTS:

ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE OF THE BOLTLESS RESTRAINED PUSH-ON JOINT TYPE. VALVES WITHIN "RESTRAINED DISTANCES" SHALL BE OF THE TYPE NOTED ON THE CONTRACT DRAWINGS. BOLTLESS RESTRAINED PUSH-ON JOINTS SHALL BE OF A DESIGN CONSISTING OF A SHOP WELDED RETAINER RING OR SEGMENT ON THE SPIGOT END OF THE PIPE THAT WHEN THE JOINT IS FULLY ASSEMBLED "LOCKS" INTO THE BELL OF THE ADJACENT PIPE OR FITTING PROVIDING A POSITIVE RESTRAINED JOINT. NO FIELD WELDED RESTRAINED JOINTS ARE PERMITTED EXCEPT ON LENGTHS OF PIPE LESS THAN NOMINAL LENGTH WHERE SHORT LENGTHS ARE REQUIRED AS CLOSURES. BOLTLESS RESTRAINED JOINTS SHALL BE OF A DESIGN THAT PROVIDES RESTRAINING ACTION BETWEEN THE SPIGOT AND BELL OF THE PIPE OR FITTING INDEPENDENT OF THE GASKET. BOLTLESS RESTRAINED PUSH-ON JOINTS SHALL BE EQUAL TO: "FLEX-RING" AS MANUFACTURED BY AMERICAN CAST IRON PIPE COMPANY; "SUPER-LOCK" AS MANUFACTURED BY CLOW CORPORATION (MCWANE, INC.); OR "TR-FLEX" AS MANUFACTURED BY U.S. PIPE AND FOUNDRY.

DETECTABLE UNDERGROUND UTILITY MARKING TAPE: DETECTABLE UNDERGROUND MARKING TAPE SHALL BE PLACED APPROXIMATELY ONE (1) FOOT ABOVE THE WATER MAIN IN ORDER TO LOCATE THE MAIN LINE IN THE FUTURE. DETECTABLE TAPE SHALL CONSIST OF A MINIMUM 5.0 MIL (0.005") OVERALL THICKNESS, WITH NO LESS THAN A 35 GAUGE (0.00035") SOLID ALUMINUM FOIL CORE AND A MINIMUM WIDTH OF THREE (3) INCHES. THE FOIL MUST BE VISIBLE FROM BOTH SIDES. THE LAYERS SHALL BE LAMINATED TOGETHER WITH THE EXTRUSION LAMINATION PROCESS, NOT ADHESIVES. FURTHER, THERE SHALL BE NO INKS OR PRINTING EXTENDING TO THE EDGES OF THE TAPE. THE ADHESIVE SHALL NOT CONTAIN ANY DILUTANTS, PIGMENTS, OR CONTAMINANTS AND IS SPECIALLY FORMULATED TO RESIST DEGRADATION BY ELEMENTS NORMALLY ENCOUNTERED IN THE SOIL. ALL PRINTING SHALL BE ENCASED TO AVOID INK RUB-OFF. COLOR OF TAPE SHALL BE SAFETY PRECAUTION BLUE AND TAPE SHALL BE MAGNETIC.



ADDENDUM #1 - REVISED 9-19-22

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WATER WORK GENERAL NOTES

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STREETSBORO DEPARTMENT OF WATER (SWD) NOTES FOR NEW WATER MAIN INSTALLATION CONT'D

BEDDING: PIPE SHALL BE LAID ONLY AFTER THE TRENCH HAS BEEN EXCAVATED BELOW THE BOTTOM OF THE PIPE, AND BROUGHT BACK WITH NOT LESS THAN SIX (6) INCHES OF SAND THOROUGHLY COMPACTED TO GRADE, AND SHAPED TO PROVIDE A FIRM TROUGH FOR RECEIVING THE PIPE. BELL HOLES SHALL BE PROPERLY LOCATED AND SHAPED FOR EACH JOINT. INITIAL BACKFILL (SAND) SHALL THEN BE TAMPED, IN SIX (6) INCH LAYERS, UP TO THE SPRINGLINE OF THE PIPE. THE TRENCH SHALL THEN BE BACKFILLED, IN SIX (6) INCH LAYERS, TO A DEPTH OF ONE (1) FOOT ABOVE THE PIPE WITH SAND, (INITIAL BACKFILL MATERIAL), AS SPECIFIED. PAYMENT FOR ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE PERTINENT UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: 6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18, ITEM 638 - WATER WORK, MISC.: 8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 OR ITEM 638 - WATER WORK, MISC.: 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18.

BACKFILL: IN ALL TRENCH INSTALLATION CONDITIONS, BACKFILL TO A MINIMUM OF 12 INCHES OVER THE TOP OF THE PIPE WITH THE SAME SAND MATERIAL UTILIZED FOR THE PIPE BEDDING. IN AREAS NOT UNDER PAVEMENT AND OUTSIDE OF THE RIGHT-OF-WAY, BACKFILL THE TRENCH IN ACCORDANCE WITH ODOT ITEM 638.08. FOR AREAS UNDER PAVEMENT AND WITHIN THE RIGHT-OF-WAY, BACKFILL THE TRENCH IN ACCORDANCE WITH THE FOLLOWING GRANULAR BACKFILL REQUIREMENTS. GRANULAR BACKFILL MATERIAL SHALL BE ALL NATURAL MATERIAL SUCH AS CRUSHED STONE OR GRAVEL MEETING ODOT ITEM 703.01 GRADATION SIZE NO. 57 THROUGH 78 OR ODOT ITEM 703.17 (304) AS INDICATED IN THE PLANS. AGGREGATE MUST BE OBTAINED FROM AN APPROVED SOURCE. NO SLAG, LIMESTONE, RECYCLED CONCRETE OR RECYCLED MATERIALS WILL BE PERMITTED. IF THE PLANS DO NOT INDICATE A SPECIFIC MATERIAL, ANY OF THE ABOVE GRADATIONS MAY BE USED FOR GRANULAR BACKFILL. PAYMENT FOR ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE PERTINENT UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: 6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18, ITEM 638 - WATER WORK, MISC.: 8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 OR ITEM 638 - WATER WORK, MISC.: 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18.

DUCTILE IRON AND CAST IRON FITTINGS: ALL FITTINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH AND IN ALL RESPECTS WITH THE REQUIREMENTS OF THE LATEST STANDARD OF THE "AMERICAN NATIONAL STANDARD" FOR THE FOLLOWING: ANSI/AWWA C110/A21.10, "DUCTILE-IRON AND GRAY-IRON FITTINGS;" ANSI/AWWA C111/A21.11, "RUBBER-GASKET JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS;" ANSI/AWWA C151/A21.51, "DUCTILE-IRON PIPE, CENTRIFUGALLY CAST;" AND ANSI/AWWA C153/A21.53, "DUCTILE-IRON COMPACT FITTINGS," ALL AS ADOPTED BY THE AMERICAN WATER WORKS ASSOCIATION (AWWA), WHICH STANDARDS, EXCEPT AS HEREIN MODIFIED, ARE MADE A PART OF THESE SPECIFICATIONS. ALL DUCTILE IRON FITTINGS SHALL HAVE AT LEAST TWO (2) FULL LENGTHS OF RESTRAINED JOINT PIPE ON EITHER OR ALL SIDES OF THE FITTING.

ALL CAST OR DUCTILE IRON FITTINGS SHALL BE MARKED IN ACCORDANCE WITH ANSI/AWWA C110/A21.10 SECTION 10-9, "MARKINGS ON FITTINGS". MARKING SHALL ALSO INCLUDE THE MANUFACTURER'S INITIALS, YEAR CAST AND CLASS LETTER OR NUMBER. MARK NUMBER AND WEIGHT SHALL BE CONSPICUOUSLY PAINTED ON EACH PIECE.

BOLTS AND NUTS: ALL CONNECTION BOLTS AND NUTS, INCLUDING MEGALUGS, SHALL BE MADE OF STAINLESS STEEL MEETING THE REQUIREMENTS OF ASTM A276, TYPE 304, ASTM A193 HEAVY HEX AND ASTM A194 HEAVY HEX.

FIRE HYDRANTS: FIRE HYDRANTS SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH AWWA C502 AND SHALL BE THE DRY BARREL, 3-WAY TYPE AS MANUFACTURED BY; AMERICAN-DARLING B-84-B-5 OR MUELLER COMPANY SUPER CENTURION 250 (A-423). FIRE HYDRANTS SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC. AND BE FACTORY MUTUAL APPROVED.

GATE VALVES: GATE VALVES SHALL CONFORM TO AWWA C500, "METAL-SEATED GATE VALVES FOR WATER SUPPLY SERVICE", AND SHALL BE IRON BODY, DOUBLE DISC, PARALLEL SEATS, BRONZE MOUNTED WITH NON-RISING STEM UTILIZING RUBBER "O" RING PACKING SEALS. RESILIENT WEDGE GATE VALVES SHALL CONFORM TO AWWA C509, "RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY", OR AWWA C515, "REDUCED-WALL, RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY", AND SHALL HAVE DUCTILE IRON BODIES, EPOXY COATED INSIDE AND OUT PER AWWA C550 WITH NON-RISING STEMS UTILIZING "O" RING STEM SEALS. VALVES SHALL OPEN TO THE LEFT (COUNTER-CLOCKWISE). VALVES SHALL HAVE MECHANICAL JOINT ENDS UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE CITY ENGINEER. ALL VALVES SHOULD BE DESIGNED FOR A WORKING PRESSURE OF 250 POUNDS PER SQUARE INCH (PSI) AND TO BE TESTED WATER TIGHT AT A MINIMUM HYDROSTATIC PRESSURE OF 400 POUNDS PER SQUARE INCH BY THE MANUFACTURER.

ITEM 638 - WATER WORK, MISC.: 6" FIRE HYDRANT (CITY OF STREETSBORO)
ITEM 638 - WATER WORK, MISC.: 6" FIRE HYDRANT WITH REMOTE SENSING (CITY OF STREETSBORO)
THIS ITEM SHALL INCLUDE ALL NECESSARY EXCAVATION, EMBANKMENT, DEWATERING, SHEETING, PREPARATION OF TRENCH BOTTOM, ROCK EXCAVATION, HYDRANT, TEE, 4" STORZ CONNECTION, 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 S.W.D. STANDARDS.

STREETSBORO DEPARTMENT OF WATER (SWD) NOTES FOR NEW WATER MAIN INSTALLATION CONT'D

TAPPING SLEEVES AND VALVES: THE CONTRACTOR SHALL FURNISH AND INSTALL STAINLESS STEEL TAPPING SLEEVES IN ACCORDANCE WITH AWWA C223, "STANDARD FOR FABRICATED STEEL AND STAINLESS STEEL TAPPING SLEEVES" SUITABLE FOR CONNECTION TO THE EXISTING WATER MAINS AT LOCATIONS INDICATED ON THE CONTRACT DRAWINGS, OR AS REQUIRED BY THE CITY ENGINEER. ALL TAPPING SLEEVES SHALL BE HEAVY 18-8 TYPE 304 STAINLESS STEEL WITH HEAVY 18-8 TYPE 304 STAINLESS STEEL STUDS/BOLTS AND HEAVY HEX TYPE 304 STAINLESS STEEL NUTS WITH TYPE 304 STAINLESS STEEL WASHERS UNLESS DIRECTED OTHERWISE BY THE CITY ENGINEER. TAPPING SLEEVES SHALL BE PROVIDED WITH A 3/4" TEST OUTLET AND PLUG. ALL METAL SURFACES MUST BE FULLY PASSIVATED IN ACCORDANCE WITH ASTM A380.

VALVE BOXES: ALL DIRECT BURY VALVES SHALL BE PROVIDED WITH VALVE, CURB OR SERVICE BOXES. VALVE BOXES SHALL BE OF STANDARD, ADJUSTABLE, HEAVY PATTERN, CAST IRON EXTENSION TYPE, THREE PIECE, 5-1/4 INCH SHAFT, SCREW TYPE, AND OF SUCH LENGTH AS NECESSARY TO EXTEND FROM THE VALVE BONNET TO FINISHED GRADE. TOPS SHALL BE SET AT ESTABLISHED GRADE, AND THE VALVE BOX COVER MARKED "WATER". ALL VALVE BOXES INSTALLED IN THE ROADWAY SHALL BE OF A SELF-LEVELING TYPE THE SELF-LEVELING TYPE VALVE BOX SHALL CONSIST OF AN EAST JORDAN SELFLEVEL TYPE VALVE BOX RISER AND TOP OR AN APPROVED EQUAL.

CUTTING PIPE: WHENEVER IT BECOMES NECESSARY TO CUT A LENGTH OF PIPE FOR ANY PURPOSE, CARE SHALL BE TAKEN TO LEAVE A SMOOTH AND UNIFORM SURFACE AND THE CUT SHALL BE PERFORMED SO THAT THE CUT SURFACE IS AT RIGHT ANGLES TO THE PIPE AXIS.

PAYMENT FOR ALL REQUIREMENTS AND ITEMS LISTED UNDER THE STREETSBORO DEPARTMENT OF WATER (SWD) NOTES FOR NEW WATER MAIN INSTALLATION NOTE, INCLUDING ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE PERTINENT UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: 6", 8", OR 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18, UNLESS ITEMIZED SEPARATELY.

HYDRANT ASSEMBLIES SHALL BE EQUIPPED WITH NATIONAL STANDARD NOZZLE THREADING AND HPHA HARRINGTON PERMANENT HYDRANT 4" STORZ COUPLING AS MANUFACTURED BY HARRINGTON, INC. (OR APPROVED EQUAL).

HYDRANTS IDENTIFIED IN THE PLANS TO INCLUDE REMOTE SENSING ARE TO BE CLOW MEDALLION (5 1/4"), KENNEDY GUARDIAN K81D (5 1/4") WITH HYDRANT REMOTE SENSORS OR APPROVED EQUAL AS DETERMINED BY THE STREETSBORO WATER, FIRE, AND ENGINEERING DEPARTMENTS.

