

FOND DU LAC, CITY OF MILWAUKEE

107TH ST. BRIDGE

MILWAUKEE COUNTY

PRE-PSE REVIEW
11/01/2021

TOTAL SHEETS =

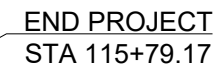
CONVENTIONAL SYMBOLS

PROFILE
 GRADE LINE
 ORIGINAL GROUND
 MARSH OR ROCK PROFILE
 (To be noted as such)
 SPECIAL DITCH

 GRADE ELEVATION

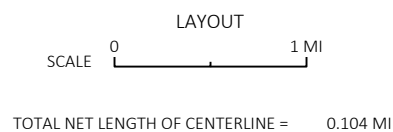
 CULVERT (Profile View)
UTILITIES
 ELECTRIC
 FIBER OPTIC
 GAS
 SANITARY SEWER
 STORM SEWER
 TELEPHONE
 WATER
 UTILITY PEDESTAL
 POWER POLE
 TELEPHONE POLE

T-8-N



STRUCTURE B-40-1004 (N 107TH ST)
STRUCTURE R-40-722 (NORTH ABUTMENT)
STRUCTURE R-40-723 (SOUTH ABUTMENT)
STA 110+30.52 - STA 115+79.17

BEGIN PROJECT
STA 110+30.52
X: 569,777.522
Y: 337,927.342



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MILWAUKEE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

E

GENERAL NOTES

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.
2. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
3. ALL ELEVATIONS AND OFFSETS SHOWN IN THE PLAN SHALL BE VERIFIED IN THE FIELD.
4. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
5. THE COST OF GRADING, CONSTRUCTING, MAINTAINING, AND REMOVING TEMPORARY ACCESS IS INCIDENTAL TO THE CONTRACT.
6. HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY-IN
7. THE CONTRACTOR’S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING OR TURNING LANE.

EROSION CONTROL GENERAL NOTES

1. RE-TOPSOIL DISTURBED AREAS, AS DESIGNATED BY THE ENGINEER. SEED AND E-MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.
2. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.
3. QUANTITIES FOR EROSION CONTROL ITEMS HAVE BEEN INCLUDED IN THE PROJECT, BUT MAY NOT BE REPRESENTED ON THE PLAN. THE LOCATIONS AND TYPE OF EROSION CONTROL ITEMS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL ITEMS SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE ITEMS IS NO LONGER REQUIRED.

UTILITIES

COMMUNICATIONS

AT&T WISCONSIN - COMMUNICATION LINE
JAY BULANEK
435 S 95th St
Milwaukee, WI 53214
PHONE: (414) 491-2855
EMAIL: JB5175@ATT.COM

ELECTRICITY

WISDOT - ATR
Russell Lewis
3633 Pierstorff St
Madison, WI 53704
PHONE: (608) 516-5754
EMAIL: russell.lewis@dot.wi.gov

COMMUNICATIONS

CITY OF MILWAUKEE - COMMUNICATIONS
JOE MACIEJEWSKI
EMAIL: JOE.MACIEJEWSKI@MILWAUKEE.GOV

FORESTRY

CITY OF MILWAUKEE - FORESTRY
JAMES KRINGER
EMAIL: JKRING@MILWAUKEE.GOV

ELECTRICITY

CITY OF MILWAUKEE - STREET LIGHTING
ENG-KIE LEE
841 N BROADWAY
MILWAUKEE, WI 53202
PHONE: (414) 286-2174
EMAIL: ELEE@MILWAUKEE.GOV

SEWER

CITY OF MILWAUKEE - SEWER
ZAFAR YOUSUF
841 N BROADWAY
MILWAUKEE, WI 53202
PHONE:
EMAIL: ZYOUSU@MILWAUKEE.GOV

WATER

CITY OF MILWAUKEE - MILWAUKEE WATER WORKS
JOSHUA IWEN
841 N BROADWAY
MILWAUKEE, WI 53202
PHONE:
EMAIL: JJWEN@MILWAUKEE.GOV

CITY SIGNALS

CITY OF MILWAUKEE - SIGNALS
SCOTT REINBACHER
841 N BROADWAY ST, RM 902
MILWAUKEE, WI 53202
PHONE:
EMAIL: SREINB@MILWAUKEE.GOV

UNDERGROUND CONDUIT

CITY OF MILWAUKEE - UNDERGROUND CONDUIT
ENG-KIE LEE
841 N BROADWAY
MILWAUKEE, WI 53202
PHONE: (414) 286-2174
EMAIL: ELEE@MILWAUKEE.GOV

COMMUNICATIONS

EVERSTREAM
EVERSTREAM UTILITY COORDINATION
324 E WISCONSIN AVE, SUITE 730
MILWAUKEE, WI 53202
PHONE: (414) 409-1709
EMAIL: WI-RELOCATIONS@EVERSTREAM.NET

COMMUNICATIONS

LEVEL 3
Brahim Gaddour
3235 Intertech Dr Suite 600
Brookfield WI 53045
PHONE: (414) 908-1027
EMAIL: brahim.gaddour@lumen.com

SPECTRUM

BEAU ABUYA
1320 N DR MARTIN LUTHER KIND JR DR
MILWAUKEE, WI 53212
PHONE: (414) 758-9241
EMAIL: WIS.ENGINEERING@CHARTER.COM

VERIZON BUSINESS

RJ Cicatello Jr.
15725 West Ryerson Road
New Berlin, WI 53151
PHONE: (262) 232-1323
EMAIL: randy.cicatello@verizon.com

WISDOT - COMMUNICATIONS

John Mittelstad
433 W. St. Paul Ave.
Milwaukee, WI 53203 -3007
PHONE: (608) 205-7859
EMAIL: john.mittelstadt@dot.wi.gov

ELECTRICITY

WISDOT - STREET LIGHTING
ERIC PEREA
141 NW BARSTOW STREET
WAUKESHA, WI 53188
PHONE: (262) 574-5422
EMAIL: ERICPEREA@DOT.WI.GOV

GAS/PETROLEUM

WE ENERGIES - GAS
Jacob Hulbert
500 S 116TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 944-5575
EMAIL: Jacob.hulbert@we-energies.com

ELECTRICITY

WE ENERGIES - ELECTRICITY
JOE FELLEZ
W140 N9100 LILLY ROAD
MENOMONEE FALLS, WI. 53051
PHONE: (414) 322-8928
EMAIL: Joseph.Fellenz@We-Energies.com

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANCE (PERCENT)			SLOPE RANCE (PERCENT)			SLOPE RANCE (PERCENT)			SLOPE RANCE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE TURF	0.25	0.27	0.25	0.30		0.27			0.28			0.30
	0.34	0.36	0.32			0.34			0.36			0.38
PAVEMENT:												
ASPHALT							0.70 - 0.95					
CONCRETE							0.80 - 0.95					
BRICK							0.70 -0.80					
DRIVES, WALKS							0.75 - 0.85					
ROOFS							0.75 - 0.95					
GRAVEL ROADS, SHOULDERS							0.40 - 0.60					

TOTAL PROJECT AREA = 1.10 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.10 ACRES



Dial 811 or (800)242-8511

www.DiggersHotline.com

PAVEMENT LOCATION	TOTAL PAVEMENT THICKNESS	LAYER	TYPE
107th ST	5"	1.75" UPPER 3.25" LOWER	4 LT 58-28 S

OTHER AGENCIES

WISDOT CONTACT

Southeast Region
Vida Shaffer
141 NW BARSTOW ST
WAUKESHA, WI 53188
PHONE: (414) 333-9116
EMAIL: VIDA.SHAFER@dot.wi.gov

DESIGN CONTACT

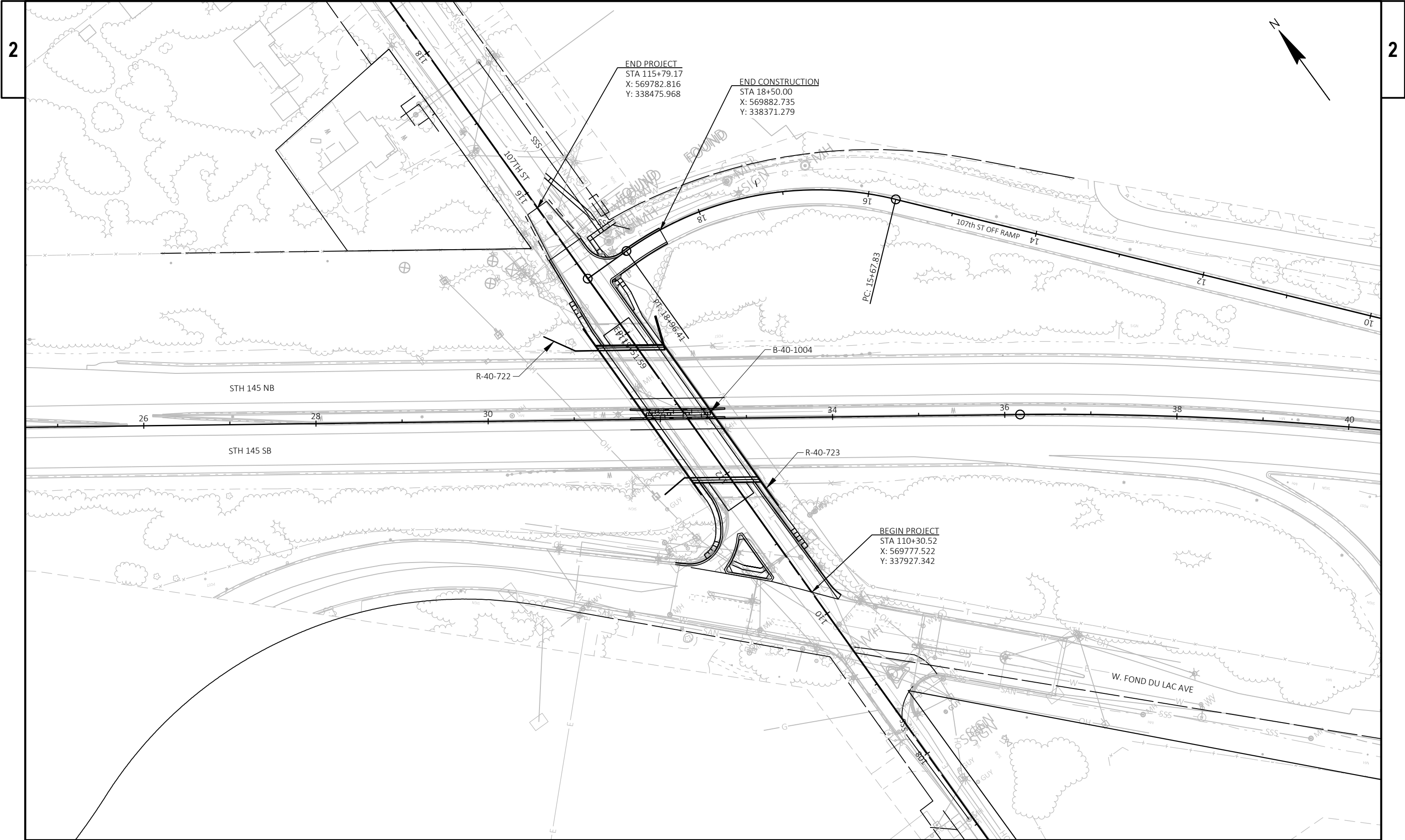
Alfred Benesch & Co
Bill Zippel
1300 W Canal St, Suite 150
Milwaukee, WI 53233
PHONE: (414) 308-1310
wzipfel@benesch.com

DNR CONTACT

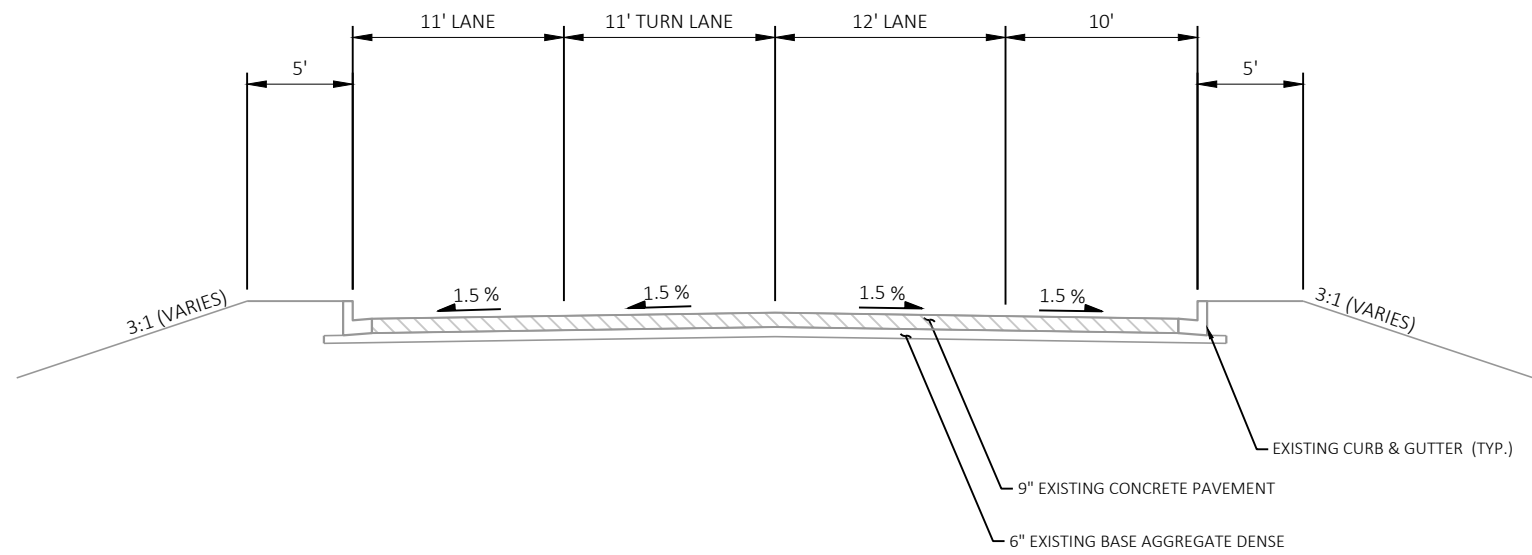
DNR - Southeast Region
Kristina Betzold
2300 N Martin Luther King Jr Dr
Milwaukee, WI 53212
PHONE: (414) 507-4946
EMAIL: kristina.betzold@wisconsin.gov

ORDER OF SECTION 2 SHEETS

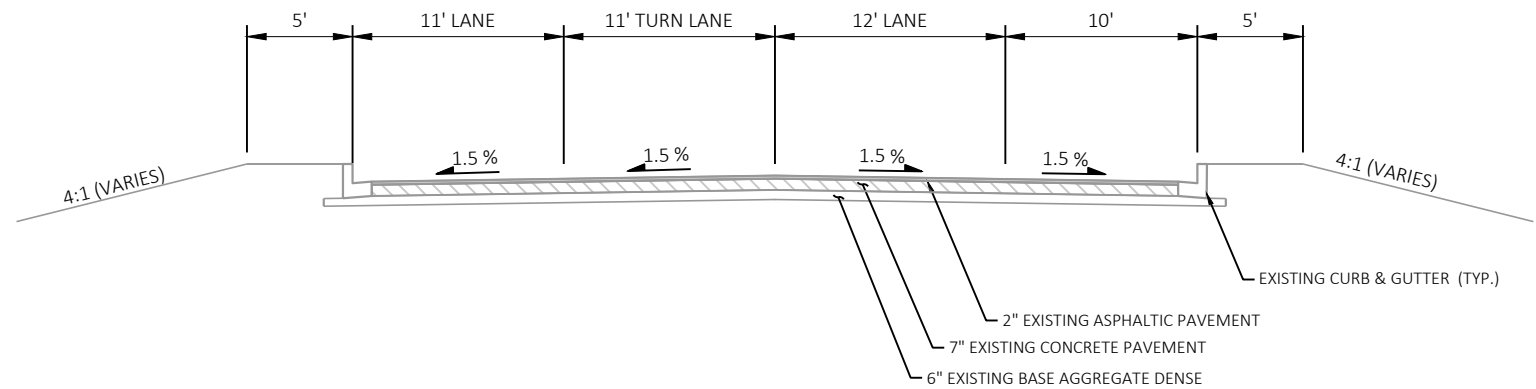
GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
JOINT DETAILS
PLAN DETAILS
EROSION CONTROL
STORM SEWER
CURB RAMP DETAILS
PERMANENT SIGNING
UNDERDECK LIGHTING
CITY OF MKE LIGHTING
CITY OF MKE CUC
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT PLAN



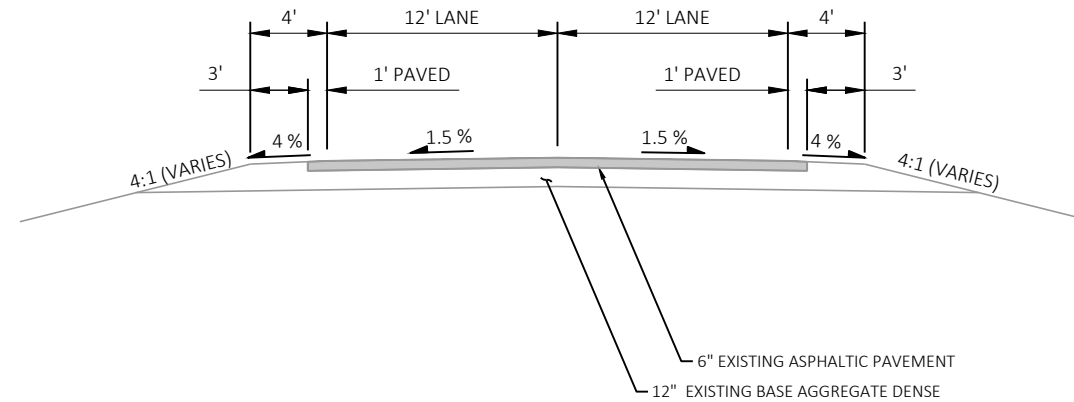
PROJECT NO: 1360-12-70	HWY: STH 145	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 3	E
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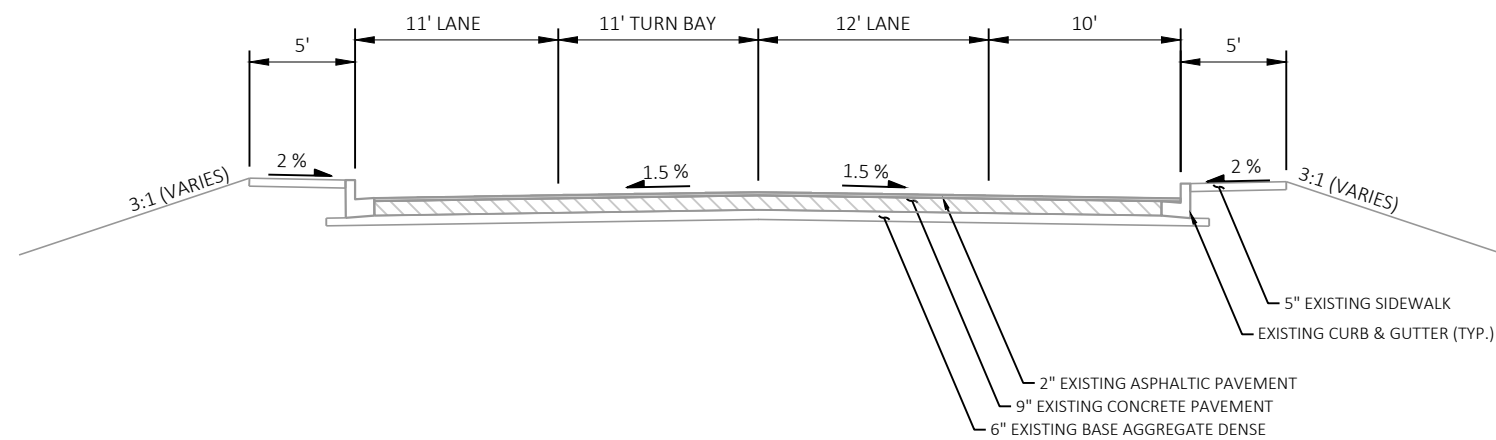
EXISTING TYPICAL SECTION
STA 111+36.24 - 111+65.12



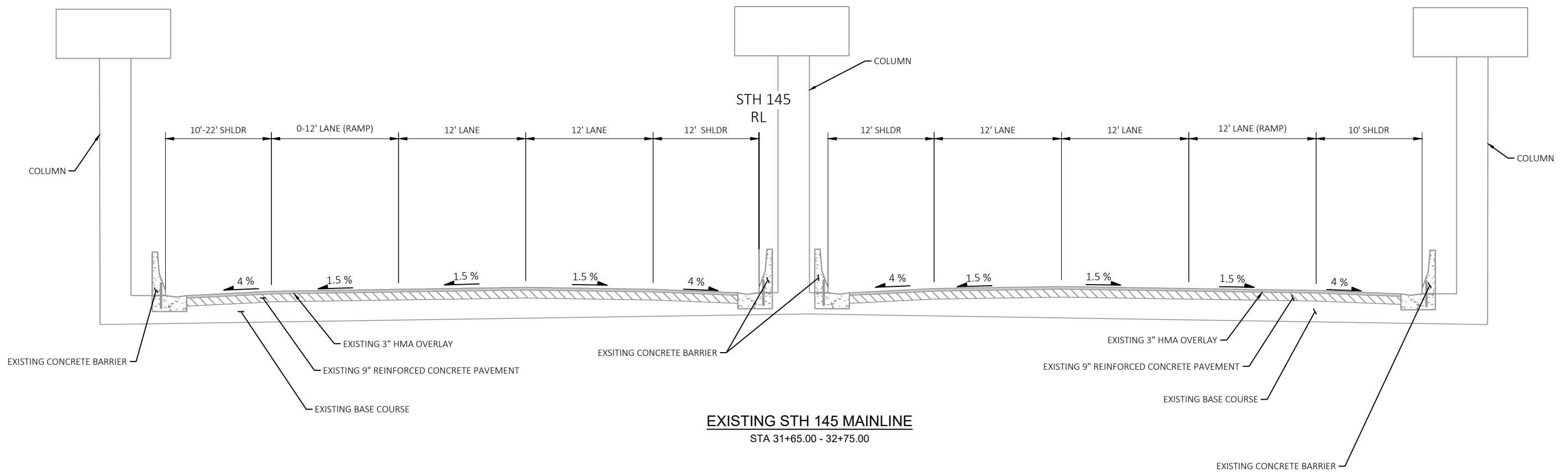
EXISTING TYPICAL SECTION
STA 110+30.52 - 111+36.24

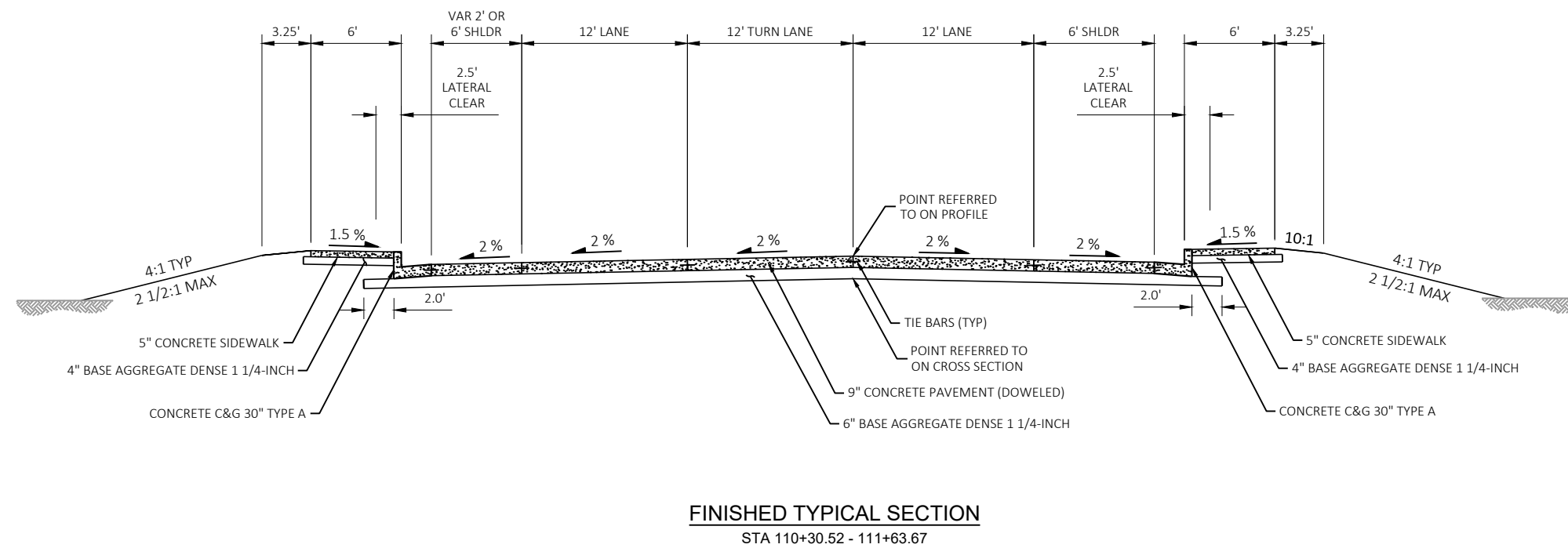
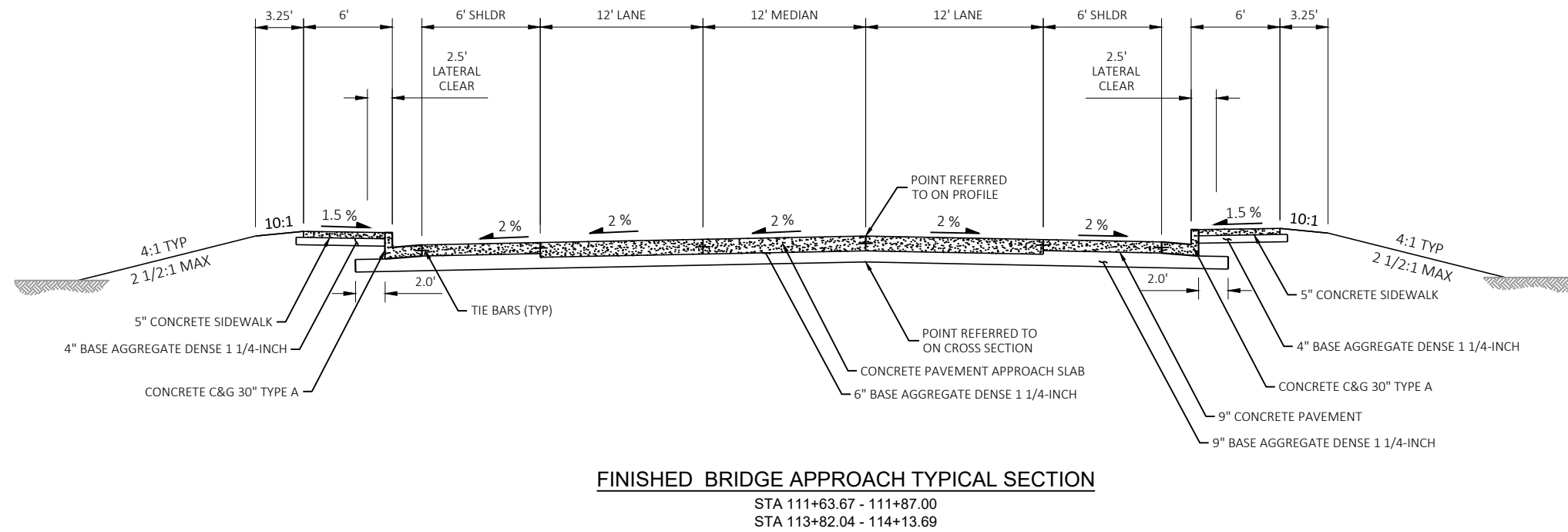


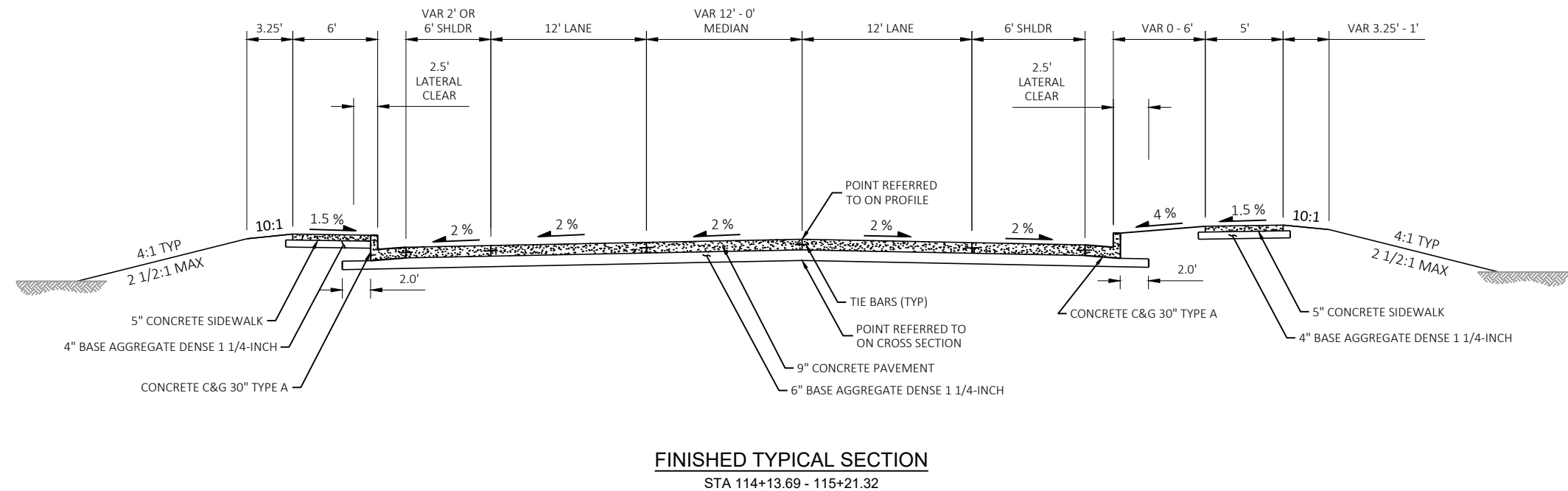
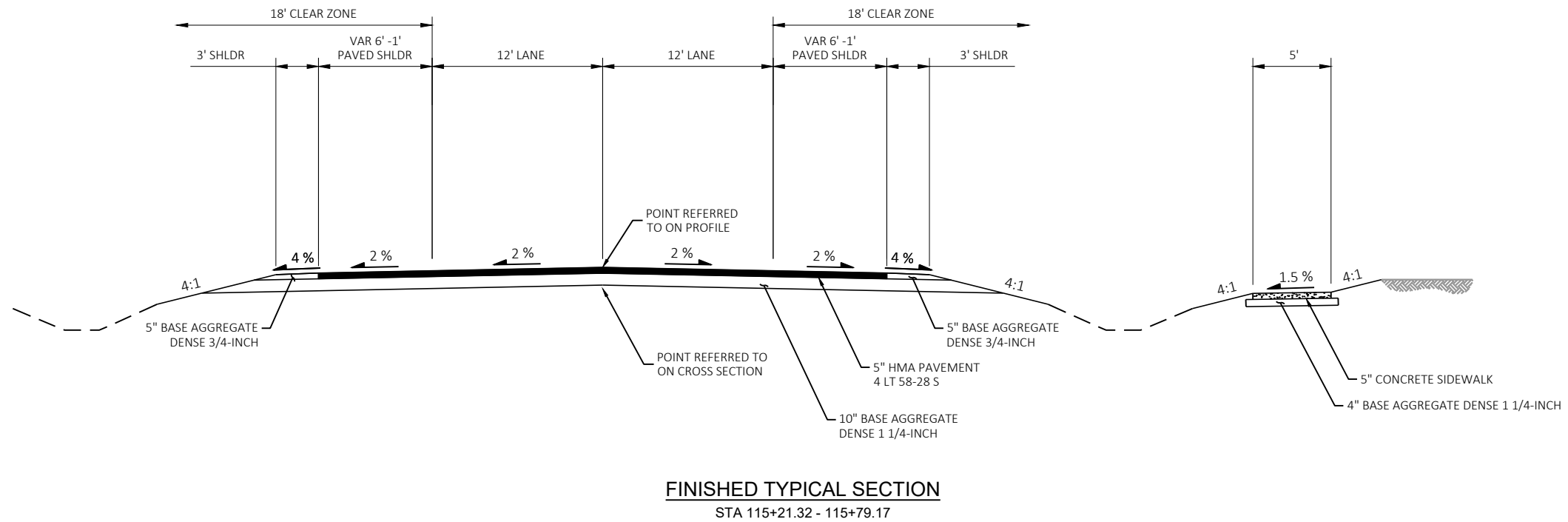
EXISTING TYPICAL SECTION
STA 114+59.36 - 115+79.17

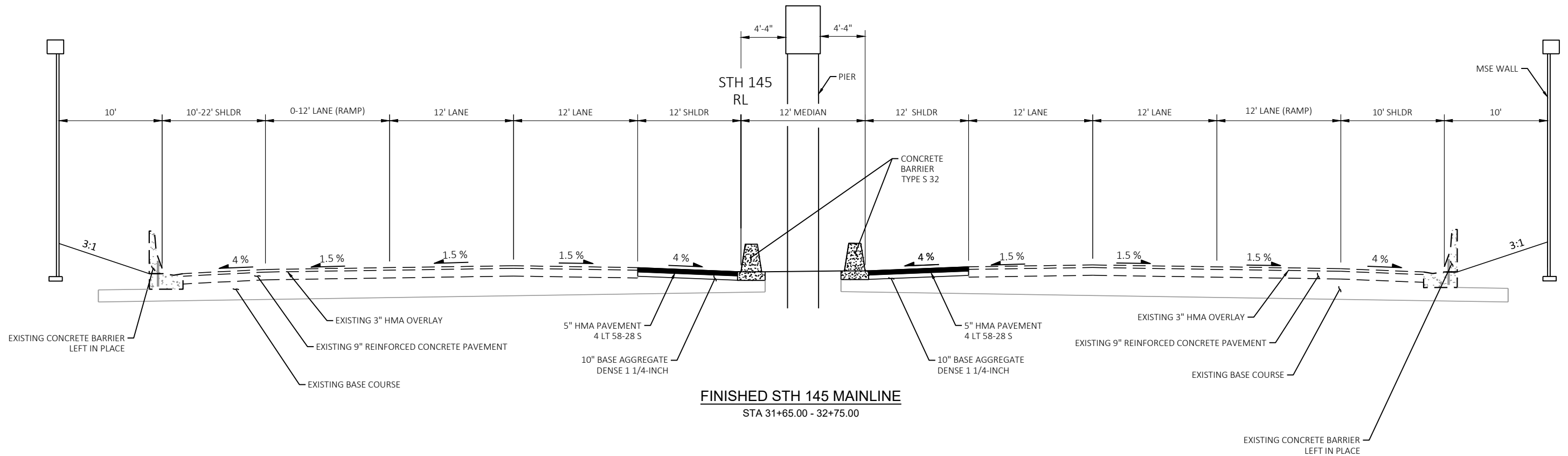


EXISTING TYPICAL SECTION
STA 114+14.50 - 114+59.36



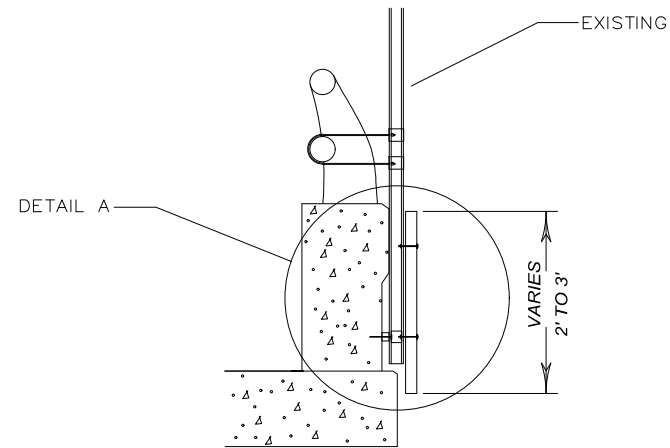




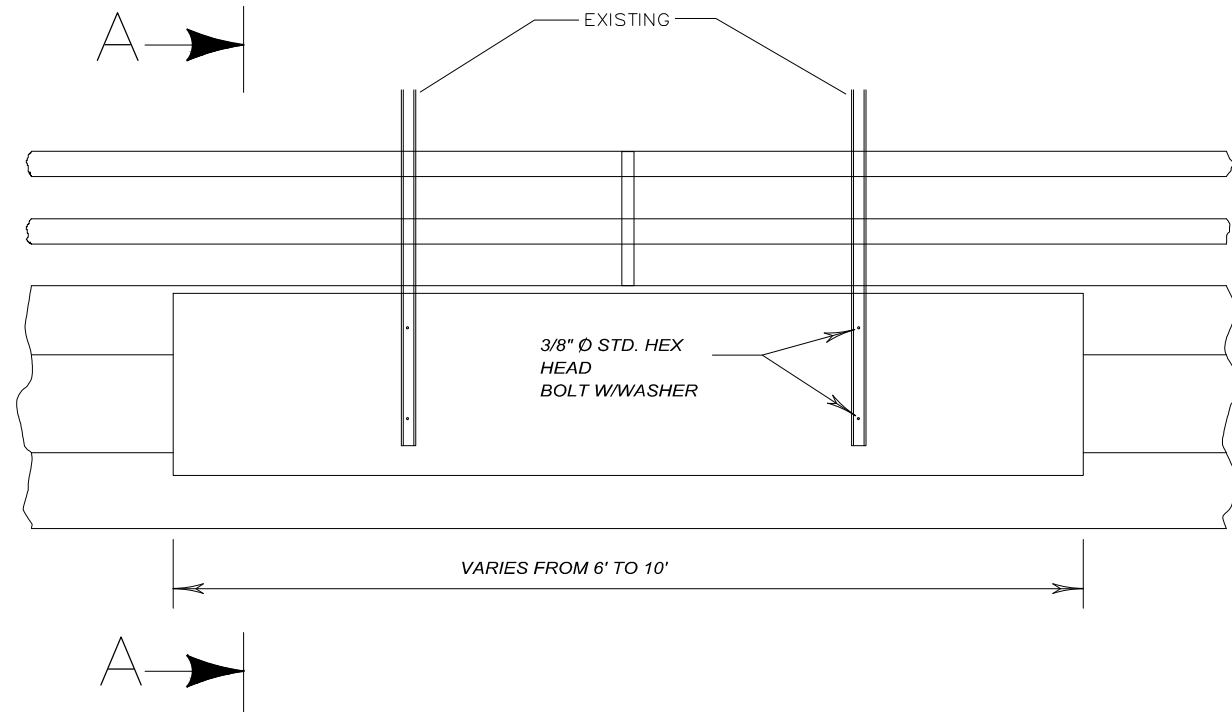


FINISHED STH 145 MAINLINE
STA 31+65.00 - 32+75.00

PAVEMENT LOCATION	TOTAL PAVEMENT THICKNESS	LAYER	TYPE
STH 145 SHOULDERS	5"	1.75" UPPER 3.25" LOWER	4 LT 58-28 S

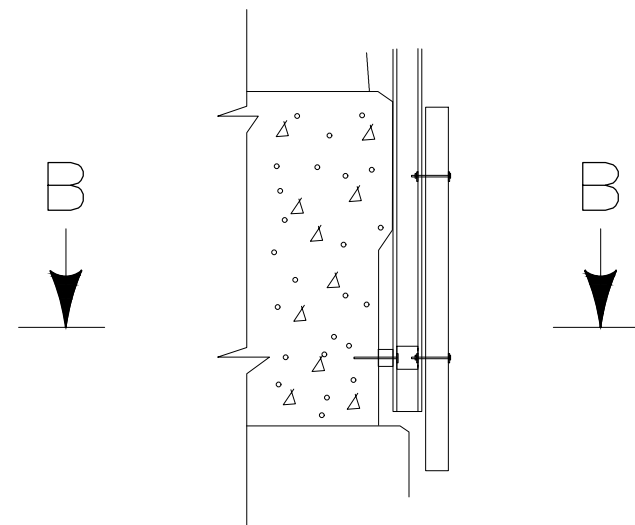


SECTION A-A
SIDE VIEW

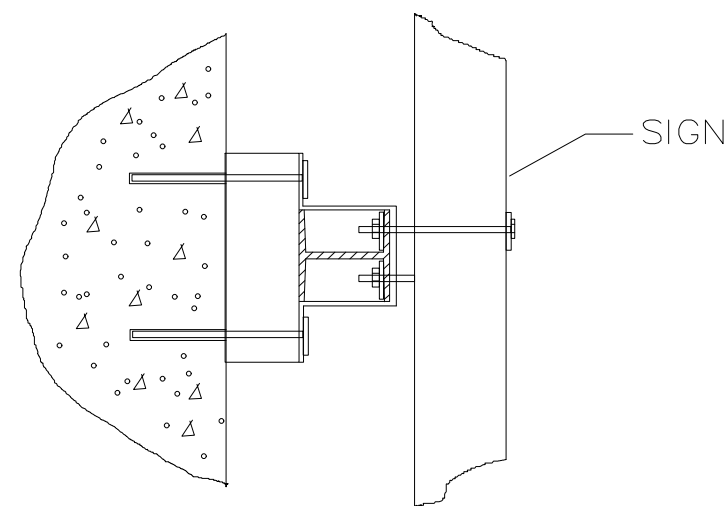


FRONT VIEW

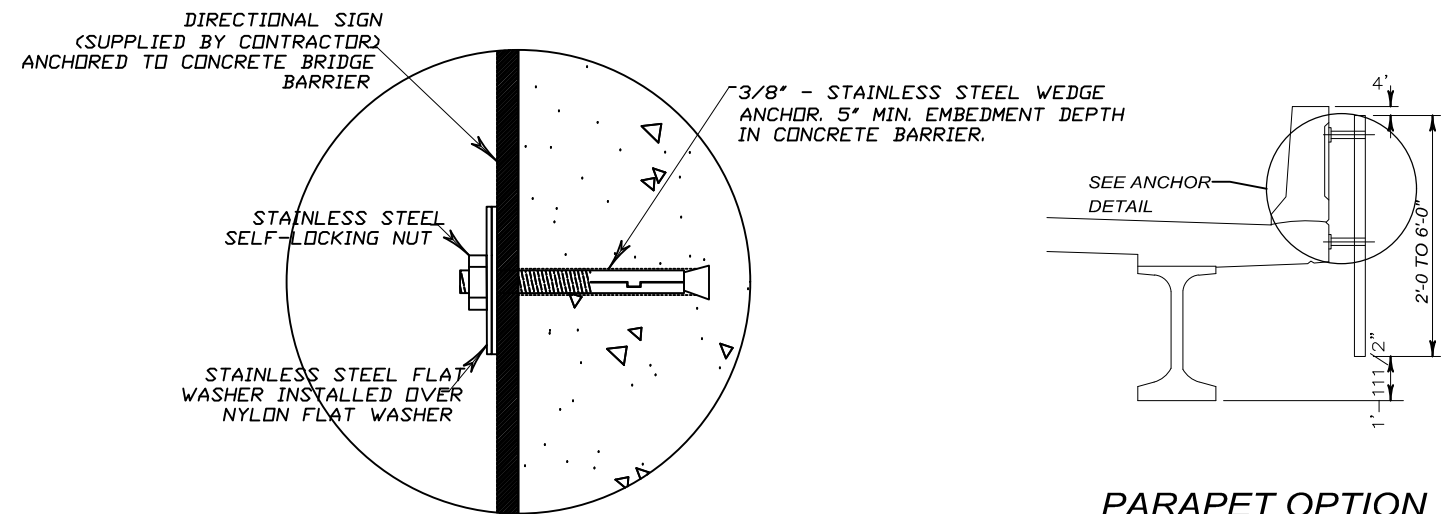
NOTES:
PROVIDE NEW BOLTS.
MOUNTING DETAIL COSTS ARE INCIDENTAL
TO PAY ITEM "TYPE II SIGNS, REFLECTIVE".



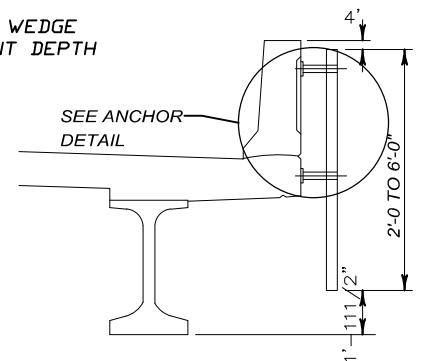
DETAIL A



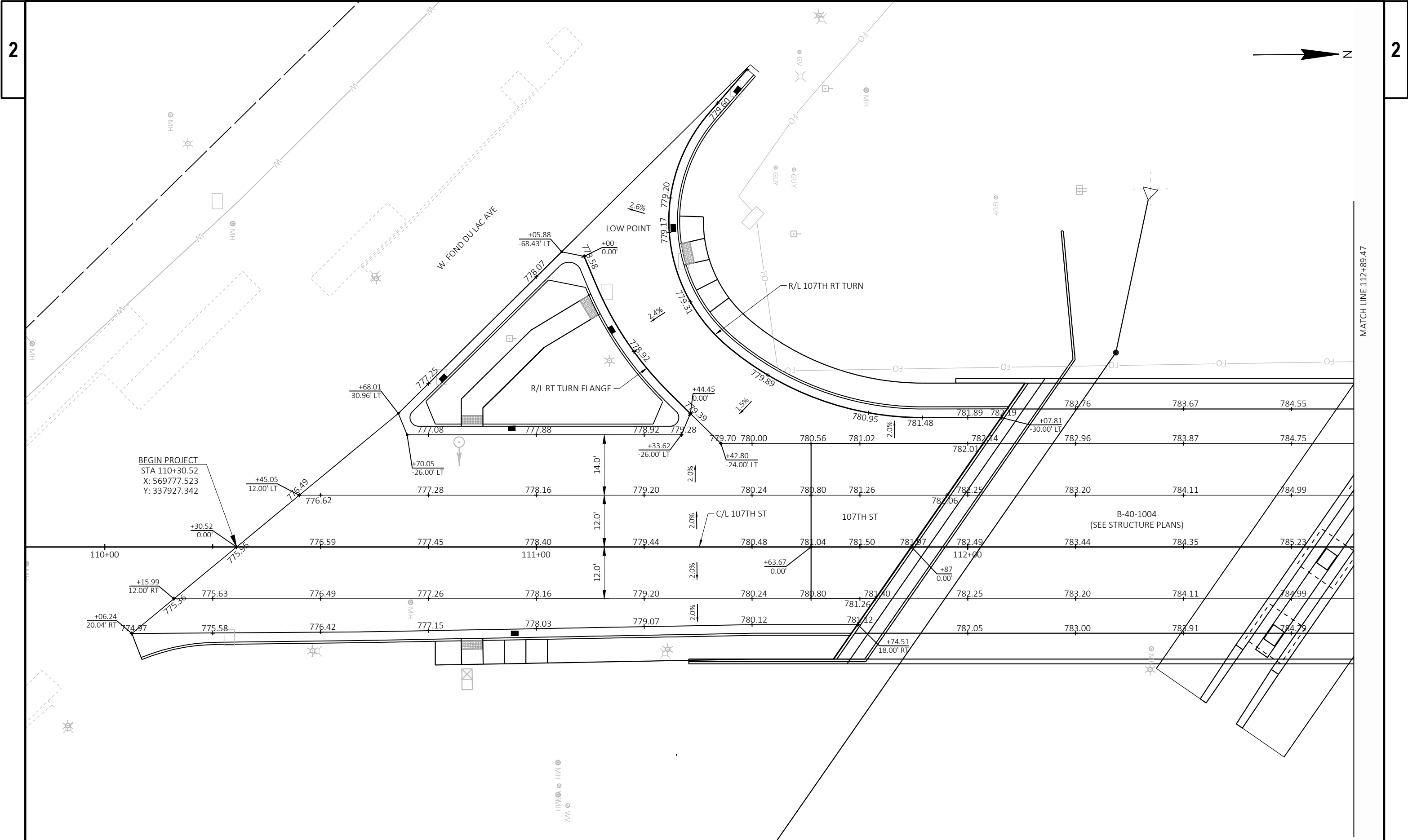
SECTION B-B
TOP VIEW



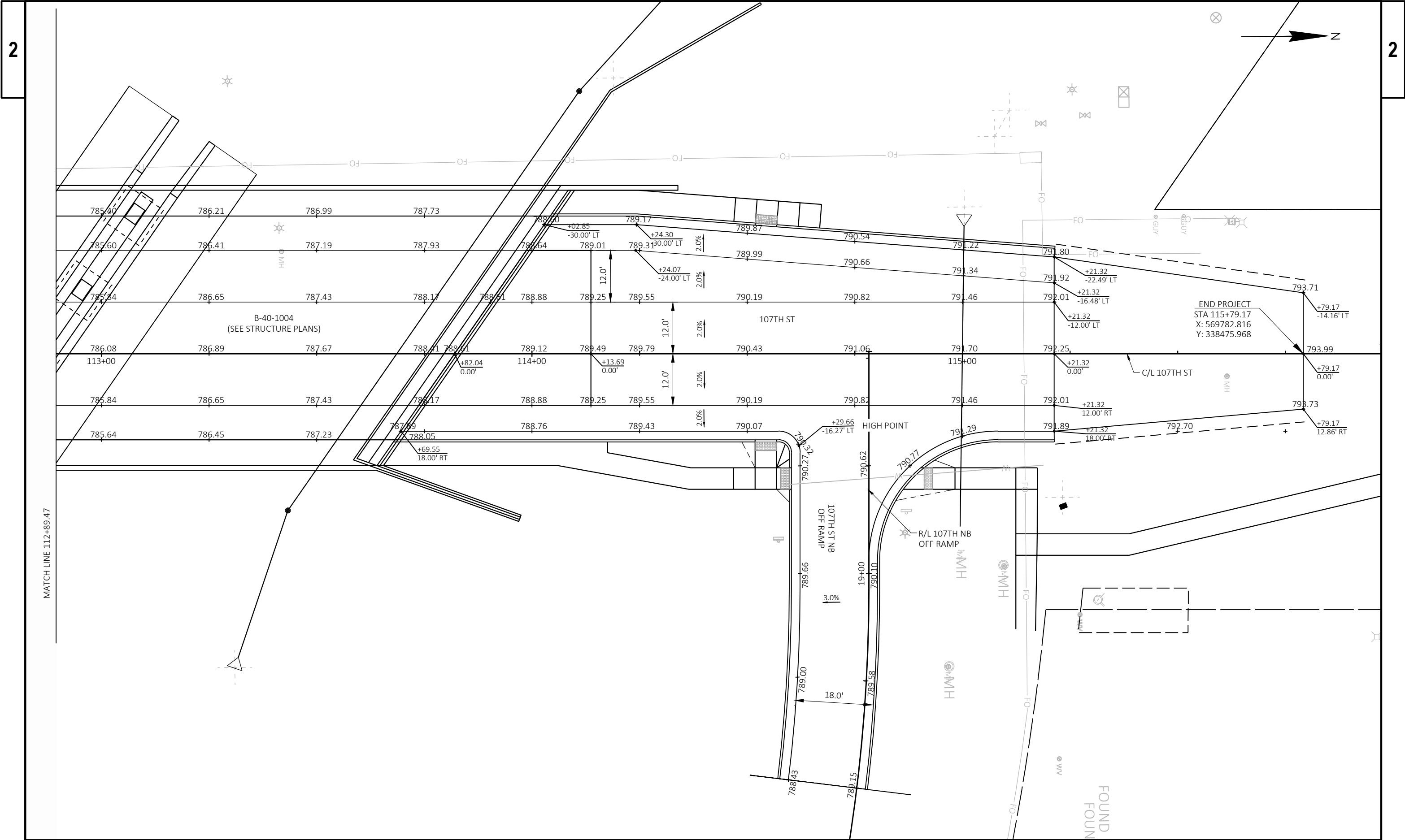
ANCHOR DETAIL
N.T.S.



PARAPET OPTION
WITHOUT RAIL

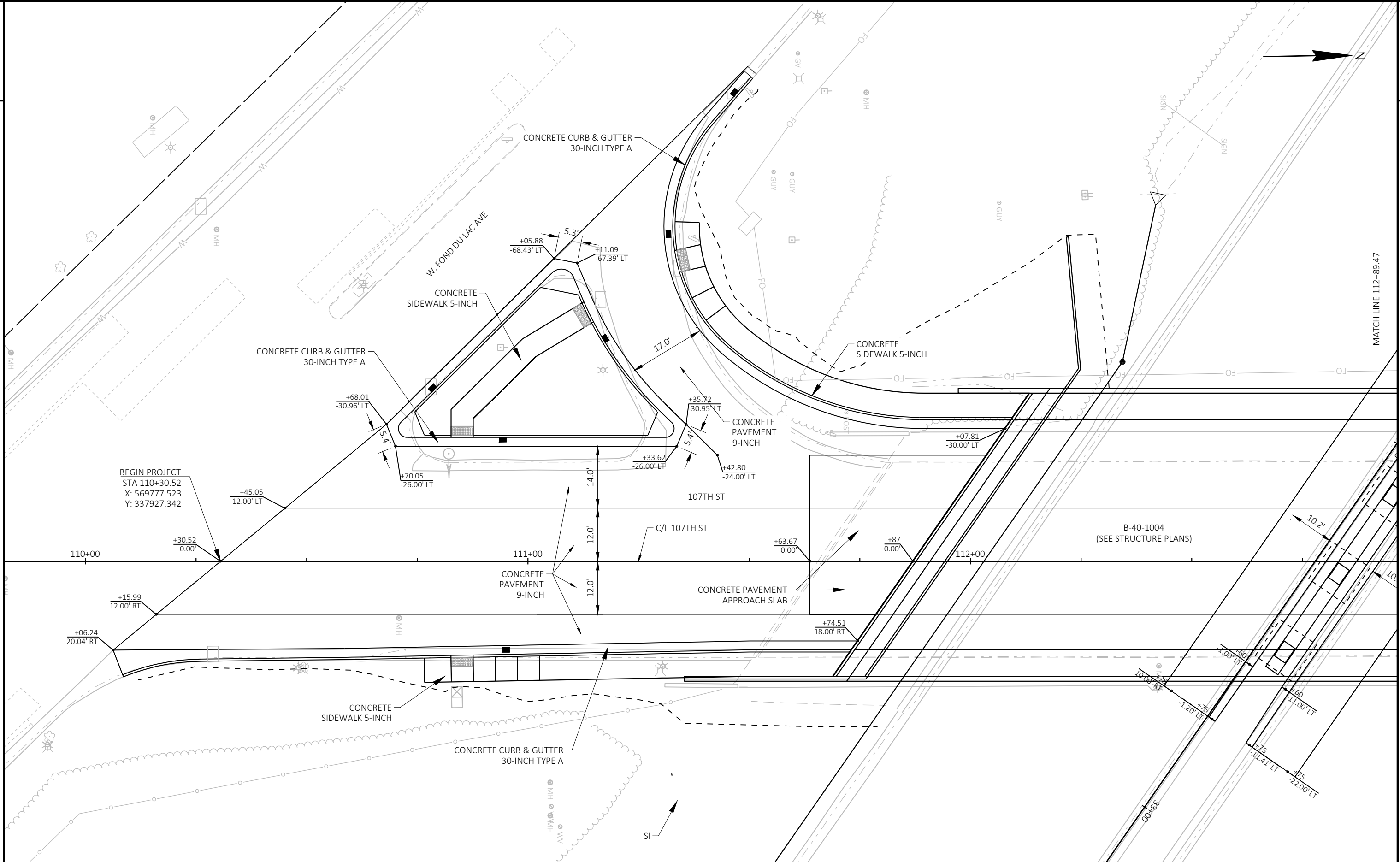


PROJECT NO: 1360-12-70	HWY: STH 145	COUNTY: MILWAUKEE	JOINT DETAILS - 107TH ST	SHEET 12	E
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2



PROJECT NO:	1360-12-70
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HWY: STH 145

COUNTY: MILWAUKEE

PLAN DETAILS - 107TH ST

SHEET	14	E
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FILE NAME : Y:\MILWAUKEE\202005\20288.00\ENG_DOCS\13601270\SHEETS\PLAN\13601200\021201_PD.DWG
LAYOUT NAME - 01

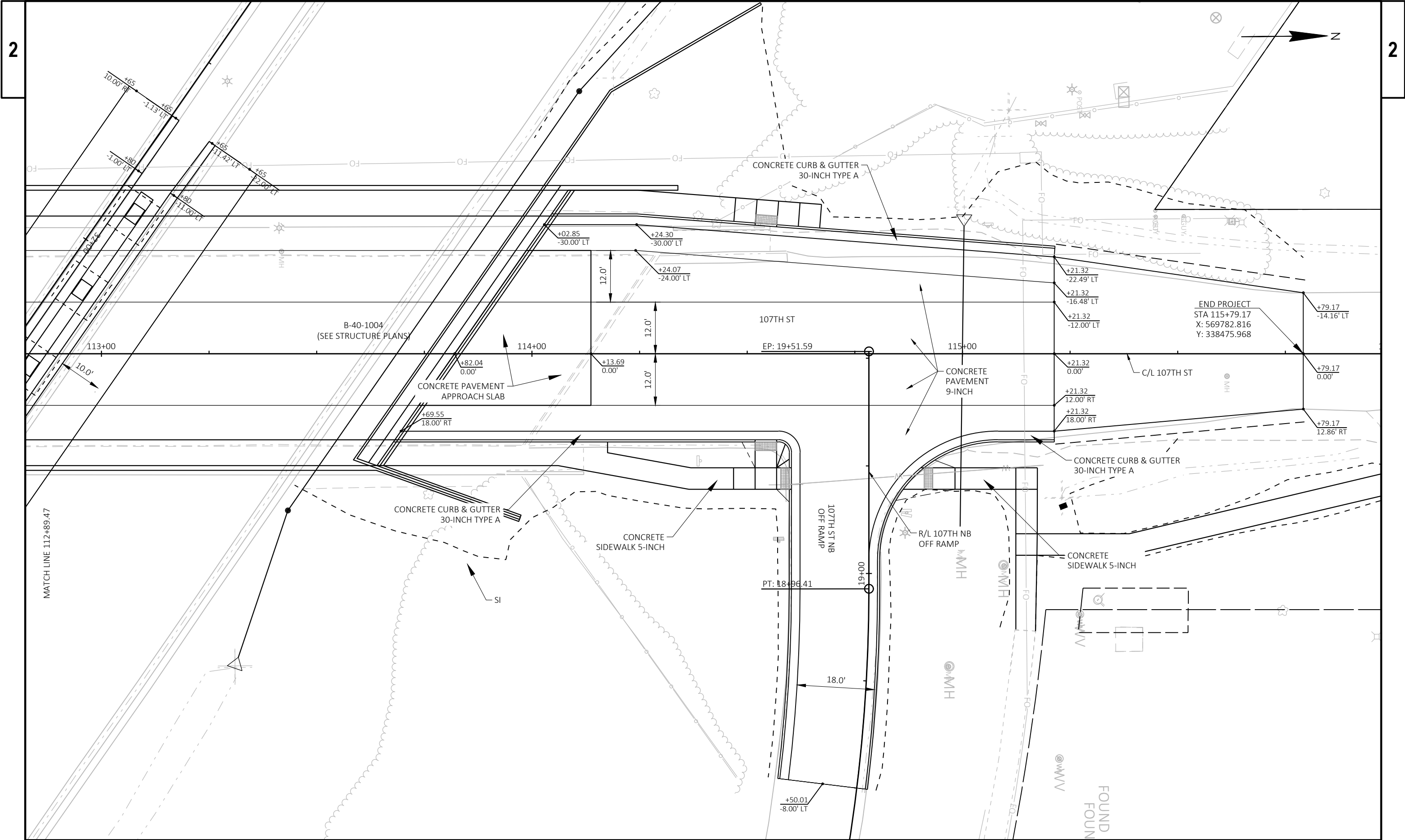
PLOT DATE : 10/5/2021 4:46 PM

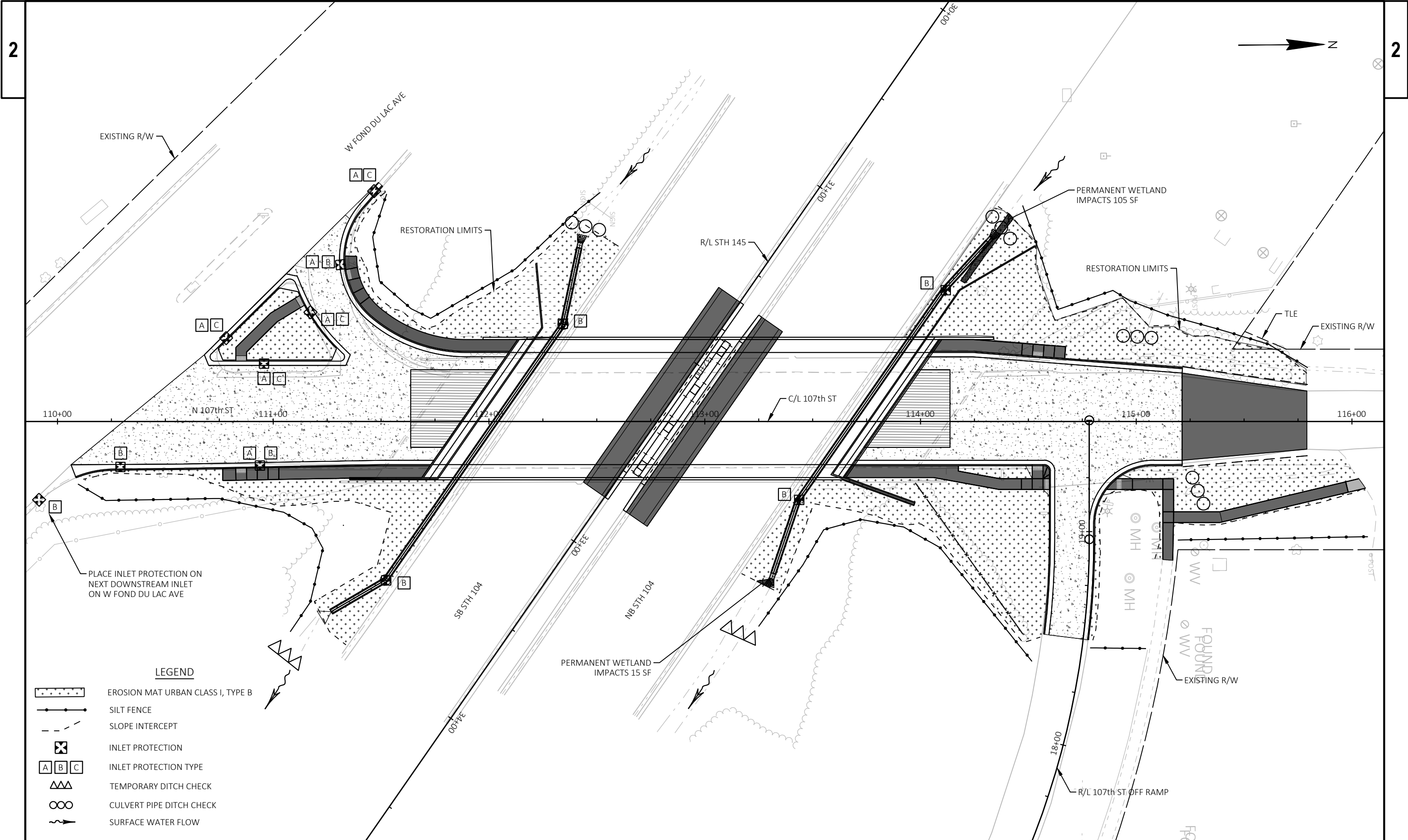
PLOT BY : PAYNE, GREGORY

PLOT NAME :

PLOT SCALE : 1 IN:20 FT

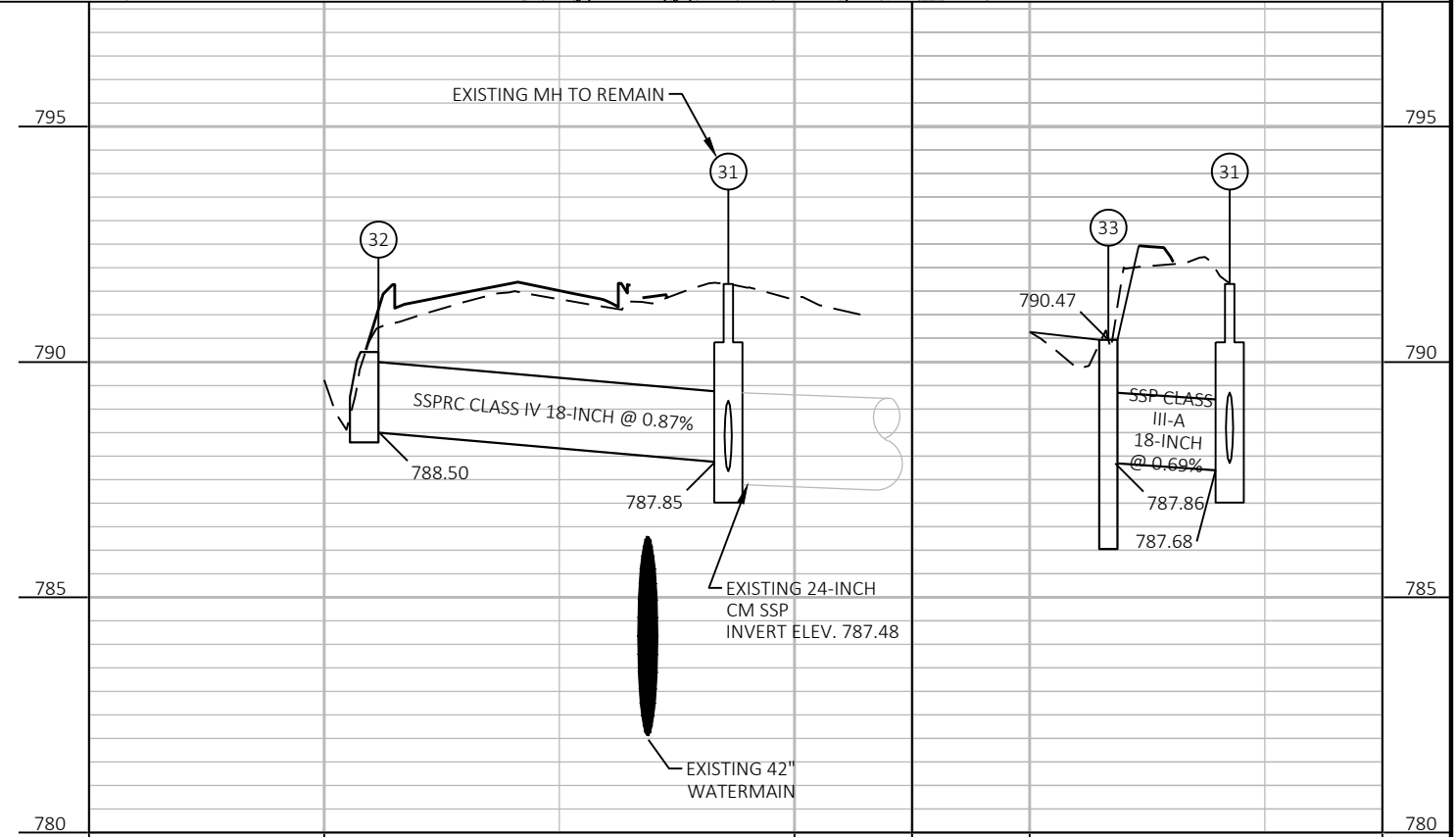
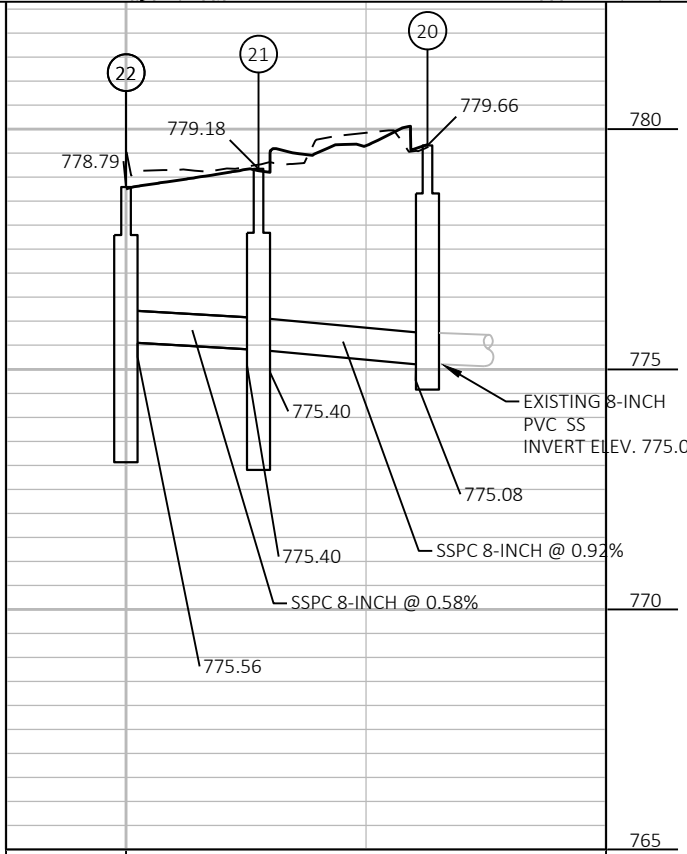
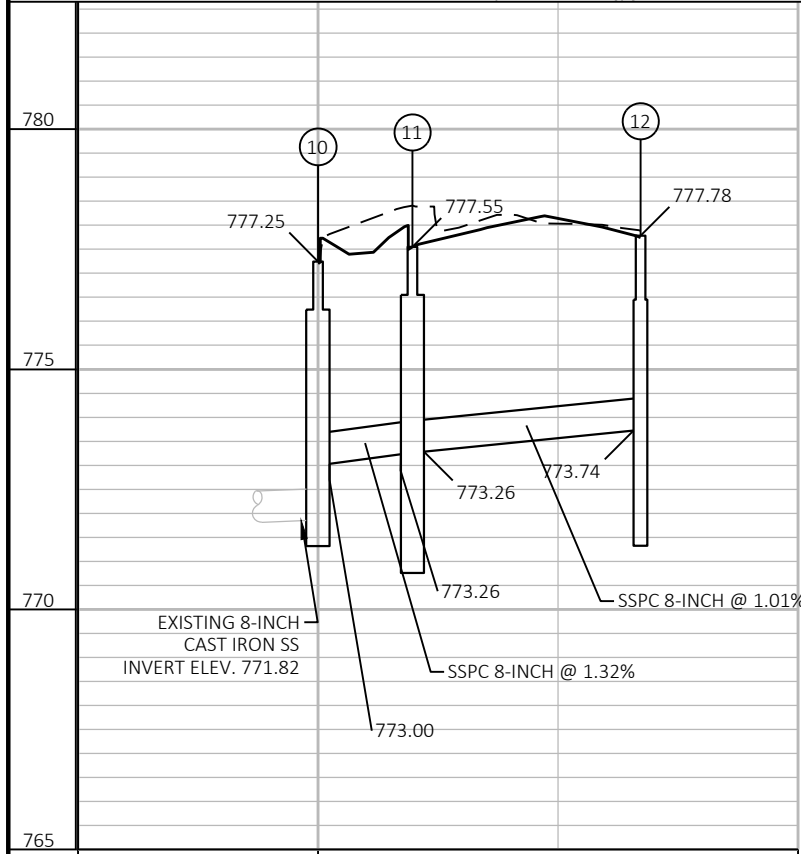
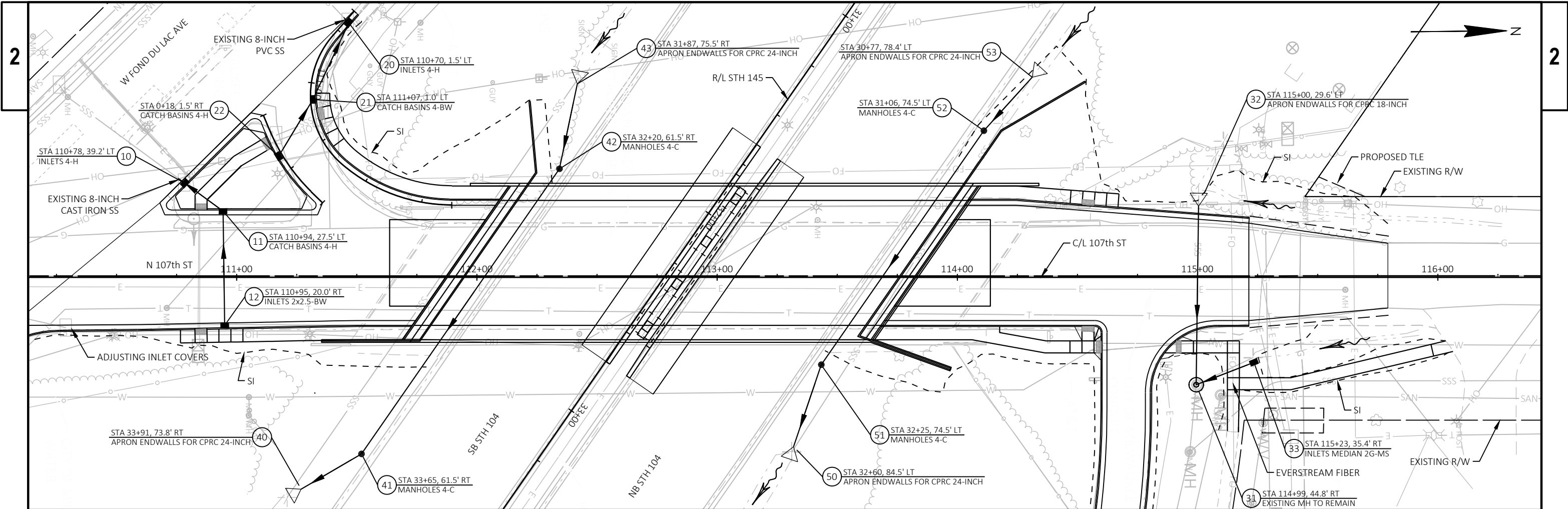
WISDOT/CADDS SHEET 42

