

**WASHINGTON CO.**  
 PCC PAVEMENT - REPLACE STORM SEWER/INTAKES  
 SANITARY SEWER WATERMAIN  
 STBG-SWAP-8140(612)--SG-92

LETTING DATE  
 APRIL 20, 2021

This project is covered by the Iowa Department of Natural Resources NPDES General Permit No. 2. The contractor shall carry out the terms and conditions of General Permit No. 2 and the storm water pollution prevention plan which is a part of these contract documents. Refer to Section 2602 of the Iowa DOT Standard Specifications for additional information.

REFER TO SHEET A.02 FOR PROJECT LOCATION MAP.



PLANS OF PROPOSED IMPROVEMENT ON THE

# URBAN ROAD SYSTEM CITY OF WASHINGTON WASHINGTON COUNTY

## PCC PAVEMENT - REPLACE STORM SEWER/INTAKES SANITARY SEWER WATERMAIN

IN THE CITY OF WASHINGTON, ON W. BUCHANAN, FROM  
CURRENT TERMINATION TO SOUTH AVENUE E.  
STBG-SWAP-8140(612)--SG-92

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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MILEAGE SUMMARY		
		105-1 09-27-94
LOCATION	LIN. FT.	MILES
WEST BUCHANAN ST. (3+00 TO 30+15.56)	2,715	0.51

DESIGN DATA URBAN			
2018	AADT	270	V.P.D.

CITY OF WASHINGTON, IOWA

AUTHORIZED FOR LETTING

*[Signature]* 1/18/21

CITY ADMINISTRATOR      DATE

PROJECT DESCRIPTION	
	100-1D 10-18-05
This project includes new pavement installation from end of existing West Buchanan Street on the west end to South Avenue E to the east. Project also includes new water main and sanitary sewer installation.	

Call Before You Dig!  
**1.800.292.8989**  
 Call the toll-free number at least  
**48 hours**  
 prior to ALL excavations in Iowa.

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

*Jack Pope* 1-19-2021  
Date

Jack Pope, P.E.  
License number: 11715  
My license renewal date is December 31, 2021  
Pages or sheets covered by this seal:      ALL SHEETS

TOTAL SHEETS	73
PROJECT NUMBER	STBG-SWAP-8140(612)--SG-92

INDEX OF SHEETS	
	105-3 10-18-05
NO.	DESCRIPTION
A.01	TITLE SHEET
A.02	LEGENDS AND LOCATION MAP
B.01 - B.02	TYPICAL SECTIONS AND DETAILS
C.01 - C.05	PROJECT TABULATIONS AND DESIGN NOTATIONS
D.01 - D.03	EXISTING CONDITIONS AND MAINLINE PLAN
D.04 - D.13	MAINLINE PLAN AND PROFILE (BUCHANAN STREET)
D.14	SIDEWALK PLAN AND PROFILE (SOUTH AVENUE H)
H.01 - H.03	RIGHT-OF-WAY AND EASEMENT SHEETS
J.01 - J.02	TRAFFIC CONTROL/STAGING
L.01 - L.03	INTERSECTION DETAILS
L.04	DRIVEWAY DETAILS
M.01	OVERALL STORM SEWER PLAN
M.02	STORM SEWER PIPE AND STRUCTURE TABLES
M.03 - M.19	STORM SEWER PLAN AND PROFILE
S.01	SIDEWALK/ADA COMPLIANCE SHEETS
SW.01 - SW.09	SANITARY SEWER PLAN AND PROFILE AND WATER MAIN PLAN
U.01	SPECIAL DETAILS
W.01 - W.11	CROSS SECTIONS

STANDARD ROAD PLANS		
		105-4 10-18-11
Number	Date	Title
The following Standard Road Plans apply to construction work on this project.		
DR-121	10-17-17	CONNECTED PIPE JOINTS
DR-201	04-21-20	CONCRETE APRONS
DR-203	04-21-20	METAL PIPE APRONS
DR-303	10-17-17	SUBDRAINS (LONGITUDINAL)
EC-204	04-20-21	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICES
MI-210	10-20-15	PCC DRIVEWAYS AND ALLEYS
MI-220	10-20-15	DETECTABLE WARNINGS AND PEDESTRIAN RAMPS
MI-221	10-20-15	COMBINED RETAINING WALL - SIDEWALK
PV-101	04-21-20	JOINTS
PV-102	04-21-20	PCC CURB DETAILS
SW-101	04-17-18	TRENCH BEDDING AND BACKFILL ZONES
SW-102	04-20-21	RIGID GRAVITY PIPE TRENCH BEDDING
SW-103	04-20-21	FLEXIBLE GRAVITY PIPE TRENCH BEDDING
SW-104	04-20-21	PRESSURE PIPE TRENCH BEDDING
SW-201	04-21-20	SANITARY SEWER SERVICE STUB
SW-203	04-17-18	SANITARY SEWER CLEANOUT (STORM SEWER)
SW-211	04-17-18	SPECIAL PIPE CONNECTION FOR STORM SEWER
SW-301	04-20-21	CIRCULAR SANITARY SEWER MANHOLE
SW-401	04-20-21	CIRCULAR STORM SEWER MANHOLE
SW-502	04-21-20	CIRCULAR SINGLE GRATE INTAKE
SW-507	04-21-20	SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
SW-509	04-21-20	DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX
SW-512	04-21-20	CIRCULAR AREA INTAKE
SW-513	04-20-21	OPEN-SIDED AREA INTAKE
SW-514	04-17-18	BOXOUTS FOR GRATE INTAKES
SW-601	04-21-20	CASTINGS FOR SANITARY SEWER MANHOLES
SW-602	04-21-20	CASTINGS FOR STORM SEWER MANHOLES
SW-603	10-16-18	CASTINGS FOR GRATE INTAKES
SW-604	04-21-20	CASTINGS FOR AREA INTAKES
TC-252	04-21-20	ROUTES CLOSED TO TRAFFIC
WM-101	10-18-16	THRUST BLOCKS (WATER MAIN)
WM-102	10-18-16	TRACER SYSTEM (WATER MAIN)
WM-201	04-21-20	FIRE HYDRANT ASSEMBLY

GENERAL SYMBOLS LEGEND

- |   |  |
|---|--|
| ● = PROPERTY CORNER FOUND                         | ✕ = RAILROAD GATE OR SIGNAL                      |
| ▲ = SECTION CORNER FOUND                          | MB = MAILBOX                                     |
| —800— = EXISTING GROUND CONTOUR LINE              | ○ = FLAGPOLE                                     |
| —W— = EXISTING WATER LINE (SIZE VARIES)           | ☼ = TREE OR SHRUB                                |
| ☼ = EXISTING FIRE HYDRANT                         | ♣ = STUMP  |
| ⊕ = EXISTING WATER VALVE                          | —x— = FIELD FENCELINE                            |
| ⊕ = EXISTING WATER SERVICE SHUTOFF                | —o— = CHAIN LINK FENCELINE                       |
| ⊕ = EXISTING WATER VALVE PIT                      | —o— = WOOD FENCELINE                             |
| ⊕ = EXISTING MONITORING WELL                      | — — = SILT FENCE                                 |
| ⊕ <sub>WM</sub> = WATER METER                     | ⊕ = BENCHMARK OR ELEVATION MARKER                |
| —ST— = EXISTING STORM SEWER LINE (SIZE VARIES)    | ⊕ = SOIL/PAVEMENT BORING LOCATION MARKER         |
| ⊕ = EXISTING STORM SEWER ACCESS                   | ○ = PROPERTY CORNER SET                          |
| ⊕ = EXISTING SEPTIC TANK                          | △ = SECTION CORNER SET                           |
| ⊕ = EXISTING SANITARY SEWER ACCESS                | —W— = PROPOSED WATER SERVICE LINE (SIZE VARIES)  |
| —SS— = EXISTING SANITARY SEWER MAIN (SIZE VARIES) | —12W— = PROPOSED WATER MAIN (SIZE VARIES)        |
| ⊕ = ELECTRIC MANHOLE                              | ☼ = PROPOSED FIRE HYDRANT                        |
| —OE— = OVERHEAD ELECTRIC LINE                     | ⊕ = PROPOSED WATER VALVE                         |
| —UE— = UNDERGROUND ELECTRIC LINE                  | ⊕ = PROPOSED WATER SHUTOFF                       |
| ⊕ <sub>EM</sub> = ELECTRIC METER                  | ⊕ = PROPOSED SANITARY SEWER MANHOLE              |
| —FO— = FIBEROPTIC LINE                            | ⊕ = PROPOSED SANITARY SEWER END LINE CLEANOUT    |
| ⊕ = TELEPHONE MANHOLE                             | ⊕ = PROPOSED SANITARY SEWER DOUBLE CLEANOUT      |
| ⊕ <sub>TELE PED</sub> = TELEPHONE PEDESTAL        | — — = PROPOSED SANITARY SEWER MAIN (SIZE VARIES) |
| —UT— = TELEPHONE LINE                             | ⊕ = PROPOSED LIFT STATION                        |
| ⊕ <sub>TV PED</sub> = TELEVISION PEDESTAL         | —FM— = PROPOSED SANITARY SEWER FORCE MAIN        |
| —TV— = TELEVISION LINE                            | ⊕ = PROPOSED STORM SEWER ACCESS                  |
| ⊕ <sub>GM</sub> = GAS METER                       | — — = PROPOSED STORM SEWER MAIN                  |
| ⊕ = GAS VALVE                                     | —SST— = PROPOSED SECONDARY STORM SEWER           |
| —G— = EXISTING GAS LINE                           | — — = PROPOSED LONGITUDINAL SUBDRAIN             |
| ⊕ = UTILITY POLE                                  | —800— = PROPOSED GROUND CONTOUR LINE             |
| ⊕ = GUY WIRE                                      | ▨ = SURFACING REMOVAL                            |
| ☆ = LUMINAIRE                                     | ▨ or ▨ = CONCRETE SURFACING REPLACEMENT          |
| ⊕ = TRANSFORMER                                   | ⇒ = FLOW DIRECTION ARROW                         |
| ⊕ = SIGN  |  |

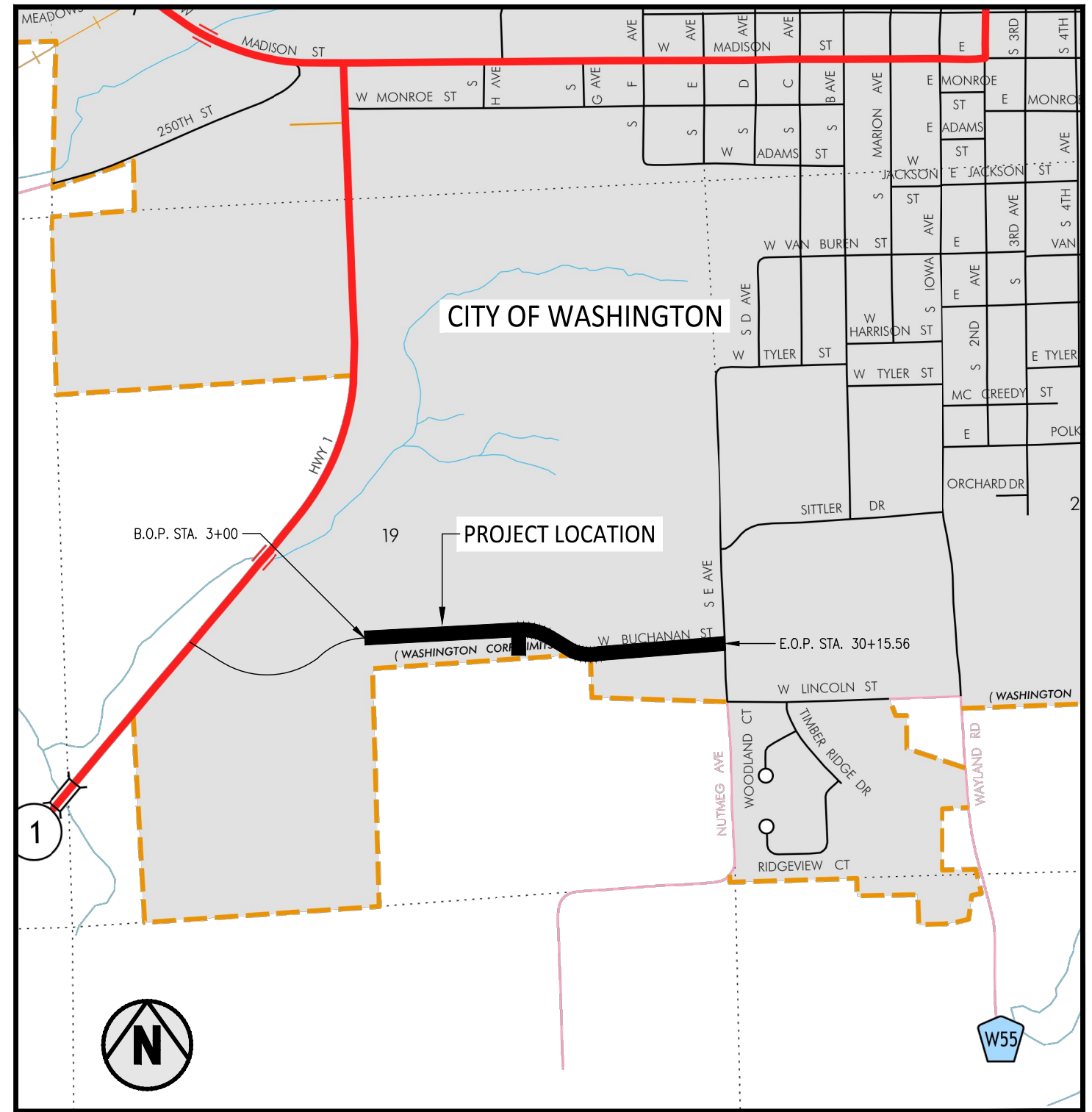
GENERAL ABBREVIATIONS LEGEND

- |                              |                                |
|------------------------------|--------------------------------|
| R/W = RIGHT OF WAY           | CY = CUBIC YARD                |
| R.O.W. = RIGHT OF WAY        | MJ = MECHANICAL JOINT          |
| P.C. = POINT OF CURVATURE    | PE = PLAIN END JOINT           |
| P.I. = POINT OF INTERSECTION | FE = FLANGED JOINT             |
| P.T. = POINT OF TANGENCY     | UT = UNION TITE JOINT          |
| ⊕ = CENTERLINE               | S.S. = STAINLESS STEEL         |
| FL = FLOW LINE               | O.C. = ON CENTER               |
| SB = SOIL BORING             | I.D. = INSIDE DIAMETER         |
| R = RADIUS                   | O.D. = OUTSIDE DIAMETER        |
| BTM = BOTTOM                 | ∅ = DIAMETER                   |
| HWL = HIGH WATER LEVEL       | DIA. = DIAMETER                |
| LWL = LOW WATER LEVEL        | # = NUMBER                     |
| EA = EACH                    | TYP = TYPICAL                  |
| GPM = GALLONS PER MINUTE     | INV = INVERT                   |
| IN. = INCHES                 | PVC = POLYVINYL CHLORIDE PIPE  |
| FT = FOOT OR FEET            | DIP = DUCTILE IRON PIPE        |
| SF = SQUARE FEET             | CIP = CAST IRON PIPE           |
| LF = LINEAR FOOT             | CMP = CORRUGATED METAL PIPE    |
| SY = SQUARE YARD             | RCP = REINFORCED CONCRETE PIPE |

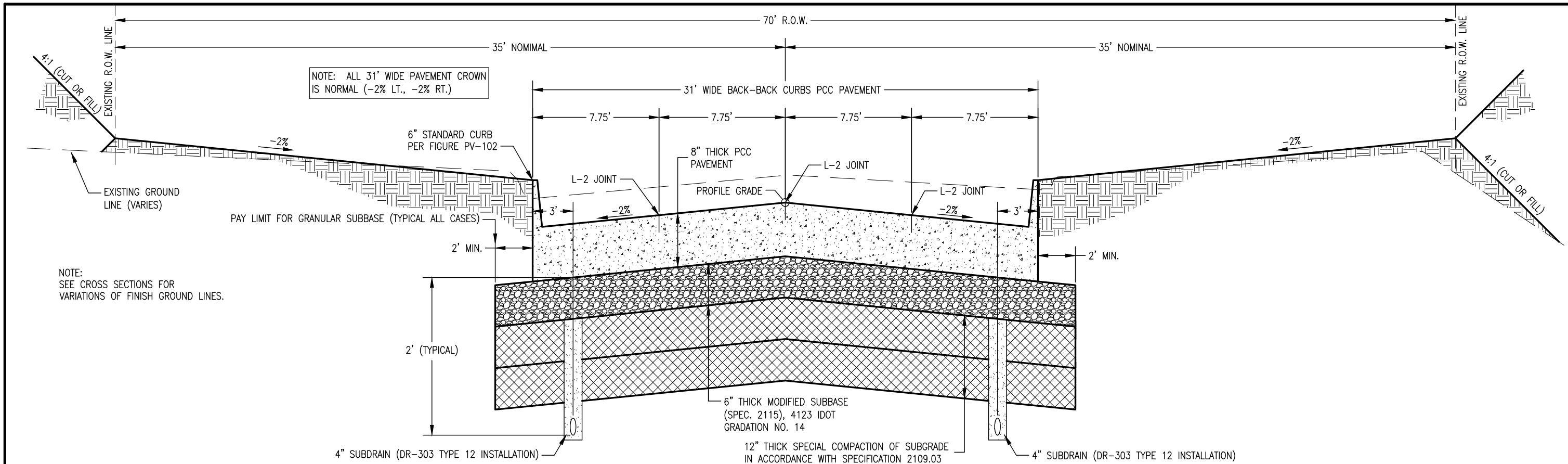
SURFACING REPLACEMENT LEGEND

- |   |                                   |
|---|-----------------------------------|
| ▨ | = 5" P.C.C. SIDEWALK              |
| ▨ | = 6" P.C.C. SIDEWALK AND DRIVEWAY |
| ▨ | = 7" P.C.C. PAVEMENT              |
| ▨ | = 8" P.C.C. PAVEMENT              |
| ▨ | = DETECTABLE WARNING PANELS       |
| ▨ | = 6" GRANULAR SURFACING           |

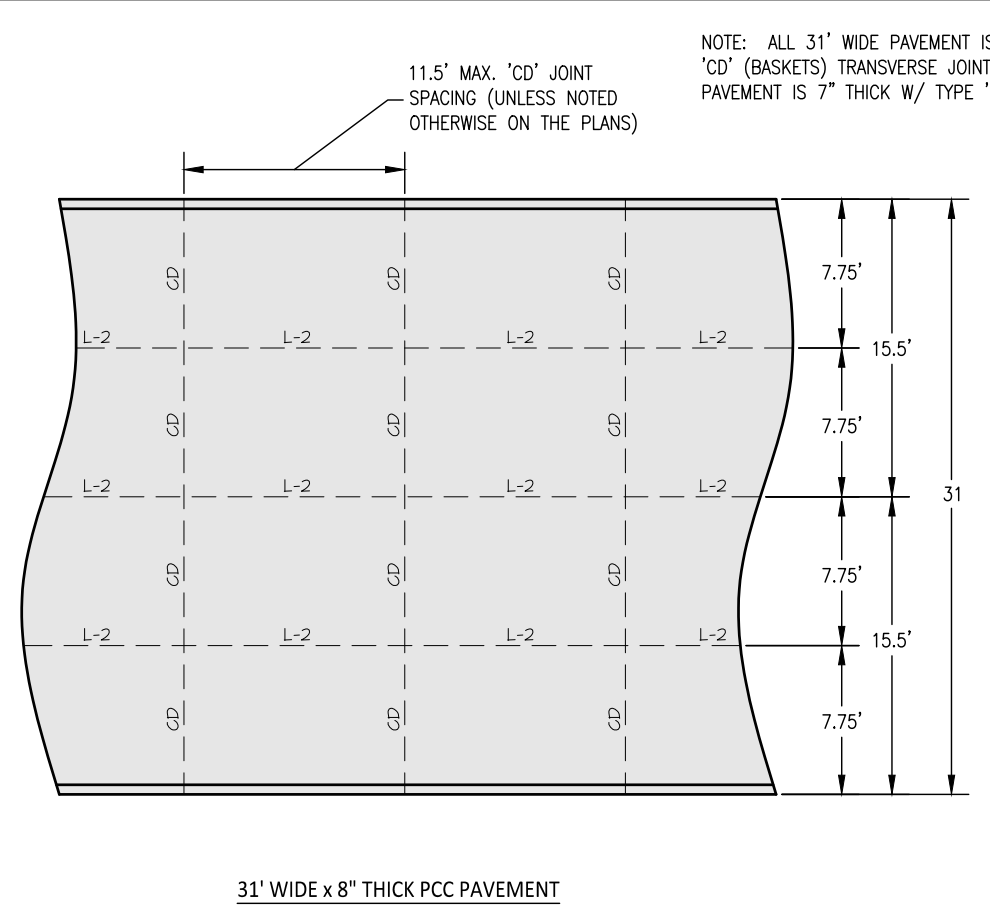
- |      |  |
|------|--|
| SS-1 | = PROPOSED SANITARY SEWER PIPE IDENTIFIER      |
| MH 1 | = PROPOSED SANITARY SEWER STRUCTURE IDENTIFIER |
| P-1  | = PROPOSED STORM SEWER PIPE IDENTIFIER         |
| ST-1 | = PROPOSED STORM SEWER STRUCTURE IDENTIFIER    |
| SR   | = STANDARD ROAD PLAN(S)                        |



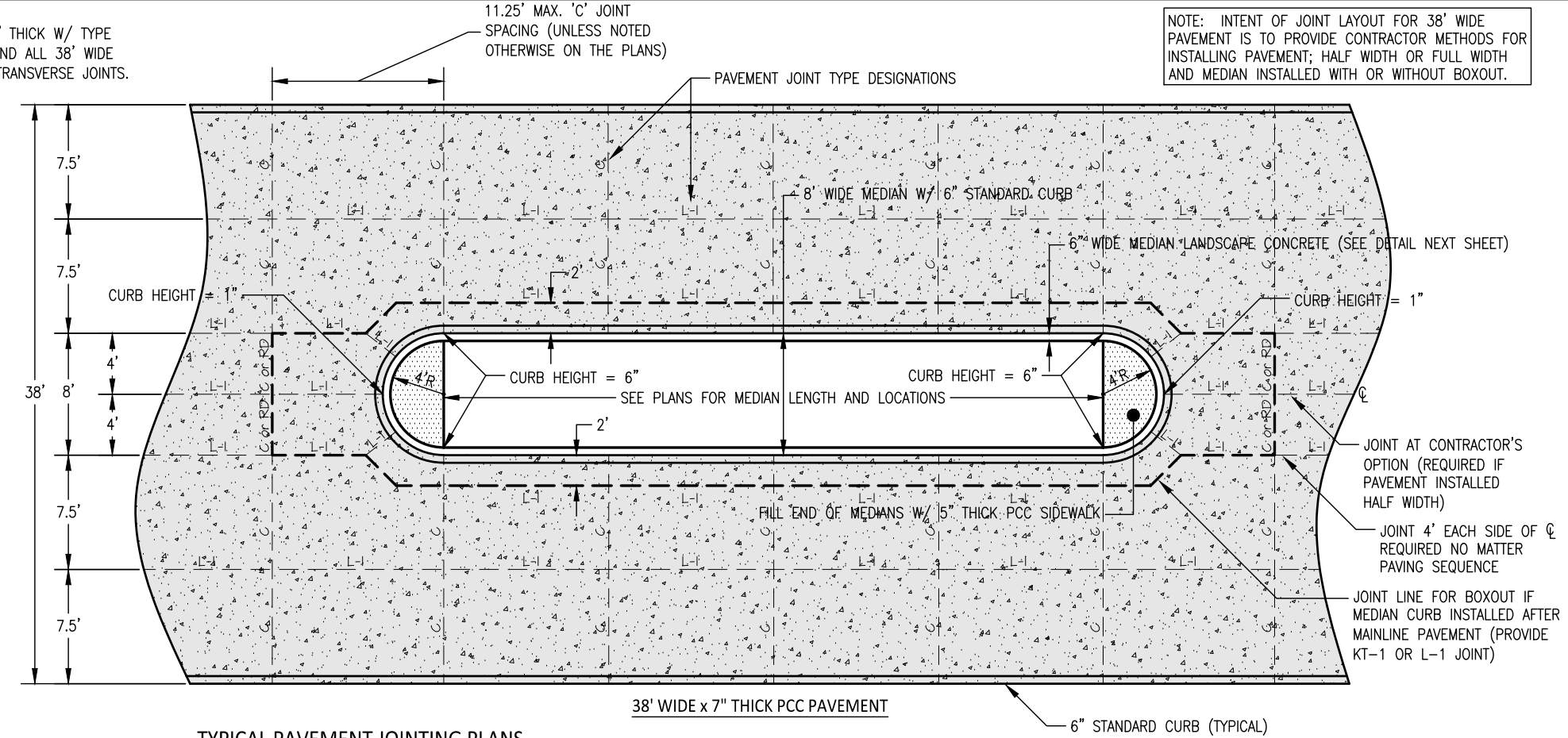
PROJECT LOCATION MAP  
NO SCALE



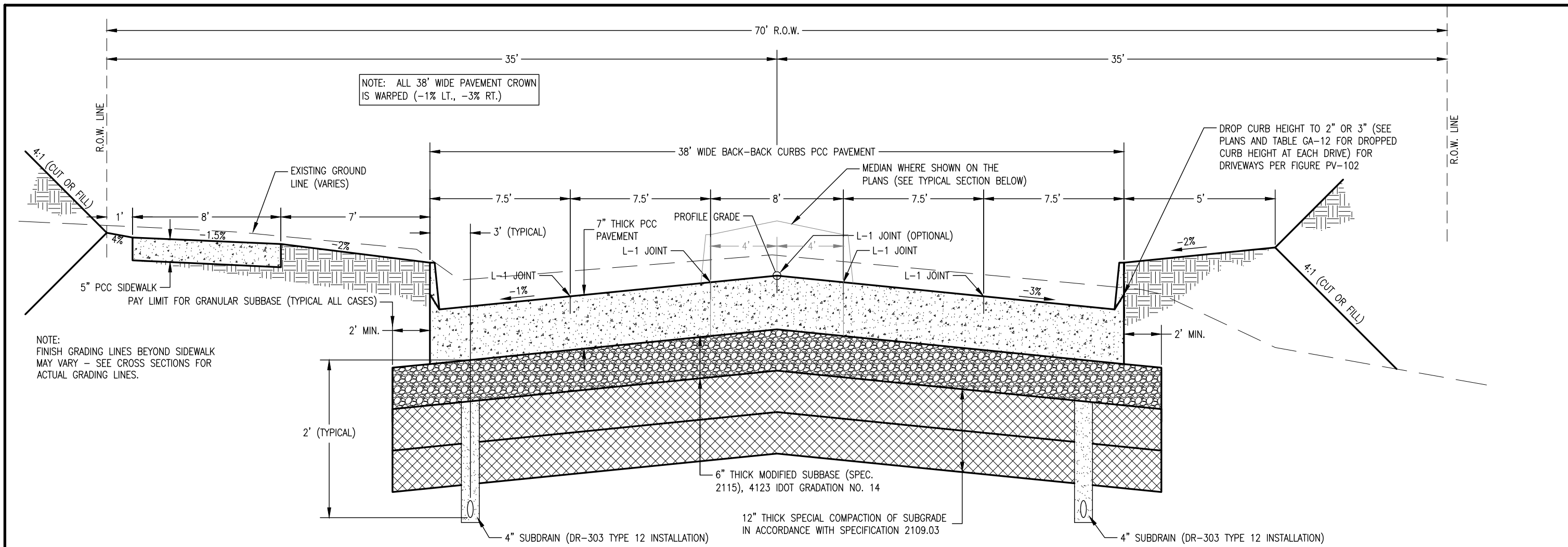
TYPICAL PAVEMENT SECTION - BUCHANAN STREET (FROM B.O.P. STA. 3+00 TO STA. 14+39.65), SOUTH AVE H (B.O.P. TO E.O.P.)  
NO SCALE