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

STREETSBORO DEPARTMENT OF WATER (SWD) FEES AND CHARGES
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SWD FEES AND CHARGES ASSOCIATED WITH THIS PROJECT. COST OF THIS ITEM TO BE INCLUDED IN OTHER ITEMS OF WORK. FOR SCHEDULE OF FEES AND CHARGES, THE CONTRACTOR SHALL CONTACT THE CITY OF STREETSBORO WATER DEPARTMENT (330) 626-2856.

ITEM 638 - WATER WORK, MISC.: FIRE HYDRANT REMOVED FOR STORAGE (CITY OF STREETSBORO)
PRIOR TO THE REMOVAL OF ANY EXISTING FIRE HYDRANT, AS INDICATED ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNER AS TO WHETHER TO DISPOSE OF OR SALVAGE THE EXISTING HYDRANT. THIS ITEM OF WORK SHALL ALSO INCLUDE THE REMOVAL OF THE EXISTING HYDRANT BRANCH BETWEEN THE MAIN AND THE HYDRANT. PAYMENT FOR THE REMOVAL OF THE HYDRANT AND BRANCH AND DISPOSAL AND/OR SALVAGE AND DELIVERY OF THE EXISTING HYDRANT TO THE OWNER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: FIRE HYDRANT REMOVED FOR STORAGE (CITY OF STREETSBORO).

ITEM 638 - WATER WORK, MISC.: CITY OF STREETSBORO WATER DEPARTMENT CHARGES
PERMITS, INSPECTIONS AND FEES REQUIRED BY THE CITY OF STREETSBORO WATER DEPARTMENT (SWD) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AND MEET COMPLIANCE INCLUDING WATERMAIN LOWERING FEES AND INSPECTION FEES. THE COST OF THESE FEES SHALL BE INCLUDED WITH THIS BID ITEM. CURRENT FEES OF HYDROSTATIC TESTING ARE \$100.00 EACH AND ALL BACTERIA SAMPLES ARE \$33.00 EACH. ALL INVOICES FROM THE CITY OF STREETSBORO WATER DEPARTMENT SHALL BE SUBMITTED TO THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 WITHOUT ANY MARK-UP. THIS WILL BE A DIRECT REIMBURSEMENT ONLY AND ANY BALANCE DUE OR BALANCE REMAINING SHALL BE ADJUSTED BY CHANGE ORDER.

ITEM 638 - WATER WORK, MISC.: CURB BOX
THE CONTRACTOR SHALL PROVIDE AND INSTALL CURB BOXES FOR WATER SERVICES INDICATED IN THE PLANS AS "TO BE REPLACED" AND AT ADDITIONAL LOCATIONS AS DIRECTED BY THE ENGINEER. CURB BOX SHALL BE AS PER TYPE SPECIFIED ON THE WATER WORK DETAILS SHEET IN THE PLANS AND SHALL CONFORM TO ODOT CMS 638. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE DESCRIBED WORK:

ITEM 638 - WATER WORK, MISC.: CURB BOX 17 EACH
PAYMENT FOR THE ABOVE STATED SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE STATED WORK.

SERVICE CONNECTIONS

THE CONTRACTOR SHALL FIELD LOCATE ALL SERVICE CONNECTIONS AND VERIFY THE SIZE OF THE EXISTING SERVICE CONNECTION. THE PROPOSED SERVICE CONNECTION SHALL BE THE SAME SIZE AS THE EXISTING SERVICE CONNECTION. FOR ESTIMATING PURPOSES, A 3/4" SIZE IS SHOWN ON THE PLAN SHEETS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY SERVICE CONNECTION NOT SHOWN ON THE PLANS.

UNLESS ITEMIZED SEPARATELY IN THE PLANS, PAYMENT FOR ALL SERVICE CONNECTIONS SHALL INCLUDE CONTINUOUS 3/4" "K" COPPER FROM CORPORATION STOP TO CURB STOP FOR RESIDENTIAL SERVICE CONNECTIONS, CONTINUOUS 1" OR LARGER "K" COPPER FROM CORPORATION STOP TO CURB STOP FOR COMMERCIAL SERVICE CONNECTIONS, EXCAVATION, FULL DEPTH PAVEMENT SAWING, PAVEMENT REMOVAL, INSTALLING PIPE UNDER ROADWAY, TAPPING SADDLES, CORPORATION STOPS, SERVICE STOPS WITH RODS, SERVICE BOXES, CURB STOP VALVES, HYDROSTATIC TESTING, DISINFECTION, BACKFILLING, TRACKLESS TACK COATS, SUBGRADE COMPACTION, RESTORATION OF SURFACES INCLUDING PAVEMENT, ASPHALT CONCRETE BASE, AND AGGREGATE BASE TO AN EQUAL OR BETTER UNDISTURBED CONDITION, LAYOUT STAKES, REMOVAL OF EXISTING SERVICE CONNECTION AND DISPOSAL OF MATERIAL.

ALL SERVICES ARE TO BE DIRECTIONALLY BORED WITH BORING MACHINE CAPABLE OF LOCATING DEPTH AND DIRECTION VIA TRANSMITTER HEAD SUB SURFACE TO INTERFACE SCREEN AT SURFACE. ALL DEPTHS ARE REQUIRED TO BE RECORDED AT MINIMUM OF 10' INCREMENTS AND PAINTED ON THE SURFACE AT EACH INCREMENT WITH MARKING PAINT. A COPY OF THE RECORDED INFORMATION SHALL BE DOWNLOADED AND EACH FILE LABELED BY DATE COMPLETED AND ADDRESS (FILE EXAMPLE 8.18.2022. 9000 SR 43), AND SUBMITTED TO CITY OF STREETSBORO WATER DEPARTMENT AT GWILLIAMS@CITYOFSTREETSBORO.COM AND TWEIDEL@CITYOFSTREETSBORO.COM, THUS PROVIDING DOCUMENTATION THAT A MINIMUM OF 4' DEPTH AND DEPTH NOT TO EXCEED 5' MAXIMUM, WAS MAINTAINED THROUGHOUT THE DIRECTIONAL BORE. NO HOLE HOGS OR MOLES OR SIMILAR DEVICES OR TOOLS WILL BE ALLOWED TO PERFORM DIRECTIONAL BORING IN THE CITY OF STREETSBORO.

NOTE: ANY SUBSEQUENT DIRECTIONAL BORING, FAILING TO DOCUMENT AND REPORT REQUIRED DEPTHS OR FAILING TO MEET MINIMUM OR MAXIMUM DEPTHS REQUIRED SHALL BE REQUIRED TO RE-DIRECTIONALLY BORE AT THE COST OF THE GENERAL CONTRACTOR/ CONTRACTOR, AND SUCH COST ARE NOT APPLIABLE TO THE PROJECT.

CONTRACTOR SHALL SUBMIT TO THE ENGINEER DETAILS OF THE DIRECTIONAL BORING METHODS FOR APPROVAL.

ANY ADDITIONAL SERVICE CONNECTIONS REQUIRED SHALL BE AT THE DIRECTION OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR ANY ADDITIONAL SERVICE CONNECTIONS:

ITEM 638 - WATER WORK, MISC.: 3/4" COPPER WATER SERVICE LINE (CITY OF STREETSBORO) 200 FT

PAYMENT FOR THE ABOVE STATED SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: 3/4" COPPER WATER SERVICE LINE (CITY OF STREETSBORO).

ITEM 638 - WATER WORK, MISC.: 6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18
ITEM 638 - WATER WORK, MISC.: 8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18
ITEM 638 - WATER WORK, MISC.: 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 638, THIS ITEM SHALL INCLUDE AS-BUILT DRAWINGS, WARRANTY FOR DURATION OF THE PROJECT, AND COLLECTION OF DIGITAL PHOTOS, AS SPECIFIED ELSEWHERE IN THE PLANS.

ALL PIPE JOINTS SHALL BE AS SPECIFIED IN THE MATERIALS NOTE LOCATED WITHIN THE WATER WORK GENERAL NOTES.

PAYMENT FOR THE ABOVE STATED SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT ITEM 638 - WATER WORK, MISC.: 6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18, ITEM 638 - WATER WORK, MISC.: 8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 OR ITEM 638 - WATER WORK, MISC.: 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18.

ITEM 638 - WATER WORK, MISC.: WATER MAIN ABANDONED
IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 638, THE CONTRACTOR SHALL FILL THE DESIGNATED WATER MAIN TO BE ABANDONED WITH LOW STRENGTH MORTAR BACKFILL AND CAP OR PLUG THE ABANDONED WATER MAIN AT ALL ENDS. THE LENGTH OF FILLED WATER MAIN TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF WATER MAIN) FILLED AS DESCRIBED ABOVE.

PAYMENT FOR THE ABOVE WORK SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: WATER MAIN ABANDONED.

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AS-BUILT DRAWINGS

THIS ITEM SHALL INCLUDE ALL NECESSARY LABOR AND MATERIAL TO PROVIDE THE CITY OF STREETSBORO DEPARTMENT 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 SURVEYOR SHALL SEAL THE DRAWINGS. AS-BUILTS WILL BE REQUIRED PRIOR TO DISINFECTING THE WATER MAIN. ALL WORK REQUIRED SHALL BE INCLUDED IN THE PERTINENT UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: 6", 8", OR 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 AND NO FURTHER PAYMENT SHALL BE MADE.

THE CITY OF STREETSBORO WATER DEPARTMENT REQUIRES ALL AS-BUILT DRAWINGS BE SUBMITTED ELECTRONICALLY TO PASS FINAL INSPECTION. ELECTRONIC SUBMITTALS SHOULD BE FORWARDED TO GWILLA@CITYOFSTREETSBORO.COM. THE CITY OF STREETSBORO WILL NOT ACCEPT CAD FILES AS ELECTRONIC SUBMISSION.

NOTIFICATION

THE CONTRACTOR SHALL CONTACT THE CITY OF STREETSBORO - WATER DEPARTMENT (330) 626-2856 AT LEAST SEVEN (7) DAYS PRIOR TO ANY WATER LINE WORK.

EXISTING WATER MAIN

THE EXISTING 10" WATER MAIN ALONG STATE ROUTE 43 CONSISTS OF A PLASTIC MATERIAL FROM EVERGREEN DRIVE TO SHAWNEE TRAIL AND IS SHOWN ON THE PLANS BASED ON RECORD DRAWINGS (UTILITY QUALITY LEVEL D) AND UNABLE TO BE TONED FOR EXACT LOCATION.



PORTAGE COUNTY WATER RESOURCES (PCWR)

ALL REQUIREMENTS CONTAINED HEREIN FOR THE PORTAGE COUNTY WATER RESOURCES (PCWR) SHALL APPLY FOR ALL WATER WORK THAT IS THE PROPERTY OF PORTAGE COUNTY WATER RESOURCES.

PORTAGE COUNTY WATER RESOURCES (PCWR) WATER WORK NOTES

GENERAL

1. THE SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS OF PORTAGE COUNTY WATER RESOURCES TOGETHER WITH THE CITY OF STREETSBORO DEPARTMENT OF WATER, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED HEREIN, IN FORCE AT THE TIME OF CONTRACT, SHALL GOVERN THIS PROJECT. WATER LINE CONNECTIONS SHALL BE GOVERNED BY STREETSBORO DEPARTMENT OF WATER AND PORTAGE COUNTY WATER RESOURCES RULES AND REGULATIONS AND MUST BE INSPECTED BY THE STREETSBORO DEPARTMENT OF WATER AND PORTAGE COUNTY WATER RESOURCES OR AUTHORIZED REPRESENTATIVE. TWENTY-FOUR HOURS ADVANCE NOTICE OF WORK MUST BE GIVEN HIS OFFICE FOR THE SCHEDULING OF AN INSPECTOR.
2. PRICES BID PER FOOT FOR ALL PIPE IS COMPLETE IN PLACE REGARDLESS OF SOIL OR ROCK CONDITIONS.
3. EXISTING UTILITIES SHOWN ARE FROM BEST AVAILABLE RECORDS AND FIELD INVESTIGATIONS, AND ARE NOT NECESSARILY COMPLETE OR EXACT. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED CONSTRUCTION AND SHALL MAKE ADJUSTMENTS IN ELEVATIONS TO PROVIDE SUFFICIENT CLEARANCE BETWEEN THE PROPOSED AND EXISTING UTILITIES. UTILITY SERVICES BROKEN OR DAMAGED SHALL BE REPAIRED AT ONCE TO AVOID INCONVENIENCE TO CUSTOMERS. THE CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE (OHIO 811.ORG) THREE WORKING DAYS PRIOR TO WORK EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS.
4. ALL WATER WORK CONSTRUCTION SHALL CONFORM TO THE DEPT. OF LABOR, BUREAU OF LABOR STANDARDS SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION AND THE CONTRACT WORK HOURS AND SAFETY ACT (CHAPTER XVII TITLE C&R, PART 1926 AND ALL ADDITIONS AND REVISIONS).

LIMITS OF WORK

THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES WITHIN THE RIGHT-OF-WAYS, CONSTRUCTION AND PERMANENT EASEMENTS AND SHALL NOT TRESPASS UPON OTHER PRIVATE PROPERTY WITHOUT THE WRITTEN CONSENT OF THE OWNER.