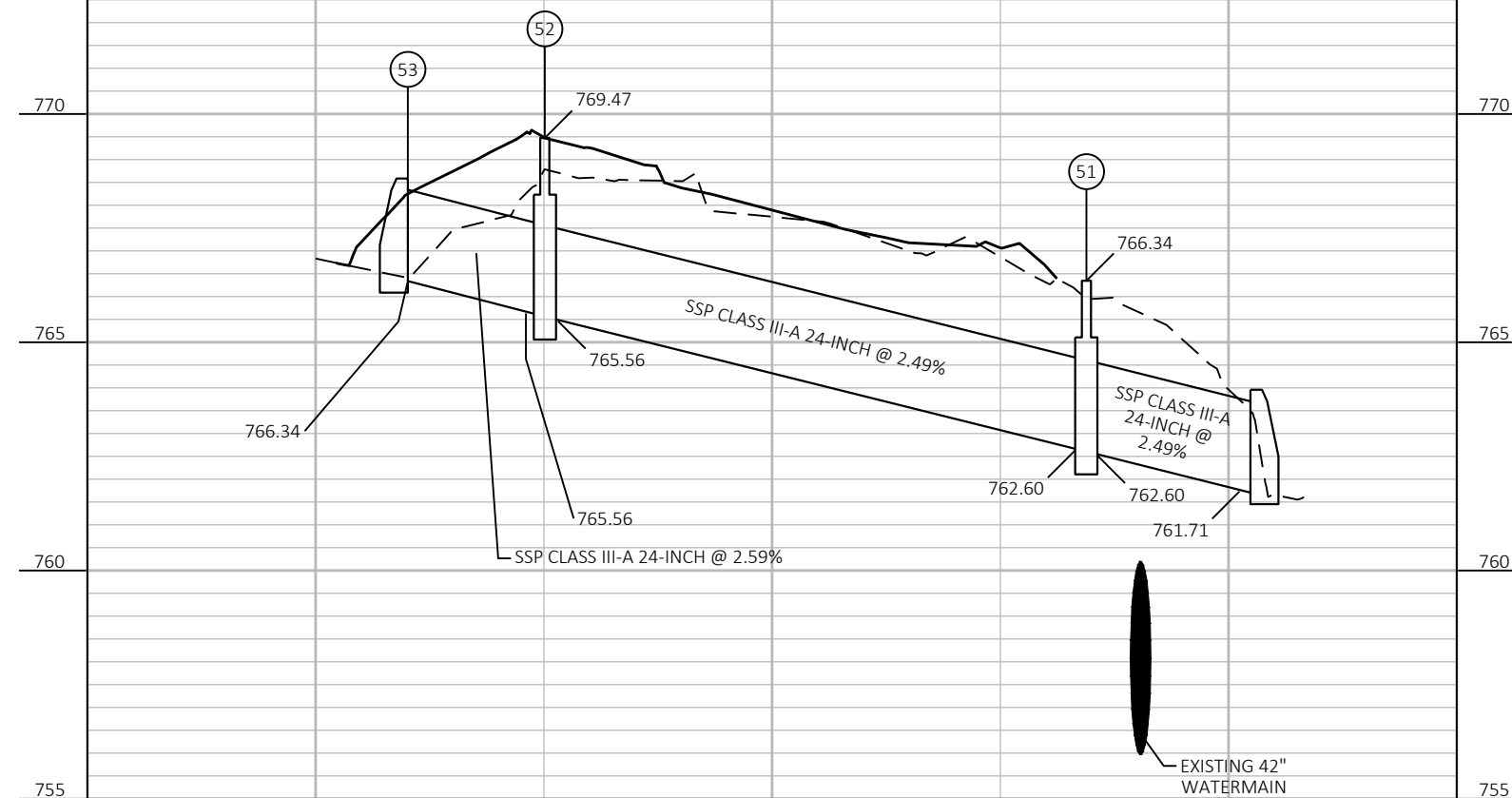
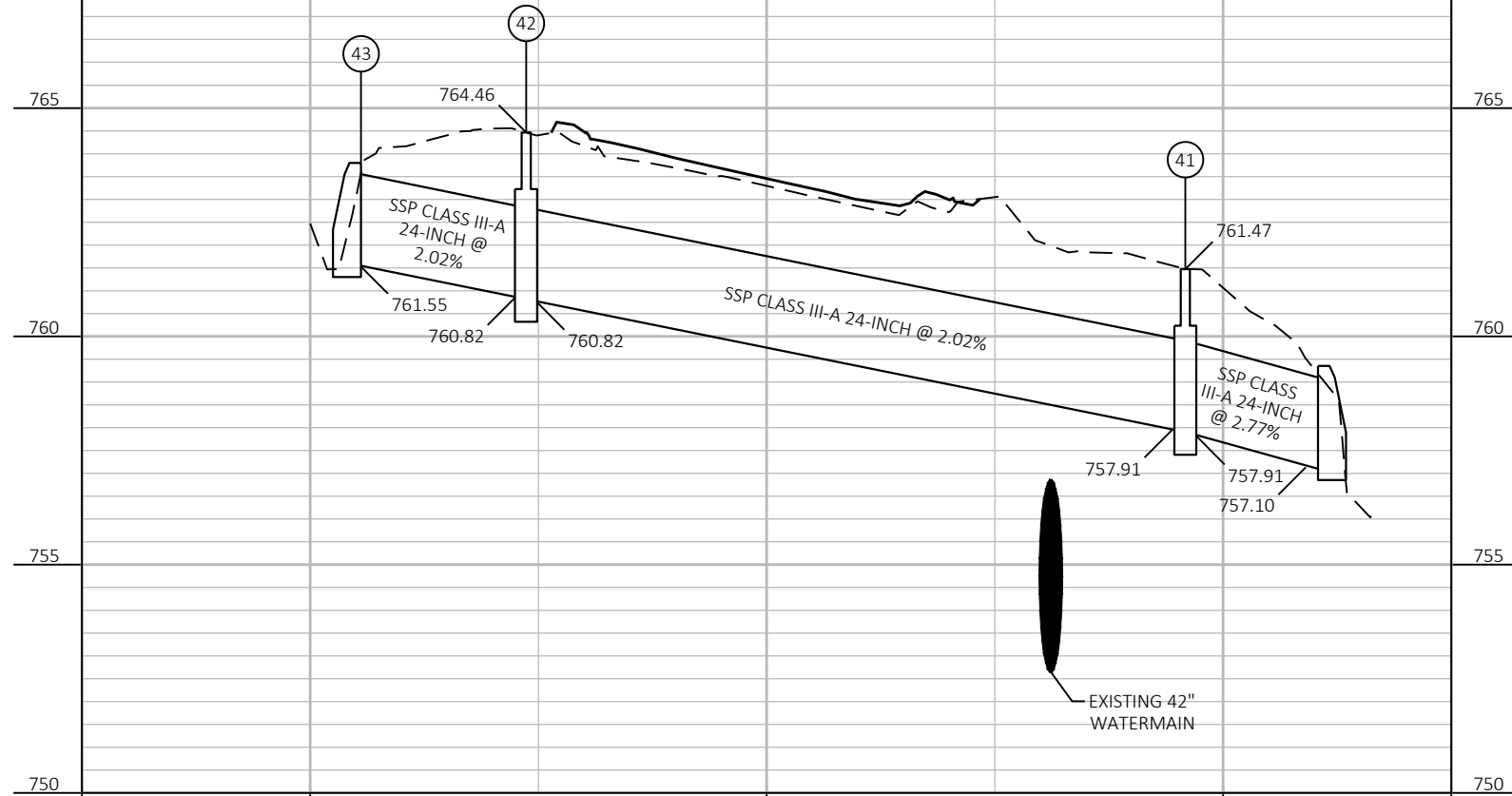




LEGEND

- EROSION MAT URBAN CLASS I, TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW





PROJECT NO: 1360-12-70

HWY: STH 145

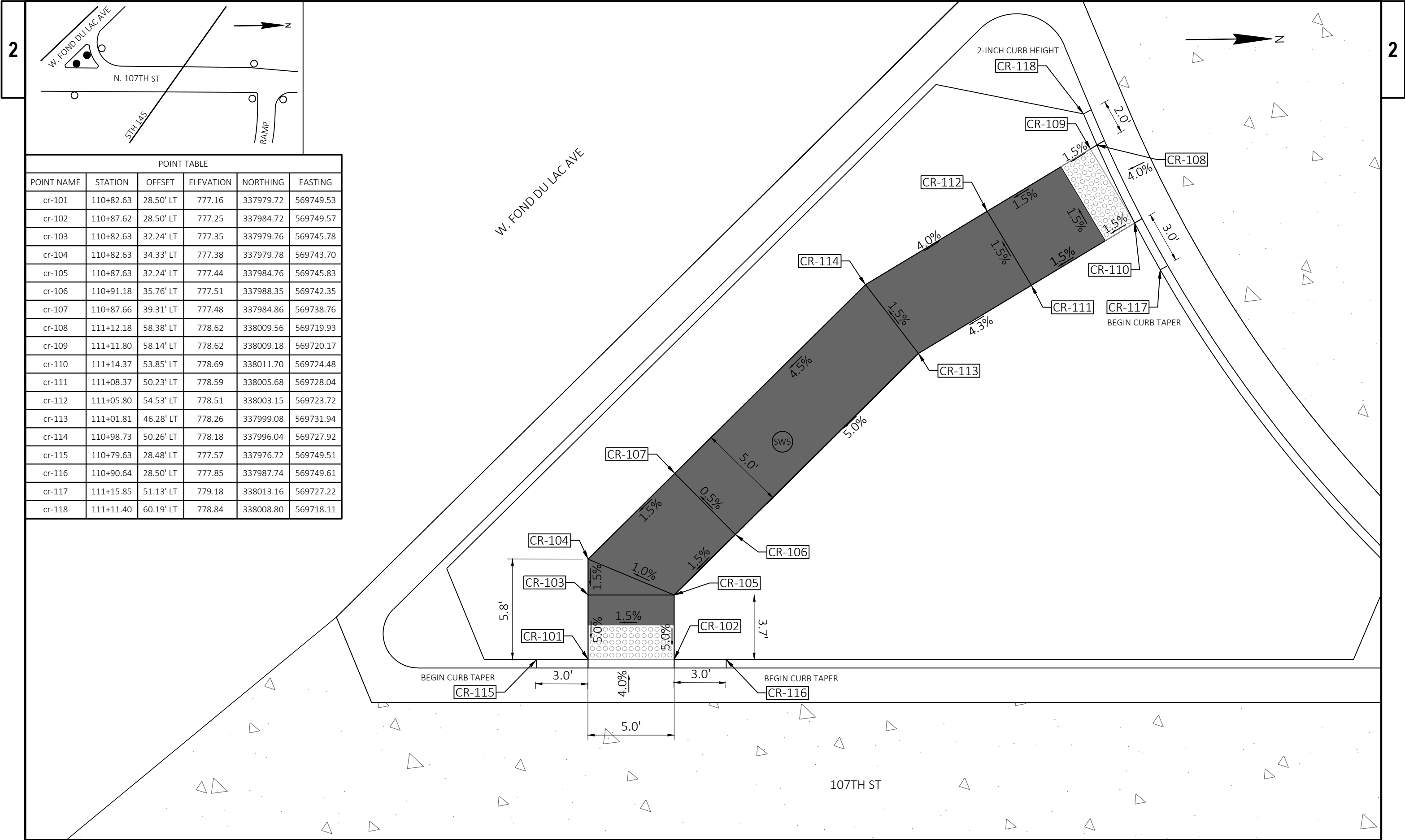
COUNTY: MILWAUKEE

STORM SEWER

SHEET

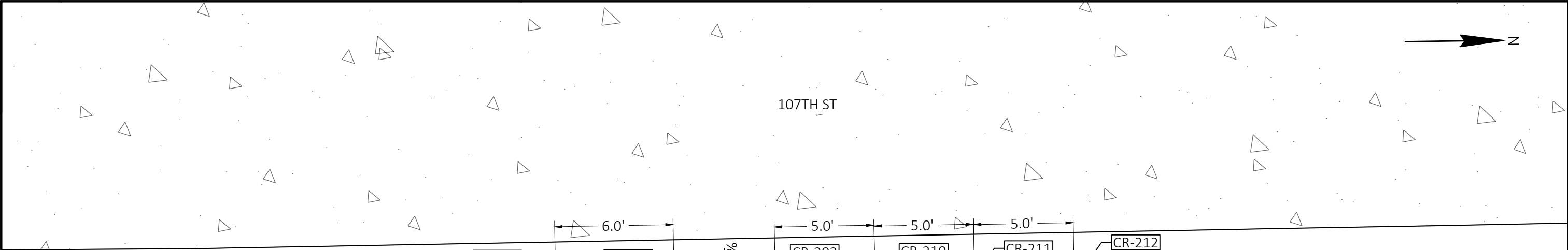
18

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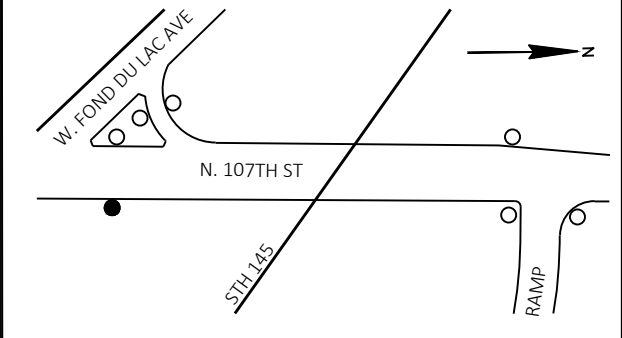


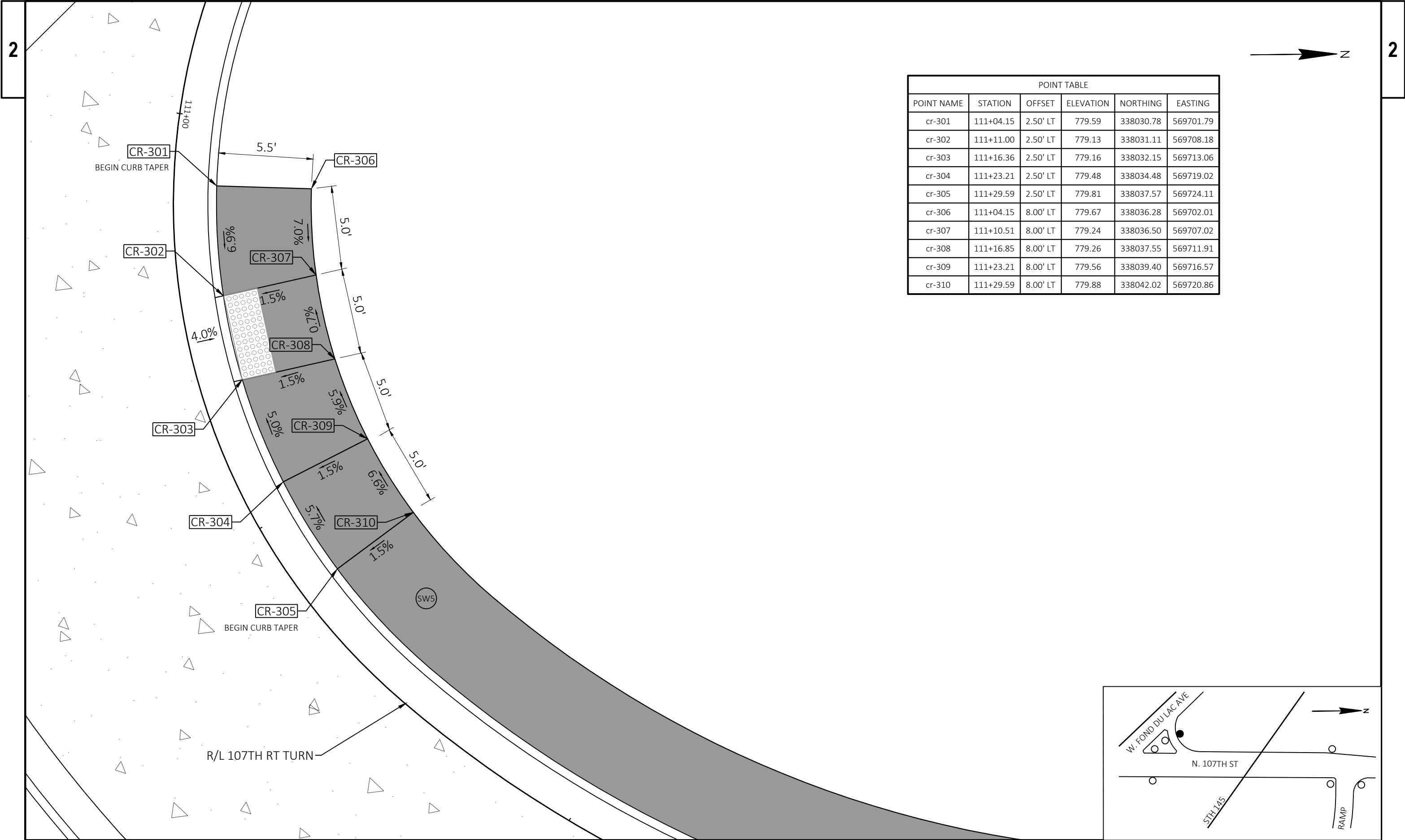
POINT TABLE					
POINT NAME	STATION	OFFSET	ELEVATION	NORTHING	EASTING
cr-101	110+82.63	28.50' LT	777.16	337979.72	569749.53
cr-102	110+87.62	28.50' LT	777.25	337984.72	569749.57
cr-103	110+82.63	32.24' LT	777.35	337979.76	569745.78
cr-104	110+82.63	34.33' LT	777.38	337979.78	569743.70
cr-105	110+87.63	32.24' LT	777.44	337984.76	569745.83
cr-106	110+91.18	35.76' LT	777.51	337988.35	569742.35
cr-107	110+87.66	39.31' LT	777.48	337984.86	569738.76
cr-108	111+12.18	58.38' LT	778.62	338009.56	569719.93
cr-109	111+11.80	58.14' LT	778.62	338009.18	569720.17
cr-110	111+14.37	53.85' LT	778.69	338011.70	569724.48
cr-111	111+08.37	50.23' LT	778.59	338005.68	569728.04
cr-112	111+05.80	54.53' LT	778.51	338003.15	569723.72
cr-113	111+01.81	46.28' LT	778.26	337999.08	569731.94
cr-114	110+98.73	50.26' LT	778.18	337996.04	569727.92
cr-115	110+79.63	28.48' LT	777.57	337976.72	569749.51
cr-116	110+90.64	28.50' LT	777.85	337987.74	569749.61
cr-117	111+15.85	51.13' LT	779.18	338013.16	569727.22
cr-118	111+11.40	60.19' LT	778.84	338008.80	569718.11

2

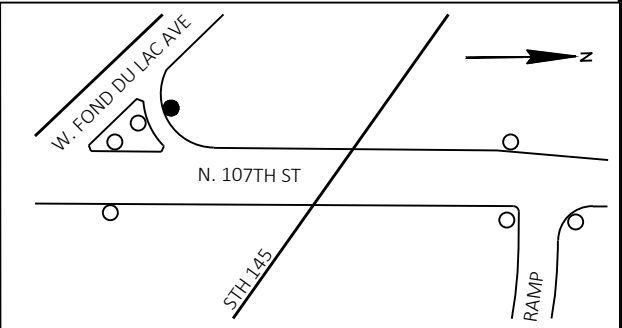


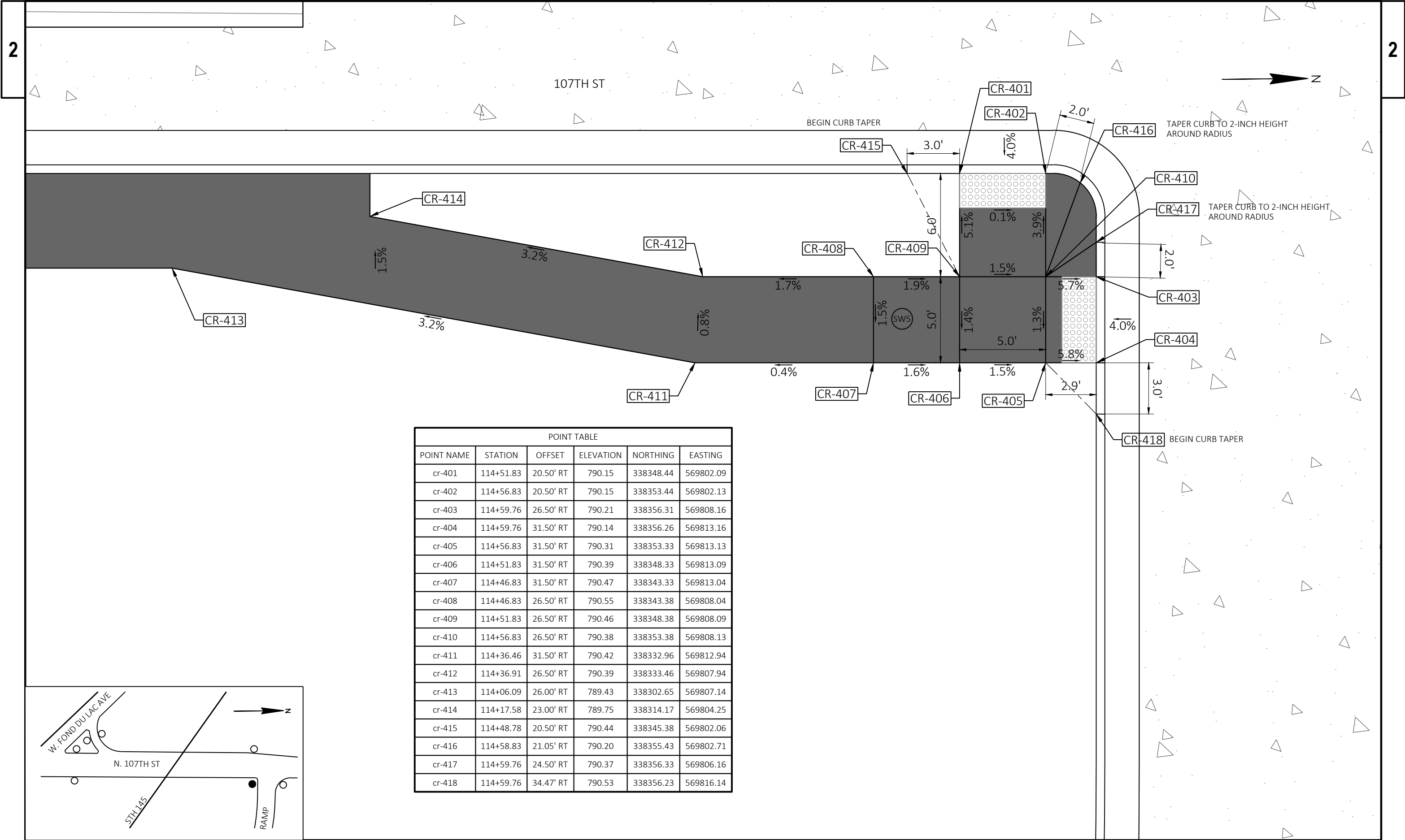
POINT TABLE					
POINT NAME	STATION	OFFSET	ELEVATION	NORTHING	EASTING
cr-201	110+82.58	21.75' RT	777.30	337979.20	569799.78
cr-202	110+87.58	21.65' RT	777.37	337984.20	569799.72
cr-203	110+76.58	27.37' RT	777.69	337973.14	569805.33
cr-204	110+82.70	27.25' RT	777.38	337979.26	569805.28
cr-205	110+87.70	27.16' RT	777.46	337984.26	569805.23
cr-206	110+92.58	27.05' RT	777.85	337989.14	569805.17
cr-207	110+97.58	26.98' RT	778.25	337994.15	569805.14
cr-208	111+02.58	26.88' RT	778.63	337999.15	569805.10
cr-209	110+76.58	21.87' RT	777.61	337973.19	569799.83
cr-210	110+92.58	21.57' RT	777.77	337989.20	569799.69
cr-211	110+97.58	21.48' RT	778.17	337994.20	569799.64
cr-212	111+02.58	21.38' RT	778.55	337999.20	569799.59



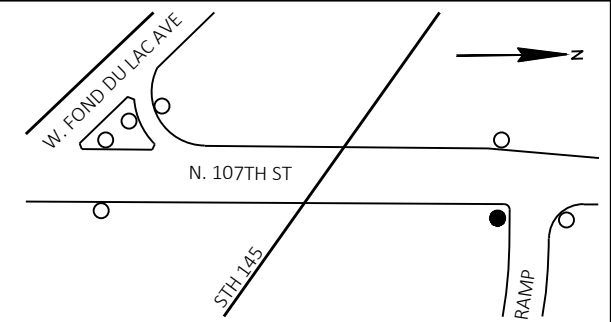


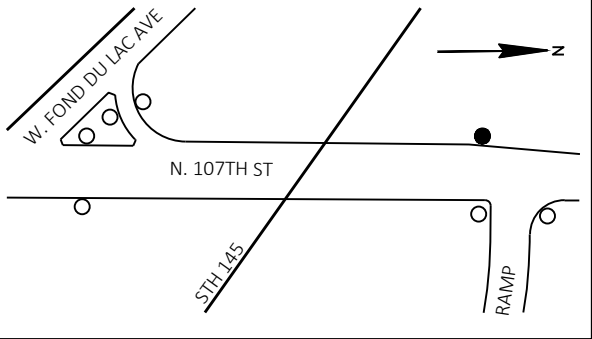
POINT TABLE					
POINT NAME	STATION	OFFSET	ELEVATION	NORTHING	EASTING
cr-301	111+04.15	2.50' LT	779.59	338030.78	569701.79
cr-302	111+11.00	2.50' LT	779.13	338031.11	569708.18
cr-303	111+16.36	2.50' LT	779.16	338032.15	569713.06
cr-304	111+23.21	2.50' LT	779.48	338034.48	569719.02
cr-305	111+29.59	2.50' LT	779.81	338037.57	569724.11
cr-306	111+04.15	8.00' LT	779.67	338036.28	569702.01
cr-307	111+10.51	8.00' LT	779.24	338036.50	569707.02
cr-308	111+16.85	8.00' LT	779.26	338037.55	569711.91
cr-309	111+23.21	8.00' LT	779.56	338039.40	569716.57
cr-310	111+29.59	8.00' LT	779.88	338042.02	569720.86



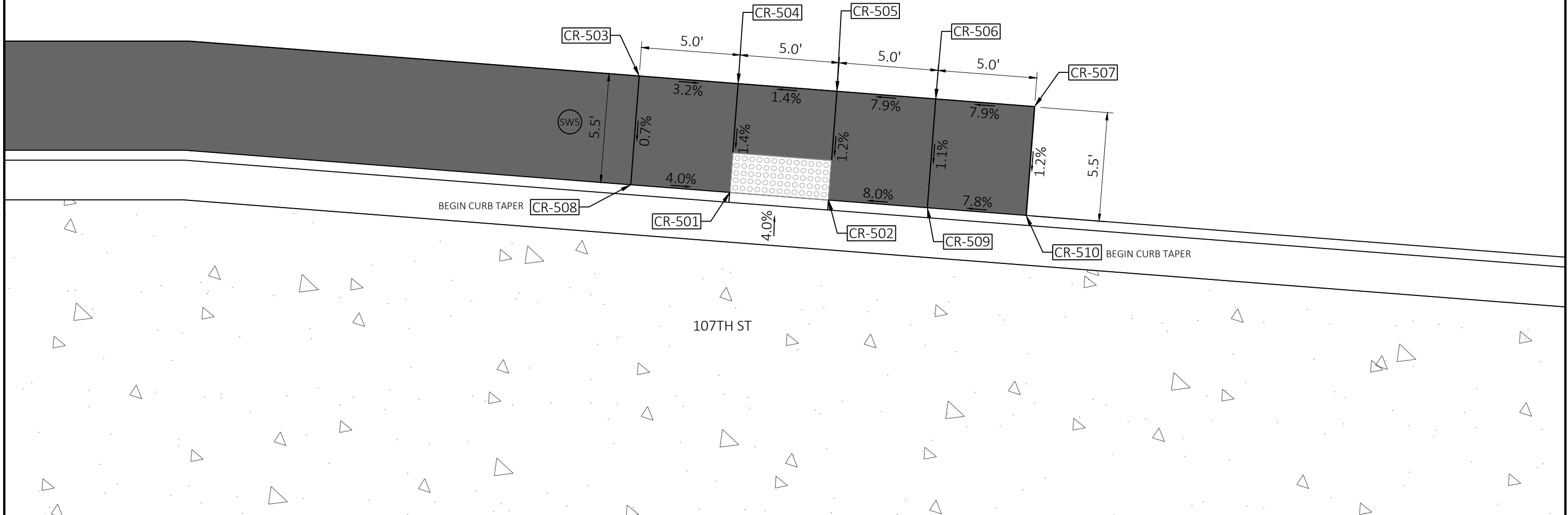


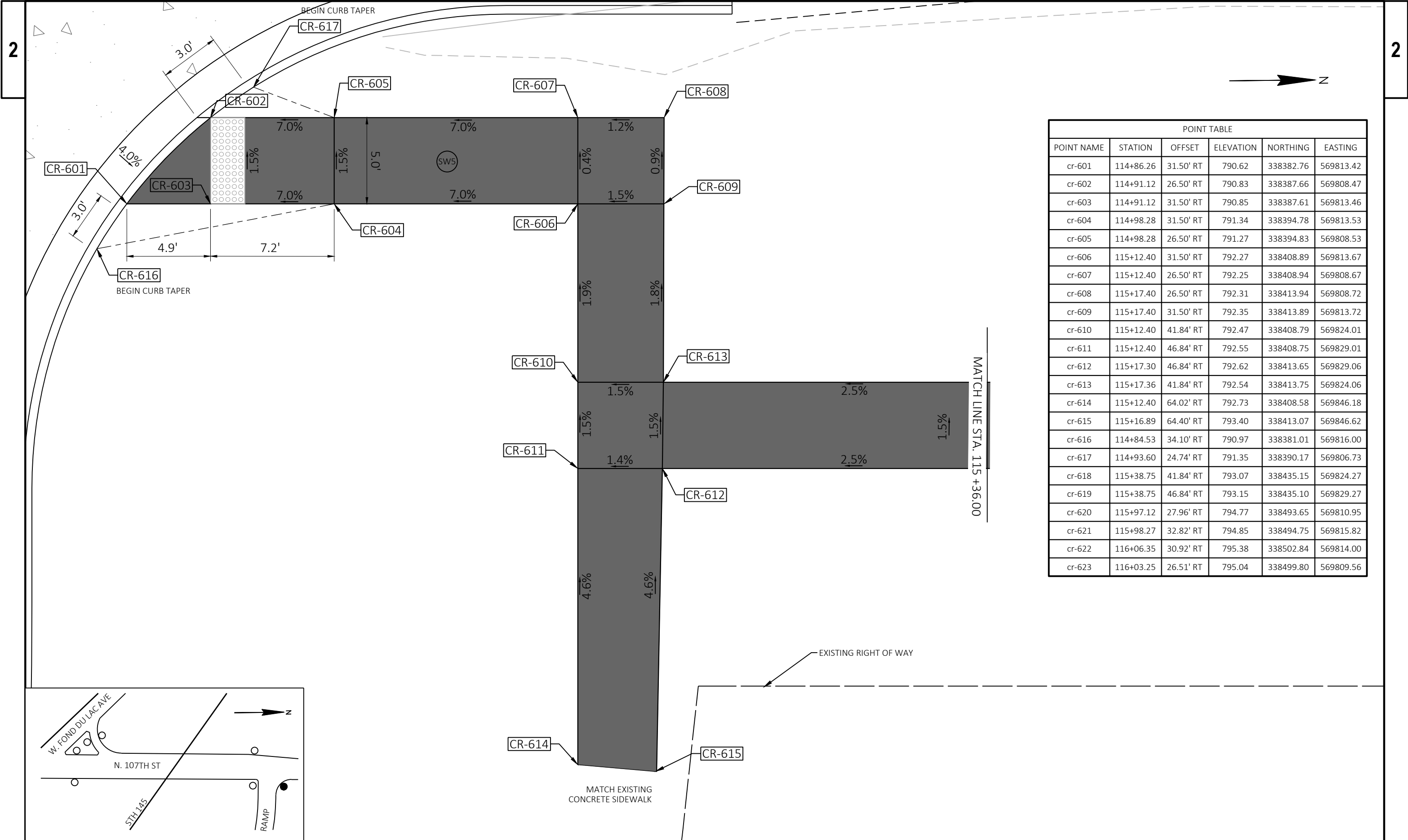
POINT TABLE					
POINT NAME	STATION	OFFSET	ELEVATION	NORTHING	EASTING
cr-401	114+51.83	20.50' RT	790.15	338348.44	569802.09
cr-402	114+56.83	20.50' RT	790.15	338353.44	569802.13
cr-403	114+59.76	26.50' RT	790.21	338356.31	569808.16
cr-404	114+59.76	31.50' RT	790.14	338356.26	569813.16
cr-405	114+56.83	31.50' RT	790.31	338353.33	569813.13
cr-406	114+51.83	31.50' RT	790.39	338348.33	569813.09
cr-407	114+46.83	31.50' RT	790.47	338343.33	569813.04
cr-408	114+46.83	26.50' RT	790.55	338343.38	569808.04
cr-409	114+51.83	26.50' RT	790.46	338348.38	569808.09
cr-410	114+56.83	26.50' RT	790.38	338353.38	569808.13
cr-411	114+36.46	31.50' RT	790.42	338332.96	569812.94
cr-412	114+36.91	26.50' RT	790.39	338333.46	569807.94
cr-413	114+06.09	26.00' RT	789.43	338302.65	569807.14
cr-414	114+17.58	23.00' RT	789.75	338314.17	569804.25
cr-415	114+48.78	20.50' RT	790.44	338345.38	569802.06
cr-416	114+58.83	21.05' RT	790.20	338355.43	569802.71
cr-417	114+59.76	24.50' RT	790.37	338356.33	569806.16
cr-418	114+59.76	34.47' RT	790.53	338356.23	569816.14



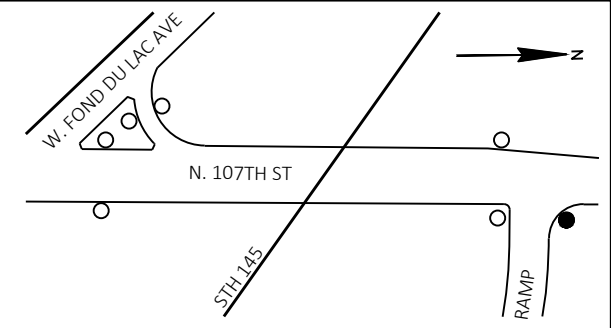


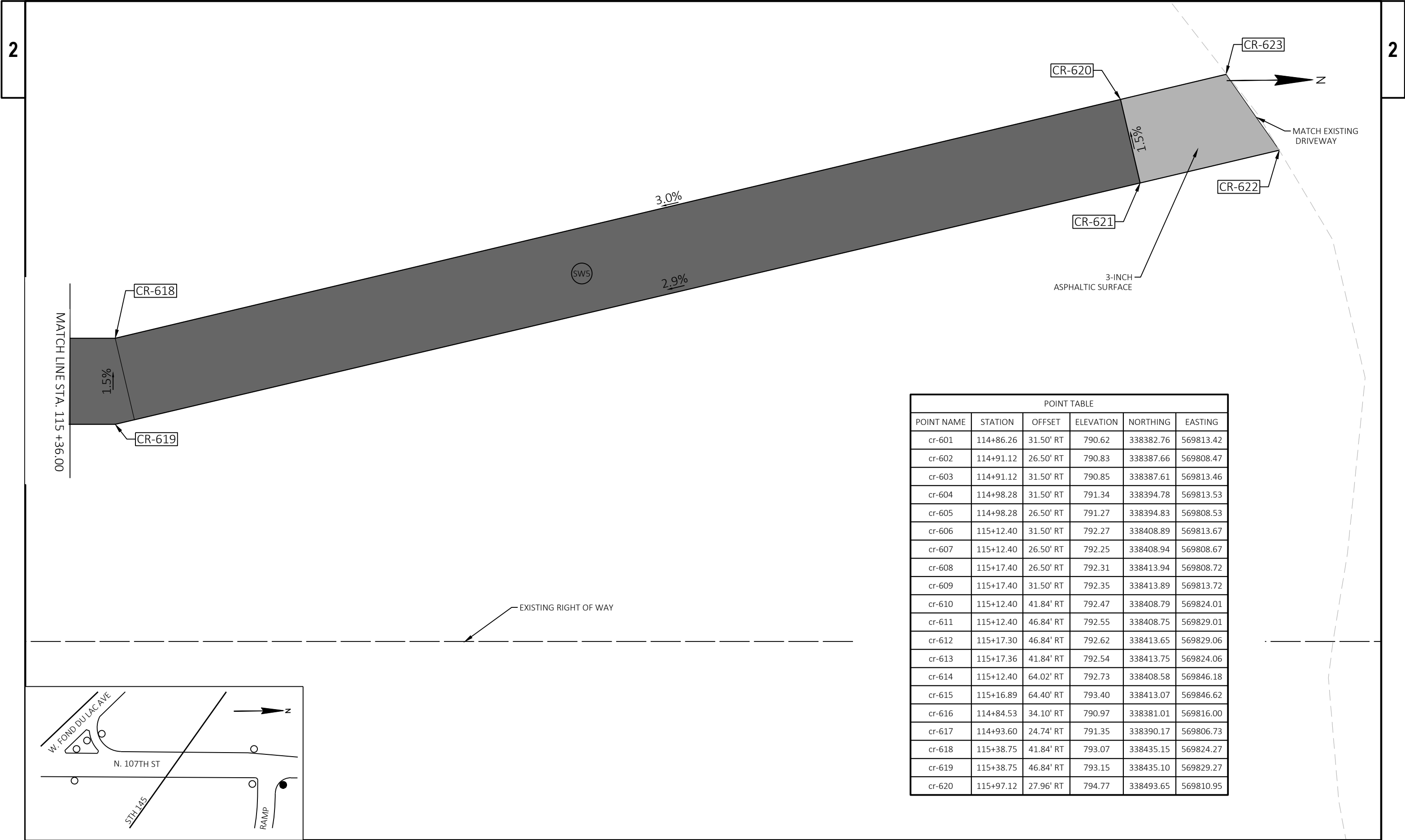
POINT TABLE					
POINT NAME	STATION	OFFSET	ELEVATION	NORTHING	EASTING
cr-501	114+51.89	30.38' LT	789.87	338348.98	569751.21
cr-502	114+56.87	29.99' LT	789.95	338353.96	569751.65
cr-503	114+47.32	36.24' LT	790.11	338344.48	569745.30
cr-504	114+52.31	35.86' LT	789.95	338349.46	569745.74
cr-505	114+57.29	35.47' LT	790.02	338354.44	569746.17
cr-506	114+62.28	35.09' LT	790.41	338359.42	569746.60
cr-507	114+67.26	34.70' LT	790.81	338364.40	569747.04
cr-508	114+46.90	30.76' LT	790.07	338344.00	569750.78
cr-509	114+61.85	29.60' LT	790.35	338358.94	569752.08
cr-510	114+66.84	29.22' LT	790.74	338363.92	569752.52



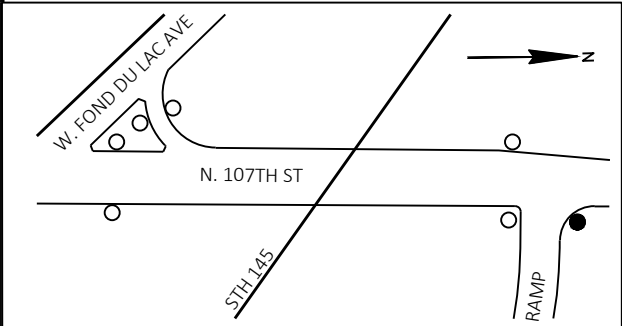


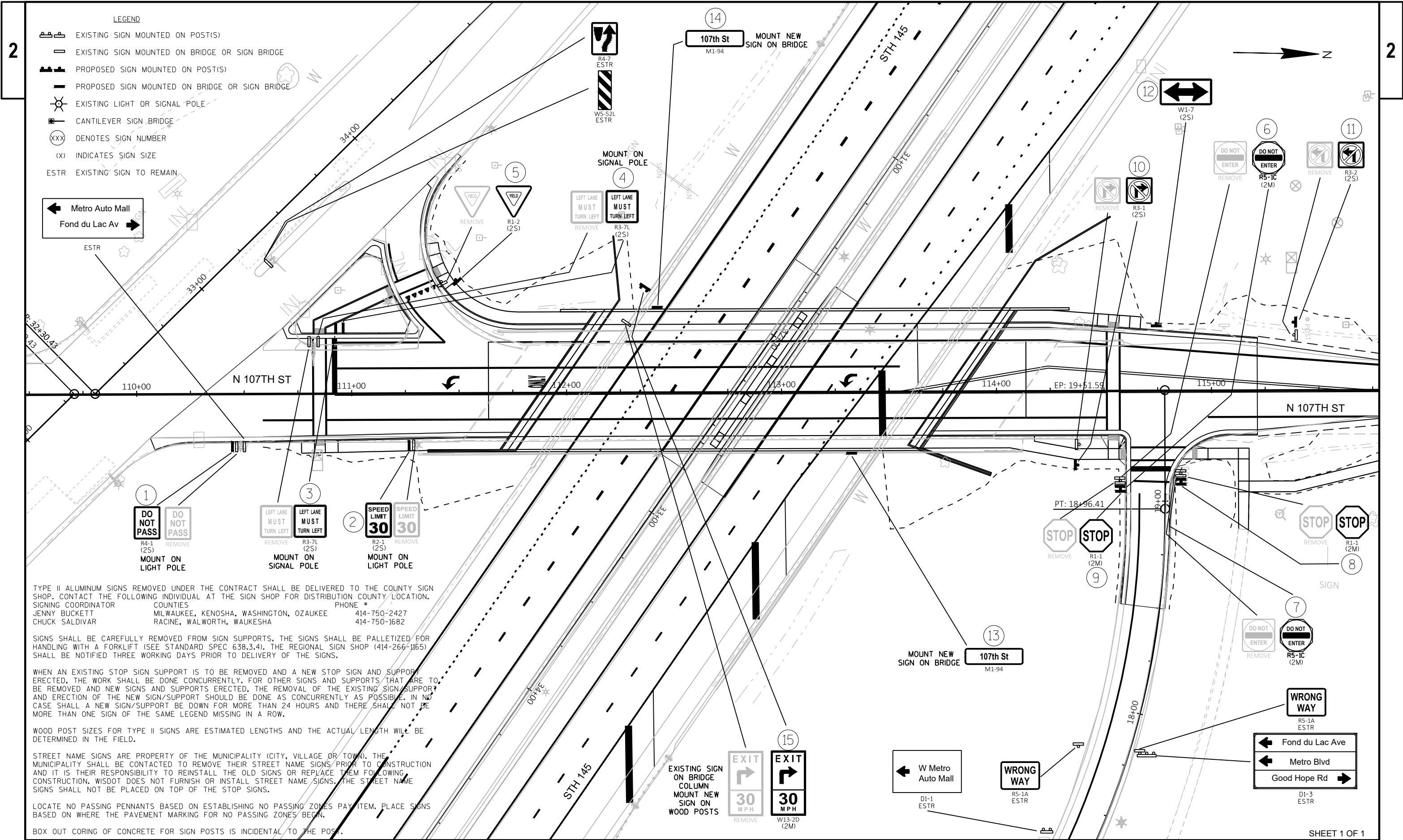
POINT TABLE					
POINT NAME	STATION	OFFSET	ELEVATION	NORTHING	EASTING
cr-601	114+86.26	31.50' RT	790.62	338382.76	569813.42
cr-602	114+91.12	26.50' RT	790.83	338387.66	569808.47
cr-603	114+91.12	31.50' RT	790.85	338387.61	569813.46
cr-604	114+98.28	31.50' RT	791.34	338394.78	569813.53
cr-605	114+98.28	26.50' RT	791.27	338394.83	569808.53
cr-606	115+12.40	31.50' RT	792.27	338408.89	569813.67
cr-607	115+12.40	26.50' RT	792.25	338408.94	569808.67
cr-608	115+17.40	26.50' RT	792.31	338413.94	569808.72
cr-609	115+17.40	31.50' RT	792.35	338413.89	569813.72
cr-610	115+12.40	41.84' RT	792.47	338408.79	569824.01
cr-611	115+12.40	46.84' RT	792.55	338408.75	569829.01
cr-612	115+17.30	46.84' RT	792.62	338413.65	569829.06
cr-613	115+17.36	41.84' RT	792.54	338413.75	569824.06
cr-614	115+12.40	64.02' RT	792.73	338408.58	569846.18
cr-615	115+16.89	64.40' RT	793.40	338413.07	569846.62
cr-616	114+84.53	34.10' RT	790.97	338381.01	569816.00
cr-617	114+93.60	24.74' RT	791.35	338390.17	569806.73
cr-618	115+38.75	41.84' RT	793.07	338435.15	569824.27
cr-619	115+38.75	46.84' RT	793.15	338435.10	569829.27
cr-620	115+97.12	27.96' RT	794.77	338493.65	569810.95
cr-621	115+98.27	32.82' RT	794.85	338494.75	569815.82
cr-622	116+06.35	30.92' RT	795.38	338502.84	569814.00
cr-623	116+03.25	26.51' RT	795.04	338499.80	569809.56





POINT TABLE					
POINT NAME	STATION	OFFSET	ELEVATION	NORTHING	EASTING
cr-601	114+86.26	31.50' RT	790.62	338382.76	569813.42
cr-602	114+91.12	26.50' RT	790.83	338387.66	569808.47
cr-603	114+91.12	31.50' RT	790.85	338387.61	569813.46
cr-604	114+98.28	31.50' RT	791.34	338394.78	569813.53
cr-605	114+98.28	26.50' RT	791.27	338394.83	569808.53
cr-606	115+12.40	31.50' RT	792.27	338408.89	569813.67
cr-607	115+12.40	26.50' RT	792.25	338408.94	569808.67
cr-608	115+17.40	26.50' RT	792.31	338413.94	569808.72
cr-609	115+17.40	31.50' RT	792.35	338413.89	569813.72
cr-610	115+12.40	41.84' RT	792.47	338408.79	569824.01
cr-611	115+12.40	46.84' RT	792.55	338408.75	569829.01
cr-612	115+17.30	46.84' RT	792.62	338413.65	569829.06
cr-613	115+17.36	41.84' RT	792.54	338413.75	569824.06
cr-614	115+12.40	64.02' RT	792.73	338408.58	569846.18
cr-615	115+16.89	64.40' RT	793.40	338413.07	569846.62
cr-616	114+84.53	34.10' RT	790.97	338381.01	569816.00
cr-617	114+93.60	24.74' RT	791.35	338390.17	569806.73
cr-618	115+38.75	41.84' RT	793.07	338435.15	569824.27
cr-619	115+38.75	46.84' RT	793.15	338435.10	569829.27
cr-620	115+97.12	27.96' RT	794.77	338493.65	569810.95





- LEGEND
- EXISTING SIGN MOUNTED ON POST(S)
 - EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 - PROPOSED SIGN MOUNTED ON POST(S)
 - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 - EXISTING LIGHT OR SIGNAL POLE
 - CANTILEVER SIGN BRIDGE
 - DENOTES SIGN NUMBER
 - (X) INDICATES SIGN SIZE
 - ESTR EXISTING SIGN TO REMAIN

Metro Auto Mall
Fond du Lac Av

TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.

SIGNING COORDINATOR	COUNTIES	PHONE #
JENNY BUCKETT	MILWAUKEE, KENOSHA, WASHINGTON, OZAUKEE	414-750-2427
CHUCK SALDIVAR	RACINE, WALWORTH, WAUKESHA	414-750-1682

SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE STANDARD SPEC 638.3.4). THE REGIONAL SIGN SHOP (414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

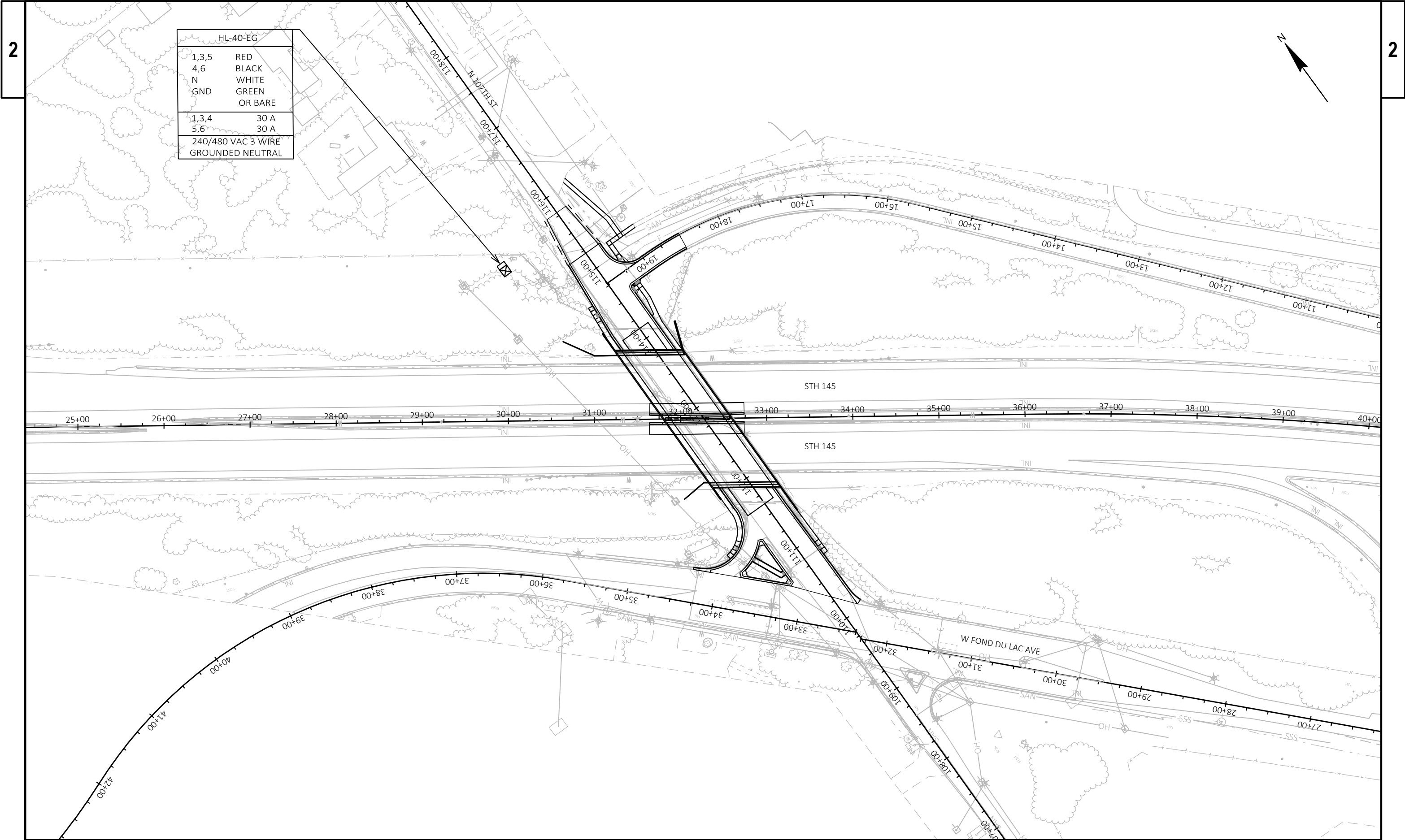
WHEN AN EXISTING STOP SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POST SIZES FOR TYPE II SIGNS ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

BOX OUT CORING OF CONCRETE FOR SIGN POSTS IS INCIDENTAL TO THE POST.



HL-40-EG	
1,3,5	RED
4,6	BLACK
N	WHITE
GND	GREEN
	OR BARE
1,3,4	30 A
5,6	30 A
240/480 VAC 3 WIRE	
GROUNDED NEUTRAL	

GENERAL NOTES

DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOCATIONS OF THE PVC CONDUITS ARE IDENTIFIED IN THE PLANS WHERE THEY ARE REQUIRED. APPROPRIATE ADJUSTMENT ON CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. FIELD MARK EACH CONDUIT LOCATION IN RED.

ALL CONDUITS SHALL BE CAPPED OR PLUGGED WITH ENGINEER APPROVED FITTINGS IMMEDIATELY AFTER INSTALLATION. THE TRENCH SHALL NOT BE BACK FILLED PRIOR TO INSPECTION OF THE CONDUIT.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR IMMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS. PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGLY ON THE CONDUIT, BUT EASILY REMOVED IN THE FUTURE. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.

CONDUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX-TO-PULL BOX OR JUNCTION BOX OR BASE-TO-BASE, ETC.) UNLESS OTHERWISE NOTED ON PLANS.

PULL ROPE (3/8-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUITS.

CONTRACTOR SHALL SUPPLY AS-BUILT DRAWING FOR ALL THE WORK BEING DONE.

INSTALLATION OF LATERAL UNDERGROUND CONDUIT UNDER PAVEMENT SHALL BE INSTALLED MINIMUM 30 INCHES BELOW PROPOSED GRADE. CONDUIT LATERALS SHALL BE TRENCHED UNDER PAVEMENT BEFORE PAVEMENT CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ROADWAY CONSTRUCTION FOR CONDUIT LATERALS INSTALLATION.

PITCH ALL CONDUITS TOWARD PULL BOXES. INSTALL A 2" DRAIN DUCT TO STORM SEWER OR DRAIN SUMP AS REQUIRED FOR DRAINAGE. THE 2" DRAIN DUCT OR SUMP IS INCIDENTAL TO THE PULL BOX BID ITEM AND IS NOT SHOWN.

THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE, IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

HAND DIGGING MAY BE REQUIRED FOR LOCATIONS ADJACENT TO EXISTING GAS AND POWER LINES. HAND EXCAVATION SHOULD BE ANTICIPATED & WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE BASES BID ITEM. COORDINATE ALL WORK NEAR GAS LINE WITH WE ENERGIES.

EXISTING CONDUIT AND CID NO LONGER BEING USED IS ABANDONED IN PLACE. THE CONTRACTOR MAY REMOVE ABANDONED WIRING AT THE CONTRACTOR'S EXPENSE. ABANDONED PULL BOX REMOVAL IS INCIDENTAL TO THE ROAD CONSTRUCTION.

ALL UNDERGROUND WIRING AND CONDUIT FOR POLES BEING REMOVED IS ABANDONED IN PLACE UNLESS NOTED OTHERWISE. CONTRACTOR MAY SALVAGE ABANDONED WIRING AT HIS OWN EXPENSE.

IF CID CONTAINS PHASE CONDUCTOR(S) THAT WILL NOT BE USED FOR FURTHER POLES, I.E. AT THE END OF A CIRCUIT, DO NOT ENERGIZE THE CONDUCTOR(S) LEAVING THE LAST POLE THE PHASE WAS UTILIZED. REMOVE EXCESS CONDUCTOR(S) IN ALL SUBSEQUENT POLES.

SEAL THE ENDS OF ALL CID RACEWAY WITH A UL RECOGNIZED CONDUIT SEALANT. PROVIDE A 1#2" NYLON ROPE EXTENDING BEYOND THE PLUG TO ASSIST IN REMOVING THE PLUG IN THE FUTURE.

SEE DETAIL "CONDUIT DETAILS AT STRUCTURE PARAPET TO ROADWAY BARRIER INTERFACE" WHEN CONDUIT EXITS TO GRADE FROM A BRIDGE PARAPET OR RETAINING WALL. RIGID METALLIC CONDUIT IN CONCRETE BARRIER IS INCIDENTAL TO THE RIGID NONMETALLIC CONDUIT.

PROVIDE MINIMUM CABLE SLACK AS NOTED BELOW:
PULL BOXES: 10-FT
POLES: 5-FT IN AND 5-FT OUT
CONDUCTOR COLORS: 240/480 VAC, 1 PHASE - RED/BLACK/WHITE(NEUTRAL)/GREEN OR BARE (GROUND)

STAGING NOTES

MAINTAIN LIGHTING AT ALL TIMES DURING CONSTRUCTION USING EXISTING LIGHTING, PROPOSED TEMPORARY, FINAL LIGHTING OR COMBINATIONS.

DO NOT REMOVE EXISTING LIGHTING UNTIL THE NEW OR TEMPORARY LIGHTING IS OPERATIONAL. REFER TO DRAWINGS FOR STAGING INFORMATION.

MAINTAINING SYSTEM CONTINUITY SHALL BE INCIDENTAL TO THE "REMOVE EXISTING STREET LIGHTS" BID ITEM.

DUE TO THE PHASING OF CONSTRUCTION SOME FINAL LIGHTING UNITS MAY BE ORPHANED UNTIL A LATER STAGE IS COMPLETE. IT IS AT THE DISCRETION OF THE CONTRACTOR TO SCHEDULE THESE ITEMS. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THE PLACEMENT OF RACEWAY THAT SPANS TWO DIFFERENT PHASES OF CONSTRUCTION.

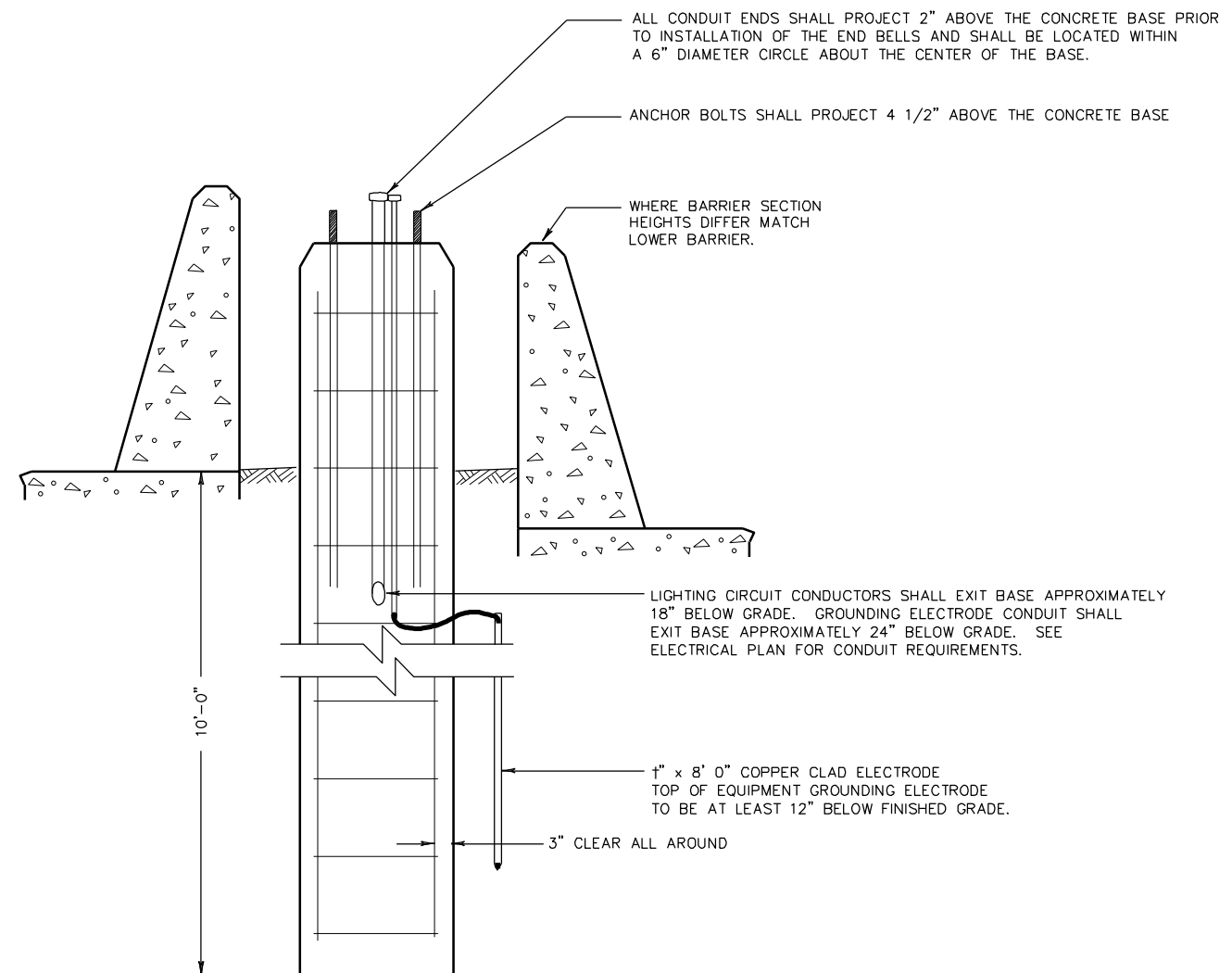
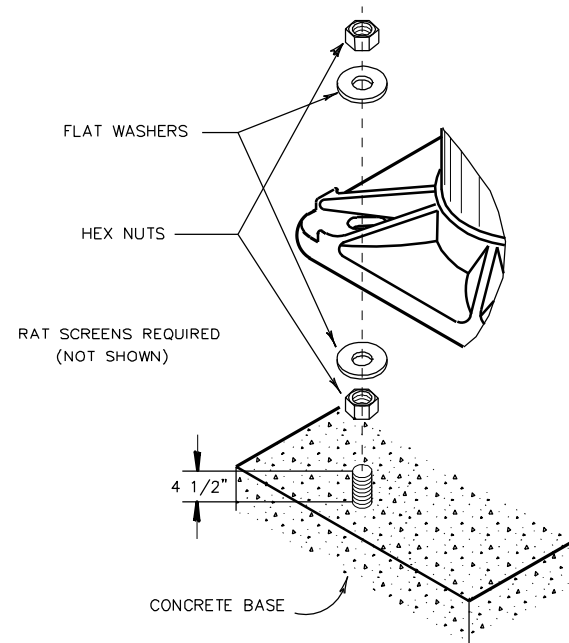
TEMPORARY OR FINAL LIGHTING MUST ILLUMINATE AN AREA BEFORE EXISTING LIGHTING UNITS IN AN AREA CAN BE REMOVED. THE SCHEDULING OF REMOVAL IS AT THE DISCRETION OF THE CONTRACTOR WITH THE PROVISION THAT LIGHTING OF THE ROADWAY IS PROVIDED AT ALL TIMES.

COORDINATE POLE REMOVAL WITH TRAFFIC CONTROL.

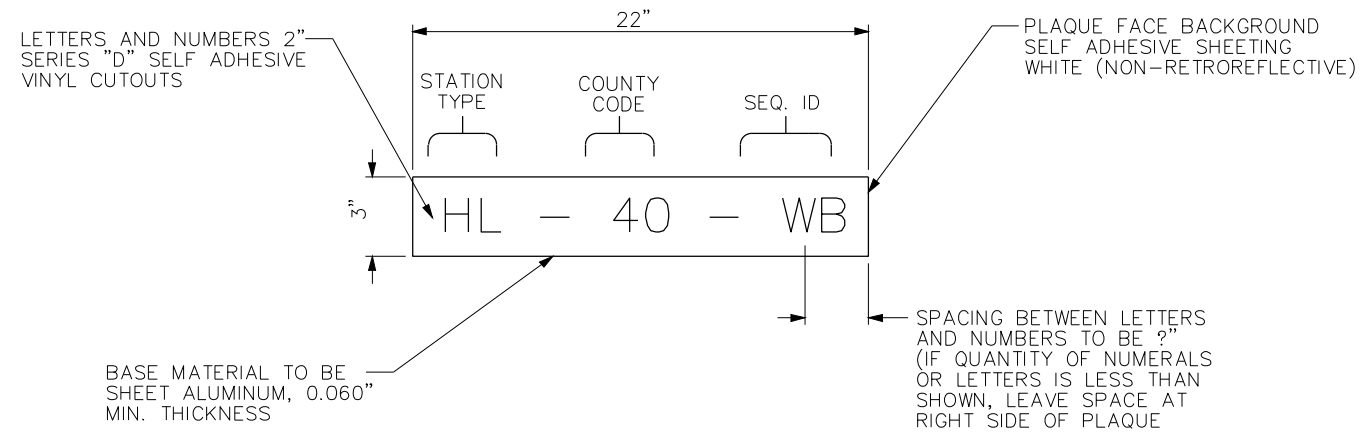
NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

DETAILS OF CONSTRUCTION WITH THE EXCEPTION OF HEIGHT ABOVE GRADE AND CONDUIT SIZE SHALL BE AS DEFINED IN THE STANDARD DETAIL FOR TYPE 8 BASE.



CONCRETE BASE, TYPE "B"
(1" ANCHOR RODS, 15" BOLT CIRCLE, 4 1/2" PROJECTION)



DISTRIBUTION CENTER
IDENTIFICATION PLAQUE

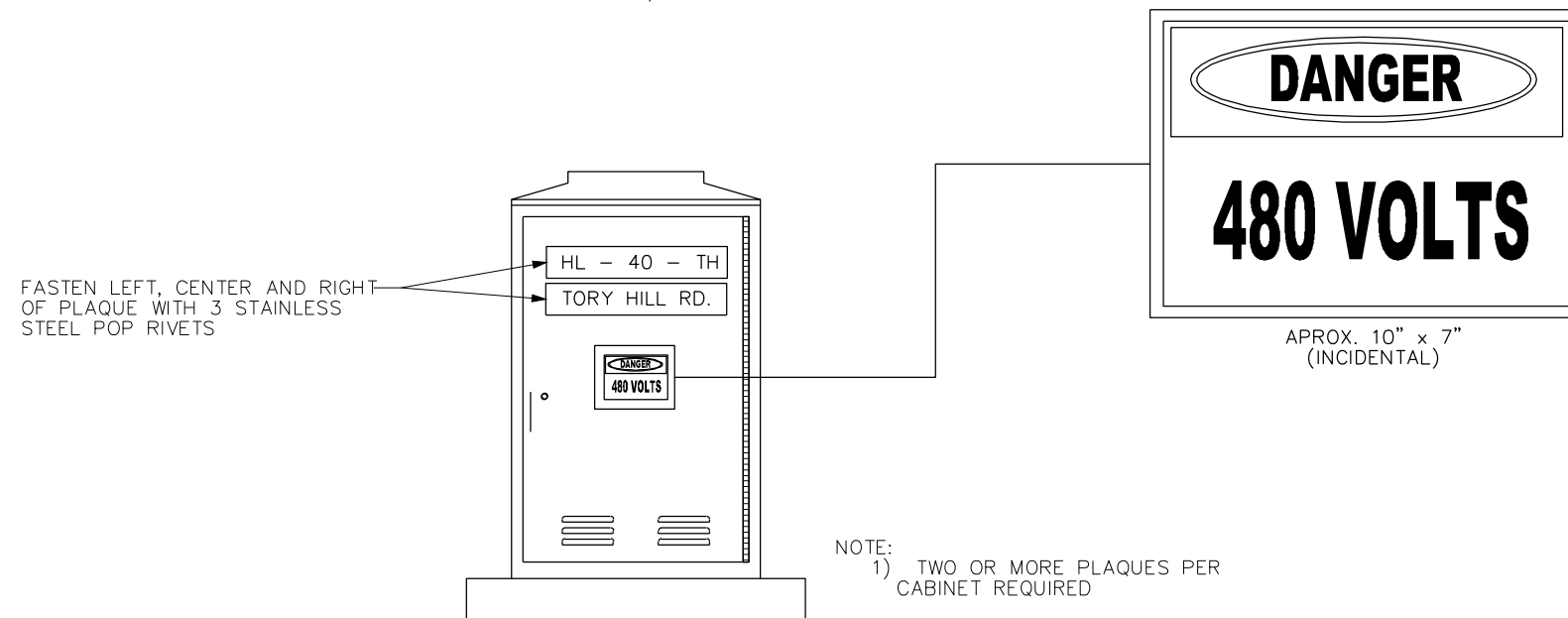
WISCONSIN AVE.

MNEMONIC

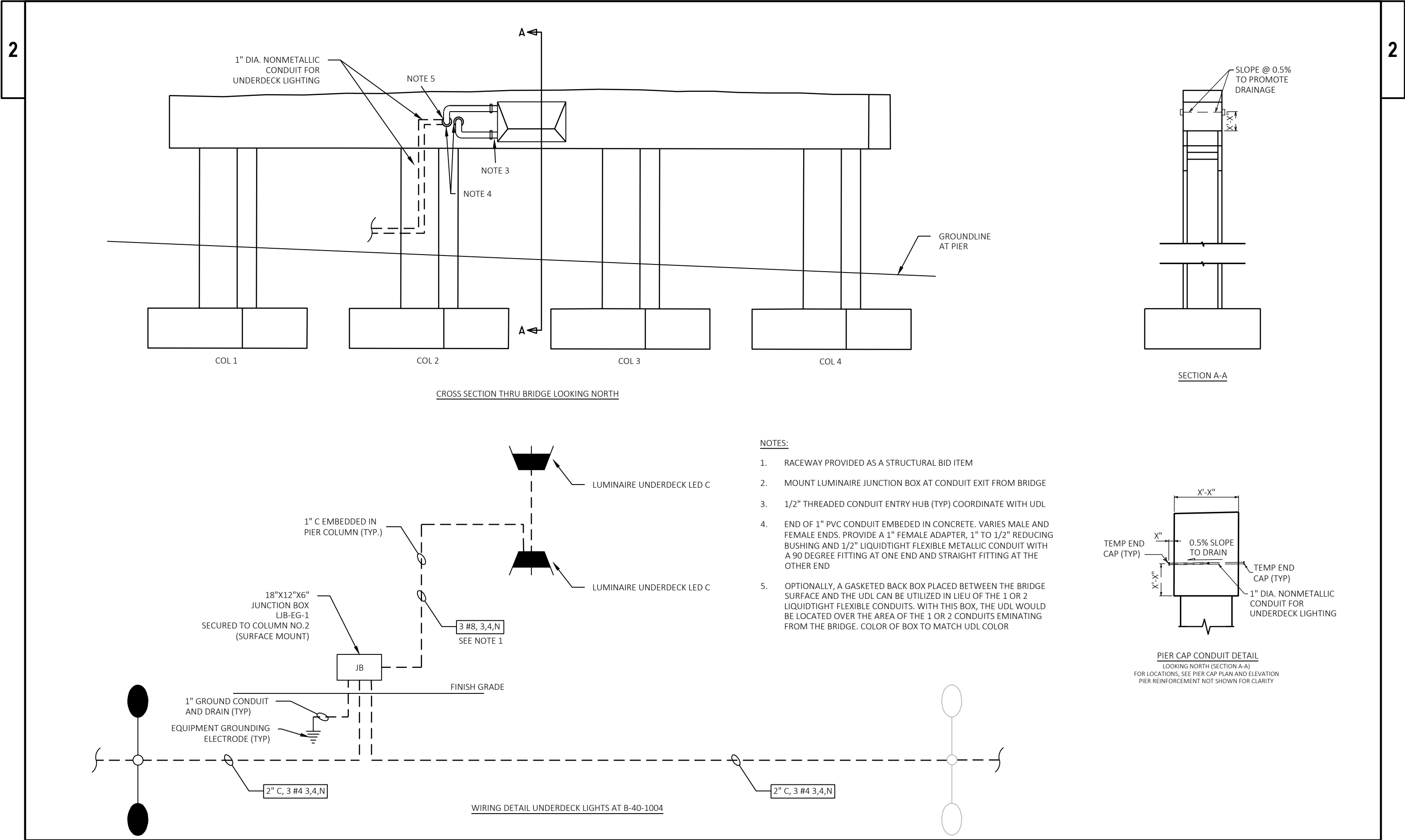
(SEE MISCELLANEOUS QUANTITIES)
(NUMBER OF CHARACTERS VARIES
THIRD PLAQUE MAY BE
NECESSARY)

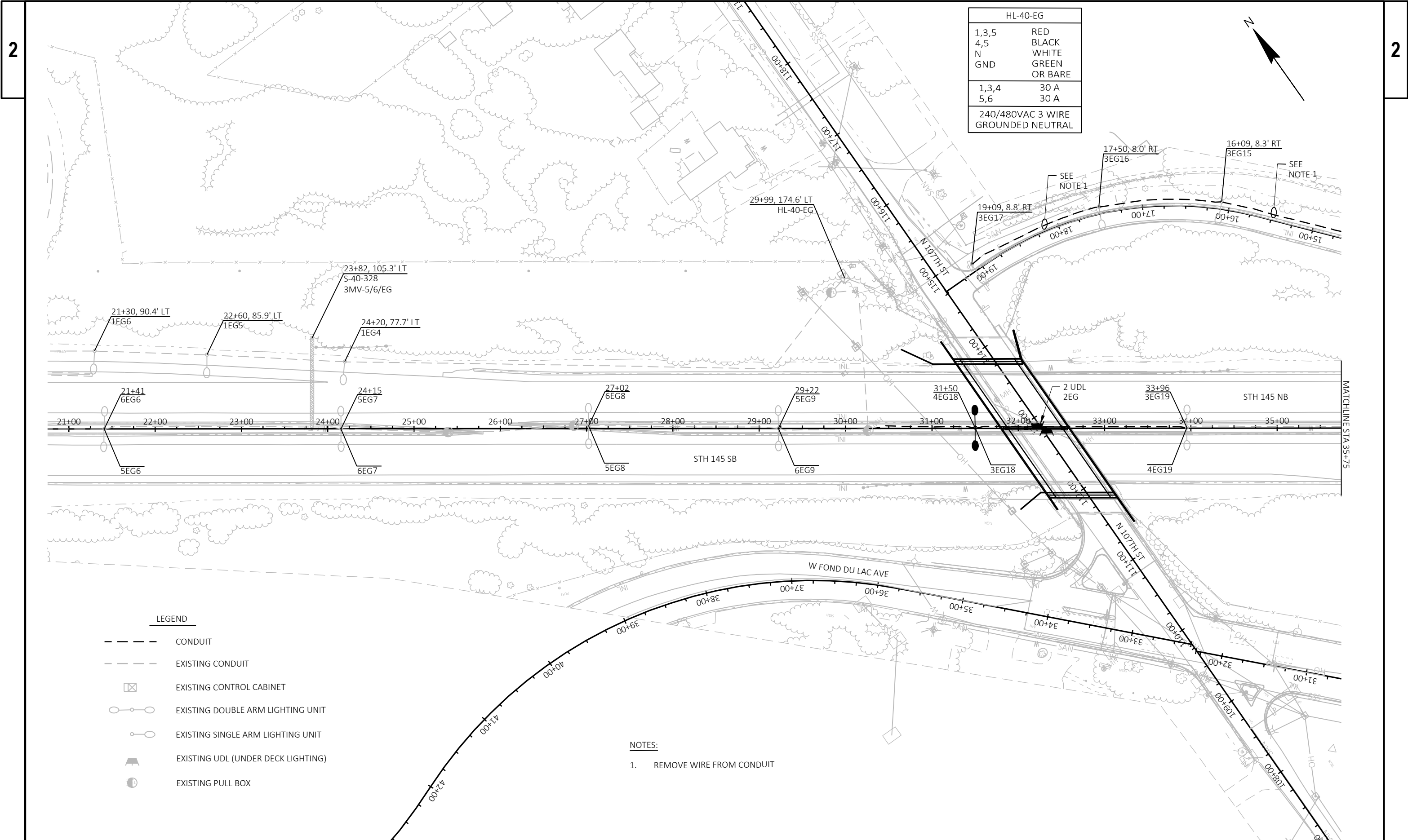
GENERAL NOTE:

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN
ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS
OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.