31' WIDE x 8" THICK PCC PAVEMENT

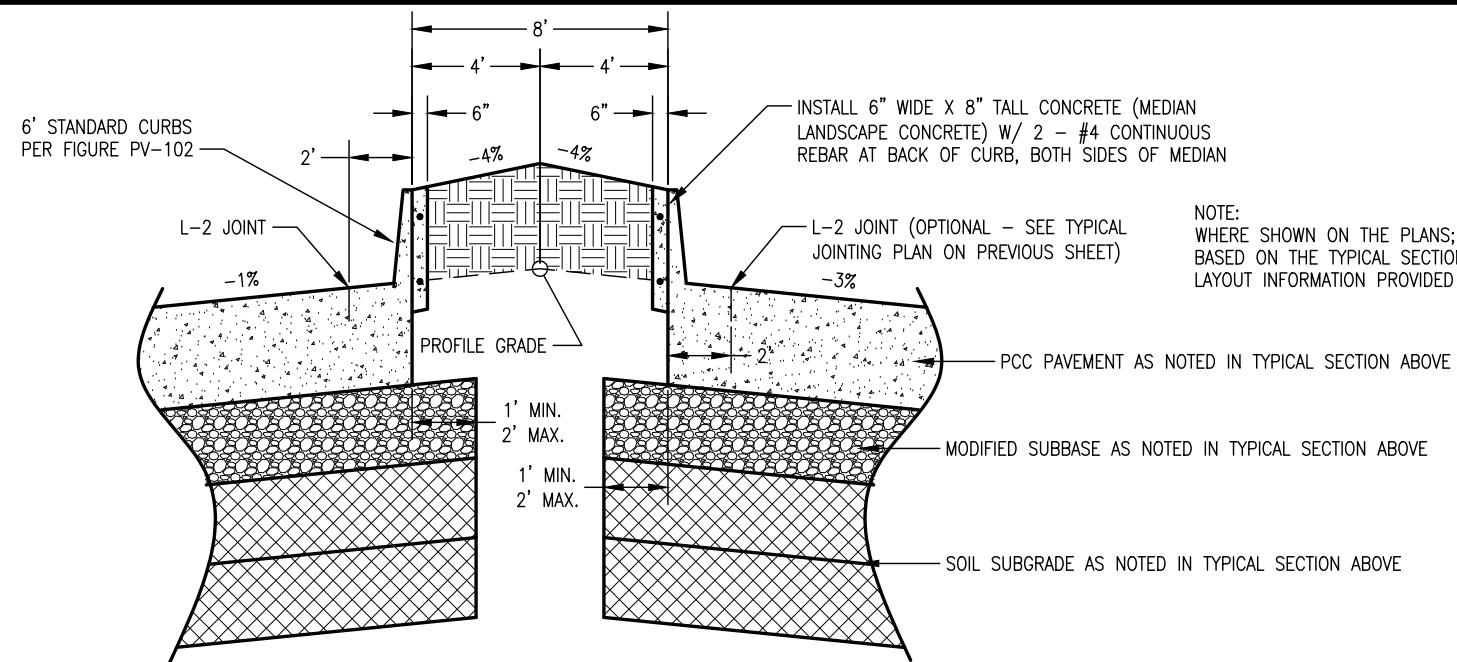


TYPICAL PAVEMENT JOINTING PLANS



TYPICAL PAVEMENT SECTION - BUCHANAN STREET (STA. 15+44.49 TO E.O.P. STA. 30+15.56)  
 (TAPERS 31' WIDE AT STA. 14+39.65 TO 38' WIDE AT STA. 15+44.49)  
 NO SCALE

NOTE:  
 FINAL BACKFILL IN MEDIAN SHALL BE  
 TOPSOIL AS SPECIFIED. FERTILIZE, SEED,  
 AND MULCH AS SPECIFIED. FUTURE  
 LANDSCAPING WILL BE BY OTHERS.



TYPICAL MEDIAN SECTION (WHERE SHOWN ON THE PLANS)  
 NO SCALE

ESTIMATED PROJECT QUANTITIES

GA-5  
01-14-21

Item No.	Item Code	Item	Unit	Division 1 Participating Quantity	Division 2 Non-Participating Quantity	Total Quantity	As-Built Quantity
1	2101-0850002	CLEARING AND GRUBBING	UNIT	400		400	
2	2102-2713070	EXCAVATION, CLASS 13, ROADWAY AND BORROW	CY	7,516		7,516	
3	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	1,500		1,500	
4	2109-8225100	SPECIAL COMPACTION OF SUBGRADE	STA	28.48		28.48	
5	2115-0100000	MODIFIED SUBBASE	CY	2,090		2,090	
6	2123-7450020	SHOULDER FINISHING, EARTH	STA	67.87		67.87	
7	2213-7100400	RELOCATION OF MAIL BOXES	EA	5		5.000000	
8	2301-1033070	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 7 IN.	SY	5400		5,400	
9	2301-1033080	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 8 IN.	SY	5,450		5,450	
10	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1		1	
11	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	70		70	
12	2401-6750001	REMOVALS, AS PER PLAN	LS	1		1	
13	2435-0130148	MANHOLE, SANITARY SEWER, SW-301, 48 IN.	EACH		6	6	
14	2435-0140148	MANHOLE, STORM SEWER, SW-401, 48 IN.	EACH	3		3	
15	2435-0140160	MANHOLE, STORM SEWER, SW-401, 60 IN.	EACH	4		4	
16	2435-0140184	MANHOLE, STORM SEWER, SW-401, 84 IN.	EACH	1		1	
17	2435-0250272	INTAKE, SW-502, 72 IN.	EACH	2		2	
18	2435-0250700	INTAKE, SW-507	EACH	10		10	
19	2435-0250900	INTAKE, SW-509	EACH	5		5	
20	2435-0251224	INTAKE, SW-512, 24 IN.	EACH	1		1	
21	2435-0251230	INTAKE, SW-512, 30 IN.	EACH	1		1	
22	2435-0251300	INTAKE, SW-513	EACH	1		1	
23	2435-0700010	CONNECTION TO EXISTING MANHOLE	EACH		1	1	
24	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	5,784		5,784	
25	2502-8221303	SUBDRAIN OUTLET, DR-303	EACH	32		32	
26	2503-0110015	STORM SEWER GRAVITY MAIN, TRENCHED, 15 IN.	LF	833		833	
27	2503-0110018	STORM SEWER GRAVITY MAIN, TRENCHED, 18 IN.	LF	531		531	
28	2503-0110021	STORM SEWER GRAVITY MAIN, TRENCHED, 21 IN.	LF	740		740	
29	2503-0110024	STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN.	LF	230		230	
30	2503-0110030	STORM SEWER GRAVITY MAIN, TRENCHED, 30 IN.	LF	603		603	
31	2503-0110036	STORM SEWER GRAVITY MAIN, TRENCHED, 36 IN.	LF	436		436	
32	2503-0110042	STORM SEWER GRAVITY MAIN, TRENCHED, 42 IN.	LF	67		67	
33	2503-0112008	STORM SEWER GRAVITY MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN.	LF	210		210	
34	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.	LF	52		52	
35	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.	LF	27		27	
36	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF	464		464	
37	2504-0114008	SANITARY SEWER GRAVITY MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN.	LF		1280	1,280	
38	2504-0200406	SANITARY SEWER SERVICE STUB, POLYVINYL CHLORIDE PIPE (PVC), 6 IN.	LF		380	380	
39	2504-0320300	SANITARY SEWER CLEANOUT, SW-203	EA	1		1	

ESTIMATED PROJECT QUANTITIES

GA-5  
01-14-21

Item No.	Item Code	Item	Unit	Division 1 Participating Quantity	Division 2 Non-Participating Quantity	Total Quantity	As-Built Quantity
40	2507-6800042	REVTMENT, CLASS D	TON	160		160	
41	2507-8029000	EROSION STONE	TON	6		6	
42	2510-6745850	REMOVAL OF PAVEMENT	SY	2,065		2,065	
43	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	5		5	
44	2511-7526005	SIDEWALK, P.C. CONCRETE, 5 IN.	SY	856		856	
45	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN.	SY	34		34	
46	2511-7528101	DETECTABLE WARNINGS	SF	16		16	
47	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	308		308	
48	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	340		340	
49	2516-8625000	COMBINED CONCRETE SIDEWALK AND RETAINING WALL	CY	106		106	
50	2519-4200040	REMOVAL AND REINSTALLATION OF FENCE, FIELD	LF	280		280	
51	2528-2518000	SAFETY CLOSURE	EA	3		3	
52	2528-8445110	TRAFFIC CONTROL	LS	0.9	0.1	1	
53	2533-4980005	MOBILIZATION	LS	0.6	0.4	1	
54	2552-0000210	TRENCH FOUNDATION	TON	50	50	100	
55	2552-0000300	TRENCH COMPACTION TESTING	LS	0.5	0.5	1	
56	2554-0114008	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN.	LF		40	40	
57	2554-0114012	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 12 IN.	LF		2,205	2,205	
58	2554-0204120	WATER SERVICE STUB, COPPER, 2 IN.	EACH		1	1	
59	2554-0205110	WATER SERVICE STUB, COPPER, 1 IN.	LF		25	25	
60	2554-0205410	WATER SERVICE CORPORATION, COPPER, 1 IN.	EACH		5	5	
61	2554-0207008	VALVE, GATE, DIP, 8 IN.	EACH		2	2	
62	2554-0207012	VALVE, GATE, DIP, 12 IN.	EACH		5	5	
63	2554-0210201	FIRE HYDRANT ASSEMBLY, WM-201	EACH		6	6	
64	2599-9999003	MEDIAN LANDSCAPE CONCRETE	CY	23		23	
65	2599-9999005	APRON, 18 IN.	EACH	1		1	
66	2599-9999005	APRON, 36 IN.	EACH	1		1	
67	2599-9999005	APRON, 42 IN.	EACH	1		1	
68	2599-9999005	REMOVAL OF EXISTING HYDRANT ASSEMBLY	EACH		1	1	
69	2599-9999005	WATER MAIN CONNECTIONS	EACH		3	3	
70	2599-9999009	REPAIR DAMAGED TILE, 4 IN. OR 6 IN.	LF	100	150	250	
71	2599-9999009	WATER MAIN, PVC, 12 IN. (INSTALL ONLY)	LF		500	500	
72	2599-9999010	MAINTENANCE OF SOLID WASTE COLLECTION	LS	1		1	
73	2599-9999020	TEMPORARY GRANULAR SURFACING	TON	250		250	
74	2601-2634100	MULCHING - HYDRAULIC	ACRE	6.00		6	
75	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	1.00		1	
76	2601-2636044	SEEDING AND FERTILIZING (URBAN)	ACRE	5.00		5	
77	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.	LF	3,000		3,000	
78	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	3,000		3,000	
79	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EA	5		5	

TABULATION OF EXISTING UTILITIES

GA-1  
01-14-21

SANITARY SEWER, STORM SEWER, WATER:  
JJ BELL, SUPERINTENDENT MAINTENANCE AND CONSTRUCTION DEPT., CITY OF WASHINGTON, 319-653-1538

ELECTRIC AND NATURAL GAS: ALLIANT ENERGY, ALEX KENNEY 800-255-4268

COMMUNICATIONS:  
KALONA COOPERATIVE TELEPHONE COMPANY, JAMES GRAHAM: 319-656-3668  
MEDIACOM, TOM CHAMBERS: 855-633-4226  
WINDSTREAM, KELLY EGGER: 515-216-4704

ESTIMATE REFERENCE INFORMATION

100-4A  
10-29-02

Item No.	Item Code	Description
2	2102-2713070	See W series sheets (cross sections) and tab GA-4 on sheet C.05.
3	2105-8425015	Item includes 1,500 CY of topsoil at a cut depth of 6" over all areas anticipated to be disturbed.
5	2115-0100000	See typical sections on sheet B.01 and B.02. Quantity for payment is based on a 6" depth of compacted material placed beneath all proposed concrete pavements and to 2' beyond back of curb of new pavements.
7	2213-7100400	Coordinate delivery of mail with the USPS. Maintain postal service to all properties. When construction staging prohibits access to normal mailbox location by the USPS, establish temporary mail service by erecting and maintaining a temporary group mailbox. Measurement and payment will be per each post. Includes the cost of removing and reinstalling existing mailboxes.
8-9	2301	The Contractor shall be responsible for Certified Plant Inspection in accordance with Specification Section 2521 as required for this item. Schedule B Smoothness requirements shall apply to these items as outlined in Specification Section 2316.
11	2312-8260051	Place 6" thick layer of material compacted in place over areas to be resurfaced with granular material.
12	2401-6750001	Item is for removal and disposal of various features on site as noted on D sheets and tabulations (where other bid item does not exist).
13	2435-0130148	See sanitary sewer manhole table on sheet SW.01. Frames shall be attached to manhole structure with 4 sets of 1/2" stainless steel bolts and expansion anchors. Item includes new Infiltration Barrier on each new manhole, as specified.
14-22	2435	See storm sewer structures tables on sheet M.02. Contractor shall be responsible for Certified Plant Inspection in accordance with Specification Section 2521 as required for these items.
26-32	2503	See storm sewer pipe tables on sheet M.02. Not all new pipes may be tabulated - see plan sheets for locations of connecting pipes not tabulated. Use rubber O-ring or profile gaskets for all new reinforced concrete storm sewer pipe in accordance with 4149.03 A.3. (ASTM C 443) where RCP pipe is required per plan. At contractor's option, where storm sewer pipe material is not identified on the plans, pipe material may be any of the following: 4149.02 A. 9. and 10. (double or triple wall polypropylene pipe - dependant on pipe size), 4149.03 A. Reinforced Concrete Pipe (RCP) 2. and 4., or 4149.03 C. Polyvinyl Chloride Pipe (PVC) 1. a. or b. (b. - minimum SDR 26 rating). If contractor uses RCP; last 3 joints at each apron outlet shall be tied in accordance with SR Plan DR-121. Where shown on the plans, install utility pipe support per detail on sheet U.01 (include cost for utility pipe support in unit price for pipe).
33	2503-0112008	Pipe material shall be non-perforated. Install in accordance with Figure 4040.231 Case D Type 2 (2' offset from back of pavement curb, 3' from top of curb to flow line) as shown on sheet U.01. Engineering fabric is not required.
36	2503-0200036	Remove existing pipes where shown on the plans and where necessary for new construction. Also see tab 110-14 on sheet C.04. Item includes plugging of pipe to be abandoned and remain in place with concrete.
37	2504-0114008	See sanitary sewer pipe tables on sheet SW.01.
38	2504-0200406	Mark end of service stubs at grade with a painted green steel "T" post (unless otherwise approved by the jurisdiction).
39	2504-0320300	Sanitary Sewer Cleanout, SW-203: Item is for installation of cleanout on end of runs for 8" trenched storm sewer (2503-0112008). Each cleanout will be counted. Payment will be made at the contract unit price for each cleanout. Payment includes fittings, riser pipe, cap with screw plug, and casting.
41	2507-8029000	Material shall be in accordance with Specification 4130.04.
44-45	2511-7526	The contractor shall be responsible for Certified Plant Inspection in accordance with Specification Section 2521 as required for these items.
46	2511-7528101	Panel material may be composite polymer (plastic) or iron from an approved manufacturer. Plastic tiles shall be color; red.
47	2515-2475006	The contractor shall be responsible for Certified Plant Inspection in accordance with Specification Section 2521 as required for these items.
54	2552-0000210	Item is included for discretionary and as needed purposes. Use only with approval of Jurisdiction.
55	2552-0000300	The contractor will be responsible for trench compaction testing for all utility excavations including sanitary sewer, storm sewer, and water main. See specification 2552 for testing requirements.
56-59	2554	See notes on sheet SW.09 for Jurisdiction specific information on all water main and service line materials. Item includes cost of all fittings in unit prices for water main in place.
60	2554-0205410	Item includes new saddle on 12" water main as required (see notes on sheet SW.09). Item also includes connection of existing copper service line to new corporation stop.
64	2599-9999003	Median Landscape Concrete (CY): Concrete materials shall be in accordance with Section 2511 and reinforcing steel in accordance with Section 4151 of the Specifications. Measurement will be based on the quantity shown on the plans. Payment is full compensation for complete installation of concrete as shown in typical section on sheet B.02.
65	2599-9999005	Apron, 18 in. (EACH): Provide and install apron type (metal or concrete) to match pipe material used by contractor. RCP Apron Section Footing (see detail on Special Details Sheet U.01) shall be installed with all apron types. Include cost of footing in unit price for apron. Measurement and Payment will be as specified in Sections 2416 or 2417 for the appropriate type of apron used.
66	2599-9999005	Apron, 36 in. (EACH): Provide and install apron type (metal or concrete) to match pipe material used by contractor. RCP Apron Section Footing (see detail on Special Details Sheet U.01) shall be installed with all apron types. Include cost of footing in unit price for apron. Measurement and Payment will be as specified in Sections 2416 or 2417 for the appropriate type of apron used.
67	2599-9999005	Apron, 42 in. (EACH): Provide and install apron type (metal or concrete) to match pipe material used by contractor. RCP Apron Section Footing (see detail on Special Details Sheet U.01) shall be installed with all apron types. Include cost of footing in unit price for apron. Measurement and Payment will be as specified in Sections 2416 or 2417 for the appropriate type of apron used.
68	2599-9999005	Removal of Existing Fire Hydrant Assembly (EACH): See SW series sheets and tab GA-3 on sheet C.04 for locations of existing hydrant assemblies to be removed and abandoned. Unit price for each removal shall include all labor, materials, equipment, and incidentals to remove and abandon existing fire hydrant including removal of hydrant to beyond the hydrant "elbow" and providing a mechanical joint cap or concrete plug when the hydrant tee is connected to an existing main that will be abandoned.
69	2599-9999005	Water Main Connections (EACH): Connect new water mains to existing mains as shown on the plans. All valves and piping installed for connections will be counted and measured for payment based on those bid items. Measurement for connections will be completed by counting each connection made. Payment includes furnishing all labor, materials, equipment, and incidentals to connect existing water main and to disconnect from existing water main as shown on the plans including fittings, wrapping, cutting, blocking, joint restraint, excavation, bedding material, placing of bedding and backfill, tracer wire, splices and ground rods, plugging and abandonment, salvage, miscellaneous and associated work, and for staging of work to minimize interruption to service and traffic flow; includes disconnection work shown at location whether done at same time as connection or at later time. Excludes furnishing and installing piping, valves (valves provided by Jurisdiction), hydrants (hydrants provided by Jurisdiction), surfacing replacement and all other Bid Items for which a bid price is established.
70	2599-9999009	Repair Damaged Tile, 4 in. or 6 in. (LF): Repair or replace existing field tiles damaged during construction and extend tiles from existing outlet locations to new outlet locations where shown on the plans. Install in accordance with Section 2503 of the Specifications. Pipe material shall be in accordance with 4149.03 C. Polyvinyl Chloride Pipe (PVC) b. (minimum SDR 26 rating). Connection coupling shall flexible with shear band unless approved otherwise by the Jurisdiction. Method of Measurement and Basis of Payment will be as described in Section 2503.
71	2599-9999009	Water Main, PVC, 12 in. (Install Only) (LF): The City of Washington will deliver 500 LF of 12" water main pipe material to project site at no charge to the contractor. Contractor shall install provided pipe in accordance with Section 2554 of the Specifications. No other products required (fittings, bolts, tracer wire, etc.) will be provided by the City of Washington. Payment will be as described in Section 2554, excluding cost and delivery of the pipe.
72	2599-9999010	Maintenance of Solid Waste Collection (LS): Coordinate collection of solid waste with property owners and the solid waste collection agencies operating in the project area. Coordinate with said agencies to establish common location for collection outside of the inaccessible area (temporary access locations are not to be used for any truck traffic). Coordinate with residents within the project area for the alternate solid waste collection procedures. Prior to the normal collection time, gather containers from properties and transport to the common location accessible by solid waste collection vehicles. Return solid waste containers to each property within 24 hours after collection. Measurement will be based on Lump Sum; no measurement will be made. Payment will be at the Lump Sum price for Maintenance of Solid Waste Collection.
73	2599-9999020	Temporary Granular Surfacing (TON): Provide where necessary to allow traffic access. Material shall be Specification 4120.04 Class A Crushed Stone. Measurement will be made by certified material delivery tickets. Payment is based on the tons installed, compacted in place, shaped for traffic, maintained during use, and removal and disposal of material when no longer required. Provide temporary shaping of embankment on south side of Buchanan Street to allow for installation, maintenance, and removal of temporary access. Do not disturb existing driveway surfacing beyond the existing right-of-way lines. Temporary access to the Wastewater Treatment Facility and residential locations as shown on the Traffic Control Plan shall be maintained.
74	2601-2634100	Mulching shall be completed utilizing Hydraulic Mulch in accordance with Specification 2601.03, E, 2, b.
75-76	2601-2636043 & 44	Seeding and Fertilizing shall be completed with a Hydraulic Seeder in accordance with Specification 2601.03, B, 4, d, 2.
77-78	2602-0000309 and 2602-0000351	In addition to normal silt barrier use, protect existing and new intakes from erosion as required by the Pollution Prevention Plan and directed by the City of Washington.

12-08-20 GA-1  
Contractor is to use due caution in working over and around all tile lines. Breaks in the tile line due to the contractor's carelessness are to be replaced at his expense without cost to the Contracting Authority. Any tile lines broken or disturbed by our cut lines will be replaced as directed by the engineer in charge of construction and at the Contracting Authority's expense.

12-08-20 GA-2  
"Construction Survey" will be provided by the owner.

12-08-20 GA-3  
Delete Article 2109.03 C. 3. of the Specifications and replace with the following: Ensure the material at the time of compaction is between 0 and +4 percentage points above its optimum moisture. Also ensure the density is not less than 95% of maximum density as determined by Materials Laboratory Test Method No. Iowa 103.

12-08-20 GA-4  
All new sidewalks shall be constructed in accordance with current ADA standards and the specifications. See Standard Road Plan MI-220 for additional information.

POLLUTION PREVENTION PLAN

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This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITIES

A. Designer:

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Signature authority on the Base PPP and NOI.

B. Contractor/Subcontractor:

1. Affected contractors/subcontractors are co-permittees with the City of Washington and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. Affected contractors/subcontractors are anyone responsible for sediment or erosion controls or involved in land disturbing activities. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Submit an Erosion Control Implementation Plan (ECIP) according to Specifications Section 2602 and any additional plan notes.
3. Install and maintain appropriate controls.
4. Supervise and implement good housekeeping practices.
5. Conduct joint required inspections of the site with inspection staff.
6. Comply with training and certification requirements of Specifications Section 2602.
7. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.