WATER MAINS

1. ALL WATERLINES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTAGE COUNTY WATER RESOURCES DEPARTMENT AND THE CITY OF STREETSBORO DEPARTMENT OF WATER.
2. ANY EXISTING HYDRANTS, VALVES, VALVE BOXES, METER PITS, SERVICE LINES, CURB BOXES OR WATER MAINS THAT ARE DAMAGED BY THE CONTRACTOR MUST BE REPAIRED, ADJUSTED, MOVED AND/OR REPLACED FOLLOWING PORTAGE COUNTY WATER RESOURCES STANDARD DETAILS AND SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.
3. FIRE HYDRANTS SHALL BE FURNISHED AND INSTALLED AS PER CITY OF STREETSBORO AND/OR PORTAGE COUNTY WATER STANDARD DETAILS AND SPECIFICATIONS. ALL FIRE HYDRANTS MUST MEET THE CITY OF STREETSBORO SPECIFICATIONS.
4. ALL WATER AND SANITARY OR STORM SEWER CROSSINGS SHALL HAVE AN EIGHTEEN (18") MINIMUM VERTICAL SEPARATION OUTSIDE DIAMETER (O.D.) TO (O.D.) ALL WATER AND SANITARY OR STORM SEWER SHALL HAVE A TEN FOOT (10') MINIMUM HORIZONTAL SEPARATION (O.D.) TO (O.D.). ALL WATER LINES CROSSING OTHER UTILITIES SHALL HAVE A TWELVE INCH (12") MINIMUM VERTICAL SEPARATION (O.D.) TO (O.D.) AND FOUR FOOT (4') MINIMUM HORIZONTAL CLEARANCE SEPARATION (O.D.) TO (O.D.).
5. ALL WATER LINE INSTALLATION AND PRESSURE TESTING SHALL FOLLOW AMERICAN WATER WORKS ASSOCIATION C-600 SPECIFICATIONS.
6. ALL WATER LINE DISINFECTION SHALL FOLLOW (AWWA) C-651 SPECIFICATIONS.
7. BOOSTER PUMPS ARE NOT PERMITTED IN SERVICE CONNECTIONS.
8. ALIGNMENT STAKE LOCATIONS FOR WATER LINE EVERY 100 FEET.
9. THE GROUND OVER THE WATER MAIN SHALL REMAIN FREE OF ALL TRASH CONTAINERS, TREES, SHRUBS, AND OTHER VEGETATION (EXCLUDING GRASS).
10. ALL VALVES WITH VALVE BOXES SHALL BE CHECKED FOR CENTER AT COMPLETION OF THE PROJECT.
11. ALL NEWLY INSTALLED HYDRANTS SHALL BE FLOW TESTED AT COMPLETION OF THE PROJECT.
12. ALL NONMETALLIC PIPE SHALL INCLUDE THE INSTALLATION OF A TRACE WIRE.

ITEM 638 - VALVE BOX ADJUSTED TO GRADE

VALVE BOXES INDICATED FOR ADJUSTMENT TO GRADE WITHIN THE PLANS SHALL BE ADJUSTED AS STATED IN ODOT CMS 638.18.

CONTINGENCY QUANTITIES

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE RESURFACING AREAS LOCATED FROM THE BEGIN WORK TO THE BEGIN PROJECT AND FROM THE END PROJECT TO THE END WORK ALONG S.R. 43:

ITEM 638 - VALVE BOX ADJUSTED TO GRADE, AS PER PLAN 10 EACH



ADDENDUM #1 - REVISED 9-19-22

WATER WORK GENERAL NOTES

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TRACER WIRE
1.GENERAL

A.ALL SYSTEM COMPONENTS, INCLUDING TRACER WIRE, CONNECTORS, GROUND ROADS, AND ACCESS POINTS, MUST BE COMPATIBLE.

B.ALL TRACER WIRE SHALL HAVE HDPE (HIGH DENSITY POLYETHYLENE) INSULATION FOR DIRECT BURY, COLOR CODED PER APWA STANDARD FOR THE SPECIFIC UTILITY BEING MARKED.

2.TRACER WIRE AND INSULATION

A.TRACER WIRE SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS AS APPLICABLE:

*B1010/B1010M - STANDARD SPECIFICATION FOR COPPER-CLAD STEEL ELECTRICAL CONDUCTOR FOR TRACER WIRE APPLICATIONS

*B910/B910M - STANDARD SPECIFICATION FOR ANNEALED COPPER-CLAD STEEL WIRE

*B227 - STANDARD SPECIFICATION FOR HARD-DRAWN COPPER-CLAD STEEL WIRE

*B170 - STANDARD SPECIFICATION FOR OXYGEN-FREE ELECTROLYTIC COPPER-REFINERY SHAPES

*D1248 - STANDARD SPECIFICATION FOR POLYETHYLENE PLASTICS EXTRUSION MATERIALS FOR WIRE AND CABLE

B.DOCUMENTATION VERIFYING THAT TRACER WIRE IS 100% MADE IN THE USA.

C.IF TRACER WIRE MANUFACTURER HAS NOT COMPLETED A 5-YEAR CORROSION TEST, A 5-YEAR WARRANTY MUST BE PROVIDED.

D.OPEN TRENCH / OPEN CUT - TRACER WIRE SHALL BE COPPERHEAD29#64 (OR EQUAL) COPPER-CLAD STEEL 12-AWG HIGH STRENGTH, HIGH CARBON WITH MINIMUM 450 LB. BREAK LOAD, MINIMUM 30 MIL HDPE INSULATION (I230*-HS-**).

E.DIRECTIONAL DRILLING/BORING - TRACER WIRE SHALL BE COPPERHEAD29#64 (OR EQUAL) COPPER-CLAD STEEL 12-AWG EXTRA HIGH STRENGTH WITH MINIMUM 1,150 LB. BREAK LOAD, MINIMUM 45 MIL HDPE INSULATION (I245*-EHS-**).

F.PIPE BURSTING - TRACER WIRE SHALL BE COPPERHEAD29#64 (OR EQUAL) 7X7 STRANDED COPPER-CLAD STEEL SOLOSHOT (TM) XTREME STRENGTH WITH 4,700 LB. BREAK LOAD, MINIMUM 50 MIL HDPE INSULATION (PBX-50*-**).

3.CONNECTORS

A.ALL MAINLINE TRACER WIRES SHALL BE INTERCONNECTED AT INTERSECTIONS, AT MAINLINE TEES AND MAINLINE CROSSES. AT TEES, THE THREE WIRES SHALL BE JOINED USING A SINGLE, THREE-WAY SNAKEBITE (TM) LOCKING CONNECTOR (LSCI230C) OR EQUAL. AT CROSSES, THE FOUR WIRES SHALL BE JOINED USING TWO, THREE-WAY COPPERHEAD SNAKEBITE (TM) LOCKING CONNECTORS (LSCI230C) OR EQUAL WITH A SHORT JUMPER WIRE BETWEEN THEM.

B.DIRECT BURY WIRE CONNECTORS SHALL INCLUDE THREE-WAY LOCKABLE COPPERHEAD SNAKEBITE (TM) LOCKING CONNECTORS (LSCI230C) AND COPPERHEAD MAINLINE-TO-SERVICE CONNECTORS (3WB- 01) OR EQUAL SPECIFICALLY MANUFACTURED FOR USE IN UNDERGROUND TRACER WIRE INSTALLATION. CONNECTORS SHALL BE DIELECTRIC SILICONE FILLED TO SEAL OUT MOISTURE AND CORROSION AND SHALL BE INSTALLED IN A MANNER AS TO PREVENT ANY UNINSULATED WIRE EXPOSURE.

C.NON-LOCKING, FRICTION FIT OR TAPED CONNECTORS ARE PROHIBITED.

4.GROUNDING

A.TRACER WIRE MUST BE PROPERLY GROUNDED AT ALL DEAD-ENDS/STUBS.

B.GROUNDING OF TRACER WIRE SHALL BE ACHIEVED BY USING A DRIVE-IN, MAGNESIUM GROUND ROD WITH A MINIMUM 20- FEET, #12 RED HDPE INSULATED COPPER-CLAD STEEL WIRE CONNECTED TO THE ROD SPECIFICALLY MANUFACTURED FOR THIS PURPOSE.

5.TERMINATION/ACCESS

A.ALL TRACER WIRE TERMINATION POINTS MUST PROVIDE A DIRECT CONNECTION POINT TO THE TRACER WIRE BY A UTILITY LOCATE TRANSMITTER (ABOVE GROUND OR AT GRADE) SPECIFICALLY MANUFACTURED FOR LITE DUTY, CONCRETE/DRIVEWAY, OR ROADWAY APPLICATIONS.

B.ALL AT-GRADE ACCESS POINTS SHALL BE APPROPRIATELY IDENTIFIED WITH "SEWER" OR "WATER" ON THE CAP AND BE COLOR CODED PER AMERICAN PUBLIC WORKS (APWA) STANDARDS.

C.ALL TWO-TERMINAL TRACER WIRE ACCESS POINTS MUST INCLUDE A MANUALLY INTERRUPTIBLE CONDUCTIVE/CONNECTIVE LINK BETWEEN THE TERMINAL FOR THE TRACER WIRE CONNECTION AND THE TERMINAL FOR THE GROUND ROD WIRE CONNECTION.

D.ALL TWO-TERMINAL TRACER WIRE ACCESS POINTS MUST HAVE EXTERNAL DIRECT CONNECTION POINTS TO BOTH THE TRACER WIRE AND GROUND ROD WIRE FROM TOP OF LID.

E.ALL AT-GRADE ACCESS POINTS SHALL INCLUDE AN ENCAPSULATED MAGNET MOLDED INTO THE TOP PORTION OF THE TUBE, TO ALLOW FOR DETECTION BY A FERROUS METAL DETECTOR.

F.ALL AT-GRADE ACCESS POINTS SHALL BE SUPPLIED WITH ANTI-CORROSION WAX/GEL TO PROTECT WIRES.

TRACER WIRE CONT'D

G.SERVICE LATERALS ON PUBLIC PROPERTY - TRACER WIRE SHALL TERMINATE AT AN APPROVED AT-GRADE ACCESS POINT LOCATED AT THE EDGE OF THE ROAD RIGHT-OF-WAY, AND OUT OF THE ROADWAY. APPROVED AT-GRADE ACCESS POINTS SHALL HAVE A TWO-TERMINAL EXTERNALLY SWITCHABLE LID, WHERE THERE IS A DIRECT CONNECTION POINT FOR A LOCATE TRANSMITTER AND AN EXTERNAL SWITCH TO TURN "GROUND" ON AND OFF FROM THE TOP OF THE LID. ACCEPTABLE ACCESS POINTS WITH TWO- TERMINAL, EXTERNALLY SWITCHABLE LIDS INCLUDE COPPERHEAD'S SNAKEPIT (R) LITE DUTY (LD14*2T- SW), LITE DUTY ADJUSTABLE (LD14*2T-ADJ-SW), LITE DUTY XL (LDXL36*2T-SW), OR CONCRETE/DRIVEWAY (CD14*2TP-SW) OR EQUAL.

H.HYDRANTS - TRACER WIRE SHALL TERMINATE AT AN APPROVED ABOVE-GRADE COPPERHEAD COBRA (TM) ACCESS POINT (OR EQUAL) PROPERLY AFFIXED TO THE HYDRANT-GRADE FLANGE. AFFIXING WITH TAPE OR PLASTIC TIES SHALL NOT BE ACCEPTABLE. TRACER WIRE MAY ALSO TERMINATE AT AN APPROVED AT- GRADE COPPERHEAD SNAKEPIT (R) LITE DUTY (LD14*2T-SW), LITE DUTY ADJUSTABLE (LD14*2T-ADJ- SW), LITE DUTY XL (LDXL36*2T-SW), OR CONCRETE/DRIVEWAY (CD14*2TP-SW) ACCESS POINT (OR EQUAL).

6. TESTING

A.ALL NEW TRACER WIRE INSTALLATIONS SHALL BE LOCATED USING TYPICAL LOW FREQUENCY (512 HZ) LINE TRACING EQUIPMENT, WITNESSED BY THE CONTRACTOR, ENGINEER AND FACILITY OWNER AS APPLICABLE, PRIOR TO ACCEPTANCE OF OWNERSHIP.

B.THIS VERIFICATION SHALL BE PERFORMED UPON COMPLETION OF ROUGH GRADING AND AGAIN PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

C.CONTINUITY TESTING IN LIEU OF ACTUAL LINE TRACING SHALL NOT BE ACCEPTED.

*DENOTES COLOR

**SPOOL SIZE (500', 1000', 2500')

PAYMENT FOR ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE PERTINENT UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: 6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18, ITEM 638 - WATER WORK, MISC.: 8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 OR ITEM 638 - WATER WORK, MISC.: 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18.

TRACER WIRE INSTALLATION

1.GENERAL

A.TRACER WIRE INSTALLATION SHALL BE PERFORMED IN SUCH A MANNER THAT ALLOWS PROPER ACCESS FOR CONNECTION OF LINE TRACING EQUIPMENT, PROPER LOCATING OF WIRE WITHOUT LOSS OR DETERIORATION OF LOW FREQUENCY (512 HZ) SIGNAL, AND WITHOUT DISTORTION OF SIGNAL CAUSED BY MORE THAN ONE WIRE BEING INSTALLED IN CLOSE PROXIMITY TO ONE ANOTHER.

B.TRACER WIRE SYSTEMS MUST BE INSTALLED AS A SINGLE CONTINUOUS WIRE, EXCEPT WHERE USING APPROVED CONNECTORS. NO LOOPING OR COILING OF WIRE IS ALLOWED.

C.ANY DAMAGE OCCURRING DURING INSTALLATION OF THE TRACER WIRE MUST BE IMMEDIATELY REPAIRED BY REMOVING THE DAMAGED WIRE AND INSTALLING A NEW SECTION OF WIRE WITH APPROVED CONNECTORS. TAPING AND/OR SPRAY COATING SHALL NOT BE ALLOWED.

D.TRACER WIRE SHALL BE INSTALLED AT THE BOTTOM HALF OF THE PIPE AND SECURED (TAPED/TIED) AT 5- FOOT INTERVALS.

E.MAINLINE TRACER WIRE SHALL NOT BE CONNECTED TO EXISTING CONDUCTIVE PIPES. TREAT AS A MAINLINE DEAD-END GROUND USING AN APPROVED WATERPROOF CONNECTOR TO A GROUND ROD DRIVEN INTO VIRGIN SOIL BENEATH AND IN LINE WITH THE UTILITY.