DISTRIBUTION CENTER IDENTIFICATION PLAQUE
REQUIREMENTS AND PLACEMENTS
(TYPICAL ALL CONTROL CABINETS)





HL-40-EG	
1,3,5	RED
4,5	BLACK
N	WHITE
GND	GREEN
	OR BARE
1,3,4	30 A
5,6	30 A
240/480VAC 3 WIRE GROUNDED NEUTRAL	

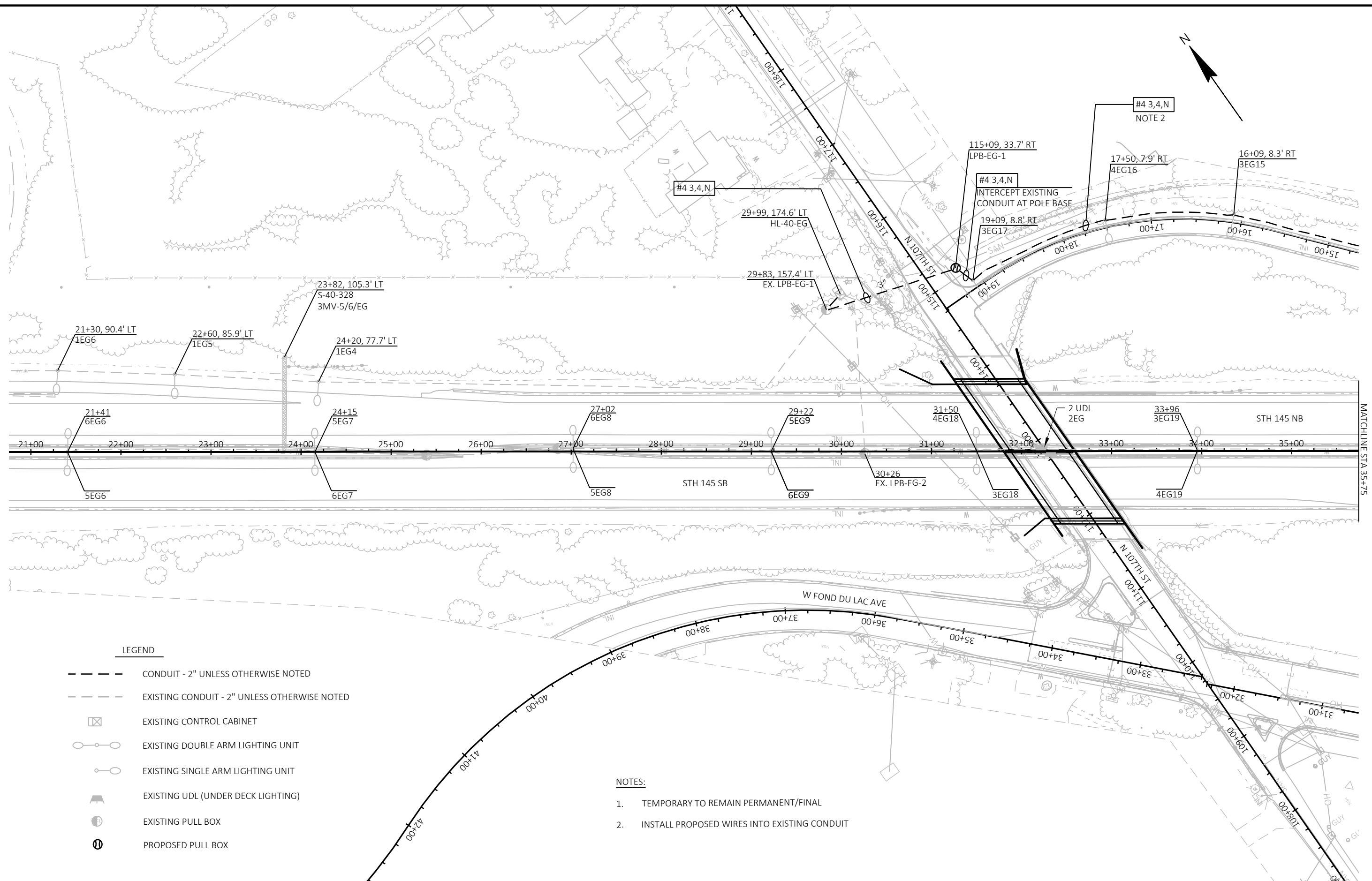
LEGEND

- CONDUIT
- - - EXISTING CONDUIT
- ☒ EXISTING CONTROL CABINET
- ○ EXISTING DOUBLE ARM LIGHTING UNIT
- ○ EXISTING SINGLE ARM LIGHTING UNIT
- ▒ EXISTING UDL (UNDER DECK LIGHTING)
- EXISTING PULL BOX

NOTES:

1. REMOVE WIRE FROM CONDUIT





PROJECT NO: 1360-12-70

HWY: STH 145

COUNTY: MILWAUKEE

LIGHTING PLAN - TEMPORARY/PROPOSED

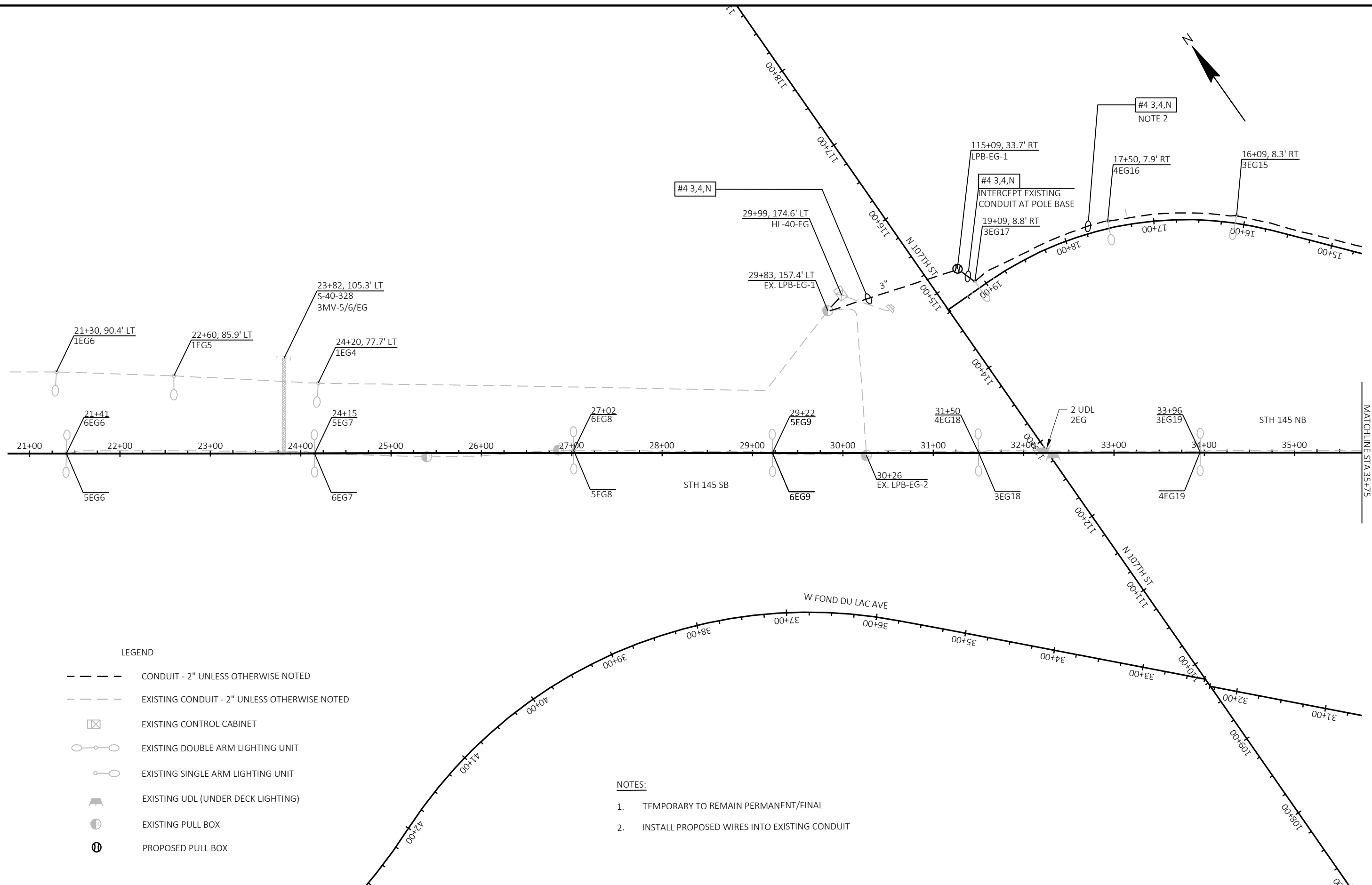
SHEET

34

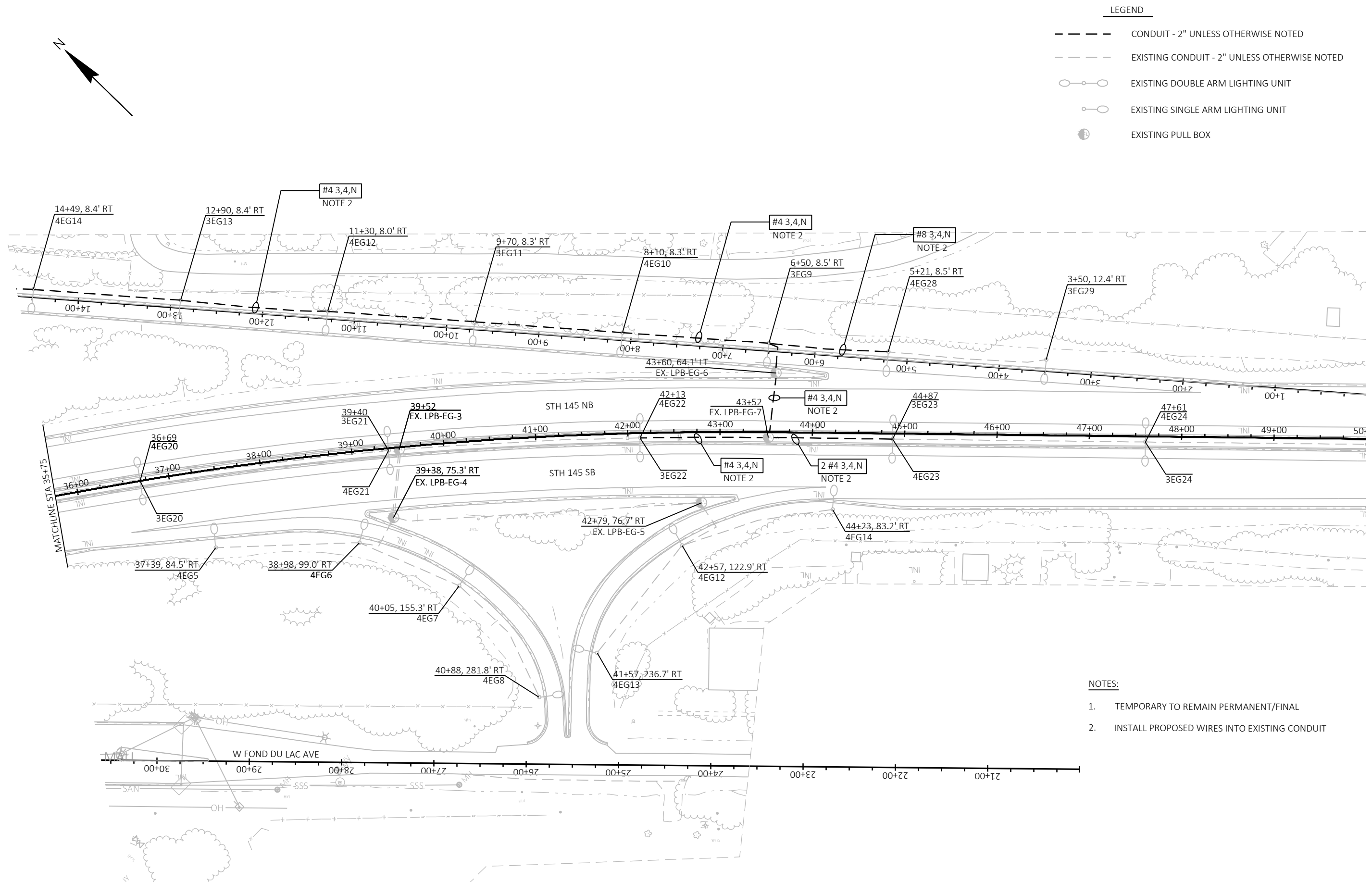
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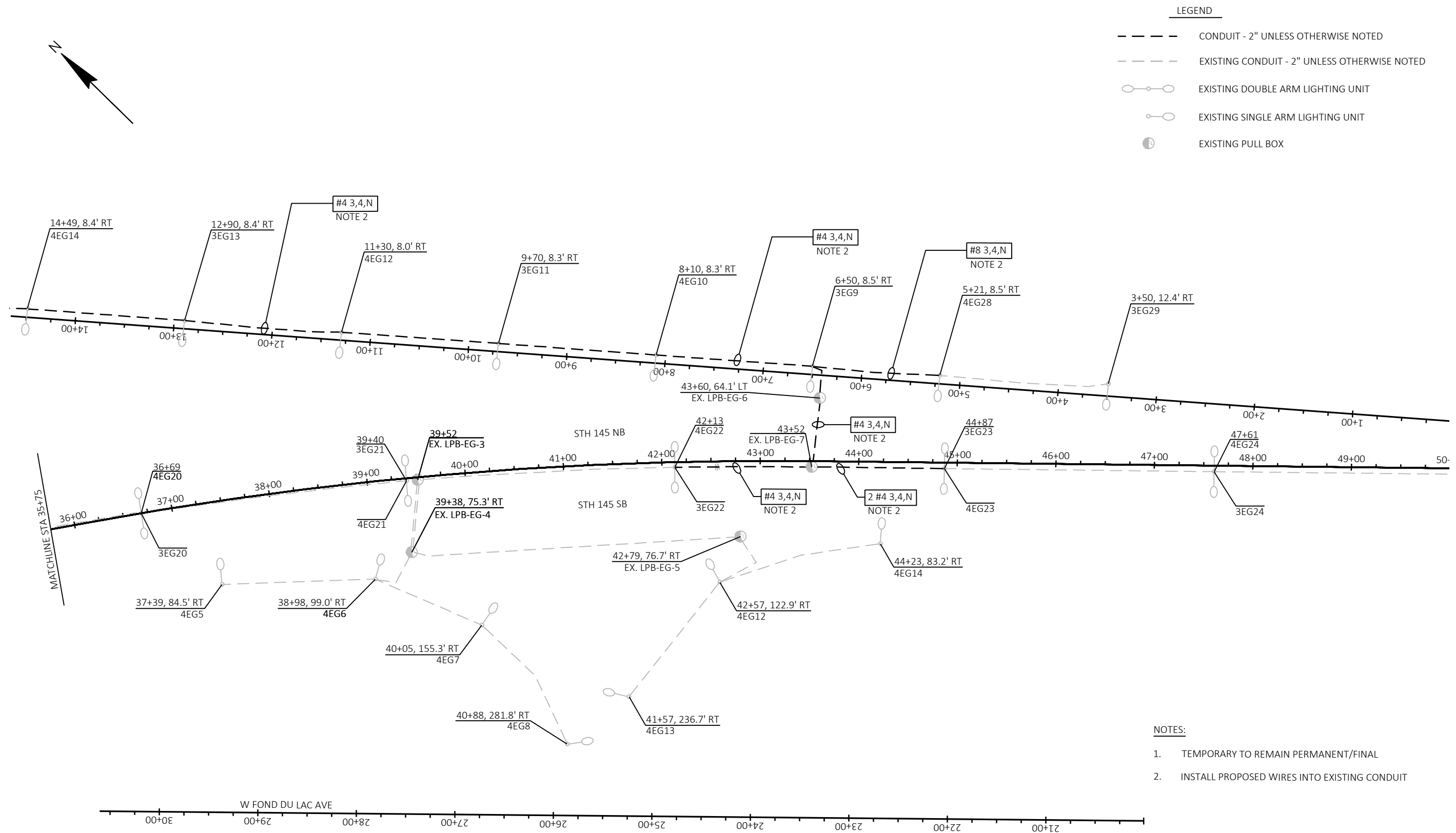
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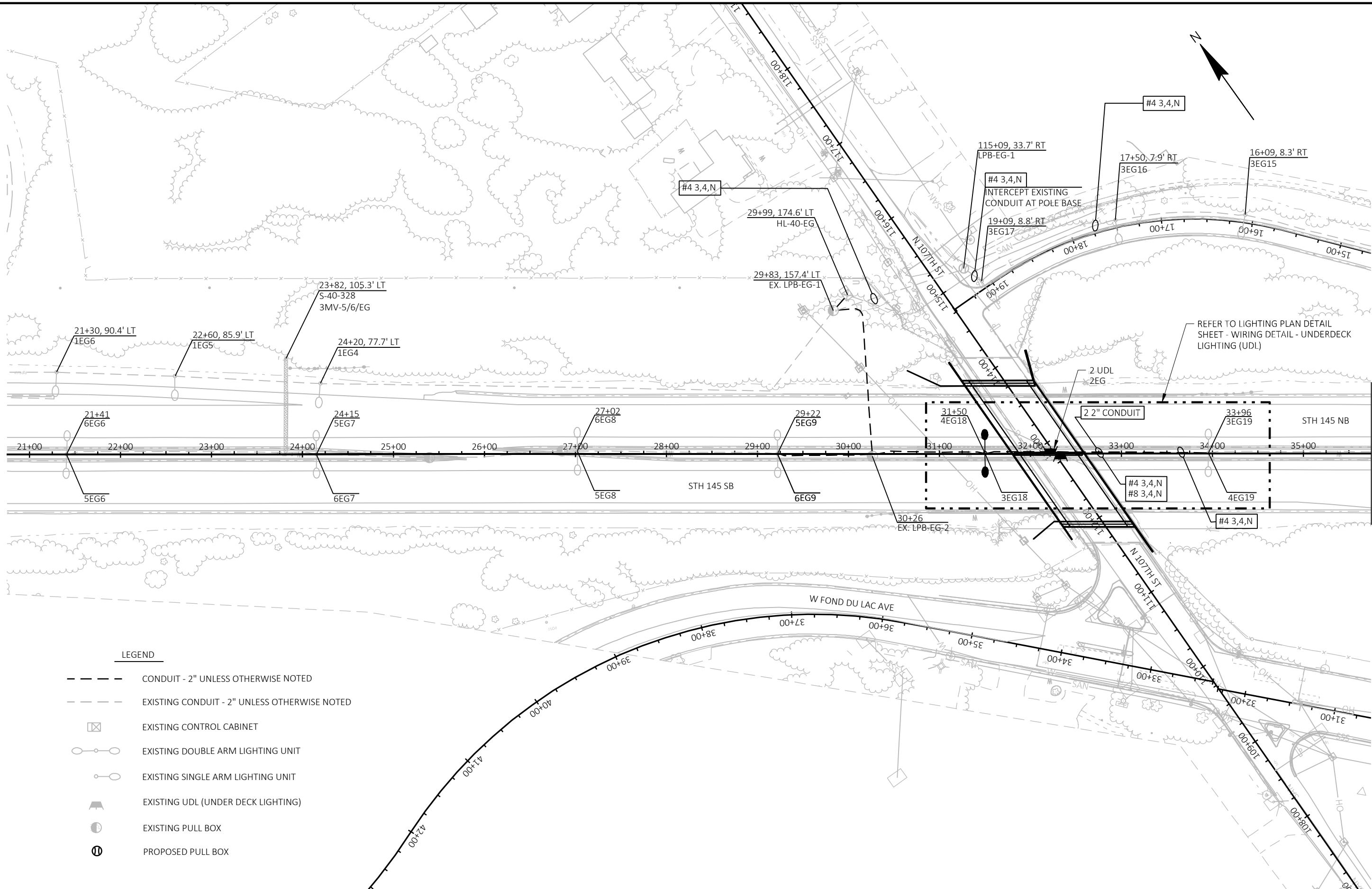
2



- NOTES:
1. TEMPORARY TO REMAIN PERMANENT/FINAL
 2. INSTALL PROPOSED WIRES INTO EXISTING CONDUIT

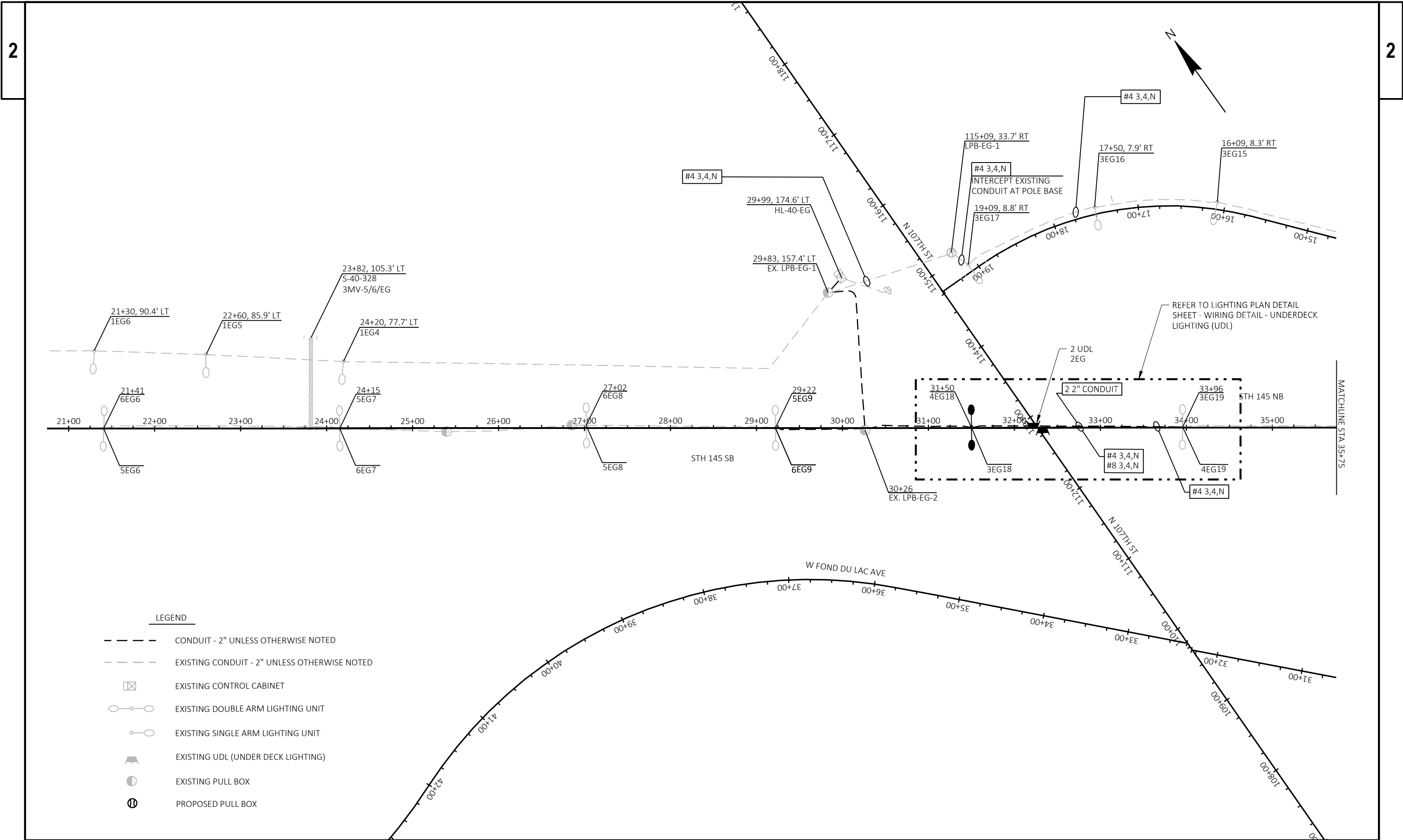






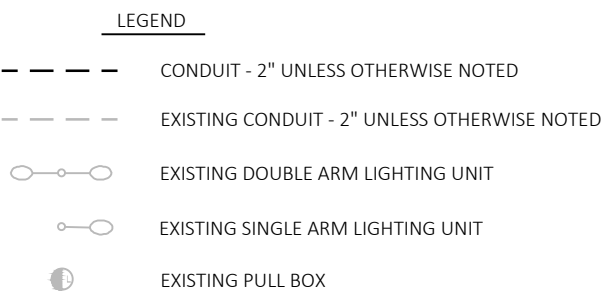
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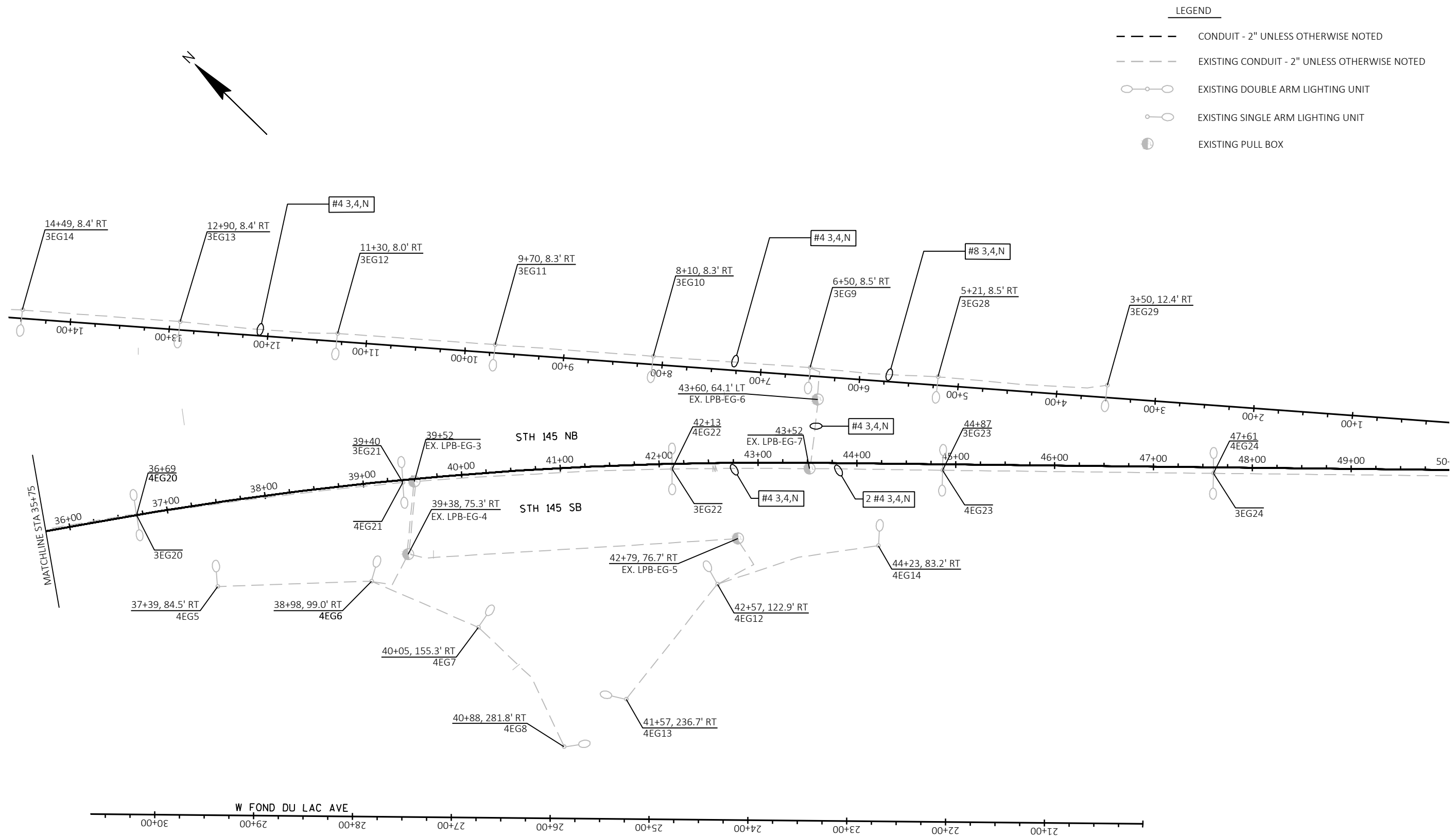
- CONDUIT - 2" UNLESS OTHERWISE NOTED
- - - EXISTING CONDUIT - 2" UNLESS OTHERWISE NOTED
- ☒ EXISTING CONTROL CABINET
- ⊕ EXISTING DOUBLE ARM LIGHTING UNIT
- ⊖ EXISTING SINGLE ARM LIGHTING UNIT
- ⌞ EXISTING UDL (UNDER DECK LIGHTING)
- EXISTING PULL BOX
- ⊙ PROPOSED PULL BOX



LEGEND

- CONDUIT - 2" UNLESS OTHERWISE NOTED
- .-.- EXISTING CONDUIT - 2" UNLESS OTHERWISE NOTED
- ☒ EXISTING CONTROL CABINET
- EXISTING DOUBLE ARM LIGHTING UNIT
- EXISTING SINGLE ARM LIGHTING UNIT
- ⌞ EXISTING UDL (UNDER DECK LIGHTING)
- EXISTING PULL BOX
- ⊕ PROPOSED PULL BOX

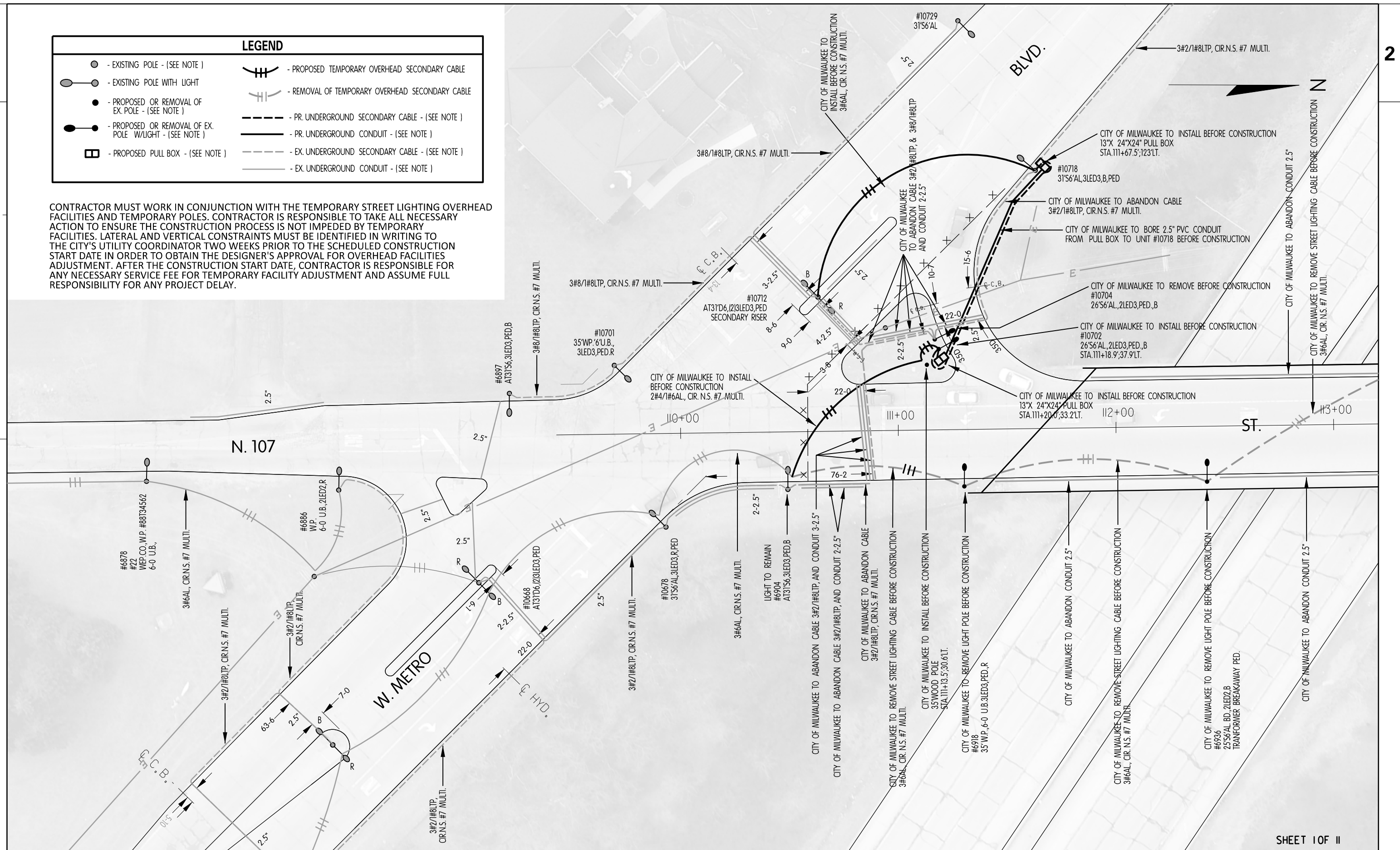


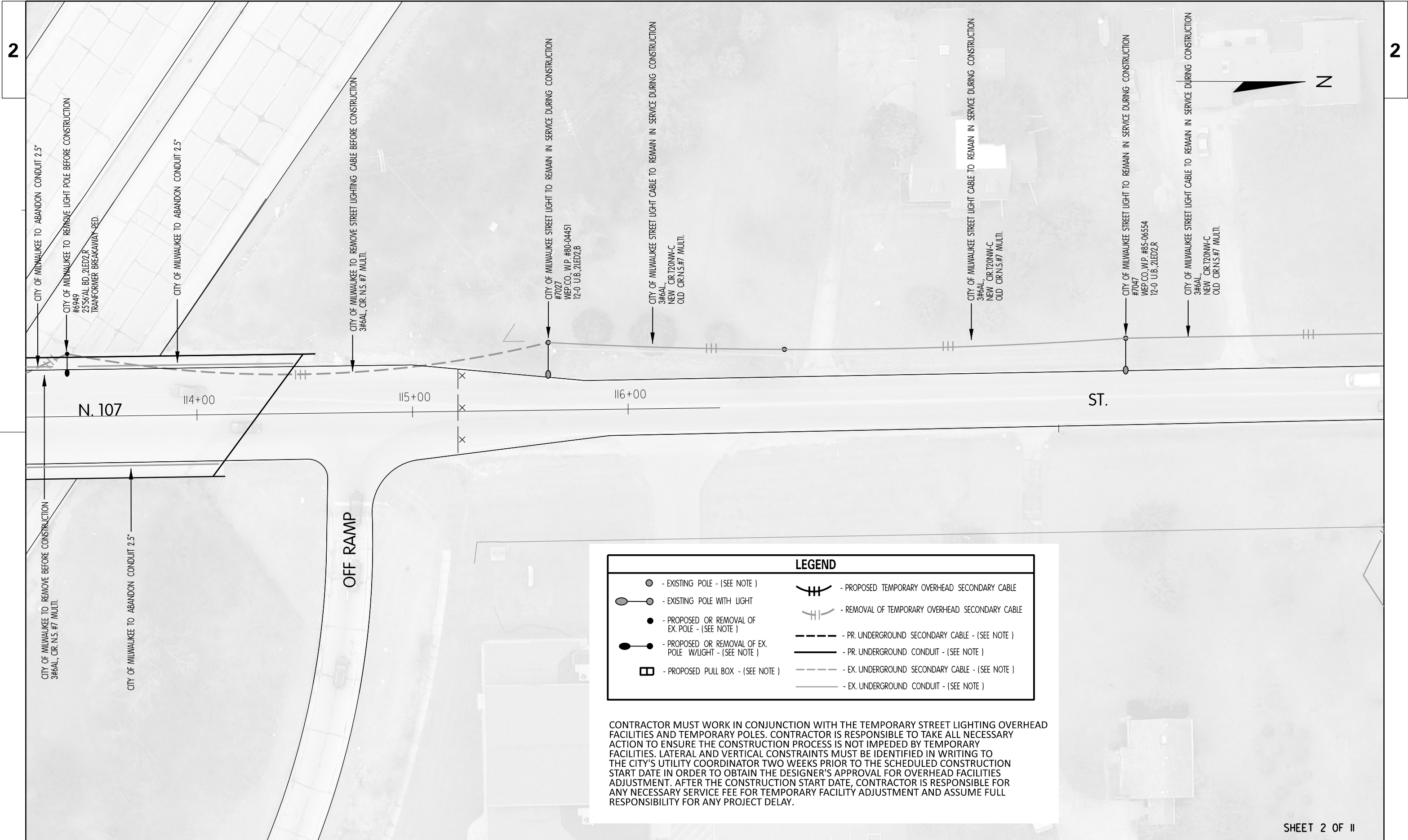


LEGEND

- | | |
|--|---|
| ● - EXISTING POLE - (SEE NOTE) | --- - PROPOSED TEMPORARY OVERHEAD SECONDARY CABLE |
| ● - EXISTING POLE WITH LIGHT | --- - REMOVAL OF TEMPORARY OVERHEAD SECONDARY CABLE |
| ● - PROPOSED OR REMOVAL OF EX. POLE - (SEE NOTE) | --- - PR. UNDERGROUND SECONDARY CABLE - (SEE NOTE) |
| ● - PROPOSED OR REMOVAL OF EX. POLE W/LIGHT - (SEE NOTE) | --- - PR. UNDERGROUND CONDUIT - (SEE NOTE) |
| ■ - PROPOSED PULL BOX - (SEE NOTE) | --- - EX. UNDERGROUND SECONDARY CABLE - (SEE NOTE) |
| | --- - EX. UNDERGROUND CONDUIT - (SEE NOTE) |

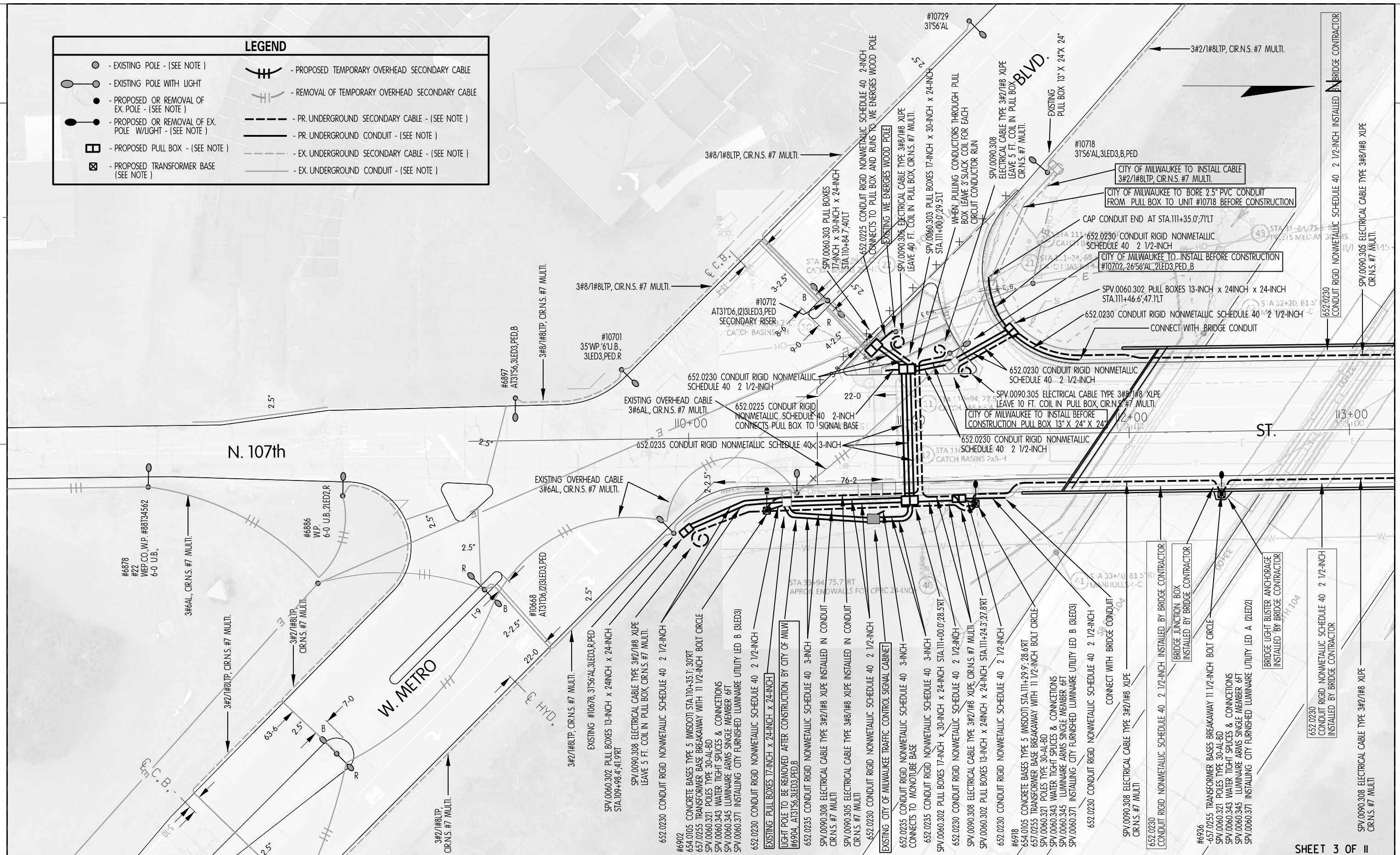
CONTRACTOR MUST WORK IN CONJUNCTION WITH THE TEMPORARY STREET LIGHTING OVERHEAD FACILITIES AND TEMPORARY POLES. CONTRACTOR IS RESPONSIBLE TO TAKE ALL NECESSARY ACTION TO ENSURE THE CONSTRUCTION PROCESS IS NOT IMPEDED BY TEMPORARY FACILITIES. LATERAL AND VERTICAL CONSTRAINTS MUST BE IDENTIFIED IN WRITING TO THE CITY'S UTILITY COORDINATOR TWO WEEKS PRIOR TO THE SCHEDULED CONSTRUCTION START DATE IN ORDER TO OBTAIN THE DESIGNER'S APPROVAL FOR OVERHEAD FACILITIES ADJUSTMENT. AFTER THE CONSTRUCTION START DATE, CONTRACTOR IS RESPONSIBLE FOR ANY NECESSARY SERVICE FEE FOR TEMPORARY FACILITY ADJUSTMENT AND ASSUME FULL RESPONSIBILITY FOR ANY PROJECT DELAY.





LEGEND

- | | |
|--|--|
| ● - EXISTING POLE - (SEE NOTE) | ⎓ - PROPOSED TEMPORARY OVERHEAD SECONDARY CABLE |
| ● - EXISTING POLE WITH LIGHT | ⎓ - REMOVAL OF TEMPORARY OVERHEAD SECONDARY CABLE |
| ● - PROPOSED OR REMOVAL OF EX. POLE - (SEE NOTE) | --- - PR. UNDERGROUND SECONDARY CABLE - (SEE NOTE) |
| ● - PROPOSED OR REMOVAL OF EX. POLE W/LIGHT - (SEE NOTE) | --- - PR. UNDERGROUND CONDUIT - (SEE NOTE) |
| □ - PROPOSED PULL BOX - (SEE NOTE) | --- - EX. UNDERGROUND SECONDARY CABLE - (SEE NOTE) |
| ⊠ - PROPOSED TRANSFORMER BASE (SEE NOTE) | --- - EX. UNDERGROUND CONDUIT - (SEE NOTE) |



PROJECT NO. 1360-12-70

STH 145

COUNTY: MILWAUKEE

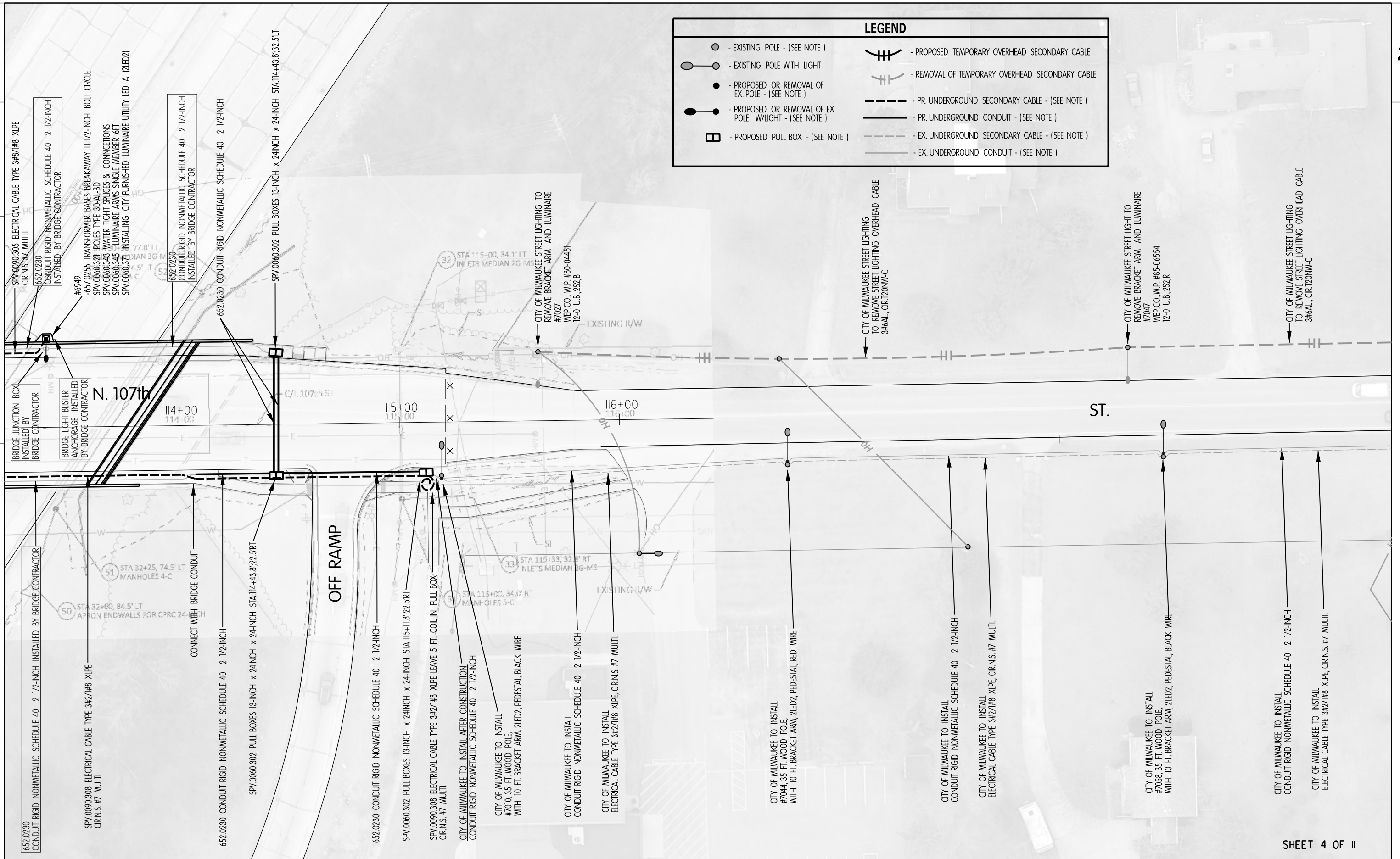
STREET LIGHTING - PROPOSED UNDERGROUND PLAN

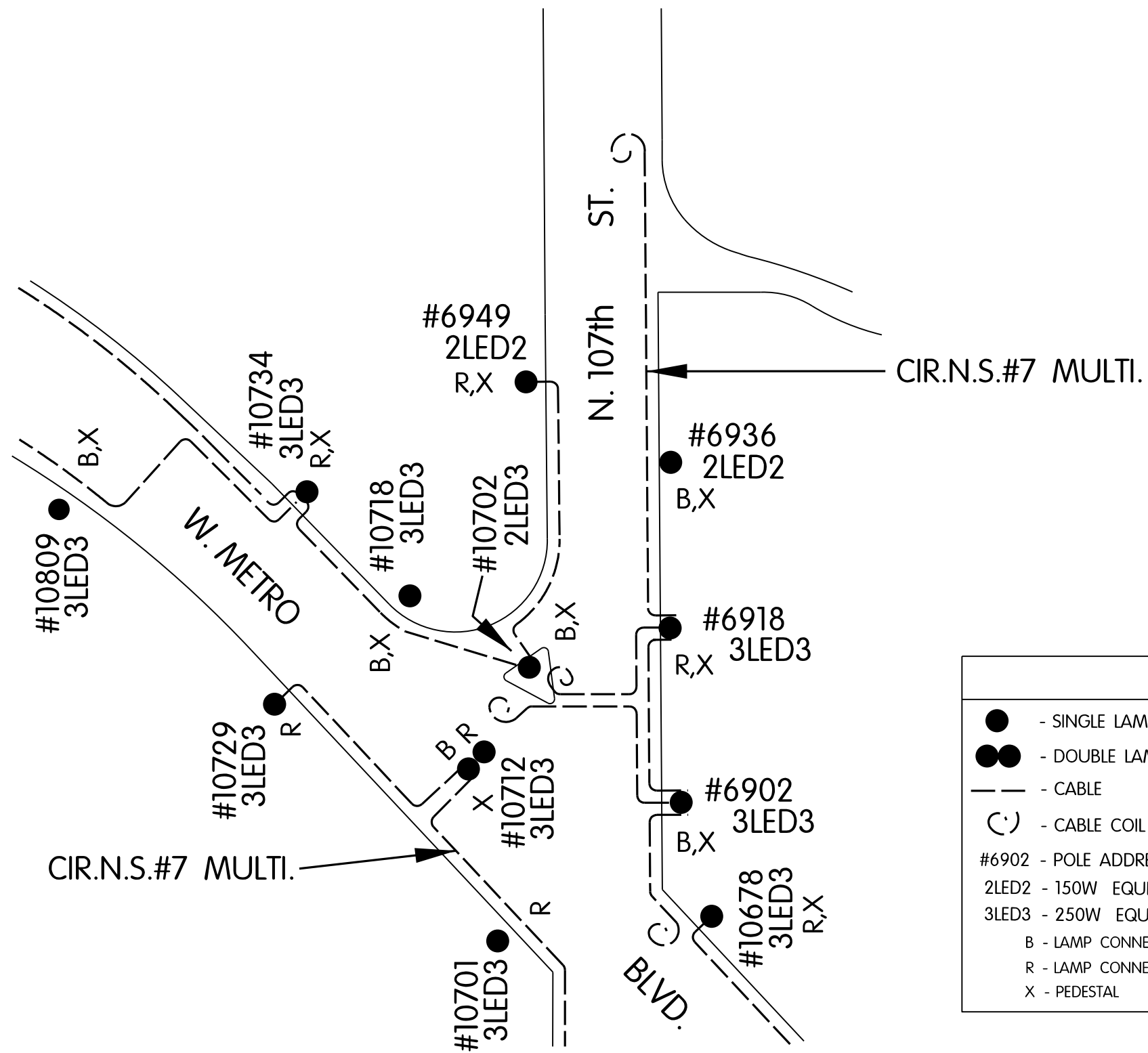
SHEET

44

E

SHEET 3 OF 11





CIRCUIT LEGEND	
	- SINGLE LAMP
	- DOUBLE LAMP
	- CABLE
	- CABLE COIL
#6902 - POLE ADDRESS	
2LED2 - 150W EQUIVALENT LED LUMINAIRE WITH TYPE 2 LIGHT DISTRIBUTION	
3LED3 - 250W EQUIVALENT LED LUMINAIRE WITH TYPE 3 LIGHT DISTRIBUTION	
B - LAMP CONNECTED TO BLACK WIRE	
R - LAMP CONNECTED TO RED WIRE	
X - PEDESTAL	

STREET LIGHTING GENERAL NOTES:

PRIOR TO CONSTRUCTION, THE LOCATION OF UNDERGROUND UTILITIES SHALL BE DETERMINED IN THE FIELD BY CONTACTING "DIGGERS HOTLINE."

STREET LIGHTING SHALL BE INSTALLED IN COMPLIANCE WITH WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 652 EXCEPT:

THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCLUDING REPAIRS, REPLACEMENT OR RELOCATION ETC. OF STREET LIGHTING FACILITIES IF THE CONTRACTOR DOES ANY DEVIATION FROM THE STREET LIGHTING DESIGN WITHOUT THE STREET LIGHTING ENGINEERS SIGNED PERMISSION.

- 1
- DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- 2
- LOCATIONS OF THE PVC CONDUITS WHERE THEY ARE REQUIRED ARE IDENTIFIED IN THE PRINTS. HOWEVER, INSTALLATION MAY REQUIRE INTEGRATION WITH EXISTING FIELD CONDITIONS. APPROPRIATE ADJUSTMENT ON CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. ANY RELOCATIONS MUST BE APPROVED BY THE ENGINEER. FIELD MARK EACH CONDUIT LOCATION BY STAMPING AND PAINTING WITH RED PAINT ON TOP AND BACKSIDE OF CURB.
- 3
- TYPICAL CONDUIT INSTALLED UP TO DIRECT BURIED STREET LIGHT POLES IS AS FOLLOWS 3-INCH OR 2.5-INCH (AS NOTED) SCHEDULE 40 RIGID PVC TO STREET LIGHTING METAL HOUSING (PEDESTAL), THE 1.5-INCH SCHEDULE 40 RIGID PVC TO STREET LIGHT POLE CABLE SLOT, AND THE 2-INCH SCHEDULE 40 RIGID PVC TO SIGNAL STANDARD BASE AND RISER FOR TRAFFIC SIGNAL ON STREET LIGHT POLE.
- 4
- DEPTH OF CONDUIT INSTALLED BELOW THE STREETS, HIGHWAYS, ROADS, AND ALLEYS SHALL BE 24-INCHES MINIMUM AND 36-INCHES MAXIMUM. (MEASURED FROM FINISHED FLANGE LINE)
- 5
- CONDUIT INSTALLED BEHIND CURB, AND UNDER DRIVEWAYS SHALL BE INSTALLED AT A DISTANCE OF 6 INCHES AWAY FROM THE BACK OF CURB TO THE CENTER LINE OF CONDUIT, AND 18 INCHES DOWN MEASURED FROM THE TOP OF CURB OR FINISHED GRADE TO THE TOP OF CONDUIT.
- 6
- WHEN THERE IS MORE THAN ONE CONDUIT TO BE INSTALLED, PLACE ALL CONDUITS IN THE SAME TRENCH.
- 7
- ANY EXCEPTION TO THE MINIMUM OR MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- 8
- THE CONTRACTOR OR HIS SUBCONTRACTOR MUST MAKE SURE THE AREA BEHIND CURB AND/OR TRENCH SHALL BE FREE OF DEBRIS AND OVERPOUR AND SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.
- 9
- BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.
- 10
- ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS. (SEE NEC 352.28 2008 CODE)
- 11
- PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED IMMEDIATELY AFTER INSTALLATION WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT, BUT EASILY REMOVED IN THE FUTURE. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.
- 12
- ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.I. LABEL FIRMLY ATTACHED.
- 13
- CONDUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX OR JUNCTION BOX OR BASE TO BASE, ETC.).
- 14
- PULL ROPE (3/8-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUIT.
- 15
- ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS UNLESS OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.
- 16
- WHEN ENDS OF CONDUIT DO NOT CONNECT TO A PULL BOX / VAULT AND WILL END UP UNDER CONCRETE WALK. THE CONTRACTOR IS REQUIRED TO LEAVE A 24" X 24" BOX FORM CENTERED OVER THE END OF CONDUIT AND FILL THE BOXFORM WITH CRUSHED GRAVEL. (PER WISDOT SPEC 209.2.1(I) GRANULAR BACKFILL)
- 17
- ALL PIPE CROSSINGS AND PULL BOXES / VAULTS SHALL BE AT LEAST SIX (6) FEET AWAY FROM FIRE HYDRANTS, UNLESS NOTED OTHERWISE, OR APPROVED BY THE STREET LIGHTING ENGINEER.
- 18
- ALL POLES AND TRAFFIC STANDARDS IN CONCRETE ARE REQUIRED TO HAVE A 30"X30" BOX SHAPED JOINT PLACED AROUND THEM USING AN EXPANSION JOINT FILLER. UNLESS NOTED OTHERWISE (SEE DETAIL 122)
- 19
- TYPICAL RECTANGULAR PULL BOXES / VAULTS SHOULD BE INSTALLED AS SHOWN ON PLANS, BUT WHEN IT IS NOT POSSIBLE, A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS AND FIRE HYDRANTS SHOULD BE USED, OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.

STREET LIGHTING GENERAL NOTES:

- 20
- LIGHT POLES AND TRAFFIC STANDARDS INSTALLED BEHIND THE CURB MUST MEET A MINIMUM DISTANCE OF 24 INCHES FROM THE FACE OF CURB TO THE CURB SIDE FACE OF THE POLE OR TRAFFIC STANDARD.

21

- 22
- COORDINATE NEW CONDUIT CONNECTIONS WITH EXISTING CONDUIT, DUCT PACKAGES, AND PULL BOXES/ VAULTS/ MANHOLES WITH CITY OF MILWAUKEE STREET LIGHTING. THE CITY REQUIRES THREE WORKING DAYS ADVANCED NOTICE. CONTACT ELECTRICAL SUPERVISOR STREET LIGHTING - MORGAN MONNOT (OFFICE 414-286-5942 (CELL) 414-708-4251 STREET LIGHTING - MARK MACRAE (OFFICE) 414-286-5928 (CELL) 414-708-0434 STREET LIGHTING - DISPATCHER @ 414-286-5944 TRAFFIC SIGNALS - RUDY GUTIERREZ (OFFICE) 414-286-5941 (CELL) 414-708-5148 TRAFFIC SIGNALS - DISPATCHER @ 414-286-3687

- 23
- IMMEDIATELY AFTER THE CONTRACTOR HAS COMPLETED ALL THE ELECTRICAL PULL BOXES / VAULTS, CONDUIT AND CONDUIT CONNECTIONS, AND JUST BEFORE ELECTRICAL WORK IS COVERED UP WITH CONCRETE, SOIL, OR ETC. THE CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SHOP SUPERVISORS FOR FINAL INSPECTION AND APPROVAL OF ALL WORK. STREET LIGHTING - MORGAN MONNOT (OFFICE 414-286-5942 (CELL) 414-708-4251 STREET LIGHTING - MARK MACRAE (OFFICE) 414-286-5928 (CELL) 414-708-0434 STREET LIGHTING - NEAL KARWEIK (OFFICE) 414-286-5943 (CELL) 414-708-4245 STREET LIGHTING - THOMAS HUGHES (OFFICE) 414-286-3457 (CELL) 414-708-3175 STREET LIGHTING - DISPATCHER @ 414-286-5944 TRAFFIC SIGNALS - RUDY GUTIERREZ (OFFICE) 414-286-5941 (CELL) 414-708-5148 TRAFFIC SIGNALS - DISPATCHER @ 414-286-3687

- 24
- CONDUIT WILL ONLY BE INSTALLED AFTER THE CURB IS POURED, UNLESS APPROVED BY BOTH THE ENGINEER & STREET LIGHTING SHOP SUPERVISOR.

PROVIDE AS-BUILT DRAWINGS DETAILING THE FINAL PLACEMENT OF CONDUIT, CABLING, EQUIPMENT, AND GEOMETRIC MODIFICATIONS UNDER THE CONTRACT. PROVIDE PDF COPY CONFORMING TO CMM 1-65.14, OR RECORD ALL CHANGES IN RED INK ONLY ON THE AS-LET (DESIGN) PAPER DRAWINGS. THE CITY OF MILWAUKEE DPW ENGINEER WILL REJECT AS-BUILTS WITH INCOMPLETE OR INCORRECT CONTENT OR NOT CONFORMING TO CMM STANDARDS.

STREET LIGHTING GENERAL NOTES:

AS-BUILT GUIDELINES:

PROVIDE AS-BUILT DRAWINGS DETAILING THE FINAL PLACEMENT OF CONDUIT, CABLING, EQUIPMENT, AND GEOMETRIC MODIFICATIONS UNDER THE CONTRACT. PROVIDE PDF COPY CONFORMING TO CMM 1-65.14, OR RECORD ALL CHANGES IN RED INK ONLY ON THE AS-LET (DESIGN) PAPER DRAWINGS. THE ENGINEER WILL REJECT AS-BUILTS WITH INCOMPLETE OR INCORRECT CONTENT OR NOT CONFORMING TO CMM STANDARDS.

IT IS CRITICAL THAT THE CONTRACTOR WORK ON THE AS-BUILT DRAWINGS WHILE THE JOB IS PROGRESSING, SO CHANGES ARE DOCUMENTED WHILE THEY ARE STILL FRESH IN YOUR MIND.

IF THERE IS A STRUCTURE DRAWING, INCLUDE ALL STRUCTURES DRAWING SHEETS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSERT ANY ADDENDUM OR REPLACEMENT DRAWING SHEETS. TO DO THIS, RENUMBER THEM SIMILARLY TO THE ORIGINAL DRAWING SHEET.

FOR EXAMPLE:
REVISED SHEET 5 WOULD REPLACE SHEET 5. HOWEVER, ALL THE ORIGINAL SHEETS SHALL REMAIN IN THE AS-BUILT. IF THE SHEET HAS BEEN REPLACED CROSS IT OUT WITH AN X AND INDICATE THE NUMBER OF ITS REPLACEMENT SHEET. IF ADDITIONAL SHEETS WERE ADDED, INSERT THEM IN THE ORIGINAL LOCATION AND LABEL THEM WITH THE PREVIOUS SHEET NUMBER FOLLOWED BY AN "A", "B", "C", ETC.

NOTE THE SHEET CHANGES ON THE TITLE SHEET UNDER THE ORDER OF SHEETS.

THE TITLE SHEET OF THE AS-BUILT DRAWING SHOULD INCLUDE THE FOLLOWING INFORMATION:

- AS-BUILT DRAWING
- SUPERVISOR:
- PROJECT MANAGER:
- CONTRACTOR LEADER:
- CONTRACTOR COMAPNY:
- WORK STARTED:
- WORK COMPLETED:

LINE OUT OR CROSS OUT ALL CHANGED INFORMATION AND WRITE-IN THE CORRECTED INFORMATION ABOVE THE ORIGINAL OR CLOSE TO IT WHEREVER POSSIBLE. USE BLANK SPACES ON THE DRAWING SO NOTES ARE NOT SUPERIMPOSED. DRAWINGS WITH EXCESSIVE DETAIL MAY REQUIRE AN ALTERNATE APPROACH. NUMBERED CHANGES OR ADDITIONS MAY BE SHOWN ON SUPPLEMENTAL NON-DRAWING SHEETS.

- LOCATE AND CLEARLY LABEL ALL CONDUIT RUNS, FITTINGS, SPLICE VAULTS, PULL BOXES, METER PEDESTALS, CONCRETE BASES, TRANSFORMERS, POLES AND OTHER APPURTENANCES IN TWO DIRECTIONS. SWING TIES SHOULD BE MADE FROM THE OBJECTS THAT ARE PERMANENT IN NATURE AND VISIBLE ON THE FINISHED SURFACE.
- STREET NAMES SHALL BE ON ALL SHEETS.
- SHOW ALL SIZES AND MATERIAL TYPES OF PIPES AND CONDUITS, IF CHANGED OR MODIFIED FROM ORIGINAL DESIGN.
- ALL HORIZONTAL DISTANCES SHALL BE SHOWN TO THE NEAREST TENTH OF A FOOT (I.E., 205.3'). ALL VERTICAL DISTANCES SHALL BE TO THE NEAREST INCH (I.E., 24")
- SHOW LOCATION AND ELEVATIONS ON PIPES AND FITTINGS WHERE CHANGES OR DEFLECTIONS IN DIRECTION OCCUR.
- SPECIAL DETAIL DRAWINGS MAY BE REQUIRED WHERE INSTALLATIONS ARE NOT SHOWN ON APPROVED CONSTRUCTION DRAWINGS FOR WHATEVER REASON OR WHERE REQUIRED FOR CLARITY.
- TYPICAL SERVICE INSTALLATION DETAILS WITH DEVIATIONS FROM ORIGINAL PLANS OR STANDARD DETAILS SHALL BE NOTED ON AS-BUILT DRAWINGS.
- NO ARBITRARY MARK-UPS WILL BE PERMITTED.

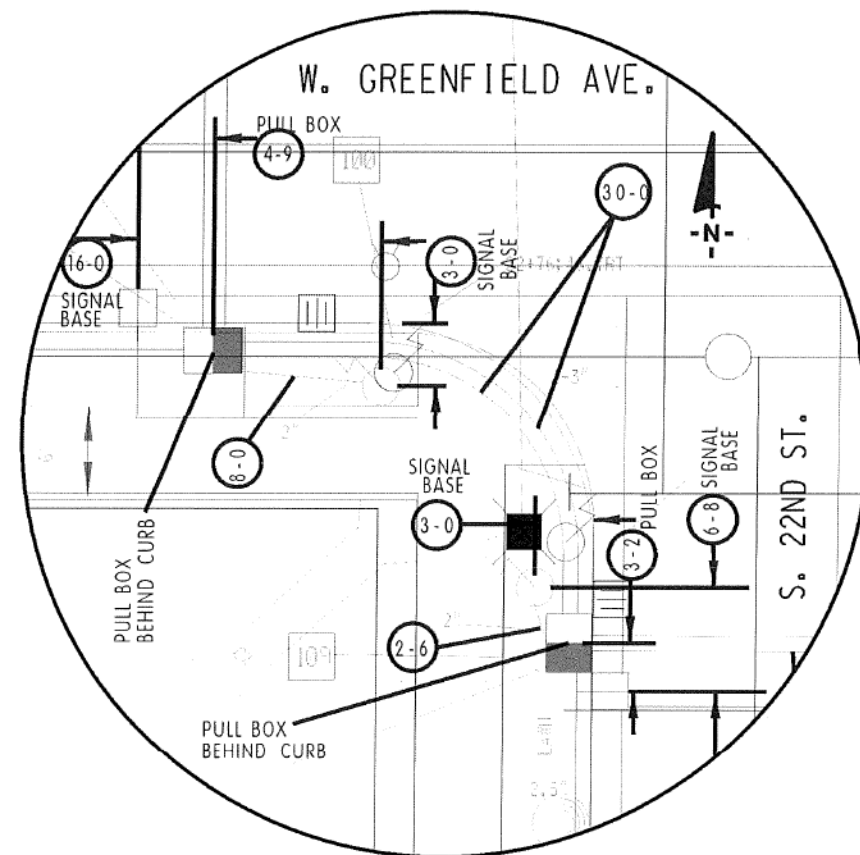
IF THERE ARE NO CORRECTIONS OR ADDITIONS TO THE AS-LET PLAN(S) PUT "NO CHANGE" ON THE SHEET WITH ALL OTHER REQUIRED AS-BUILT INFORMATION.

SEND TO:
CITY OF MILWAUKEE
INFRASTRUCTURE SERVICES DIVISION
TRANSPORTATION SECTION
STREET LIGHTING & CUC MANAGER
841 NORTH BROADWAY
ROOM 920
MILWAUKEE, WISCONSIN 53202

USE RED INK TO DO AS-BUILTS

RECORD RETENTION GUIDELINES:

- * CONTRACTOR TO LOCATE AND CLEARLY DIMENSION ALL OF THERE NEWLY INSTALLED CONDUIT RUNS, FITTINGS, SPLICE VAULTS, PULL BOXES, METER PEDESTALS, CONCRETE BASES, TRANSFORMERS, POLES AND OTHER APPURTENANCES IN TWO (2) DIRECTIONS. SWING TIES SHOULD BE MADE FROM OBJECTS THAT ARE PERMANENT IN NATURE AND VISIBLE ON THE FINISHED SURFACE.
- * STREET NAMES SHALL BE ON ALL SHEETS.
- * SHOW ALL SIZES AND MATERIAL TYPES OF PIPES AND CONDUITS, IF CHANGED OR MODIFIED FROM ORIGINAL DESIGN.
- * ALL HORIZONTAL DISTANCES SHALL BE SHOWN TO THE NEAREST TENTH OF A FOOT (I.E., 205.3'). ALL VERTICAL DISTANCES SHALL BE SHOWN TO THE NEAREST INCH (I.E. 24").
- * SHOW LOCATION AND ELEVATIONS OF PIPES AND FITTINGS WHERE CHANGES OR DEFLECTIONS IN DIRECTION OCCUR.
- * SPECIAL DETAIL DRAWINGS WILL BE SUPPLIED WHERE REQUIRED FOR CLARITY.
- * DEVIATIONS FROM ORIGINAL PLANS OR STANDARD DETAILS SHALL BE NOTED ON AS-BUILT DRAWINGS.
- * IF THERE ARE NO CORRECTIONS OR ADDITIONS TO THE AS-LET PLAN(S) PUT "NO CHANGE" ON THE SHEET.



FIELD RECORD EXAMPLE DETAIL NOT TO SCALE

TYPICAL DIMENSIONING OF CONDUIT,
PULL BOXES, AND CONCRETE BASES

MEASURING GUIDE LINES

IF CONDUIT IS NOT PLACED DIRECTLY BEHIND THE CURB IN THE ISLANDS & SIDE TERRACE AREAS, A MEASURED DISTANCE FROM THE FACE OF CURB TO THE CONDUIT WILL NEED TO BE PROVIDED.

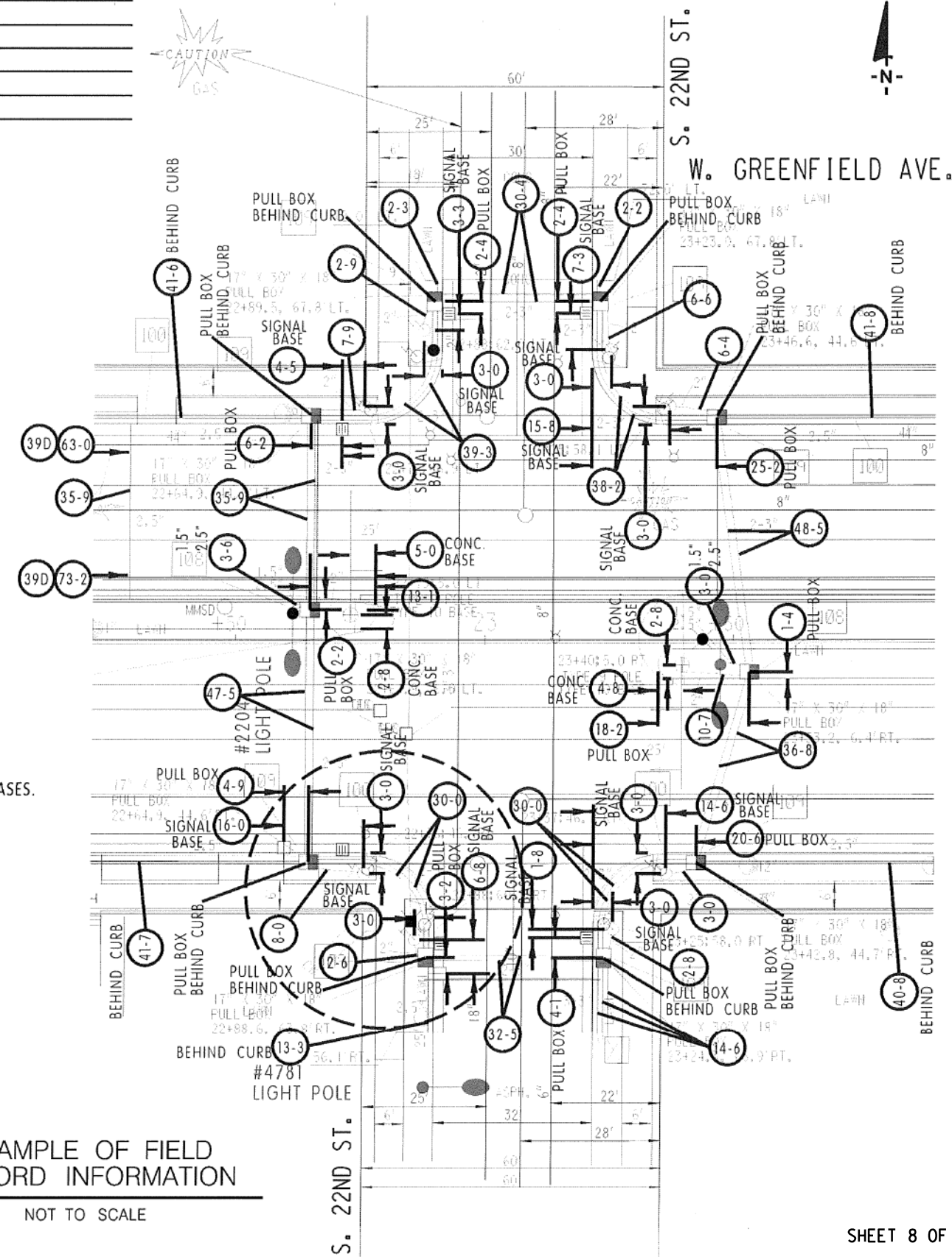
PROVIDE A MEASURED DISTANCE OF UNINTERRUPTED CONDUIT RUNS

USE PERMANENT OBJECTS LIKE HYDRANTS, CATCH BASINS, OR EVEN CURB FACE LINES EXTENDED TO MEASURE OFF WHEN LOCATING CONDUIT, PULL BOXES AND CONCRETE BASES.

MEASURE TO OR FROM THE CENTERS OF OBJECTS FOR DISTANCE TAKING.

- 39D MEANS = CONDUIT IS 39" DEEP
- 48-5 MEANS = LENGTH OF CONDUIT IS 48.5 FT. LONG (MEASURED TO NEAREST TENTH OF A FOOT)
- OR
- 25-6 MEANS = DISTANCE OF 25.6 FT. BETWEEN PERMANENT OBJECT OR CURB FACE TO CONDUIT, PULL BOX, AND CONCRETE BASE (MEASURED TO NEAREST TENTH OF A FOOT)

SUPERVISOR: _____
PROJECT MANAGER: _____
CONTRACTOR LEADER: _____
CONTRACTOR COMPANY: _____
WORK STARTED: _____
WORK COMPLETED: _____

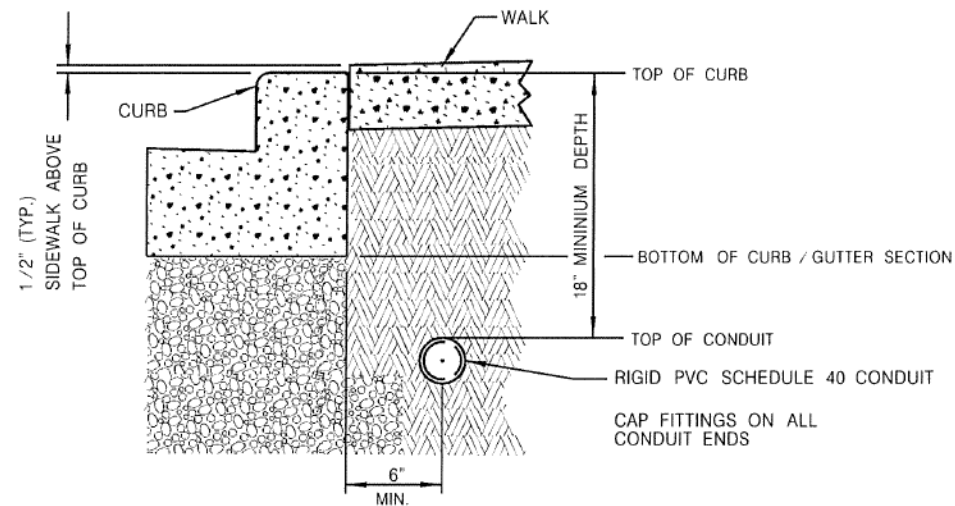


EXAMPLE OF FIELD
RECORD INFORMATION

NOT TO SCALE

SHEET 8 OF 11

NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.
2.) CONDUIT TO BE PLACED 6 INCHES ON CENTER DIRECTLY BEHIND CURB, UNLESS NOTED OR APPROVED BY ENGINEER.