C. RCE/Inspector:

1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
2. Maintain an up-to-date record that identifies contractors and subcontractors as co-permittees.
3. Make these plans available to the DNR upon their request.
4. Conduct joint required inspections of the site with the contractor/subcontractor.
5. Complete an inspection report after each inspection.
6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

II. PROJECT SITE DESCRIPTION

- A. This Pollution Prevention Plan (PPP) is for the construction of a concrete roadway.
- B. This PPP covers approximately 10 acres with an estimated 7.5 acres being disturbed. The portion of the PPP covered by this contract has 7.5 acres disturbed.
- C. The PPP is located in an area of Otley-Nira soil association (consisting of Otley and Nira soils). The estimated weighted average runoff coefficient number for this PPP after completion will be similar to the pre-construction runoff curve number.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
  1. Drainage patterns - Plan and Profile sheets and Situation plans.
  2. Proposed Slopes - Cross Sections.
  3. Areas of Soil Disturbance - construction limits shown on Plan and Profile sheets.
  4. Location of Structural Controls - Tabulations on C sheets.
  5. Locations of Non-structural Controls - Tabulations on C sheets.
  6. Locations of Stabilization Practices - generally within construction limits shown on Plan and Profile sheets.
  7. Surface Waters (including wetlands) - Project Location Map and Plan and Profile sheets.
  8. Locations where storm water is discharged - Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries.
- F. Runoff from this work will flow into an unnamed drainageway tributary to West Fork Crooked Creek, Tributary to Crooked Creek, Tributary to Skunk River.

III. CONTROLS

- A. The contractor's ECIP specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.

1. EROSION AND SEDIMENT CONTROLS

a. Stabilization Practices

- 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
- 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
  - a) Permanently ceased on any portion of the site, or
  - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
- 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
- 4) Permanent and Temporary Stabilization practices to be used for this project are located in the Estimated Project Quantities (100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation.
- 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
- 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional information may be found in Tabulations in the C or T sheets of the plans or is referenced in Standard Specifications Section 2105.

b. Structural Practices

- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet

POLLUTION PREVENTION PLAN

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of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.

2) Structural practices to be used for this project are located in the Estimated Project Quantities (100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plans or are referenced in the Standard Road Plans Tabulation.

c. Storm Water Management

1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS

a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

- 1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
- 2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
- 3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
- 4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
- 5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
- 6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
- 7) Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
- 8) Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of on-site fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water.
- 9) Litter Management - Ensure employees properly dispose of litter.
- 10) Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

The contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days. Storm water monitoring inspections will include:

1. Date of the inspection.
2. Summary of the scope of the inspection.
3. Name and qualifications of the personnel making the inspection.
4. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
5. Major observations related to the implementation of the PPP.
6. Identify corrective actions required to maintain or modify erosion and sediment control measures.

B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silt, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items, storm water monitoring inspection reports, and fieldbook entries made by the inspector.
- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature Brent Hinson, City Administrator

Printed or Typed Name Jack Pope

Signature Jack Pope, P.E.

Printed or Typed Name

REMOVAL OF CONCRETE AND ASPHALT DRIVES			
GA-7 01-14-21			
Locations		AREA SY	Remarks
Station	Side		
20+59	RT	38	Asphalt
21+62	LT	24	Concrete
23+13	RT	0	Gravel
24+26	RT	67	Asphalt
24+69	LT	13	Asphalt
25+50	RT	82	Asphalt
27+32	LT	28	Asphalt
27+50	RT	88	Asphalt
Total		340	

REMOVAL OF EXISTING INTAKES AND UTILITY ACCESSES			
GA-6 01-14-21			
Location	Description	Count (EA)	Remarks
22+27, 37' Lt.	Area Intake	1	
24+69, 52' Lt.	Area Intake	1	
27+32, 51' Lt.	Area Intake	1	
29+26, 18' Rt.	Storm Sewer Manhole	1	
29+45, 43' Lt.	Area Intake/Curb Inlet	1	
Total		5	

REMOVAL OF EXISTING FIRE HYDRANTS	
GA-3 12-06-20	
Location	Count
20+36 56' LT.	1

LONGITUDINAL SUBDRAIN (DR-303 TYPE 12 INSTALLATION)					
GA-9 01-14-21					
Station to Station	Side	Length	Intake/Pipe Outlet		Remarks
			Outlets (EA)	Outlet Location(s)	
B.O.P. to 5+60	Both	520	4	ST-6 & ST-7	Buchanan St
5+60 to 8+50	Both	580	4	ST-9 & ST-10	Buchanan St
8+50 to 13+06	Both	912	4	ST-11 & ST-12	Buchanan St
13+06 to 15+51	Both	490	4	ST-14 & ST-15	Buchanan St
15+51 to 19+00	Both	698	4	ST-21 & ST-22	Buchanan St
19+00 to 21+90	Both	580	4	ST-19 & ST-23	Buchanan St
21+90 to 29+26	Both	1472	4	ST-26 & ST-27	Buchanan St
29+26 to E.O.P.	Both	180			Buchanan St
B.O.P. to 23+91	Both	192	4	ST-16 & ST-17	South Ave H
23+91 to 24+71	Both	160			South Ave H
Totals		5,784	32		

CLEARING AND GRUBBING														
GA-8 01-14-21														
Location	Trees (Clearing and Grubbing)													
	3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Total Units
21+57 Rt.				1										9.4
21+92 Rt.				1										9.4
24+52 Lt.						1								22.0
24+78 Rt.				1										22.0
23+97 Rt.	1													1.6
24+52 Rt.				1										9.4
25+19 Rt.	1													1.6
26+38 Rt.				1										9.4
28+76 Rt.										1				200.0
28+94 Rt.					1									13.5
28+71 Rt.			1											6.7
28+65 Rt.		1												3.9
28+57 Rt.				1										9.4
28+48 Rt.				1										9.4
28+28 Rt.					1									9.4
28+26 Rt.			1											6.7
28+16 Rt.			1											6.7
27+88 Rt.						1								22.0
Total														372.50

TABULATION OF EXISTING PAVEMENT			
GA-2 12-06-20			
Road	Station to Station	Thickness	Remarks
Buchanan Street	B.O.P. to 20+19	NA	Existing Granular Surfacing
Buchanan Street	20+19 to 28+00	Varies (1" to 2")	Existing Sealcoat Surfacing
Buchanan Street	28+00 to E.O.P.	2"	Existing Asphalt Surfacing

TABULATION OF SAFETY CLOSURES		
108-13A 08-01-08		
Refer to Section 2518 of the Standard Specifications.		
Location	Closure Type	Remarks
	Road Qty. Hazard Qty.	
3+00	1	B.O.P. Closure
20+50	1	Stage Closure (if used)
30+15.56	1	E.O.P. Closure
Total		3

REMOVAL OF PAVEMENT				
GA-13 01-14-21				
* Not a Bid Item				
Station to Station	Pavement Type	Area (SY)	Saw Cut* (LF)	Remarks
20+19 to E.O.P.	See tab GA-2 for existing pavement description	2,065	62	Estimated LF of saw cut.

SIDEWALK INSTALLATION						
GA-10 01-14-21						
See MI-220						
Sidewalk Replacement Detail No.	Side	Station to Station	5" PCC Sidewalk SY	6" PCC Sidewalk SY	Detectable Warnings SF	Remarks
-	LT	15+03 20+55	493			
-	LT	21+50 21+56	5			
-	LT	21+56 21+67				See table 102-3 for this walk
-	LT	21+67 23+25	141			
-	LT	24+60 24+64	4			
-	LT	24+64 24+74				See table 102-3 for this walk
-	LT	24+74 24+79	5			
-	LT	27+15 27+27	11			
-	LT	27+27 27+37				See table 102-3 for this walk
-	LT	27+37 27+45	7			
-	LT	28+50 30+44	173			
D1	LT	30+44 30+50		6	16	
-	℄	MEDIANS	17			8 locations on end of medians
Totals			856	6	16	

POINTS OF ACCESS																		
GA-12 01-14-21																		
Refer to Cross-Sections																		
Location	Length of Opening ①	Case ①	2" Dropped Curb Lin. Ft.	3" Dropped Curb Lin. Ft.	① W Ft.	① PR Ft.	① SR Ft.	6" P.C.C. SIDEWALK SY	6" P.C.C. DRIVE SY	Remarks								
											1 or 2	Lin. Ft.	Lin. Ft.	Ft.	Ft.	Ft.	SY	SY
											20+59	RT	2	22				
21+62	LT	2		20				10	44	See details on sheet L.04								
23+13	RT	2	33						46									
24+26	RT	2	33						46									
24+69	LT	2		20				9	31	See details on sheet L.04								
25+50	RT	2	28						38									
27+32	LT	2		20				9	42	See details on sheet L.04								
27+50	RT	2	25						33									
TOTALS									28	308								

STORM SEWER ABANDONMENT OR REMOVAL				
GA-11 01-14-21				
Location/Description	Abandonment, Plug Only or Abandonment, Plug and Fill or Removal	Storm Sewer - LF of Pipe		Remarks
		≤36" Dia. (LF)	> 36" Dia. (LF)	
3+75 Lt. (Proposed Buchanan)	Removal	36		Remove existing RCP and apron outlet (see sheet D.01)
3+75 Rt. (Proposed Buchanan)	Removal	84		Remove existing RCP and apron outlet (see sheet D.01)
104+10 (Existing Buchanan)	Removal	28		Existing culvert
18+55 Rt. (Proposed Buchanan)	Removal	28		Existing culvert, plug tile drops at inlet
22+20 (Proposed Buchanan)	Removal	53		Existing culvert, plug tile drop at outlet
24+35 (Proposed Buchanan)	Removal	15		Remove as required for retaining wall construction, plug and abandon pipe to remain
27+65 Lt. (Proposed Buchanan)	Removal	10		Remove as required for retaining wall construction, plug and abandon pipe to remain
29+30 (Proposed Buchanan)	Removal	205		
29+30 Rt. (Proposed Buchanan)	Removal	5		Remove as required and set new storm sewer intake over end of pipe
Total		464		



EXCAVATION BY STATION (AVG. END AREA)				
				GA-4 12-04-20
STATION	SF CUT @ STATION	CF COMBINED CUT	SF FILL @ STATION	CF COMBINED FILL
300	0		0	
		1935.0		415.0
350	77.4		16.6	
		2985.0		1490.0
400	42.0		43	
		1220.0		2420.0
450	6.8		53.8	
		255.0		3125.0
500	3.4		71.2	
		185.0		3765.0
550	4.0		79.4	
		160.0		4060.0
600	2.4		83	
		190.0		3995.0
650	5.2		76.8	
		760.0		3170.0
700	25.2		50	
		2200.0		1975.0
750	62.8		29	
		3735.0		1070.0
800	86.6		13.8	
		4715.0		495.0
850	102.0		6	
		5335.0		190.0
900	111.4		1.6	
		5645.0		45.0
950	114.4		0.2	
		5530.0		5.0
1000	106.8		0	
		4730.0		110.0
1050	82.4		4.4	
		3645.0		820.0
1100	63.4		28.4	
		2830.0		1775.0
1150	49.8		42.6	
		2000.0		2425.0
1200	30.2		54.4	
		1560.0		2520.0
1250	32.2		46.4	
		1740.0		1790.0
1300	37.4		25.2	
		2085.0		825.0
1350	46.0		7.8	
		2425.0		195.0
1400	51.0		0	
		2895.0		0.0
1450	64.8		0	
		5675.0		0.0
1500	162.2		0	
		5955.0		20.0
1550	76.0		0.8	
		3790.0		110.0
1600	75.6		3.6	
		3650.0		170.0
1650	70.4		3.2	
		3985.0		90.0
1700	89.0		0.4	
		3955.0		115.0
1750	69.2		4.2	
		2060.0		885.0
1800	13.2		31.2	
		675.0		2235.0
1850	13.8		58.2	
		1030.0		2505.0
1900	27.4		42	
		1390.0		2695.0
1950	28.2		65.8	
		2040.0		2805.0
2000	53.4		46.4	

EXCAVATION BY STATION (AVG. END AREA)				
				GA-4 12-04-20
STATION	SF CUT @ STATION	CF COMBINED CUT	SF FILL @ STATION	CF COMBINED FILL
2050	114.4	4195.0	2.2	1215.0
		4435.0		1740.0
2100	63.0		67.4	
		3335.0		4240.0
2150	70.4		102.2	
		2760.0		7000.0
2200	40.0		177.8	
		2045.0		6490.0
2250	41.8		81.8	
		2915.0		2385.0
2300	74.8		13.6	
		4685.0		405.0
2350	112.6		2.6	
		5755.0		145.0
2400	117.6		3.2	
		4910.0		560.0
2450	78.8		19.2	
		3435.0		1575.0
2500	58.6		43.8	
		4045.0		1095.0
2550	103.2		0	
		4315.0		1090.0
2600	69.4		43.6	
		3185.0		4020.0
2650	58.0		117.2	
		3100.0		4190.0
2700	66.0		50.4	
		4040.0		1290.0
2750	95.6		1.2	
		3200.0		825.0
2800	32.4		31.8	
		890.0		5230.0
2850	3.2		177.4	
		290.0		8610.0
2900	8.4		167	
		760.0		6915.0
2950	22.0		109.6	
		1505.0		4505.0
3000	38.2		70.6	
		286.5		529.5
3015	0.0		0	
	TOTAL CUT (CF)	157052	TOTAL FILL @ 1.3 (CF)	146074
	TOTAL CUT (CY)	5817	TOTAL FILL @ 1.3 (CY)	5410

EXCAVATION BY STATION (AVG. END AREA)				
				GA-4 12-04-20
STATION	SF CUT @ STATION	CF COMBINED CUT	SF FILL @ STATION	CF COMBINED FILL
2270	0.0		0.0	
		951.0		96.00
2300	63.4		6.4	
		3870.0		165.00
2350	91.4		0.2	
		4495.0		150.00
2400	88.4		5.8	
		1193.4		78.30
2427	0.0		0.0	
		0.00		0.00
	TOTAL CUT (CF)	10509	TOTAL FILL @ 1.3 (CF)	489
	TOTAL CUT (CY)	389	TOTAL FILL @ 1.3 (CY)	24

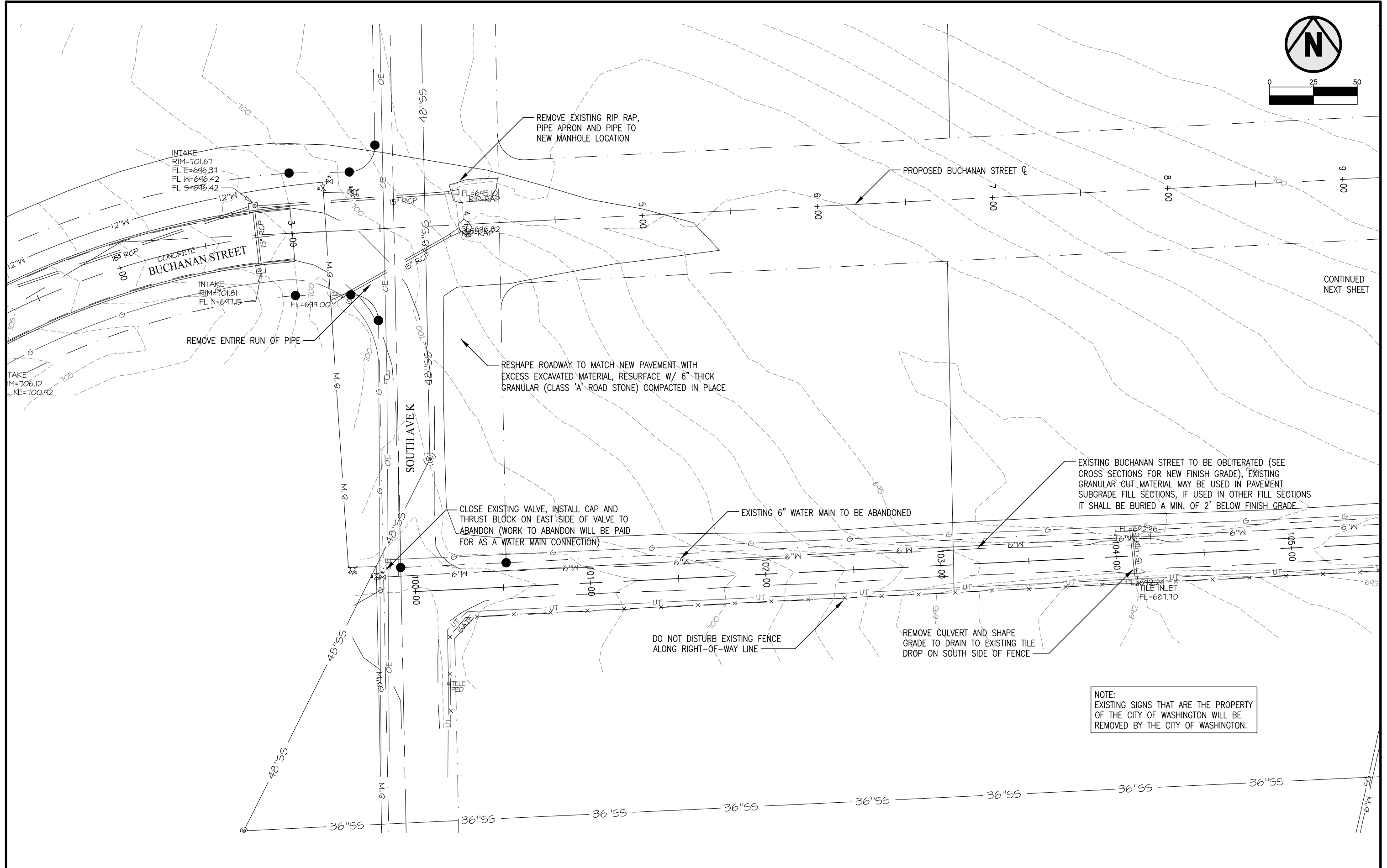
EXCAVATION BY STATION (AVG. END AREA)		
		GA-4 12-04-20
STATION	SF CUT @ STATION	CF COMBINED CUT
10000	0	
		710.0
10050	28.4	
		1135.0
10100	17	
		890.0
10150	18.6	
		980.0
10200	20.6	
		1135.0
10250	24.8	
		1610.0
10300	39.6	
		2300.0
10350	52.4	
		2615.0
10400	52.2	
		2315.0
10450	40.4	
		1715.0
10500	28.2	
		1395.0
10550	27.6	
		1480.0
10600	31.6	
		1360.0
10650	22.8	
		1005.0
10700	17.4	
		860.0
10750	17	
		700.0
10800	11	
		735.0
10850	18.4	
		955.0
10900	19.8	
		930.0
10950	17.4	
		835.0
11000	16	
		895.0
11050	19.8	
		930.0
11100	17.4	
		990.0
11150	22.2	
		1050.0
11200	19.8	
		780.0
11250	11.4	
		480.0
11300	7.8	
		755.0
11350	22.4	
		2195.0
11400	65.4	
		1635.0
11450	0	
		0.0
	TOTAL CUT (CF)	35370
	TOTAL CUT (CY)	1310

EXCAVATION TOTAL SUMMARY:		
	TOTAL CUT (CY)	TOTAL FILL (CY)
EXISTING BUCHANAN ST.:	1,310	0
PROPOSED SOUTH AVE. H:	389	24
PROPOSED BUCHANAN ST.:	5,817	5,410
	7,516	5,434

RESULTING IN AN EXCESS OF APPROXIMATELY 2,000CY+.

EXCESS MATERIAL SHALL BE USED TO FILL DITCH OVER STORM SEWER PIPE TO RIGHT OF LOW POINT AT STA. 29+26, ALONG WITH EXCESS EXCAVATED MATERIAL FROM STORM SEWER TRENCH. SEE STORM SEWER SHEETS FOR ADDITIONAL INFORMATION. IT IS ESTIMATED THIS AREA WILL REQUIRE 800-900 CY (1.3 SHRINK APPLIED) OF FILL.

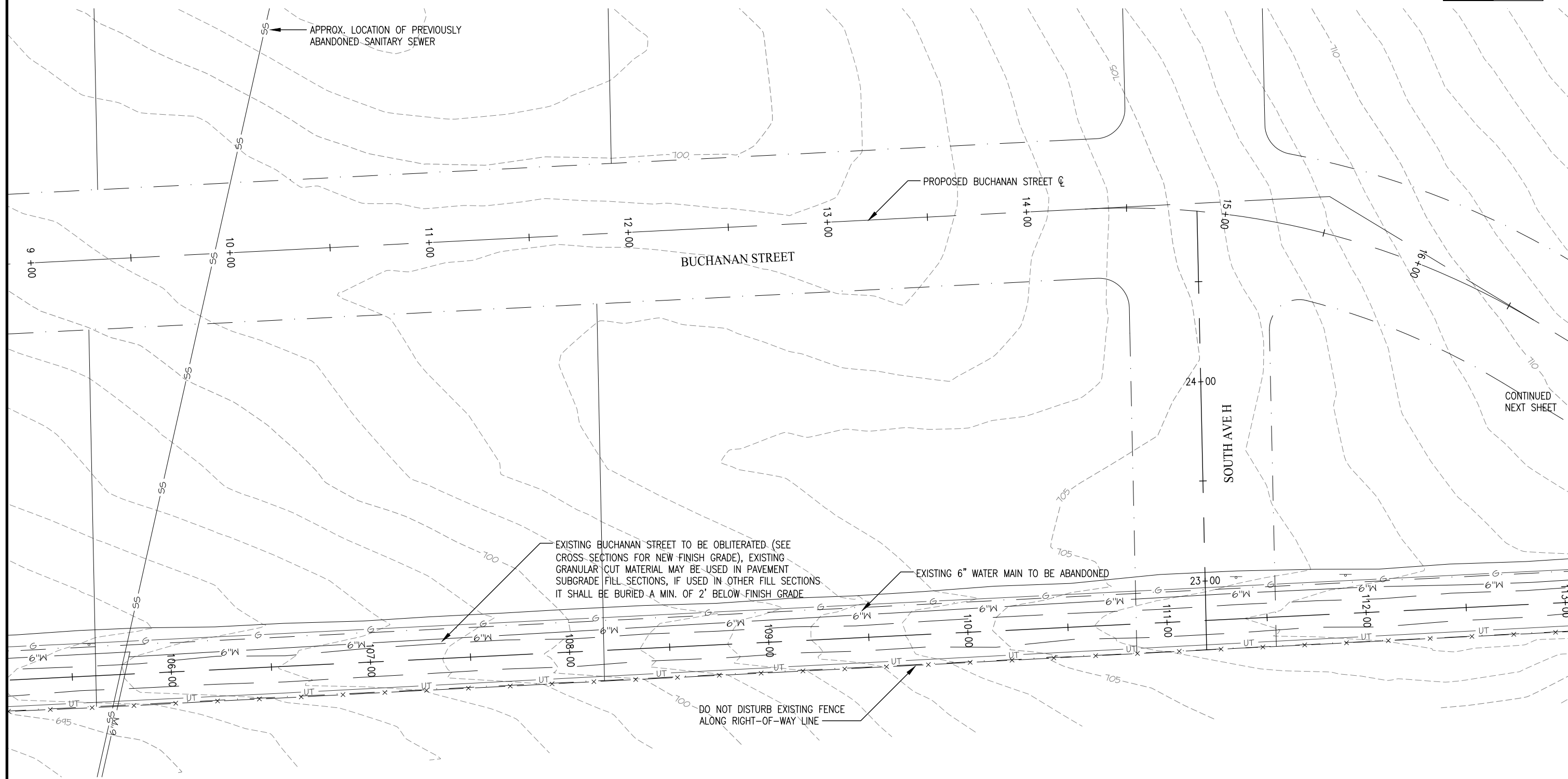
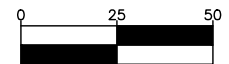
ADDITIONAL EXCESS EXCAVATED MATERIAL MAY BE WASTED ON SITE FROM APPROXIMATELY STA. 5+00 TO 9+00 ON THE SOUTH SIDE OF BUCHANAN STREET. MAINTAIN 2% SLOPE TOWARDS ROADWAY (AS SHOWN IN TYPICAL SECTIONS) AND FINISH FORESLOPE WITH 4:1 OR FLATTER SLOPE. EXCESS EXCAVATED MATERIAL MAY BE WASTED AT OTHER LOCATIONS ON SITE ONLY AS APPROVED BY THE JURISDICTION.



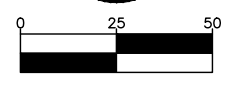
CONTINUED NEXT SHEET


NOTE:  
EXISTING SIGNS THAT ARE THE PROPERTY OF THE CITY OF WASHINGTON WILL BE REMOVED BY THE CITY OF WASHINGTON.