F.ALL SERVICE LATERAL TRACER WIRE SHALL BE A SINGLE WIRE, CONNECTED TO THE MAINLINE TRACER WIRE USING A THREE-WAY MAINLINE-TO-SERVICE CONNECTOR, INSTALLED WITHOUT CUTTING/SPLICING THE MAINLINE TRACER WIRE.

G.IN OCCURRENCES WHERE AN EXISTING TRACER WIRE IS ENCOUNTERED ON AN EXISTING UTILITY THAT IS BEING EXTENDED OR TIED INTO, THE NEW TRACER WIRE AND EXISTING TRACER WIRE SHALL BE CONNECTED USING APPROVED CONNECTORS.

H.TRACER WIRE ON ALL SERVICE LATERALS/STUBS MUST TERMINATE AT AN APPROVED TRACER WIRE ACCESS POINT LOCATED DIRECTLY ABOVE THE UTILITY, AT THE EDGE OF THE ROAD RIGHT-OF-WAY, BUT OUT OF THE ROADWAY.

I.ONE FOOT OF EXCESS/SLACK WIRE IS REQUIRED IN ALL TRACER WIRE ACCESS POINTS AFTER MEETING FINAL ELEVATION.

J.TRACER WIRE MUST BE PROPERLY GROUNDED AS SPECIFIED.

K.AT ALL MAINLINE DEAD-ENDS, TRACER WIRE SHALL GO TO GROUND USING AN APPROVED CONNECTION TO A 1.5-LB., DRIVE-IN, MAGNESIUM GROUND ROD.

L.WHEN GROUNDING THE TRACER WIRE AT DEAD-ENDS/STUBS, THE GROUND ROD SHALL BE DRIVEN INTO VIRGIN SOIL DIRECTLY BENEATH AND IN LINE WITH THE UTILITY.

M.GROUND ROD WIRE SHALL BE CONNECTED TO THE GROUND ROD TERMINAL ON THE TWO-TERMINAL SNAKEPIT (R) ACCESS POINT LID OR TO THE BOTTOM TERMINAL ON THE TWO-TERMINAL COBRA (TM) ACCESS POINT.

TRACER WIRE INSTALLATION CONT'D

N.WHERE THE GROUND ROD WIRE WILL BE CONNECTED TO A TRACER WIRE ACCESS POINT, ONE FOOT OF EXCESS/SLACK WIRE IS REQUIRED AFTER MEETING FINAL ELEVATION.

3.WATER SYSTEM

A.A MAINLINE TRACER WIRE MUST BE INSTALLED, WITH ALL SERVICE LATERAL TRACER WIRES PROPERLY CONNECTED TO THE MAINLINE TRACER WIRE, TO PROMOTE TRACING/LOCATING CAPABILITIES FROM A SINGLE CONNECTION POINT.

B.LAY MAINLINE TRACER WIRE CONTINUOUSLY, BY-PASSING AROUND THE OUTSIDE OF VALVES AND FITTINGS ON THE NORTH OR EAST SIDE.

C.A SINGLE TRACER WIRE ONLY SHALL BE INSTALLED ON ALL WATER SERVICE LATERALS AND MUST TERMINATE AT AN APPROVED TRACER WIRE ACCESS POINT, COLOR CODED BLUE AND LOCATED DIRECTLY ABOVE THE SERVICE LATERAL AT THE EDGE OF ROAD RIGHT-OF-WAY.

D.TRACER WIRE ACCESS POINTS WILL BE INSTALLED AT ALL FIRE HYDRANTS.

E.ALL CONDUCTIVE AND NON-CONDUCTIVE SERVICE LINES SHALL INCLUDE TRACER WIRE.

F.ALL TRACER WIRE AND COMPONENTS SHALL BE "COPPERHEAD INDUSTRIES" BRAND AS DETAILED OR EQUAL. THE CONTRACTOR SHALL INSTALL BOTH DETECTABLE TRACER TAPE AND ONE NO. 12 GAUGE HIGH STRENGTH INSULATED STRANDED COPPER WIRE IN ALL OPEN CUT TRENCHES FOR ALL WATER MAINS AND WATER SERVICES. DIRECTIONALLY DRILLED LINE SHALL USE NO. 10 GAUGE EXTRA HIGH STRENGTH INSULATED STRANDED COPPER WIRE. NO. 6 WIRE WILL BE CONNECTED TO MANHOLES AT A MAXIMUM SPACING OF 5,000 FEET. THE COST OF THE TAPE AND WIRE SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT.

THE FOLLOWING PRODUCTS AND METHODS SHALL NOT BE ALLOWED OR ACCEPTABLE:

- A.NON-AMERICAN-MADE PRODUCTS
- B.UNINSULATED TRACER WIRE
- C.STAINLESS STEEL TRACER WIRE
- D.TRACER WIRE INSULATIONS OTHER THAN HDPE
- E.TRACER WIRE NOT DOMESTICALLY MANUFACTURED
- F.BRASS OR COPPER GROUND RODS
- G.WIRE CONNECTIONS UTILIZING TAPING OR SPRAY-ON WATERPROOFING
- H.LOOPED WIRE OR CONTINUOUS WIRE INSTALLATIONS THAT HAVE MORE THAN ONE WIRE LAID SIDE-BY- SIDE OR IN CLOSE PROXIMITY TO ONE ANOTHER
- I.TRACER WIRE WRAPPED AROUND THE CORRESPONDING UTILITY
- J.BRASS FITTINGS WITH TRACER WIRE CONNECTION LUGS
- K.WIRE TERMINATIONS WITHIN THE ROADWAY IN VALVE BOXES, CLEANOUTS, MANHOLES, ETC.
- L.CONNECTING TRACER WIRE TO EXISTING CONDUCTIVE UTILITIES

PAYMENT FOR ALL LABOR, MATERIAL, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE PERTINENT UNIT PRICE BID FOR ITEM 638 - WATER WORK, MISC.: 6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18, ITEM 638 - WATER WORK, MISC.: 8" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18 OR ITEM 638 - WATER WORK, MISC.: 10" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C909, DR18.

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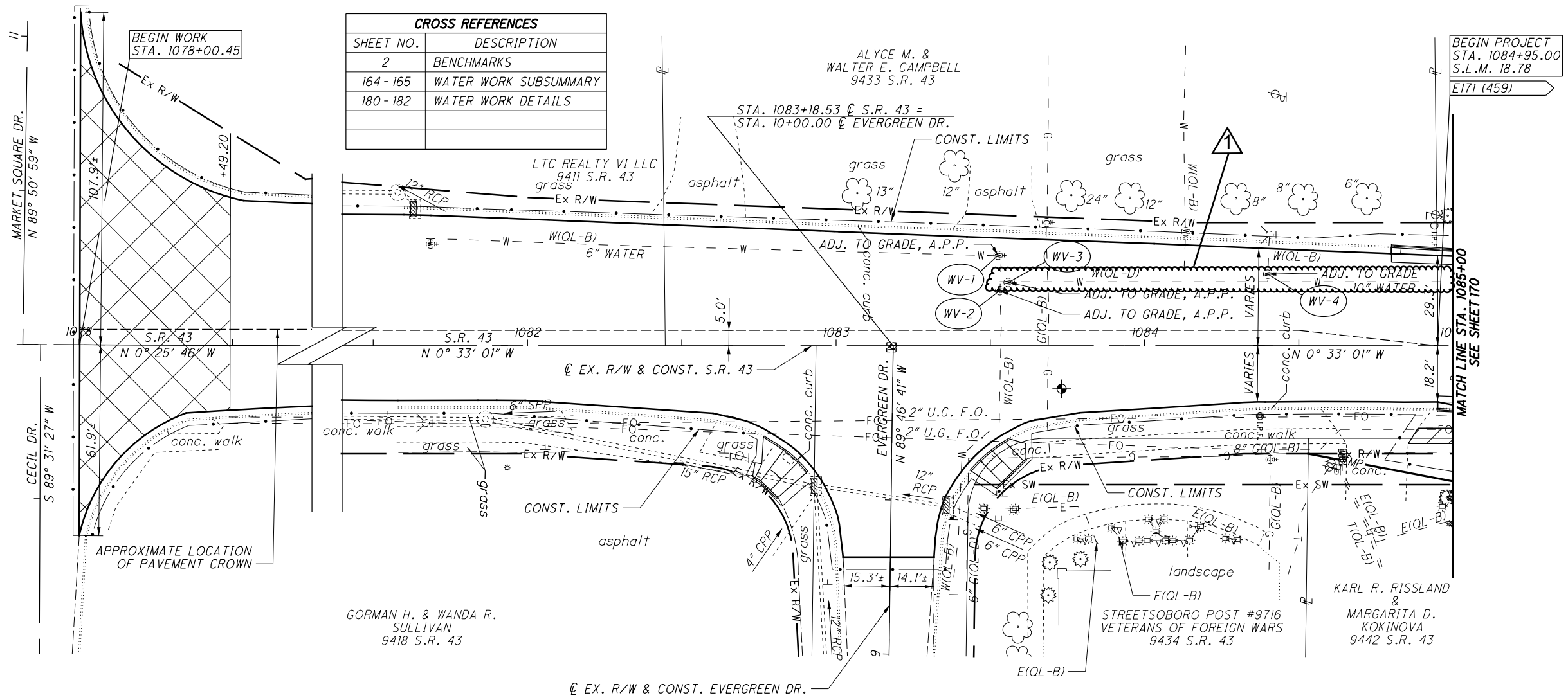
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WATER WORK GENERAL NOTES

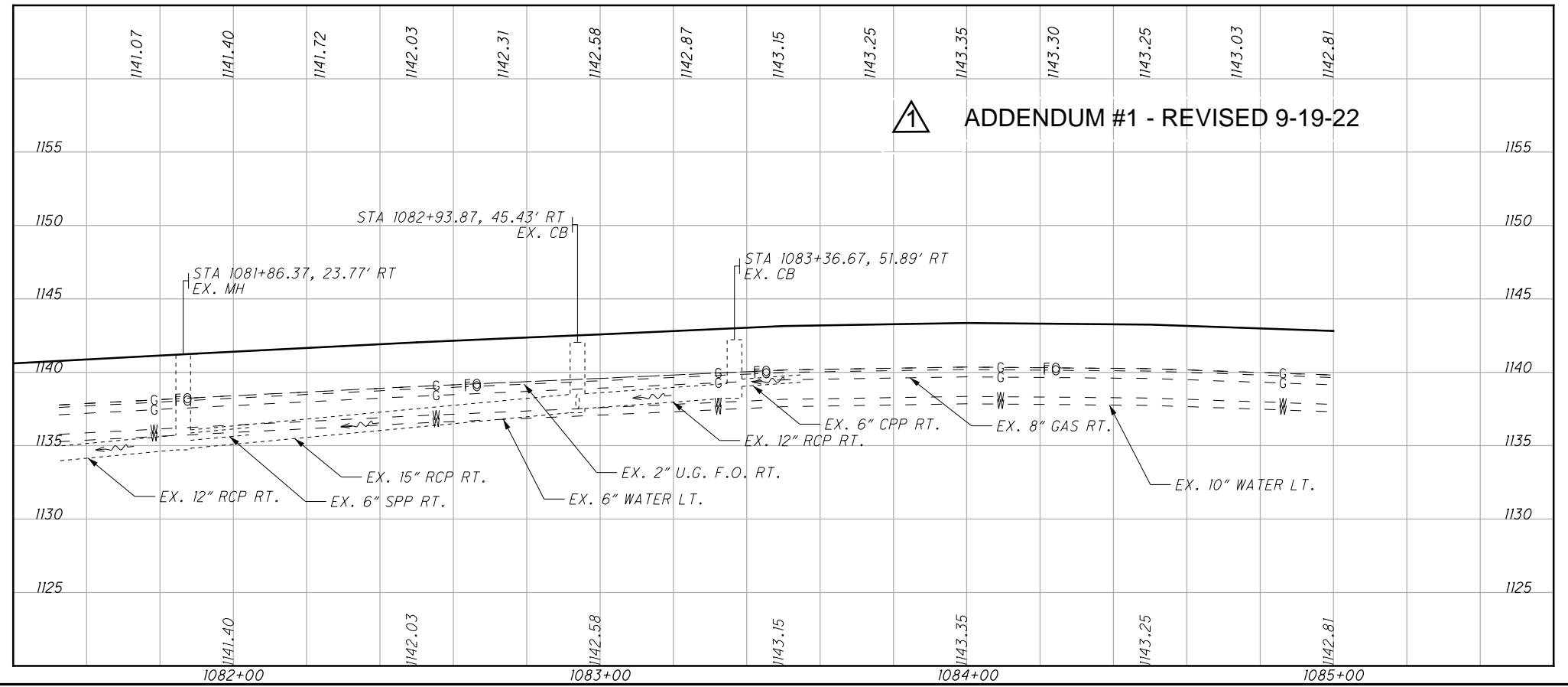
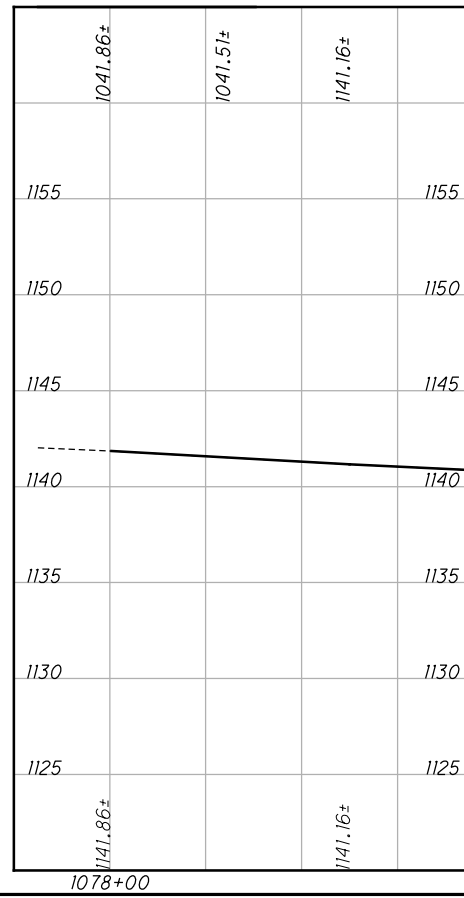
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LEGEND
 SOIL BORING
 PROP. CONC. WALK