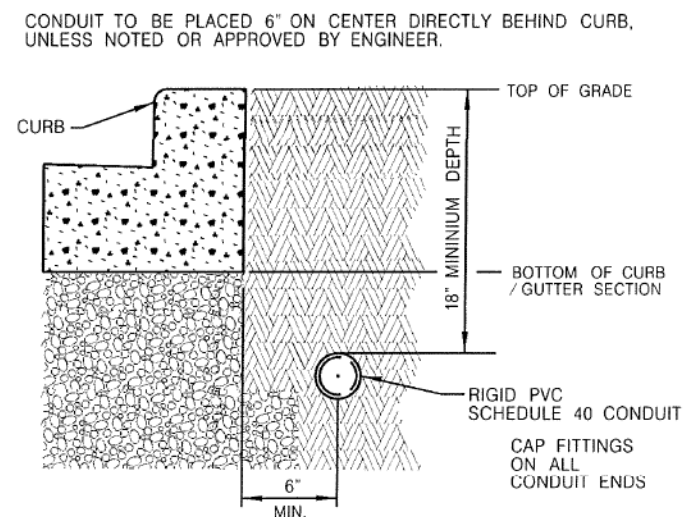


100 DETAIL "A"
TYPICAL CONDUIT INSTALLATION
BEHIND CURB NOT TO SCALE

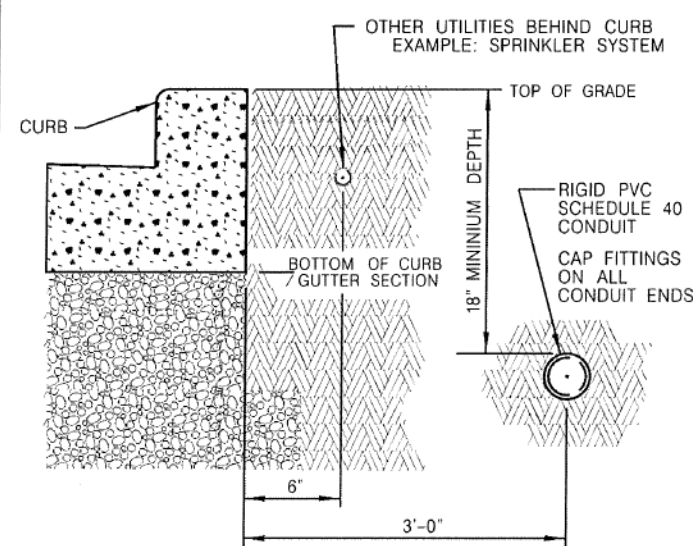
ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.

DETAIL "B"

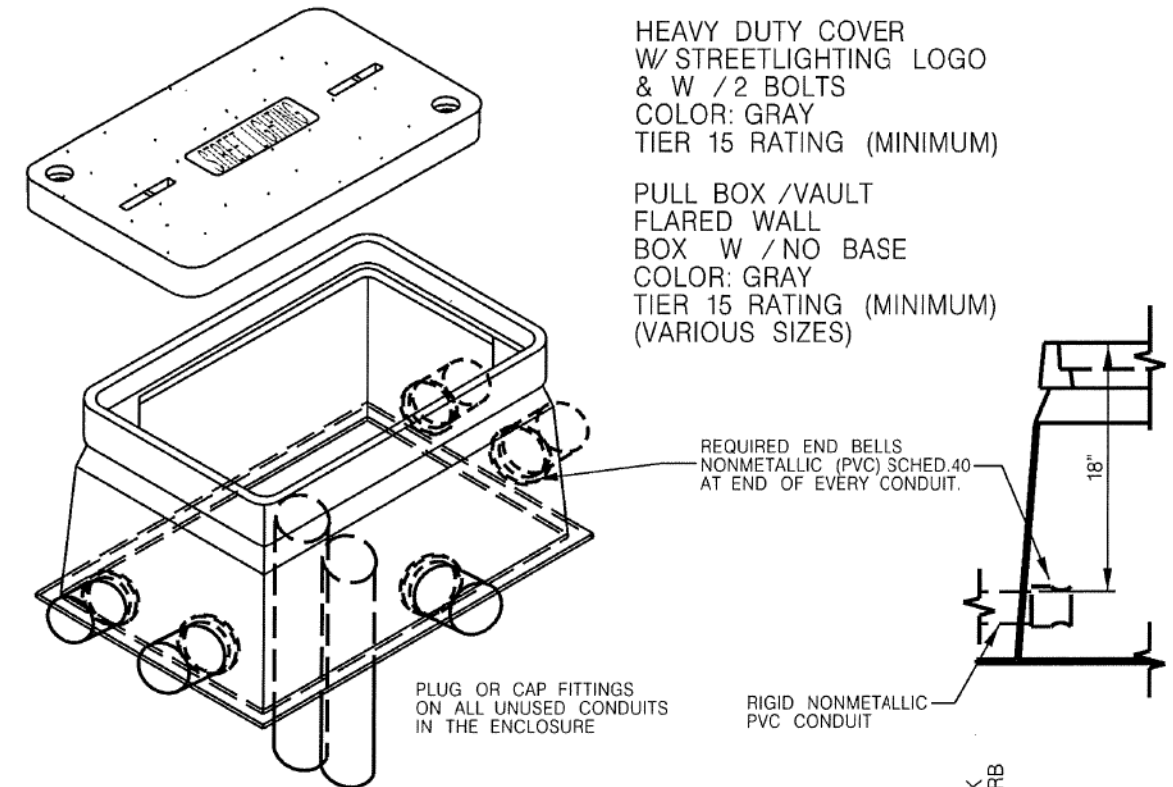


DETAIL "C"



100 DETAIL "B" & "C"
TYPICAL CONDUIT INSTALLATION
BEHIND CURB NOT TO SCALE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.



REQUIRED END BELLS
NONMETALLIC (PVC) SCHED.40
AT END OF EVERY CONDUIT.

RIGID NONMETALLIC (PVC)
SCHED.40 CONDUIT

GRASS

PULL ROPE
REQUIRED IN
EVERY INSTALLED CONDUIT

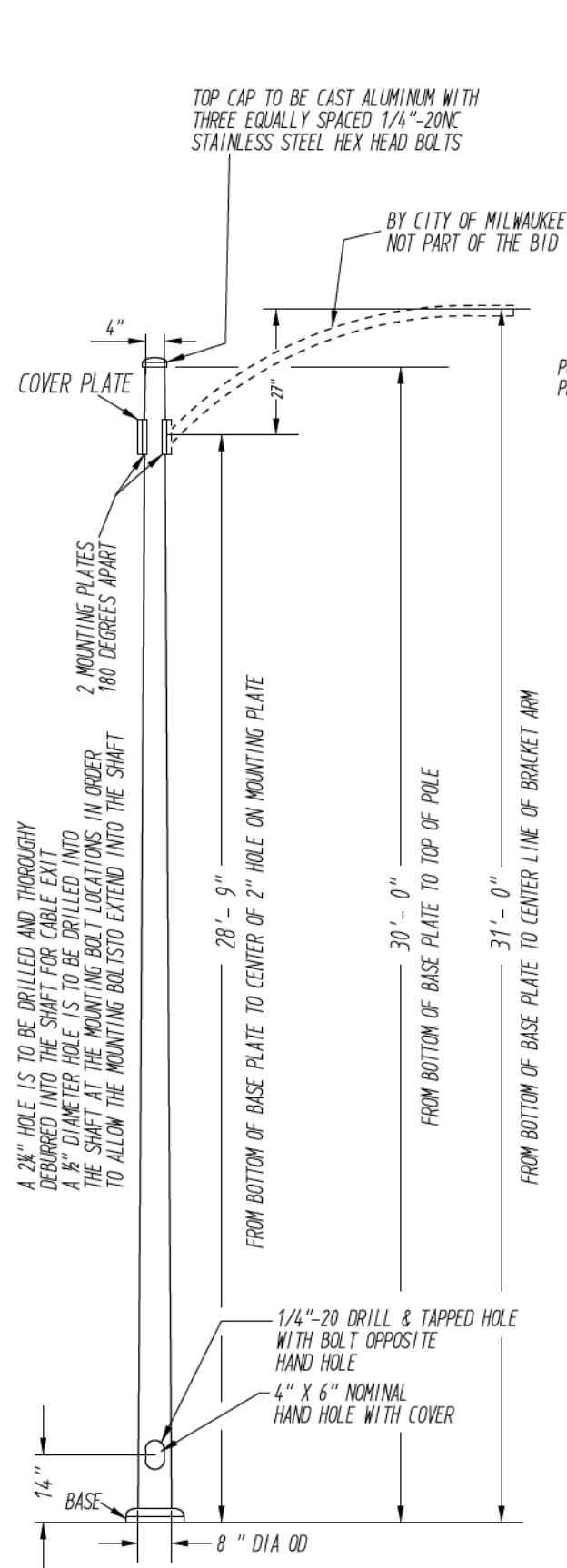
REQUIRE MINIMUM
12 INCHES OF NO.2 COARSE
AGGREGATE FILL FOR BASE

RIGID NONMETALLIC
(PVC) SCHEDULE 80
CONDUIT CROSSING
(WHEN REQUIRED)

112 DETAIL
TYPICAL PULL BOX /VAULT INSTALLATION
IN EITHER PAVEMENT OR GRASS AREAS NOT TO SCALE

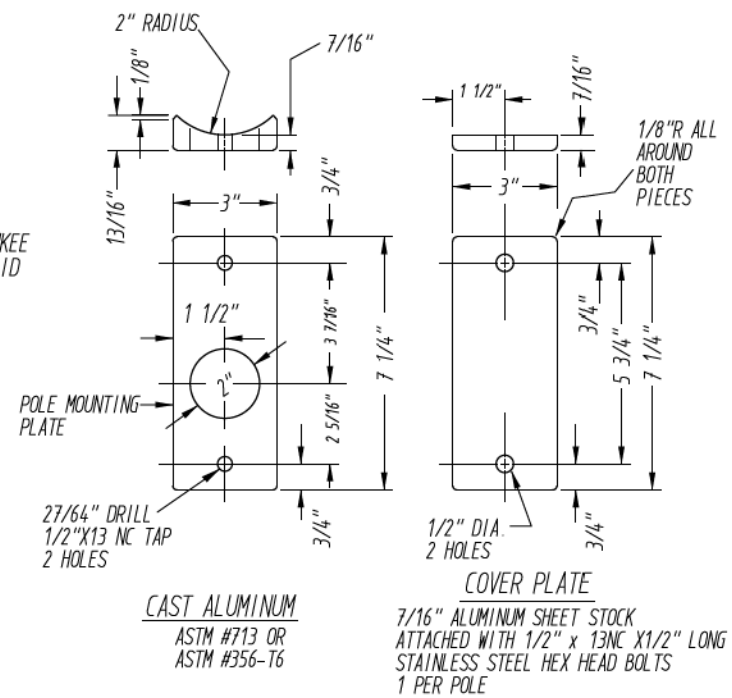
ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

SHEET 9 OF 11

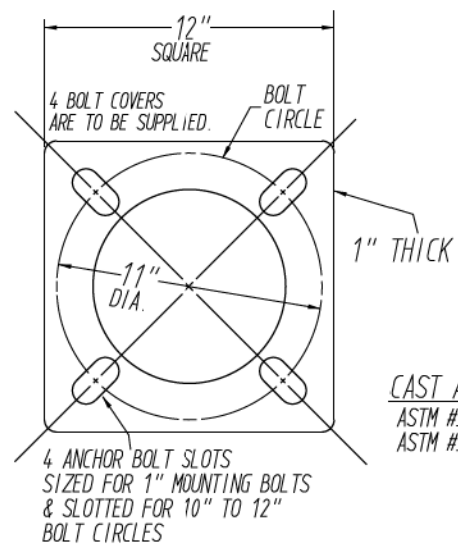


POLES TYPE 30-AL-BD

G:\Street Lighting Specs\Poles Aluminum Bolt Down\B-14-14 31FT.dgn

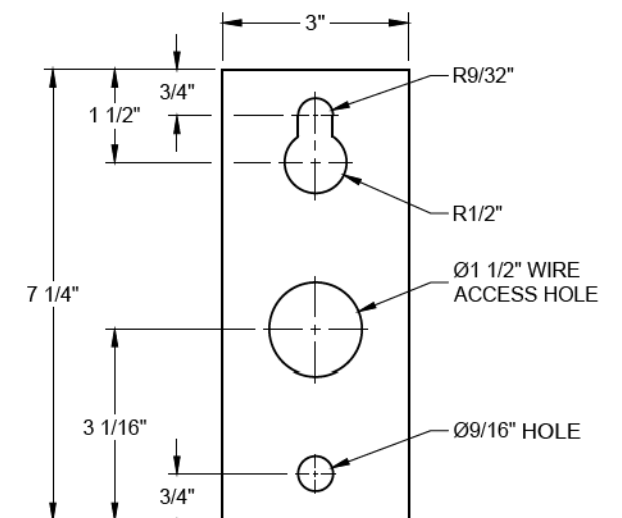
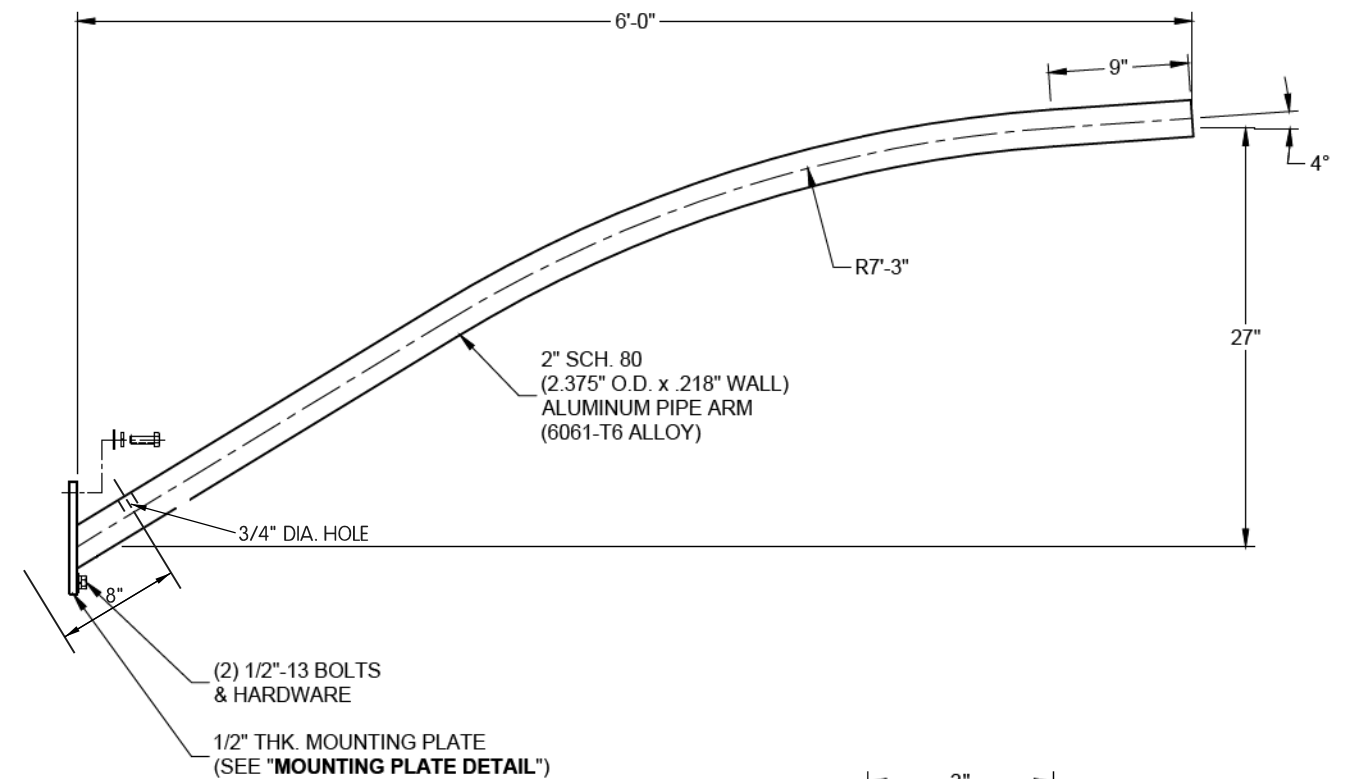


BASE PLATE CASTING



REVISED DATE:		REVISED BY:	
SPEC. NO. 12c-C-1			
BOLT DOWN ALUMINUM POLE 31 FOOT MOUNTING HEIGHT			
CITY OF MILWAUKEE D.P.W. TRANSPORTATION SECTION INFRASTRUCTURE SERVICES DIVISION			
STREET LIGHTING DIVISION			
DATE 11-14-14	SCALE: NONE	DRAWN DK	DESIGN BES
SUPERSEDES		CHECKED RUB	
SUPERSEDED BY		APPROVED RUB	
		DRG. # B-14-14	

LUMINAIRE ARMS SINGLE MEMBER 6-Ft.



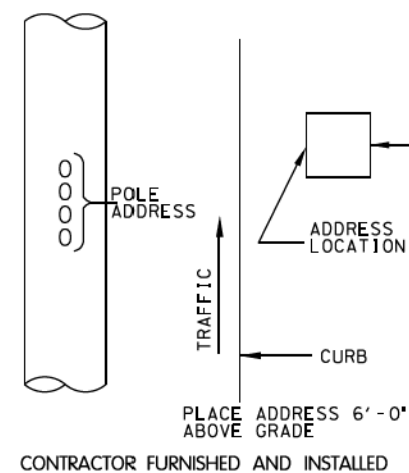
MOUNTING PLATE DETAIL

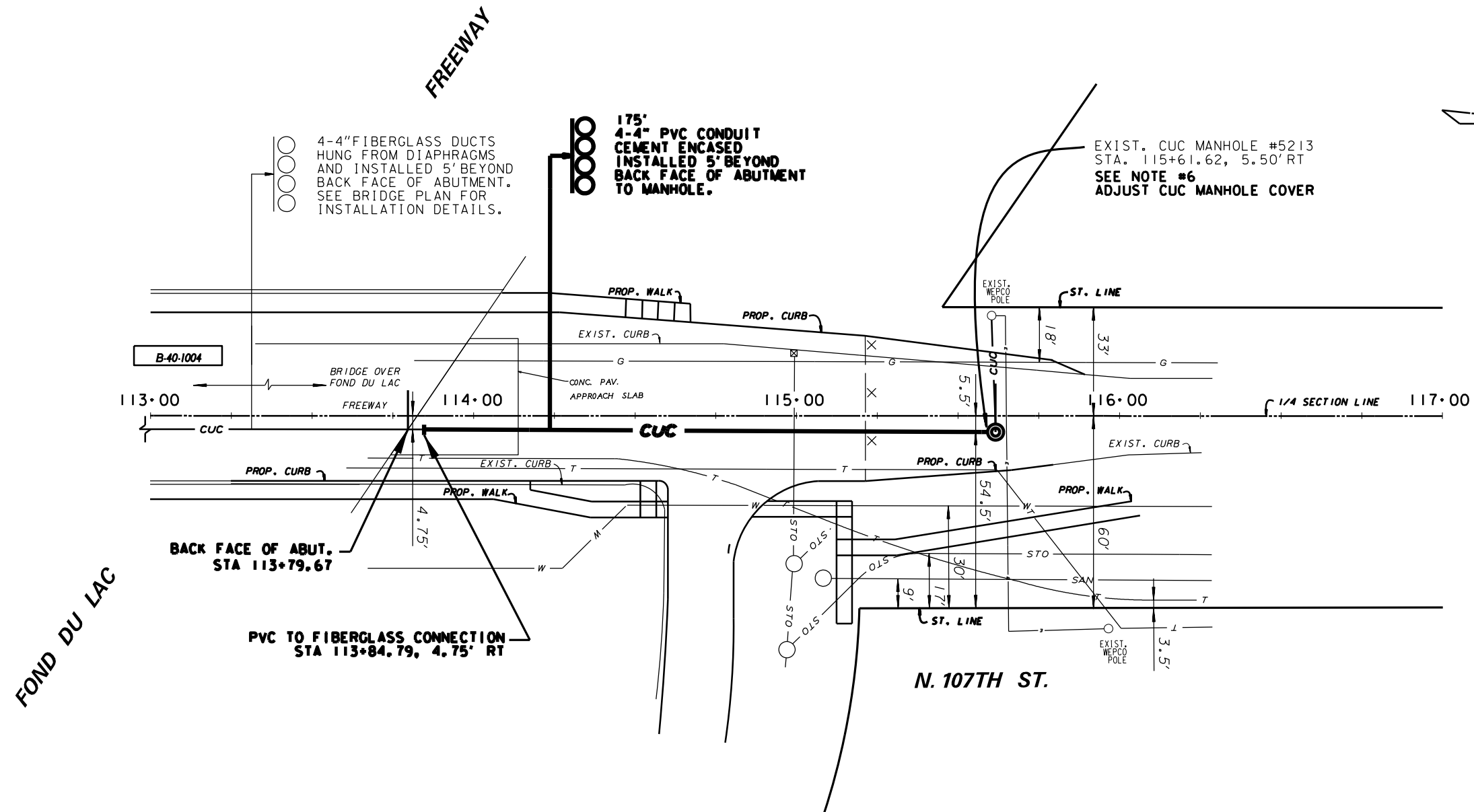
1/2" THK. ALUMINUM (6061-T6 ALLOY)

Accepted by:

Oct 8, 2020

DO NOT SCALE



**NOTES:**

- 1) CONSTRUCTION STAKING FOR THE CITY UNDERGROUND CONDUIT (CUC) FACILITIES IS TO BE INCLUDED IN AND PAID FOR UNDER THE BID ITEM 650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS
- 2) THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
- 3) THE LOCATION OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- 4) DIMENSIONS SHOWN ARE TO CENTER OF MANHOLE, DUCT PACKAGE OR UTILITY.
- 5) MAINTAIN A STANDARD DEPTH OF 39-INCHES BETWEEN FINISHED GRADE AND TOP OF CONDUIT.
- 6) REMOVE ABANDONED CONDUIT FROM MANHOLE WALL AND INSTALL THE PROPOSED CONDUIT INTO THE MANHOLE AT SAME LOCATION.
- 7) REMOVE ABANDONED CONDUIT AS NEEDED FOR PROPOSED INSTALLATION.

LEGEND

— CUC —



— CUC —

- - - -

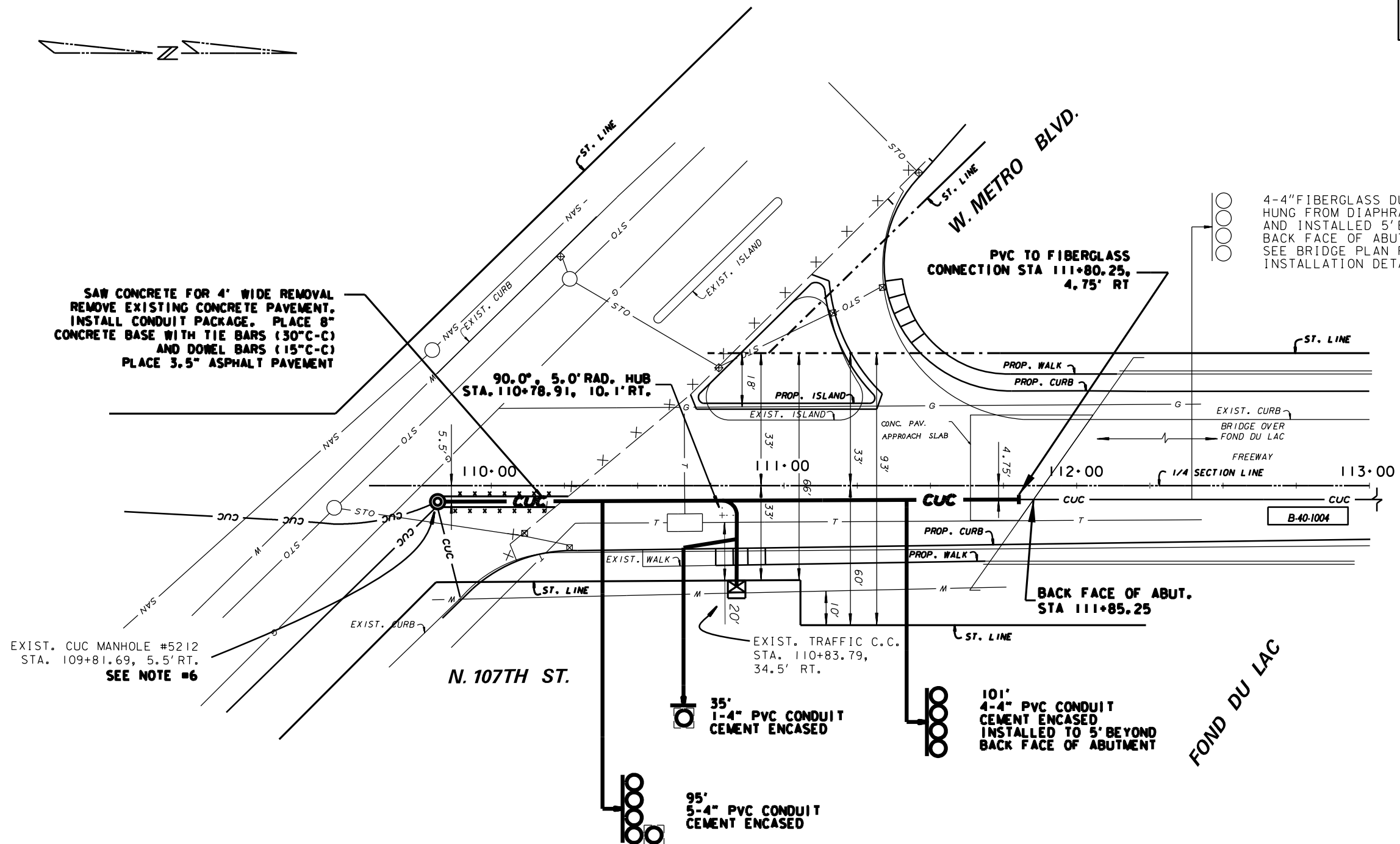
PROPOSED 4-INCH CEMENT ENCASED NONMETALLIC CONDUIT & NUMBER OF RUNS AS NOTED.

PROPOSED CUC MANHOLE

EXISTING CUC MANHOLE

EXISTING CONDUIT

ABANDONED CONDUIT



NOTES:

- 1) CONSTRUCTION STAKING FOR THE CITY UNDERGROUND CONDUIT (CUC) FACILITIES IS TO BE INCLUDED IN AND PAID FOR UNDER THE BID ITEM 650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS
- 2) THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
- 3) THE LOCATION OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- 4) DIMENSIONS SHOWN ARE TO CENTER OF MANHOLE, DUCT PACKAGE OR UTILITY.
- 5) MAINTAIN A STANDARD DEPTH OF 39-INCHES BETWEEN FINISHED GRADE AND TOP OF CONDUIT.
- 6) REMOVE ABANDONED CONDUIT FROM MANHOLE WALL AND INSTALL THE PROPOSED CONDUIT INTO THE MANHOLE AT SAME LOCATION.
- 7) REMOVE ABANDONED CONDUIT AS NEEDED FOR PROPOSED INSTALLATION.

LEGEND

— CUC —



— CUC —

- - - -

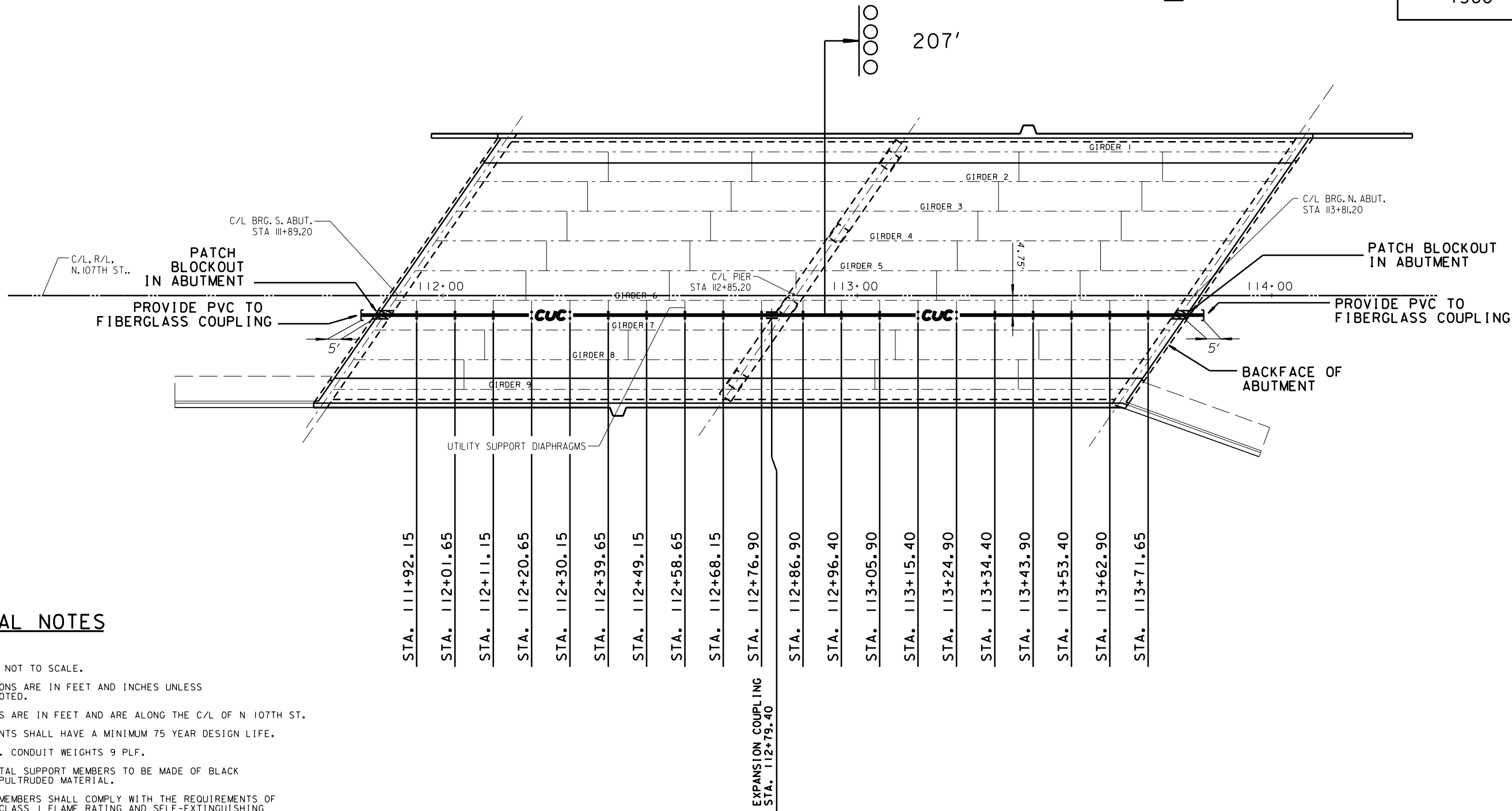
PROPOSED 4-INCH CEMENT ENCASED NONMETALLIC
CONDUIT & NUMBER OF RUNS AS NOTED.

PROPOSED CUC MANHOLE

EXISTING CUC MANHOLE

EXISTING CONDUIT

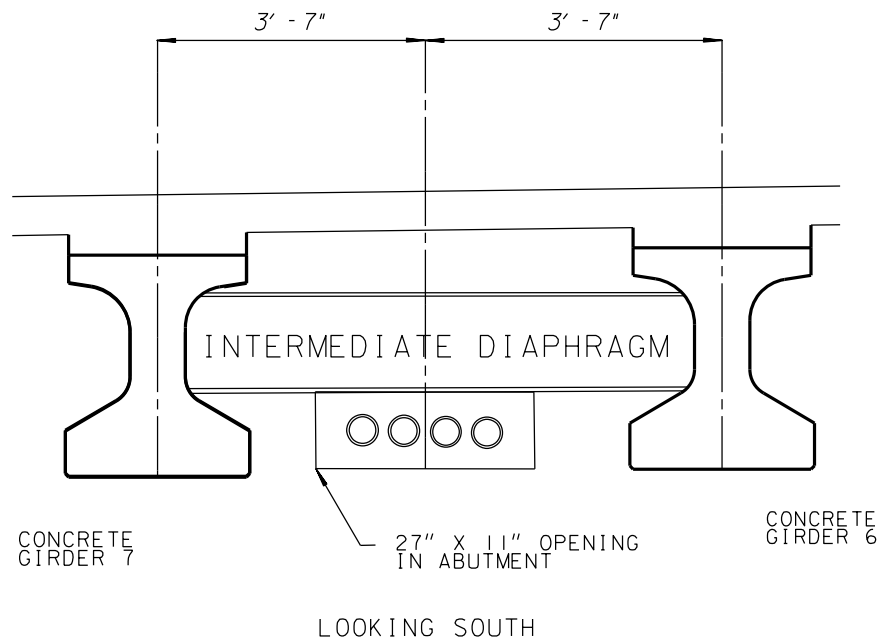
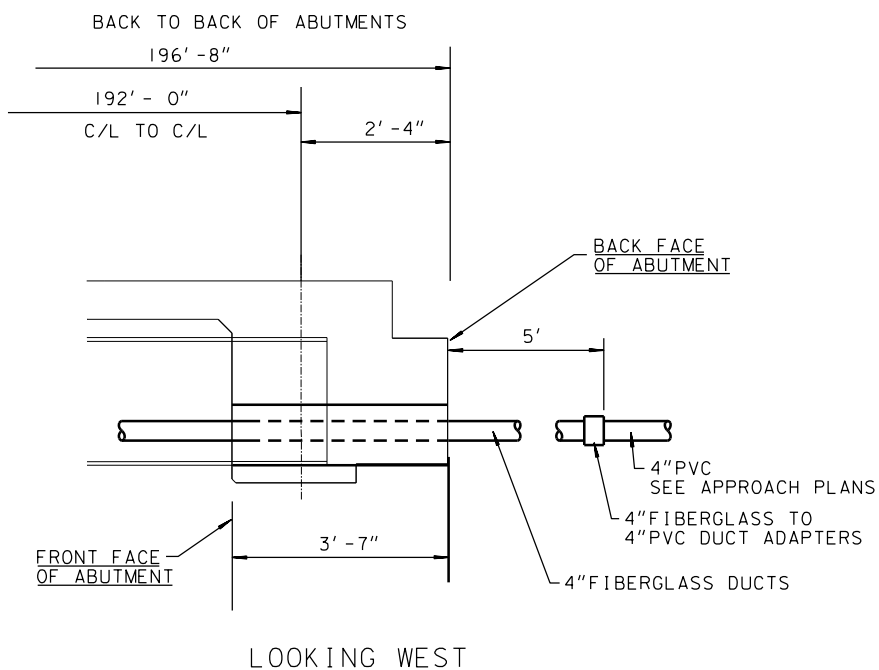
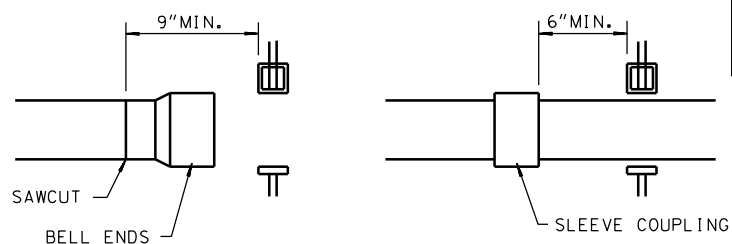
ABANDONED CONDUIT



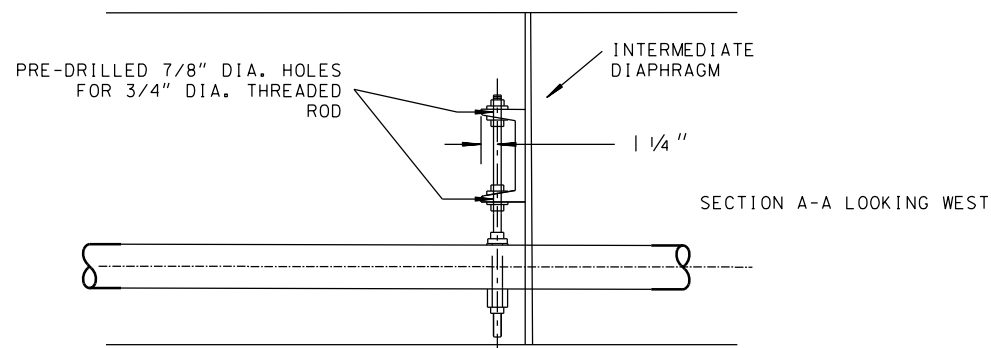
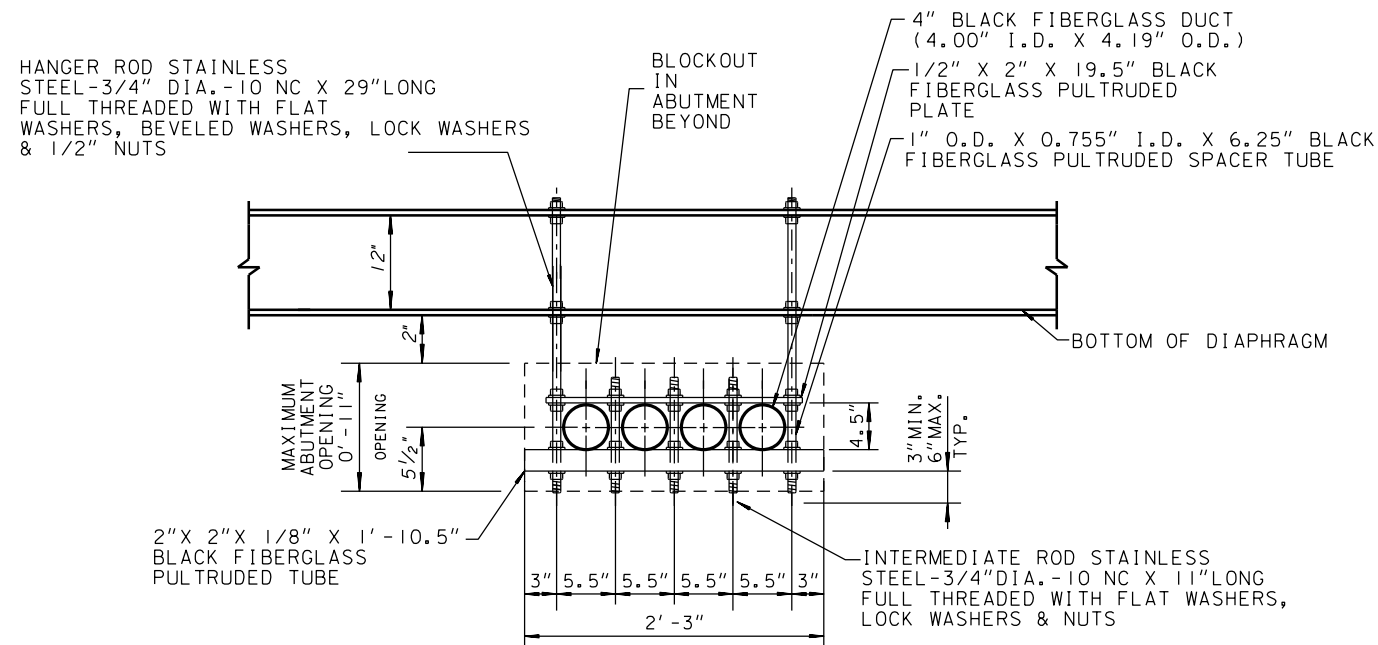
GENERAL NOTES

- DRAWINGS IS NOT TO SCALE.
- ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
- ALL STATIONS ARE IN FEET AND ARE ALONG THE C/L OF N 107TH ST.
- ALL COMPONENTS SHALL HAVE A MINIMUM 75 YEAR DESIGN LIFE.
- EACH 4" DIA. CONDUIT WEIGHTS 9 PLF.
- ALL HORIZONTAL SUPPORT MEMBERS TO BE MADE OF BLACK FIBERGLASS PULTRUDED MATERIAL.
- FIBERGLASS MEMBERS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM E-84, CLASS 1 FLAME RATING AND SELF-EXTINGUISHING REQUIREMENTS OF ASTM D-635. A SURFACE VEIL SHALL BE APPLIED DURING PULTRUSION TO INSURE A RESIN RICH SURFACE AND ULTRAVIOLET RESISTANCE.
- ALL CUTS AND HOLES SHOULD BE PROPERLY SEALED PER MANUFACTURERS RECOMMENDATIONS TO PREVENT CORROSION.
- ALL STEEL MEMBERS AND HARDWARE SHALL BE 304 STAINLESS STEEL.
- FURNISH CONCRETE FOR BRIDGES CONFORMING TO SECTION 501. GRADE E. CONTRACTOR MAY USE PREMIXED BAG CEMENT PER ENGINEER'S APPROVAL.
- SPACE HANGERS A MAXIMUM 10'-0". LOCATE CONDUIT HANGERS BETWEEN GIRDERS 6 & 7. SEE BRIDGE PLANS.
- ALL FIBERGLASS JOINTS SHALL BE EPOXIED PER MANUFACTURER'S SPECIFICATIONS.
- EXTEND CONDUIT 5'-0" FROM BACK FACE OF ABUTMENT. PROVIDE FIBERGLASS TO PVC COUPLING.
- FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
- INSTALL EXPANSION JOINT PER LOCATION SHOWN ON BRIDGE PLAN.

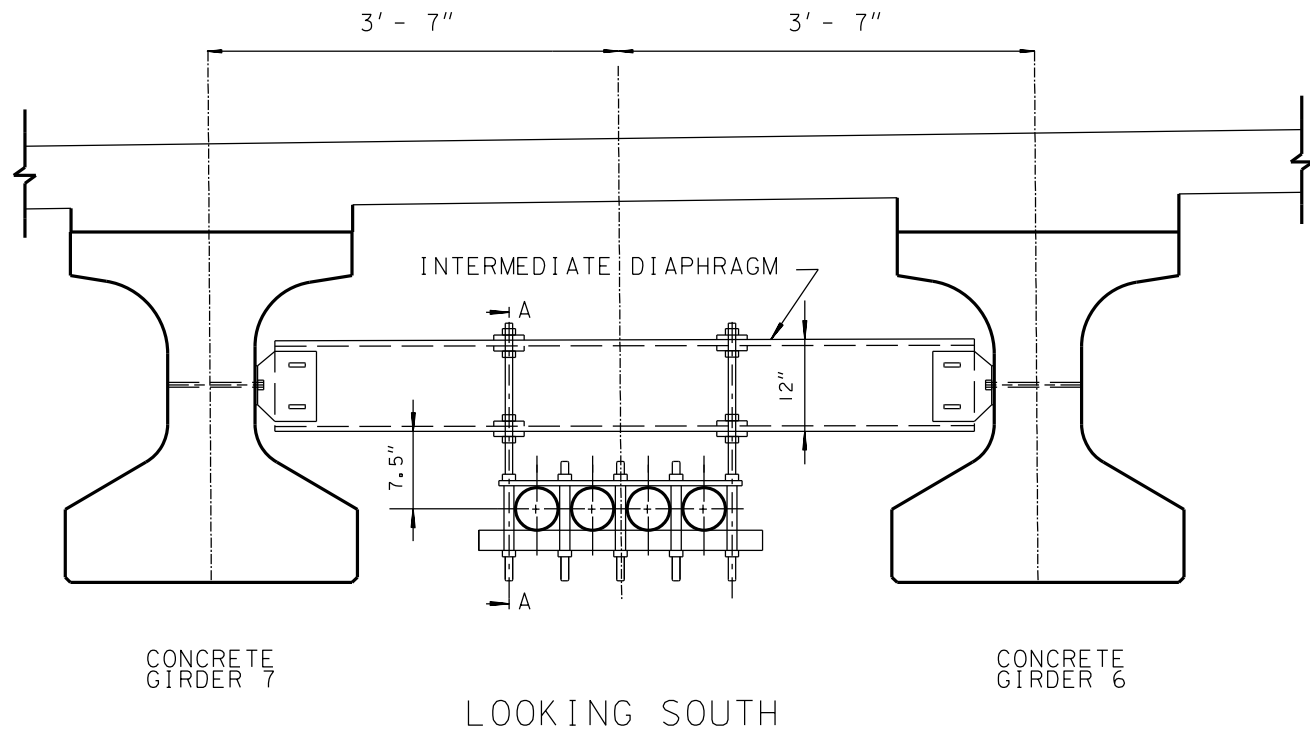
1 - 4 DUCT CITY COMMUNICATIONS PACKAGE - 207' - 5' BEYOND ABUTMENT TO 5' BEYOND ABUTMENT

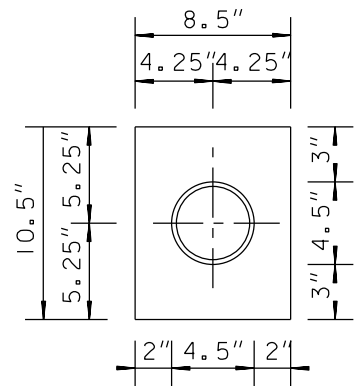
**DIAPHRAGM DETAIL****TYPICAL SECTION AT ABUTMENT****CLEARANCES FOR SLEEVE COUPLINGS AND BELL ENDS**

NOTES:
A BELLED END OR COUPLING SHOULD BE NO CLOSER THAN 6" ON EITHER SIDE OF A SUPPORT AS SHOWN ABOVE. A TAPE MEASURE CAN BE USED TO PREDETERMINE THESE LOCATIONS AND THE CONDUIT CAN BE SAW CUT TO THE PROPER LENGTH BEFORE IT IS THREADED THROUGH THE HANGERS AS SHOWN ABOVE.

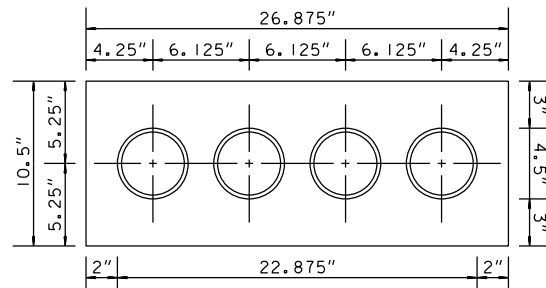
**INTERMEDIATE DIAPHRAGM SECTION A-A****4 DUCT CITY COMMUNICATION HANGER PACKAGE DETAIL**

* THE CONTRACTOR SHALL FIELD VERIFY HANGER LENGTHS IN ORDER TO AVOID CONFLICTS WITH DIAPHRAGM CROSSING.

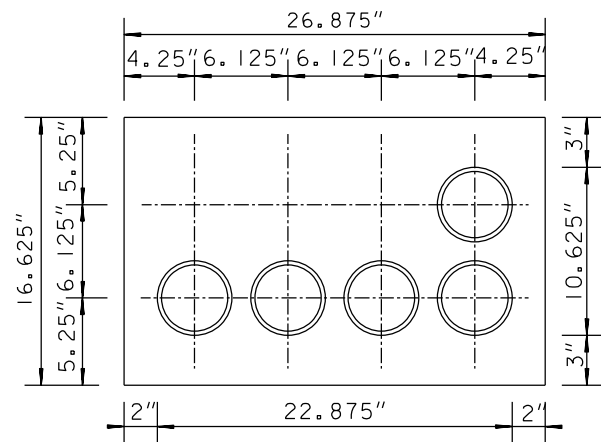
**4 DUCT CITY COMMUNICATION HANGER PACKAGE THROUGH INTERMEDIATE DIAPHRAGM**



1-DUCT CROSS SECTION VIEW
N. T. S.

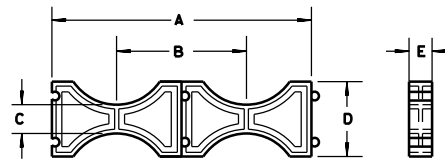


4-DUCT CROSS SECTION VIEW
N. T. S.



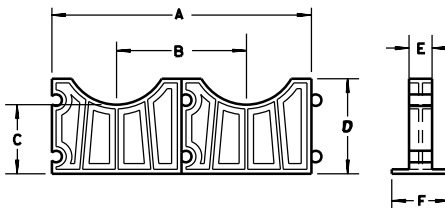
5-DUCT CROSS SECTION VIEW
N. T. S.

COND.	3"	4"
A	10"	12 1/4"
B	5"	6 1/8"
C	1 1/2"	1 1/2"
D	5.13"	6.13"
E	1"	1"



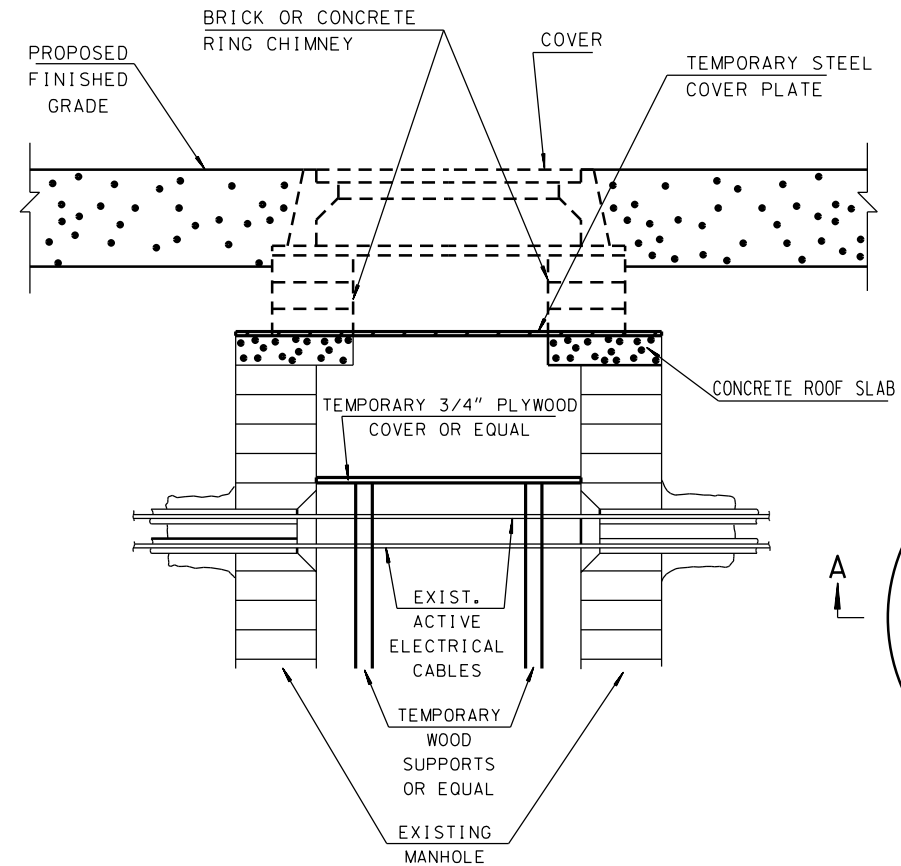
INTERMEDIATE SPACER DETAIL

COND.	3"	4"
A	10 1/4"	12 1/4"
B	5.13"	6.13"
C	3"	3"
D	4 3/4"	5.31"
E	1"	1"
F	3"	3"

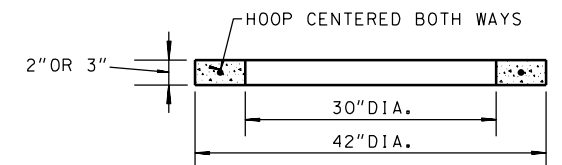
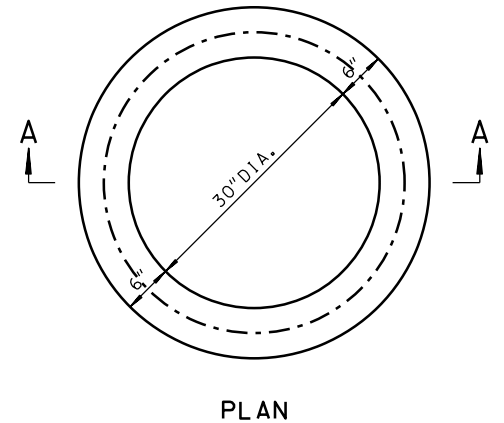


BASE SPACER DETAIL

INTERMEDIATE AND BASE SPACER DETAIL
N. T. S.



BLOCK OR PRECAST MANHOLE



SECTION A-A

THE ADJUSTING RING SHALL BE 2" OR 3" IN HEIGHT.

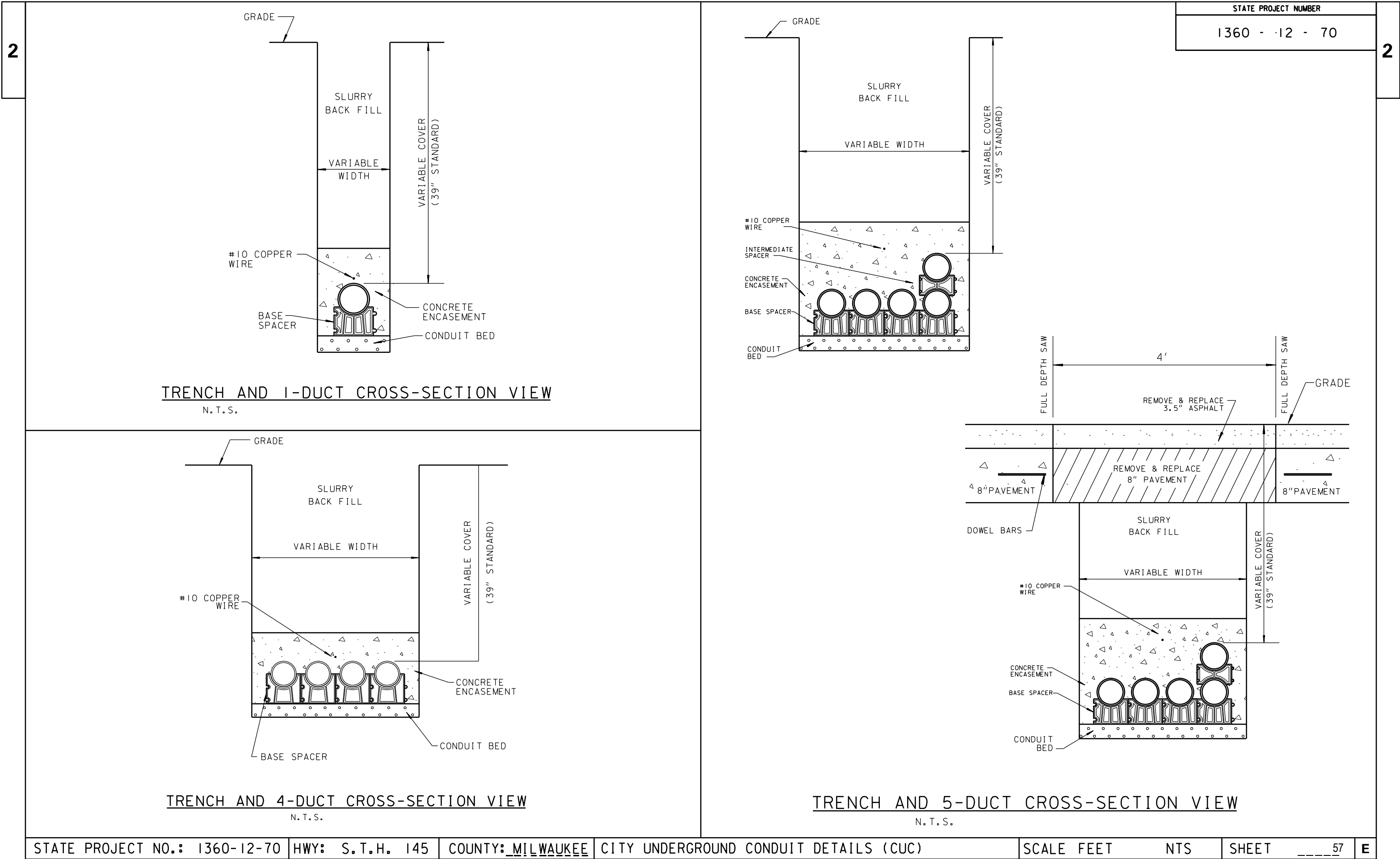
THE CIRCUMFERENTIAL STEEL SHALL BE CENTERED WITHIN THE RING.

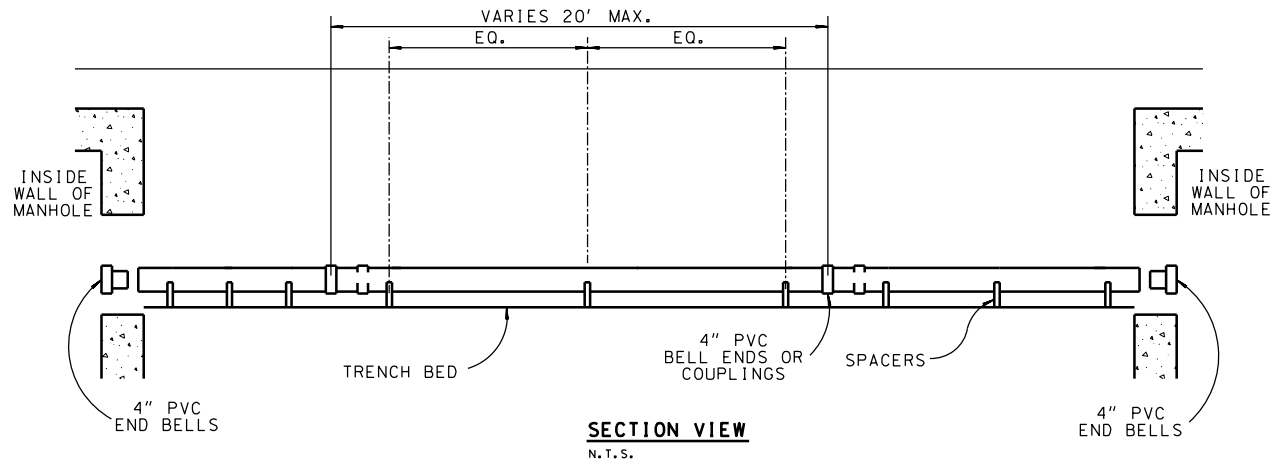
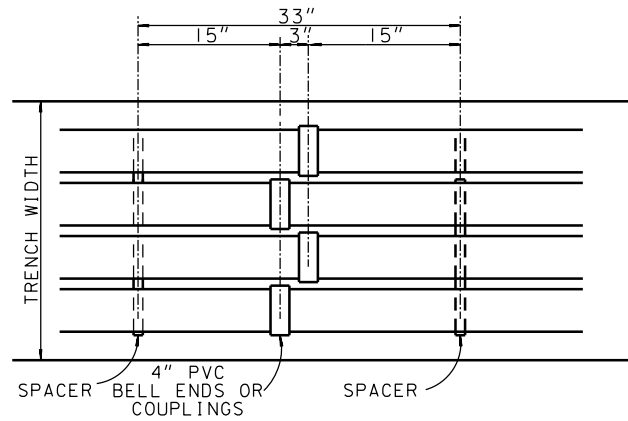
AREA OF CIRCUMFERENTIAL STEEL = 0.07 SQ. INCH PER VERTICAL FOOT WITH A MINIMUM OF .024 SQ. INCH IN ANY ONE RING.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE CORE SHALL BE 4000 P.S.I.

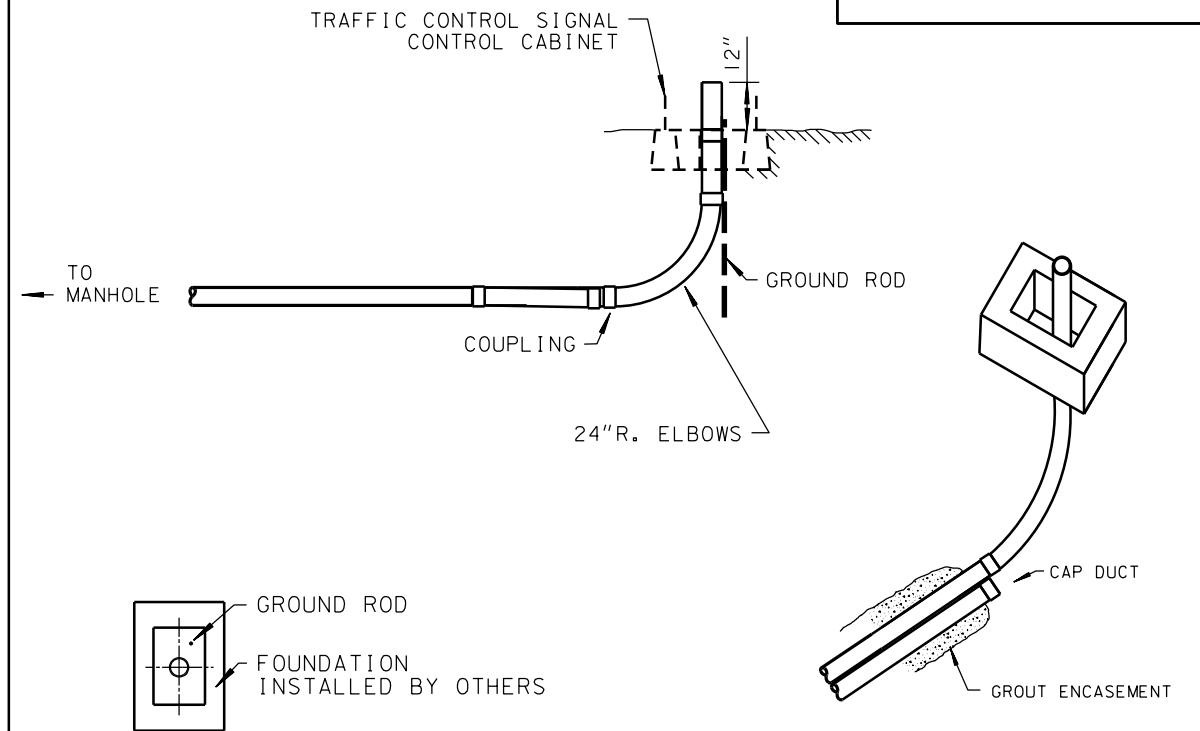
CONCRETE ADJUSTING RING

ADJUSTING CUC MANHOLES



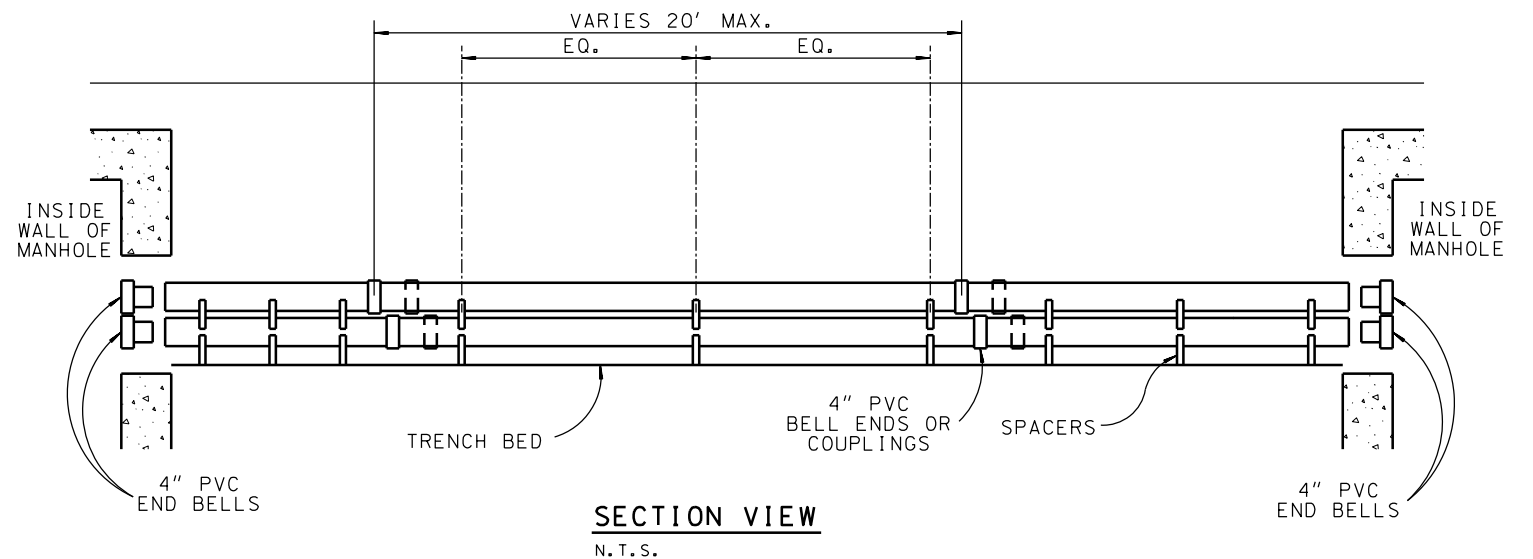
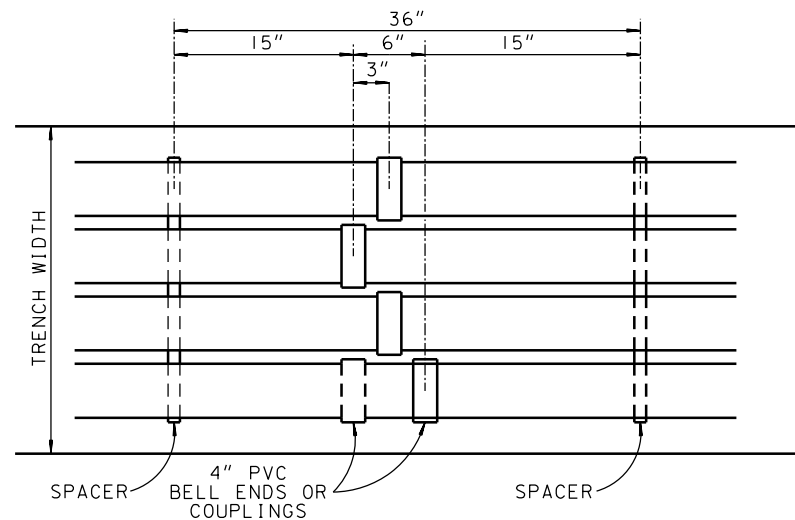


DUCT INSTALLATION DETAIL

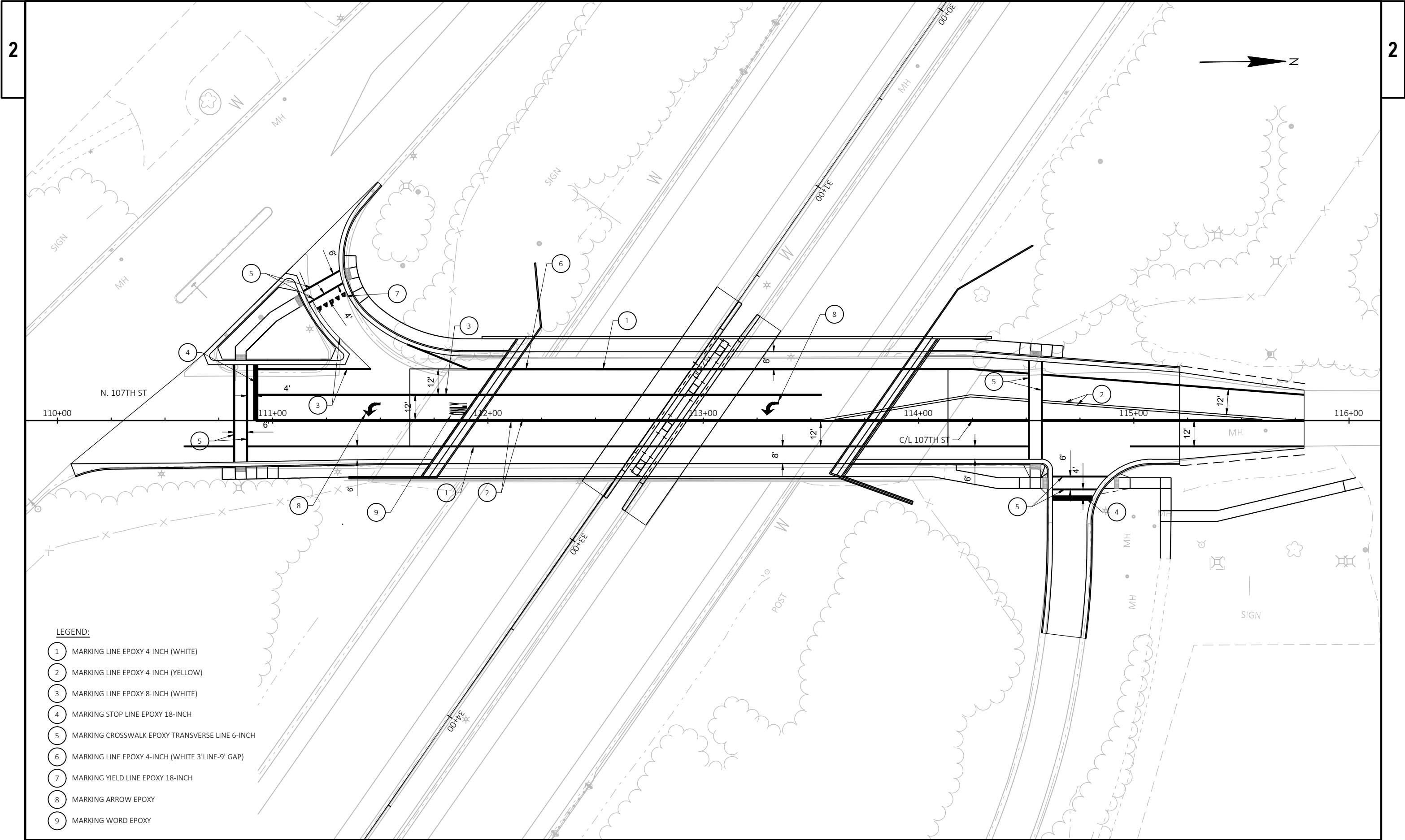


TRAFFIC CONTROL CABINET DETAIL

FOR REFERENCE ONLY



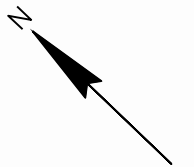
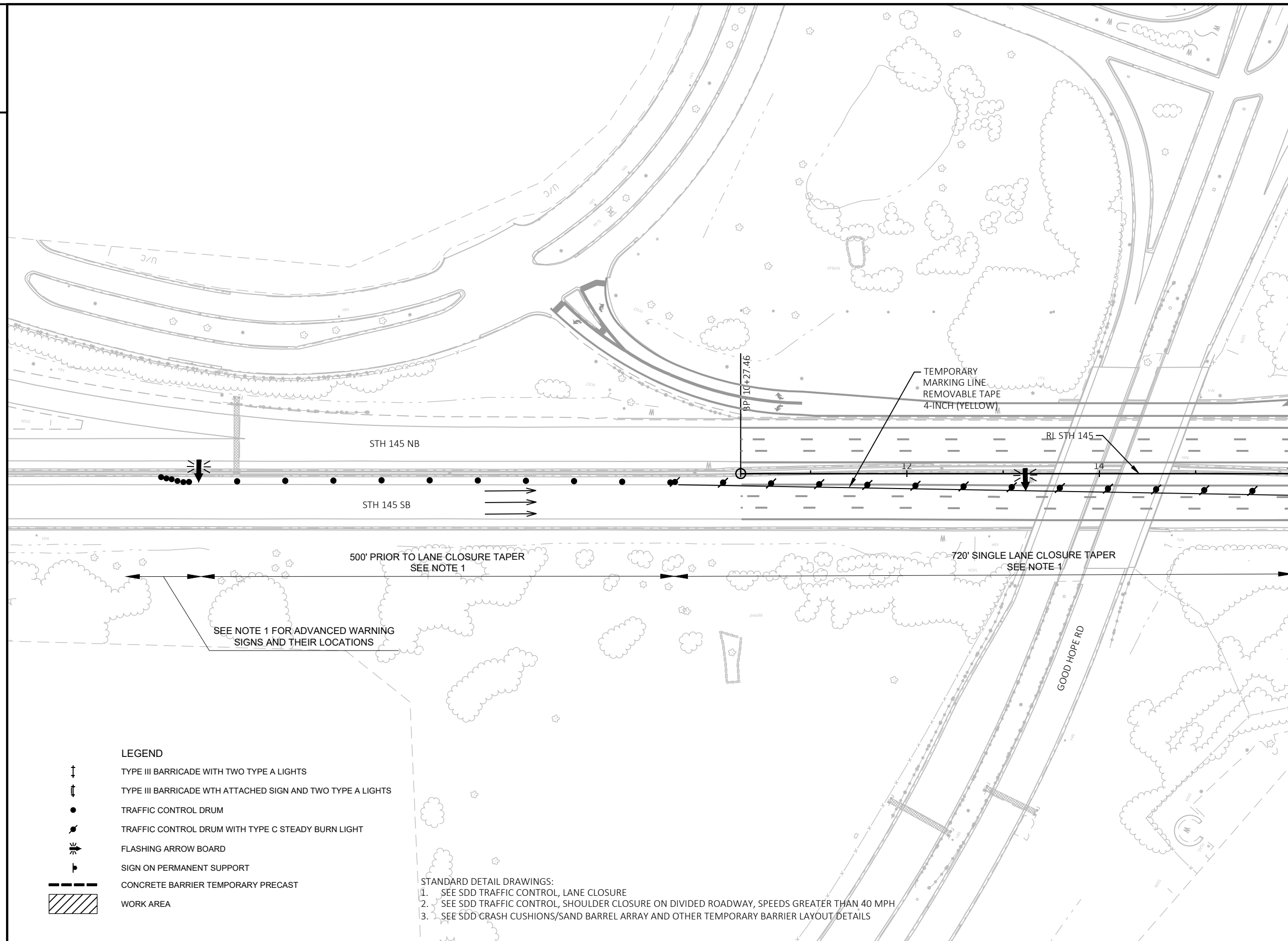
DUCT INSTALLATION DETAIL





- TRAFFIC CONTROL NOTES:

- A. UTILIZE SDD TRAFFIC CONTROL, LANE CLOSURE FOR LANE 1 (INSIDE LANE) SINGLE LANE CLOSURES
- B. UTILIZE SDD TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH FOR OUTSIDE SHOULDER CLOSURES
- C. CLOSE NB OFF RAMP TO 107TH ST. UTILIZE SDD TRAFFIC CONTROL, EXIT RAMP CLOSURE.
- D. NB ON RAMP FROM FRONTAGE ROAD REMAINS OPEN. UTILIZE SDD TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE.