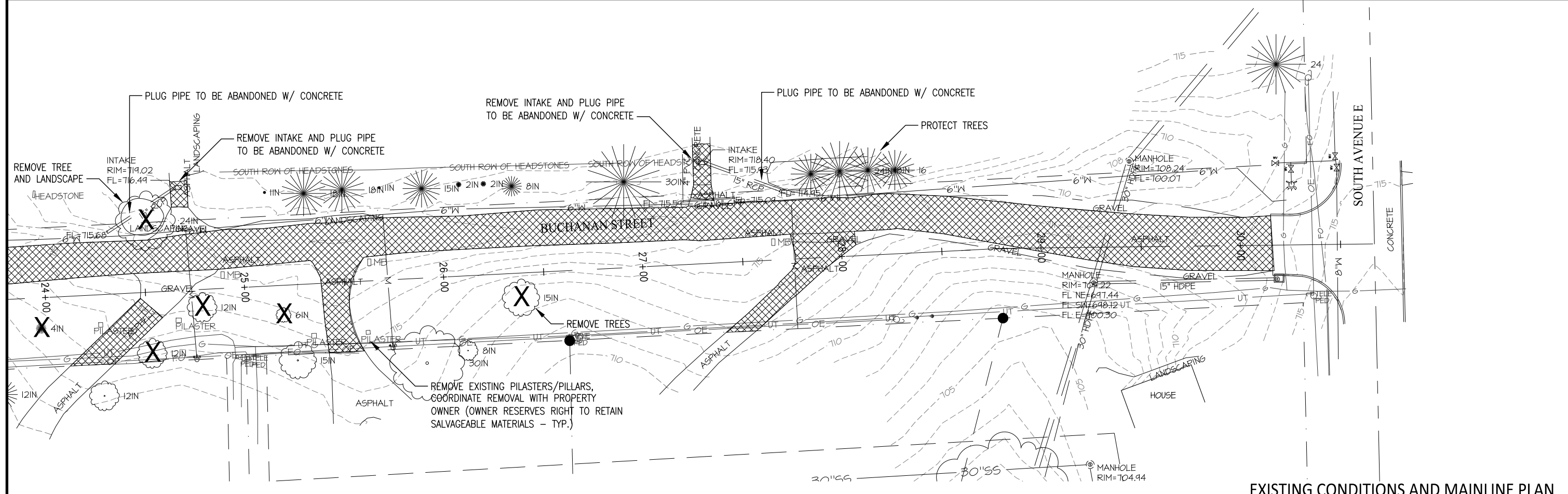
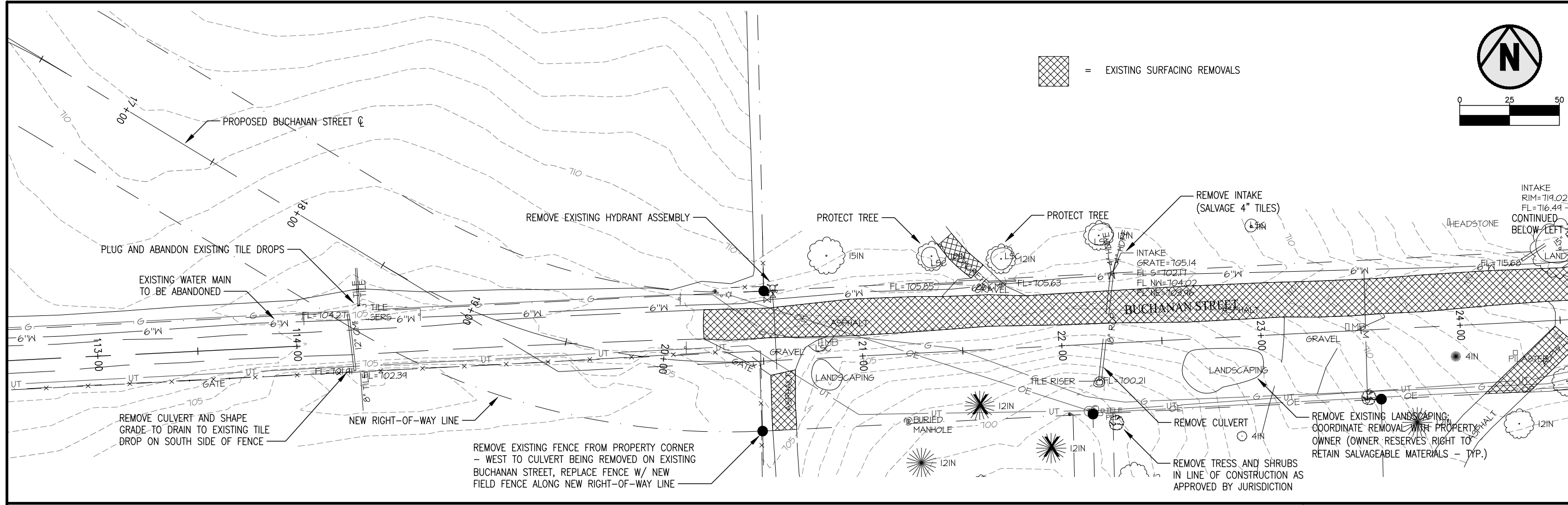
EXISTING CONDITIONS AND MAINLINE PLAN



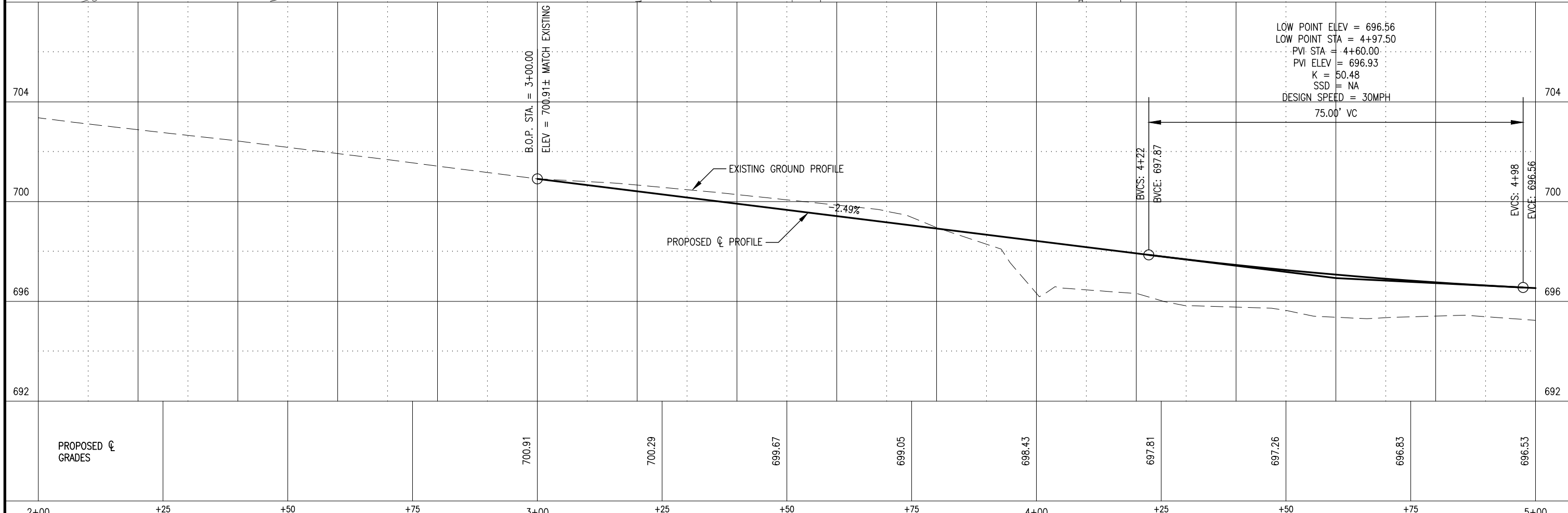
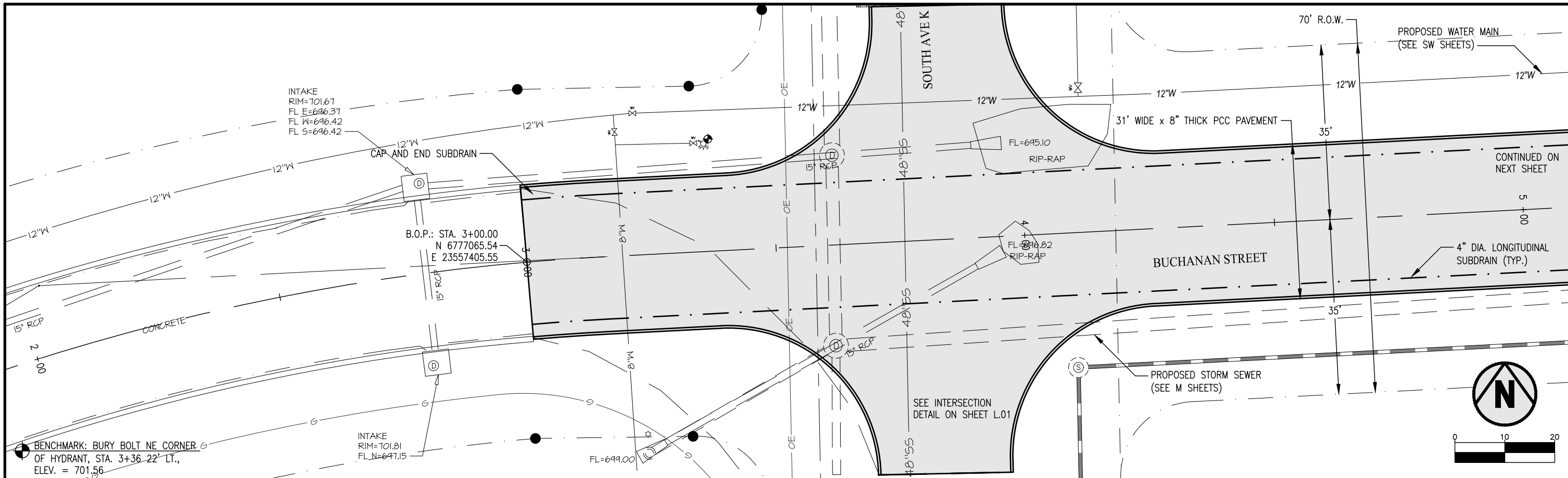
EXISTING CONDITIONS AND MAINLINE PLAN



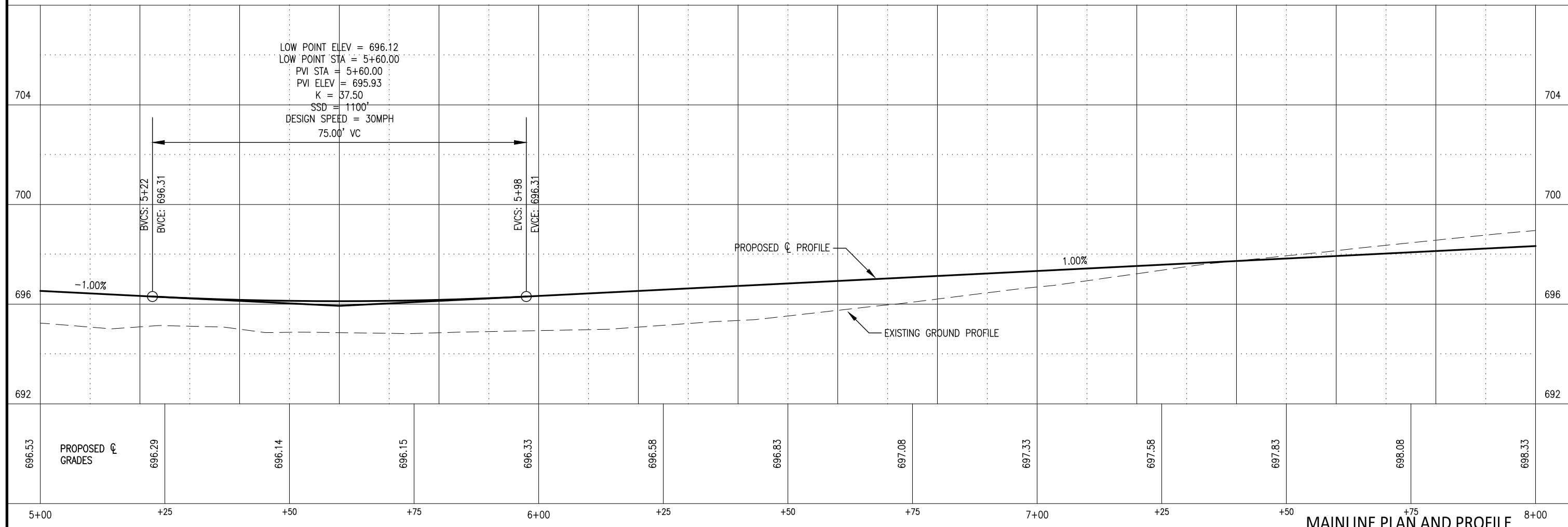
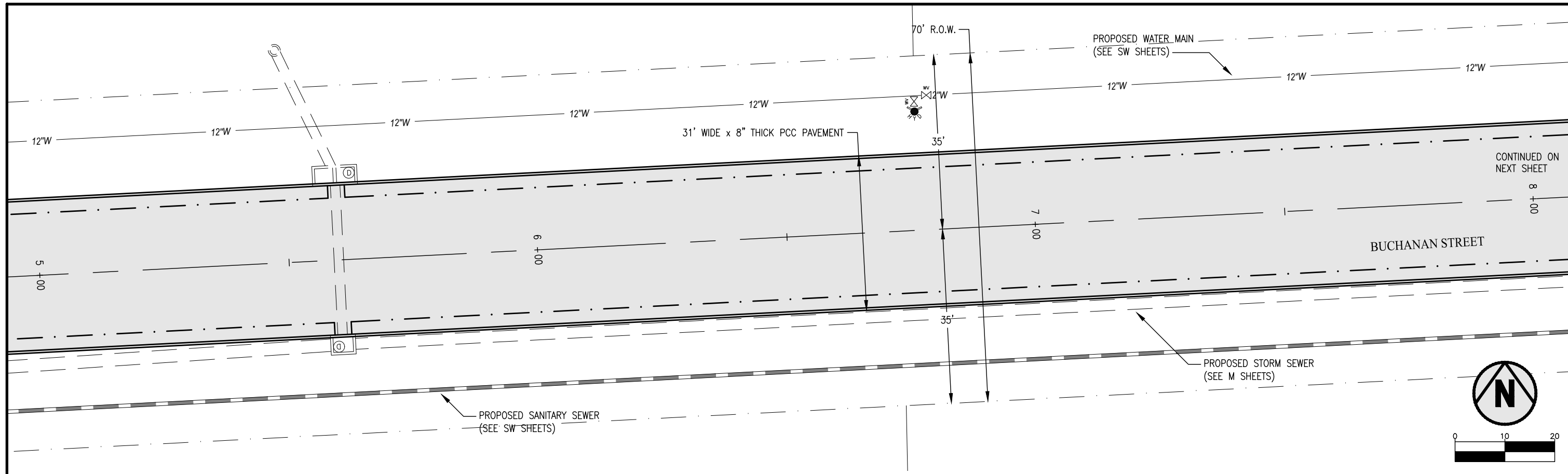
 = EXISTING SURFACING REMOVALS



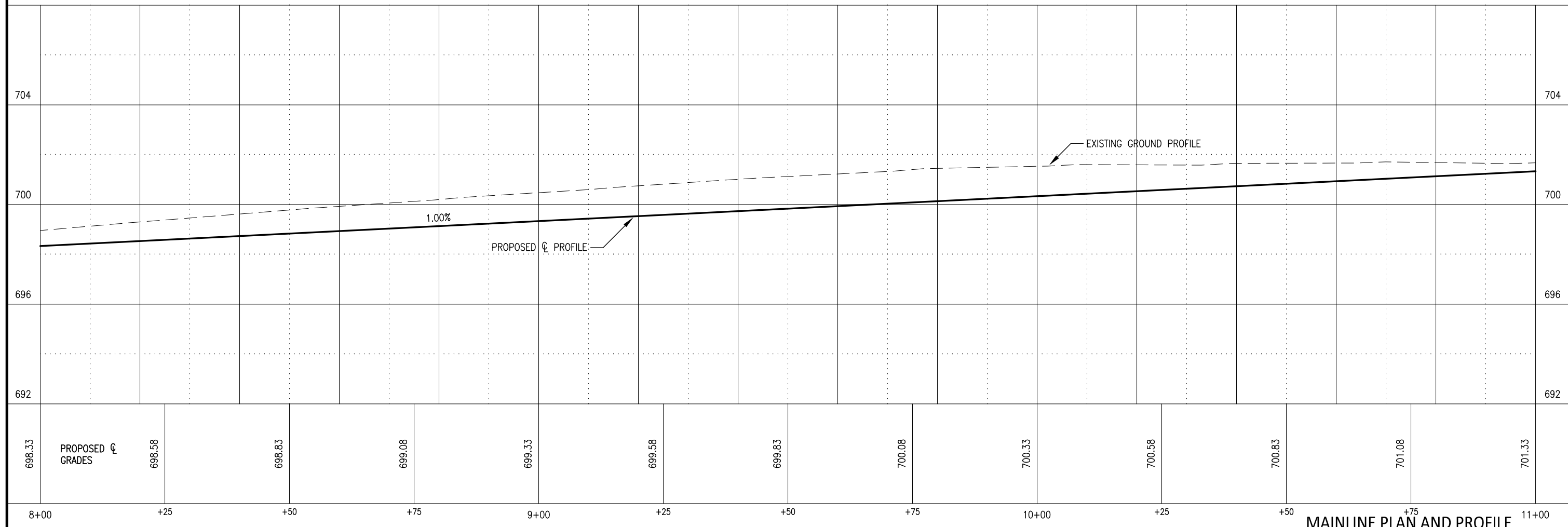
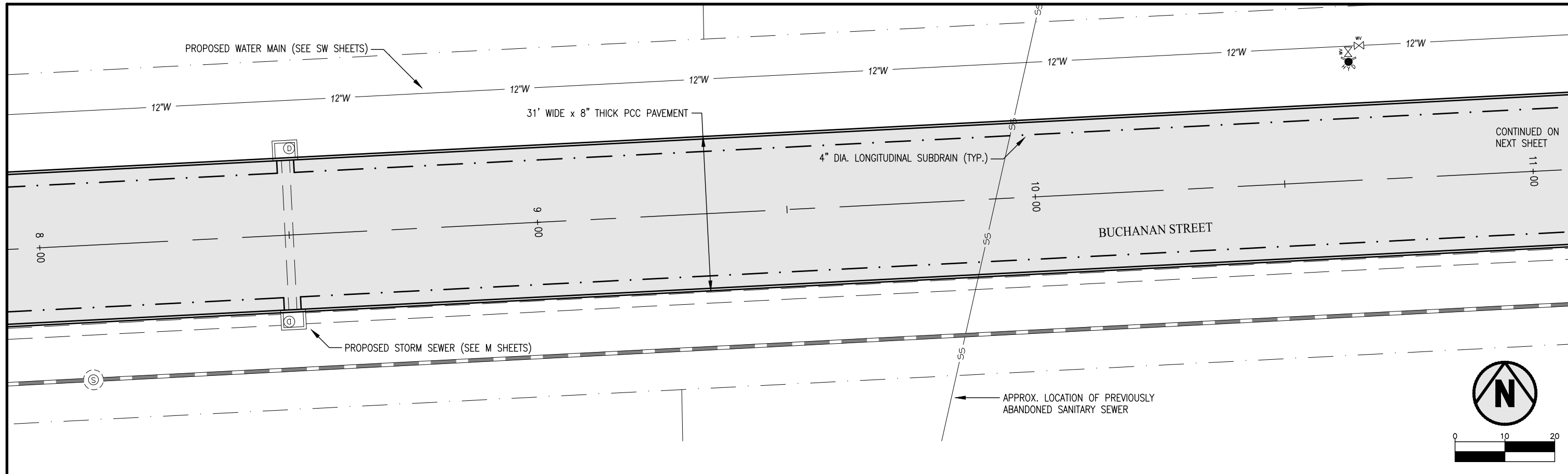
EXISTING CONDITIONS AND MAINLINE PLAN



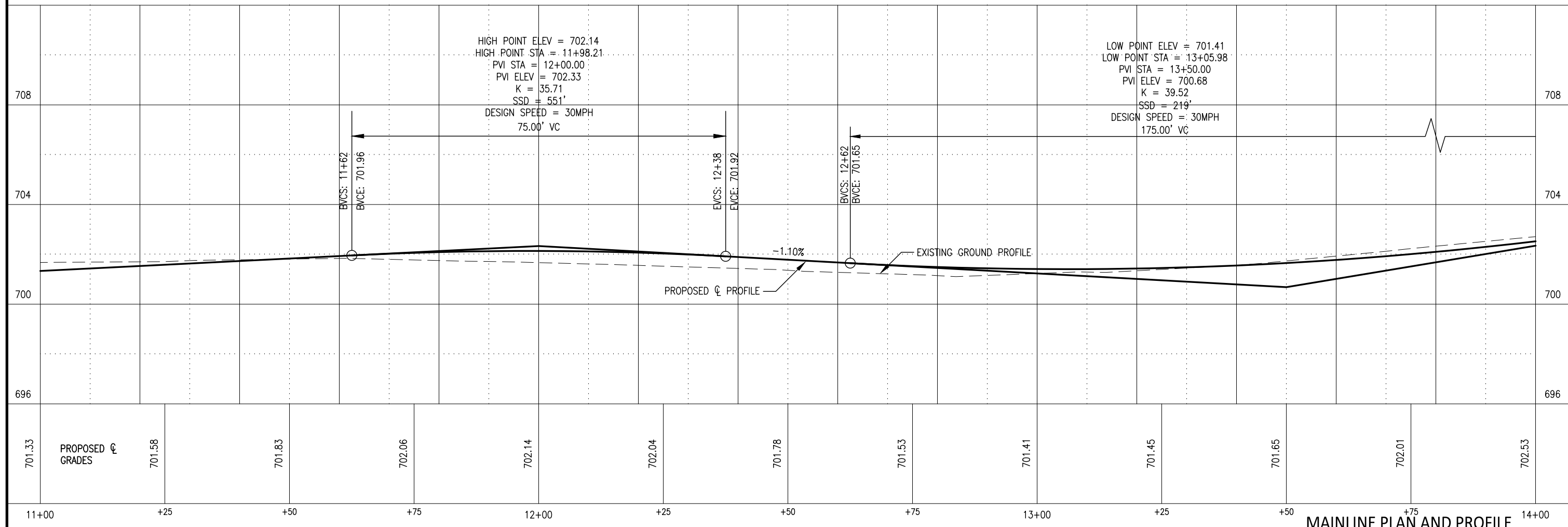
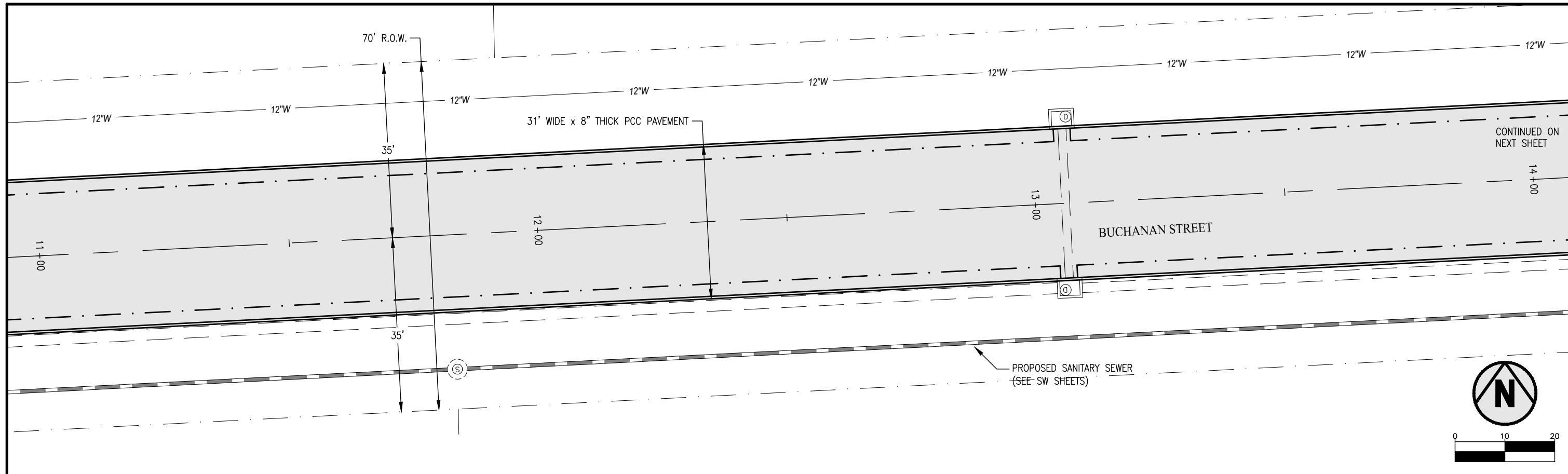
MAINLINE PLAN AND PROFILE