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	BENCHMARKS
164 - 165	WATER WORK SUBSUMMARY
180 - 182	WATER WORK DETAILS



ADDENDUM #1 - REVISED 9-19-22



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 HORIZONTAL SCALE IN FEET

CALCULATED MJT CHECKED ERS

WATER WORK PLAN
STA. 1077+80 TO STA. 1085+00

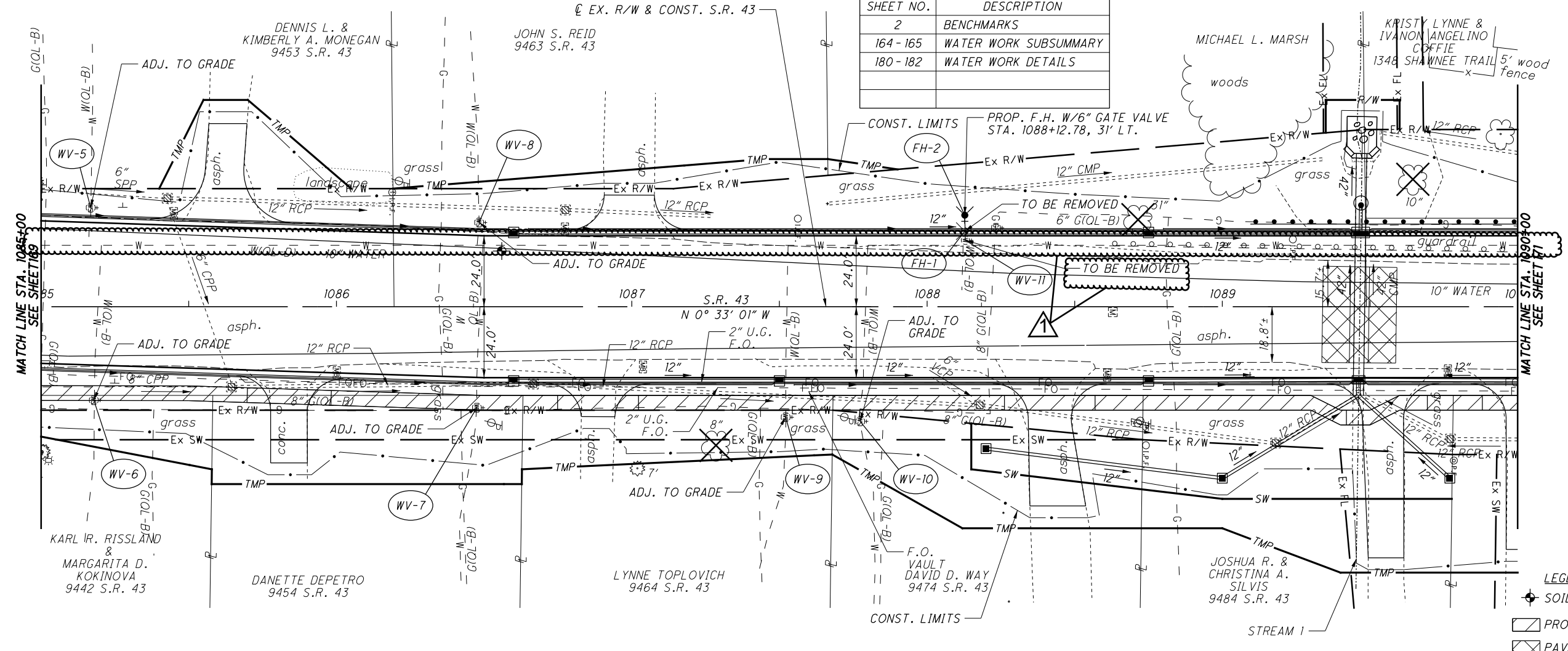
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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	BENCHMARKS
164-165	WATER WORK SUBSUMMARY
180-182	WATER WORK DETAILS





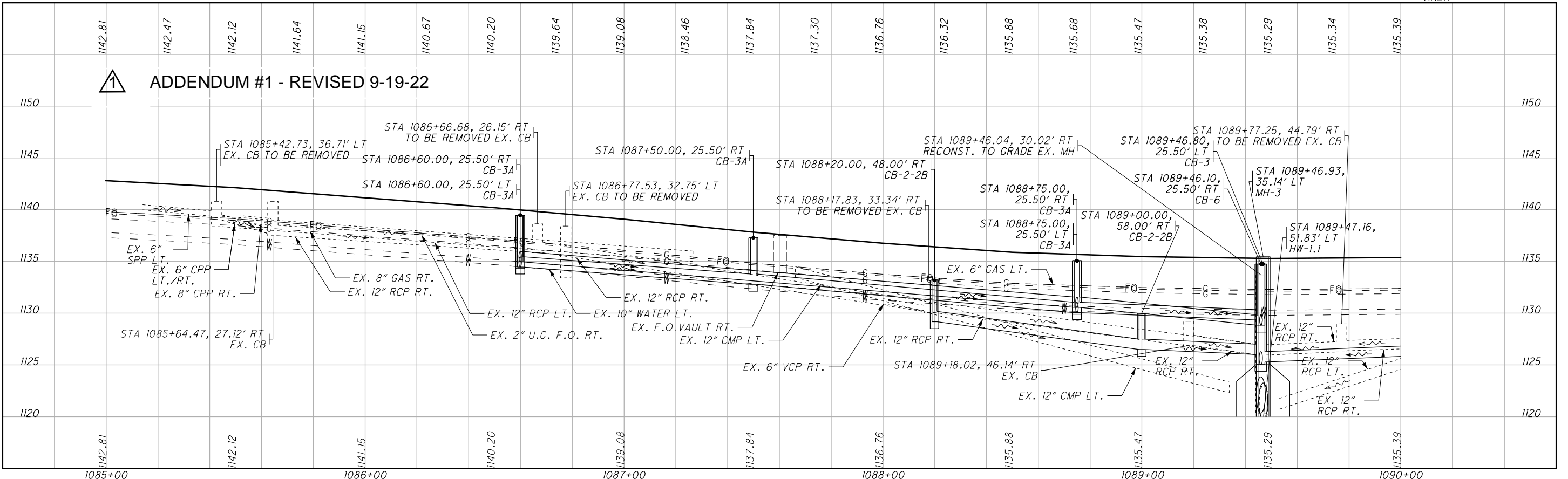
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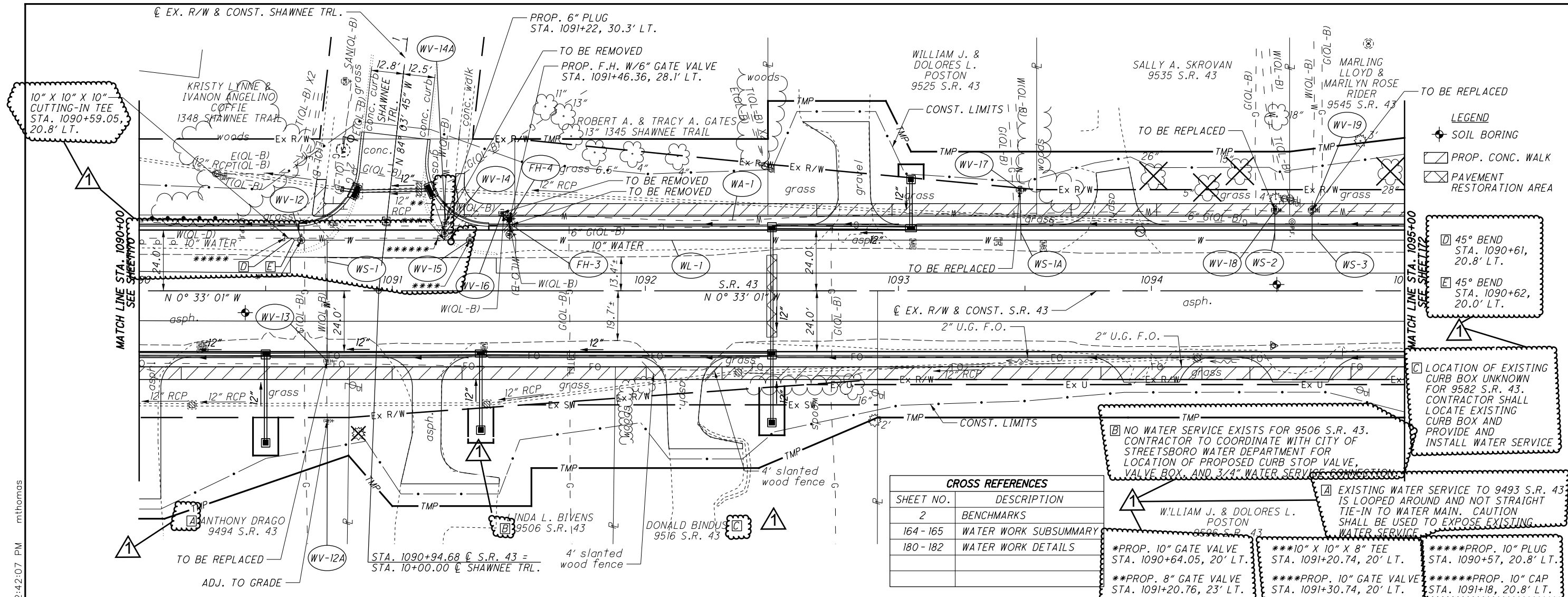
- SOIL BORING
- PROP. CONC. WALK
- PAVEMENT RESTORATION AREA

ADDENDUM #1 - REVISED 9-19-22



WATER WORK PLAN
STA. 1085+00 TO STA. 1090+00

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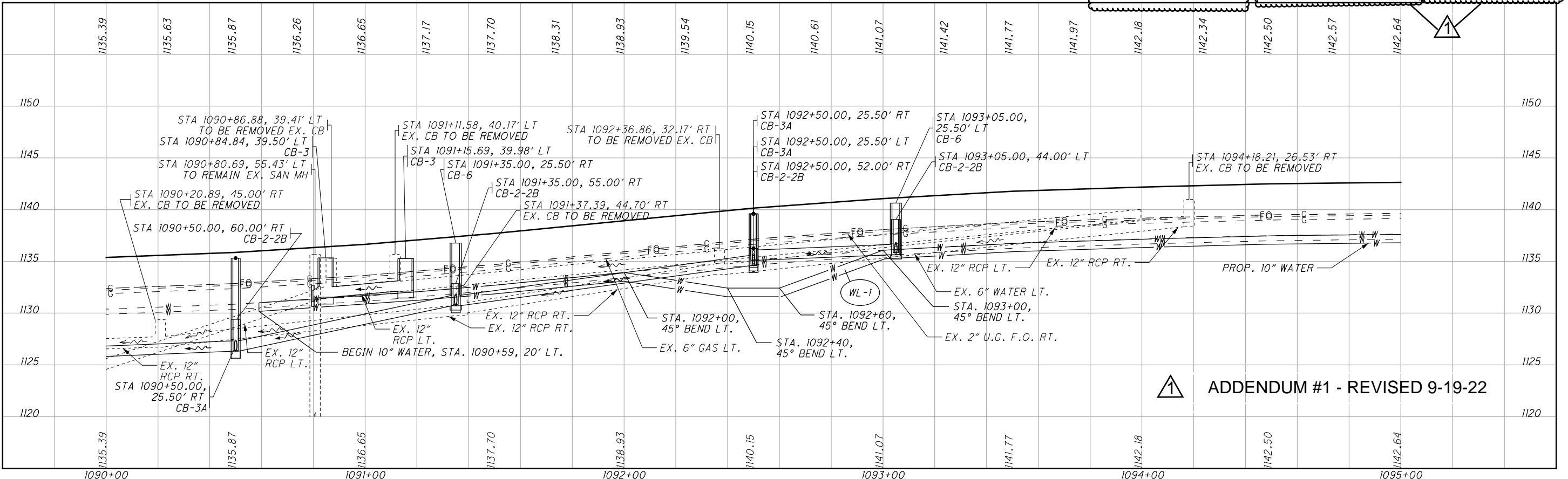
SHEET NO.	DESCRIPTION
2	BENCHMARKS
164 - 165	WATER WORK SUBSUMMARY
180 - 182	WATER WORK DETAILS

LEGEND

- SOIL BORING
- PROP. CONC. WALK
- PAVEMENT RESTORATION AREA

NOTES:

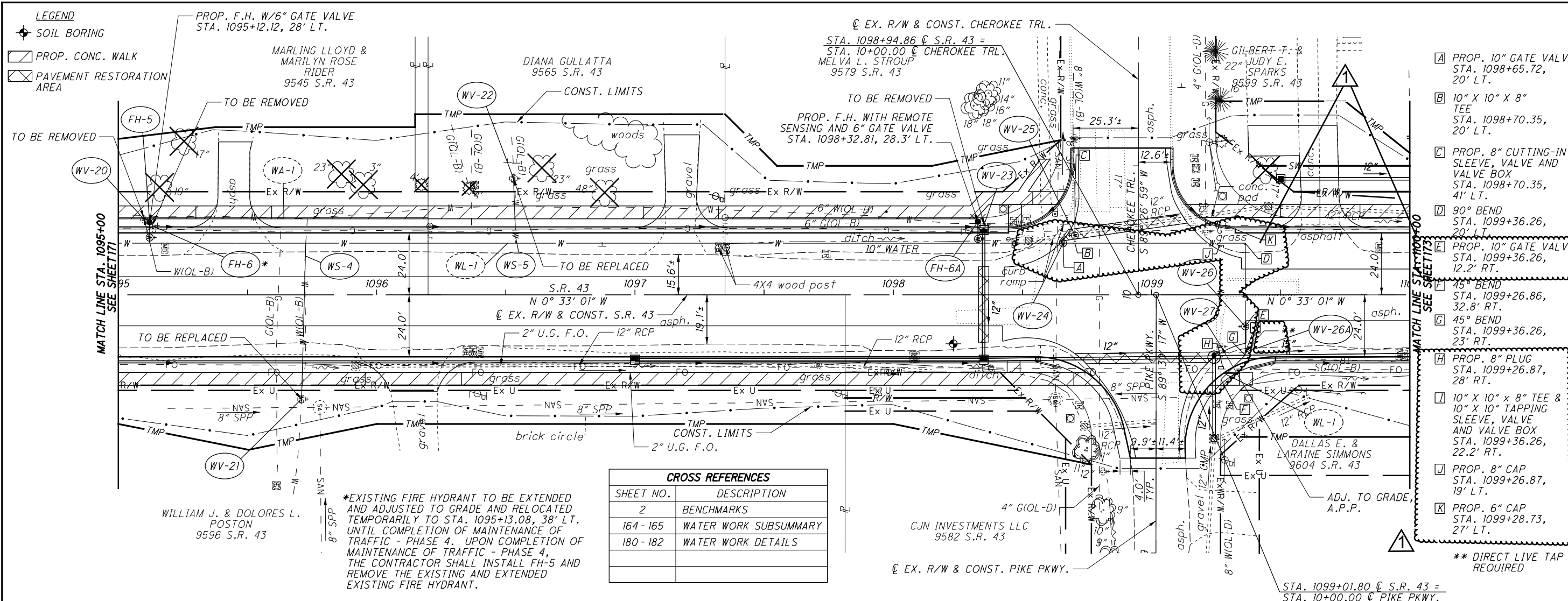
- 45° BEND STA. 1090+61, 20.8' LT.
- 45° BEND STA. 1090+62, 20.0' LT.
- LOCATION OF EXISTING CURB BOX UNKNOWN FOR 9582 S.R. 43. CONTRACTOR SHALL LOCATE EXISTING CURB BOX AND PROVIDE AND INSTALL WATER SERVICE
- NO WATER SERVICE EXISTS FOR 9506 S.R. 43. CONTRACTOR TO COORDINATE WITH CITY OF STREETSBORO WATER DEPARTMENT FOR LOCATION OF PROPOSED CURB STOP VALVE, VALVE BOX, AND 3/4" WATER SERVICE CONNECTION
- EXISTING WATER SERVICE TO 9493 S.R. 43 IS LOOPED AROUND AND NOT STRAIGHT TIE-IN TO WATER MAIN. CAUTION SHALL BE USED TO EXPOSE EXISTING WATER SERVICE



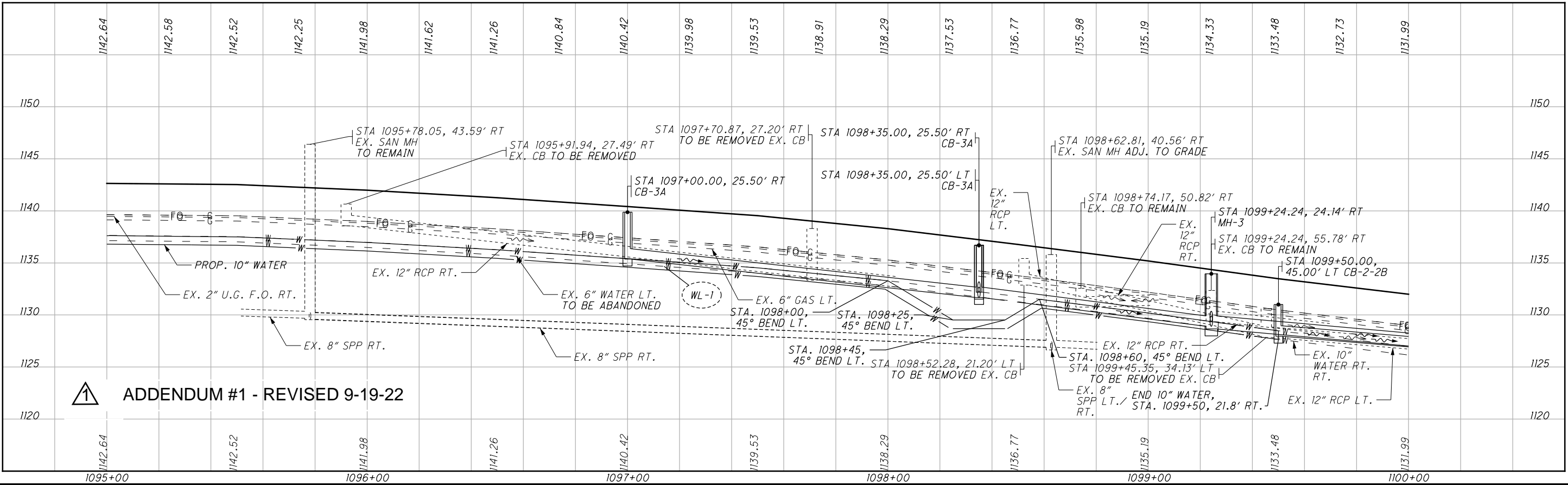
ADDENDUM #1 - REVISED 9-19-22

WATER WORK PLAN
STA. 1090+00 TO STA. 1095+00
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 171
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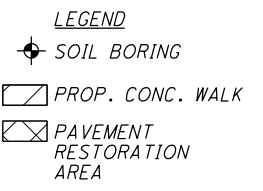
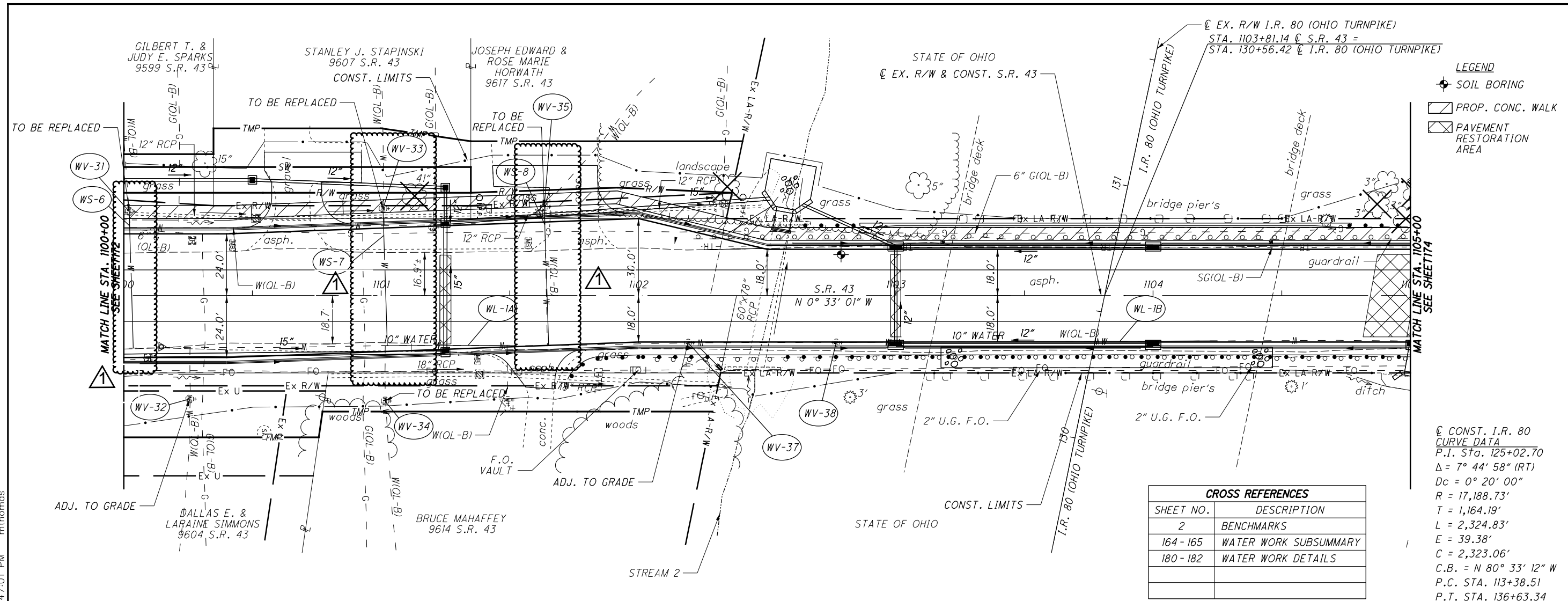


- A PROP. 10" GATE VALVE STA. 1098+65.72, 20' LT.
 - B 10" X 10" X 8" TEE STA. 1098+70.35, 20' LT.
 - C PROP. 8" CUTTING-IN SLEEVE, VALVE AND VALVE BOX STA. 1098+70.35, 41' LT.
 - D 90° BEND STA. 1099+36.26, 20' LT.
 - E PROP. 10" GATE VALVE STA. 1099+36.26, 12.2' RT.
 - F 45° BEND STA. 1099+26.86, 32.8' RT.
 - G 45° BEND STA. 1099+36.26, 23' RT.
 - H PROP. 8" PLUG STA. 1099+26.87, 28' RT.
 - I 10" X 10" X 8" TEE & 10" X 10" TAPPING SLEEVE, VALVE AND VALVE BOX STA. 1099+36.26, 22.2' RT.
 - J PROP. 8" CAP STA. 1099+26.87, 19' LT.
 - K PROP. 6" CAP STA. 1099+28.73, 27' LT.
- ** DIRECT LIVE TAP REQUIRED



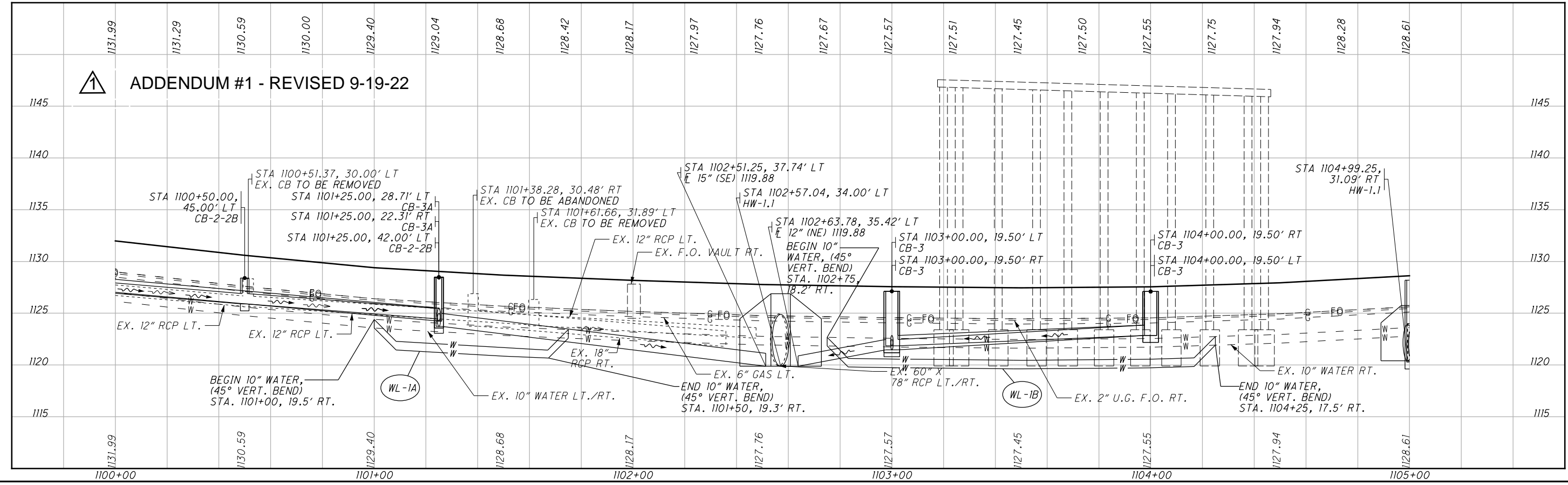
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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	BENCHMARKS
164 - 165	WATER WORK SUBSUMMARY
180 - 182	WATER WORK DETAILS

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 CURVE DATA
 P.I. Sta. 125+02.70
 $\Delta = 7^\circ 44' 58''$ (RT)
 $R = 17,188.73'$
 $T = 1,164.19'$
 $L = 2,324.83'$
 $E = 39.38'$
 $C = 2,323.06'$
 $C.B. = N 80^\circ 33' 12'' W$
 P.C. STA. 113+38.51
 P.T. STA. 136+63.34