PROJECT NO: 1360-12-70

HWY: STH 145

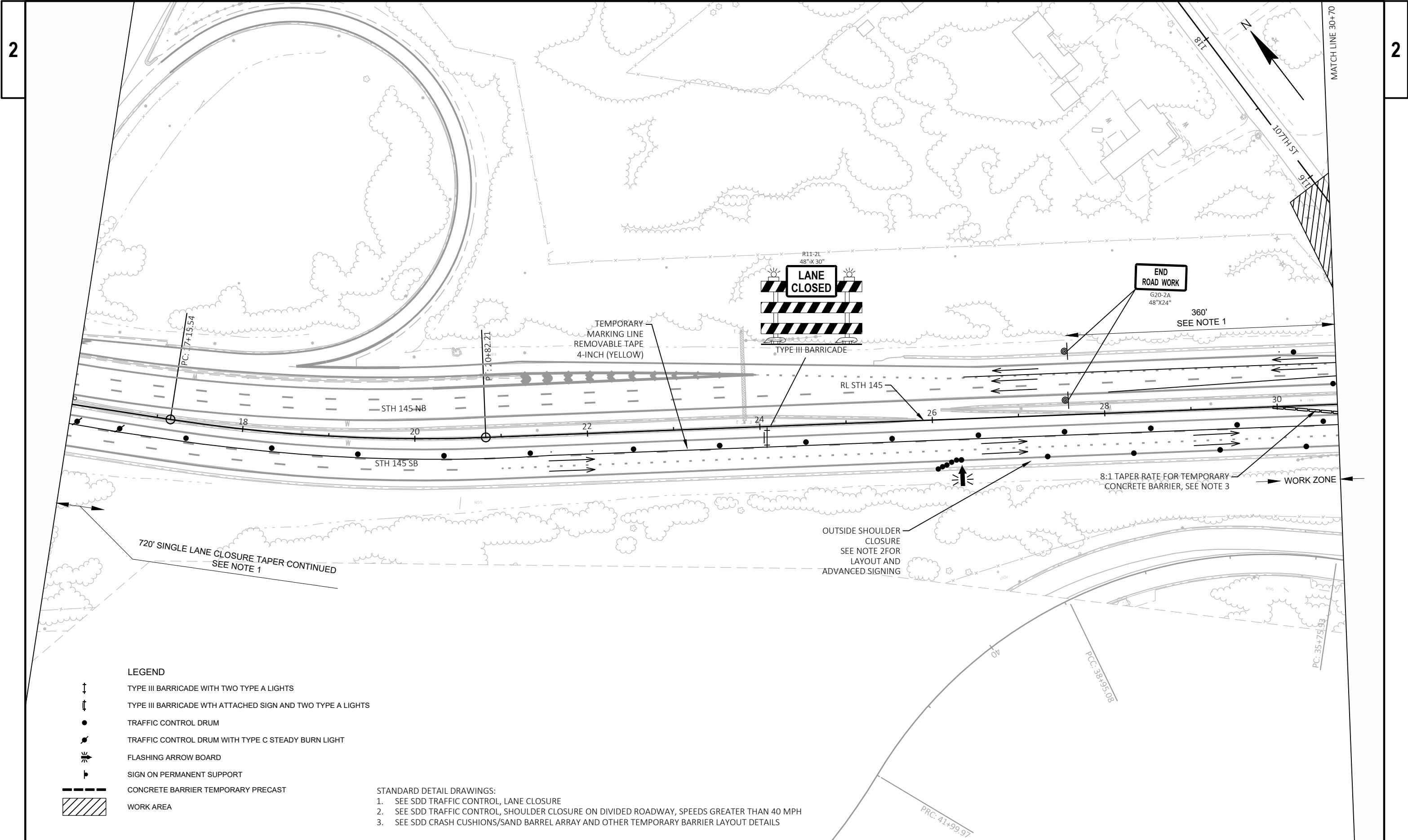
COUNTY: MILWAUKEE

TRAFFIC CONTROL - 107TH ST & STH 145

SHEET

61

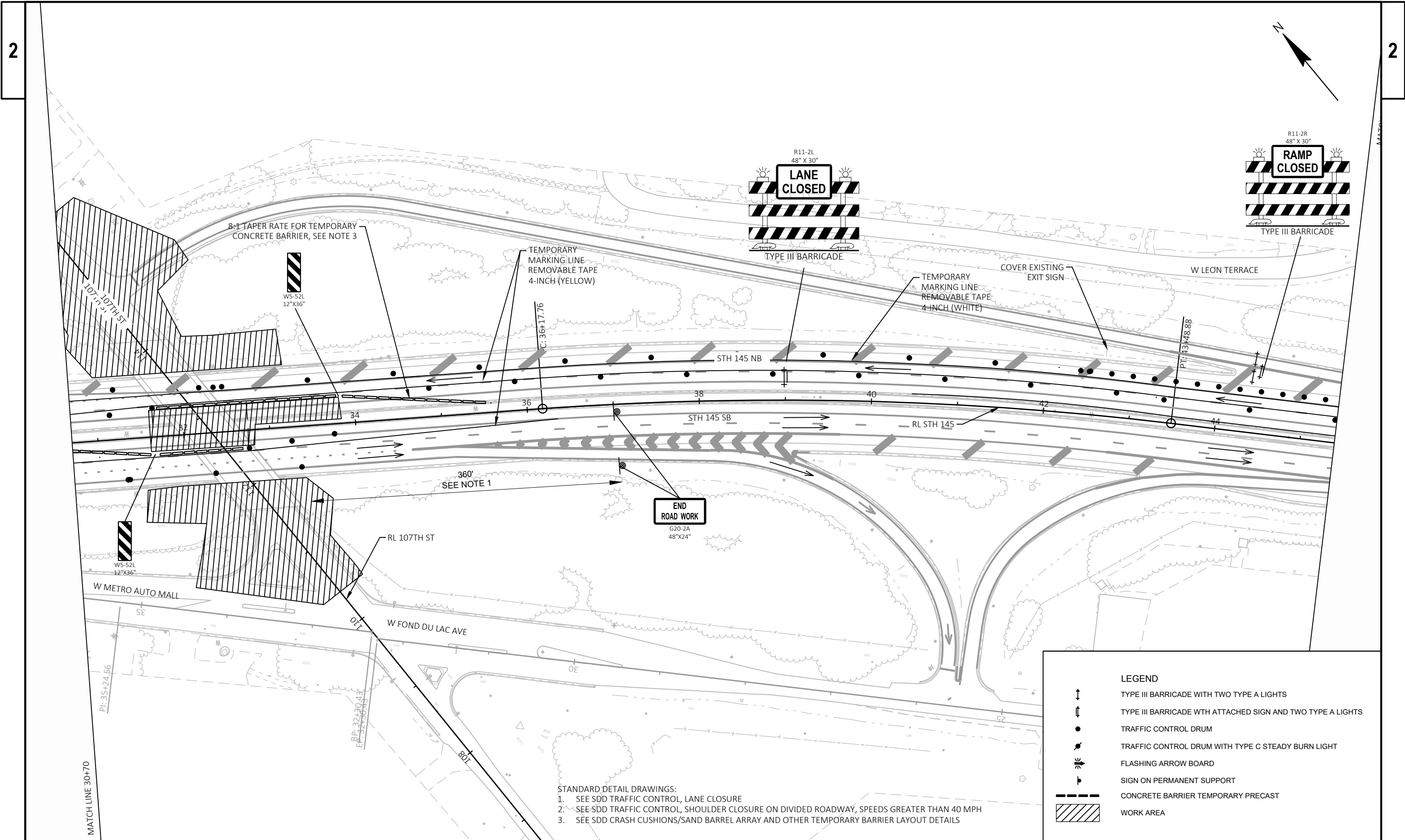
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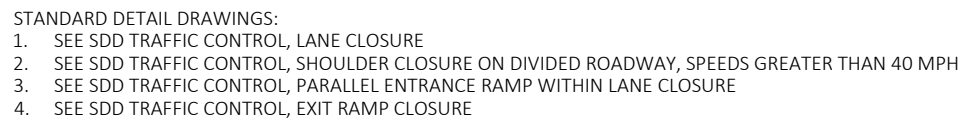


LEGEND

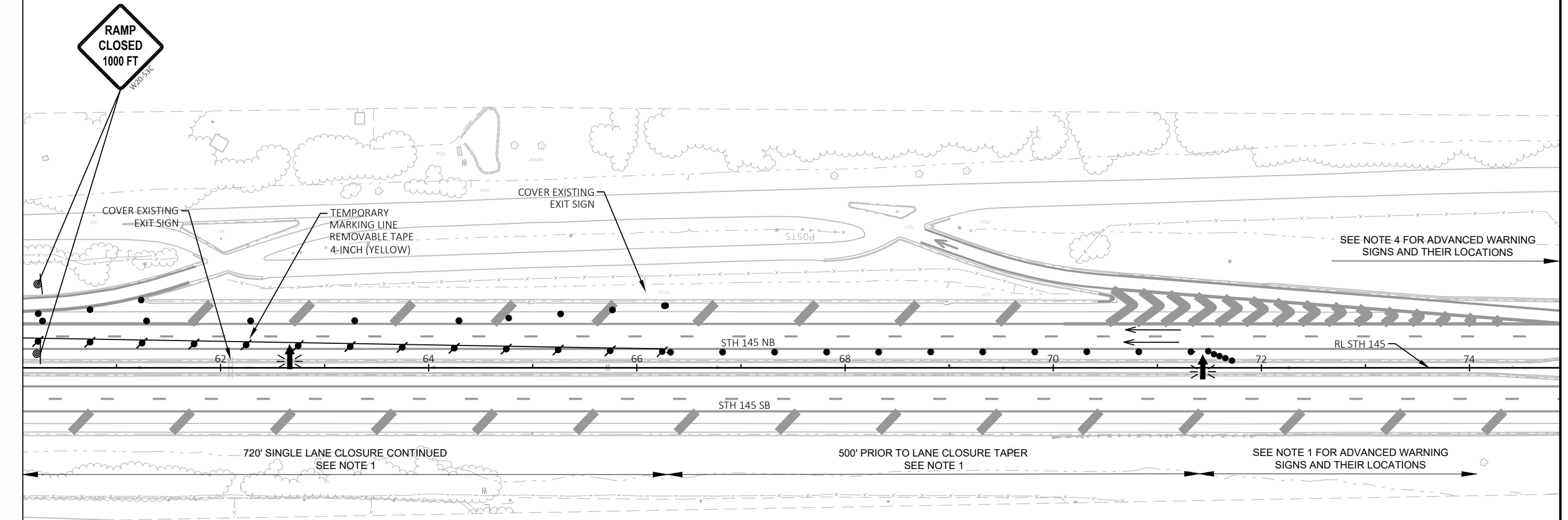
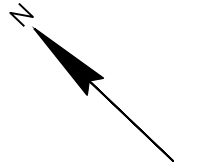
- ↑ TYPE III BARRICADE WITH TWO TYPE A LIGHTS
- ↑ TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⬆ FLASHING ARROW BOARD
- ⬆ SIGN ON PERMANENT SUPPORT
- ▬ CONCRETE BARRIER TEMPORARY PRECAST
- ▨ WORK AREA

- STANDARD DETAIL DRAWINGS:
- 1. SEE SDD TRAFFIC CONTROL, LANE CLOSURE
 - 2. SEE SDD TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
 - 3. SEE SDD CRASH CUSHIONS/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS





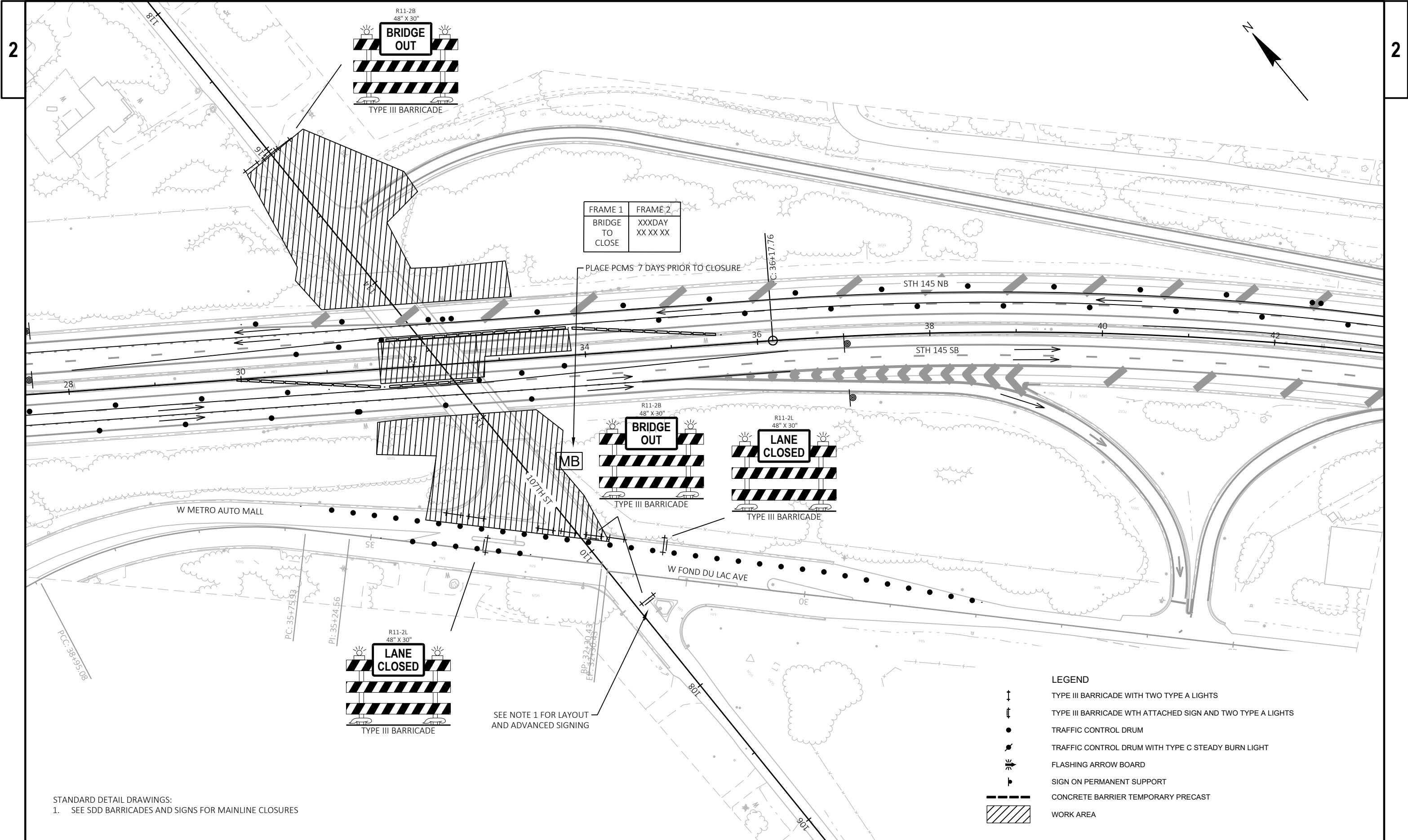
	TYPE III BARRICADE WITH TWO TYPE A LIGHTS
	TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A LIGHTS
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA



MATCH LINE 60+10

- STANDARD DETAIL DRAWINGS:
- 1. SEE SDD TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER
 - 2. SEE SDD TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
 - 3. SEE SDD TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
 - 4. SEE SDD TRAFFIC CONTROL, EXIT RAMP CLOSURE

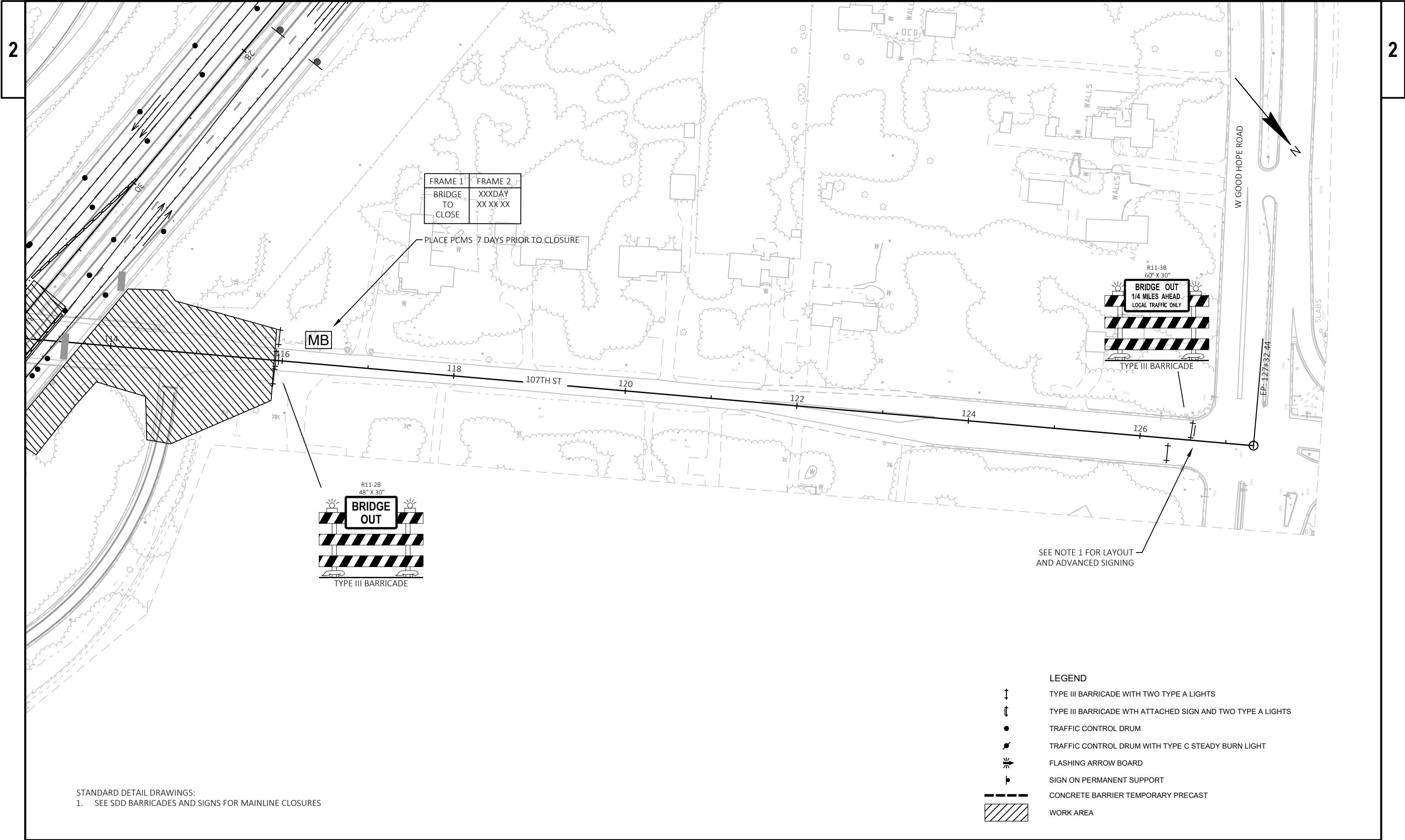
- LEGEND
- TYPE III BARRICADE WITH TWO TYPE A LIGHTS
 - TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A LIGHTS
 - TRAFFIC CONTROL DRUM
 - TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
 - FLASHING ARROW BOARD
 - SIGN ON PERMANENT SUPPORT
 - CONCRETE BARRIER TEMPORARY PRECAST
 - WORK AREA

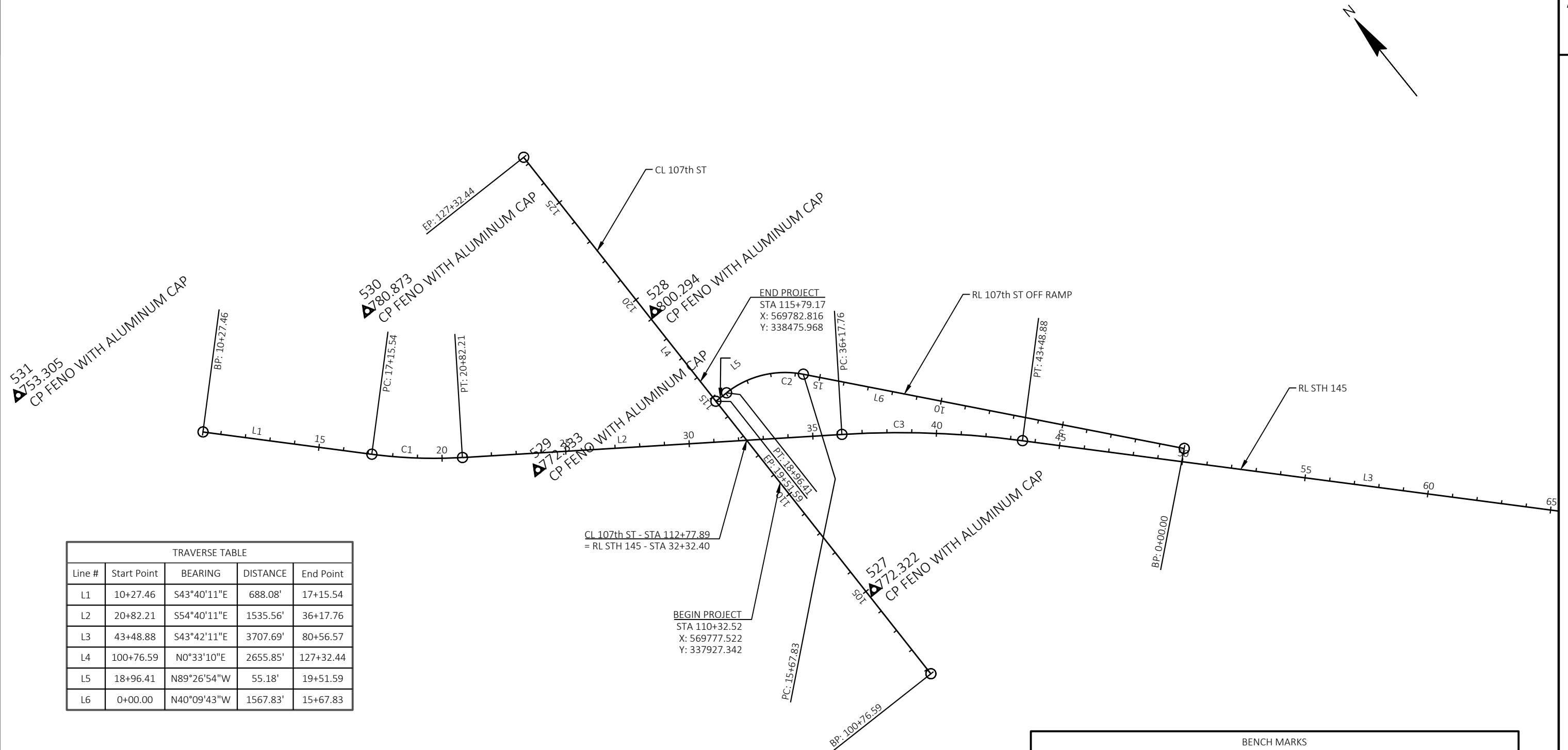


STANDARD DETAIL DRAWINGS:
1. SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES

SEE NOTE 1 FOR LAYOUT
AND ADVANCED SIGNING

- LEGEND
- TYPE III BARRICADE WITH TWO TYPE A LIGHTS
 - TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A LIGHTS
 - TRAFFIC CONTROL DRUM
 - TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
 - FLASHING ARROW BOARD
 - SIGN ON PERMANENT SUPPORT
 - CONCRETE BARRIER TEMPORARY PRECAST
 - WORK AREA





TRAVERSE TABLE				
Line #	Start Point	BEARING	DISTANCE	End Point
L1	10+27.46	S43°40'11"E	688.08'	17+15.54
L2	20+82.21	S54°40'11"E	1535.56'	36+17.76
L3	43+48.88	S43°42'11"E	3707.69'	80+56.57
L4	100+76.59	N0°33'10"E	2655.85'	127+32.44
L5	18+96.41	N89°26'54"W	55.18'	19+51.59
L6	0+00.00	N40°09'43"W	1567.83'	15+67.83

Curve Table: Alignments						
CURVE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI X COORDINATE	PI Y COORDINATE
C1	366.10	S49° 10' 11"E	1909.860	366.67	568691.52	338946.19
C3	730.00	S49° 11' 11"E	3819.720	731.11	570393.45	337739.81
C2	318.54	N64° 48' 19"W	381.970	328.57	570011.70	338372.85

BENCH MARKS					
NAME	STATION	ELEVATION	DESCRIPTION	Y	X
527	104+85.94 28.76' RT	772.32	CP FENO WITH ALUMINUM CAP	337382.516	569801.029
528	119+16.09 28.41' RT	800.29	CP FENO WITH ALUMINUM CAP	338812.597	569814.479
529	23+81.44 68.84' RT	772.33	CP FENO WITH ALUMINUM CAP	338610.645	569045.862
530	16+19.62 570.36' LT	780.87	CP FENO WITH ALUMINUM CAP	339542.433	568910.864
531	0+00.00 0.00'	753.30	CP FENO WITH ALUMINUM CAP	340160.253	567599.639

REMOVALS												
			203.0100 REMOVING SMALL PIPE CULVERTS	204.0100 REMOVING CONCRETE PAVEMENT	204.0110 REMOVING ASPHALTIC SURFACE	204.0150 REMOVING CURB & GUTTER	204.0155 REMOVING CONCRETE SIDEWALK	204.0157 REMOVING CONCRETE BARRIER	204.0170 REMOVING FENCE	204.0220 REMOVING INLET	204.0245 REMOVING STORM SEWER (8-INCH)	204.0245 REMOVING STORM SEWER (18-INCH)
LOCATION			(EACH)	(SY)	(SY)	(LF)	(SY)	(LF)	(LF)	(EACH)	(LF)	(LF)
PROJECT			-	1361	-	692	22	-	-	-	-	-
110+30	to	111+87	1	-	452	-	-	-	61	4	61	-
113+82	to	115+21	1	-	338	-	-	-	144	-	-	105
STH 145			-	238	-	-	-	220	-	-	-	-
			2	1600	790	692	22	220	205	4	61	105

CITY REMOVALS		
CATEGORY 0030		204.0195 REMOVING CONCRETE BASE
LOCATION		(EACH)
110+80	30' LT	1
114+85	42' RT	1
		2

EARTHWORK											
DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPAN DED FILL	EXPANDED FILL (6)	MASS ORDINATE +/- (7)	WASTE	208.0100 BORROW
			CUT (2)	EBS EXCAVATION (3)				FACTOR			
								1.20			
DIVISION 1											
SOUTH OF BRIDGE	110+00/111+75		459	0	225	234	168	202	32	32	0
NORTH OF BRIDGE	114+00/116+00		428	0	215	213	882	1,058	-845	0	845
STH 145	31+65/32+75		122	0	122	0	0	0	0	0	0
DIVISION 1 SUBTOTAL			1,009	0	562	447	1,050	1,260	-813	32	845
GRAND TOTAL			1,009	0	562	447	1,050	1,260	-813	0	813

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH BAD 1 1/4-INCH MATERIAL. EBS IS NOT EXPECTED.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(6) EXPANDED FILL FACTOR = 1.2
(7) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010 UNLESS NOTED

BASE AGGREGATE DENSE						
			305.0110	305.0120	624.0100	
			BASE	BASE	WATER	
			AGGREGATE	AGGREGATE		
			DENSE	DENSE		
			3/4-INCH	1 1/4-INCH		
LOCATION			(TON)	(TON)	(MGAL)	
110+59	to	111+64	Base	-	329	6.6
111+64	to	111+87	Base	-	32	0.7
113+82	to	114+14	Base	-	49	1.0
114+14	to	115+21	Base	-	319	6.4
115+21	to	115+79	Base	-	156	3.2
115+21	to	115+79	Shoulder	18	-	0.4
All Sidewalk			Base	-	69	1.4
031+65	to	032+75	STH 145	-	163	3.3
Undistributed				-	50	1.0
TOTALS			18	1167	24	

PAVEMENT				
		415.0090	415.0410	
		CONCRETE	CONCRETE	
		PAVEMENT	PAVEMENT	
		9-INCH	APPROACH	
			SLAB	
LOCATION		(SY)	(SY)	NOTES
110+59	to 111+64	801	-	
111+64	to 111+87	41	110	
113+82	to 114+14	36	110	
114+14	to 115+21	702	-	
TOTALS		1580	220	

CONCRETE BARRIER		
		603.1132
		CONCRETE
		BARRRIER
		TYPE
		S32
		TO S32
		TYPE NJ32SF
LOCATION		(LF)
31+65 to 32+75 LT		80
31+65 to 32+75 RT		80
TOTALS		160

CURB AND SIDEWALK							
		601.0409	602.0410	602.0505	620.0300	650.5500	650.9000
		CONCRETE	CONCRETE	CURB RAMP	CONCRETE	CONSTRUCTION	CONSTRUCTION
		CURB & GUTTER	SIDEWALK	DETECTABLE	MEDIAN	STAKING CURB,	STAKING
		30-INCH	5-INCH	WARNING	SLOPE	GUTTER AND CURB	CURB
		TYPE A		FIELD YELLOW	NOSE	& GUTTER	RAMPS
LOCATION		(LF)	(SF)	(SF)	(SF)	(LF)	(EACH)
Project Wide		-	2756	80	-	-	8
Pork Chop Island		160	-	-	175	160	-
110+59	to 111+87 LT	141	-	-	-	141	-
110+59	to 111+87 RT	168	-	-	-	168	-
114+82	to 115+21 LT	119	-	-	-	119	-
114+82	to 115+21 RT	285	-	-	-	285	-
TOTALS		873	2756	80	175	873	8

HMA PAVEMENT			
		455.0605	460.5224
		TACK	HMA
		COAT	PAVEMENT
			4 LT 58-28 S
LOCATION		(GAL)	(TON)
115+21 to 115+79	107th ST	31	71
116+00 RT	Sidewalk Terminal		1
031+65 to 032+75	STH 145	36	83
TOTALS		67	154

* ASSUMES 0.070 GAL/SY betw een lifts and 0.050 GAL/SY on milled surfaces

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

STORM SEWER PIPE										
			608.0418	608.3018	608.3024	608.6008				
			STORM	STORM	STORM	STORM				
			SEWER PIPE	SEWER PIPE	SEWER PIPE	SEWER PIPE				
			REINFORCED	CLASS III-A	CLASS III-A	COMPOSITE				
			CONCRETE	18-INCH	24-INCH	8-INCH				
			CLASS IV							
FROM	-	TO	(LF)	(LF)	(LF)	(LF)	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT	
11	-	10	-	-	-	20	773.26	773.00	0.0132	
12	-	11	-	-	-	48	773.74	773.26	0.0101	
21	-	20	-	-	-	35	775.40	775.08	0.0092	
22	-	21	-	-	-	28	775.56	775.40	0.0058	
32	-	31	74	-	-	-	788.50	787.85	0.0087	
33	-	31	-	26	-	-	787.86	787.68	0.0069	
41	-	40	-	-	29	-	757.91	757.10	0.0277	
42	-	41	-	-	144	-	760.82	757.91	0.0202	
43	-	42	-	-	36	-	761.55	760.82	0.0202	
51	-	50	-	-	36	-	762.60	761.71	0.0249	
52	-	51	-	-	119	-	765.56	762.60	0.0249	
53	-	52	-	-	30	-	766.34	765.56	0.0259	
TOTALS			74	26	394	131				

CULVERT MARKERS			
			633.5200
			MARKERS
STRUCTURE	STATION	OFFSET*	CULVERT END (EACH)
32	115+00.36	29.58' LT	1
40	33+91.03	73.79' RT	1
43	31+86.88	75.53' RT	1
50	32+59.56	84.51' LT	1
53	30+76.64	78.42' LT	1
			5

STORM SEWER STRUCTURES																				
			522.1018	522.1024	611.061	611.0612	611.0624	611.0642	611.1004	611.2004	611.3004	611.3225	611.3902	611.8115	650.4000					
			APRON	APRON															NOTES	
			ENDWALLS FOR	ENDWALLS FOR																
			CULVERT PIPE	CULVERT PIPE																
			REINFORCED	REINFORCED	INLET	INLET	INLET	INLET	CATCH	MANHOLE	INLETS 4-				CONSTRUCTION					
			CONCRETE 18-	CONCRETE 24-	COVERS	COVERS	COVERS	COVERS	FT	S 4-FT	FT	INLETS	MEDIAN 2	ADJUSTING	SEWER	RIM**	INVERT***	DEPTH****		
STRUCTURE	STATION	OFFSET*	INCH 18-INCH	INCH 24-INCH	TYPE BW	TYPE C	TYPE H	TYPE MS	DIAMETER	DIAMETER	DIAMETER	2X2.5-FT	GRATE	COVERS	(EACH)	ELEVATION	ELEVATION	FT		
--	110+29.00	20.00 RT												1						
10	110+78.42	39.15' LT						1				1			1	777.25	771.82	4.43		
11	110+94.30	27.50' LT						1	1						1	777.55	771.26	5.29		
12	110+95.00	20.00' RT			1								1		1	777.78	771.74	4.71		
20	110+69.74	1.50' LT						1			1				1	779.66	775.08	3.58		
21	111+07.00	1.00' LT			1				1						1	779.18	773.40	4.44	EXISTING MH TO REMAIN	
22	0+18.00	1.50' RT						1	1						1	778.79	773.56	4.23		
31	114+99.40	44.77' RT														791.66	787.68			
32	115+00.36	29.58' LT	1												1		788.50			
33	115+23.42	35.41' RT						1					1		1	790.47	786.69	3.78		
40	33+91.03	73.79' RT		1											1		757.10			
41	33+64.65	61.50' RT				1				1					1	761.47	757.91	2.58		
42	32+20.23	61.50' RT				1				1					1	764.46	760.82	2.66		
43	31+86.88	75.53' RT		1											1		761.55			
50	32+59.56	84.51' LT		1											1		761.71			
51	32+25.00	74.50' LT				1				1					1	766.34	762.60	2.75		
52	31+06.40	74.50' LT				1				1					1	769.47	765.56	2.92		
53	30+76.64	78.42' LT		1											1		766.34			
			1	4	2	4	4	1	3	4	2	1	1	1	16					
REMARKS:																				
*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE																				
**RIM ELEV IS AT THE INLET COVER FLANGE LOCATION																				
***FOR STRUCTURES WITH SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE SUMP. FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE																				
****DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 6-INCH ADJUSTMENT RING HEIGHT																				

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

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EROSION CONTROL										
	628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE	628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	628.2008 EROSION MAT URBAN CLASS I TYPE B	628.7005 INLET PROTECTION TYPE A	628.7010 INLET PROTECTION TYPE B	628.7015 INLET PROTECTION TYPE C	628.7504 TEMPORARY DITCH CHECKS	628.7555 CULVERT PIPE CHECK
LOCATION	(LF)	(LF)	(EACH)	(EACH)	(SY)	(EACH)	(EACH)	(EACH)	(LF)	(EACH)
Project Wide	802	802	5	5	1957	6	8	4	24	12
Undistributed	20	20	-	-	98	-	-	-	-	-
TOTALS	822	822	5	5	2055	6	8	4	24	12

LANDSCAPING					
	625.0500 SALVAGED TOPSOIL	629.0210 FERTILIZER TYPE B	630.0140 SEEDING MIXTURE NO. 40	630.0200 SEEDING TEMPORARY	630.0500 SEED WATER
LOCATION	(SY)	(CWT)	(LB)	(LB)	(MGAL)
Project Wide	1957	1.2	35	53	44
Undistributed	98	0.1	2	3	2
TOTALS	2055	1.3	37	55	46

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PAVEMENT MARKING							
	646.1020 MARKING LINE EPOXY 4-INCH	646.3020 MARKING LINE EPOXY 8-INCH	646.5020 MARKING ARROW EPOXY	646.5120 MARKING WORD EPOXY	646.6120 MARKING STOP LINE EPOXY 18-INCH	646.6220 MARKING YIELD LINE EPOXY 18-INCH	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
LOCATION	YELLOW (LF)	WHITE (LF)	WHITE (LF)	(EA)	(EA)	(LF)	(EA) (LF)
Project Wide	1928	882	367	2	1	45	9 261
TOTALS	2810		367	2	1	45	9 261

CONSTRUCTION STAKING					
	650.4500 CONSTRUCTION STAKING SUBGRADE	650.5000 CONSTRUCTION STAKING BASE	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT	650.9920 CONSTRUCTION STAKING SLOPE STAKES	
LOCATION	(LF)	(LF)	(LF)	(LF)	
110+30 to 111+87	157	157	157	187	
113+82 to 116+00	218	218	218	218	
31+65 to 32+75	110	110	-	-	
18+50 to 19+50	100	100	100	100	
TOTALS	585	585	475	505	

TRAFFIC CONTROL																		
	603.8000	603.8125	643.0300	643.0420	643.0705	643.0715	643.0800	643.0900	643.0910	643.1050								
	CONCRETE	CONCRETE	TC	TC	TC	TC	TC	TC	TC*	TC								
	BARRRIER	BARRRIER	DRUMS	BARRICADES	WARNING	WARNING	ARROW	SIGNS	COVERING	SIGNS								
	TEMPORARY	TEMPORARY		TYPE III	LIGHTS	LIGHTS	BOARDS		SIGNS	PCMS								
	DURATION	PRECAST	PRECAST		TYPE A	TYPE C			TYPE 1									
CALANDAF	DELIVERED	INSTALLED																
LOCATION	DAYS	(LF)	(LF)	#	(DAY)	#	(DAY)	#	(DAY)	#	(DAY)	#	(DAY)	#	(DAY)	(EACH)	#	DAY
STH 145 SB	120	287	287	60	7200	1	120	2	240	14	1680	3	360	13	1560	-	-	-
STH 145 NB	120	398	398	122	14640	1	120	2	240	15	1800	2	240	14	1680	-	-	-
107th Ramp Closure	180	-	-	35	6300	4	720	8	1440	4	720	-	-	4	720	4	1	7
W Fond Du Lac Ave	180	-	-	40	7200	15	2700	30	5400	-	-	-	-	7	1260	-	1	7
W Good Hope Rd	180	-	-	20	3600	9	1620	18	3240	-	-	-	-	6	1080	-	1	7
Undistributed	180	-	-	28	4986	3	540	6	1080	3	594	-	-	4	792	-	-	-
TOTALS	685	685		43,926		5,820		11,640		4,794		600		7,092		4		21

TEMPORARY MARKING			
	646.9010 MARKING REMOVAL LINE WATER BLASTING 4-INCH	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH WHITE YELLOW	
LOCATION	(LF)	(LF)	(LF)
STH 145 SB	765	-	2060
STH 145 NB	765	2338	3830
TOTALS	1,530		8,228

SAWING		
	690.0150 SAWING ASPHALT	690.0250 SAWING CONCRETE
LOCATION	(LF)	(LF)
110+30	63	166
115+79	27	-
107th St Off Ramp	-	21
31+65 to 32+75	-	134
31+65 to 32+75	-	134
TOTALS	90	455

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

PROJECT NO: 1360-12-70

HWY: STH 145

COUNTY: MILWAUKEE

MISCELLANEOUS QUANTITIES

SHEET

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E

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	-- R4-1(2S)	--	24	x	30	5.000		1	--	--	--	MOUNT ON LIGHT POST
2	-- R2-1 (2S)	SPEED LIMIT 30	24	x	30	5.000		1	--	--	--	MOUNT ON LIGHT POST
3	-- R3-7L(2S)	--	30	x	30	6.250		1	--	--	--	MOUNT ON SIGNAL POST
4	-- R3-7L(2S)	--	30	x	30	6.250		1	--	--	--	MOUNT ON SIGNAL POST
5	-- R1-2 (2S)	--	36	x	31	3.880		1	1	1	--	--
6	-- R5-1C(2M)	--	36	x	36	7.460		1	1	1	--	--
7	-- R5-1C(2M)	--	36	x	36	7.460		1	1	1	--	--
8	-- R1-1(2M)	--	36	x	36	7.460		--	--	--	7	Removal part of # 7
9	-- R1-1(2M)	--	36	x	36	7.460		--	--	--	6	Removal part of # 6
10	-- R3-1(2S)	--	24	x	24	4.000		1	1	1	--	--
11	-- R3-2(2S)	--	24	x	24	4.000		1	1	1	--	--
12	-- W1-7(2S)	--	48	x	24		8.000	--	--	1	--	--
13	-- M1-94	107th St	66	x	21	9.625		--	--	--	--	Mount sign on new bridge-Mounting Incidental
14	-- M1-94	107th St	66	x	21	9.625		--	--	--	--	Mount sign on new bridge-Mounting Incidental
15	-- W13-2D(2M)	EXIT 30 M P H	48	x	90		30.000	1	--	--	--	REMV. EXISTING SIGN FROM BRIDGE COLUMN
--	--	--	--	x	--	--	--	--	--	2	--	MOUNT ON NEW POSTS
UNDISTRIBUTED						10.000	10.000	1		1		
TOTALS						93.5	48.0	11	5	9		

LIGHTING - REMOVALS

- 204.0195
- 204.9060.S.101
- 204.9060.S.102
- SPV.0060.101
- SPV.0060.102
- REMOVING CONCRETE BASES
- REMOVING UNDERDECK LIGHTING (B-40-1004)
- REMOVING SIGN LIGHTING
- LIGHTING UNITS SALVAGED
- UNDERDECK LIGHTING UNITS SALVAGED

CATEGORY	STAGE	SYSTEM	CIRCUIT	DESCRIPTION	LOCATION	OFFSET	204.0195 REMOVING CONCRETE BASES	204.9060.S.101 REMOVING UNDERDECK LIGHTING (B-40-1004)	204.9060.S.102 REMOVING SIGN LIGHTING	SPV.0060.101 LIGHTING UNITS SALVAGED	SPV.0060.102 UNDERDECK LIGHTING UNITS SALVAGED	COMMENTS
							EACH	EACH	EACH	EACH	EACH	
0010	2	HL-40-EG	3,4,N	4EG18/3EG18	31+50	R/L	1	--	--	1	--	--
			3,4,N	UDL - EG	32+27	R/L	--	1	--	--	2	107TH ST. BRIDGE (B-40-1004) OVER STH 145
			5,6,N	S-40-328	23+82	105.3' LT	--	--	1	--	--	SIGN LIGHTING ONLY
0010						TOTALS	1	1	1	1	2	

LIGHTING - CONTROL, SERVICES AND SYSTEMS
240/480 VAC 3-WIRE (GROUNDED NEUTRAL)

- 655.0640
- SPV.0105.101
- ELECTRICAL WIRE LIGHTING 1 AWG
- MAINTENANCE OF LIGHTING SYSTEMS

CATEGORY	STAGE	DESCRIPTION	SYSTEM	LOCATION	655.0640 ELECTRICAL WIRE LIGHTING 1 AWG	SPV.0105.101 MAINTENANCE OF LIGHTING SYSTEMS	COMMENTS
					LF	LS	
0010	1 - 3	PROJECT (1360-12-70)	HL-40-EG	STH 145	18	1	EXISTING CABINET TO REMAIN
0010		PROJECT (1360-12-70)		SUBTOTAL	18	1	

LIGHTING - TEMPORARY TO REMAIN ITEMS

204.9090.S.101 REMOVING ELECTRICAL WIRES FROM CONDUIT

CATEGORY	STAGE	SYSTEM	CIRCUIT	FROM	TO	LOCATION	OFFSET	204.9090.S.101 REMOVING ELECTRICAL WIRES FROM CONDUIT	COMMENTS
LF									
0010	1	HL-40-EG	3,4,N	3EG17	4EG16	--	--	160	REMOVE WIRE ONLY
				4EG16	3EG15	--	--	140	"
				3EG15	4EG14	--	--	160	"
				4EG14	3EG13	--	--	160	"
				3EG13	4EG12	--	--	160	"
				4EG12	3EG11	--	--	160	REMOVE WIRE ONLY
				3EG11	4EG10	--	--	160	"
				4EG10	3EG9	--	--	160	"
				3EG9	4EG28	--	--	130	"
				3EG9	EX. LPB-EG-6	--	--	30	"
				EX. LPB-EG-6	EX. LPB-EG-7	--	--	60	REMOVE WIRE ONLY
				EX. LPB-EG-7	4EG22/3EG22	--	--	130	"
				EX. LPB-EG-7	3EG23/4EG23	--	--	130	"
								TOTALS	1,740

LIGHTING - TEMPORARY TO REMAIN CONDUIT AND WIRES

- 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH*
- 652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH*
- 652.0615 CONDUIT SPECIAL 3-INCH
- 655.0620 ELECTRICAL WIRE LIGHTING 8 AWG*
- 655.0630 ELECTRICAL WIRE LIGHTING 4 AWG*

CATEGORY	STAGE	SYSTEM	CIRCUIT	FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF	655.0620* ELECTRICAL WIRE LIGHTING 8 AWG LF	655.0630* ELECTRICAL WIRE LIGHTING 4 AWG LF	COMMENTS
0010	1	HL-40-EG	3,4,N	HL-40-EG	EX. LPB-EG-1	--	--	--	--	65	EXISTING CONDUIT
				EX. LPB-EG-1	LPB-EG-1	--	85	60	--	455	--
				LPB-EG-1	3EG17	20	--	--	--	75	--
				3EG17	4EG16	160	--	--	--	490	--
				4EG16	3EG15	140	--	--	--	430	--
				3EG15	4EG14	160	--	--	--	490	--
				4EG14	3EG13	160	--	--	--	490	--
				3EG13	4EG12	160	--	--	--	490	--
				4EG12	3EG11	160	--	--	--	490	--
				3EG11	4EG10	160	--	--	--	490	--
				4EG10	3EG9	160	--	--	--	490	--
				3EG9	4EG28	130	--	--	400	--	--
				3EG9	EX. LPB-EG-6	30	--	--	--	105	--
				EX. LPB-EG-6	EX. LPB-EG-7	60	--	--	--	200	--
				EX. LPB-EG-7	3EG23/4EG23	130	--	--	--	405	--
				3EG23/4EG23	EX. LPB-EG-7	130	--	--	--	405	--
				EX. LPB-EG-7	4EG22/3EG22	130	--	--	--	405	--
				TOTALS		1,890	85	60	400	5,975	
0010											

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING - CONDUIT AND WIRE

652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH*
655.0620 ELECTRICAL WIRE LIGHTING 8 AWG*
655.0630 ELECTRICAL WIRE LIGHTING 4 AWG*

CATEGORY	STAGE	SYSTEM	CIRCUIT	FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	655.0620* ELECTRICAL WIRE LIGHTING 8 AWG	655.0630* ELECTRICAL WIRE LIGHTING 4 AWG	COMMENTS
						LF	LF	LF	
0010	1	HL-40-EG	3,4,N	HL-40-EG	EX. LPB-EG-1	15	--	65	EMPTY CONDUIT
				EX. LPB-EG-1	EX. LPB-EG-2	180	--	560	--
				EX. LPB-EG-2	5EG9/6EG9	100	--	315	--
				EX. LPB-EG-2	4EG18/3EG18	120	--	375	--
				4EG18/3EG18	LJB-EG-1	100	--	315	--
				LJB-EG-1	3EG19/4EG19	180	--	555	--
				LJB-EG-1	UDL-EG	--	120	--	IN EMBEDDED CONDUIT
0010					TOTALS	695	120	2,185	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING - PULL BOXES

653.0140 PULL BOXES STEEL 24X42-INCH
655.0615 ELECTRICAL WIRE LIGHTING 10 AWG (GROUNDING WIRE)

CATEGORY	STAGE	SYSTEM	DESCRIPTION	LOCATION	OFFSET	653.0140 PULL BOXES STEEL 24X42-INCH	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG	COMMENTS
						EACH	LF	
0010	1	HL-40-EG	LPB-EG-1	115+09	33.7' RT	1	50	--
0010					TOTALS	1	50	

LIGHTING - LUMINAIRE ARMS AND POLES

- 655.0610 ELECTRICAL WIRE LIGHTING 12 AWG
- 659.0600 UNDERDECK LIGHTING (B-40-1004)
- SPV.0060.103 CONCRETE BASES TYPE B
- SPV.0060.104 REPLACE PLAQUE SEQUENCE IDENTIFICATION FOR EXISTING POLES

CATEGORY	STAGE	SYSTEM	CIRCUIT	DESCRIPTION / SEQUENCE	LOCATION STATION	OFFSET	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	659.0600 UNDERDECK LIGHTING (B-40-1004)	SPV.0060.103 CONCRETE BASES TYPE B	SPV.0060.104 REPLACE PLAQUE SEQUENCE IDENTIFICATION FOR EXISTING POLES	COMMENTS
							LF	LS	EACH	EACH	
0010	1	HL-40-EG	3,4,N	4EG18/3EG18	31+50	R/L	171	--	1	2	--
				UDL - EG	32+27	R/L	--	1	--	--	107TH ST. BRIDGE (B-40-1004) OVER STH 145
				3EG17	19+09	8.8' RT	--	--	--	1	--
				3EG16	17+50	7.9' RT	--	--	--	1	--
				3EG15	16+09	8.3' RT	--	--	--	1	--
				3EG14	14+49	8.4' RT	--	--	--	1	--
				3EG13	12+90	8.4' RT	--	--	--	1	--
				3EG12	11+30	8.0' RT	--	--	--	1	--
				3EG11	9+70	8.3' RT	--	--	--	1	--
				3EG10	8+10	8.3' RT	--	--	--	1	--
				3EG9	6+50	8.5' RT	--	--	--	1	--
				3EG28	5+21	8.5' RT	--	--	--	1	--
				3EG29	3+50	12.4' RT	--	--	--	1	--
0010						TOTALS	171	1	1	13	--

ESTIMATE OF QUANTITIES ; STREET LIGHTING MILWAUKEE COUNTY				
	Std.Bid Item No.	Description	Unit	Quantity
-	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS	LS	1
-	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH	LF	30
-	652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	LF	785
-	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	370
-	654.0105	CONCRETE BASES TYPE 5	EACH	2
-	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	4
-	SPV.0060.302	PULL BOXES 13-INCH x 24-INCH x 24-INCH	EACH	6
-	SPV.0060.303	PULL BOXES 17-INCH x 30-INCH x 24-INCH	EACH	3
-	SPV.0060.321	POLES TYPE 30-AL-BD	EACH	4
-	SPV.0060.343	WATER TIGHT SPLICES AND CONNECTIONS	EACH	4
-	SPV.0060.345	LUMINAIRE ARMS SINGLE MEMBER 6-Ft.	EACH	4
-	SPV.0060.371	INSTALLING CITY FURNISHED LUMINAIRE UTILITY LED	EACH	4
-	SPV.0090.305	ELECTRICAL CABLE TYPE 3#8/1#8XLPE	LF	500
-	SPV.0090.308	ELECTRICAL CABLE TYPE 3#2/1#8XLPE	LF	780

**(THESE QUANTITIES DO NOT INCLUDE THE MATERIALS IN/ON THE BRIDGE)
SUCH AS: CONDUIT, JUNCTION BOXES, AND LIGHT POLE ANCHORAGE**

CITY UNDERGROUND CONDUIT													
MISCELLANEOUS QUANTITIES													
LOCATION	204.0100	320.0145	465.0105	416.0620	416.0610	690.025	SPV.0060.400	SPV.0060.425	SPV.0090.401	SPV.0090.405	SPV.0090.404	SPV.0105.400	
	REMOVING PAVEMENT	CONCRETE BASE 8-INCH	ASPHALTIC SURFACE	DRILLED DOWEL BARS	DRILLED TIE BARS	SAWING CONCRETE	ADJUSTING CUC MANHOLE COVER	INSTALLING CONDUIT INTO EXISTING MANHOLE	1-DUCT CONDUIT CEMENT ENCASED DB-60	5-DUCT CONDUIT CEMENT ENCASED DB-60	4-DUCT CONDUIT CEMENT ENCASED DB-60	UNDERDECK UTILITY STRUCTURE B-40-1004, CITY OF MILWAUKEE COMMUNICATIONS CONDUIT	
	SY	SY	TONS	EACH	EACH	LF	EACH	EACH			LF	LS	
MANHOLE 5213 - STA 115+61.62, 5.5' RT							1	1					
MANHOLE 5213 TO 5' NORTH OF ABUTMENT											175	1	
5' NORTH OF ABUTMENT TO 5' SOUTH OF ABUTMENT											101		
5' SOUTH OF ABUTMENT TO STA 110+78.91, 5.1' RT													
STA 110+78.91, 5.1' RT TO STA 110+83.79, 34.5' RT									35				
STA 110+78.91, 5.1' RT TO MANHOLE 5212	18	18	5	64	32	80				95			
MANHOLE 5212 - STA 109+81.69, 5.5' RT								1					
TOTAL	18	18	5	64	32	80	1	2	35	95	276	1	

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

THIS MAP PREPARED BY THE SIGMA GROUP FOR THE WISCONSIN DEPARTMENT OF
TRANSPORTATION.

SURVEY BASIS: WISCONSIN COORDINATE REFERENCE SYSTEM - MILWAUKEE COUNTY
DATUM.

R/W PROJECT NUMBER: 1360-12-20

SHEET NUMBER: 1

TLE ACQUISITION EXHIBIT

N. 107TH STREET BRIDGE OVER STH 145
MILWAUKEE COUNTY

NE - NE SEC. 19, T8N, R21E, CITY OF MILWAUKEE MILWAUKEE COUNTY, WI

NE - NE
SECTION 19
CITY
OF
MILWAUKEE

4

N. 107TH STREET
(93' R/W)

BRASS CAP
Y = 569,793.375
X = 339,629.192

GN

STH 145
(WIDTH VARIES)

TLE FOR
CONSTRUCTION

N0°33'10"E
25.00'

S23°36'38"W
20.97'

STA 115+50.37
-41.21' L

S54°40'05"E
10.00'

STA 115+44.66
-33.00' L

STA 115+69.66
-33.00' L

N89°26'50"W
33.00'

BRASS CAP
Y = 569,768.317
X = 336,973.458

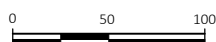
STA 114+78.26 =
STA 19+50.97

N. 107TH STREET
N.B. OFF-RAMP

HISTORICAL BASIS OF R/W

NAME	PROJ.	WIDTH	YEAR
STH 145	F027 - 1(13)	250'	1977

SCALE, FEET



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE
PURPOSES ONLY AND ARE SUBJECT TO CHANGE
PRIOR TO THE TRANSFER OF LAND INTERESTS TO
THE DEPARTMENT

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
1	SAMUAL M WEBSTER & GENNISA MARY GEHLER	TLE	103

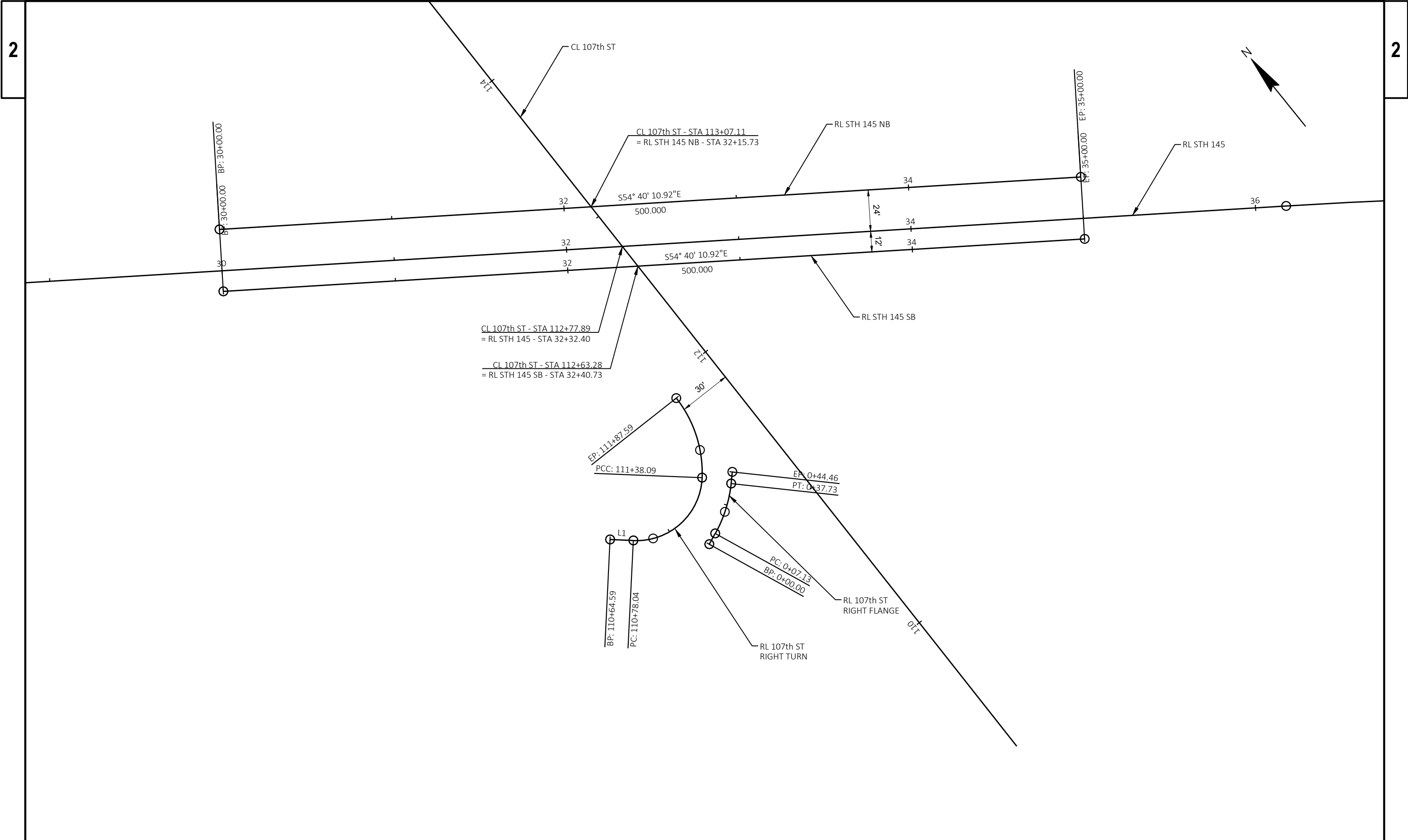
Prepared by B. Rozite

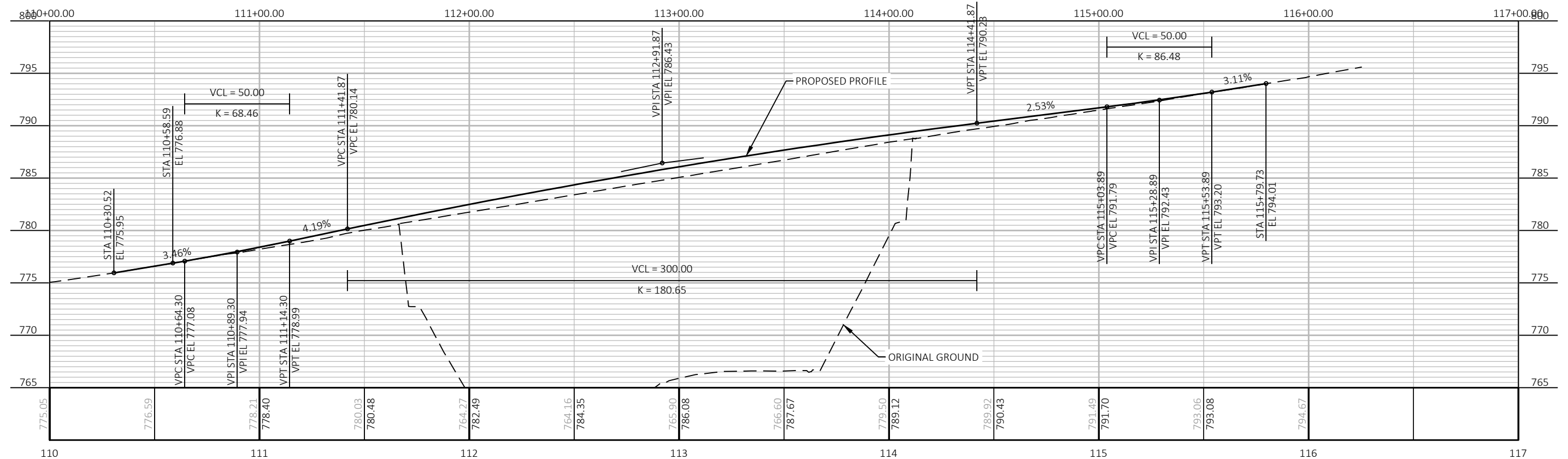
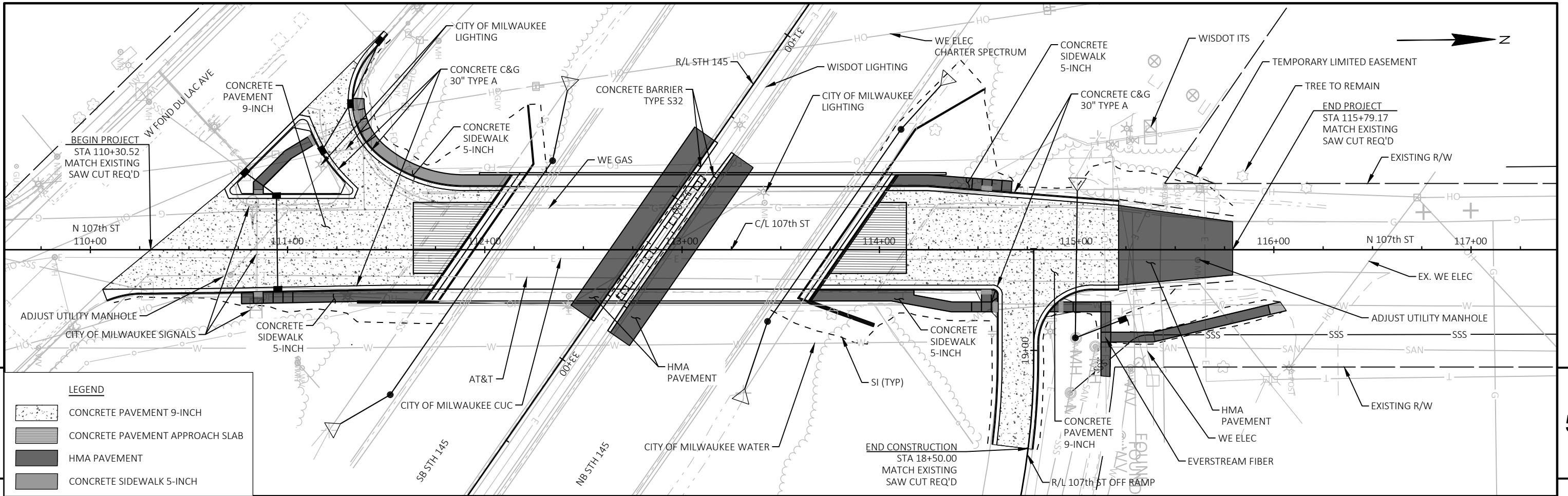
THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION OFFICE

SIGNATURE: *Robert J. Duffek* DATE: 06/22/2021

PRINT NAME:

81





PROJECT NO: 1360-12-70

HWY: STH 145

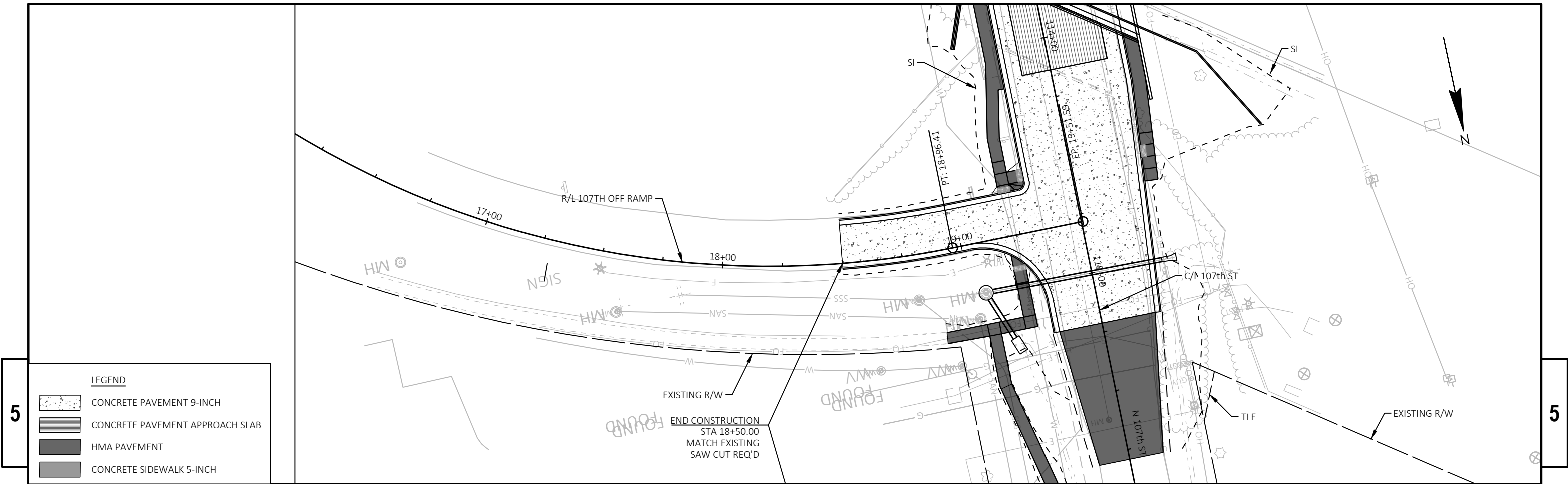
COUNTY: MILWAUKEE

PLAN AND PROFILE: 107TH ST

SHEET

83

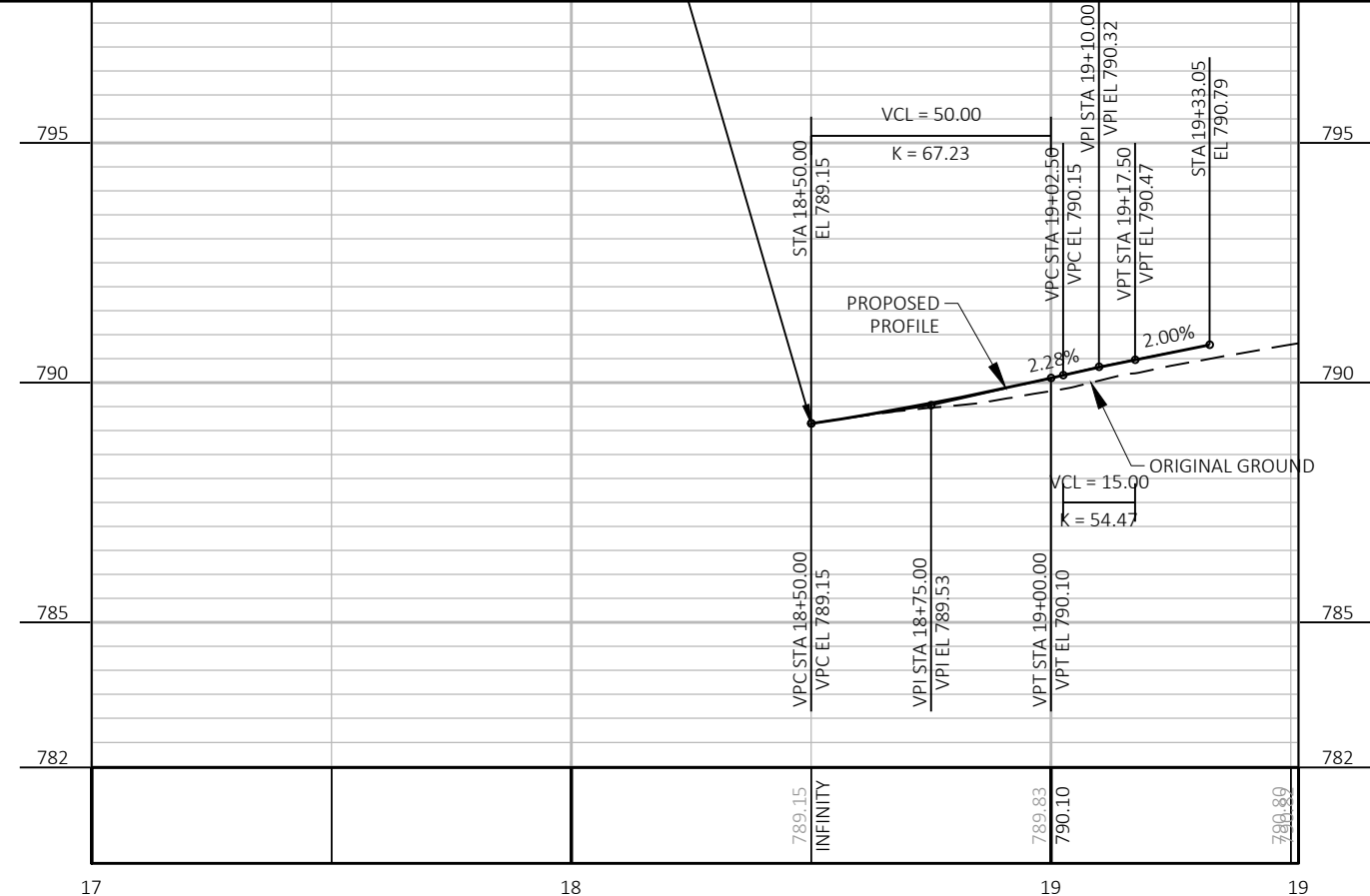
E



5

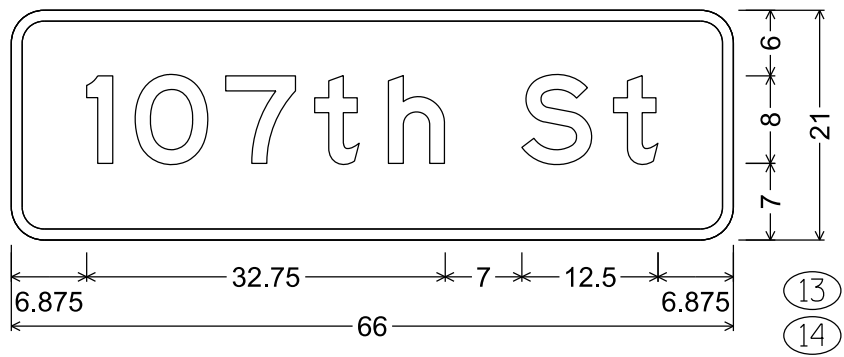
LEGEND

- CONCRETE PAVEMENT 9-INCH
- CONCRETE PAVEMENT APPROACH SLAB
- HMA PAVEMENT
- CONCRETE SIDEWALK 5-INCH



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - Green
Message - White
- 3. Message Series - E



M1-94; 3.000" Radius, 1.000" Border

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.12
OPERATING RATING FACTOR: RF = 1.46
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250(KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE, SIDEWALKS, & PARAPETS $f'_c = 4,000$ P.S.I.
ALL OTHER $f'_c = 3,500$ P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 $f_y = 60,000$ P.S.I.

36W" PRESTRESSED GIRDERS:
CONCRETE MASONRY $f'_c = 8,000$ P.S.I.
STRANDS: 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

STRUCTURAL CARBON STEEL:
ASTM A709, GRADE 36 $F_y = 36,000$ P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON $10\frac{3}{4}$ " DIA. X 0.5" WALL C.I.P. CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 145 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65'-0" LONG AT SOUTH ABUTMENT. ESTIMATED 80'-0" LONG AT NORTH ABUTMENT.

PIER TO BE SUPPORTED ON $12\frac{3}{4}$ " DIA. X 0.5" WALL C.I.P. CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65'-0" LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

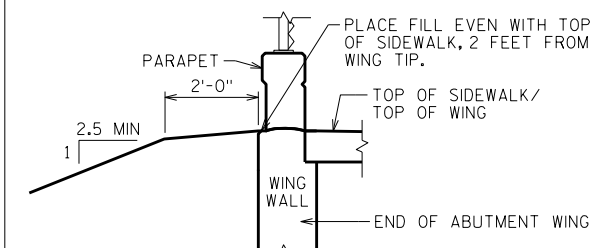
TRAFFIC VOLUME

FEATURE ON (107TH ST)

ADT = 11,500
R.D.S. = 35 M.P.H.

FEATURE UNDER (STH 145)

ADT = 11,285 EACH DIRECTION (2038)
R.D.S. = 60 M.P.H.



TYPICAL FILL SECTION AT WING TIPS

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. PIER
9. PIER DETAILS
10. 36W" PRESTRESSED GIRDER DETAILS 1
11. 36W" PRESTRESSED GIRDER DETAILS 2
12. STEEL DIAPHRAGM
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.
- 20.
- 21.
- 22.