MAINLINE PLAN AND PROFILE

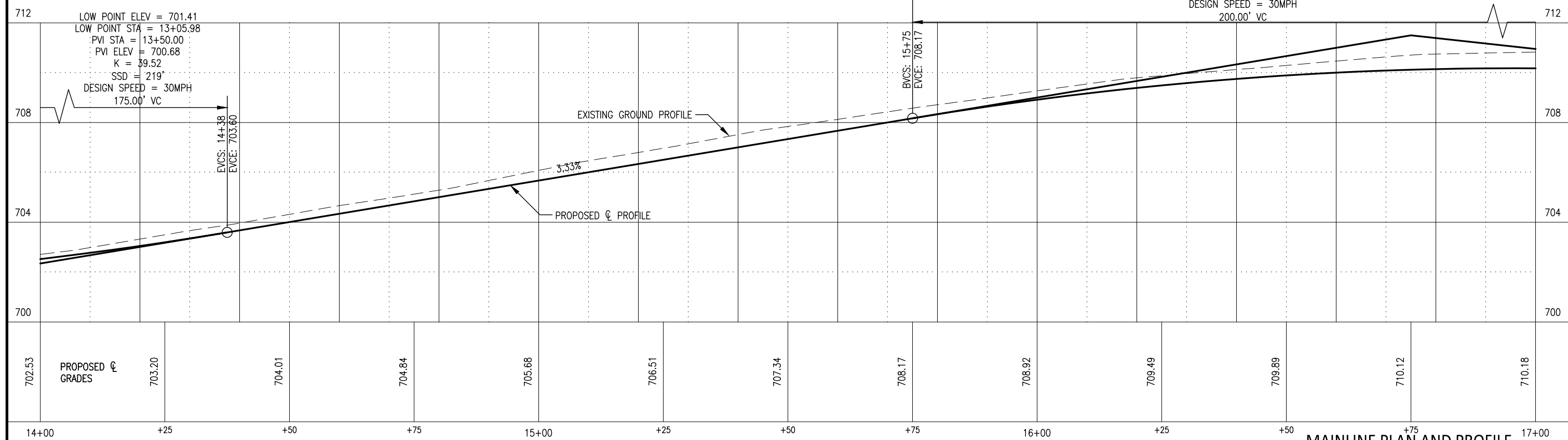
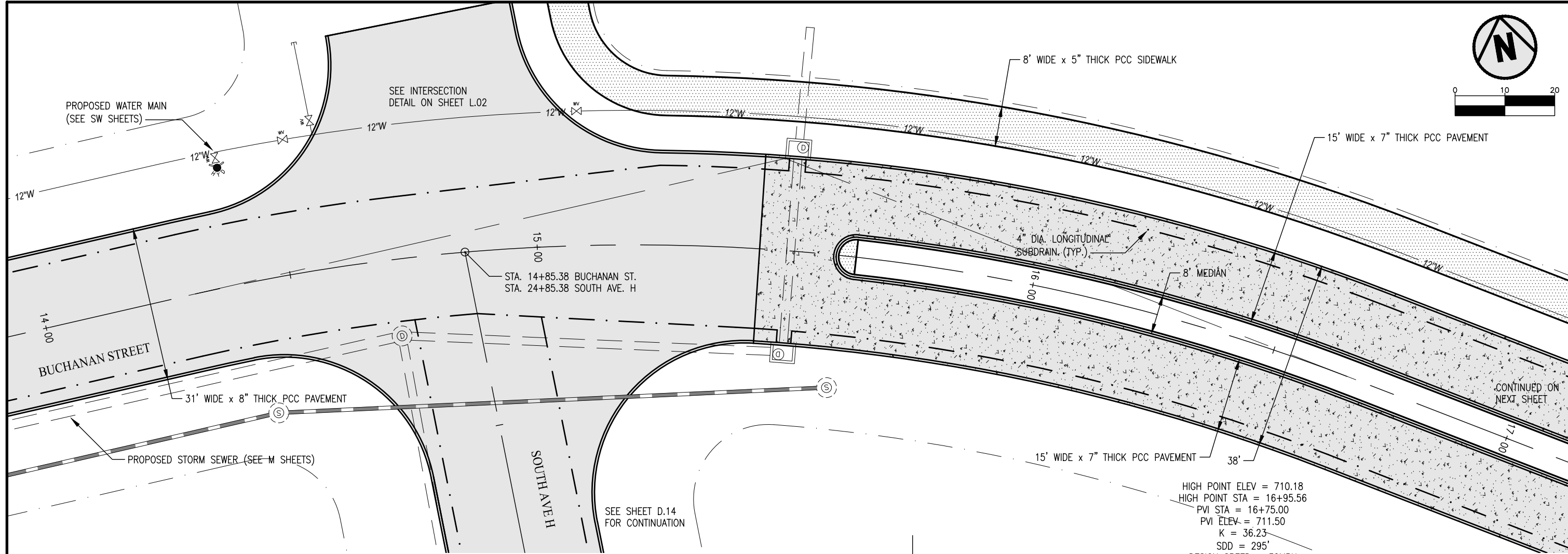
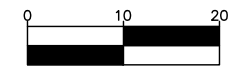


MAINLINE PLAN AND PROFILE



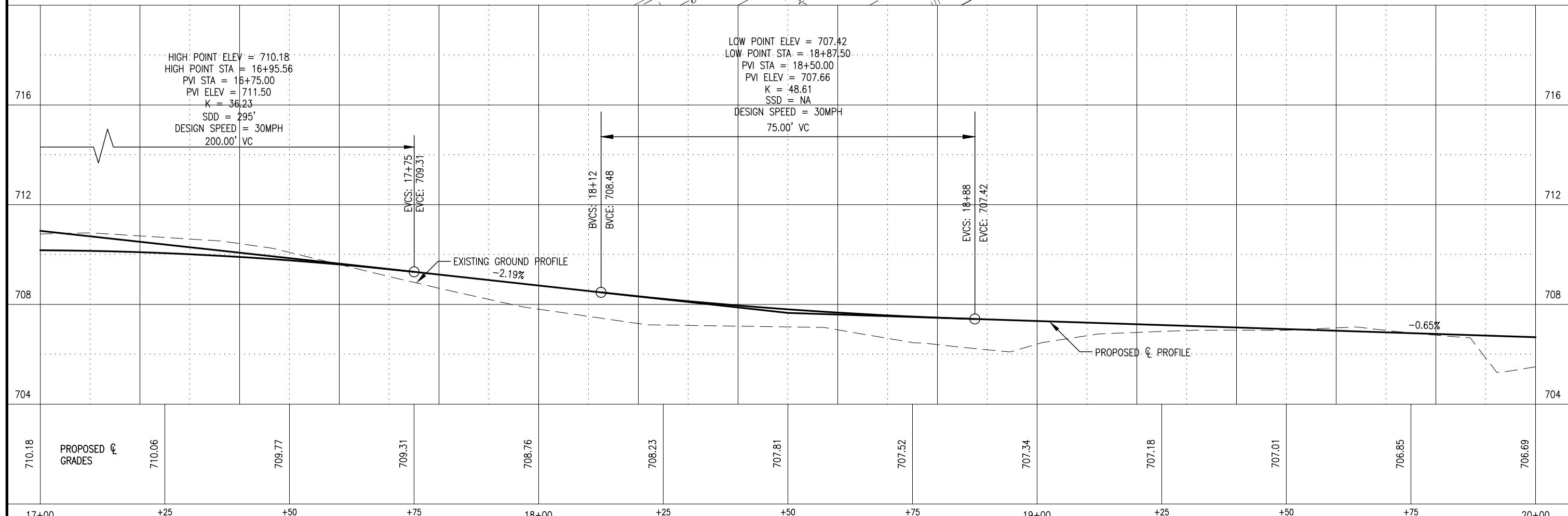
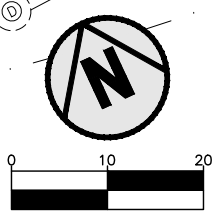
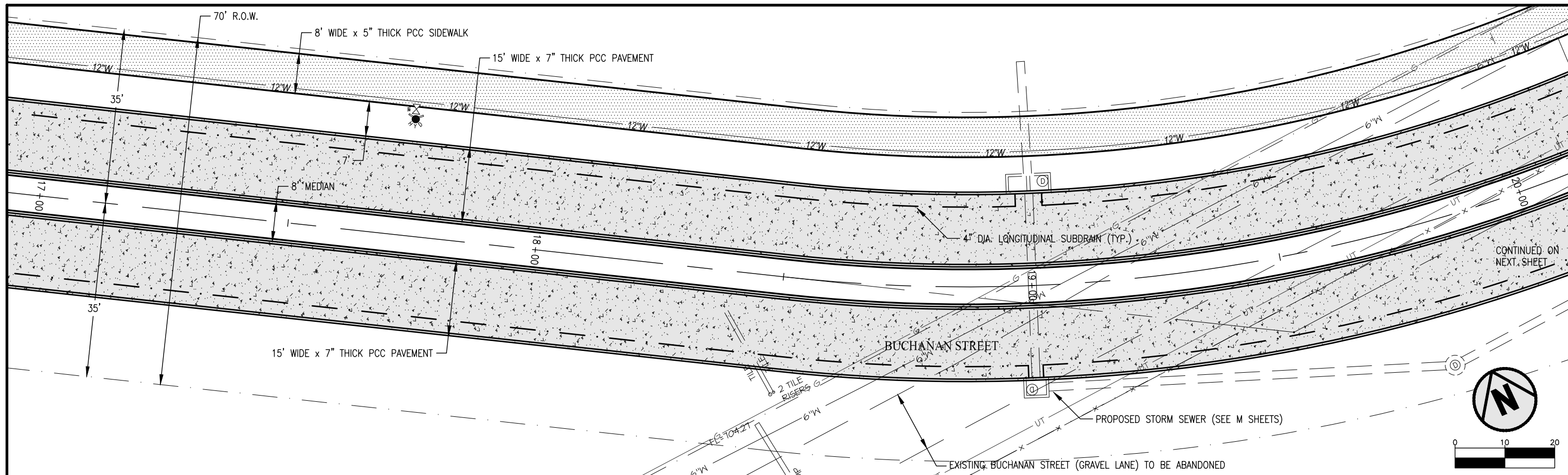
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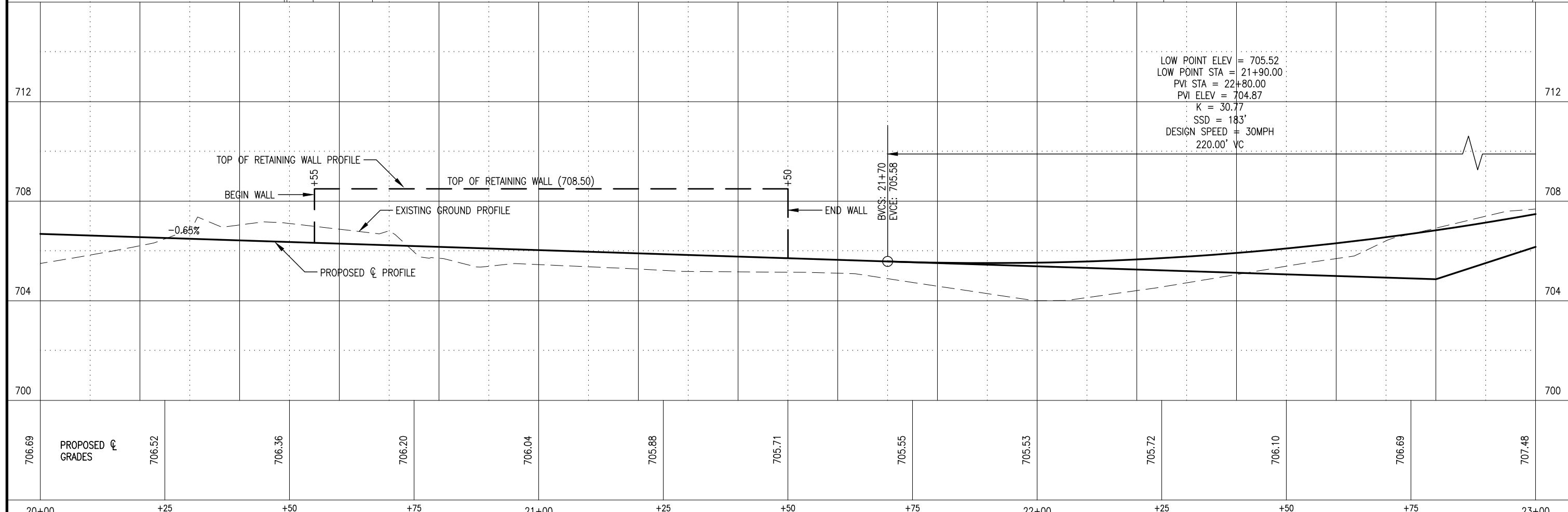
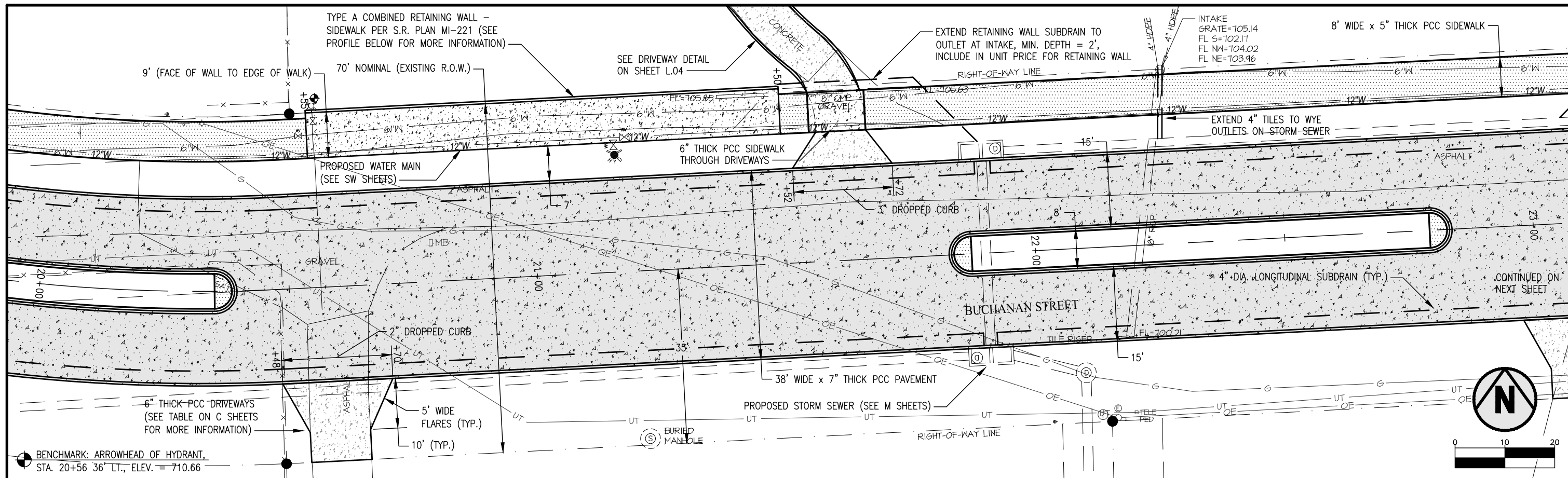
702.53	PROPOSED $\bar{C}$ GRADES	703.20	704.01	704.84	705.68	706.51	707.34	708.17	708.92	709.49	709.89	710.12	710.18
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MAINLINE PLAN AND PROFILE



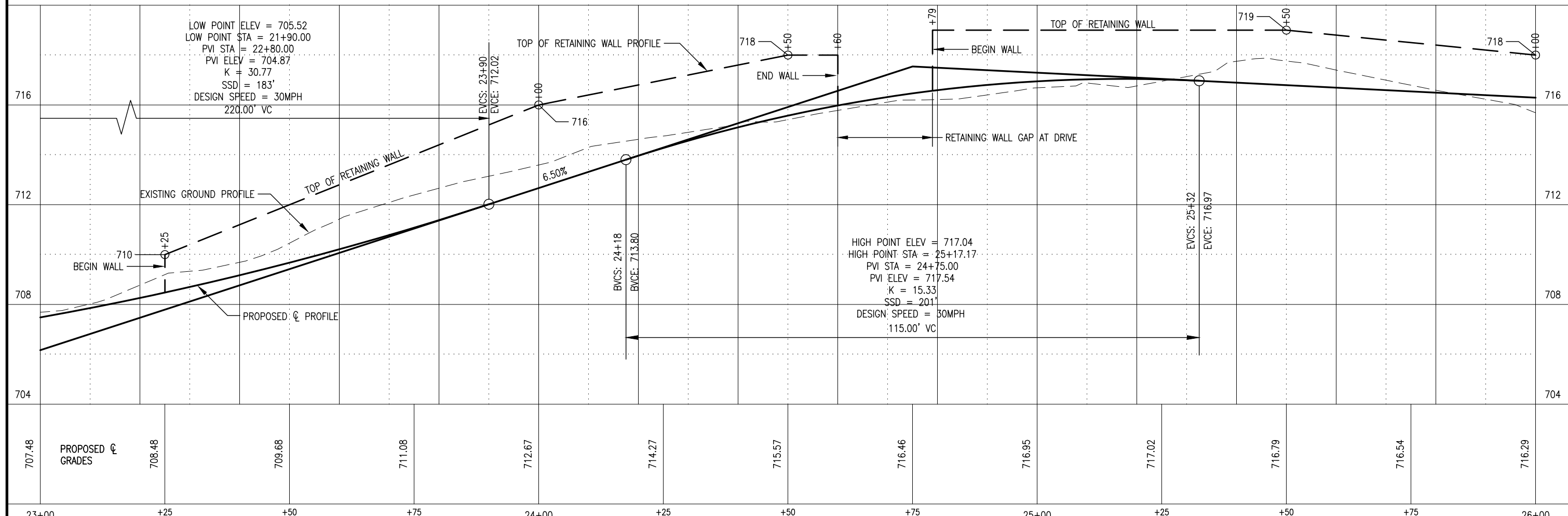
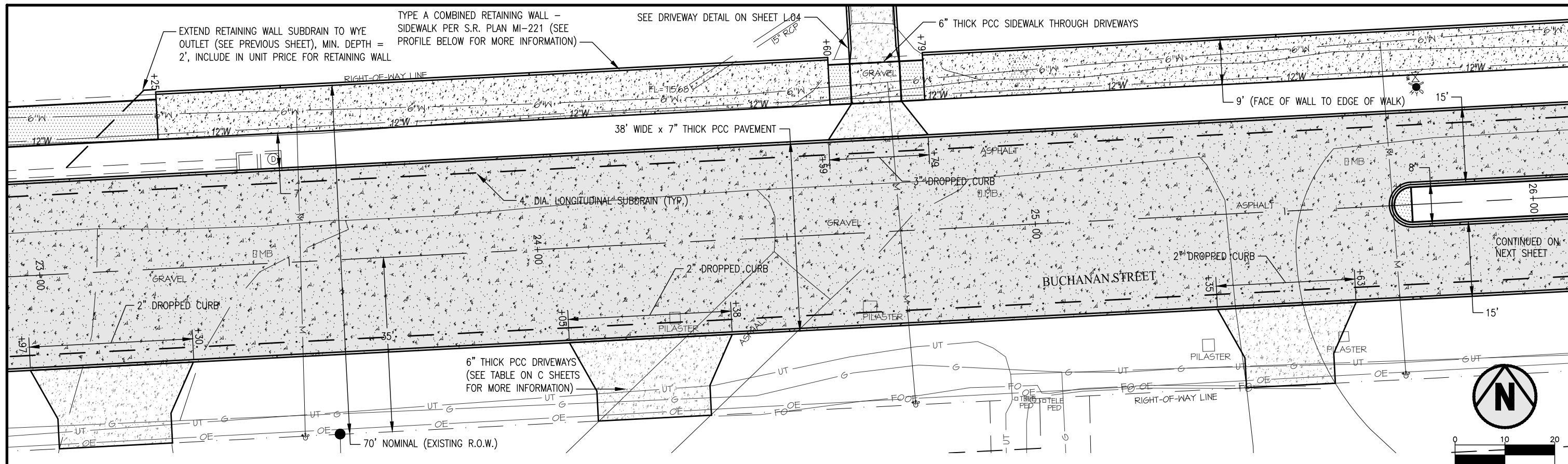
17+00	17+25	17+50	17+75	18+00	18+25	18+50	18+75	19+00	19+25	19+50	19+75	20+00
710.18	710.06	709.77	709.31	708.76	708.23	707.81	707.52	707.34	707.18	707.01	706.85	706.69

MAINLINE PLAN AND PROFILE



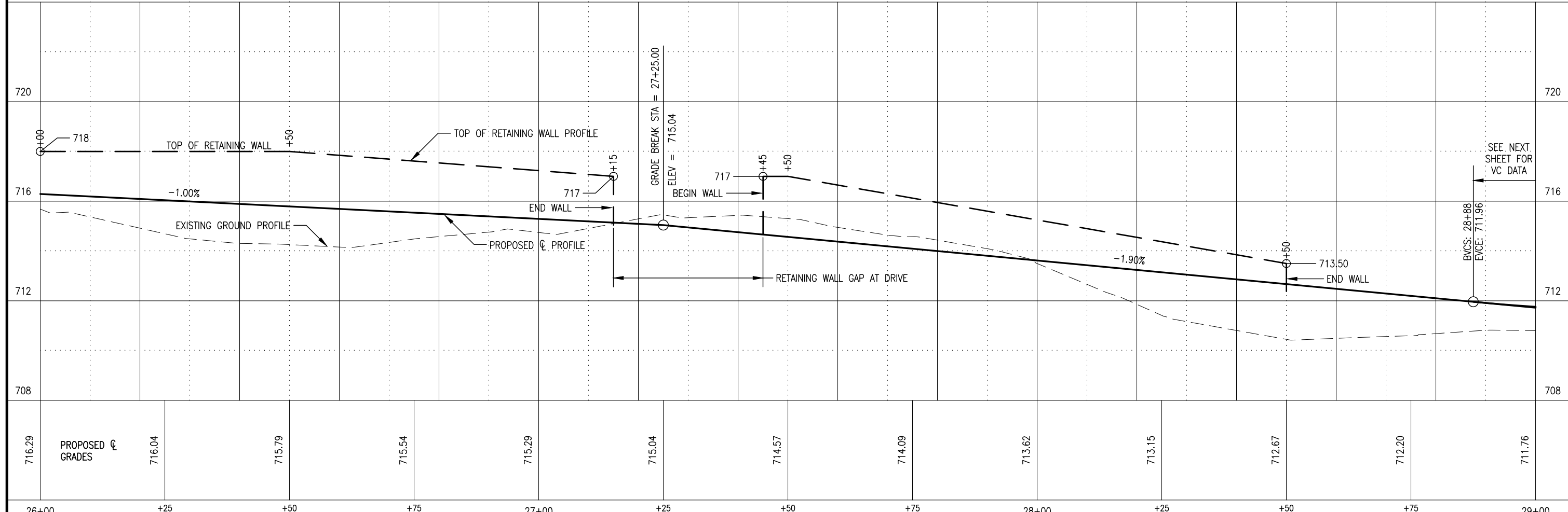
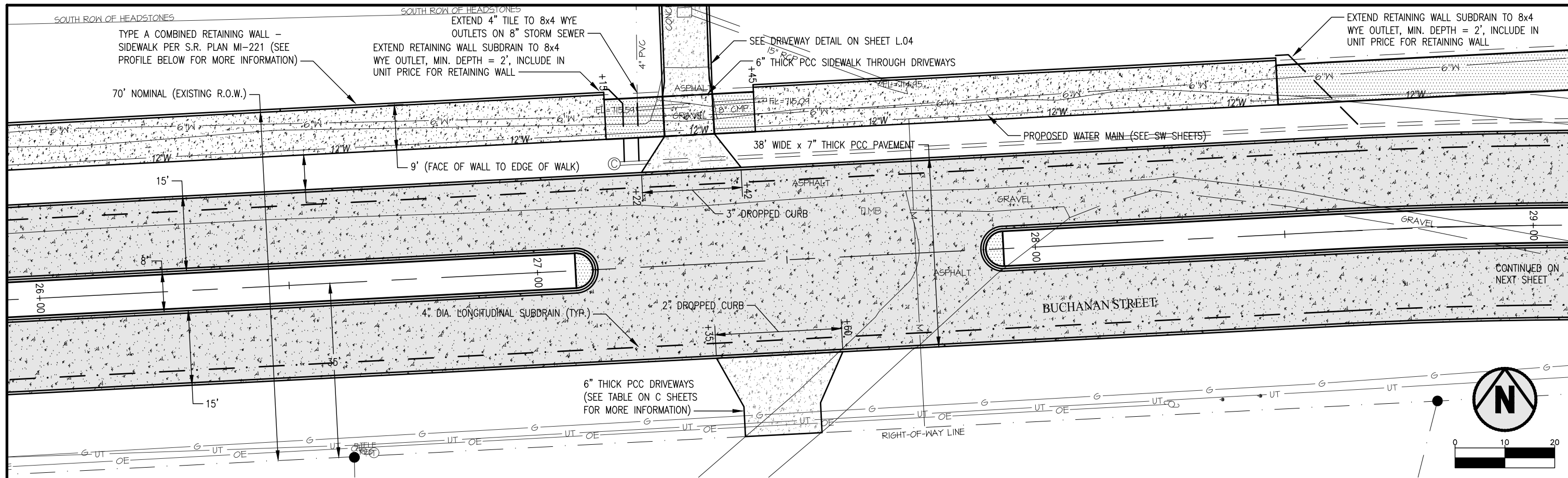
LOW POINT ELEV = 705.52  
 LOW POINT STA = 21+90.00  
 PVI STA = 22+80.00  
 PVI ELEV = 704.87  
 K = 30.77  
 SSD = 183'  
 DESIGN SPEED = 30MPH  
 220.00' VC