ADDENDUM #1 - REVISED 9-19-22

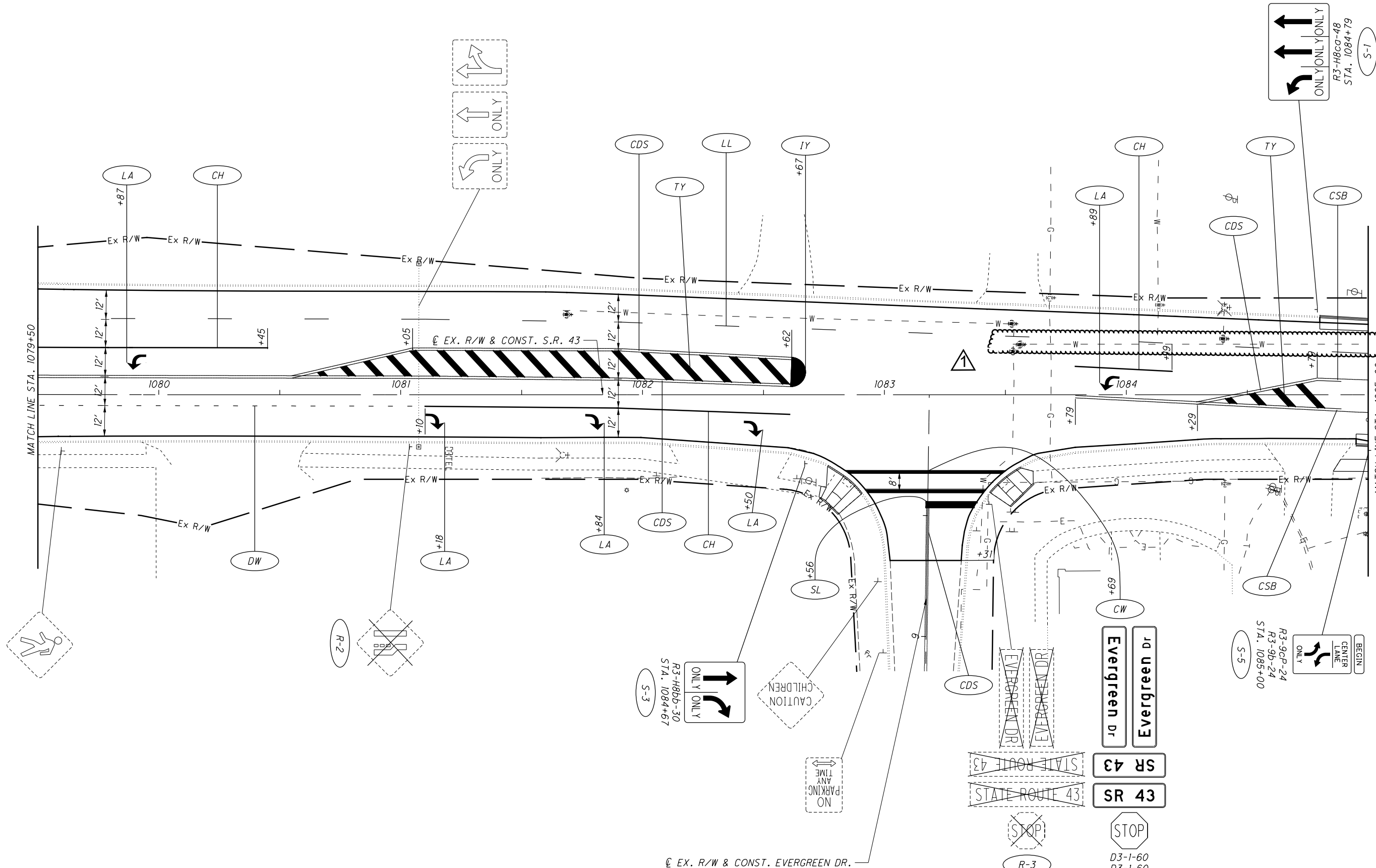
WATER WORK PLAN
STA. 1100+00 TO STA. 1105+00

POR-43-18.65

173
 252

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ADDENDUM #1 - REVISED 9-19-22



CALCULATED
 DLS
 CHECKED
 AKF

0 20 40
 HORIZONTAL
 SCALE IN FEET

N

TRAFFIC CONTROL PLAN - S.R. 43
STA. 1079+50 TO STA. 1085+00

POR-43-18.65

SR 43
Evergreen Dr
Evergreen Dr
 D3-1-60
 D3-1-60
 D3-1-36
 D3-1-36
 R1-1-30
 STA. 9+55

BEGIN
 CENTER
 LANE
 ONLY
 R3-9b-24
 R3-9b-24
 STA. 1085+00

ONLY ONLY ONLY
 ONLY ONLY ONLY
 R3-H8cc-48
 STA. 1084+79

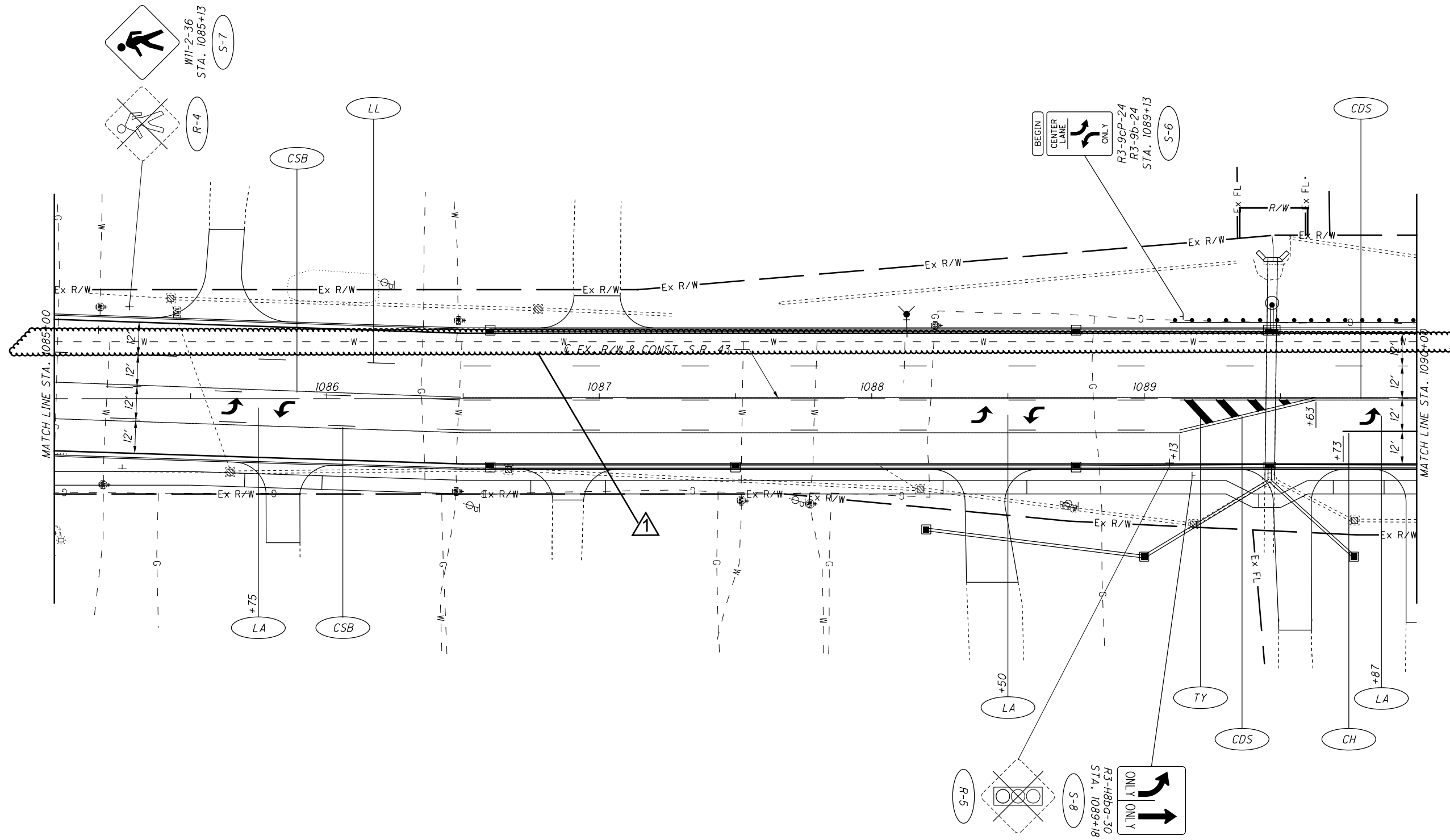
ONLY ONLY
 ONLY ONLY
 R3-H8bb-30
 STA. 1084+67

ONLY ONLY
 ONLY ONLY
 ONLY ONLY

S-4 FOR TRAFFIC CONTROL LEGEND SEE SHEET 190.

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 ADDENDUM #1 - REVISED 9-19-22



CALCULATED
DLS
CHECKED
AKF

0 20 40
HORIZONTAL
SCALE IN FEET



TRAFFIC CONTROL PLAN - S.R. 43
STA. 1085+00 TO STA. 1090+00

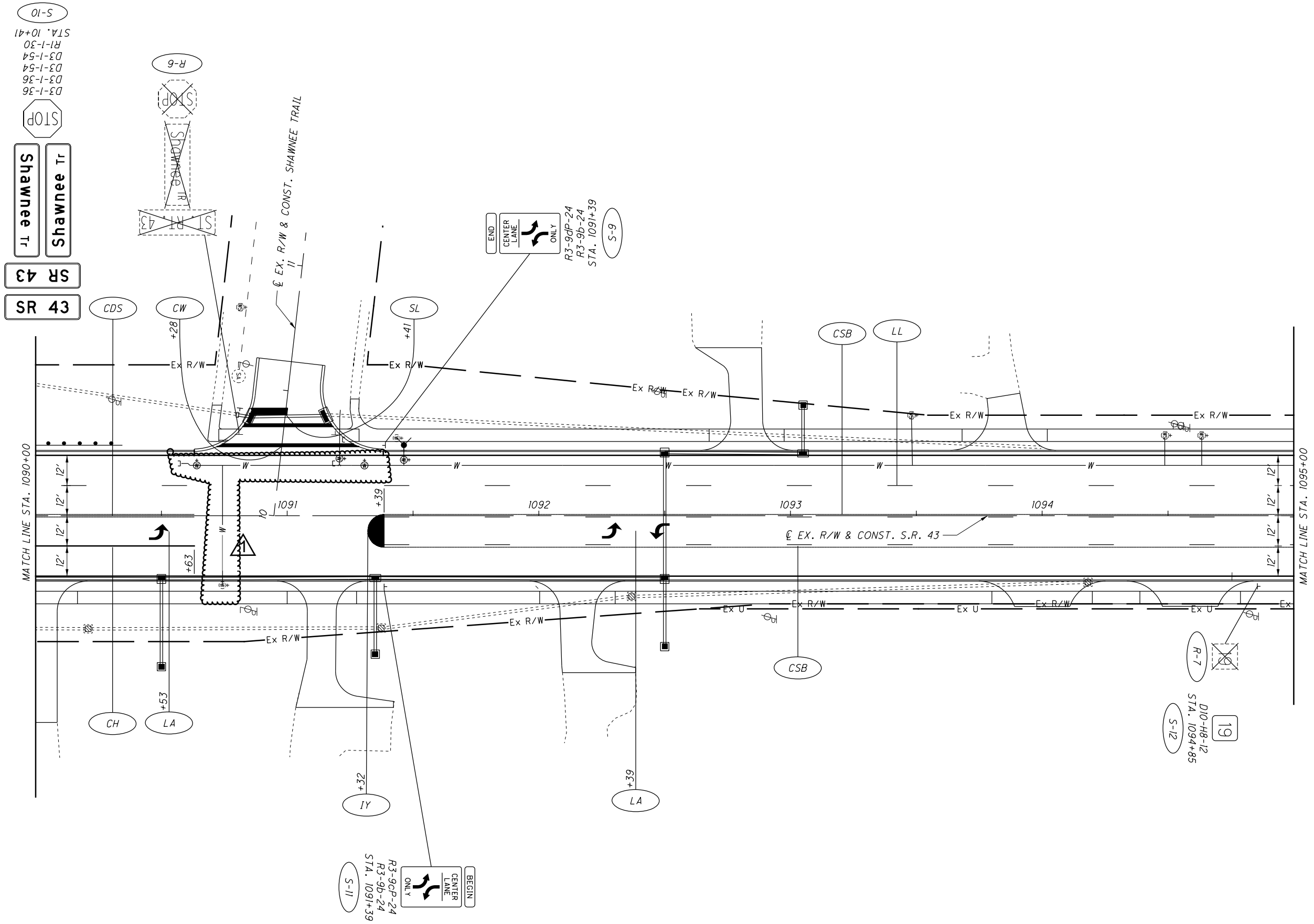
POR-43-18.65

200
252

FOR TRAFFIC CONTROL LEGEND SEE SHEET 190.