FENCING DETAILS

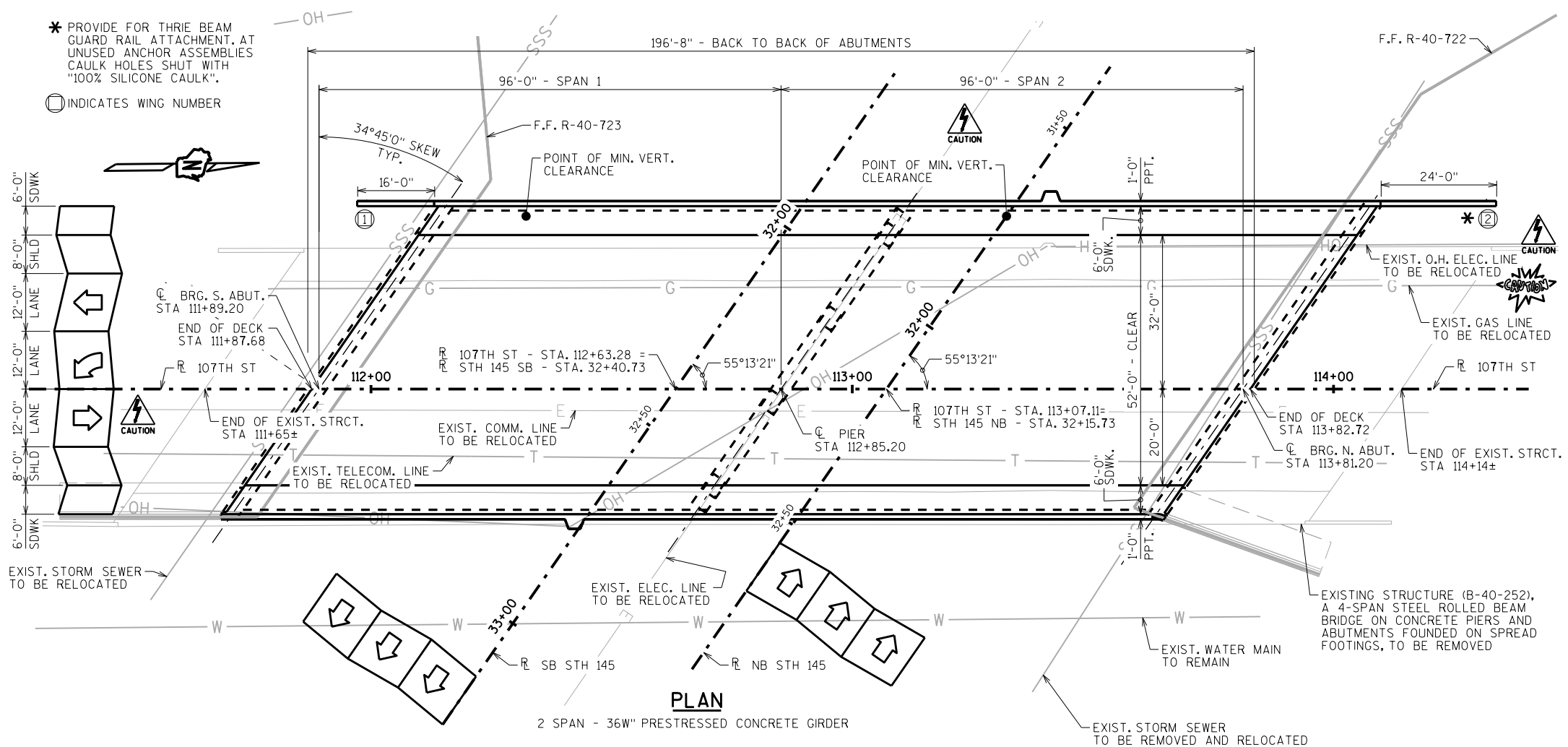
STRUCTURE DESIGN CONTACTS:

CHRISTOPHER DOLL (608) 266-3229
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY
ACCEPTED CHIEF STRUCTURES DESIGN ENGINEER _____ DATE _____			
STRUCTURE B-40-1004			
107TH ST OVER STH 145			
COUNTY	MILWAUKEE	CITY	MILWAUKEE
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	CAD	DESIGNED CK'D.	ARC
DRAWN BY	CAD	PLANS CK'D.	ARC
GENERAL PLAN			SHEET 1 OF 2
			86

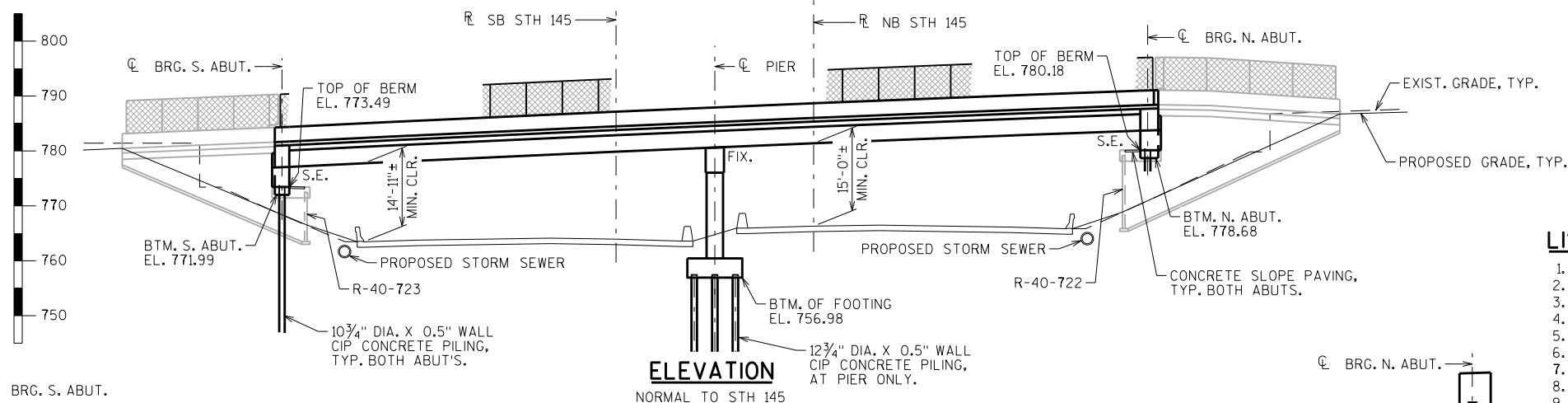
* PROVIDE FOR THREE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

① INDICATES WING NUMBER



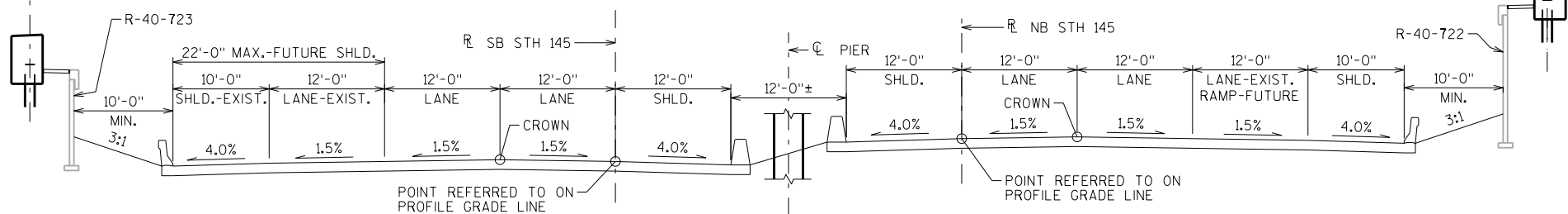
PLAN

2 SPAN - 36W" PRESTRESSED CONCRETE GIRDER

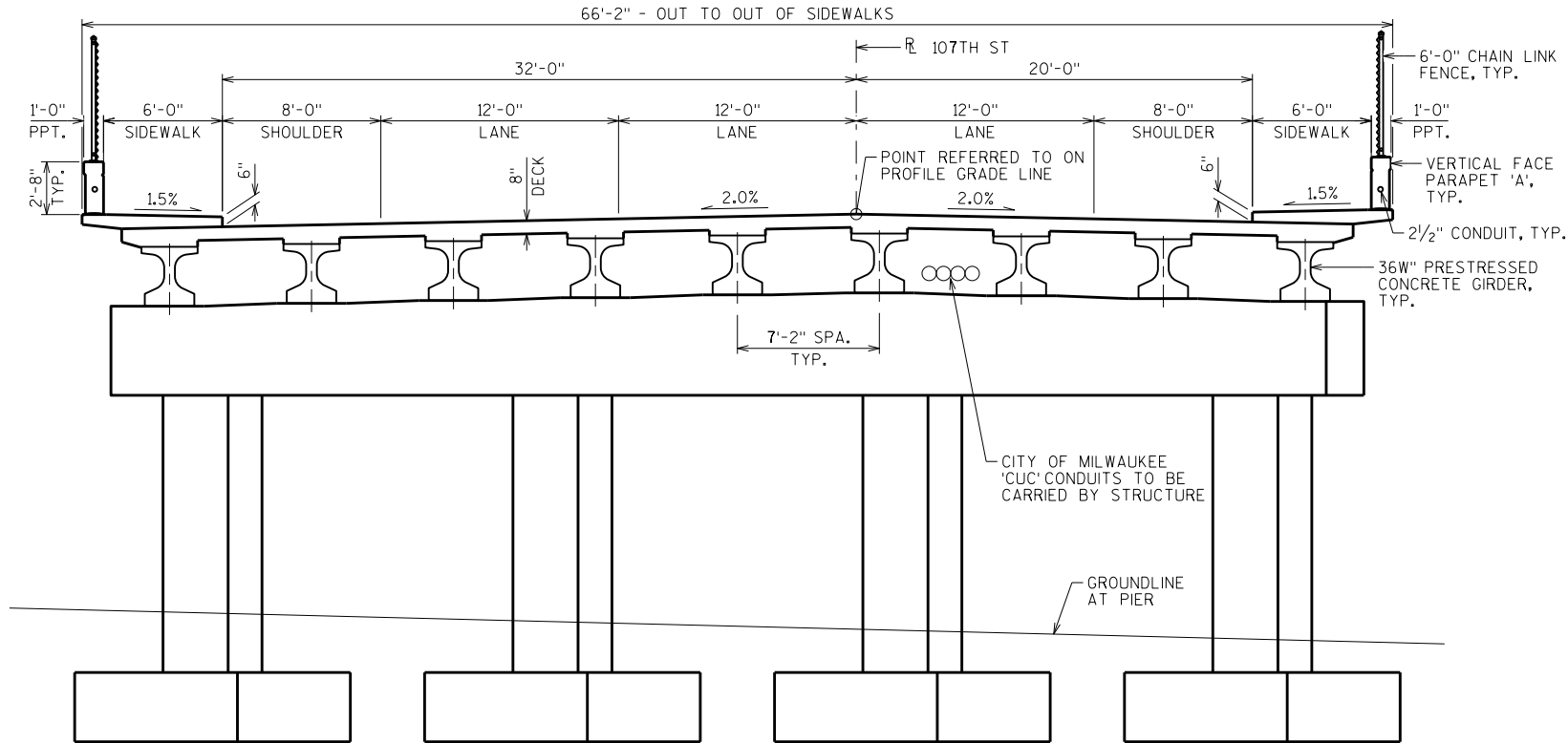


ELEVATION

NORMAL TO STH 145



TYPICAL SECTION - STH 145 LOOKING WEST



CROSS SECTION THRU BRIDGE LOOKING NORTH

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	PIER	NORTH ABUT.	CAT. 0020 ★	TOTALS
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-40-252	EACH	—	—	—	—	—	1
203.0220	REMOVING STRUCTURE B-40-252	EACH	—	—	—	—	—	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-40-1004	LS	—	—	—	—	—	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	—	514	—	491	—	1005
502.0100	CONCRETE MASONRY BRIDGES	CY	520.4	69.6	124.8	75.3	—	791
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1437	—	—	—	—	1437
502.3210	PIGMENTED SURFACE SEALER	SY	161	7	—	10	—	178
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	1736	—	—	—	—	1736
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	—	5575	2213	6130	—	13,918
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	105,000	1000	19,560	2040	—	127,600
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	—	9	18	9	—	36
506.4000	STEEL DIAPHRAGMS B-40-1004	EACH	32	—	—	—	16	48
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	—	16	—	17	—	33
531.8990	ANCHOR ASSEMBLIES POLES ON STRUCTURES	EACH	2	—	—	—	—	2
550.0010	PRE-BORING (UNCONSOLIDATED MATERIALS)	LF	—	72	152	84	—	308
550.2108	PILING CIP CONCRETE 10 3/4 X 0.50-INCH	LF	—	975	—	1200	—	2175
550.2128	PILING CIP CONCRETE 12 3/4 X 0.50-INCH	LF	—	—	2080	—	—	2080
604.0400	SLOPE PAVING CONCRETE	SY	—	25	—	25	—	50
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	—	—	—	1	—	1
652.0130	CONDUIT RIGID METALLIC 2 1/2-INCH	LF	12	3	—	3	—	18
652.0210	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	LF	—	—	35	—	—	35
652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	LF	382	20	—	30	—	432
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	2	—	—	—	—	2
SPV.0090	FENCE CHAIN LINK 6-FT. B-40-1004	LF	391	16	—	24	—	431
	NON-BID ITEMS							
	FILLER	SIZE	—	—	—	—	—	1/2"

★ CAT. 0020 ITEMS ARE SOLELY REQUIRED TO CARRY THE CITY OF MILWAUKEE'S 'CUC' CONDUITS/UTILITY ON THE BRIDGE STRUCTURE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-40-1004" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK, CURB, SIDEWALK, AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

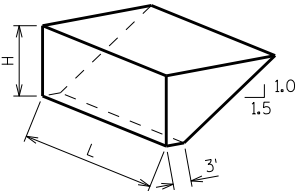
PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN IN THE ABUTMENT DETAILS.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "36W PRESTRESSED GIRDER DETAILS 2" SHEET.

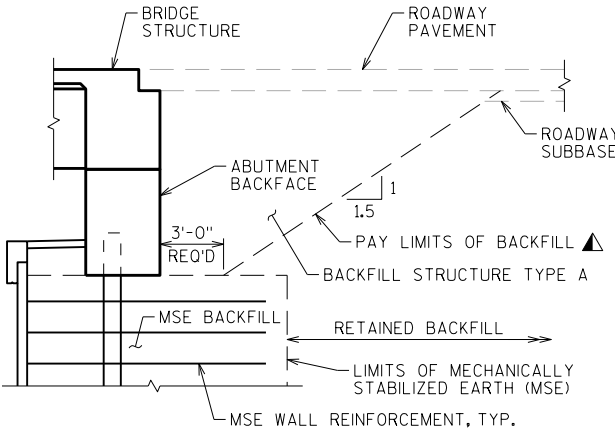
THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF THE BRIDGE ABUTMENTS WITH RETAINING WALLS R-40-722 & R-40-723. PRIOR TO DRIVING BRIDGE PILING AT ABUTMENTS, ENSURE EXISTING PIPE CULVERTS/STORM SEWERS BELOW THE PROPOSED WALLS HAVE BEEN REMOVED AND "BACKFILL GRANULAR GRADE 2" HAS BEEN PLACED. SEE WALL PLANS FOR DETAILS.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.



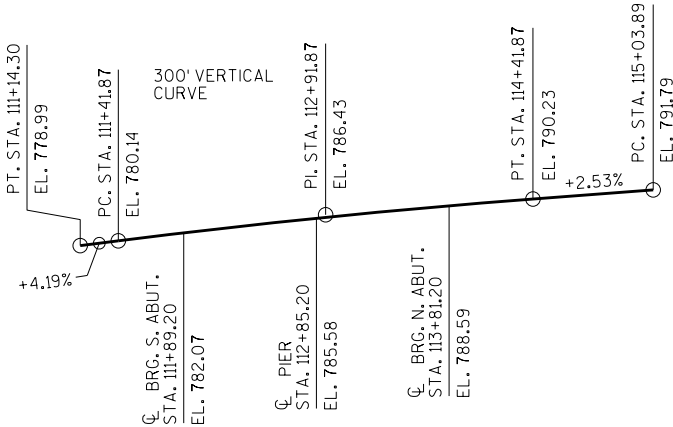
ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
 $V_{CY} = V_{CF}(EF)/27$
 $V_{TON} = V_{CY}(2.0)$

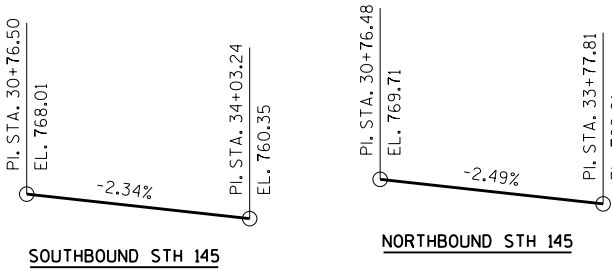


TYPICAL SECTION THRU ABUTMENT

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.



PROFILE GRADE LINE - 107TH ST

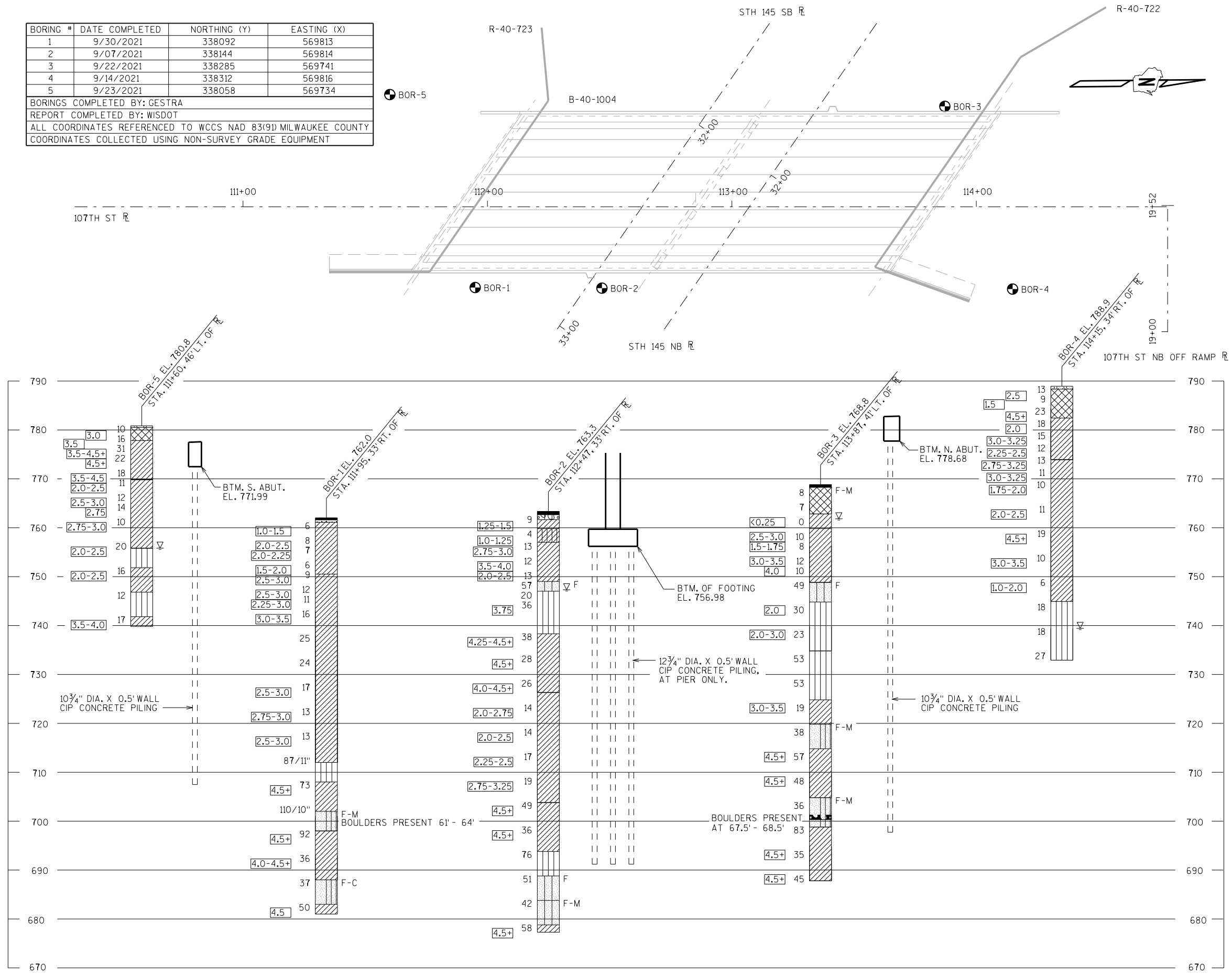


PROFILE GRADE LINES - STH 145

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY		CAD	PLANS CK'D.
CROSS SECTION & QUANTITIES		SHEET 2	
		87	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	9/30/2021	338092	569813
2	9/07/2021	338144	569814
3	9/22/2021	338285	569741
4	9/14/2021	338312	569816
5	9/23/2021	338058	569734

BORINGS COMPLETED BY: GESTRA
REPORT COMPLETED BY: WISDOT
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MILWAUKEE COUNTY
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT



STATE PROJECT NUMBER
1360-12-70

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META

LEGEND OF BORING

ST
0.25
17
▽
F-C
COBBLE OR BOULDER
WEATHERED LIMESTONE
CORE RUN #1 - 24'-29'
REC=80%, ROD=72%

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)
(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION
▽ AT TIME OF DRILLING
▽ END OF DRILLING
▽ AFTER DRILLING

ABBREVIATIONS
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

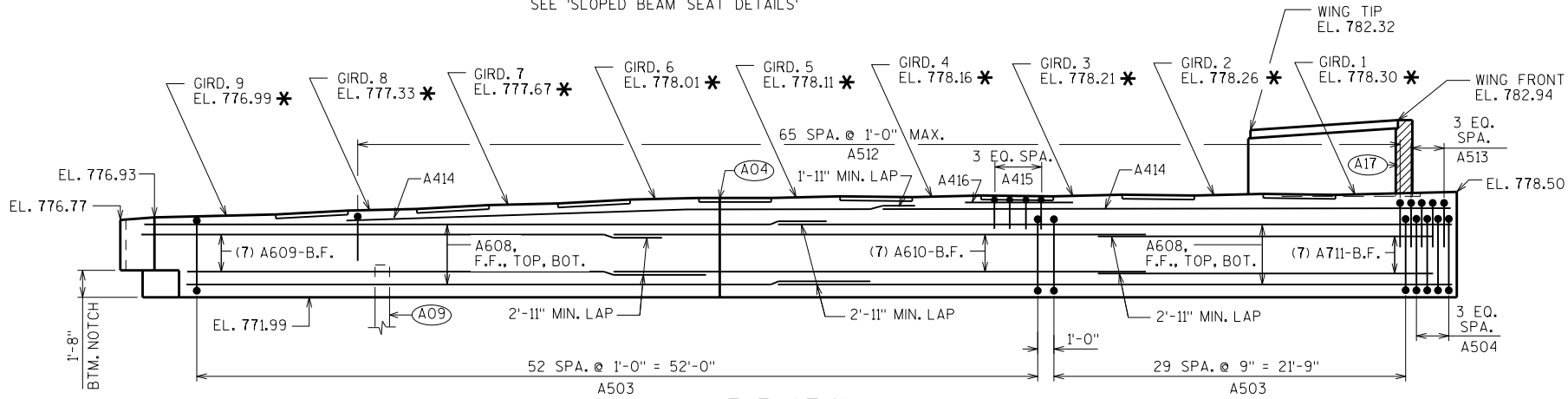
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY TLP/WWR		PLANS CKD.	
SUBSURFACE EXPLORATION		SHEET 3	
		88	

8

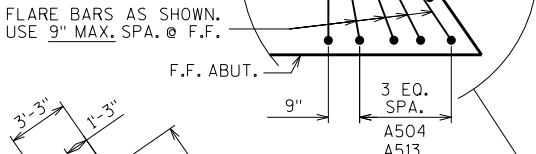
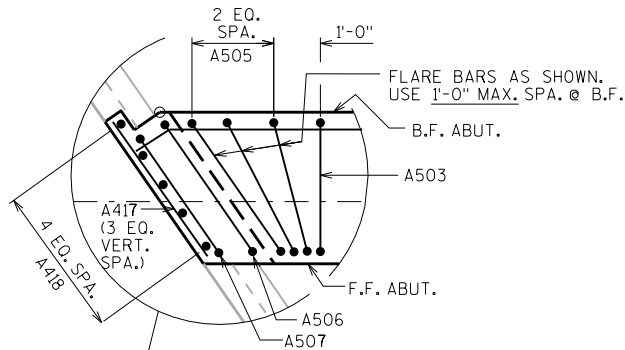
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SCALE =

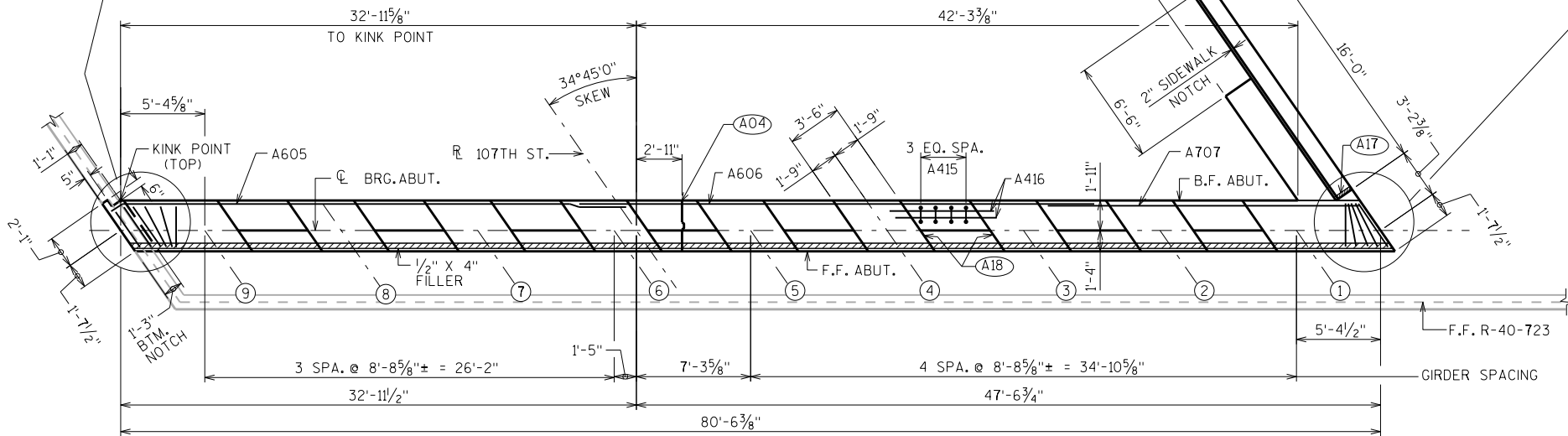
* ELEVATIONS GIVEN AT C OF BRG. AND GIRD.
SEE 'SLOPED BEAM SEAT DETAILS'



ELEVATION
LOOKING SOUTH

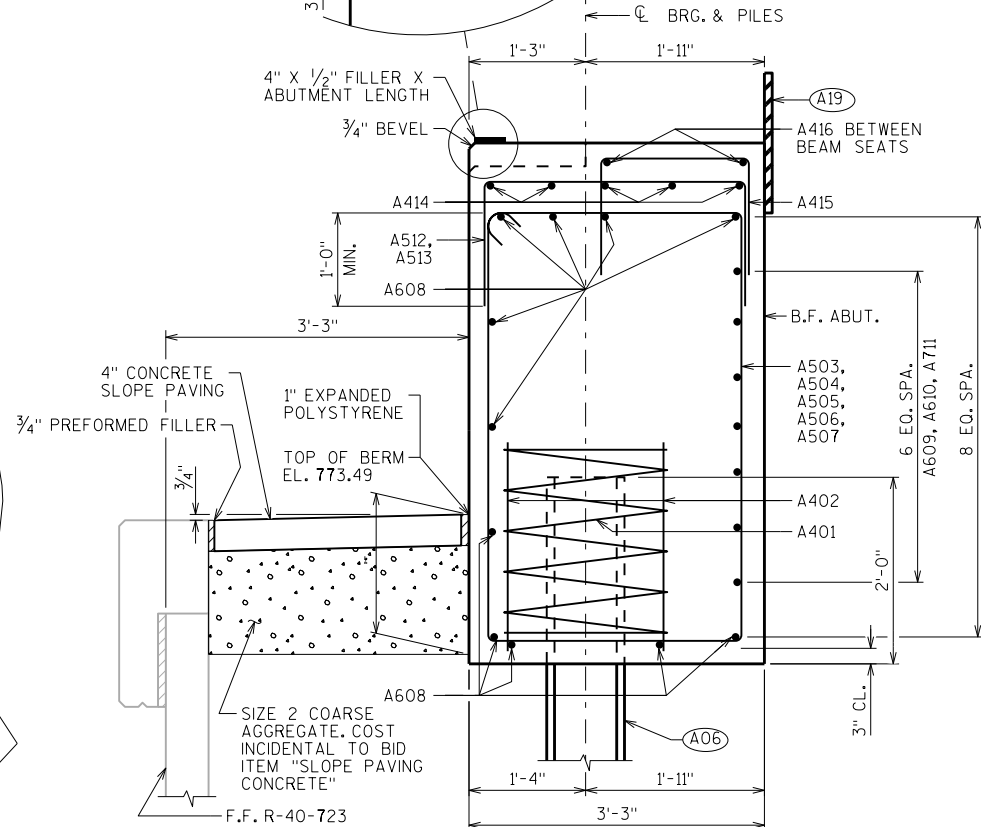


WING 1

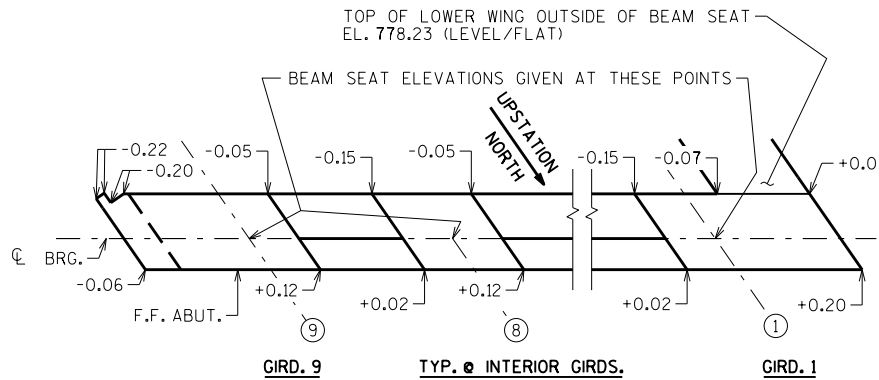


PLAN

STEEL TROWEL TOP SURFACE OF ABUTMENT.
PLACE MULTIPLE LAYERS OF POLYETHYLENE
SHEETS OVER ENTIRE ABUTMENT TOP BEFORE
PLACING BEARING PADS. TOTAL THICKNESS OF
SHEETS SHALL BE AT LEAST 0.03\"/>



SECTION THRU BODY



SLOPED BEAM SEAT DETAILS

BEAM SEATS SHALL BE LEVEL IN THE DIRECTION
PERPENDICULAR TO THE GIRDERS

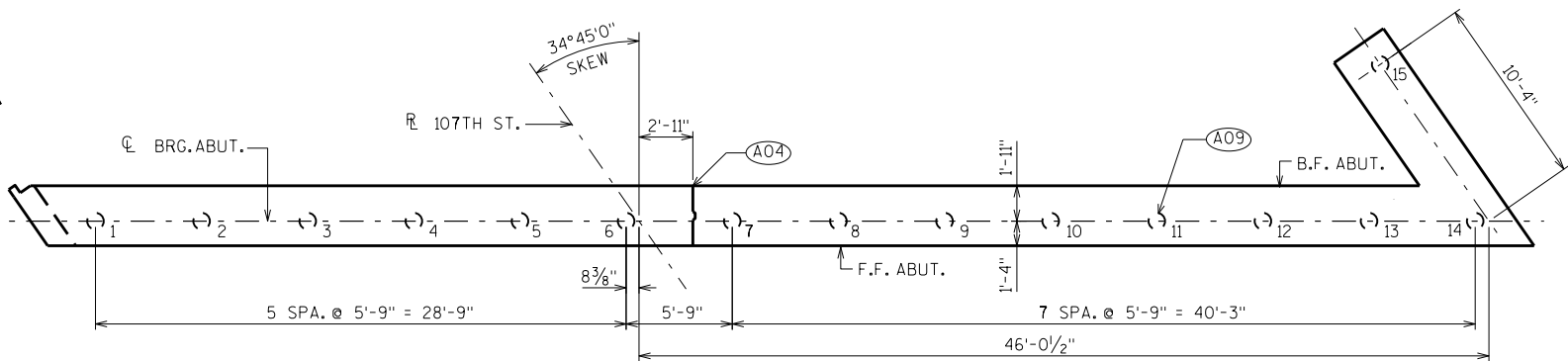
(A04) VERT. CONST. JOINT: KEYWAY FORMED
BY A BEVELED 2 X 8, 3/4\"/>

(A09) SUPPORT ABUTMENT ON 10 3/4\"/>

(A17) 1/2\"/>

(A18) 3/4\"/>

(A19) 18\"/>



PILE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY WWR		PLANS CKD.	
SOUTH ABUTMENT			SHEET 4
			89

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		14	28'-0"			BODY-1 PER BODY PILE
A402		28	2'-3"	X		BODY-2 PER BODY PILE
A503		83	15'-4"	X		BODY-VERT.STIRRUP
A504		4	15'-11"	X	▲	BODY-VERT.STIRRUP
A505		3	16'-0"	X	▲	BODY-VERT.STIRRUP
A506		1	12'-6"	X		BODY-VERT.STIRRUP
A507		1	12'-0"	X		BODY-VERT.STIRRUP
A608		22	41'-7"			BODY-HORIZ.
A609		8	32'-11"	X		BODY-HORIZ.-B.F.
A610		8	32'-11"			BODY-HORIZ.-B.F.
A711		8	20'-0"			BODY-HORIZ.-B.F.
A512		66	12'-4"	X		BODY-VERT. U-BAR
A513		4	8'-6"	X	▲	BODY-VERT. U-BAR
A414		10	35'-2"			BODY-HORIZ.-TOP
A415		32	4'-5"	X		BODY-VERT. U-BAR BTWN. BEAM SEATS
A416		16	6'-6"			BODY-HORIZ. BTWN. BEAM SEATS
A417		4	3'-4"			BODY-HORIZ. END @ WALL NOTCH
A418		5	2'-10"			BODY-VERT. END @ WALL NOTCH
A419		2	6'-2"			BODY-VERT. END @ WING
A520	X	10	18'-2"	X		WING 1 BODY-VERT. STIRRUP
A521	X	7	13'-10"			WING 1 BODY-HORIZ.
A722	X	9	11'-8"			WING 1 BODY-HORIZ.
A423	X	5	7'-9"			WING 1 BODY/WINGWALL-HORIZ.
A424	X	9	15'-8"			WINGWALL 1-HORIZ.
A525	X	14	12'-4"	X		WINGWALL 1-VERT. U-BAR
A526	X	9	10'-0"	X		WINGWALL 1-VERT. U-BAR
A427	X	22	3'-9"	X		WINGWALL 1-VERT. U-BAR
A628	X	2	15'-8"			WINGWALL 1-HORIZ. TOP

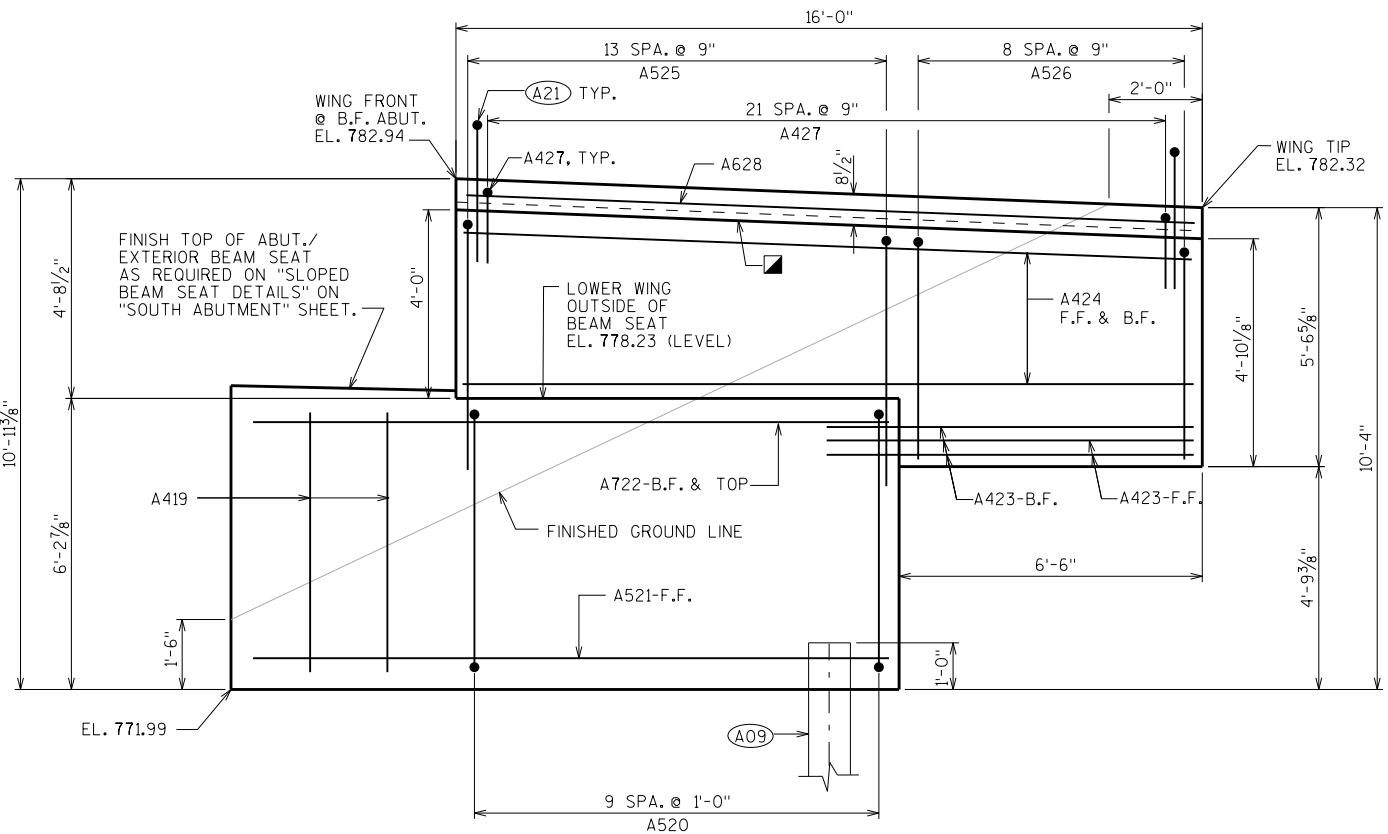
▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

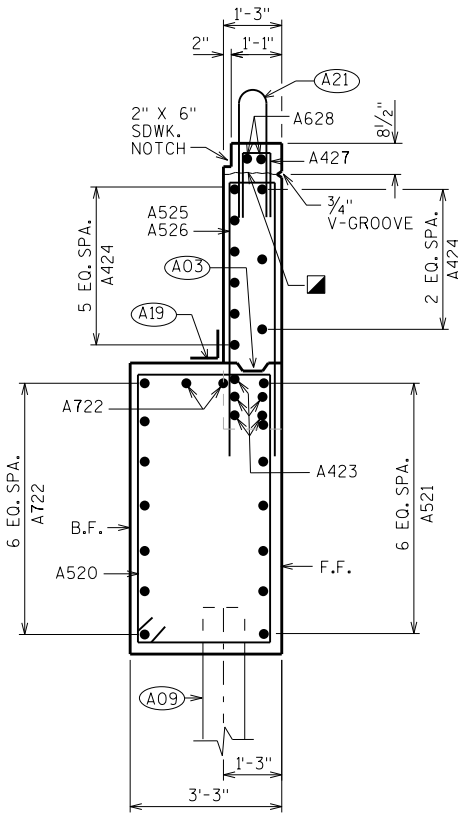
BAR MARK	NO. REQ'D.	LENGTH
A504	1 SERIES OF 4	15'-4" TO 16'-6"
A505	1 SERIES OF 3	15'-6" TO 16'-6"
A513	1 SERIES OF 4	8'-2" TO 8'-9"
A526	1 SERIES OF 9	9'-8" TO 10'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

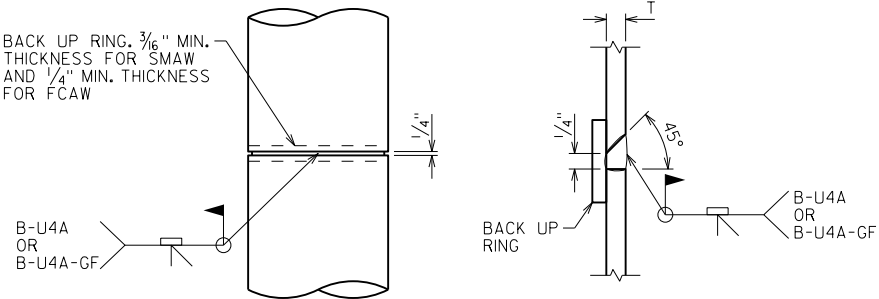
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY		WWR	PLANS CK'D.
SOUTH ABUTMENT DETAILS			SHEET 5
			90



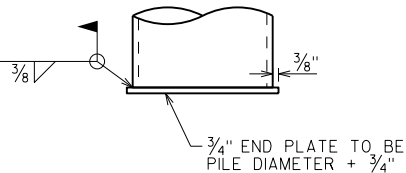
WING 1 ELEVATION



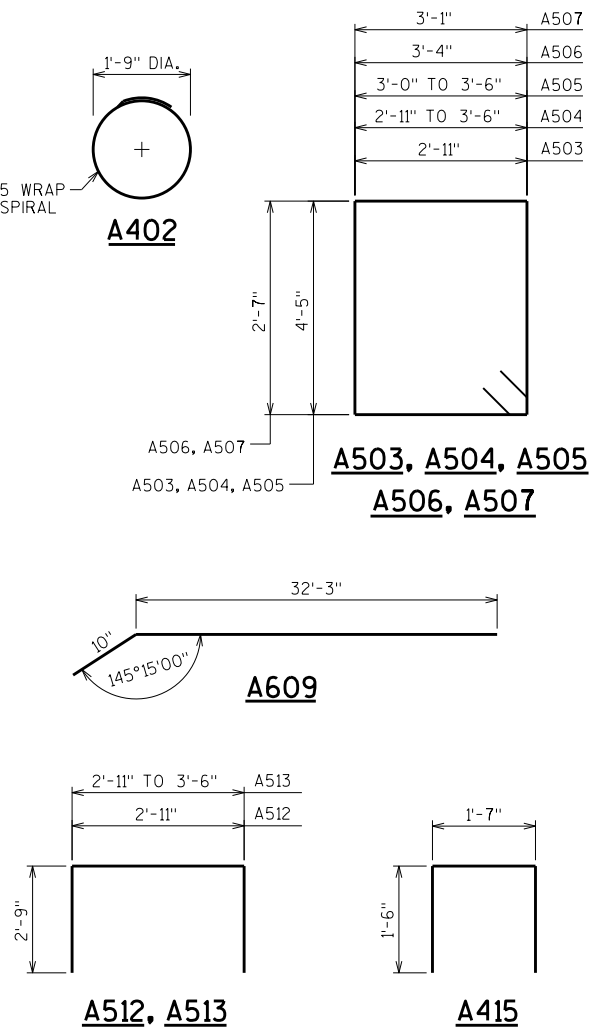
WING 1 SECTION



PILE DETAILS



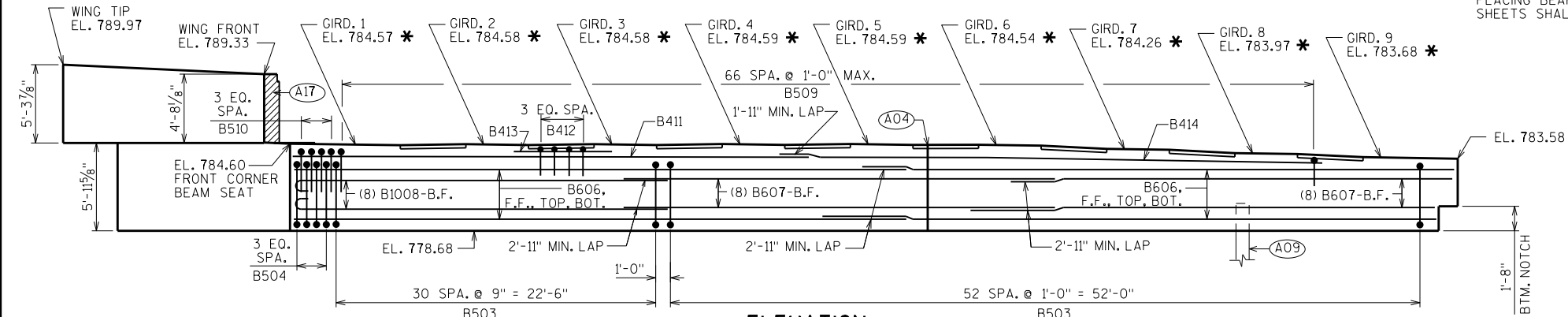
END PLATE DETAIL



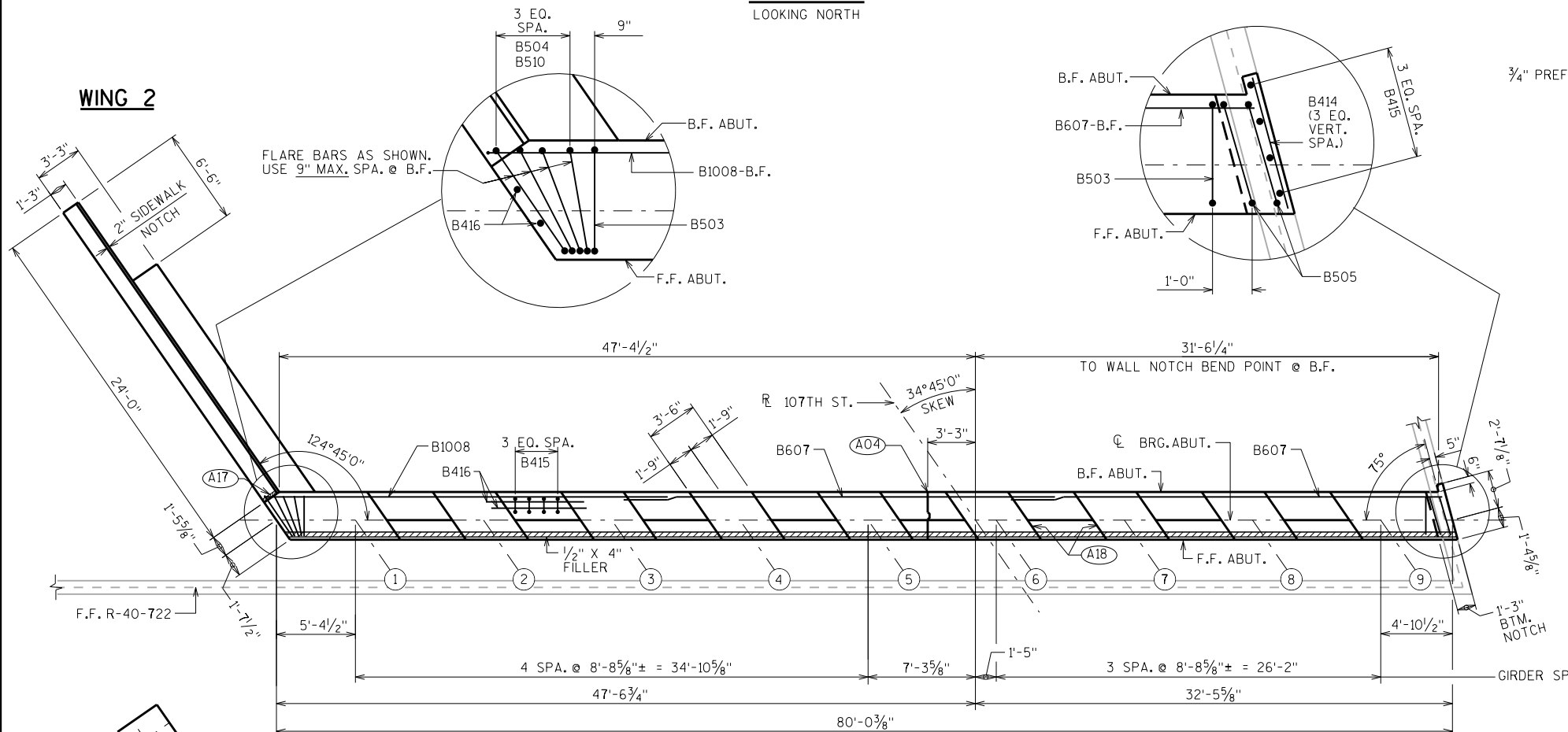
- (A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.
- (A09) SUPPORT ABUTMENT ON 10 3/4" DIA. X 0.5" WALL CIP CONCRETE PILING, ESTIMATED 65'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 145 TONS PER PILE.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT. BARS & DIMENSIONS SEE PARAPET SHEET.

* ELEVATIONS GIVEN AT C OF BRG. AND GIRD.
SEE 'SLOPED BEAM SEAT DETAILS'

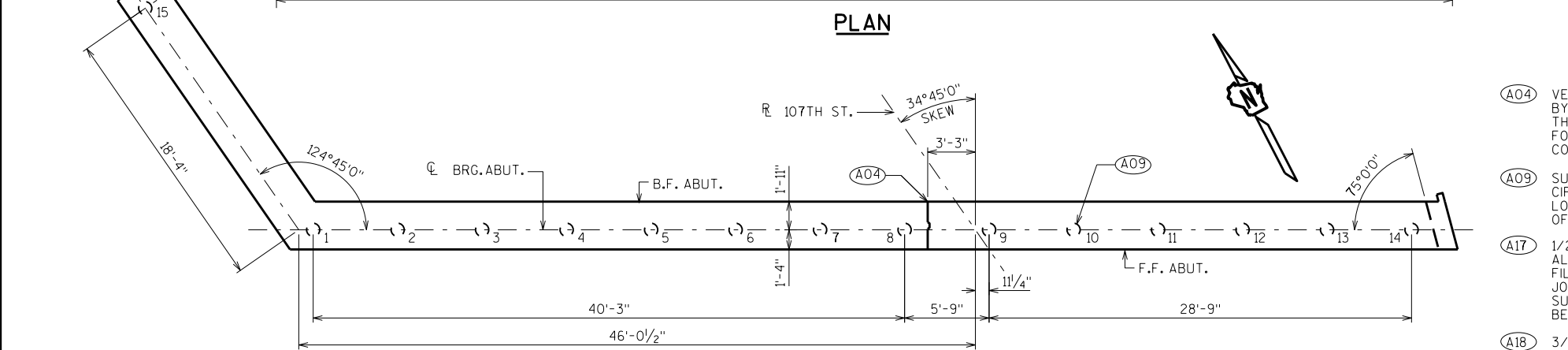
STEEL TROWEL TOP SURFACE OF ABUTMENT.
PLACE MULTIPLE LAYERS OF POLYETHYLENE
SHEETS OVER ENTIRE ABUTMENT TOP BEFORE
PLACING BEARING PADS. TOTAL THICKNESS OF
SHEETS SHALL BE AT LEAST 0.03".



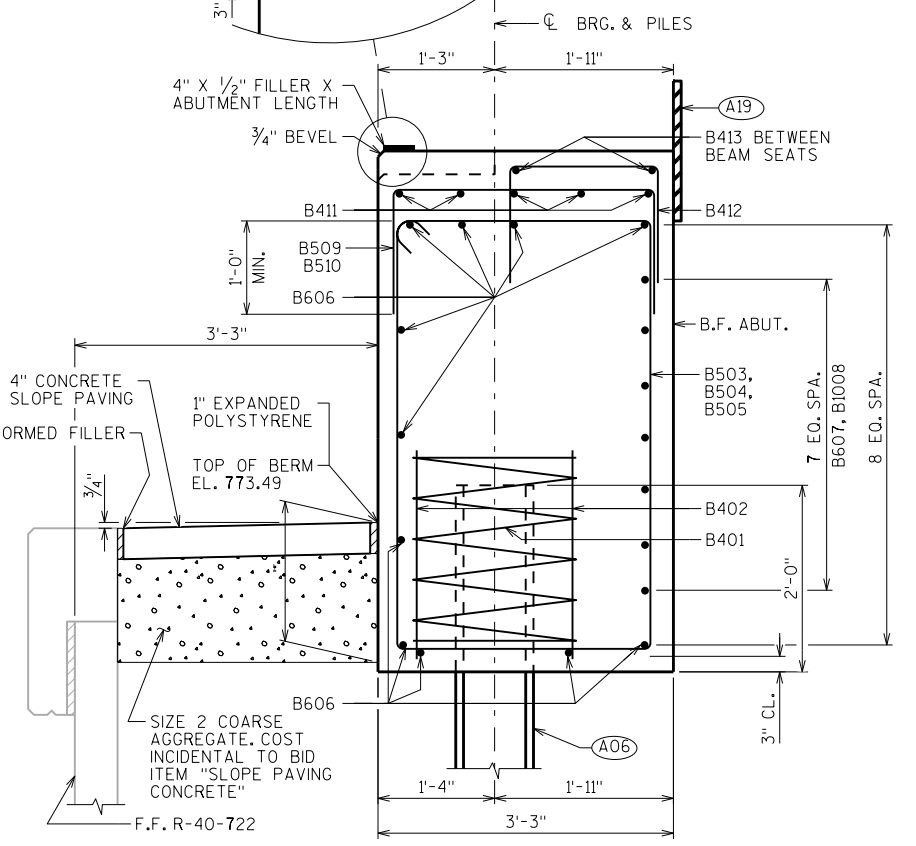
ELEVATION
LOOKING NORTH



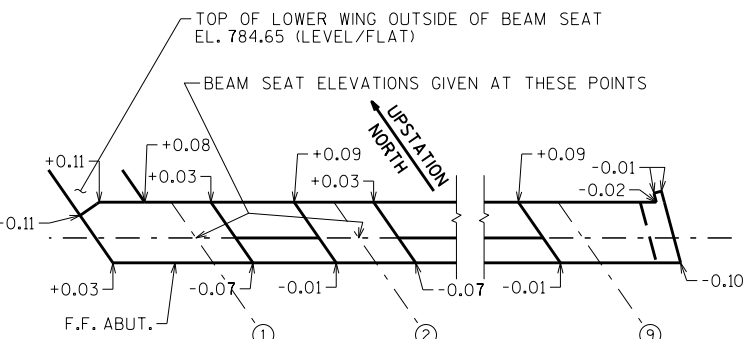
PLAN



PILE PLAN



SECTION THRU BODY



SLOPED BEAM SEAT DETAILS

- (A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.
- (A09) SUPPORT ABUTMENT ON 10 3/4" DIA. X 0.5" WALL CIP CONCRETE PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 145 TONS PER PILE.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

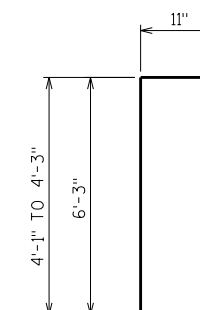
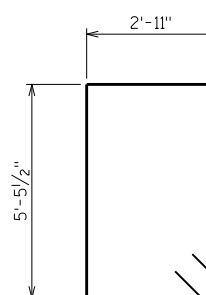
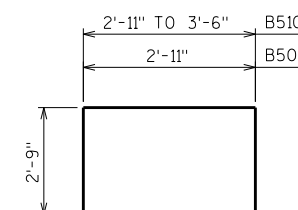
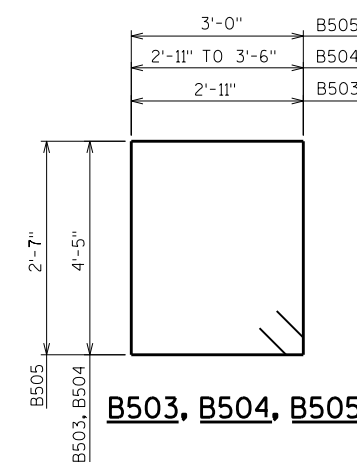
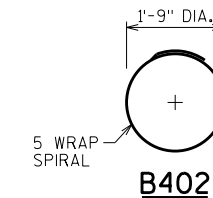
REVISION			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY		WWR	PLANS CK'D.
NORTH ABUTMENT		SHEET 6	
		91	

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE
BAR MARK SIGNIFIES THE BAR SIZE

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

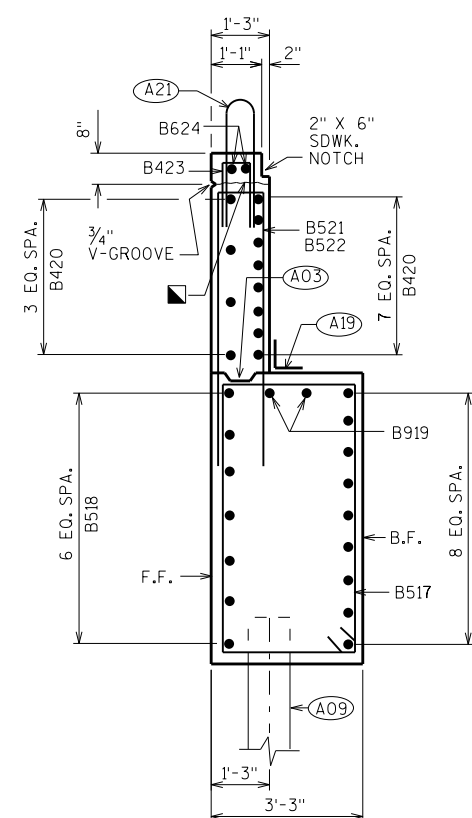
BAR MARK	NO. REQ'D.	LENGTH
B504	1 SERIES OF 4	15'-4" TO 16'-6"
B505	1 SERIES OF 3	15'-6" TO 16'-6"
B510	1 SERIES OF 4	8'-2" TO 8'-9"
B522	1 SERIES OF 9	8'-10" TO 9'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.

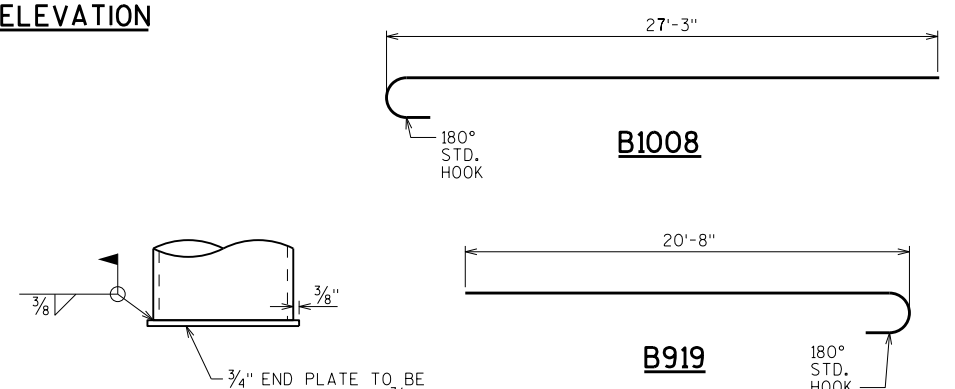


B517

B521, B522

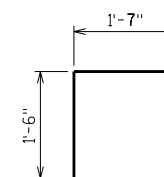


WING 2 SECTION

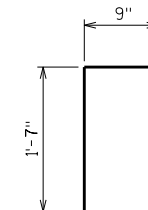


B1008

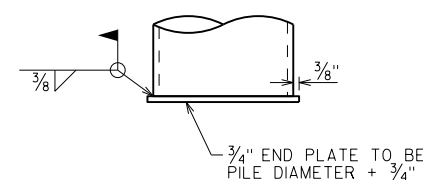
B919



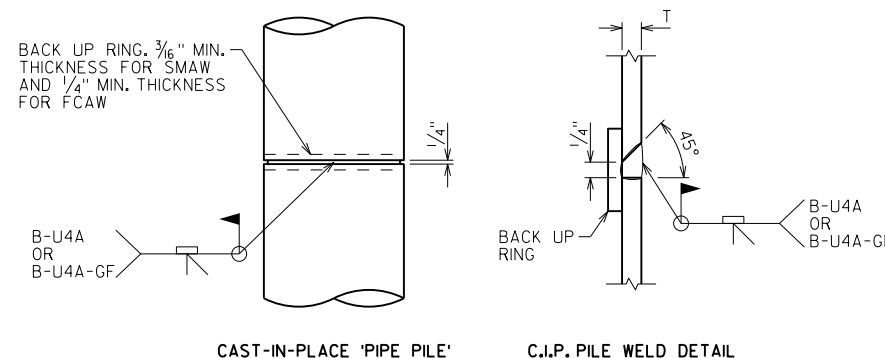
B412



B423



END PLATE DETAIL



CAST-IN-PLACE 'PIPE PILE

C.I.P. PILE WELD DETAIL

PILE DETAILS

(A04) VERT. CONST. JOINT: KEYWAY FORMED
BY A BEVELED 2 x 8. 3/4" "V" GROOVE @
THE FRONT FACE AND 18" RMW @ BACKFACE.
FOR OPTIONAL DETAILS SEE "ALTERNATE
CONSTRUCTION JOINT" SHEET.

(A09) SUPPORT ABUTMENT ON 10 3/4" DIA. X ---" CIP CONCRETE PILING, ESTIMATED ---'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF --- TONS PER PILE.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE), EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

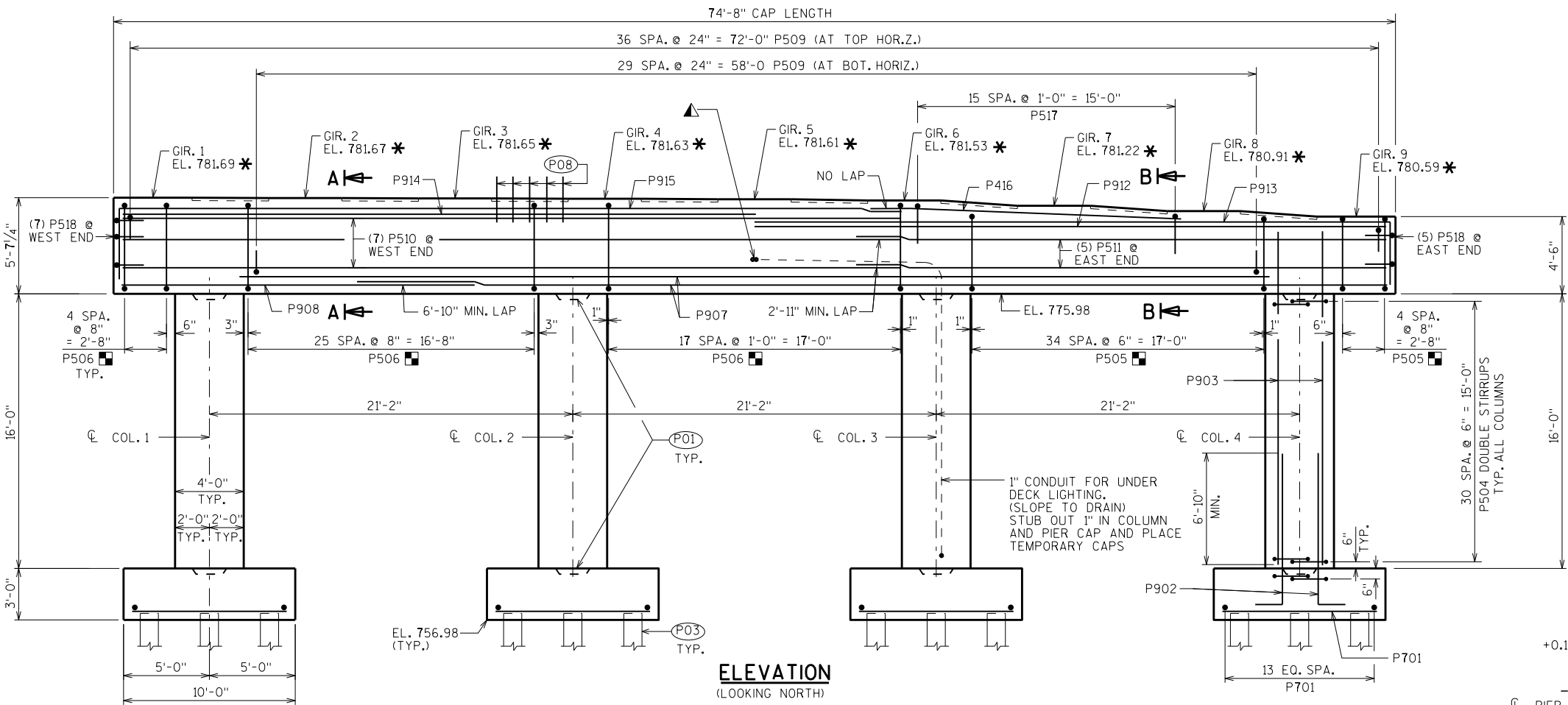
A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING
SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A21) FOR PPT. BARS & DIMENSIONS SEE PARAPET SHEET.

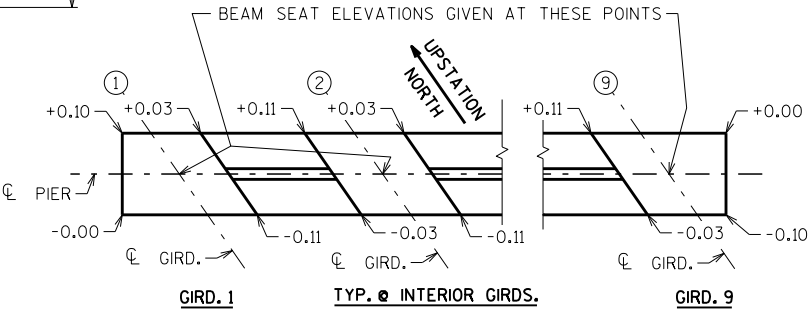
NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-40-1004					
		DRAWN BY	WWR	PLANS CK'D.	
NORTH ABUTMENT DETAILS				SHEET 7	
				92	

* ELEVATIONS GIVEN AT ϕ OF CAP AND GIRD.
SEE "SLOPED BEAM SEAT DETAILS"

▲ SEPARATE/ADDITIONAL 1" CONDUIT
THRU PIER CAP (SLOPE TO DRAIN)
STUB OUT 1" IN BOTH FACES AND
PLACE TEMPORARY CAPS



ELEVATION
(LOOKING NORTH)

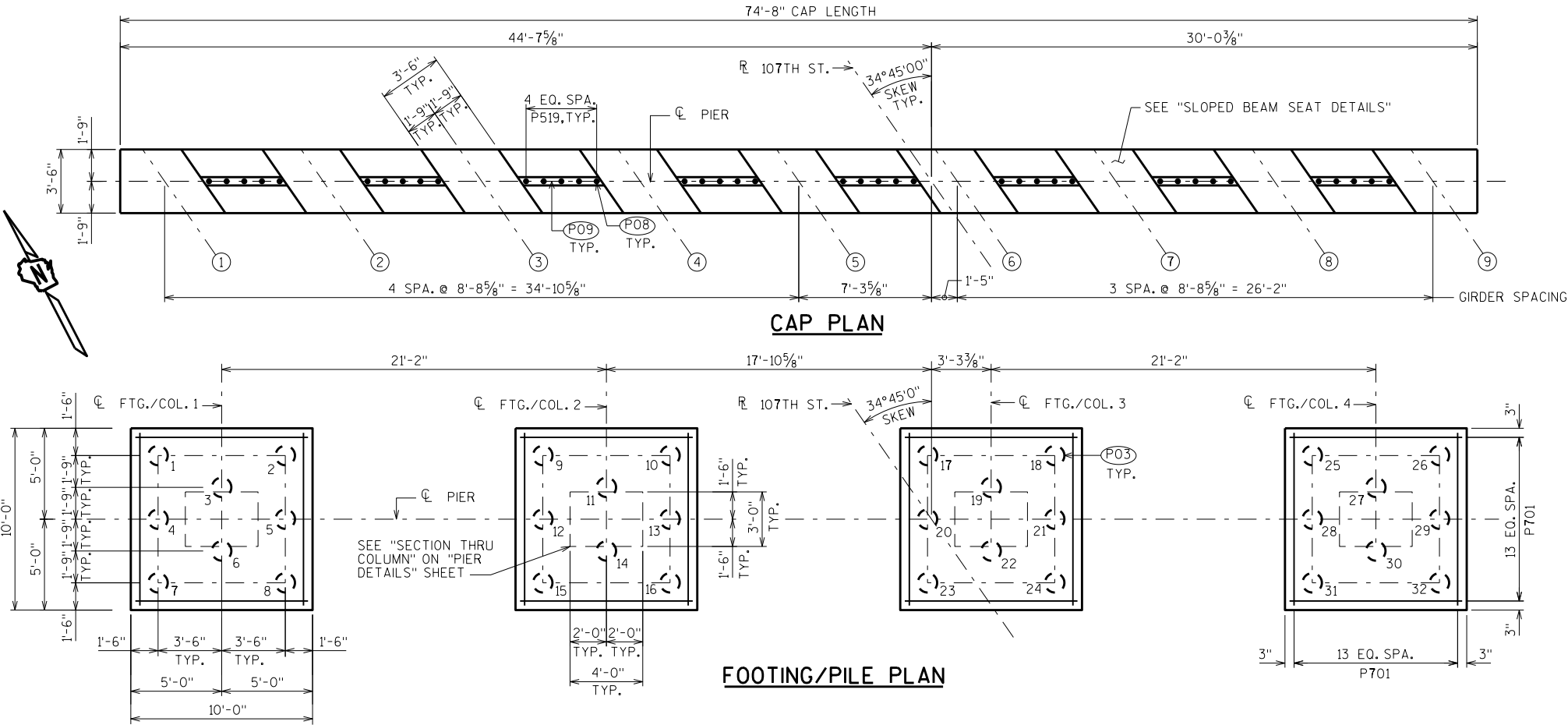


SLOPED BEAM SEAT DETAILS

BEAM SEATS SHALL BE LEVEL IN THE DIRECTION
PERPENDICULAR TO THE GIRDERS

- (P01) 1'-3" x 2'-0" x 4" CONST.
JOINT FORMED BY BEVELED KEYWAY.
- (P06) SUPPORT PIER ON 12 3/4" DIA. X 0.5" CIP
CONCRETE PILING, ESTIMATED 65'-0" LONG
WITH A REQUIRED DRIVING RESISTANCE
OF 210 TONS PER PILE.
- (P08) P519 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS.
MAY BE PLACED AFTER CONCRETE IS POURED
BUT BEFORE INITIAL SET HAS TAKEN PLACE.
(EMBED 1'-0" INTO CONC.)
- (P09) KEYED CONST. JOINT-FORMED BY
BEVELED 2 x 6 BETWEEN BEAM SEATS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY WWR		PLANS CKD.	
PIER		SHEET 8	
		93	

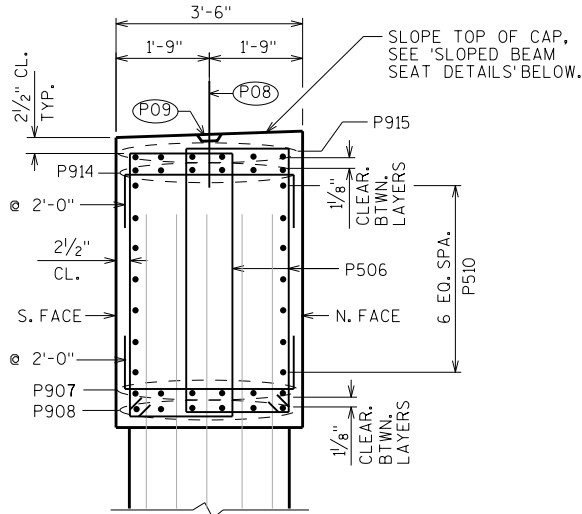


FOOTING/PILE PLAN

BILL OF BARS

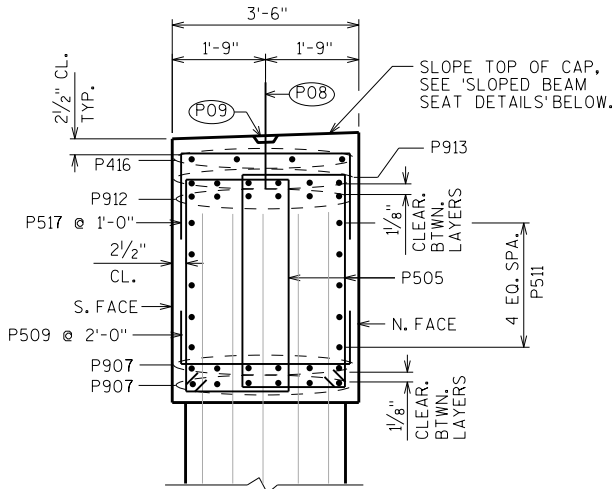
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COMT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P701		112	9'-8"			FOOTING-HORIZ.
P902	X	72	11'-6"	X		FOOTING/COLUMN-VERT.
P903	X	72	19'-0"			COLUMN-VERT.
P504	X	256	10'-7"	X		FOOTING/COLUMN-HORIZ.
P505	X	80	13'-9"	X		CAP-VERT. STIRRUP
P506	X	78	13'-9"	X		CAP-VERT. STIRRUP
P907	X	12	60'-0"			CAP-HORIZ.-BOT.
P908	X	6	20'-10"			CAP-HORIZ.-BOT.
P509	X	67	5'-11"	X		CAP-VERT.-TOP
P510	X	14	45'-8"			CAP-HORIZ.-MIDDLE
P511	X	10	31'-3"			CAP-HORIZ.-MIDDLE
P912	X	6	37'-2"			CAP-HORIZ.-TOP
P913	X	6	40'-9"	X		CAP-HORIZ.-TOP
P914	X	6	37'-3"			CAP-HORIZ.-TOP
P915	X	6	50'-3"	X		CAP-HORIZ.-TOP
P416	X	4	18'-2"			CAP-HORIZ.TOP
P517	X	16	5'-11"	X		CAP-VERT.-TOP
P518	X	12	6'-4"	X		CAP-HORIZ END U-BAR
P519	X	40	2'-0"			CAP-VERT. DOWEL



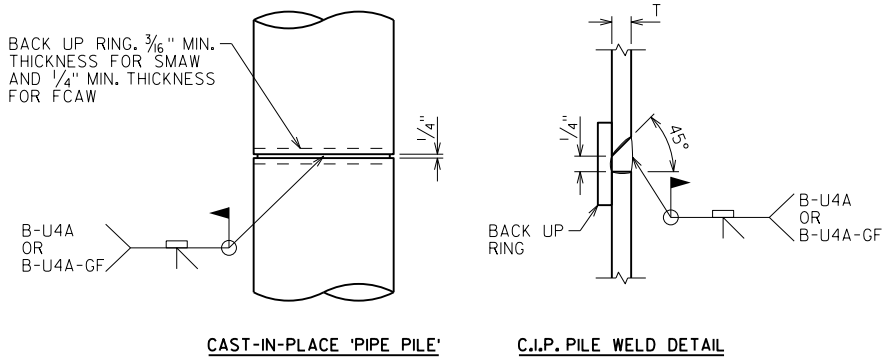
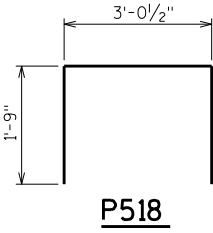
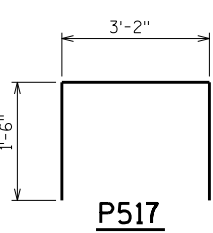
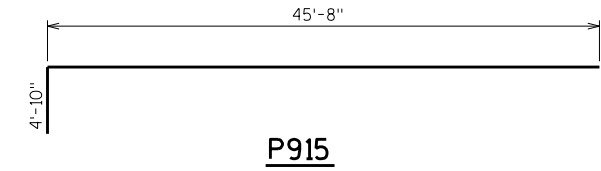
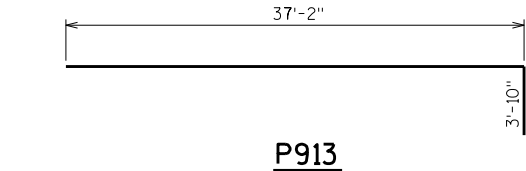
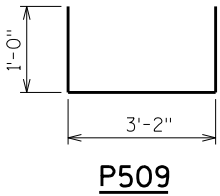
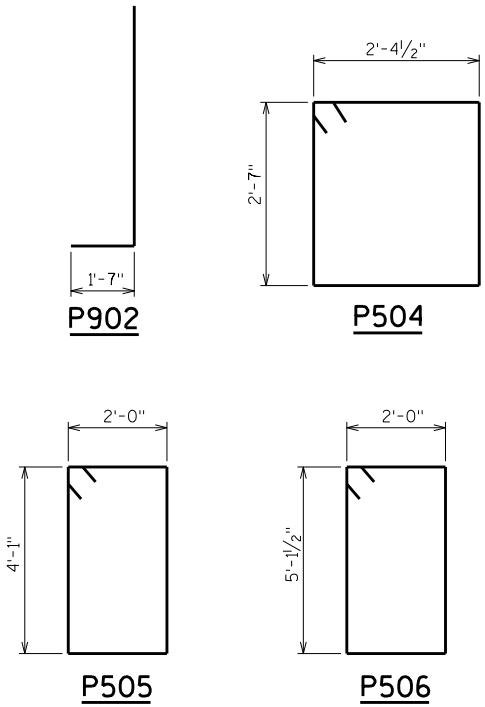
SECTION A-A - THRU CAP

APPLIES TO SECTION OF CAP WEST OF COLUMN 3

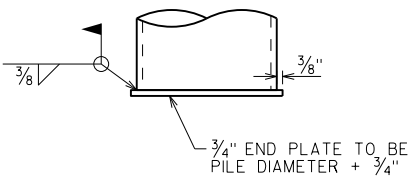


SECTION B-B - THRU CAP

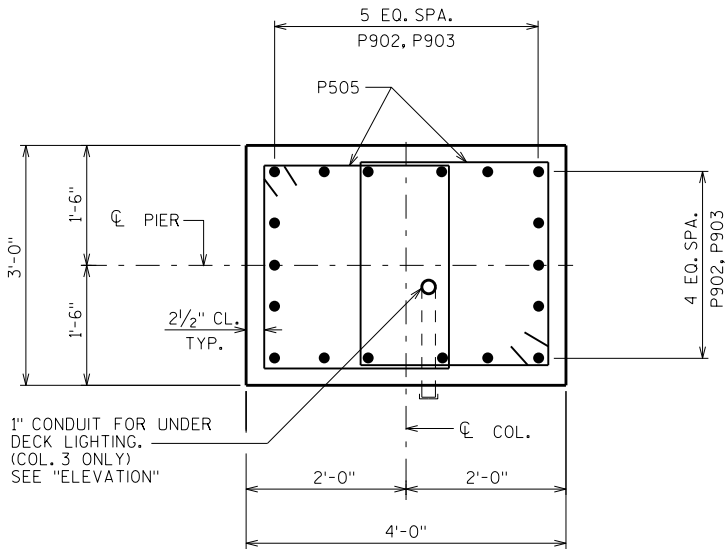
APPLIES TO SECTION OF CAP EAST OF COLUMN 3



PILE DETAILS



END PLATE DETAIL



SECTION THRU COLUMN

P08 P519 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

P09 KEYED CONST. JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY		WWR	PLANS CK'D.
PIER DETAILS		SHEET 9	
		94	

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH, AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER, FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

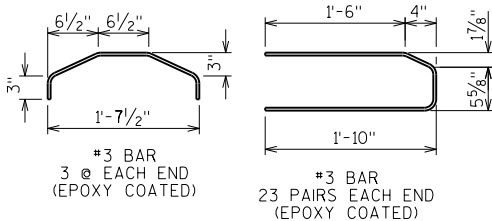
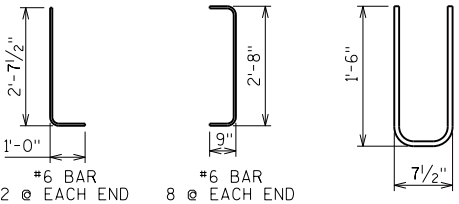
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON ACCEPTANCE OF THE STRUCTURES MAINTENANCE SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

★ FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



SIDE VIEW & TYPICAL SECTION IN SPAN

- (A) DETAIL TYP. AT EACH END
- (B) (6) #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

		"C" (S. END)	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"
SPAN 1	GIRDER 1 (WEST)	29'-8"	0"	32'-1 1/2"	0"	34'-8"	-	-	-	-	-	-	-	-
	GIRDERS 2-5 & 8	29'-8"	4'-11 1/16"	27'-1 1/16"	4'-11 1/16"	29'-8 5/16"	-	-	-	-	-	-	-	-
	GIRDER 6	4'-4 3/16"	9'-5"	9'-5"	9'-5"	2'-0 1/2"	7'-4 1/2"	9'-5"	9'-5"	5'-11"	3'-6"	9'-5"	9'-5"	7'-4 5/16"
	GIRDER 7	9'-3 13/16"	9'-5"	9'-5"	1'-6 3/16"	7'-10 13/16"	9'-5"	9'-5"	5'-4 11/16"	4'-0 5/16"	9'-5"	9'-5"	9'-5"	2'-4 1/16"
SPAN 2	GIRDER 9 (EAST)	34'-7 11/16"	0"	32'-1 1/2"	0"	29'-8 5/16"	-	-	-	-	-	-	-	-
	GIRDER 1 (WEST)	29'-8 5/16"	0"	32'-1"	0"	34'-7 11/16"	-	-	-	-	-	-	-	-
	GIRDERS 2-5 & 8	29'-8 5/16"	4'-11 11/16"	27'-1 5/16"	4'-11 1/16"	29'-8"	-	-	-	-	-	-	-	-
	GIRDER 6	2'-4 11/16"	9'-5"	9'-5"	9'-5"	4'-0 5/16"	5'-4 11/16"	9'-5"	9'-5"	7'-10 5/16"	1'-6 11/16"	9'-5"	9'-5"	9'-3 5/16"
SPAN 2	GIRDER 7	7'-4 3/16"	9'-5"	9'-5"	3'-6"	5'-11"	9'-5"	9'-5"	7'-4"	2'-1"	9'-5"	9'-5"	9'-5"	4'-3 11/16"
	GIRDER 9 (EAST)	34'-8"	0"	32'-1"	0"	29'-8"	-	-	-	-	-	-	-	-

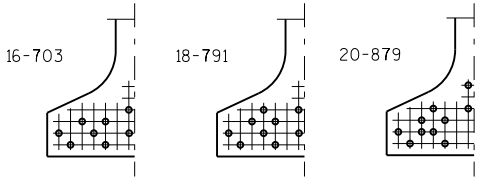
* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.)										CONC. STRGTH. f'c (P.S.I.)		"P" (IN.)			DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10			1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER		TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.)				TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1-9	96.4583	0.8	1.6	2.1	2.5	2.6	2.5	2.1	1.5	0.8	8,000	8	7	8	0.6	36	6,800	31.0	11.5	14.5	5.0				
			0.8	1.5	2.1	2.5	2.6	2.5	2.1	1.6	0.8	8,000	8	7	8	0.6	36	6,800	31.0	11.5	14.5	5.0				

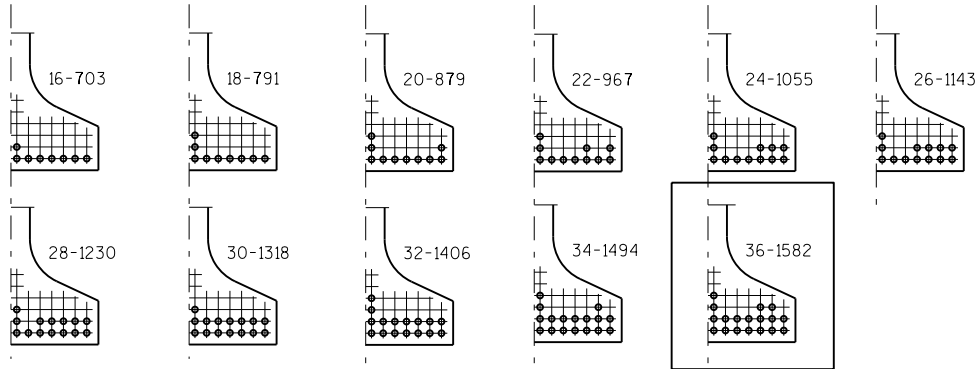
GIRDER LENGTHS HAVE BEEN ADJUSTED TO ACCOUNT FOR GRADE, TYP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY		WWR	PLANS CKD.
36W" PRESTRESSED GIRDER DETAILS 1			SHEET 10
			95



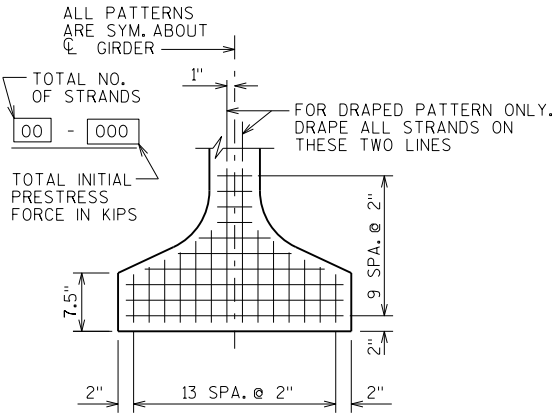
**STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY
TO AVOID DRAPING OF STRANDS**

0.6" DIA. STRANDS

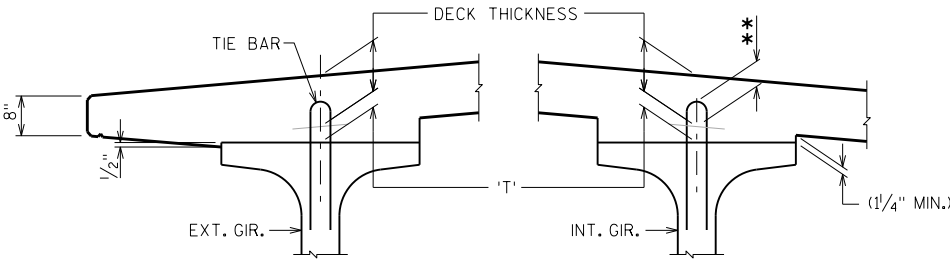


ARRANGEMENT AT $\frac{1}{4}$ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" DIA. STRANDS



TYP. STRAND PATTERN



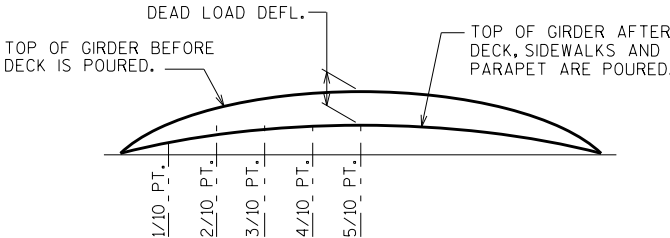
DECK HAUNCH DETAIL

IF $\frac{1}{4}$ " MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN $\frac{1}{2}$ " OR, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

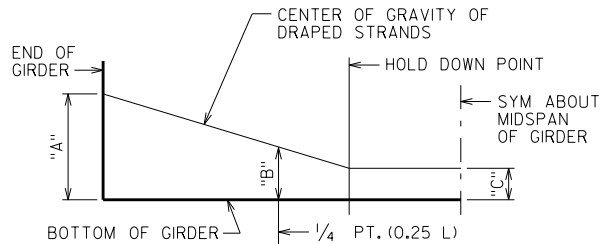
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT $\frac{1}{4}$ OF SUBSTRUCTURE UNITS & AT $\frac{1}{10}$ POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2.9" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1 & 2	4.5

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'.
USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY	WWR	PLANS CK'D.	
36W" PRESTRESSED GIRDER DETAILS 2			SHEET 11
			96

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-40-1004", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

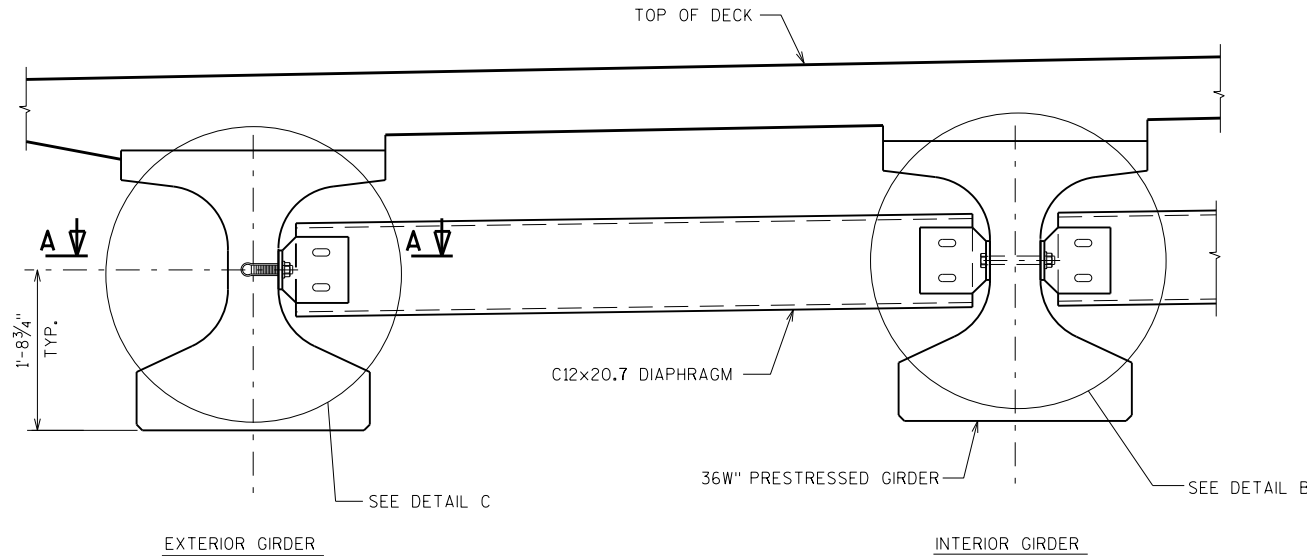
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

PROVIDE 7/8" DIA. HOLES FOR 3/4" DIA. THREADED ROD IN TOP FLANGE

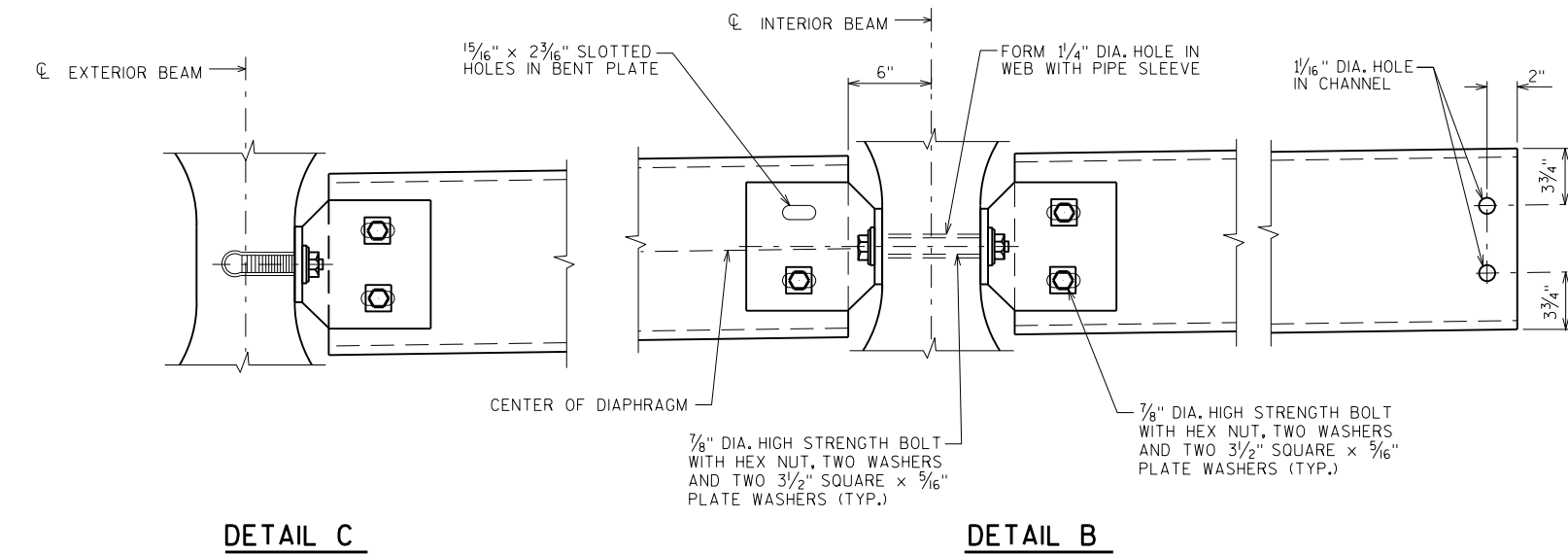
PROVIDE 7/8" x 1 1/2" LONG SLOTTED HOLES FOR 3/4" DIA. THREADED ROD IN BOTTOM FLANGE (SLOT ALONG LENGTH OF CHANNEL)

SECTION C-C



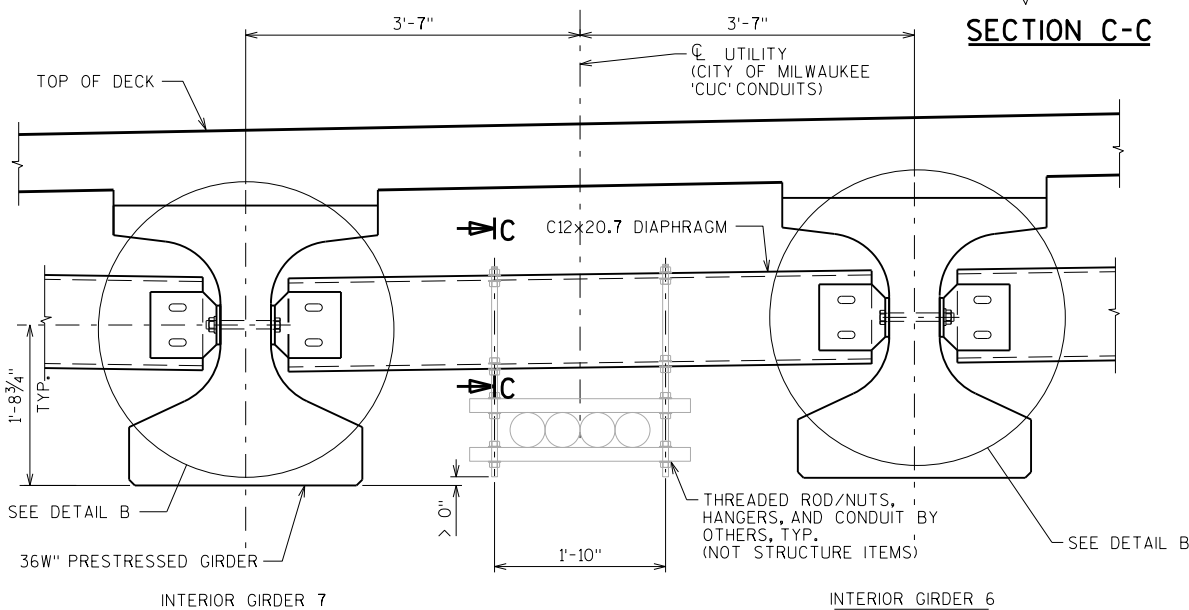
PART TRANSVERSE SECTION AT DIAPHRAGM

SECTION AT INTERIOR GIRDERS THRU DIAPHRAGM FOR SKEW ANGLES > 10°



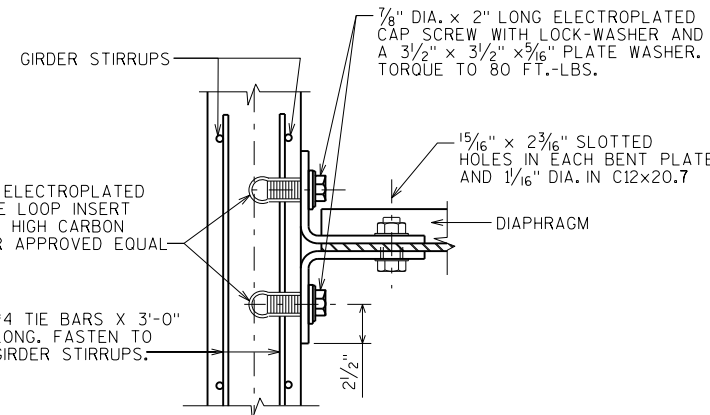
DETAIL C

DETAIL B



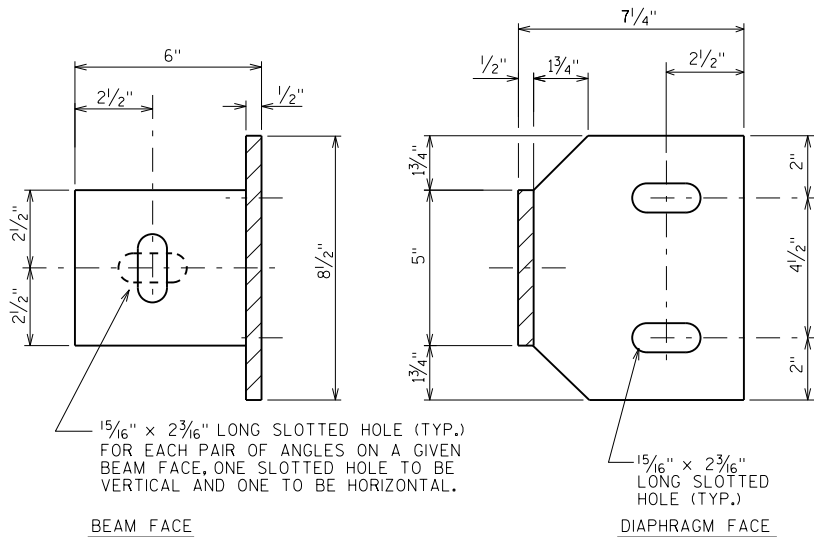
PART TRANSVERSE SECTION AT UTILITY SUPPORT DIAPHRAGMS

TYPICAL AT ALL 20 DIAPHRAGMS BTWN. GIRDERS 6 & 7 ONLY



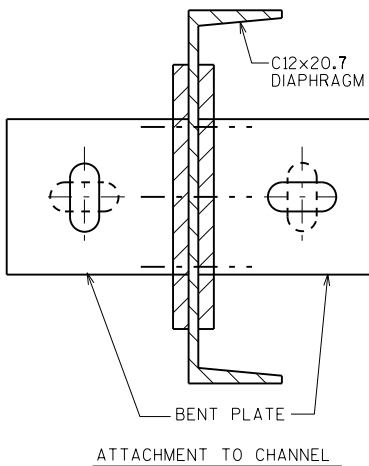
SECTION A-A

(FOR EXTERIOR ATTACHMENT)



BEAM FACE

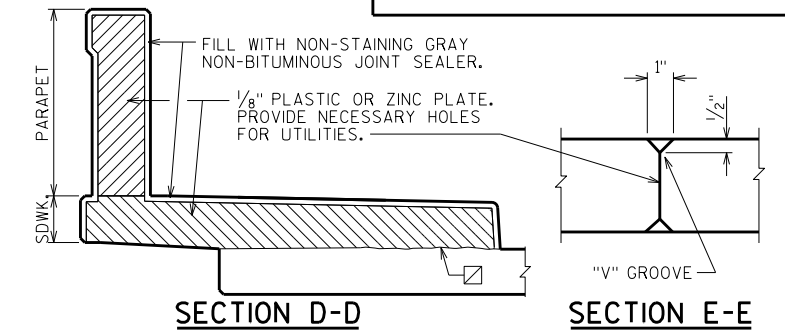
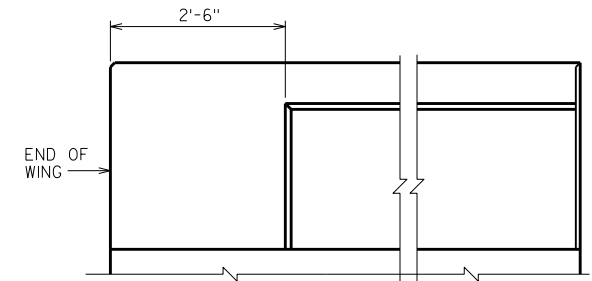
DIAPHRAGM FACE



ATTACHMENT TO CHANNEL

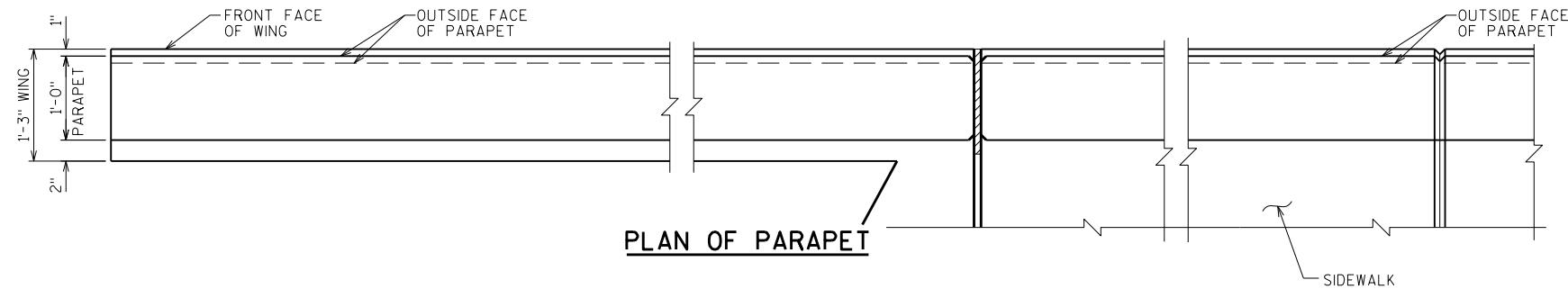
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY		WWR	PLANS CKD.
STEEL DIAPHRAGM		SHEET 12	
		97	

SCALE = 5.33333

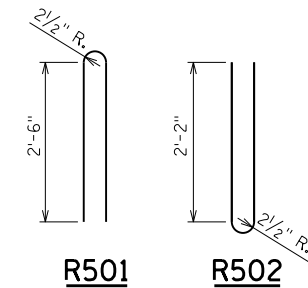
AT DEFLECTION JOINT

AT ABUTMENTS

INSIDE ELEVATION OF PARAPET

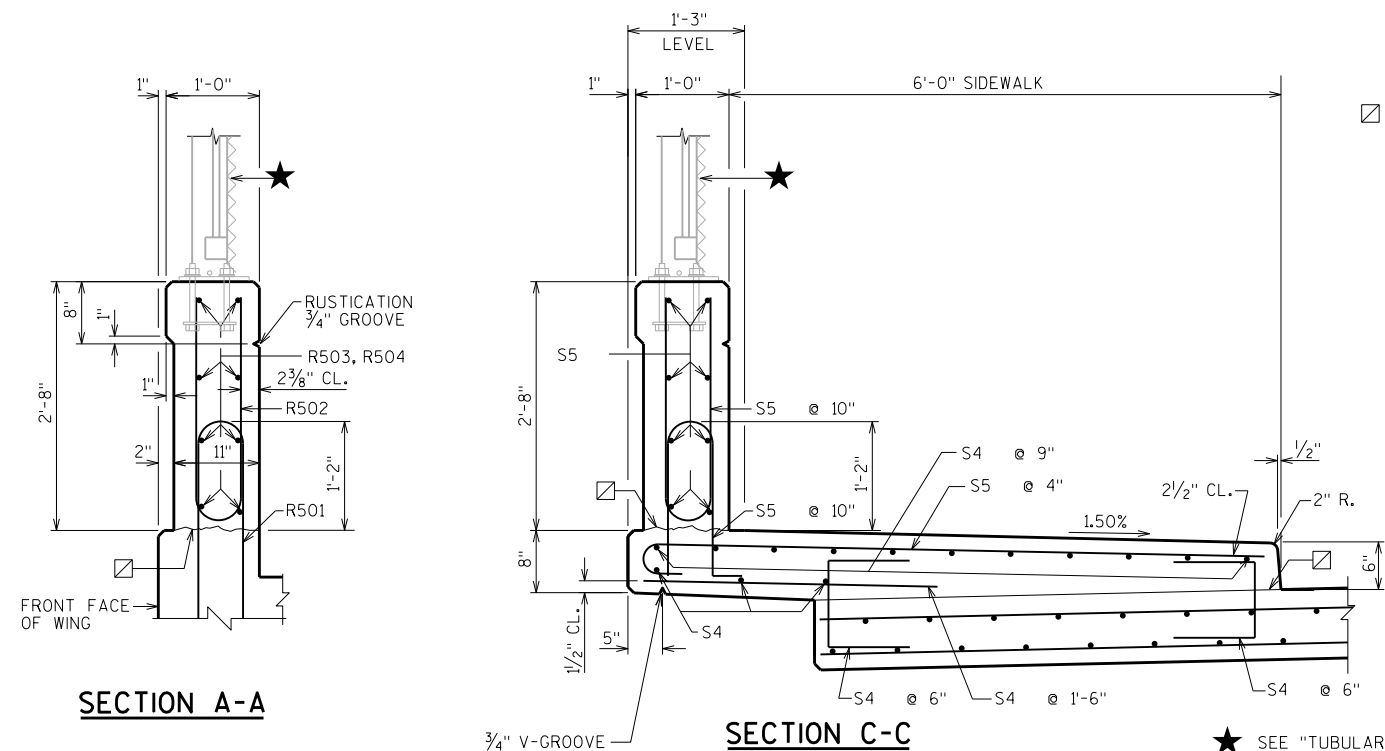


PLAN OF PARAPET



BILL OF BARS

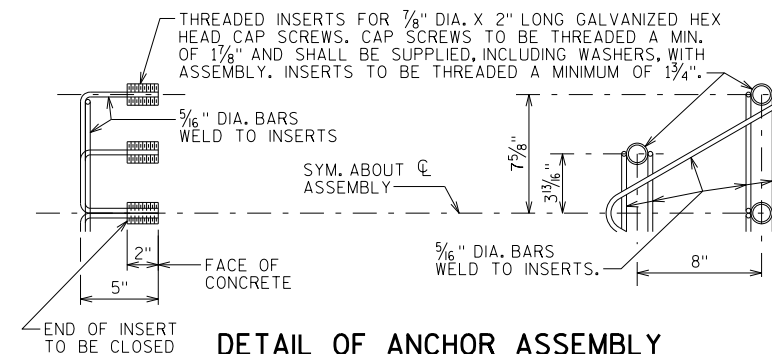
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	39	5'-8	X		PARAPET VERT.
R502	X	39	4'-9"	X		PARAPET_VERT.---
R503	X	8	15'-8"			PARAPET HORIZ.
R504	X	8	23'-8"			PARAPET HORIZ.



SECTION A-A

SECTION C-C

☒ CONST. JOINT - STRIKE OFF
AS SHOWN AND LEAVE ROUGH.



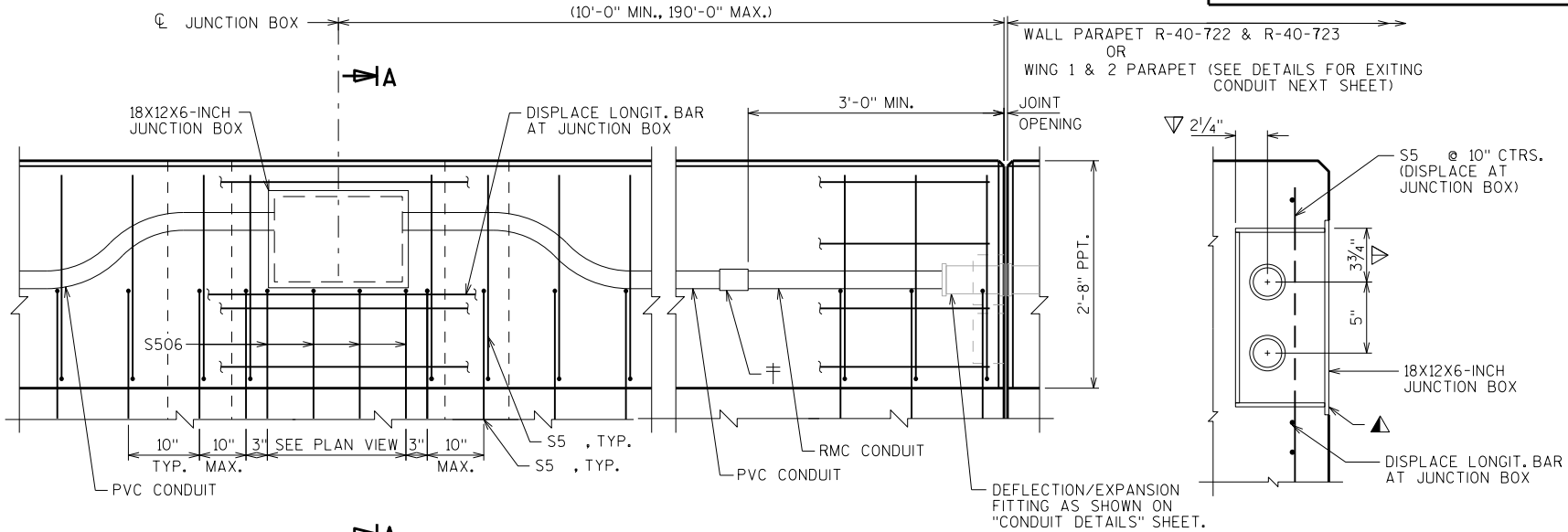
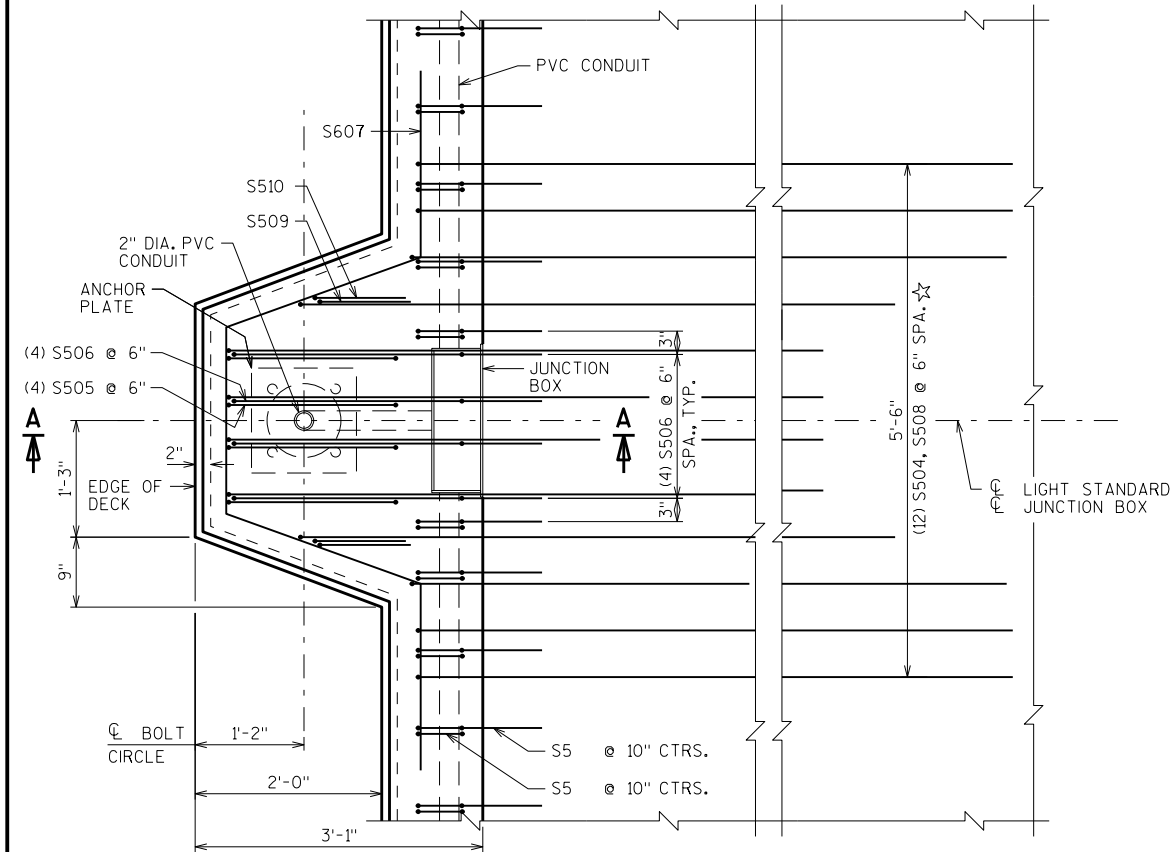
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED
IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

★ SEE "TUBULAR STEEL RAILING SCREENING"
SHEET FOR DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY		WWR	PLANS CK'D.
VERTICAL FACE PARAPET "A"		SHEET	
		99	

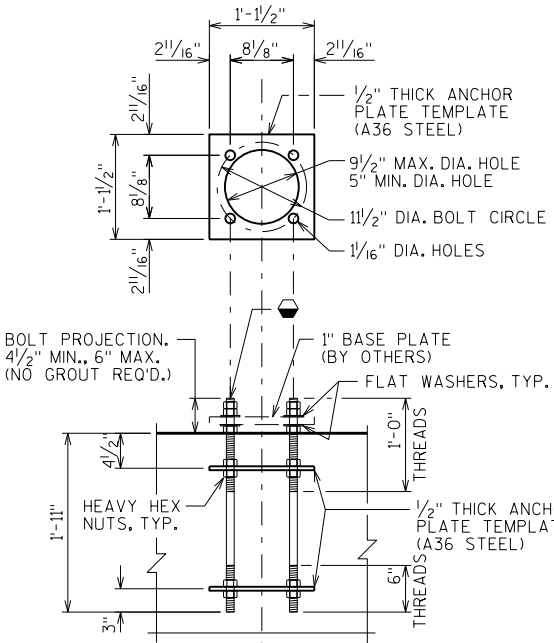


NOTES

- BID ITEM SHALL BE "ANCHOR ASSEMBLIES POLES ON STRUCTURES", EACH CONDUIT SHALL BE EMBEDDED 2" CLEAR.
- USE 2 1/2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.
- CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.
- PROVIDE JUNCTION BOXES FROM THE APPROVED PRODUCTS LIST.
- SEE "CONDUIT DETAILS" SHEET FOR ADDITIONAL INFORMATION.

LEGEND

- CONSTRUCTION JOINT, STRIKE OFF AS SHOWN.
- CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).
- PVC = POLYVINYL CHLORIDE (RIGID NONMETALLIC) CONDUIT
- RMC = RIGID METALLIC CONDUIT
- ★ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN SIDEWALK.
- 1" DIA. ANCHOR RODS ASTM F1554 GR 55, HEAVY HEX NUTS ASTM A563, AND WASHERS ASTM F436. ANCHOR ASSEMBLIES SHALL BE GALVANIZED PER SECTION 531 OF THE STANDARD SPECIFICATION. PROVIDE (2) WASHERS AND (7) NUTS PER ANCHOR ROD.

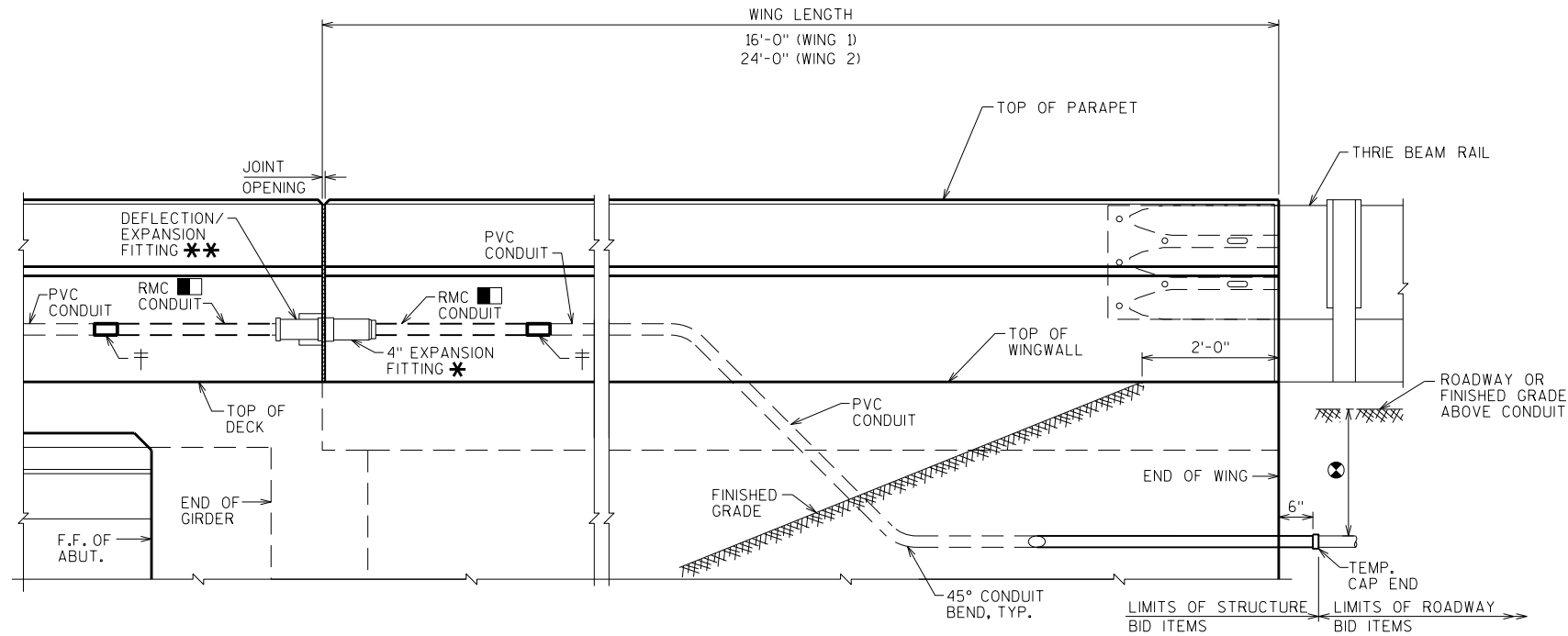


BILL OF BARS

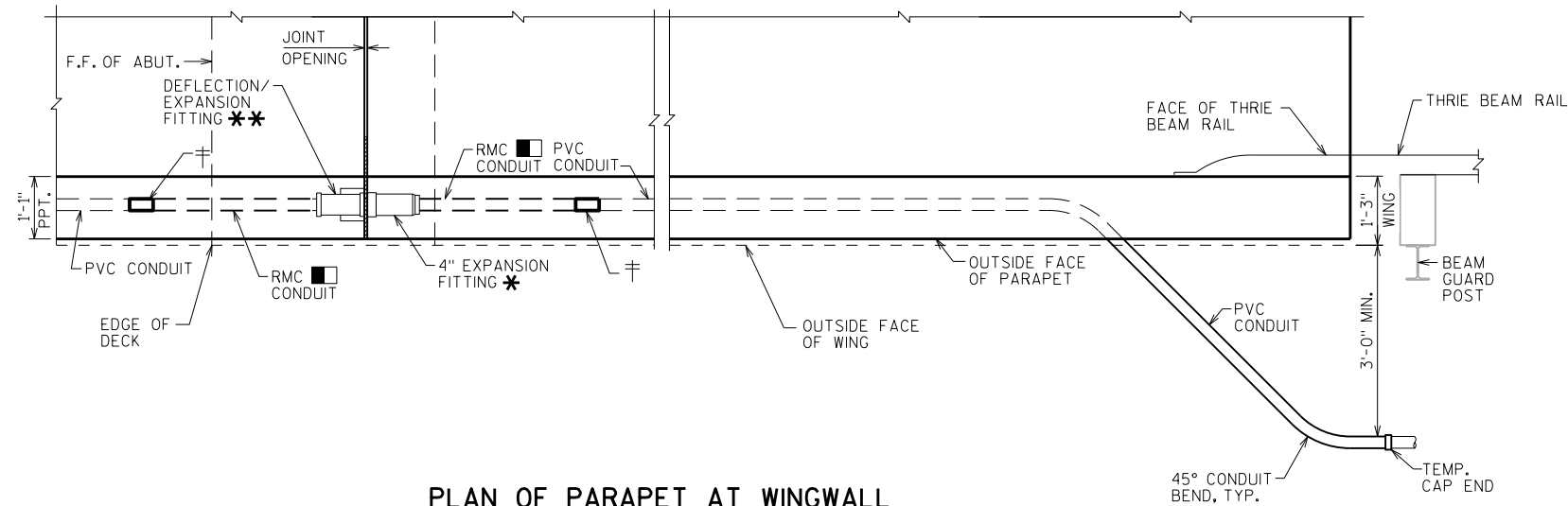
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S504	X	48	7'-6"	X		LIGHT STD. - TRANS. - SDWK. - TOP
S505	X	8	6'-8"	X		LIGHT STD. - VERT. - PARAPET
S506	X	8	7'-0"	X		LIGHT STD. - VERT. - PARAPET
S607	X	14	10'-3"	X		LIGHT STD. - HORIZ. - PARAPET
S508	X	48	6'-11"			LIGHT STD. - TRANS. - SDWK. - BOT
S509	X	4	3'-2"	X		LIGHT STD. - VERT. - PARAPET
S510	X	4	3'-4"	X		LIGHT STD. - VERT. - PARAPET

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
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PARAPET "A" ELECTRICAL WORK			SHEET 100



OUTSIDE ELEVATION OF PARAPET AT WINGWALL



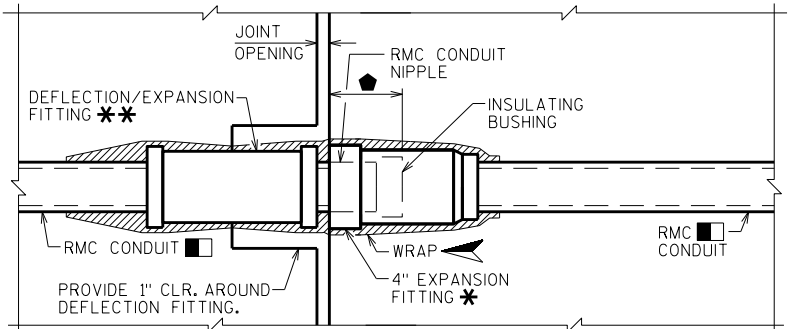
PLAN OF PARAPET AT WINGWALL

LEGEND

- USE 2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENINGS UNLESS NOTED OTHERWISE.
- † NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).
- ▲ SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".
- ◆ POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- ⊗ 2'-0" MIN. CONDUIT COVER UNDER ROADWAYS, 1'-6" OTHERWISE. CONDUIT COVER SHOULD NOT EXCEED 3'-0".
- * EXPANSION FITTING REQUIREMENTS (IF USED):
 - 4" TOTAL MOVEMENT WITH BONDING JUMPER
 - 8" TOTAL MOVEMENT WITH BONDING JUMPER
- ** DEFLECTION/EXPANSION FITTING REQUIREMENTS (IF USED):
 - UP TO 3/4" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30° OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER

NOTES

- CONDUIT SHALL BE EMBEDDED 2" CLEAR.
- USE 2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.
- CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.
- CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING

THIS DETAIL ACCOMMODATES A MAXIMUM OF 4" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-40-1004			
DRAWN BY		WWR	PLANS CKD.
ELECTRICAL DETAILS AT ABUTMENT WINGS			SHEET 101

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-722."

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL SHALL BE DESIGNED USING ELEVATIONS GIVEN ON THIS SHEET.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE LOAD OF 240 PSF.

THE DESIGN OF THE WALL IN FRONT OF THE ABUTMENT SHALL INCLUDE THE HORIZONTAL EARTH LOADS AND 240 PSF LIVE LOAD SURCHARGE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

MATERIAL PROPERTIES:

CONCRETE MASONRY: CAST-IN-PLACE COPING ————— f'c = 3,500 P.S.I.
ANCHOR SLAB AND PARAPET ————— f'c = 4,000 P.S.I.

BAR STEEL REINFORCEMENT: GRADE 60 ————— fy = 60,000 P.S.I.

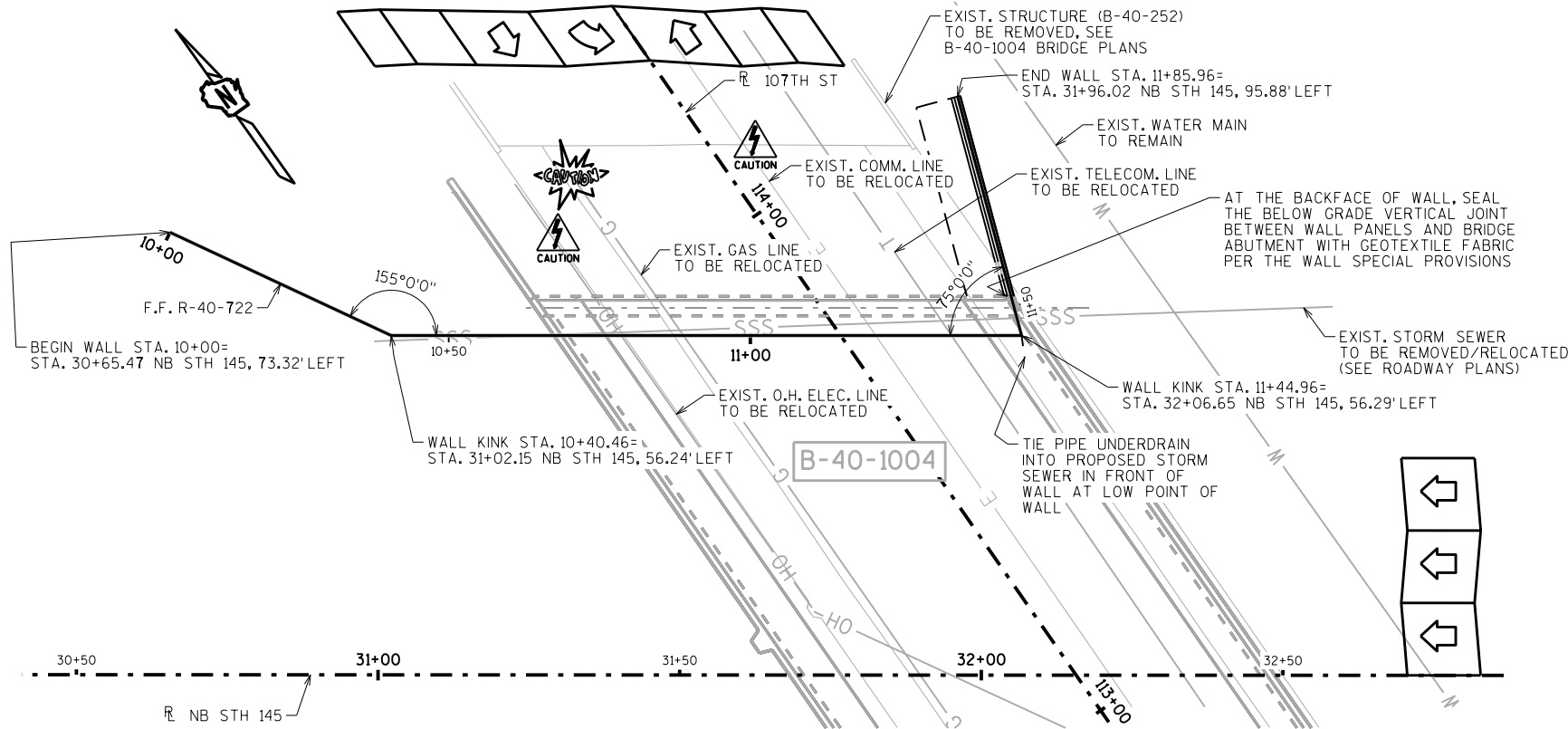
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
209.2500	BACKFILL GRANULAR GRADE 2	TON	637
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2
502.3210	PIGMENTED SURFACE SEALER	SY	14
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	15
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1720
513.2001	RAILING PIPE	LF	146
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	200
652.0130	CONDUIT RIGID METALLIC 2 1/2-INCH	LF	3
652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	LF	35
SPV.0090	FENCE CHAIN LINK 6-FT. R-40-722	LF	34
SPV.0165	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-722	SF	2210
	NON-BID ITEMS		
	EXPANDED POLYSTYRENE	SIZE	1"
	FILLER	SIZE	1 1/2"
	NON-BITUMINOUS JOINT SEALER		

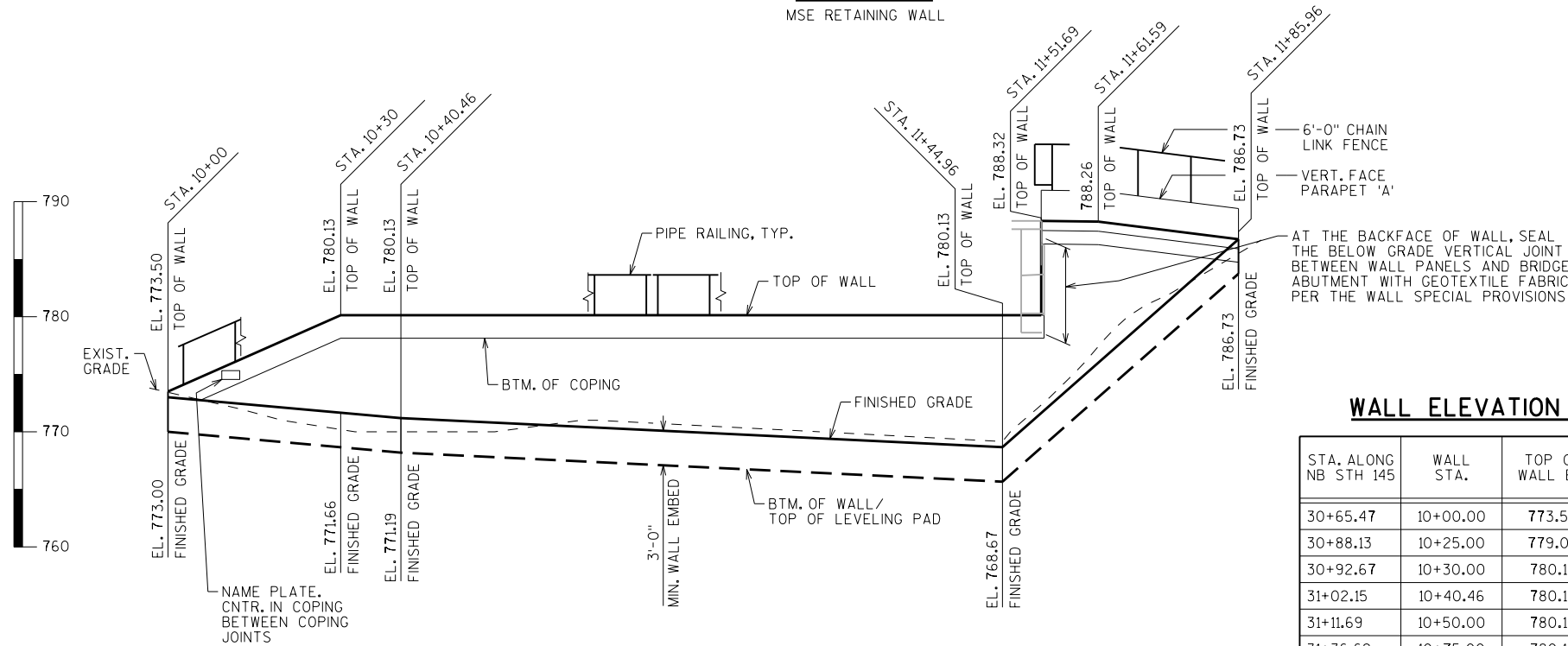
STRUCTURE DESIGN CONTACTS:

CHRISTOPHER DOLL (608) 266-3229
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED _____ CHIEF STRUCTURES DESIGN ENGINEER DATE _____			
STRUCTURE R-40-722			
WALL ALONG STH 145 NB AT 107TH ST			
COUNTY	MILWAUKEE	CITY	MILWAUKEE
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	CAD	DESIGNED CK'D.	DRAWN BY
CAD	CK'D.	DRAWN	PLANS CK'D.
GENERAL PLAN			SHEET 1 OF 8
			102



WALL PLAN
MSE RETAINING WALL



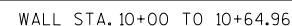
WALL ELEVATION
LOOKING AT F.F. OF WALL
(VERTICAL EXAGGERATION - 2X)

WALL ELEVATION TABLE

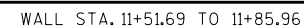
STA. ALONG NB STH 145	WALL STA.	TOP OF WALL EL.	FINISHED GRADE EL.
30+65.47	10+00.00	773.50	773.00
30+88.13	10+25.00	779.03	771.88
30+92.67	10+30.00	780.13	771.66
31+02.15	10+40.46	780.13	771.19
31+11.69	10+50.00	780.13	770.94
31+36.69	10+75.00	780.13	770.35
31+61.69	11+00.00	780.13	769.75
31+86.69	11+25.00	780.13	769.15
32+06.65	11+44.96	780.13	768.67
32+05.34	11+50.00	780.13	770.89
32+04.90	11+51.68	780.13	771.63
32+04.90	11+51.69	788.32	771.63
32+02.31	11+61.59	788.26	776.00
31+98.86	11+75.00	787.42	781.90
31+96.02	11+85.96	786.73	786.73

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTIONS
3. WALL DETAILS
4. ANCHOR SLAB
5. CONDUIT DETAILS
6. FENCING DETAILS
7. PIPE RAILING
8. SUBSURFACE EXPLORATION



- WALL STA. 10+64.96 TO 11+51.69



NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE R-40-722					
		DRAWN BY	CAD	PLANS CK'D.	
TYPICAL SECTIONS				SHEET 2	
				103	

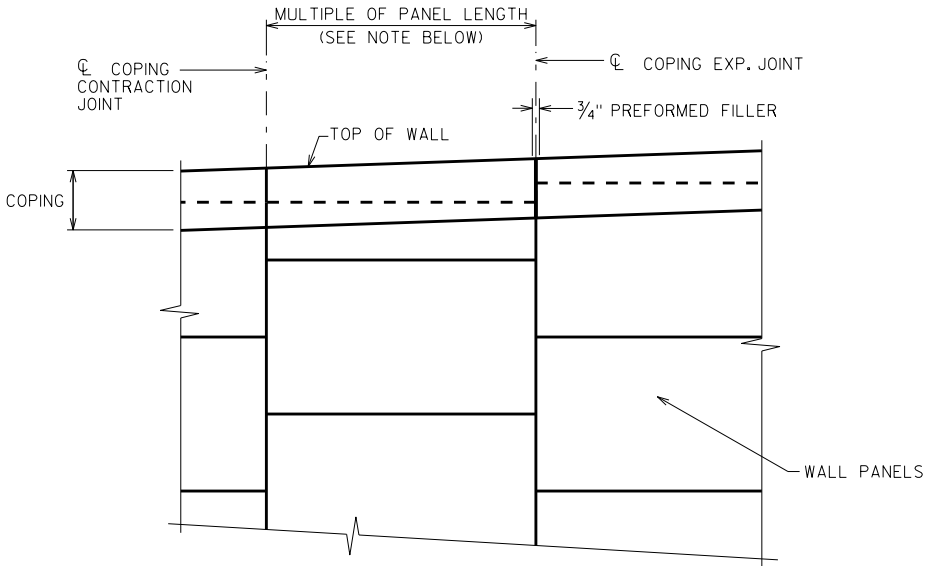
SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL (WITHIN THE WALL REINFORCING ZONE)*	30	0	120
BORING 1, STA			
BORING 2, STA			

* DESIGN WALL FOR THESE VALUES

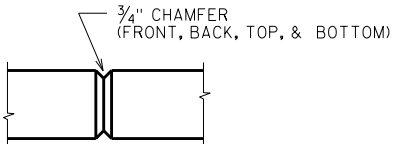
THE TYPICAL WALL SECTION USED IN THE ANALYSES HAD AN EXPOSED HEIGHT BETWEEN 2.1AND 8.1 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSES:

1. THE SLOPE BEHIND THE WALL IS 1V:2H.
2. THE SLOPE IN FRONT OF THE WALL IS 1V:3H.
3. THE GROUNDWATER ELEVATION WAS BELOW THE INVESTIGATED AREA.
4. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
5. THE MINIMUM EMBEDMENT DEPTH IS 3.0 FEET.
6. THE THICKNESS OF THE CONCRETE PANEL IS 5.5-INCHES.
7. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL LIGHTWEIGHT CONSTRUCTION EQUIPMENT AND LIVE LOAD.
8. GLOBAL STABILITY WAS DETERMINED BY THE COMPUTER PROGRAM XSTABL
9. BEARING CAPACITY IS DETERMINED BY TERZAGHI'S BEARING CAPACITY EQUATION.
10. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.
11. DESIGN COMPLETED USING LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHODS.
12. 3.0 FEET WAS ADDED TO THE EXPOSED HEIGHTS TO ARRIVE AT THE DESIGN HEIGHTS (TOTAL HEIGHTS)



NOTE:
ALL JOINTS MUST COINCIDE WITH WALL PANEL JOINT ON FRONT FACE WHERE BOTTOM OF LIP INTERSECTS WITH WALL PANEL JOINT.

WALL & COPING PARTIAL ELEVATION

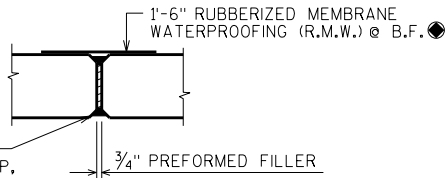


COPING CONTRACTION JOINT PLAN

MAX. SPA. OF JOINT = 12'-0"

NOTES:

DO NOT RUN ANY BAR STEEL THRU JOINTS.
ALL JOINTS TO EXTEND FULL DEPTH OF COPING.



SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH A NON-STAINING, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

R.M.W. TO EXTEND FROM TOP OF COPING TO 6" BELOW BOTTOM OF COPING AT THE BACK FACE OF THE WALL.

COPING EXPANSION JOINT PLAN

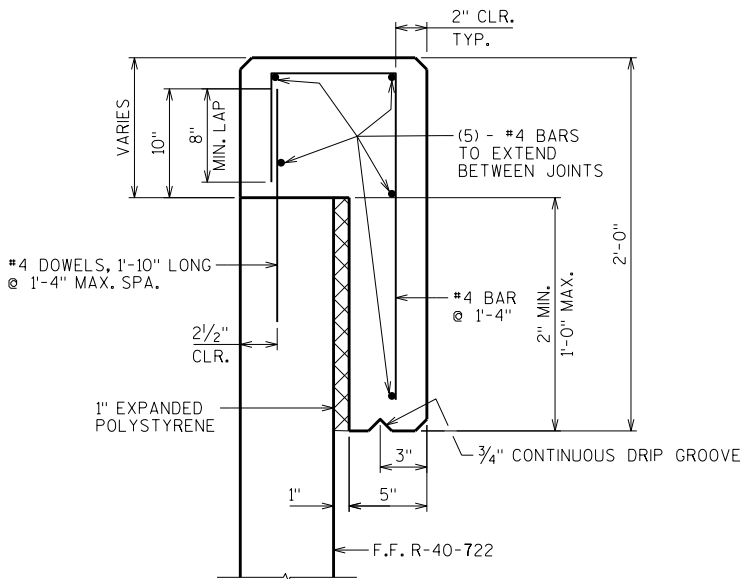
MAX. SPA. OF JOINT = 50'-0"

COST OF R.M.W. SHALL BE INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-722".

WALL EXTERNAL STABILITY EVALUATION

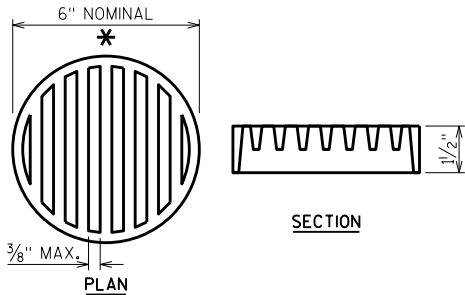
DIMENSIONS				
WALL HEIGHT ¹ (FEET)				
EXPOSED WALL HEIGHT (FEET)				
MINIMUM LENGTH OF REINFORCEMENT ³				
LENGTH OF REIN./WALL HT.				
WALL STATION				
BORING USED				
CAPACITY TO DEMAND RATIO (CDR) ⁴				
SLIDING (CDR>1.0)				
ECCENTRICITY (CDR>1.0)				
BEARING (CDR>1.0)				
FACTORED BEARING RESISTANCE				
GLOBAL STABILITY (CDR>1.0)		N/A ⁵	N/A ⁵	

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 3.0 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD OF 240 PSF.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH.
4. REQUIRED CDR'S ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. N/A NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.



SECTION THRU COPING

COST OF C.I.P. COPING AND REINFORCING SHALL BE INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-722"



RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

STATE PROJECT NUMBER

1360-12-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED.

ALL BAR STEEL IN CAST-IN-PLACE CONCRETE COPING SHALL BE EPOXY COATED.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF THE WALL (R-40-722).

EXPANSION AND CONTRACTION JOINT LOCATIONS AND DIMENSIONS ARE FOR INFORMATIONAL USE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF THE EXPANSION JOINTS.

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-722" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO THE TOP OF LEVELING PAD, SET A CONSTANT DEPTH OF 3'-0" BELOW FINISHED GRADE.

THE SOIL AT THE BASE OF THE WALL SHOULD BE REVIEWED BY SOUTHEAST REGION WAUKESHA OFFICE SOILS ENGINEER TO DETERMINE IF THE SOILS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL WITH PRECAST CONCRETE PANEL FACING.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF RETAINING WALL R-40-722 WITH THE ABUTMENT OF BRIDGE B-40-1004. PRIOR TO DRIVING BRIDGE PILING AT ABUTMENTS, ENSURE EXISTING PIPE CULVERTS/STORM SEWERS BELOW THE PROPOSED WALLS HAVE BEEN REMOVED AND "BACKFILL GRANULAR GRADE 2" HAS BEEN PLACED.

THE QUANTITIES OF CONCRETE MASONRY & REINFORCING STEEL FOR THE CAST-IN-PLACE ANCHOR SLAB ARE PAID FOR UNDER THE BID ITEMS "CONCRETE MASONRY RETAINING WALLS" AND "BAR STEEL REINFORCEMENT HS COATED STRUCTURES".

THE CONCRETE MASONRY & REINFORCING STEEL FOR THE CAST-IN-PLACE COPING ARE INCLUDED WITH THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-722".

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED CONCRETE WALL PANEL THICKNESS OF 5 1/2". FOR PANEL THICKNESSES OTHER THAN 5 1/2", THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW THE SURFACE OF CONCRETE).

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TRAFFIC SIDE OF THE EXPOSED ANCHOR SLAB SURFACE.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE TRAFFIC SIDE AND THE TOP OF THE PARAPET.

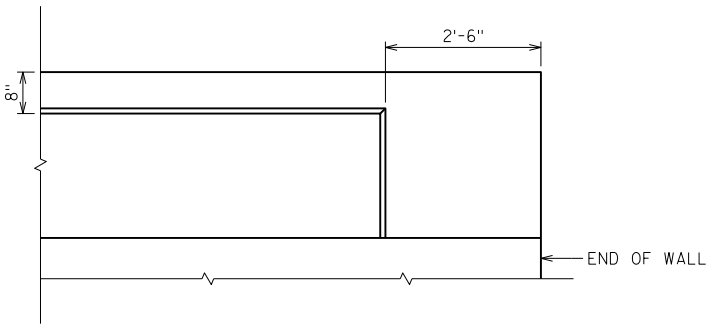
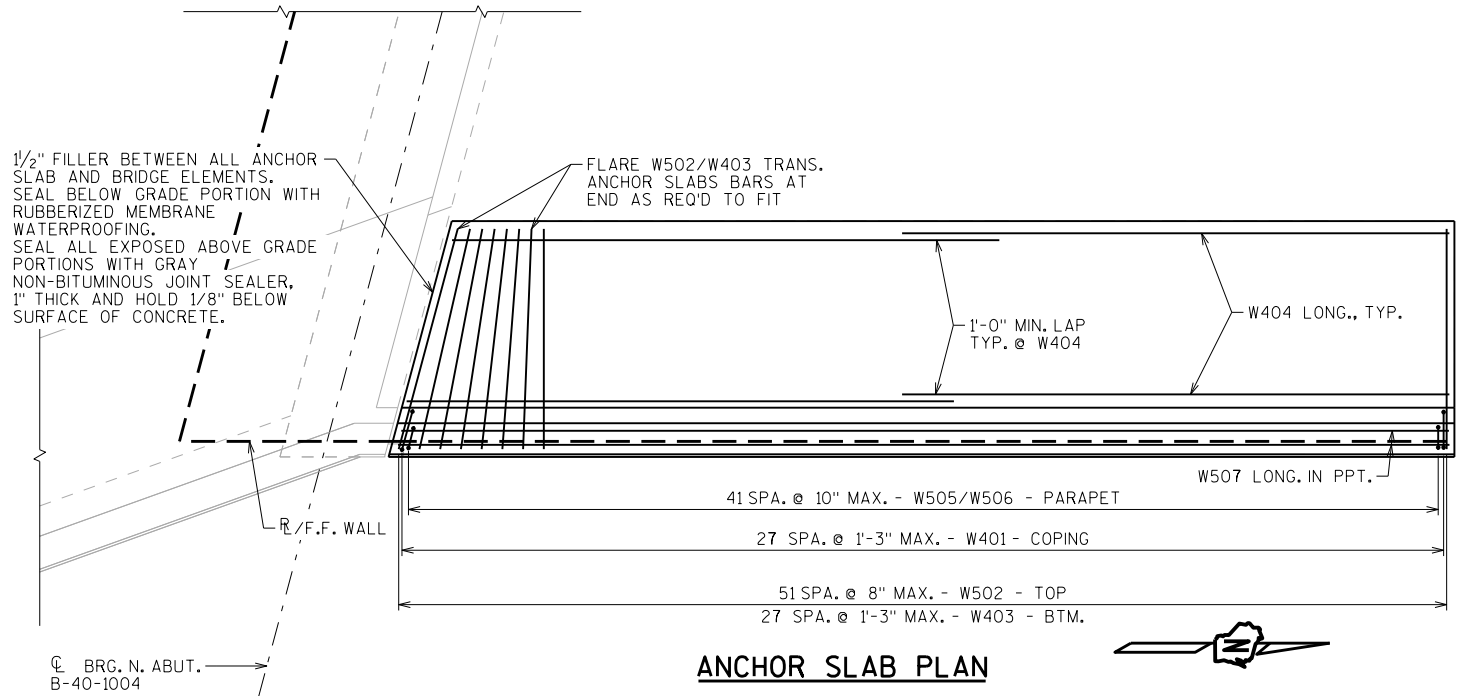
THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-40-722			
DRAWN BY		CAD	PLANS CK'D.
WALL DETAILS			SHEET 3
			104

SCALE = 6.00

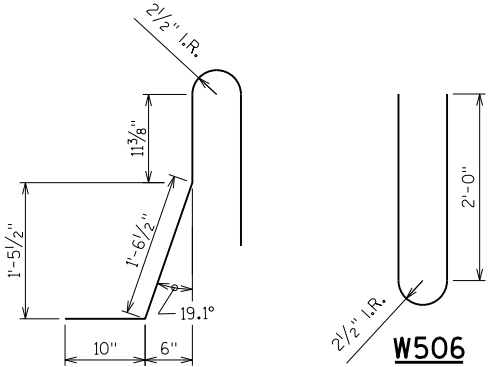
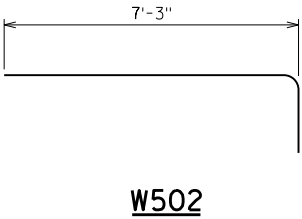
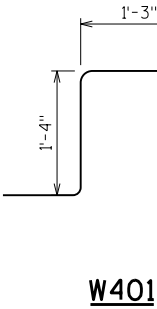
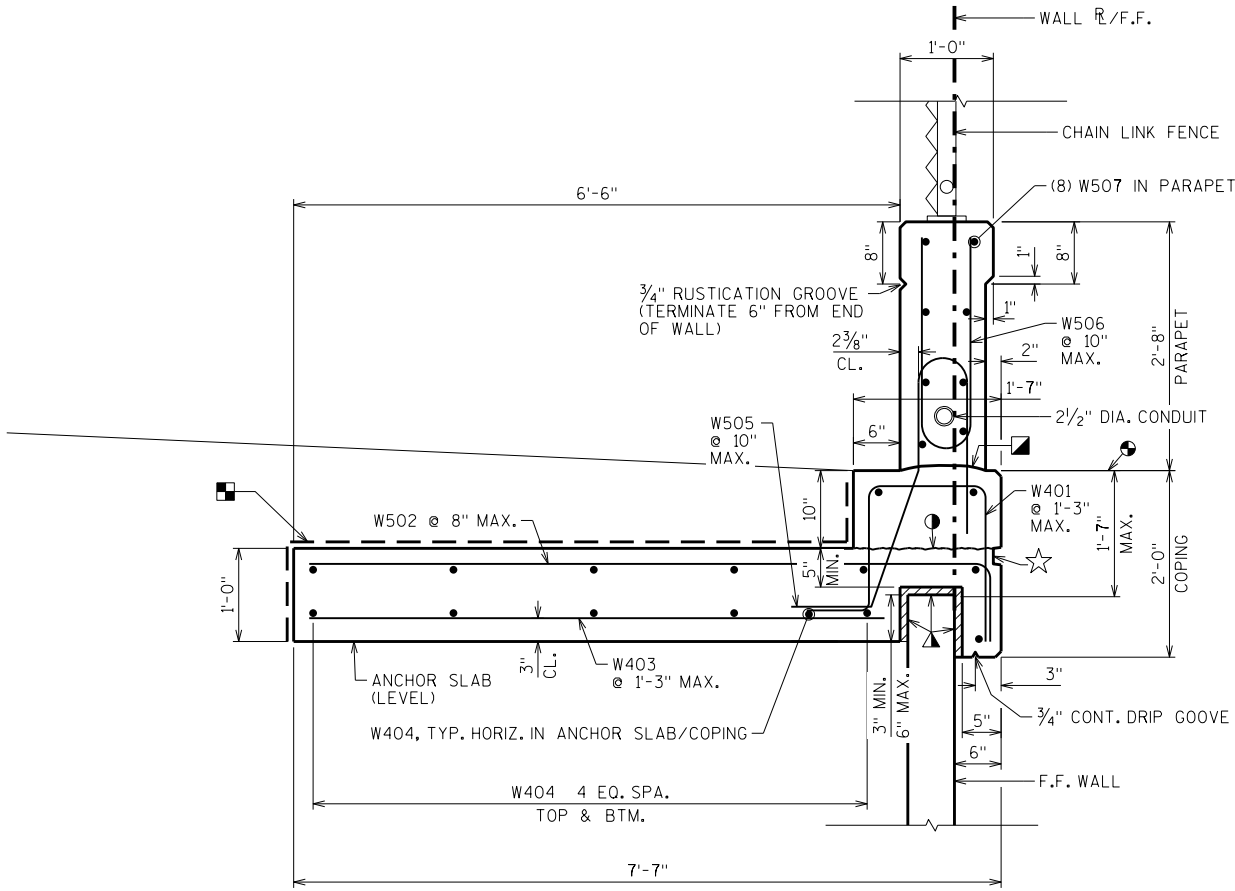


VIEW SHOWING OUTSIDE FACE OF PARAPET

BILL OF BARS

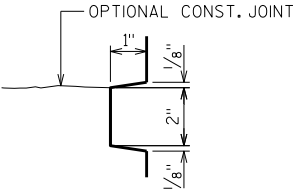
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
W401	X	28	4'-6"	X		CONC. COPING - TRANS. - VERT.
W502	X	52	7'-11"	X		CONC. ANCHOR SLAB - TRANS. - HORIZ. - TOP
W403	X	28	6'-1"			CONC. ANCHOR SLAB - TRANS. - HORIZ. - BTM.
W404	X	30	17'-8"			LONGIT. - HORIZ. - ANCHOR SLAB & COPING
W505	X	42	5'-9"	X		ANCHOR SLAB & PARAPET - VERT.
W506	X	42	4'-9"	X		PARAPET - VERT.
W507	X	8	33'-9"			PARAPET - HORIZ.