**MAINLINE PLAN AND PROFILE**

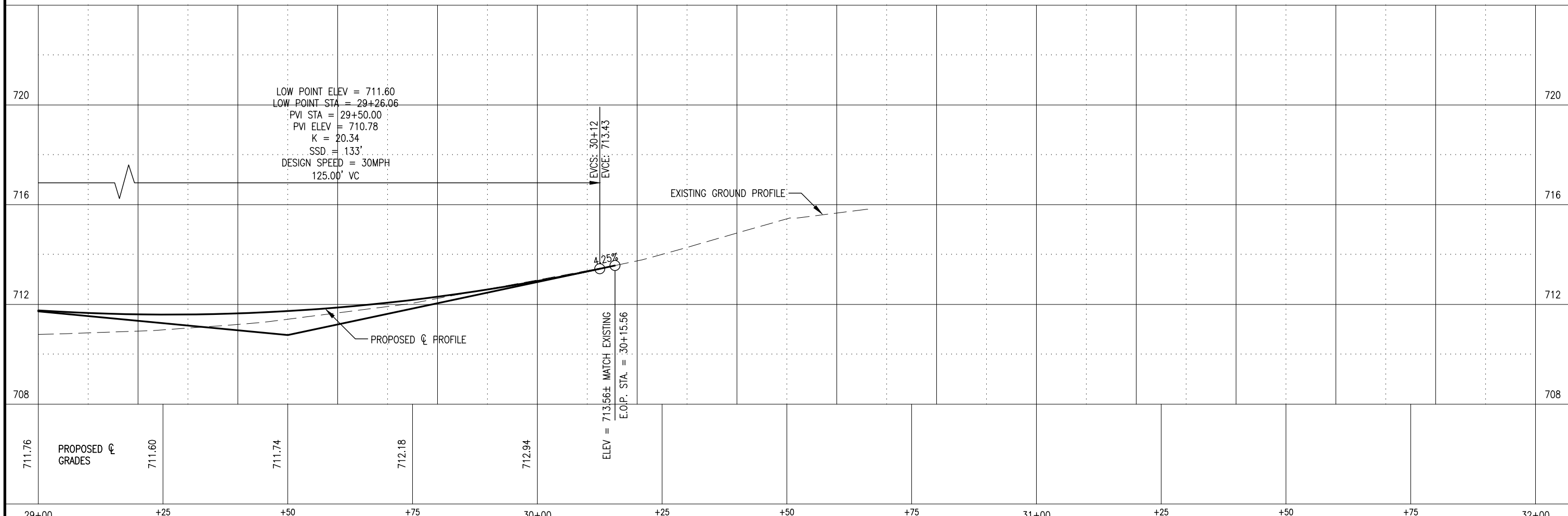
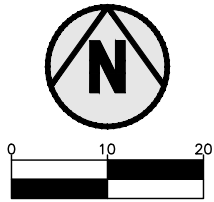
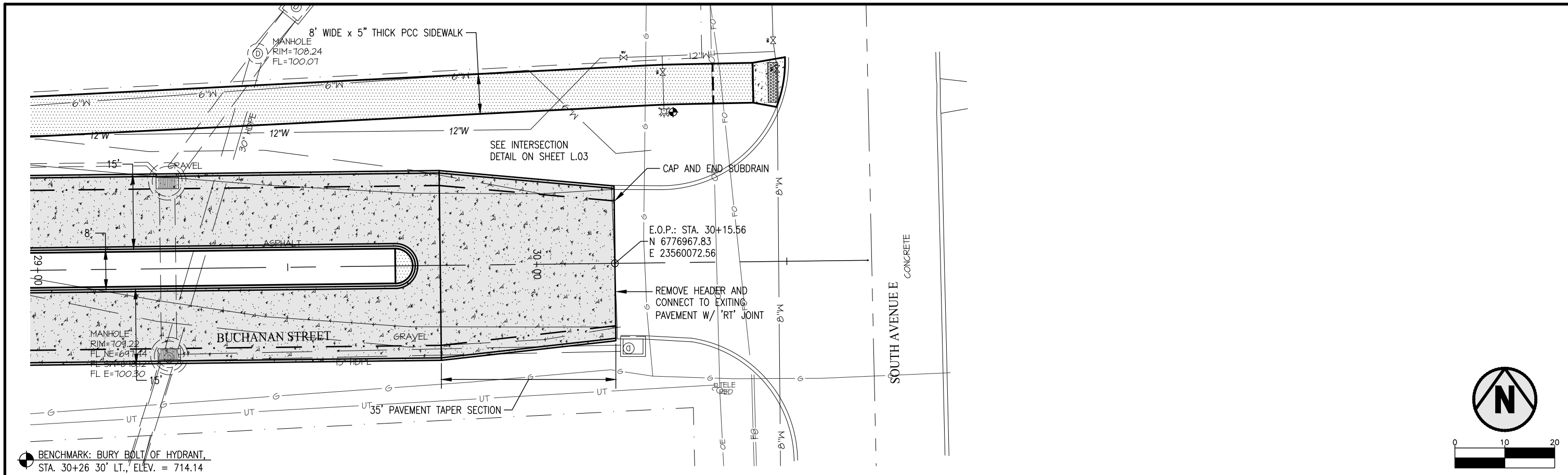


707.48	708.48	709.68	711.08	712.67	714.27	715.57	716.46	716.95	717.02	716.79	716.54	716.29
23+00	+25	+50	+75	24+00	+25	+50	+75	25+00	+25	+50	+75	26+00

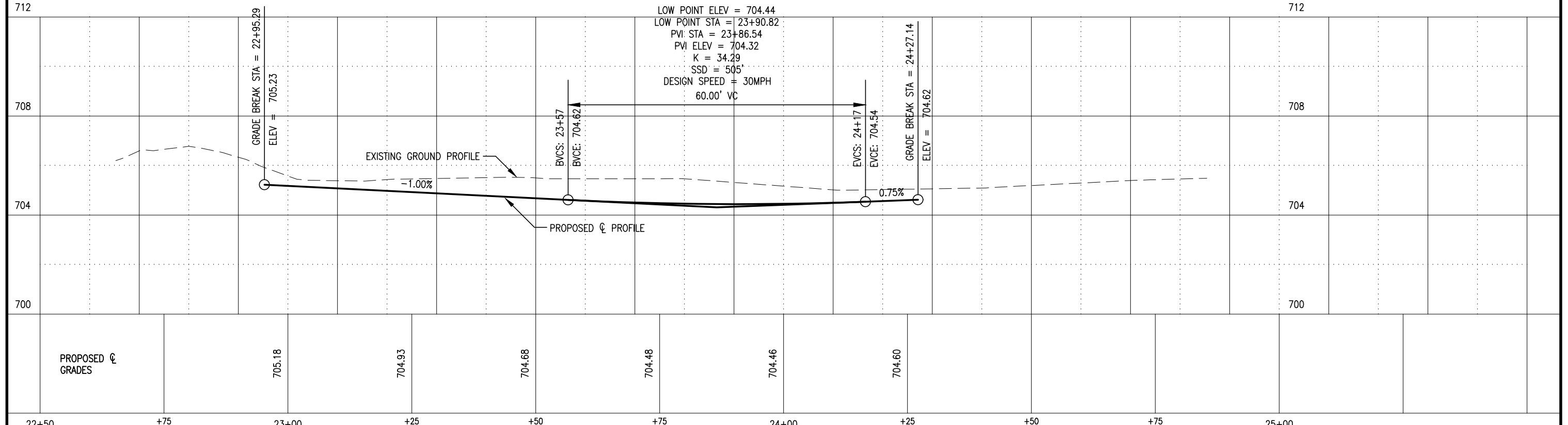
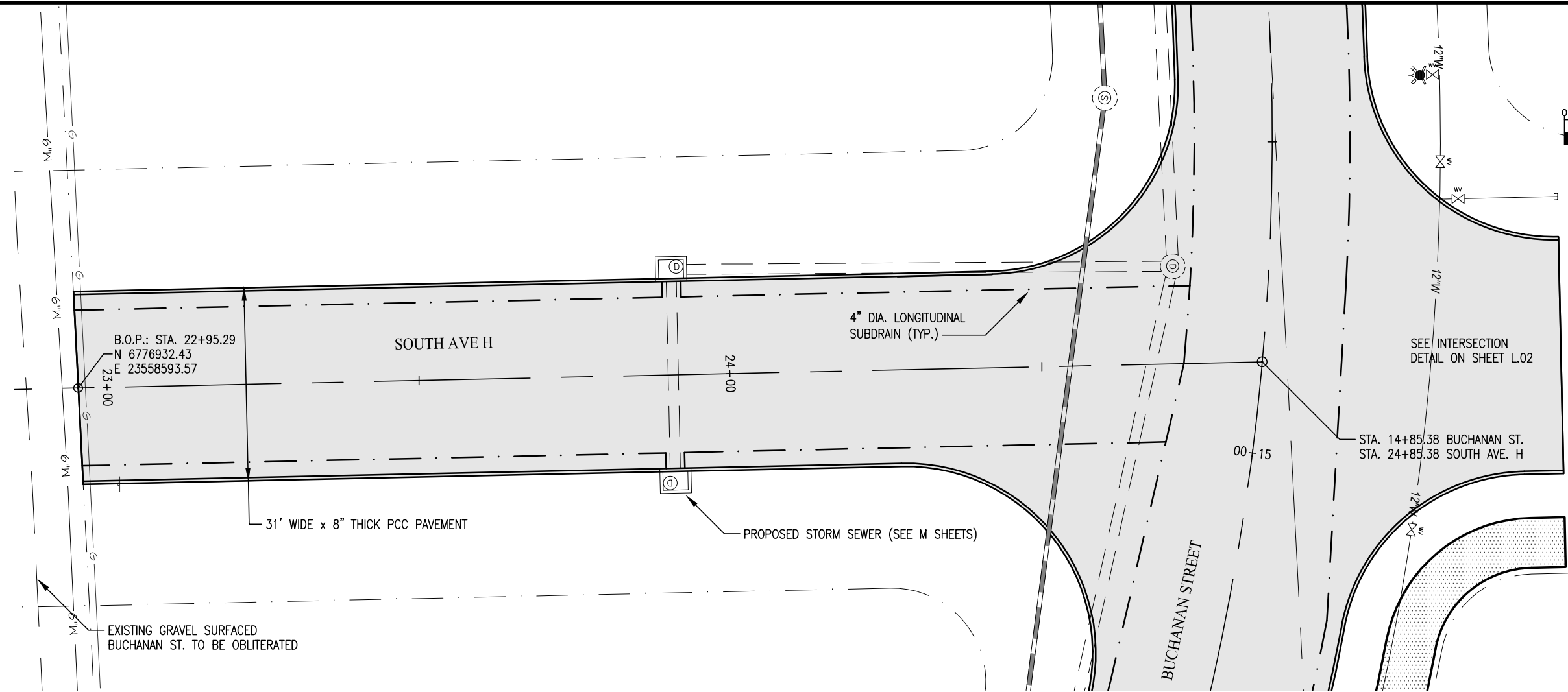
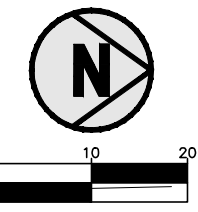
MAINLINE PLAN AND PROFILE

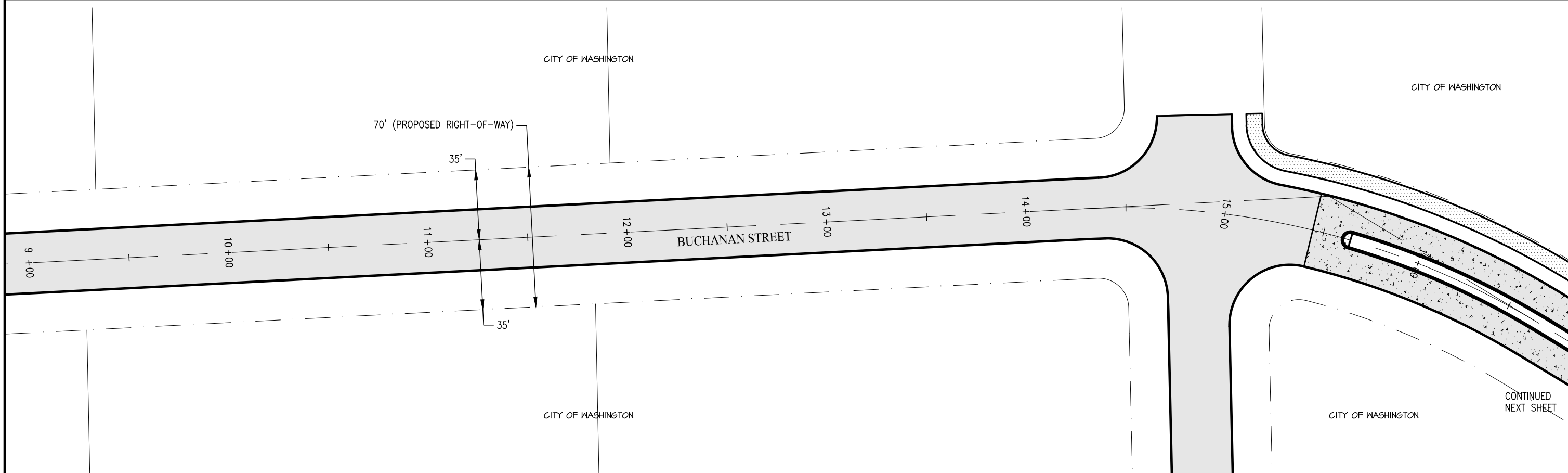
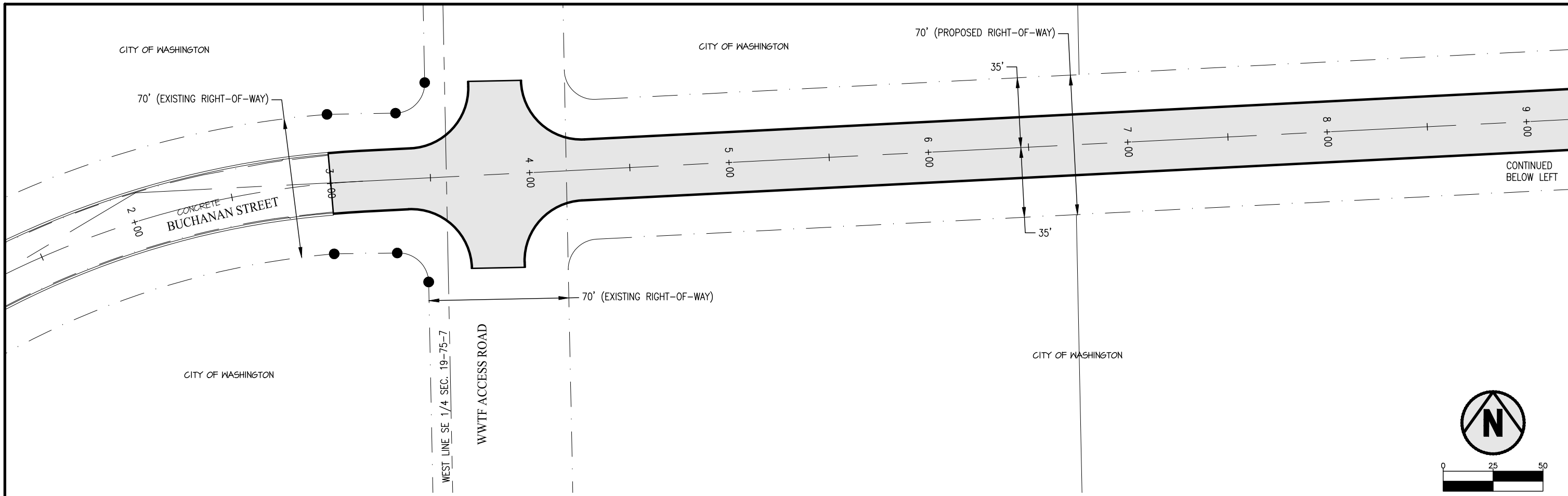


MAINLINE PLAN AND PROFILE



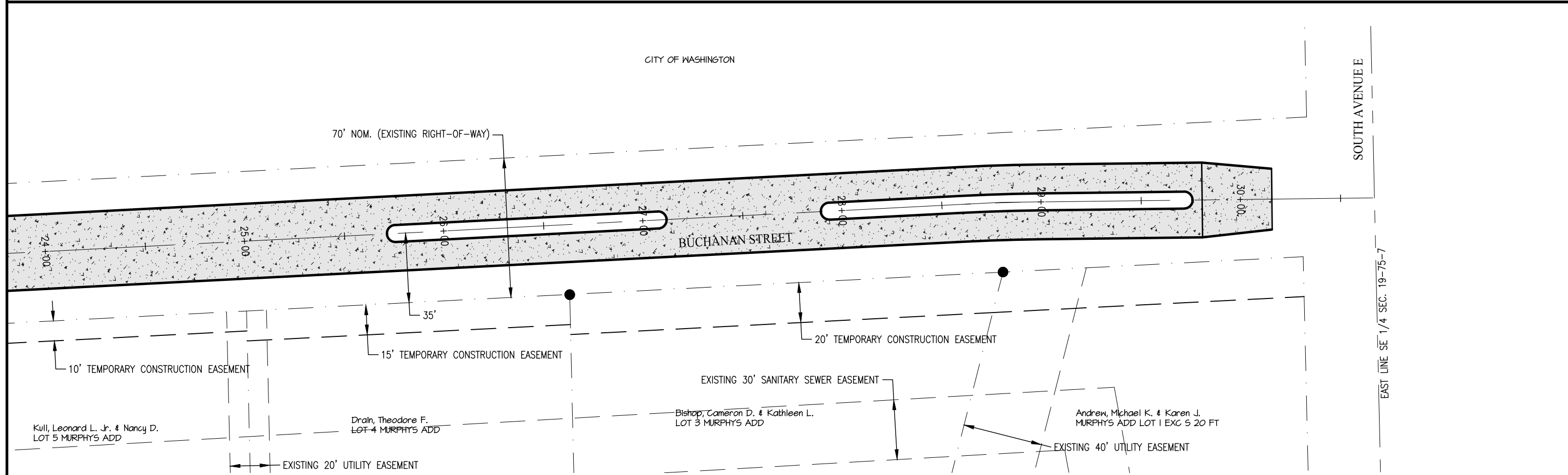
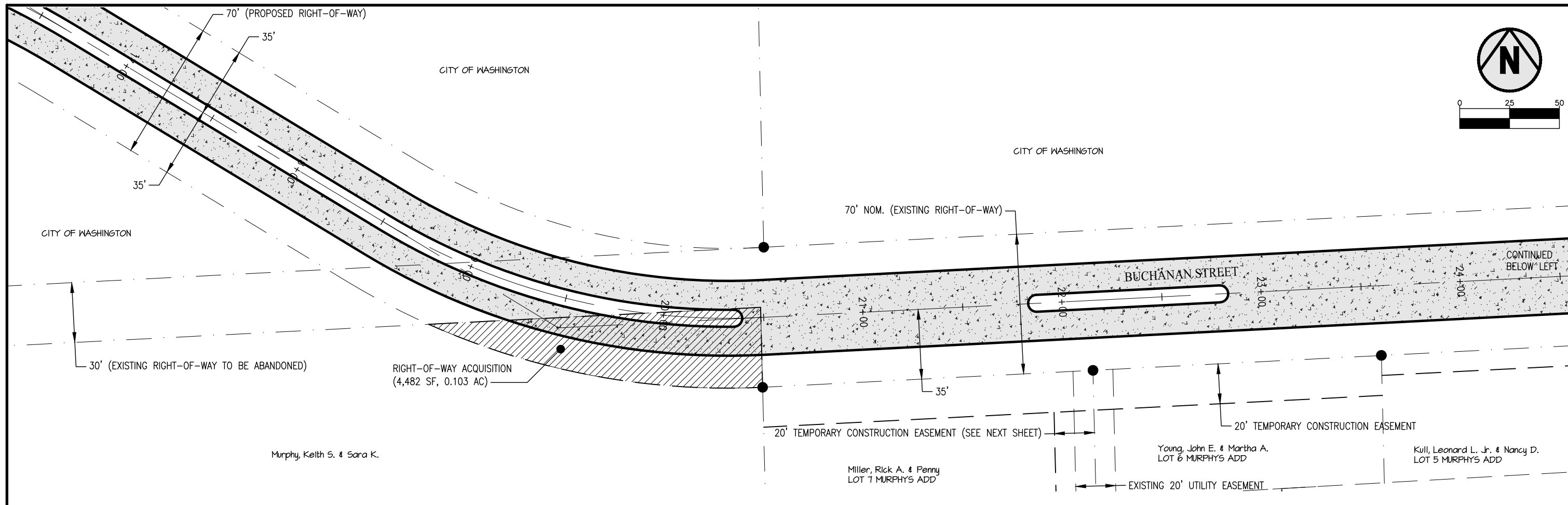
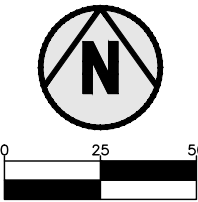
MAINLINE PLAN AND PROFILE