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ADDENDUM #1 - REVISED 9-19-22



CALCULATED
DLS
CHECKED
AKF

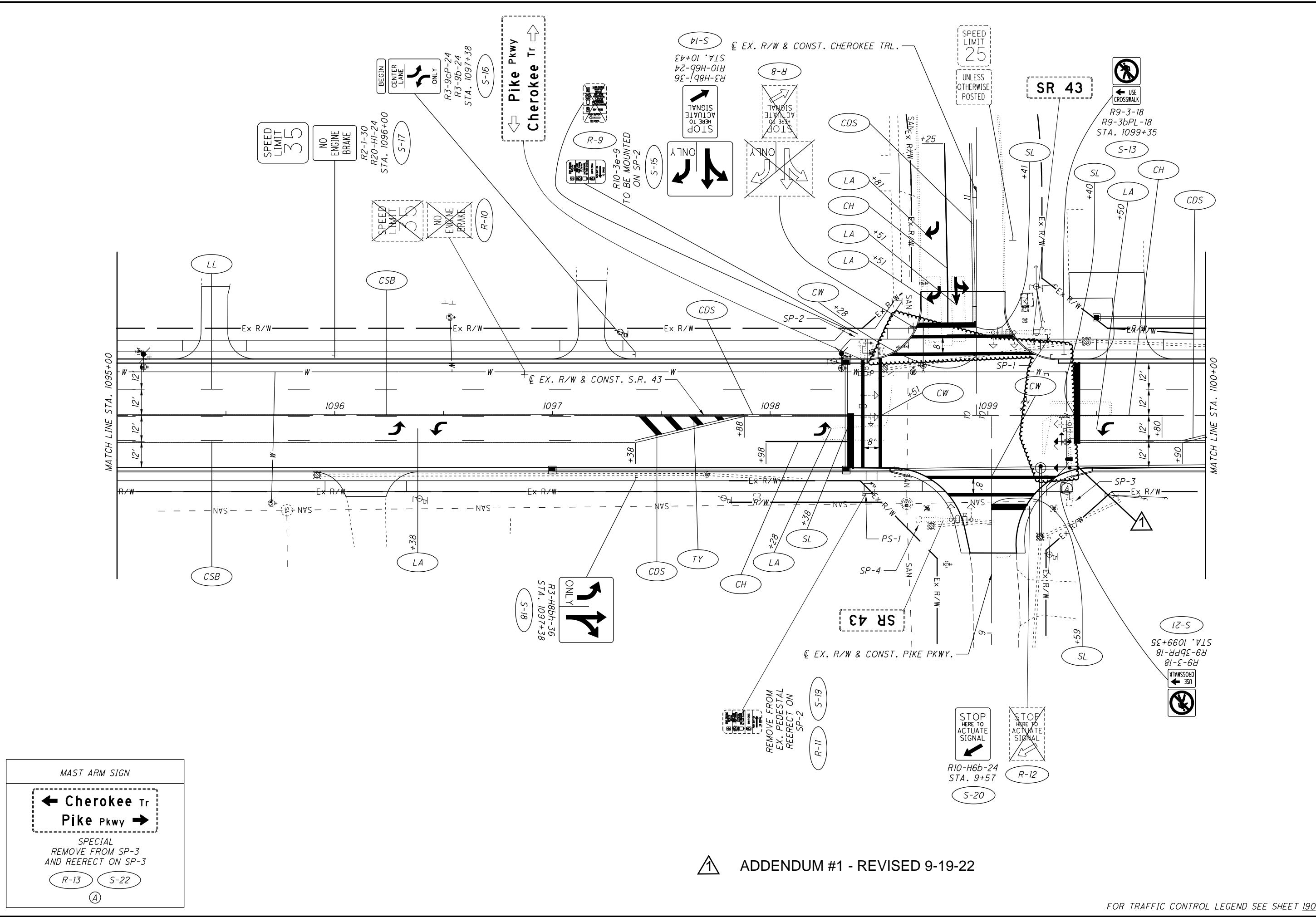
0 20 40
HORIZONTAL
SCALE IN FEET

201
252

TRAFFIC CONTROL PLAN - S.R. 43
STA. 1090+00 TO STA. 1095+00

POR-43-18.65

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MAST ARM SIGN

← Cherokee Tr
Pike Pkwy →

SPECIAL
REMOVE FROM SP-3
AND REERECT ON SP-3

R-13 S-22

(A)

1 ADDENDUM #1 - REVISED 9-19-22

FOR TRAFFIC CONTROL LEGEND SEE SHEET 190.

CALCULATED
DLS
CHECKED
AKF

0 20 40
HORIZONTAL
SCALE IN FEET

202
252

TRAFFIC CONTROL PLAN - S.R. 43
STA. 1095+00 TO STA. 1100+00

POR-43-18.65

ADDENDUM #1 - REVISED 9-19-22



TRAFFIC SIGNAL PLAN
S.R. 43 / CHEROKEE TRL. / PIKE PKWY.

POR-43-18.65

213
252

(3)-NEW 5C AND (1)-NEW 2C LEAD-IN
IN EXISTING CONDUIT = 88'

EX. SP-1 TO REMAIN WITH (1)-NEW
PEDESTRIAN SIGNAL HEAD
STA. 1099+27.5, 38.3' LT.

(1)-NEW 5C
IN EXISTING CONDUIT = 12'

EXISTING PULL BOX TO REMAIN
STA. 1099+17.1, 43.6' LT.

(6)-NEW 5C AND (2)-NEW 2C LEAD-IN
IN EXISTING CONDUIT = 9'

EXISTING GROUND MOUNTED CONTROLLER AND WORK
PAD TO REMAIN
STA. 1099+16.9, 52.3' LT.

(2)-NEW 5C AND (1)-NEW 2C LEAD-IN
IN EXISTING CONDUIT = 72'

EXISTING PEDESTAL TO BE REMOVED
EXISTING PEDESTRIAN SIGNAL HEAD
AND PEDESTRIAN PUSHBUTTON 'P4A'
TO BE REMOVED AND REERECTED ON SP-2
STA. 1098+62.7, 31.4' LT.

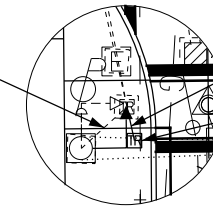
EXISTING PULL BOX TO BE REMOVED AND RELOCATED
STA. 1098+46.8, 28.5' LT.
(SEE NOTE 5)

EX. SP-2 WITH RELOCATED PEDESTRIAN SIGNAL,
RELOCATED PEDESTRIAN PUSHBUTTON 'P4A' AND
(1)-NEW PEDESTRIAN SIGNAL HEAD
STA. 1098+42.6, 33.3' LT.

(2)-NEW 5C AND (1)-NEW 2C
LEAD-IN
IN EXISTING CONDUIT = 7'

(2)-NEW 5C AND (1)-NEW 2C LEAD-IN
IN 4" CONDUIT EXTENSION = 4'
(SEE NOTE 5)

RELOCATED PULL BOX
STA. 1098+43.3, 27.7' LT.



SOUTHWEST CORNER

EX. SP-3 TO REMAIN WITH (1)-NEW PEDESTRIAN SIGNAL HEAD,
RELOCATED VEHICULAR SIGNAL HEADS, VIDEO DETECTION CAMERA AND
PREEMPTION CONFIRMATION LIGHT
STA. 1099+37.6, 40.1' RT.
(SEE NOTE 1)

(1)-NEW 5C
IN EXISTING CONDUIT = 8'

EXISTING PULL BOX TO REMAIN
STA. 1099+30.4, 42.7' RT.

(2)-NEW 5C AND (1)-NEW 2C LEAD-IN
IN EXISTING CONDUIT = 59'

EXISTING PULL BOX TO REMAIN
STA. 1098+72.2, 42.7' RT.

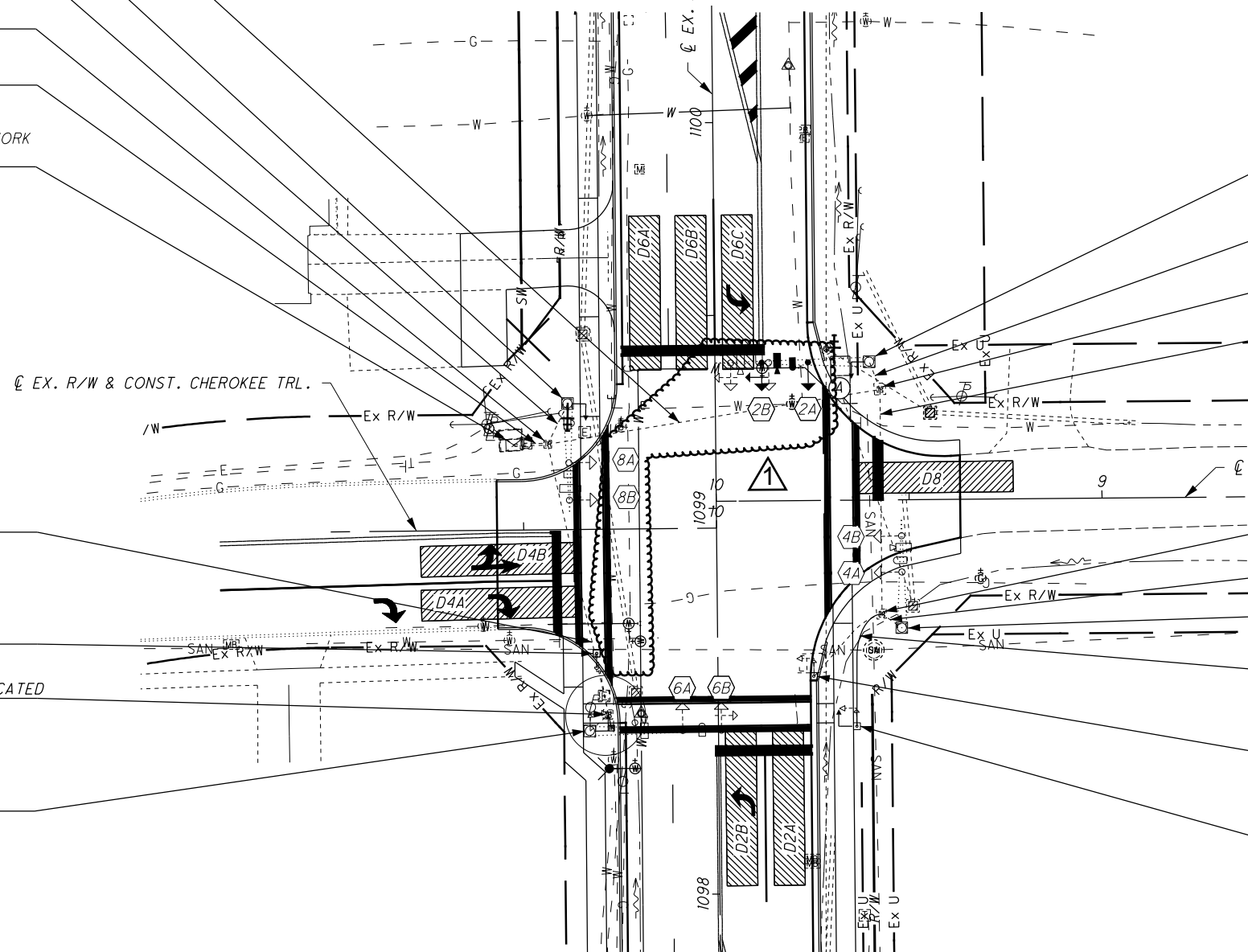
EXISTING CONDUIT TO REMAIN

EX. SP-4 TO REMAIN
STA. 1098+68.5, 47.9' RT.

(1)-2" CONDUIT WITH (2)-5C AND (1)-NEW 2C LEAD-IN
IN TRENCH = 33'

EXISTING PEDESTAL, PEDESTRIAN SIGNAL HEAD AND
PEDESTRIAN PUSHBUTTON 'P4B' TO
BE REMOVED AND REERECTED
STA. 1098+56.2, 24.9' RT.

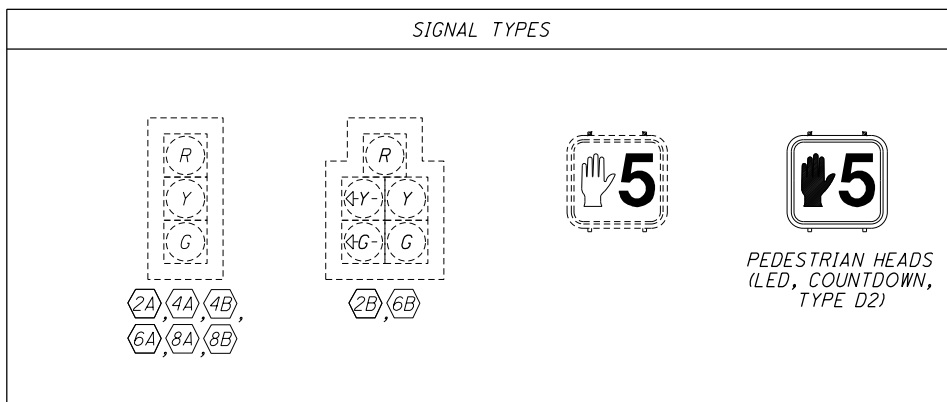
RELOCATED PS-1, PEDESTRIAN SIGNAL HEAD,
PEDESTRIAN PUSHBUTTON 'P4B' AND
(1)-NEW PEDESTRIAN SIGNAL HEAD
STA. 1098+43.2, 35.9' RT.



LEGEND

	PROP. / RELOCATED	EXIST.
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"		
TRAFFIC SIGNAL, 5 UNIT HEAD, 12"		
SIGNAL SUPPORT POLE		
PEDESTRIAN SIGNAL		
PEDESTAL SUPPORT		
CONTROLLER CABINET		
TRAFFIC PULLBOX		
VEHICLE DETECTION CAMERA		
PREEMPTION CONFIRMATION LIGHT		
DETECTION ZONE		

SIGNAL TYPES



NOTES:

1. THE CONTRACTOR SHALL UTILIZE THE EXISTING SIGNAL CABLE AND VIDEO DETECTION CABLE ONCE THE VEHICULAR SIGNAL HEADS, VIDEO DETECTION AND PREEMPTION CONFIRMATION LIGHT ARE RELOCATED. IF IT IS DETERMINED THAT THE EXISTING CABLES HAVE BEEN DAMAGED BY CONTRACTOR NEGLIGENCE THE CONTRACTOR SHALL REPLACE THE CABLES IN LIKE KIND AT THE CONTRACTORS COST.
2. THE CONTRACTOR SHALL ENSURE THAT ALL SIGNAL FACES ARE CLEARLY VISIBLE TO ALL ONCOMING VEHICLES, CLEAR OF ANY OBSTRUCTIONS ONCE MOUNTED TO THE MAST ARMS.
3. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES AND EXISTING SIGNAL HARDWARE AND APPARATUSSES PRIOR TO EXCAVATION.
4. EXISTING CONDUIT LOCATIONS HAVE NOT BEEN FIELD VERIFIED. CONDUIT LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INSTALLING NEW SIGNAL CABLE.
5. THE CONTRACTOR SHALL TAKE GREAT CARE IN REMOVING THE PULL BOX AS IT IS THE DESIGNER'S INTENT TO REUSE THE PULL BOX AND ALL EXISTING CONDUIT. THE CONDUIT CONNECTION SHALL BE PER C&MS 625.12. IF IT IS DETERMINED BY THE ENGINEER THAT THE EQUIPMENT DESIGNATED FOR REUSE HAS BEEN DAMAGED BY CONTRACTOR NEGLIGENCE, THEN THE EQUIPMENT SHALL BE REPLACED IN LIKE KIND, AT THE CONTRACTOR'S EXPENSE.
6. FOR REFERENCE TO SIGN(A), SEE SHEET 202.

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