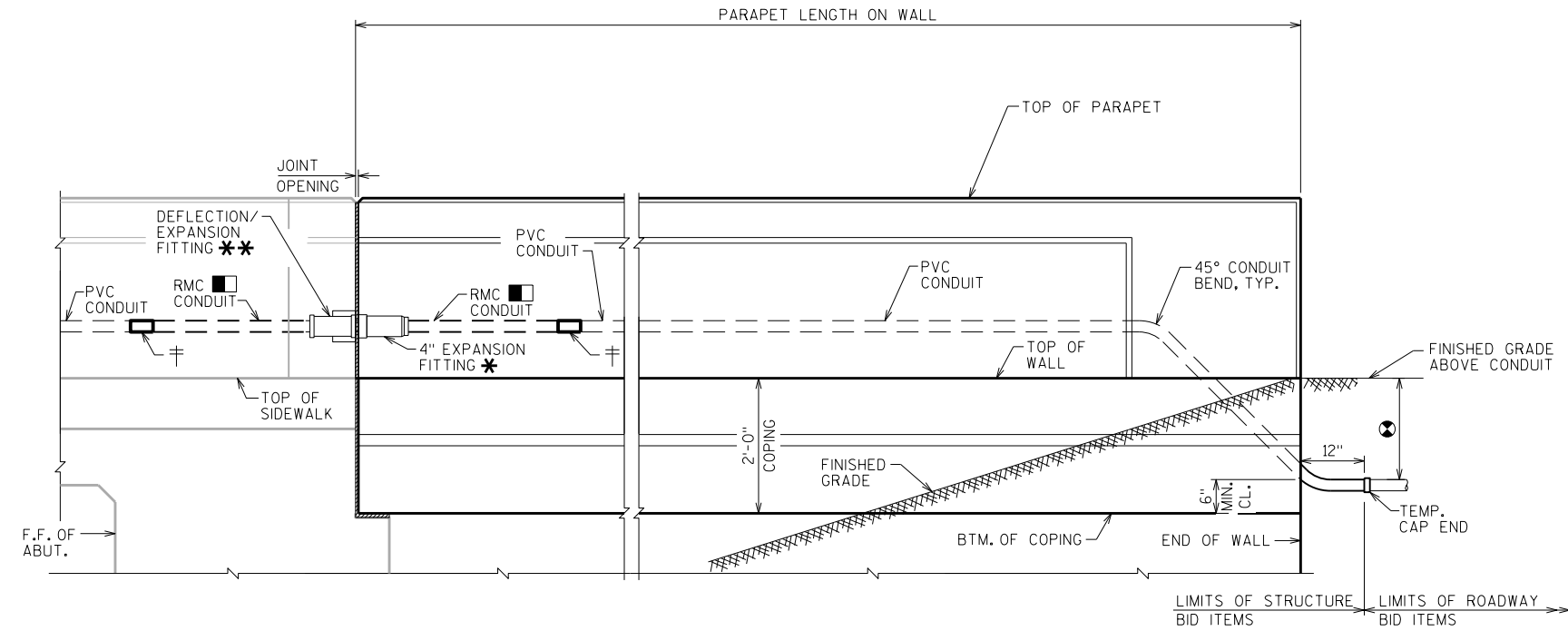
LEGEND

- HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH
- ▲ EXPANDED POLYSTYRENE (1 INCH) TYPICAL OF EACH SIDE
- ① OPT. CONST. JOINT, LEAVE SURFACE ROUGHENED. PROVIDE RUSTICATION IF USED. SEE 'RUSTICATION DETAIL'. IF OPT. CONST. JOINT IS USED, PLACE 18" MEMBRANE WATERPROOFING ALONG THE ENTIRE LONGITUDINAL JOINT. THE MEMBRANE WATERPROOFING SEALING OF THE OPT. CONST. JOINT IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS".
- TOP OF WALL ELEVATION
- L-SHAPED 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT THE JOINT BETWEEN THE ANCHOR SLAB AND BRIDGE ABUTMENT. (MEMBRANE WATERPROOFING INCIDENTAL TO "CONCRETE MASONRY RETAINING WALLS")

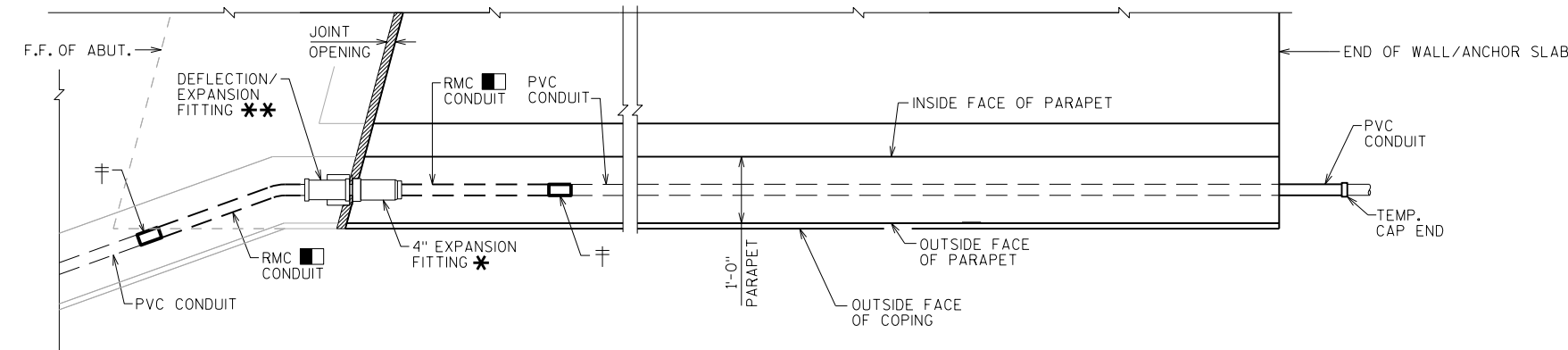


RUSTICATION DETAIL
(PROVIDE IF OPTIONAL CONST. JOINT IS USED)

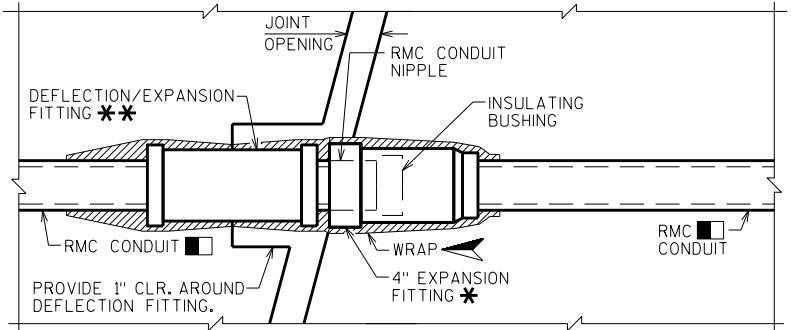
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-40-722			
DRAWN BY		CAD	PLANS CK'D.
ANCHOR SLAB		SHEET 4	
		105	



OUTSIDE ELEVATION OF PARAPET AT ANCHOR SLAB



PLAN OF PARAPET AT ANCHOR SLAB



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING

THIS DETAIL ACCOMMODATES A MAXIMUM OF 4" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY

LEGEND

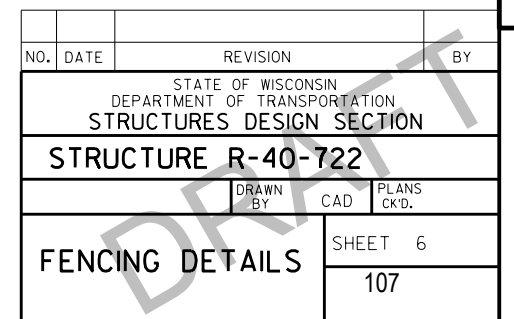
- USE 2 1/2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENINGS UNLESS NOTED OTHERWISE.
- † NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).
- ◀ SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 2 1/2-INCH".
- ⊙ 2'-0" MIN. CONDUIT COVER UNDER ROADWAYS, 1'-6" OTHERWISE. CONDUIT COVER SHOULD NOT EXCEED 3'-0".
- * EXPANSION FITTING REQUIREMENTS (IF USED):
 - 4" TOTAL MOVEMENT WITH BONDING JUMPER
 - 8" TOTAL MOVEMENT WITH BONDING JUMPER
- ** DEFLECTION/EXPANSION FITTING REQUIREMENTS (IF USED):
 - UP TO 3/4" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30° OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER

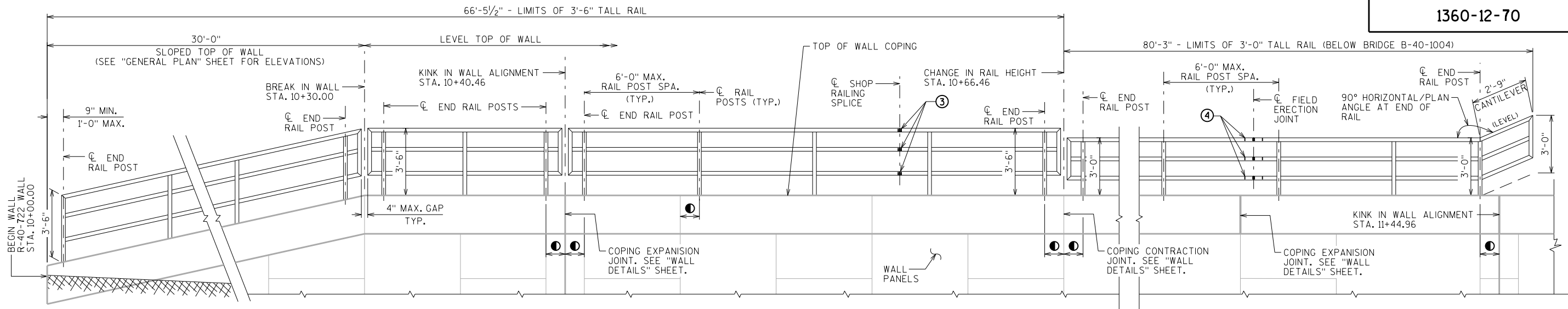
NOTES

CONDUIT SHALL BE EMBEDDED A MINIMUM OF 2" CLEAR.
USE 2 1/2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.
CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.
CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-40-722			
DRAWN BY		CAD	PLANS CK'D.
SHEET 5			106
CONDUIT DETAILS			

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12





1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ϕ OF COPING JOINTS AND ϕ OF RAIL POSTS. (APPLICABLE TO BOTH EXPANSION AND CONTRACTION JOINTS)

PARTIAL ELEVATION OF WALL COPING & RAILING

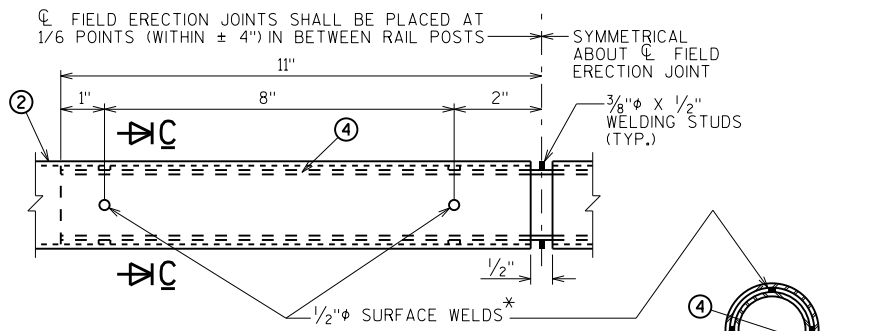
(LOOKING @ F.F. OF WALL)

NOTES

- BID ITEM SHALL BE "RAILING PIPE", WHICH INCLUDES ALL ITEMS SHOWN.
- RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.
- FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- DRILL DRAIN HOLES PRIOR TO GALVANIZING.
- ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.
- STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D, FOR ALIGNMENT.
- ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.
- PLACE ALL NUTS ON OUTSIDE OF POSTS.
- ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.
- CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.
- ALL RAILINGS, POSTS, GATES AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERAL COLOR NO. 27038).

LEGEND

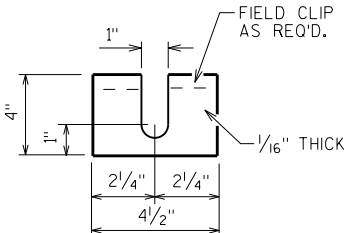
- 1 2" ϕ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.
- 2 2" ϕ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1
- 3 1 1/2" ϕ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".
- 4 1 1/2" ϕ PIPE SLEEVE X 1'-10" LONG FOR NO. 2. PROVIDE 1/2" ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE 3/8" ϕ X 1 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
- 5 PLATE 3/4" X 5" X 8", WITH 5/8" ϕ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.
- 6 1/2" DIA. X 6 3/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. ☆
- ☆ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS, AND BE FULLY THREADED ROD, ASTM F1554-GRADE 36(MIN.).
- 7 1/4" X 2" X 8" FLAT BAR, WITH 5/8" ϕ HOLES FOR ANCHOR BOLTS NO. 6.



FIELD ERECTION JOINT DETAIL

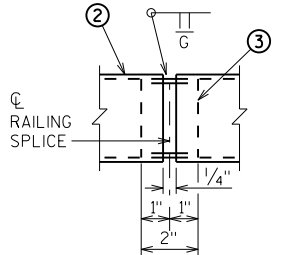
*MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

SECTION C-C



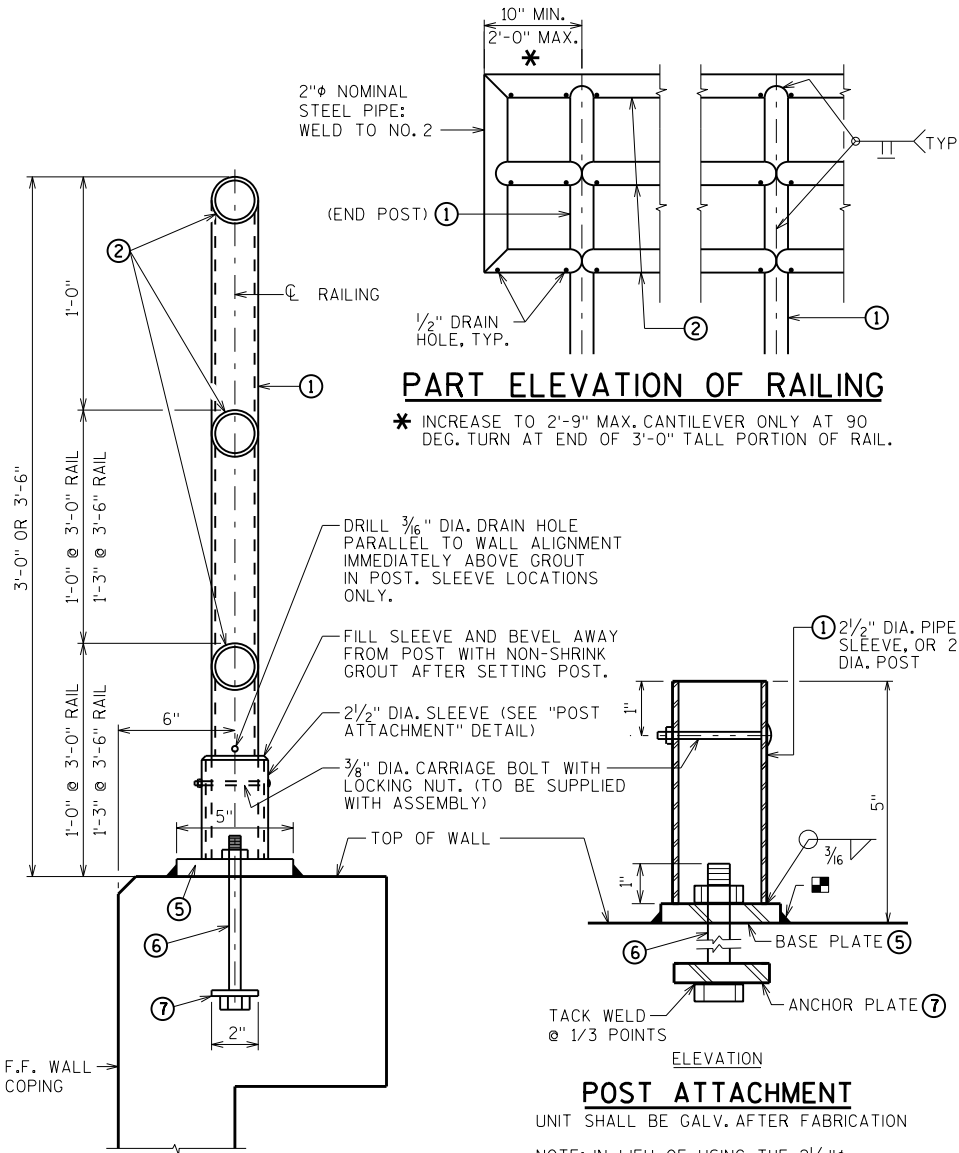
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



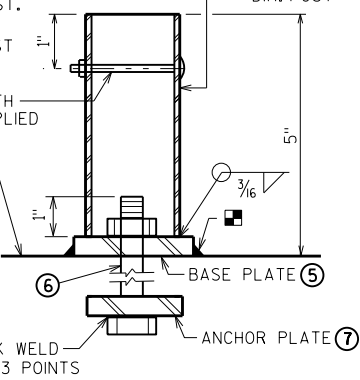
SHOP RAILING SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



PART ELEVATION OF RAILING

* INCREASE TO 2'-9" MAX. CANTILEVER ONLY AT 90 DEG. TURN AT END OF 3'-0" TALL PORTION OF RAIL.



POST ATTACHMENT

UNIT SHALL BE GALV. AFTER FABRICATION

NOTE: IN LIEU OF USING THE 2 1/2" ϕ SLEEVE, THE 2" ϕ RAIL POST MAY BE WELDED TO THE BASE PLATE.

SECTION THRU RAILING

ANCHOR PLATE

BASE PLATE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-40-722			
DRAWN BY		CAD	PLANS CKD.
PIPE RAILING		SHEET 7	
		108	

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-723."

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL SHALL BE DESIGNED USING ELEVATIONS GIVEN ON THIS SHEET.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE LOAD OF 240 PSF.

THE DESIGN OF THE WALL IN FRONT OF THE ABUTMENT SHALL INCLUDE THE HORIZONTAL EARTH LOADS AND 240 PSF LIVE LOAD SURCHARGE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

MATERIAL PROPERTIES:

CONCRETE MASONRY: CAST-IN-PLACE COPING ———— f'_c = 3,500 P.S.I.
ANCHOR SLAB AND PARAPET ———— f'_c = 4,000 P.S.I.

BAR STEEL REINFORCEMENT: GRADE 60 ———— f_y = 60,000 P.S.I.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
209.2500	BACKFILL GRANULAR GRADE 2	TON	348
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2
502.3210	PIGMENTED SURFACE SEALER	SY	14
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	15
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1750
513.2001	RAILING PIPE	LF	116
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	180
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
652.0130	CONDUIT RIGID METALLIC 2 1/2-INCH	LF	3
652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	LF	35
SPV.0090	FENCE CHAIN LINK 6-FT. R-40-723	LF	34
SPV.0165	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-723	SF	1505
	NON-BID ITEMS		
	EXPANDED POLYSTYRENE	SIZE	1"
	FILLER	SIZE	1 1/2"
	NON-BITUMINOUS JOINT SEALER		

WALL ELEVATION TABLE

STA. ALONG SB STH 145	WALL STA.	TOP OF WALL EL.	FINISHED GRADE EL.
33+35.54	10+00.00	780.06	780.06
33+21.28	10+25.00	781.09	770.78
33+16.44	10+33.49	781.44	767.62
33+16.44	10+33.50	773.44	767.62
33+12.16	10+41.00	773.44	764.83
33+03.16	10+50.00	773.44	765.04
32+78.16	10+75.00	773.44	765.61
32+53.16	11+00.00	773.44	766.18
32+28.16	11+25.00	773.44	766.75
32+26.95	11+26.20	773.44	766.78
32+08.73	11+50.00	769.92	768.54
32+03.99	11+56.20	769.00	769.00

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTIONS
3. WALL DETAILS
4. ANCHOR SLAB
5. CONDUIT DETAILS
6. FENCING DETAILS
7. PIPE RAILING
8. SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACTS:

CHRISTOPHER DOLL (608) 266-3229
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED _____ CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE R-40-723			
WALL ALONG STH 145 SB AT 107TH ST			
COUNTY	MILWAUKEE	CITY	MILWAUKEE
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CAD CK'D.
GENERAL PLAN			SHEET 1 OF 8
			109

* PROVIDE FOR THREE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

BEGIN WALL STA. 10+00= STA. 33+35.54 SB STH 145, 89.93' RIGHT

AT THE BACKFACE OF WALL, SEAL THE BELOW GRADE VERTICAL JOINT BETWEEN WALL PANELS AND BRIDGE ABUTMENT WITH GEOTEXTILE FABRIC PER THE WALL SPECIAL PROVISIONS

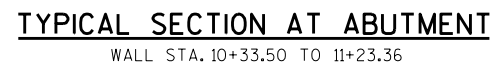
EXIST. WATER MAIN TO REMAIN

TIE PIPE UNDERDRAIN INTO PROPOSED STORM SEWER IN FRONT OF WALL AT LOW POINT OF WALL

WALL PLAN
MSE RETAINING WALL

WALL ELEVATION

LOOKING AT F.F. OF WALL
(VERTICAL EXAGGERATION - 2X)



- SCALE = 14.00

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-40-723			
DRAWN BY		CAD	PLANS CK'D.
TYPICAL SECTIONS		SHEET 2	
		110	

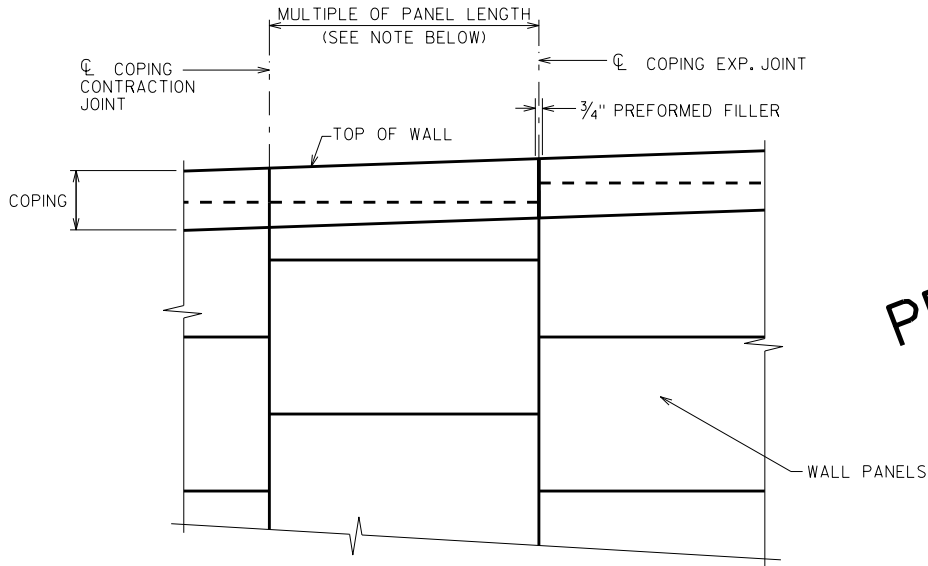
SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL (WITHIN THE WALL REINFORCING ZONE)*	30	0	120
BORING 1, STA			
BORING 2, STA			

* DESIGN WALL FOR THESE VALUES

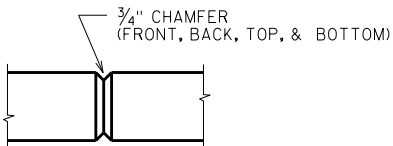
THE TYPICAL WALL SECTION USED IN THE ANALYSES HAD AN EXPOSED HEIGHT BETWEEN 2.1 AND 8.1 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSES:

1. THE SLOPE BEHIND THE WALL IS 1V:2H.
2. THE SLOPE IN FRONT OF THE WALL IS 1V:3H.
3. THE GROUNDWATER ELEVATION WAS BELOW THE INVESTIGATED AREA.
4. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
5. THE MINIMUM EMBEDMENT DEPTH IS 3.0 FEET.
6. THE THICKNESS OF THE CONCRETE PANEL IS 5.5-INCHES.
7. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL LIGHTWEIGHT CONSTRUCTION EQUIPMENT AND LIVE LOAD.
8. GLOBAL STABILITY WAS DETERMINED BY THE COMPUTER PROGRAM XSTABL
9. BEARING CAPACITY IS DETERMINED BY TERZAGHI'S BEARING CAPACITY EQUATION.
10. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.
11. DESIGN COMPLETED USING LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHODS.
12. 3.0 FEET WAS ADDED TO THE EXPOSED HEIGHTS TO ARRIVE AT THE DESIGN HEIGHTS (TOTAL HEIGHTS)



NOTE:
ALL JOINTS MUST COINCIDE WITH WALL PANEL JOINT ON FRONT FACE WHERE BOTTOM OF LIP INTERSECTS WITH WALL PANEL JOINT.

WALL & COPING PARTIAL ELEVATION

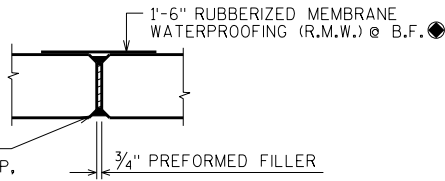


COPING CONTRACTION JOINT PLAN

MAX. SPA. OF JOINT = 12'-0"

NOTES:

DO NOT RUN ANY BAR STEEL THRU JOINTS.
ALL JOINTS TO EXTEND FULL DEPTH OF COPING.



COPING EXPANSION JOINT PLAN

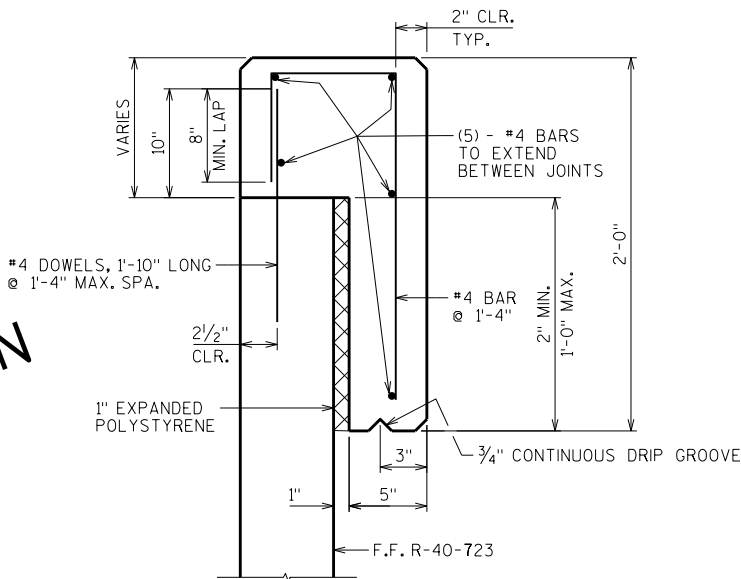
MAX. SPA. OF JOINT = 50'-0"

R.M.W. TO EXTEND FROM TOP OF COPING TO 6" BELOW BOTTOM OF COPING AT THE BACK FACE OF THE WALL.
COST OF R.M.W. SHALL BE INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-723".

WALL EXTERNAL STABILITY EVALUATION

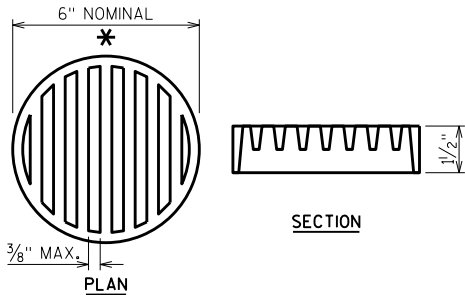
DIMENSIONS				
WALL HEIGHT ¹ (FEET)				
EXPOSED WALL HEIGHT (FEET)				
MINIMUM LENGTH OF REINFORCEMENT ³				
LENGTH OF REIN./WALL HT.				
WALL STATION				
BORING USED				
CAPACITY TO DEMAND RATIO (CDR) ⁴				
SLIDING (CDR>1.0)				
ECCENTRICITY (CDR>1.0)				
BEARING (CDR>1.0)				
FACTORED BEARING RESISTANCE				
GLOBAL STABILITY (CDR>1.0)		N/A ⁵	N/A ⁵	

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 3.0 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD OF 240 PSF.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH.
4. REQUIRED CDR'S ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. N/A NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.



SECTION THRU COPING

COST OF C.I.P. COPING AND REINFORCING SHALL BE INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-723"



RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

STATE PROJECT NUMBER

1360-12-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED.

ALL BAR STEEL IN CAST-IN-PLACE CONCRETE COPING SHALL BE EPOXY COATED.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF THE WALL (R-40-723).

EXPANSION AND CONTRACTION JOINT LOCATIONS AND DIMENSIONS ARE FOR INFORMATIONAL USE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF THE EXPANSION JOINTS.

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-723" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO THE TOP OF LEVELING PAD, SET A CONSTANT DEPTH OF 3'-0" BELOW FINISHED GRADE.

THE SOIL AT THE BASE OF THE WALL SHOULD BE REVIEWED BY SOUTHEAST REGION WAUKESHA OFFICE SOILS ENGINEER TO DETERMINE IF THE SOILS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL WITH PRECAST CONCRETE PANEL FACING.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF RETAINING WALL R-40-723 WITH THE ABUTMENT OF BRIDGE B-40-1004. PRIOR TO DRIVING BRIDGE PILING AT ABUTMENTS, ENSURE EXISTING PIPE CULVERTS/STORM SEWERS BELOW THE PROPOSED WALLS HAVE BEEN REMOVED AND "BACKFILL GRANULAR GRADE 2" HAS BEEN PLACED.

THE QUANTITIES OF CONCRETE MASONRY & REINFORCING STEEL FOR THE CAST-IN-PLACE ANCHOR SLAB ARE PAID FOR UNDER THE BID ITEMS "CONCRETE MASONRY RETAINING WALLS" AND "BAR STEEL REINFORCEMENT HS COATED STRUCTURES".

THE CONCRETE MASONRY & REINFORCING STEEL FOR THE CAST-IN-PLACE COPING ARE INCLUDED WITH THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-40-723".

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED CONCRETE WALL PANEL THICKNESS OF 5/2". FOR PANEL THICKNESSES OTHER THAN 5/2", THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW THE SURFACE OF CONCRETE).

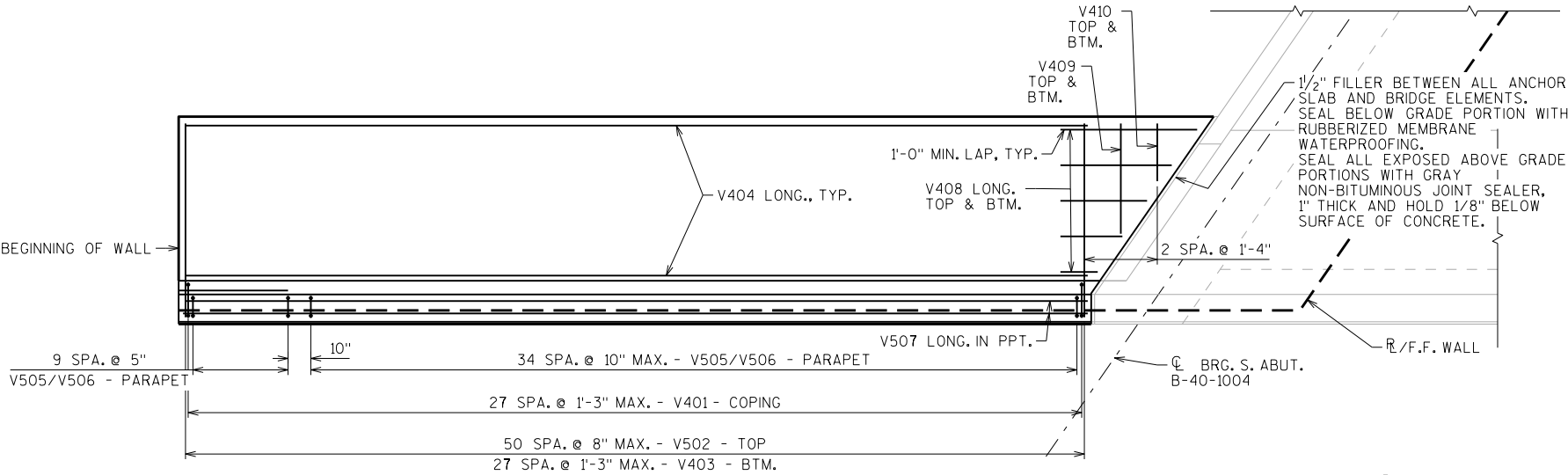
PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TRAFFIC SIDE OF THE EXPOSED ANCHOR SLAB SURFACE.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE TRAFFIC SIDE AND THE TOP OF THE PARAPET.

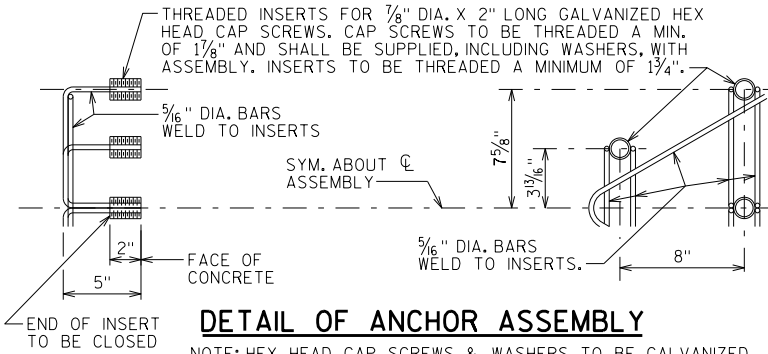
THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

NO.	DATE	REVISION	BY
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STRUCTURE R-40-723			
DRAWN BY		CAD	PLANS CK'D.
WALL DETAILS			SHEET 3
			111

SCALE = 6:00



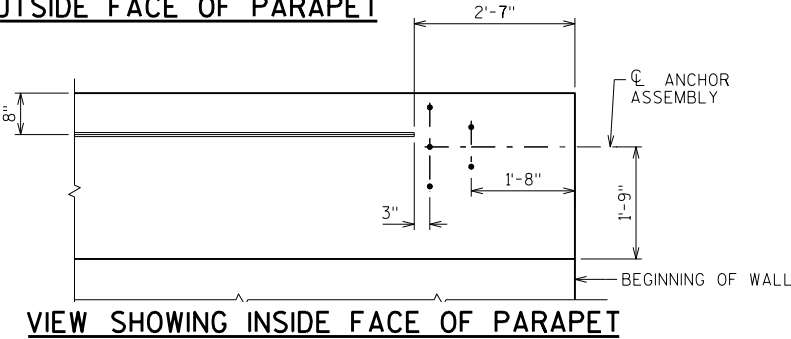
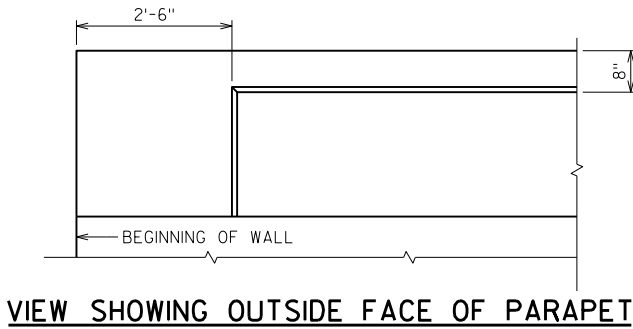
ANCHOR SLAB PLAN



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

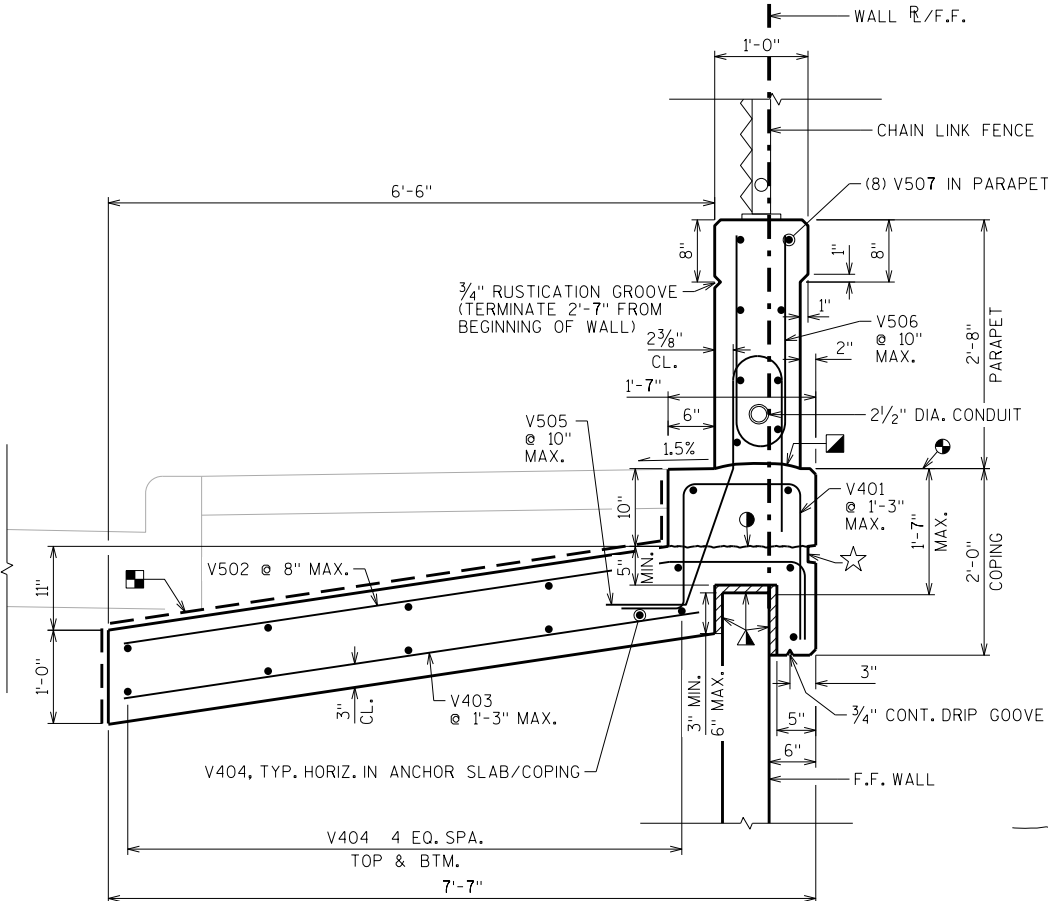


BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
V401	X	28	4'-6"	X		CONC. COPING - TRANS. - VERT.
V502	X	51	7'-11"	X		CONC. ANCHOR SLAB - TRANS. - HORIZ. - TOP
V403	X	28	6'-1"			CONC. ANCHOR SLAB - TRANS. - HORIZ. - BTM.
V404	X	15	33'-0"			LONGIT. - HORIZ. - ANCHOR SLAB & COPING
V505	X	45	5'-9"	X		ANCHOR SLAB & PARAPET - VERT.
V506	X	45	4'-9"	X		PARAPET - VERT.
V507	X	8	33'-0"			PARAPET - HORIZ.
V408	X	10	3'-1"		▲	ANCHOR SLAB - LONG.
V409	X	2	4'-5"			ANCHOR SLAB - TRANS.
V410	X	2	2'-6"			ANCHOR SLAB - TRANS.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



SECTION THRU ANCHOR SLAB

RUSTICATION DETAIL

(PROVIDE IF OPTIONAL CONST. JOINT IS USED)

LEGEND

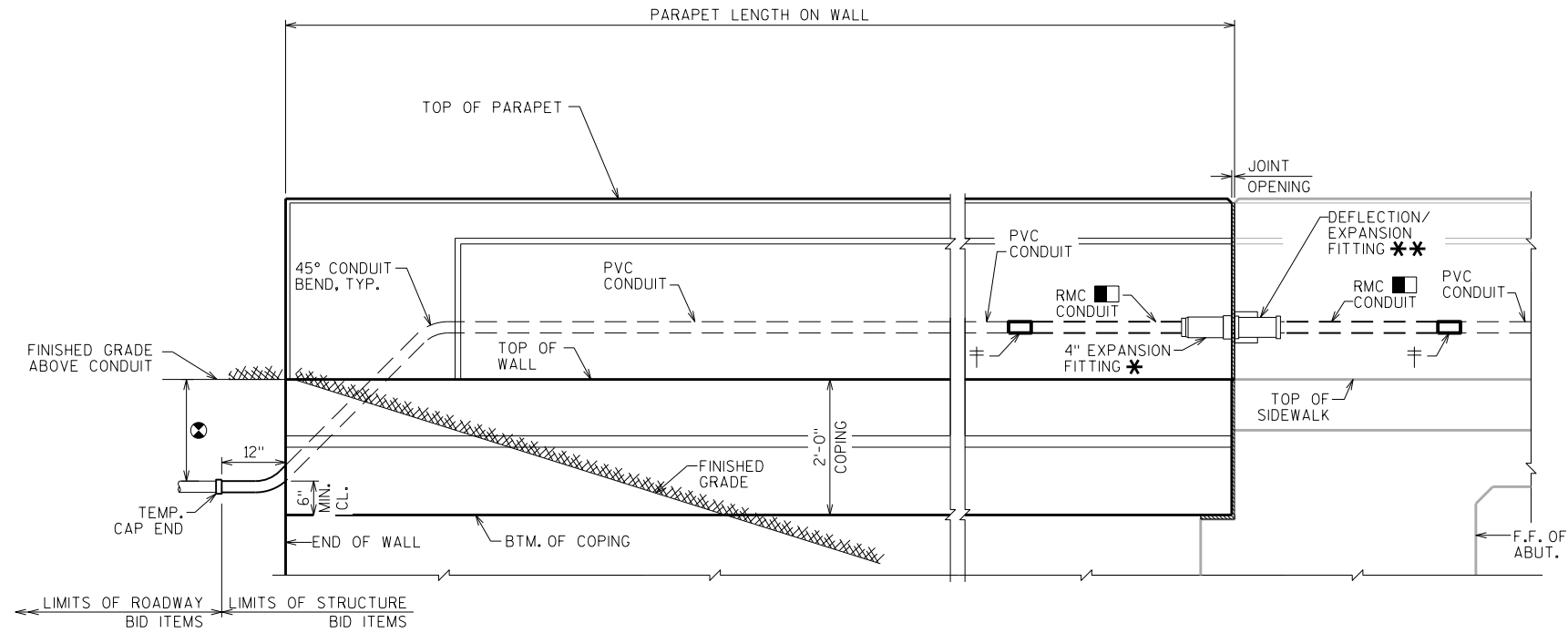
- HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH
- ▲ EXPANDED POLYSTYRENE (1 INCH) TYPICAL OF EACH SIDE
- OPT. CONST. JOINT, LEAVE SURFACE ROUGHENED. PROVIDE RUSTICATION IF USED. SEE 'RUSTICATION DETAIL'. IF OPT. CONST. JOINT IS USED, PLACE 18" MEMBRANE WATERPROOFING ALONG THE ENTIRE LONGITUDINAL JOINT. THE MEMBRANE WATERPROOFING SEALING OF THE OPT. CONST. JOINT IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY RETAINING WALLS".
- TOP OF WALL ELEVATION
- L-SHAPED 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT THE JOINT BETWEEN THE ANCHOR SLAB AND BRIDGE ABUTMENT. (MEMBRANE WATERPROOFING INCIDENTAL TO "CONCRETE MASONRY RETAINING WALLS")

BAR SERIES TABLE

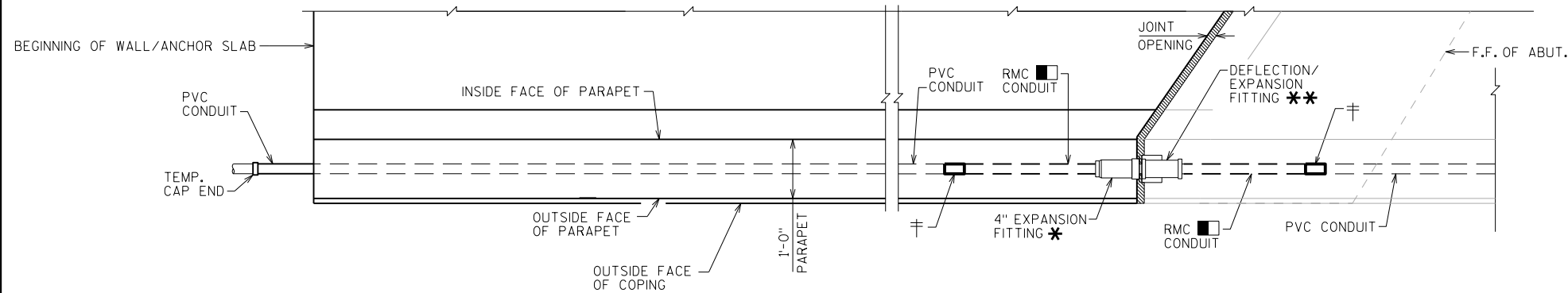
BAR MARK	NO. REQ'D.	LENGTH
V408	2 SERIES OF 5	1'-2" TO 5'-0"

BUNDLE AND TAG EACH SERIES SEPARATELY.

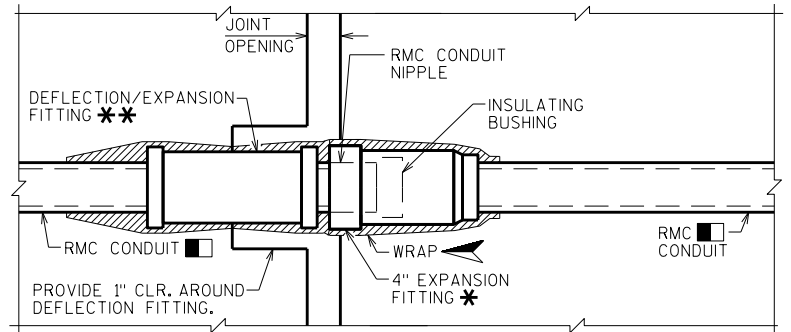
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-40-723			
DRAWN BY		CAD	PLANS CK'D.
ANCHOR SLAB		SHEET 4	
		112	



OUTSIDE ELEVATION OF PARAPET AT ANCHOR SLAB



PLAN OF PARAPET AT ANCHOR SLAB



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING

THIS DETAIL ACCOMMODATES A MAXIMUM OF 4" TOTAL MOVEMENT AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION. BOND JUMPER NOT SHOWN FOR CLARITY

LEGEND

- USE 2 1/2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC FOR 3'-0" MIN. ON EACH SIDE OF JOINT OPENINGS UNLESS NOTED OTHERWISE.
- † NONMETALLIC CONDUIT TO METALLIC CONDUIT ADAPTER FITTING (UL OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED).
- ◀ SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 2 1/2-INCH".
- ⊗ 2'-0" MIN. CONDUIT COVER UNDER ROADWAYS, 1'-6" OTHERWISE. CONDUIT COVER SHOULD NOT EXCEED 3'-0".
- * EXPANSION FITTING REQUIREMENTS (IF USED):
 - 4" TOTAL MOVEMENT WITH BONDING JUMPER
 - 8" TOTAL MOVEMENT WITH BONDING JUMPER
- ** DEFLECTION/EXPANSION FITTING REQUIREMENTS (IF USED):
 - UP TO 3/4" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30° OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER

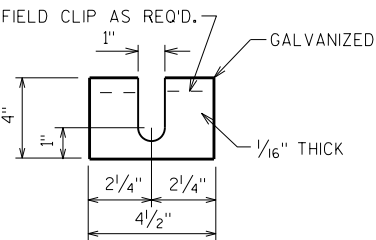
NOTES

CONDUIT SHALL BE EMBEDDED A MINIMUM OF 2" CLEAR.
USE 2 1/2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.
CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.
CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.

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CONDUIT DETAILS			SHEET 5		
			113		

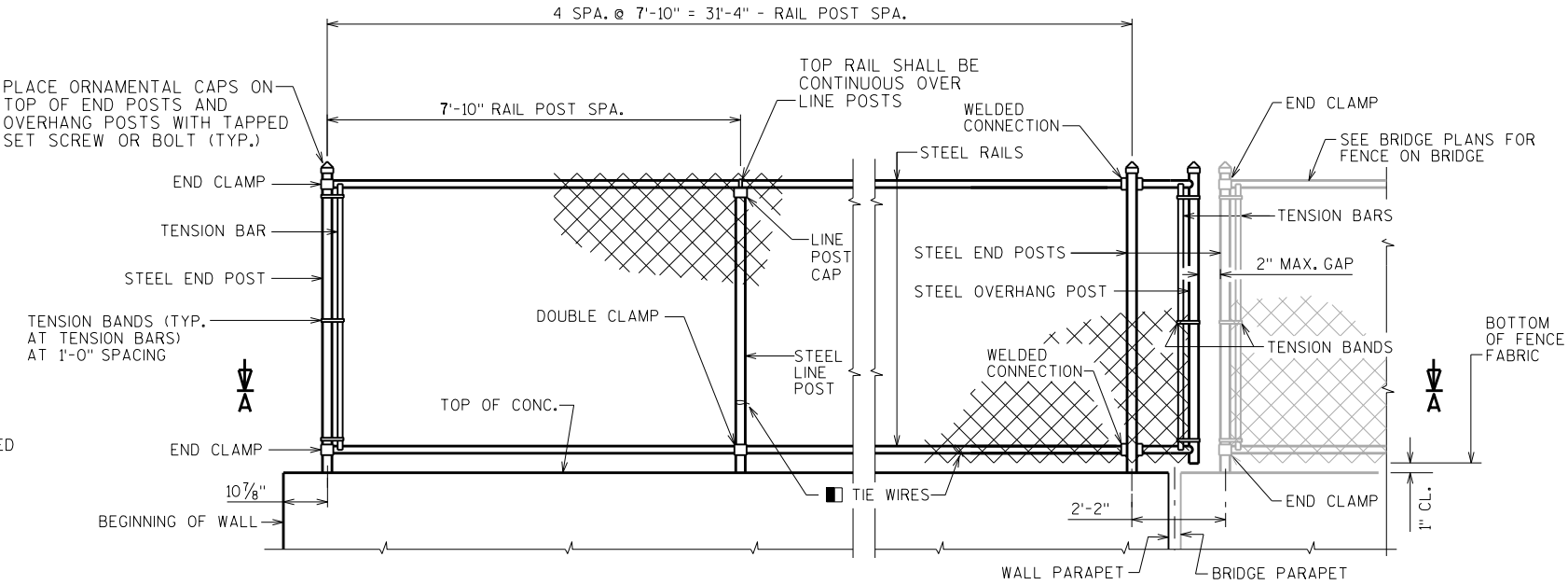
FENCE MEMBER
SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



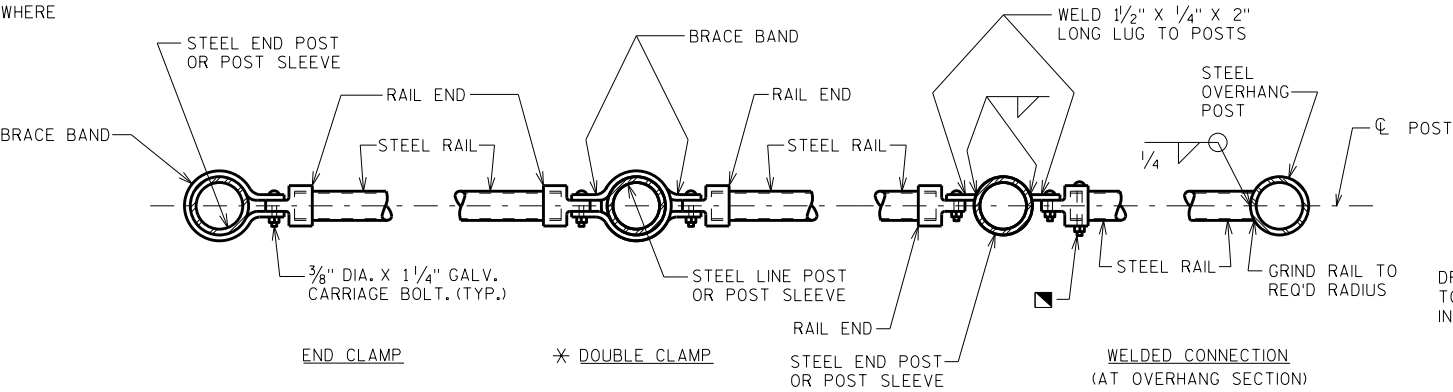
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



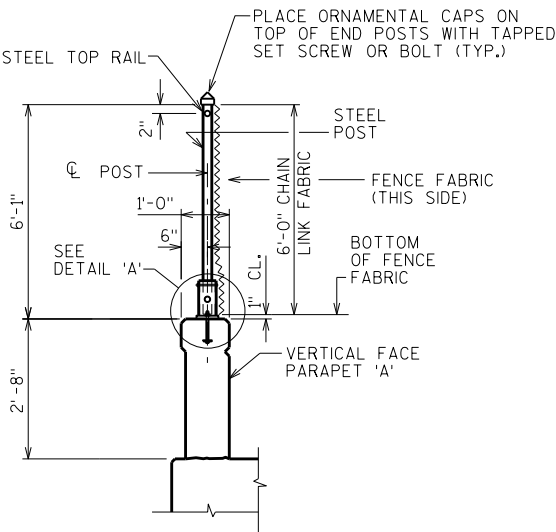
FENCE PART ELEVATION

VIEWING OUTSIDE FACE OF PARAPET

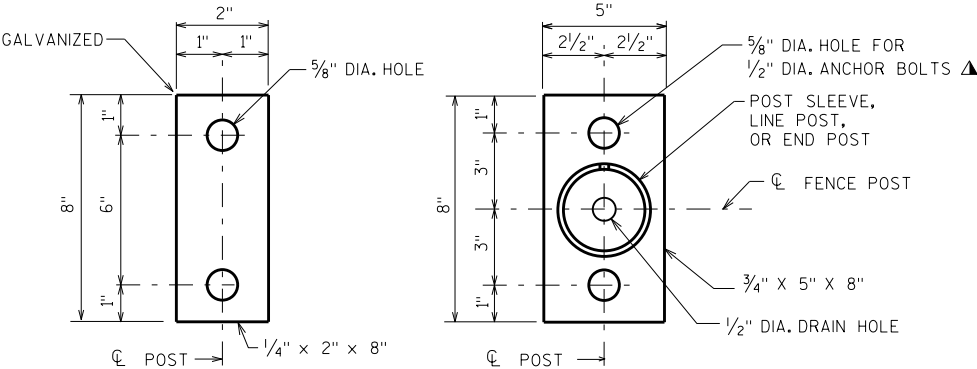


SECTION A-A

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



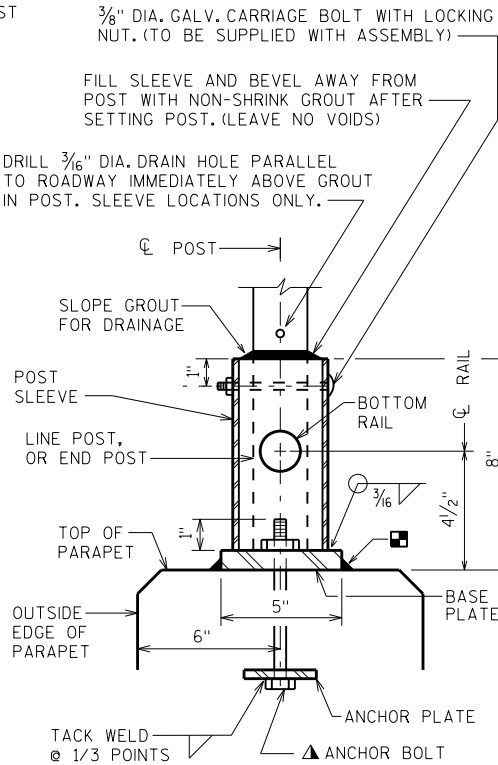
SECTION THRU FENCE



ANCHOR PLATE

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.

BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM-COATED STEEL OR GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM A491 OR A392, CLASS 2. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626.

THE BID ITEM SHALL BE "FENCE CHAIN LINK 6- FT R-40-723."

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

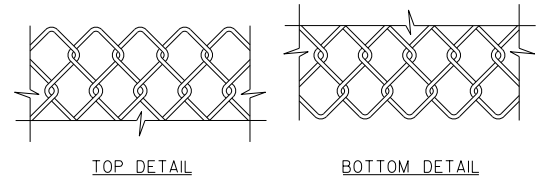
1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER.

ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS, AND BE FULLY THREADED ROD, ASTM F1554-GRADE 36(MIN.).

ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

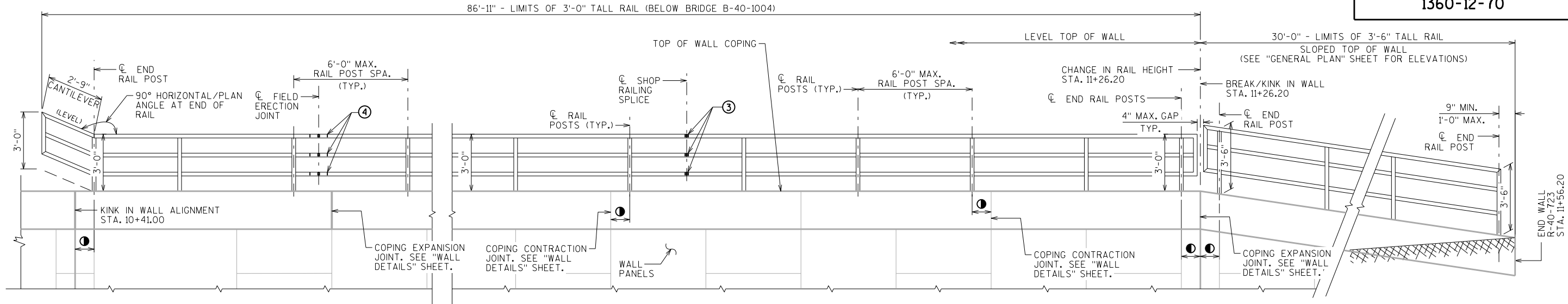
MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.



FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

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FENCING DETAILS			SHEET 6
			114



1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ϕ OF COPING JOINTS AND ϕ OF RAIL POSTS. (APPLICABLE TO BOTH EXPANSION AND CONTRACTION JOINTS)

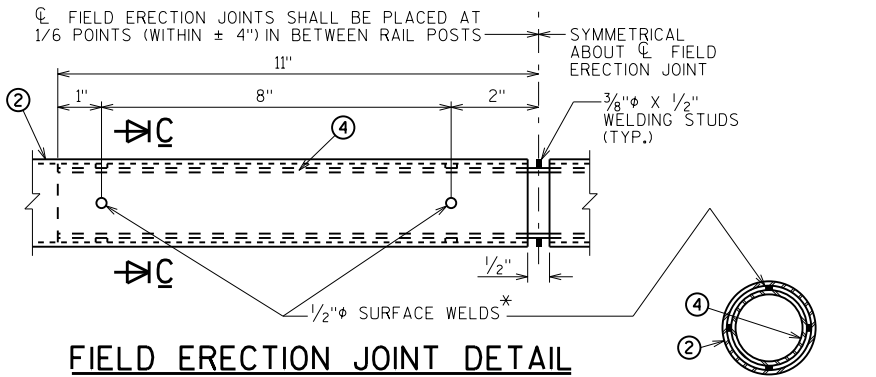
PARTIAL ELEVATION OF WALL COPING & RAILING
(LOOKING @ F.F. OF WALL)

NOTES

- BID ITEM SHALL BE "RAILING PIPE", WHICH INCLUDES ALL ITEMS SHOWN.
- RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.
- FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- DRILL DRAIN HOLES PRIOR TO GALVANIZING.
- ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.
- STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D, FOR ALIGNMENT.
- ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.
- PLACE ALL NUTS ON OUTSIDE OF POSTS.
- ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.
- CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.
- ALL RAILINGS, POSTS, GATES AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERAL COLOR NO. 27038).

LEGEND

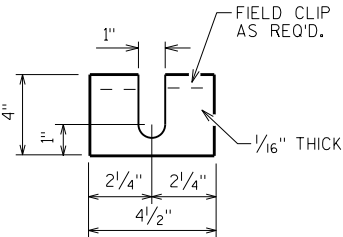
- 1 2" ϕ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.
- 2 2" ϕ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1
- 3 1/2" ϕ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".
- 4 1/2" ϕ PIPE SLEEVE X 1'-10" LONG FOR NO. 2. PROVIDE 1/2" ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE 3/8" ϕ X 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
- 5 PLATE 3/4" X 5" X 8", WITH 5/8" ϕ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.
- 6 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. ☆
- ☆ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2"-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS, AND BE FULLY THREADED ROD, ASTM F1554-GRADE 36(MIN.).
- 7 1/4" X 2" X 8" FLAT BAR, WITH 5/8" ϕ HOLES FOR ANCHOR BOLTS NO. 6.



FIELD ERECTION JOINT DETAIL

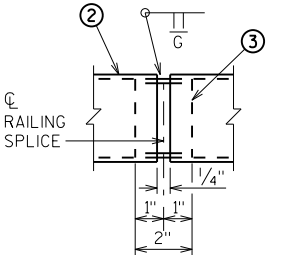
*MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

SECTION C-C



POST SHIM DETAILS

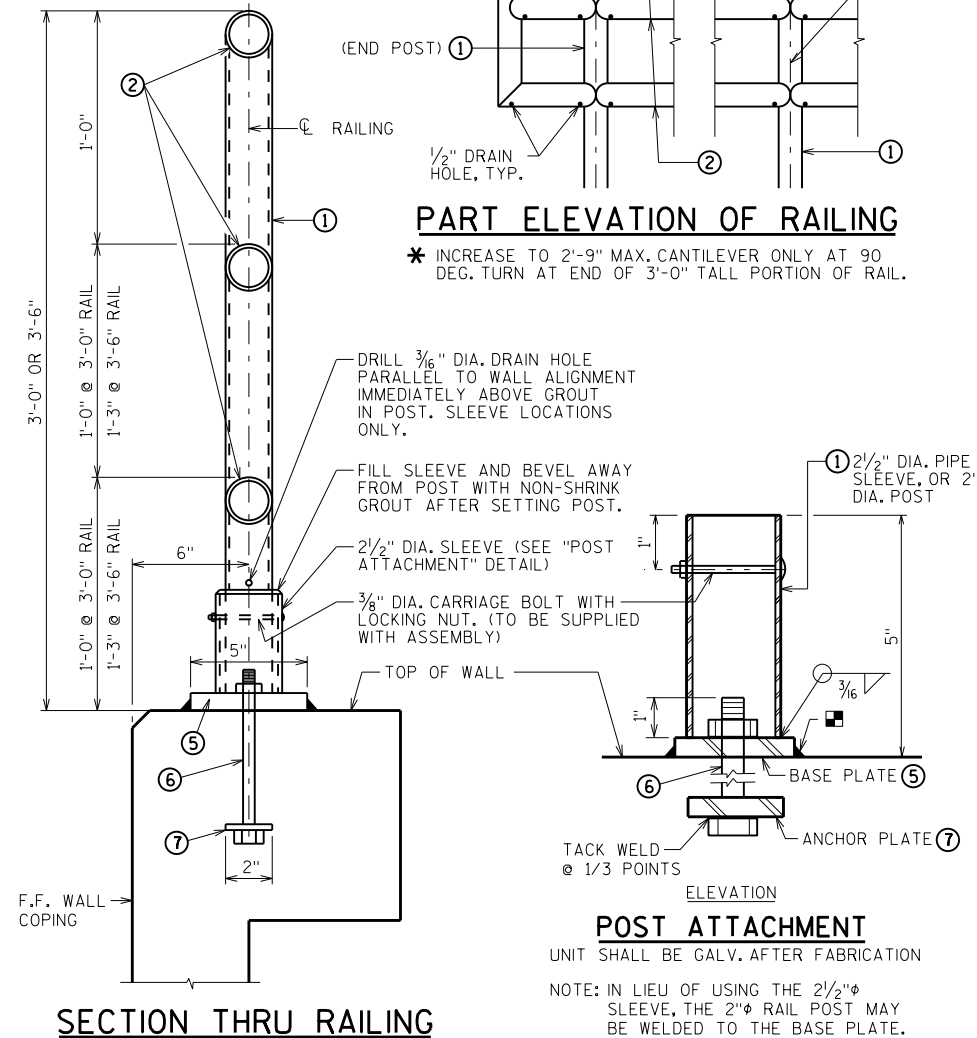
SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



SHOP RAILING SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE R-40-723			
DRAWN BY		CAD	PLANS CKD.
PIPE RAILING			SHEET 7
			115



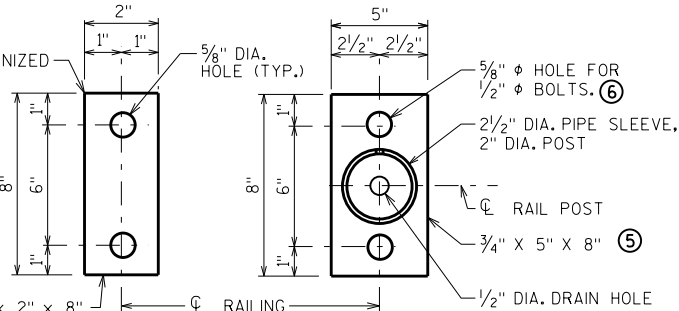
POST ATTACHMENT

UNIT SHALL BE GALV. AFTER FABRICATION

NOTE: IN LIEU OF USING THE 2 1/2" ϕ SLEEVE, THE 2" ϕ RAIL POST MAY BE WELDED TO THE BASE PLATE.

ANCHOR PLATE

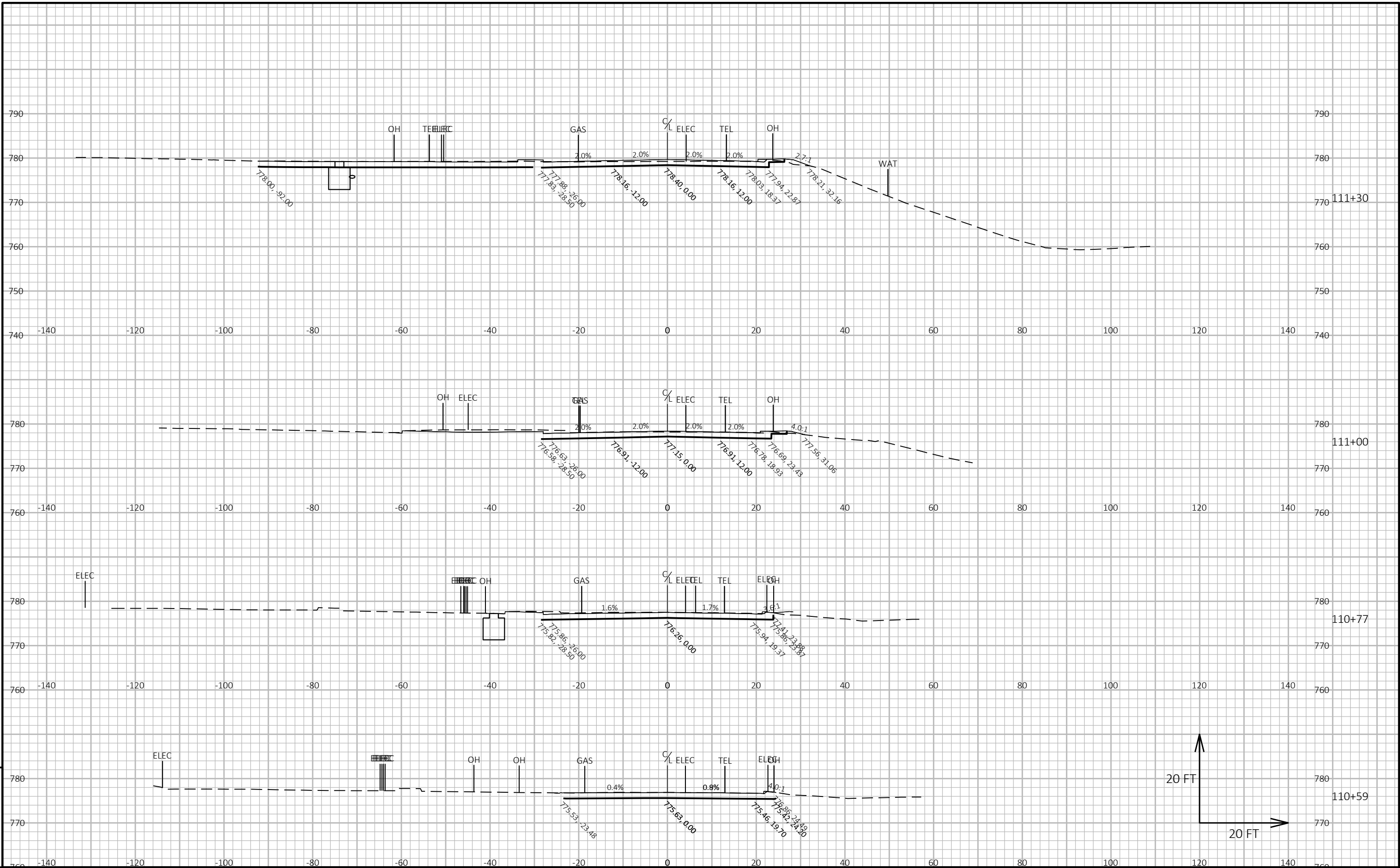
BASE PLATE

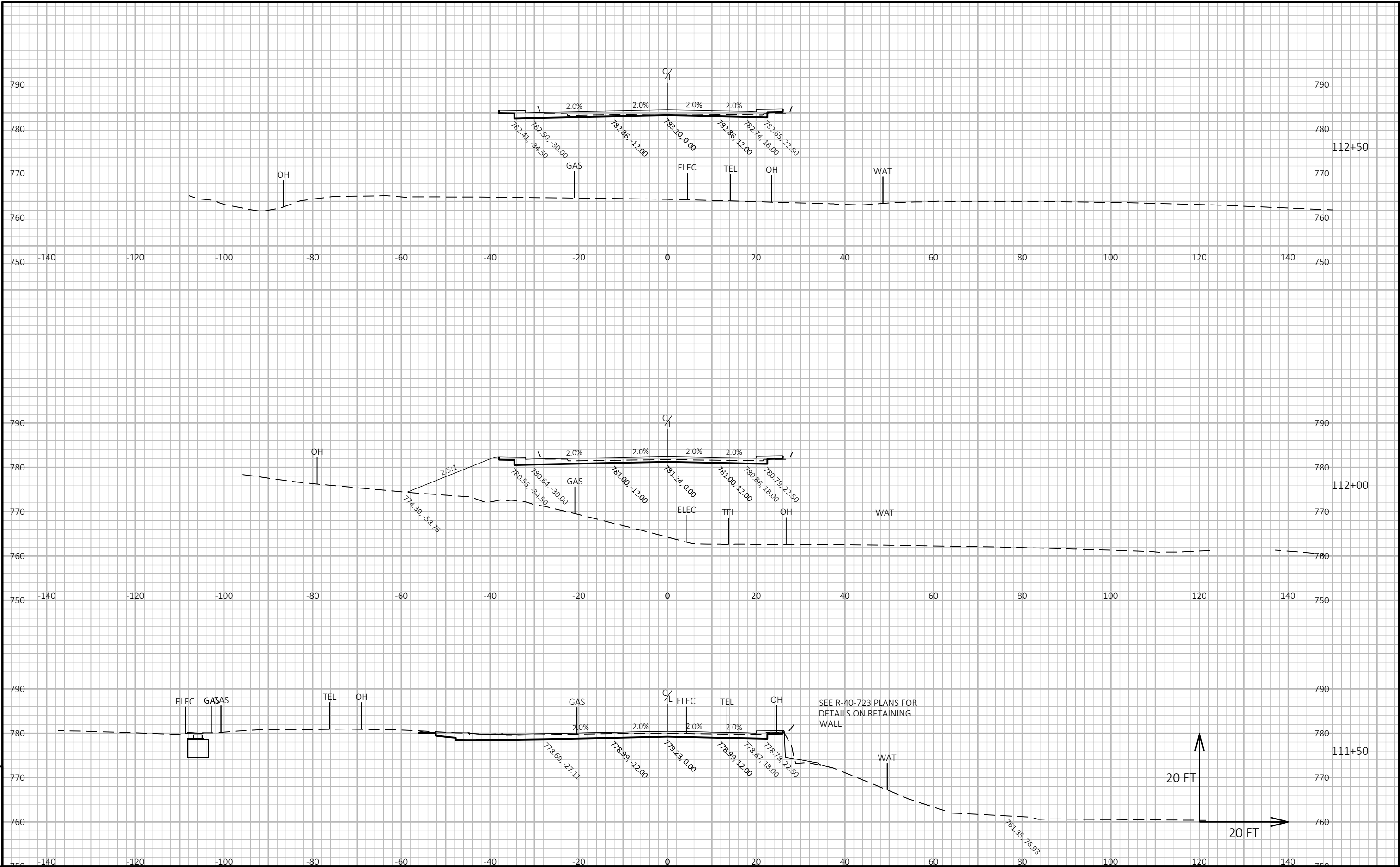


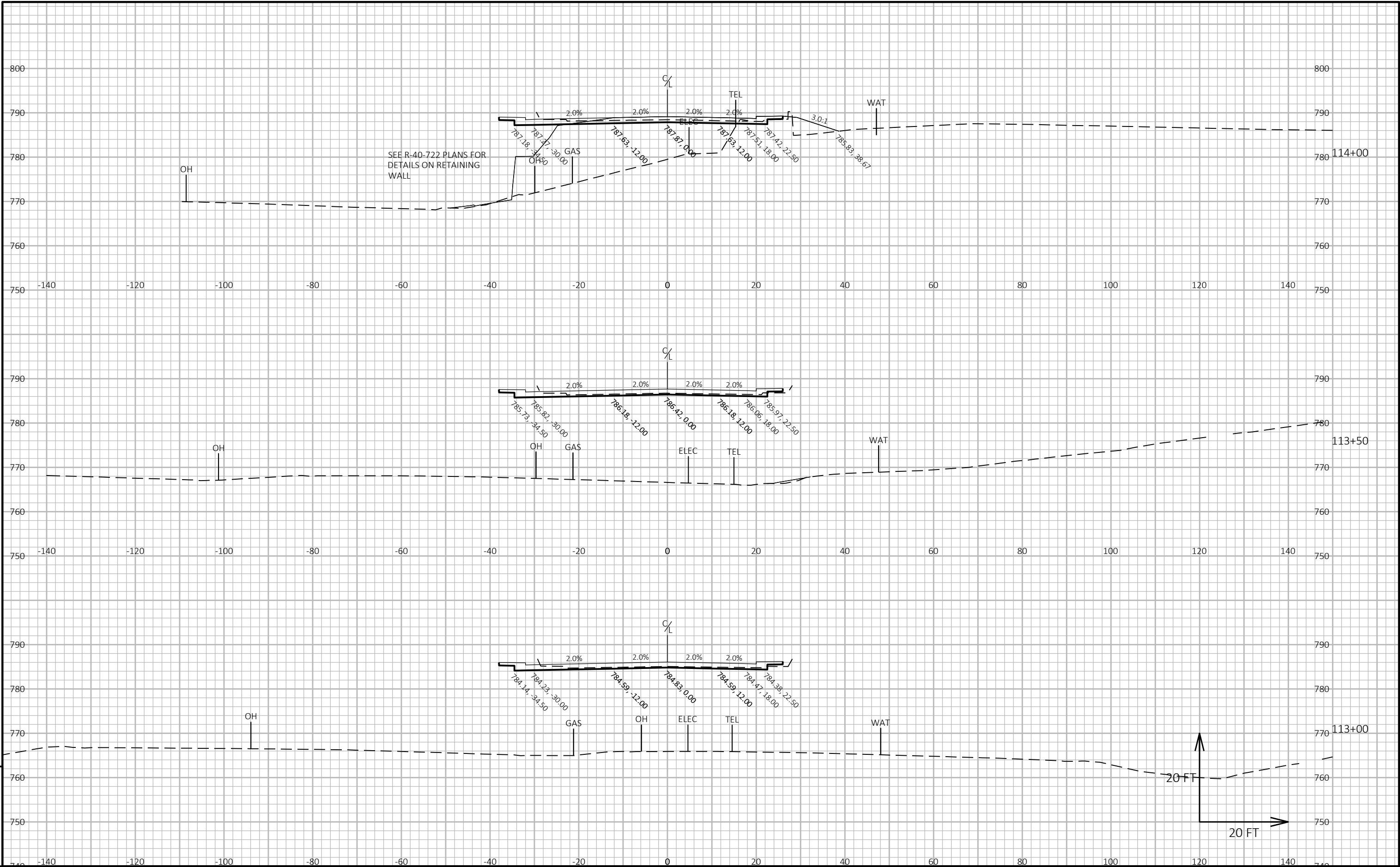
DIVISION 1 - 107TH-PR											
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1	1.20	NOTE 8
110+00	11000.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
110+25	11025.00	25.00	24.66	0.00	0.00	11	0	0	11	0	11
110+50	11050.00	25.00	53.18	0.00	0.00	36	0	0	47	0	47
110+75	11075.00	25.00	79.24	0.00	0.86	61	0	0	108	0	108
111+00	11100.00	25.00	96.08	0.00	1.24	81	0	1	189	1	188
111+25	11125.00	25.00	144.23	0.00	0.84	111	0	1	300	2	298
111+50	11150.00	25.00	89.56	0.00	3.04	108	0	2	408	5	403
111+75	11175.00	25.00	20.17	0.00	350.79	51	0	164	459	202	257

DIVISION 1 - 107TH-PR											
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1	1.20	NOTE 8
114+00	11400.00	0.00	5.41	0.00	760.65	0	0	0	0	0	0
114+25	11425.00	25.00	30.46	0.00	476.51	17	0	573	17	688	-671
114+50	11450.00	25.00	47.74	0.00	90.67	36	0	263	53	1,003	-950
114+75	11475.00	25.00	135.37	0.00	0.00	85	0	42	138	1,054	-916
115+00	11500.00	25.00	61.90	0.00	0.36	91	0	0	229	1,054	-825
115+25	11525.00	25.00	68.37	0.00	1.51	60	0	1	289	1,055	-766
115+50	11550.00	25.00	63.26	0.00	0.06	61	0	1	350	1,056	-706
115+75	11575.00	25.00	50.68	0.00	1.53	53	0	1	403	1,057	-654
116+00	11600.00	25.00	3.08	0.00	0.18	25	0	1	428	1,058	-630

Notes:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)]







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