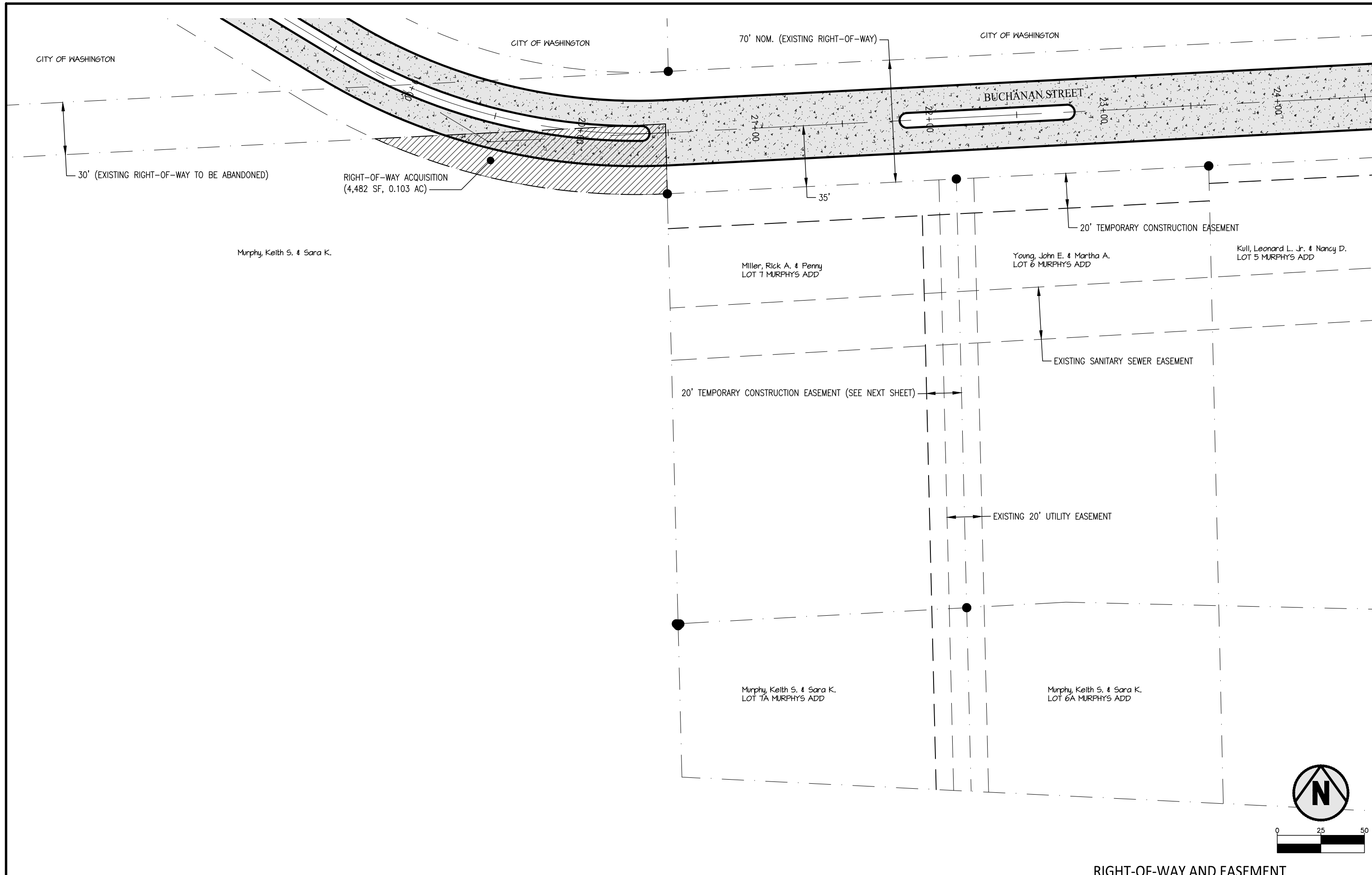


RIGHT-OF-WAY AND EASEMENT





**RIGHT-OF-WAY AND EASEMENT**



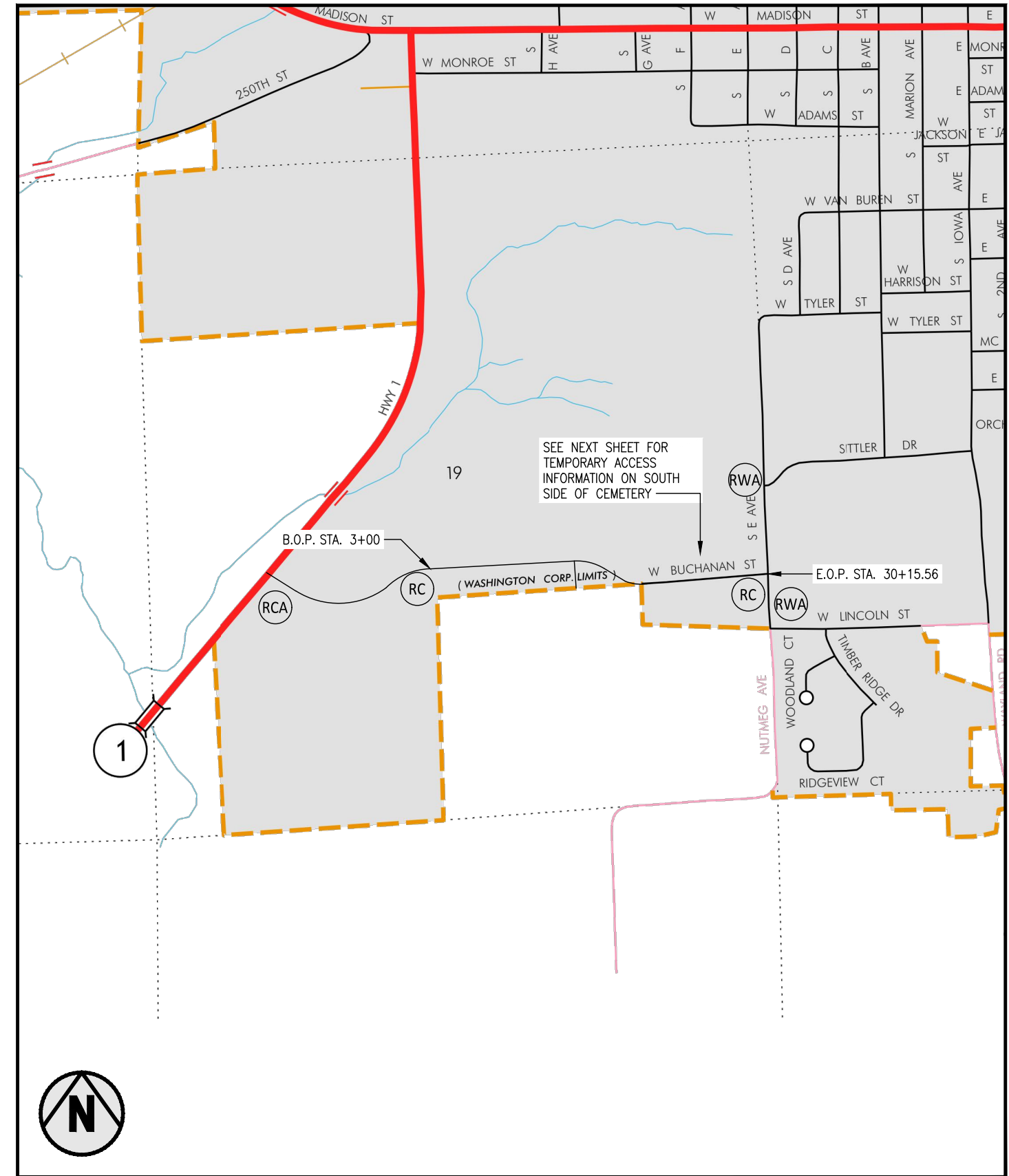
RIGHT-OF-WAY AND EASEMENT

TRAFFIC CONTROL PLAN

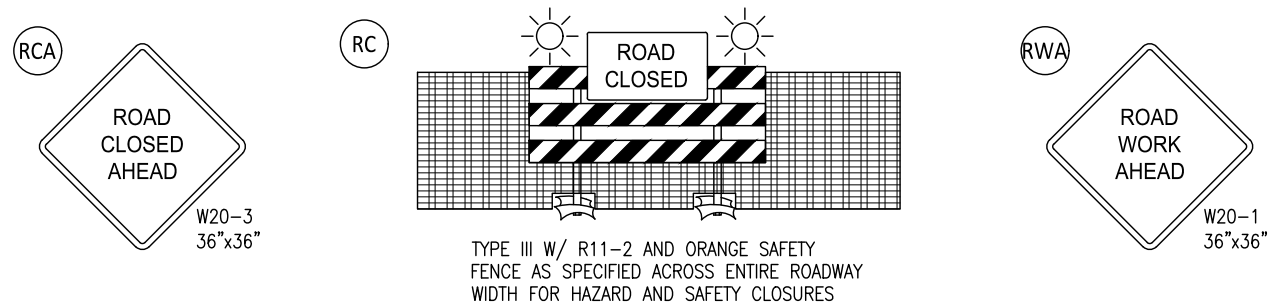
108-23A  
08-01-08

GENERAL TRAFFIC CONTROL NOTES

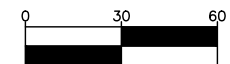
1. TRAFFIC CONTROL AND SIGNING IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, MOVED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS.
2. CONTRACTOR WILL BE REQUIRED TO WASH AND MAINTAIN SIGNS AS REQUIRED AND DIRECTED BY THE ENGINEER. COST FOR THIS WORK IS INCIDENTAL TO CONSTRUCTION AND SHALL BE INCLUDED IN LUMP SUM PRICE FOR TRAFFIC CONTROL.
3. ANY REQUESTS FOR CHANGES TO THE TRAFFIC CONTROL PLANS SHALL BE SUBMITTED IN WRITING TO THE JURISDICTION. CHANGES TO THE TRAFFIC CONTROL PLAN SHALL NOT BE MADE UNLESS APPROVED BY THE JURISDICTION.
4. THE PROPOSED SIGNING MAY BE MODIFIED TO MEET THE FIELD CONDITIONS, PREVENT OBSTRUCTIONS AND TO ACCOMMODATE CONSTRUCTION SCHEDULING UPON APPROVAL OF THE JURISDICTION.
5. PERMANENT TRAFFIC CONTROL SIGNS THAT CONFLICT WITH SPECIFIC LAYOUTS SHOWN ON THESE PLANS ARE TO BE COVERED AS DIRECTED BY THE ENGINEER.
6. CONTRACTOR SHALL ERECT ALL WARNING SIGNS ON STEEL OR WOODEN POSTS AS SPECIFIED. PORTABLE MOUNTINGS FOR WARNING SIGNS MAY BE USED FOR TEMPORARY INSTALLATION OF LESS THAN 4 CALENDAR DAYS.
7. WHERE POSSIBLE, ALL POST MOUNTED SIGNS SHALL BE PLACED AT LEAST 2' FROM THE EDGE OF PAVEMENT OR SHOULDER OF THE ROAD.
8. THE CONTRACTOR SHALL PROVIDE A 24-HOUR PHONE NUMBER FOR THE CONTRACTOR'S RESPONSIBLE PARTY TO BE CONTACTED REGARDING TRAFFIC CONTROL ISSUES.
9. THE CONTRACTOR SHALL NOTIFY ALL LOCAL AUTHORITIES INCLUDING: FIRE/RESCUE SERVICES, LAW ENFORCEMENT, AND LOCAL SCHOOL SYSTEM 48 HOURS IN ADVANCE OF INITIATING SIGNIFICANT CHANGES TO TRAFFIC CONTROL.
10. TEMPORARY ACCESS TO THE WASTEWATER TREATMENT FACILITY NEAR B.O.P. AND RESIDENTIAL ADDRESSES ON THE EAST END OF THE PROJECT SHALL BE MAINTAINED AS DESCRIBED ON THE NEXT SHEET.



TRAFFIC CONTROL SIGNAGE LEGEND



TRAFFIC CONTROL PLAN

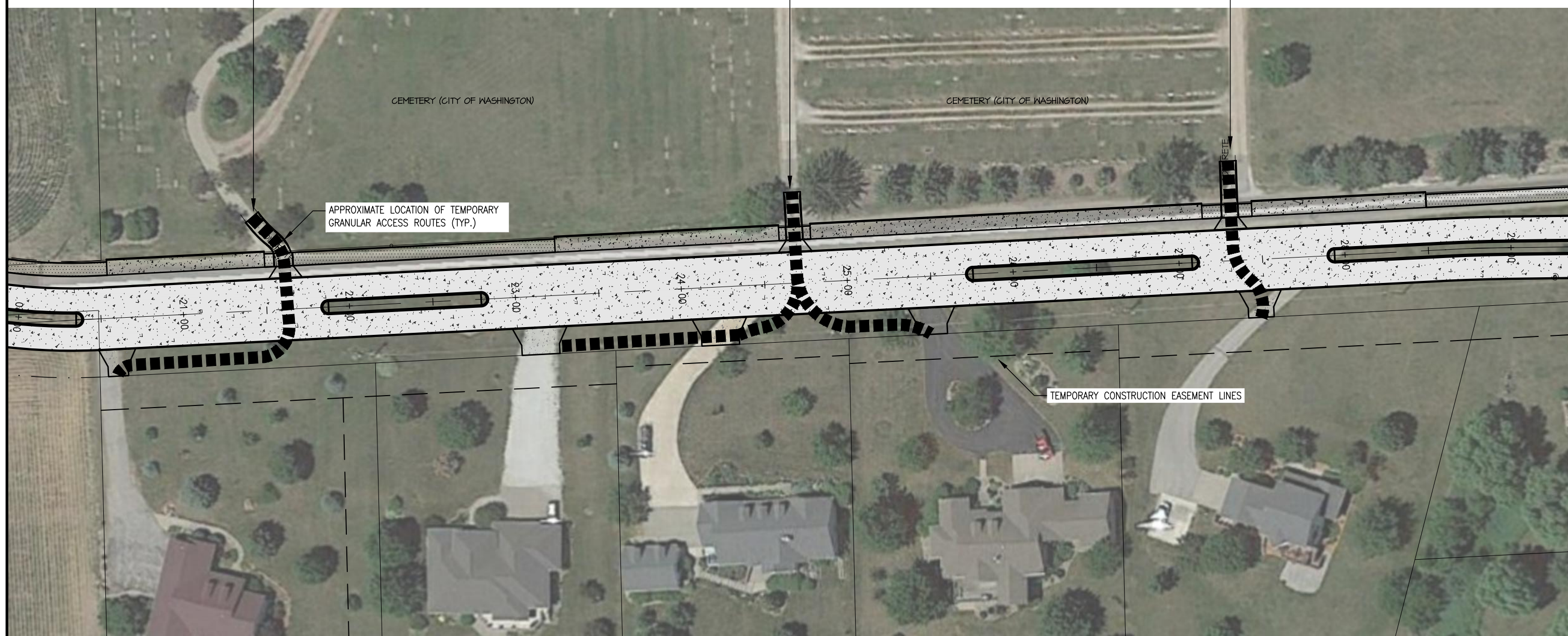


**TEMPORARY ACCESS NOTES:**  
 MAINTAIN POSTAL SERVICE AND SOLID WASTE COLLECTION (SEE TABS GA-5 AND 100-4A). AFTER COMPLETION OF GRADING AND PAVING OPERATIONS; RESIDENTIAL ACCESS WILL BE ACCOMPLISHED BY PARKING ON NEW MAINLINE PAVEMENT. REMOVE TEMPORARY GRANULAR ACCESS AND COMPLETE MAINLINE PAVEMENT AND DRIVEWAY CONNECTIONS ON THE SOUTH SIDE AFTER MAINLINE PAVEMENT WITH GAPS FOR ACCESS HAS BEEN COMPLETED. PAVED DRIVEWAYS TO THE CEMETERY SHALL BE LAST ORDER OF CONSTRUCTION.

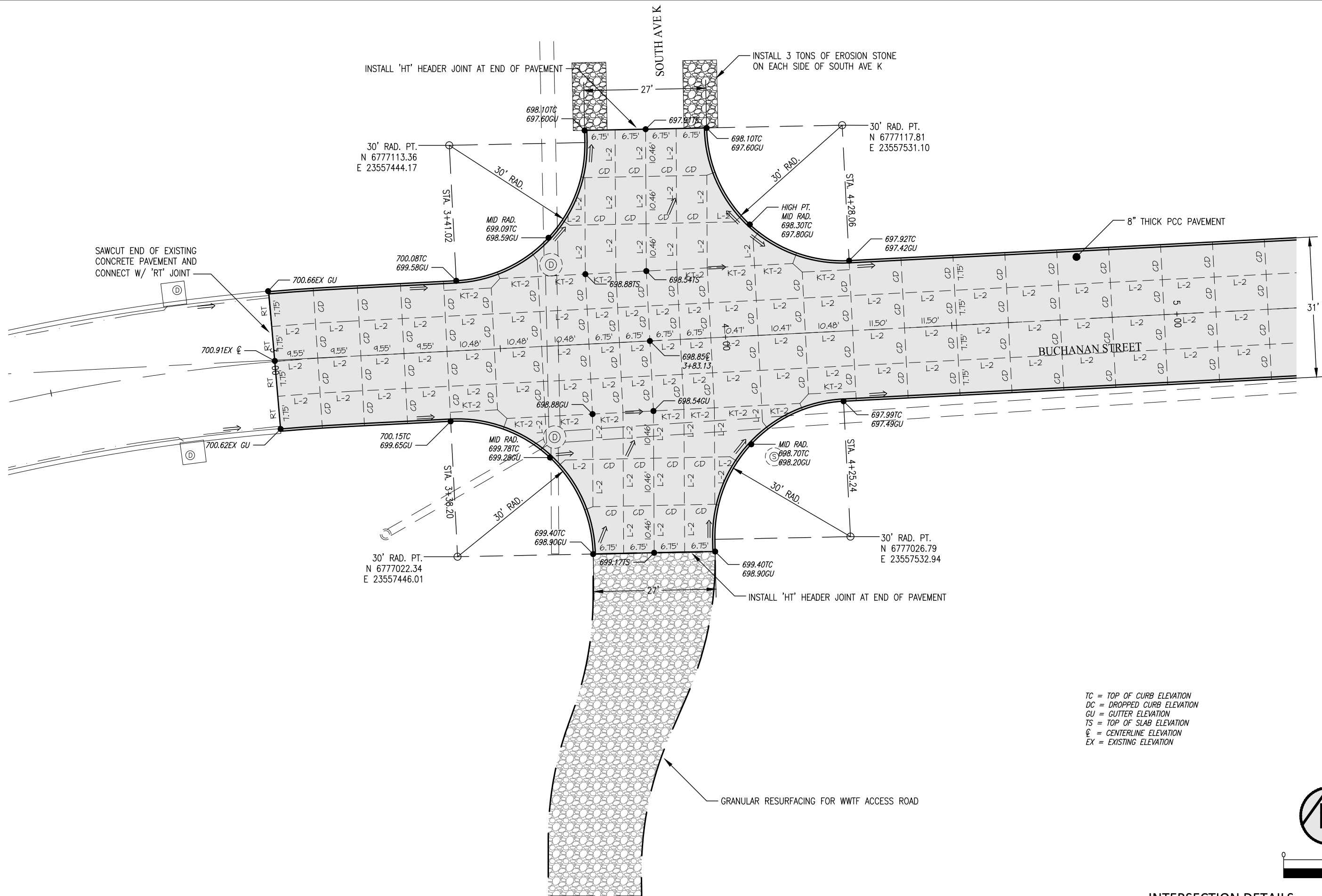
PROVIDE GAP IN PCC PAVING OPERATIONS TO ALLOW RESIDENTIAL TRAFFIC ACCESS FROM CEMETERY ON NORTH SIDE OF BUCHANAN STREET. PROVIDE TEMPORARY SHAPING ON SOUTH SIDE OF BUCHANAN STREET TO ACCOMMODATE GRANULAR ACCESS SURFACING. SEE BID ITEM FOR "TEMPORARY GRANULAR SURFACING".

PROVIDE GAP IN PCC PAVING OPERATIONS TO ALLOW RESIDENTIAL TRAFFIC ACCESS FROM CEMETERY ON NORTH SIDE OF BUCHANAN STREET. PROVIDE TEMPORARY SHAPING ON SOUTH SIDE OF BUCHANAN STREET TO ACCOMMODATE GRANULAR ACCESS SURFACING. SEE BID ITEM FOR "TEMPORARY GRANULAR SURFACING".

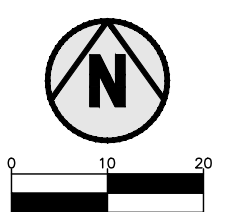
PROVIDE GAP IN PCC PAVING OPERATIONS TO ALLOW RESIDENTIAL TRAFFIC ACCESS FROM CEMETERY ON NORTH SIDE OF BUCHANAN STREET. PROVIDE TEMPORARY SHAPING ON SOUTH SIDE OF BUCHANAN STREET TO ACCOMMODATE GRANULAR ACCESS SURFACING. SEE BID ITEM FOR "TEMPORARY GRANULAR SURFACING".



**TRAFFIC CONTROL PLAN**



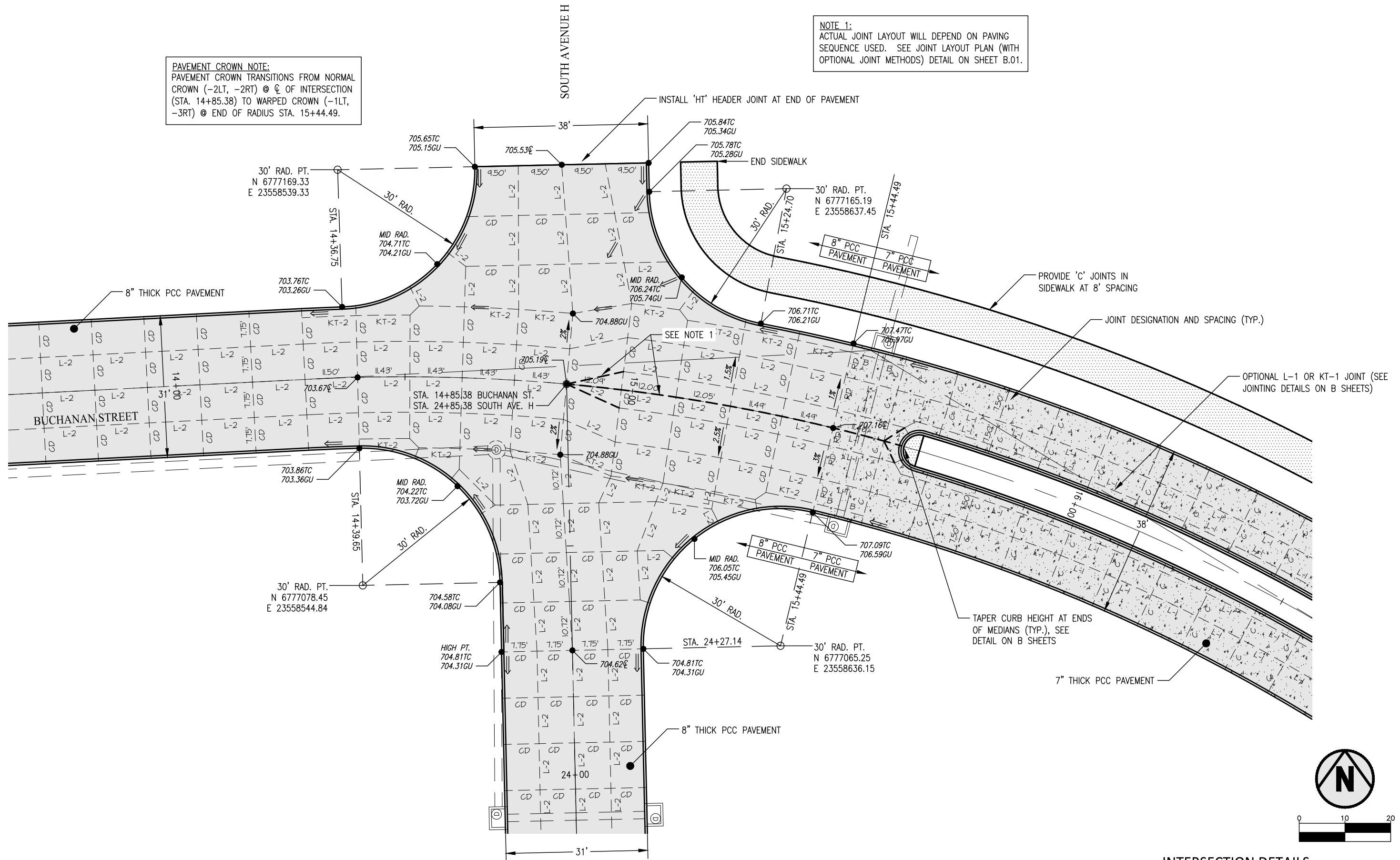
TC = TOP OF CURB ELEVATION  
 DC = DROPPED CURB ELEVATION  
 GU = GUTTER ELEVATION  
 TS = TOP OF SLAB ELEVATION  
 CL = CENTERLINE ELEVATION  
 EX = EXISTING ELEVATION



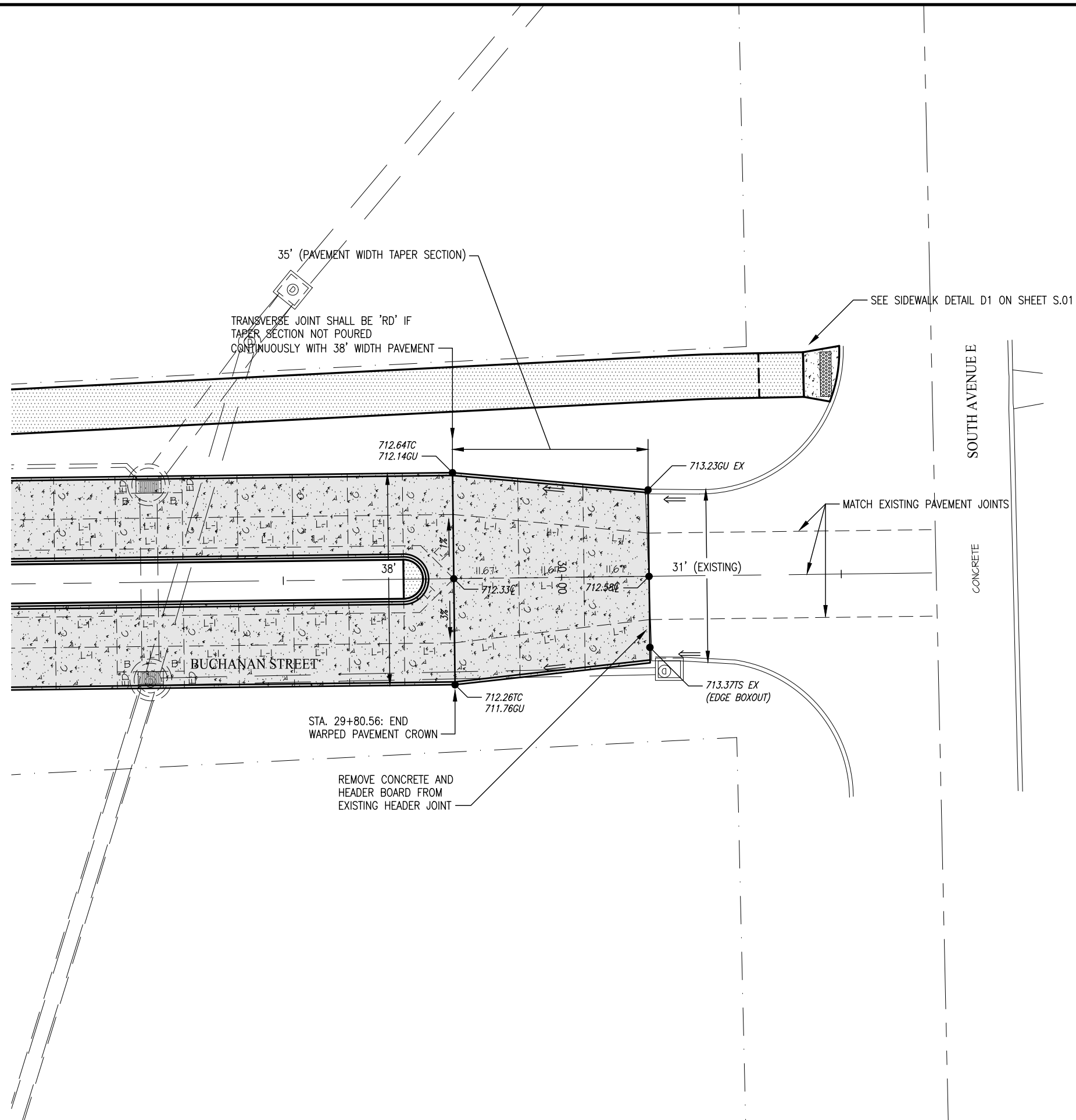
INTERSECTION DETAILS

PAVEMENT CROWN NOTE:  
 PAVEMENT CROWN TRANSITIONS FROM NORMAL  
 CROWN (-2LT, -2RT) @  $\text{CL}$  OF INTERSECTION  
 (STA. 14+85.38) TO WARPED CROWN (-1LT,  
 -3RT) @ END OF RADIUS STA. 15+44.49.

NOTE 1:  
 ACTUAL JOINT LAYOUT WILL DEPEND ON PAVING  
 SEQUENCE USED. SEE JOINT LAYOUT PLAN (WITH  
 OPTIONAL JOINT METHODS) DETAIL ON SHEET B.01.



INTERSECTION DETAILS



35' (PAVEMENT WIDTH TAPER SECTION)

TRANSVERSE JOINT SHALL BE 'RD' IF  
TAPER SECTION NOT POURED  
CONTINUOUSLY WITH 38' WIDTH PAVEMENT

SEE SIDEWALK DETAIL D1 ON SHEET S.01

712.64TC  
712.14GU

713.23GU EX

MATCH EXISTING PAVEMENT JOINTS

38'

31' (EXISTING)

SOUTH AVENUE E

CONCRETE

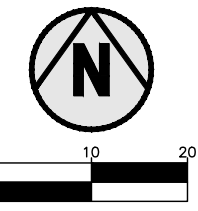
BUCHANAN STREET

713.37TS EX  
(EDGE BOXOUT)

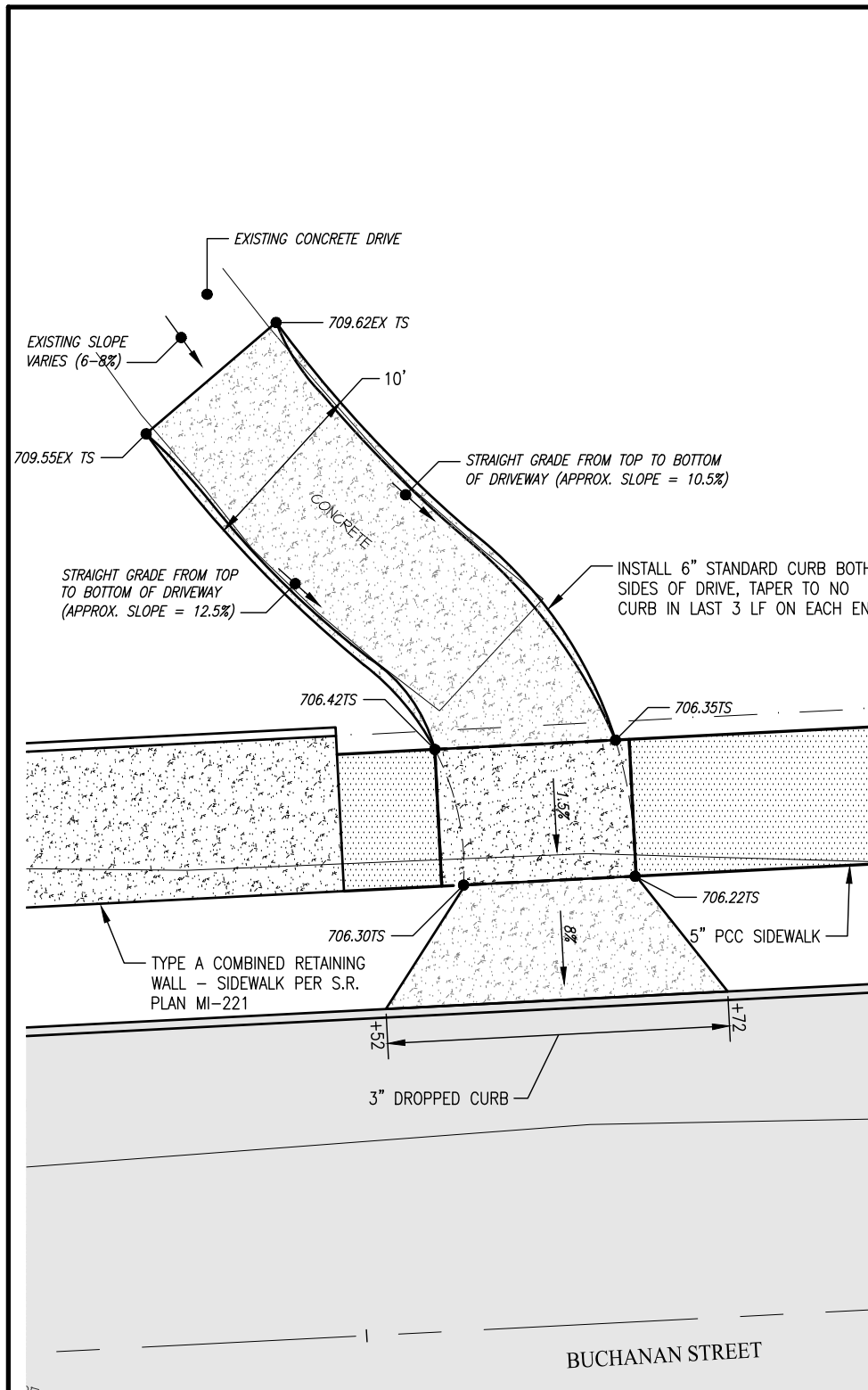
STA. 29+80.56: END  
WARPED PAVEMENT CROWN

712.26TC  
711.76GU

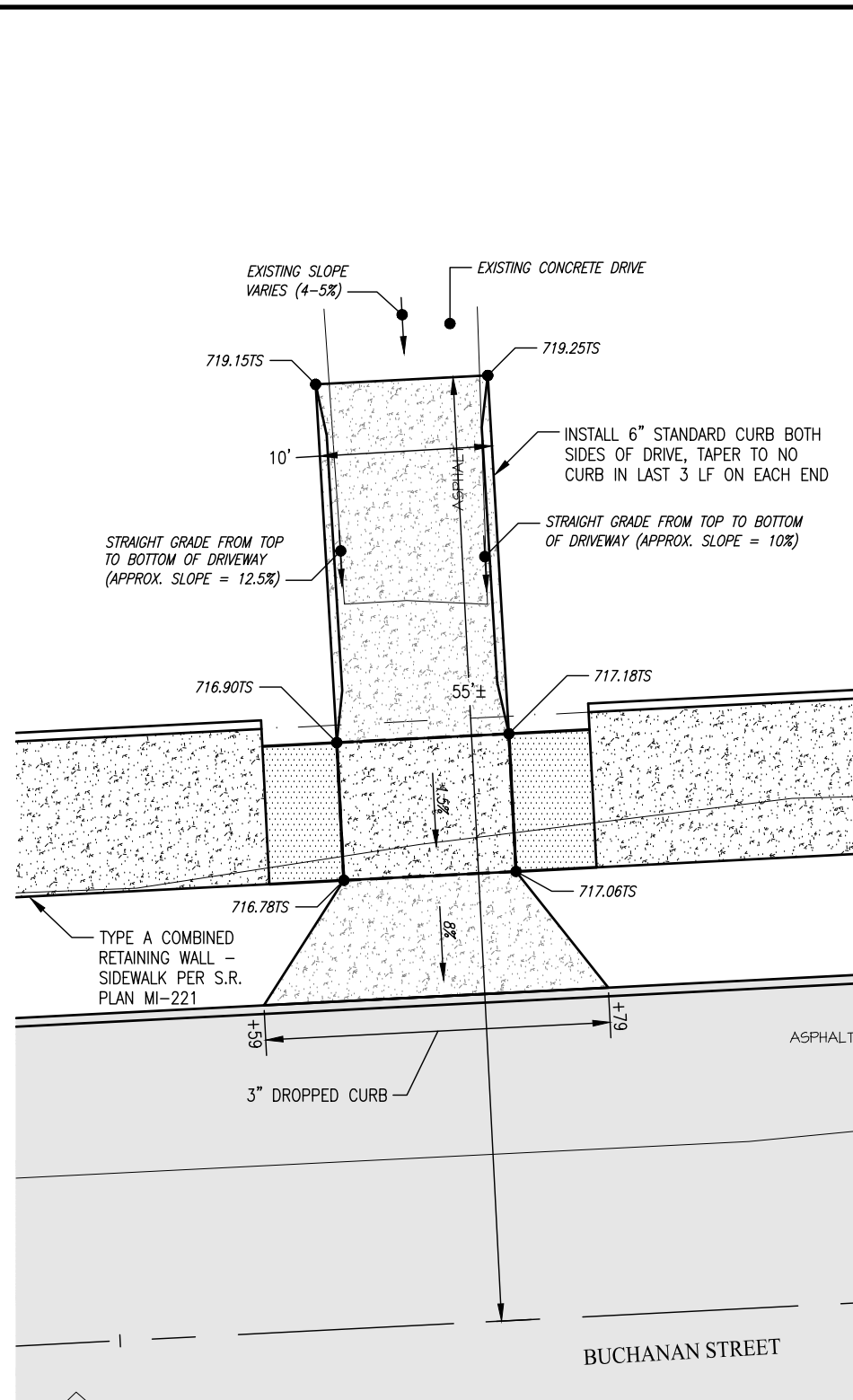
REMOVE CONCRETE AND  
HEADER BOARD FROM  
EXISTING HEADER JOINT



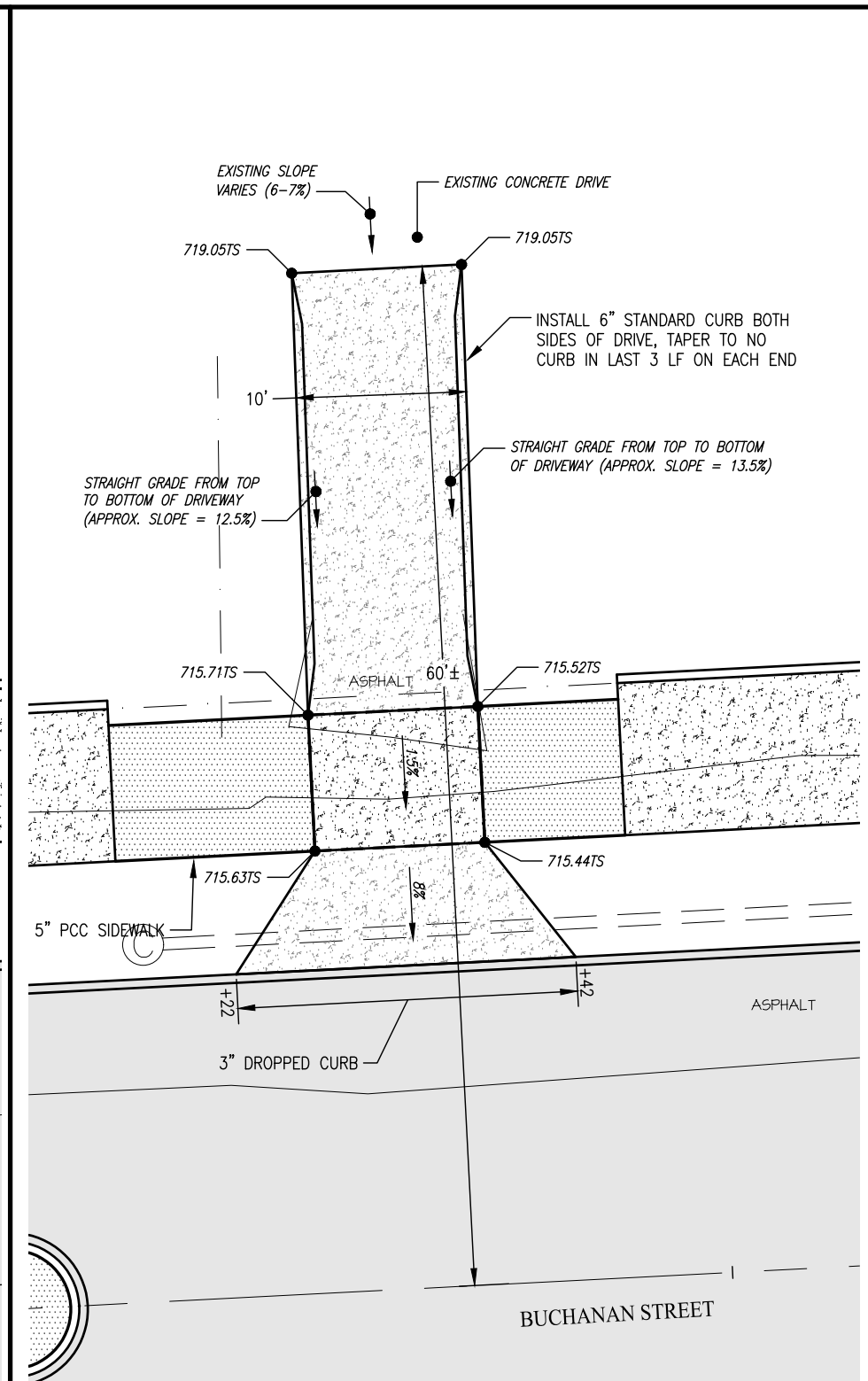
INTERSECTION DETAILS



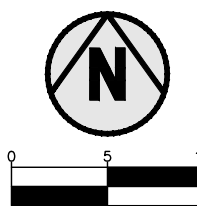
DRIVEWAY LEFT STA. 21+62



DRIVEWAY LEFT STA. 24+69

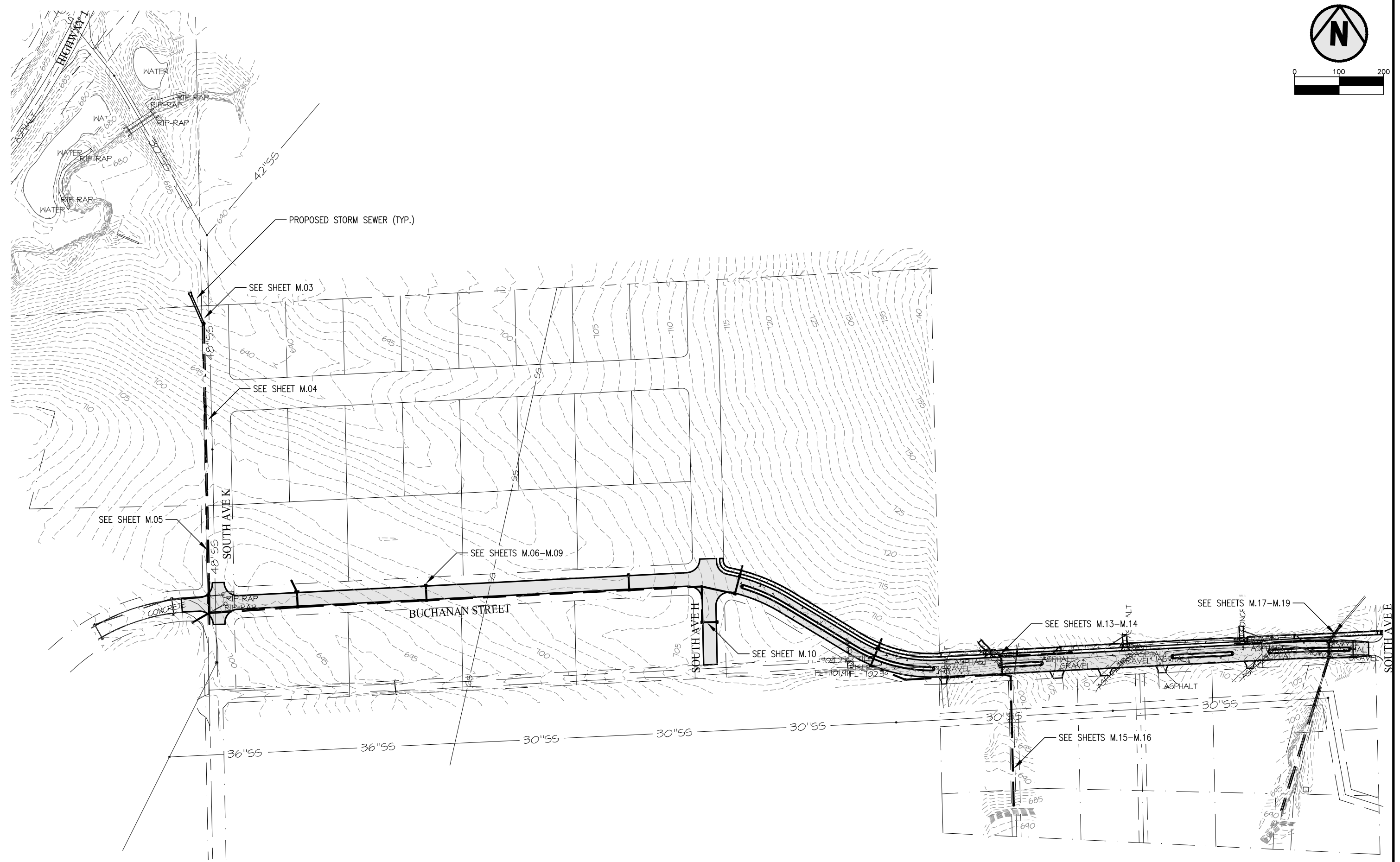


DRIVEWAY LEFT STA. 27+32



DRIVEWAY DETAILS





OVERALL STORM SEWER PLAN

STORM SEWER STRUCTURE TABLE				
STRUCTURE NO.	NORTHING	EASTING	TOP OF CURB OR RIM ELEV.	STRUCTURE TYPE
ST-1	6777699.16	23557454.36	690.00	SW-401 MANHOLE, 84" DIA.
ST-2	6777512.41	23557458.11	697.33	SW-401 MANHOLE, 60" DIA.
ST-3	6777086.94	23557466.67	698.93	SW-401 MANHOLE, 60" DIA.
ST-4	6777048.80	23557467.48	699.10	SW-401 MANHOLE, 60" DIA.
ST-5	6777027.28	23557430.10	699.27	SW-512 INTAKE, CASE 1 24" RISER W/ SW-604 TYPE 5 CASTING
ST-6	6777063.64	23557665.98	696.31	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-7	6777094.60	23557664.40	696.31	SW-509 DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-8	6777121.16	23557652.21	695.00	SW-512 INTAKE, CASE 1 30" RISER W/ SW-604 TYPE 5 CASTING
ST-9	6777078.46	23557955.61	699.02	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-10	6777109.42	23557954.02	699.02	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-11	6777101.76	23558410.99	701.60	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-12	6777132.72	23558409.41	701.60	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-13	6777108.11	23558574.03	704.40	SW-401 MANHOLE, 48" DIA.
ST-14	6777092.96	23558649.02	707.09	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-15	6777129.75	23558658.52	707.47	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-16	6777027.59	23558575.97	704.63	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-17	6777028.28	23558606.96	704.63	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-18	6776906.80	23559268.02	705.40	SW-401 MANHOLE, 48" DIA.
ST-19	6776911.82	23559248.89	705.45	SW-509 DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-20	6776898.66	23559031.68	705.97	SW-401 MANHOLE, 48" DIA.
ST-21	6776931.45	23558954.21	707.27	SW-507 SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-22	6776966.50	23558968.89	707.65	SW-509 DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-23	6776949.77	23559246.94	705.83	SW-509 DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-24	6776957.73	23559401.74	709.73	SW-509 DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX
ST-25	6776840.28	23559949.74	700.50	SW-401 MANHOLE, 60" DIA.
ST-26	6776947.76	23559983.30	711.62	SW-502 INTAKE, 72" DIA.
ST-27	6776985.76	23559982.84	712.00	SW-502 INTAKE, 72" DIA.
ST-28	6777019.20	23560008.71	710.00	SW-513, 4'X4' OPEN ON NW AND NE SIDES, INLET ELEV. = 708.75

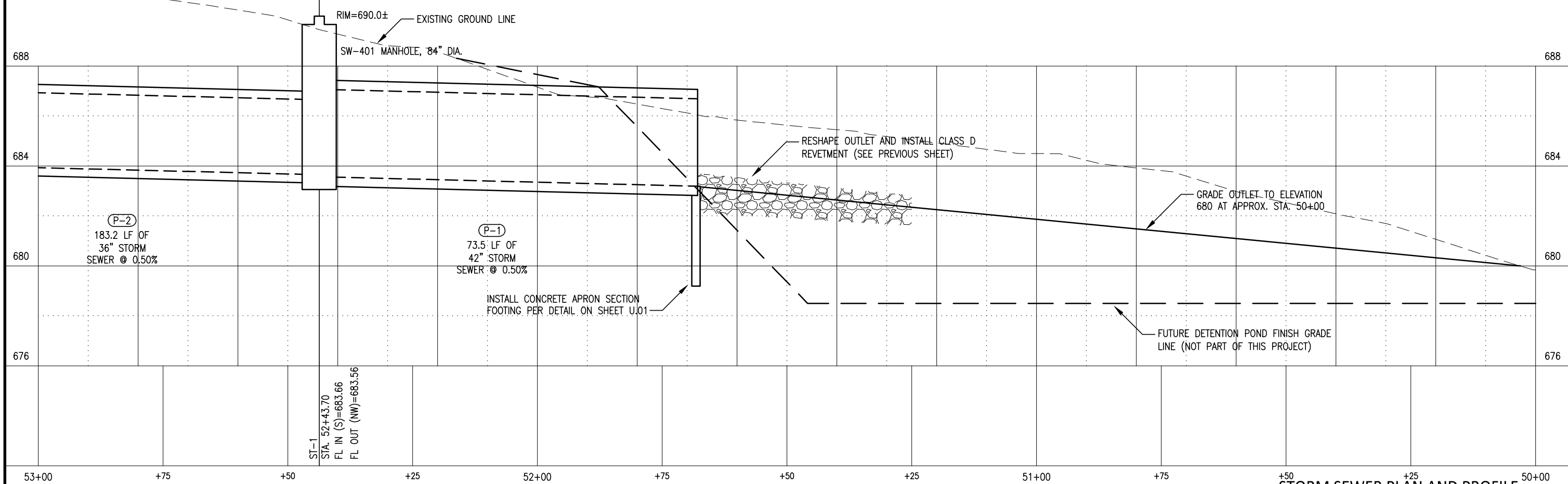
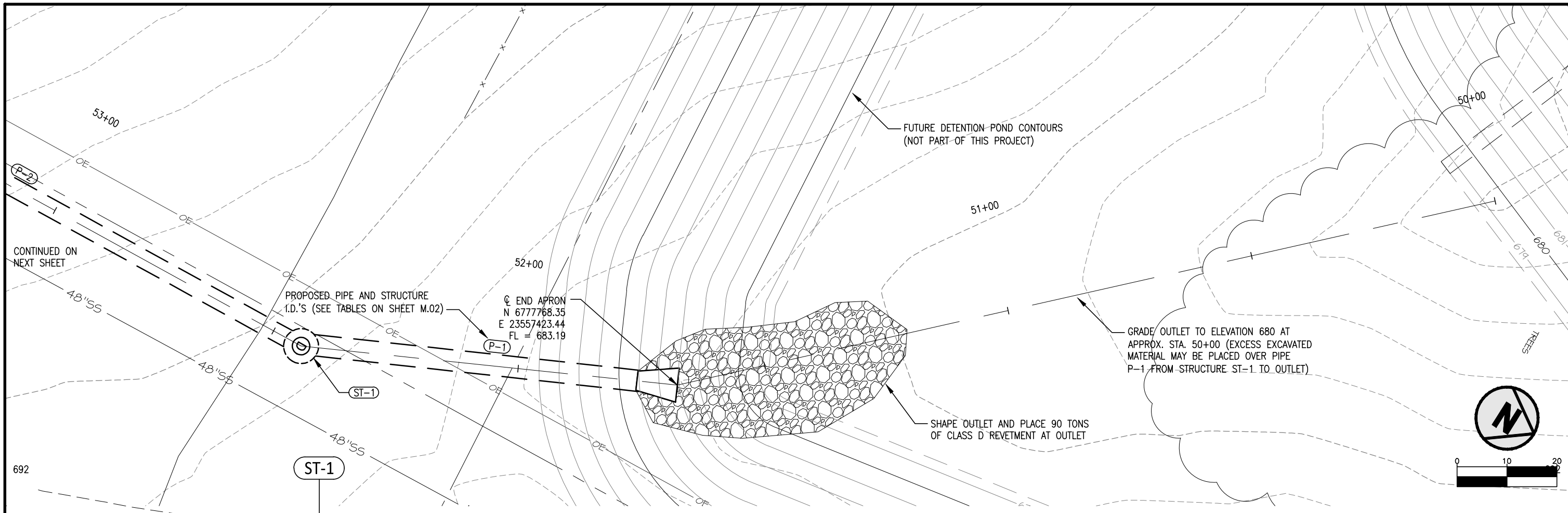
STORM SEWER PIPE TABLE								
PIPE	DIAMETER	MATERIAL	FROM	TO	LENGTH	SLOPE	PIPE $\bar{C}$ IN	PIPE $\bar{C}$ OUT
P-1	42"	*	ST-1		73.5 LF	0.50%	683.56	683.19
P-2	36"	*	ST-2	ST-1	183.2 LF	0.50%	684.58	683.66
P-3	30"	*	ST-3	ST-2	422.0 LF	0.80%	688.06	684.68
P-4	24"	*	ST-4	ST-3	33.9 LF	2.00%	688.84	688.16
P-5	15"	*		ST-4	24.2 LF	1.00%	694.24	694.00
P-6	15"	*	ST-5	ST-4	41.3 LF	2.00%	695.00	694.17
P-7	24"	*	ST-6	ST-4	195.5 LF	0.75%	690.47	689.00
P-8	18"	*	ST-7	ST-6	31.4 LF	1.00%	690.88	690.57
P-9	18"	RCP	ST-8	ST-7	26.7 LF	1.00%	691.25	690.98
P-10	21"	*	ST-9	ST-6	287.1 LF	1.00%	693.52	690.65
P-11	15"	*	ST-10	ST-9	31.8 LF	1.00%	693.94	693.62
P-12	21"	*	ST-11	ST-9	453.0 LF	0.60%	696.34	693.62
P-13	15"	*	ST-12	ST-11	31.8 LF	1.00%	697.00	696.68
P-14	18"	*	ST-13	ST-11	160.3 LF	1.50%	698.84	696.44
P-15	15"	*	ST-14	ST-13	73.5 LF	3.50%	701.51	698.94
P-16	15"	*	ST-15	ST-14	38.8 LF	1.00%	702.90	702.51
P-17	15"	RCP		ST-15	26.0 LF	1.00%	703.26	703.00
P-18	15"	*	ST-16	ST-13	77.5 LF	0.75%	699.92	699.34
P-19	15"	*	ST-17	ST-16	31.7 LF	1.00%	700.34	700.02
P-20	18"	*			206.6 LF	5.42%	693.70	682.50
P-21	18"	*	ST-18		83.8 LF	2.75%	696.00	693.70
P-22	18"	*	ST-19	ST-18	14.7 LF	5.00%	699.16	698.42
P-23	15"	*	ST-20	ST-19	212.5 LF	1.00%	701.60	699.47
P-24	15"	*	ST-21	ST-20	81.3 LF	1.00%	702.51	701.70
P-25	15"	*	ST-22	ST-21	38.9 LF	1.00%	703.00	702.61
P-26	15"	RCP		ST-22	26.0 LF	1.00%	703.36	703.10
P-27	18"	*	ST-23	ST-19	38.7 LF	2.50%	700.62	699.66
P-28	15"	*	ST-24	ST-23	147.8 LF	2.50%	704.41	700.72
P-29	36"	*	ST-25		258.6 LF	1.62%	690.95	686.75
P-30	30"	*	ST-26	ST-25	110.2 LF	2.60%	698.09	695.22
P-31	30"	*	ST-27	ST-26	31.0 LF	2.55%	698.98	698.19
P-32	30"	*	ST-28	ST-27	39.9 LF	2.55%	700.10	699.08

\* SEE ESTIMATE REFERENCE INFORMATION FOR ALLOWABLE PIPE MATERIAL FOR THESE PIPES.

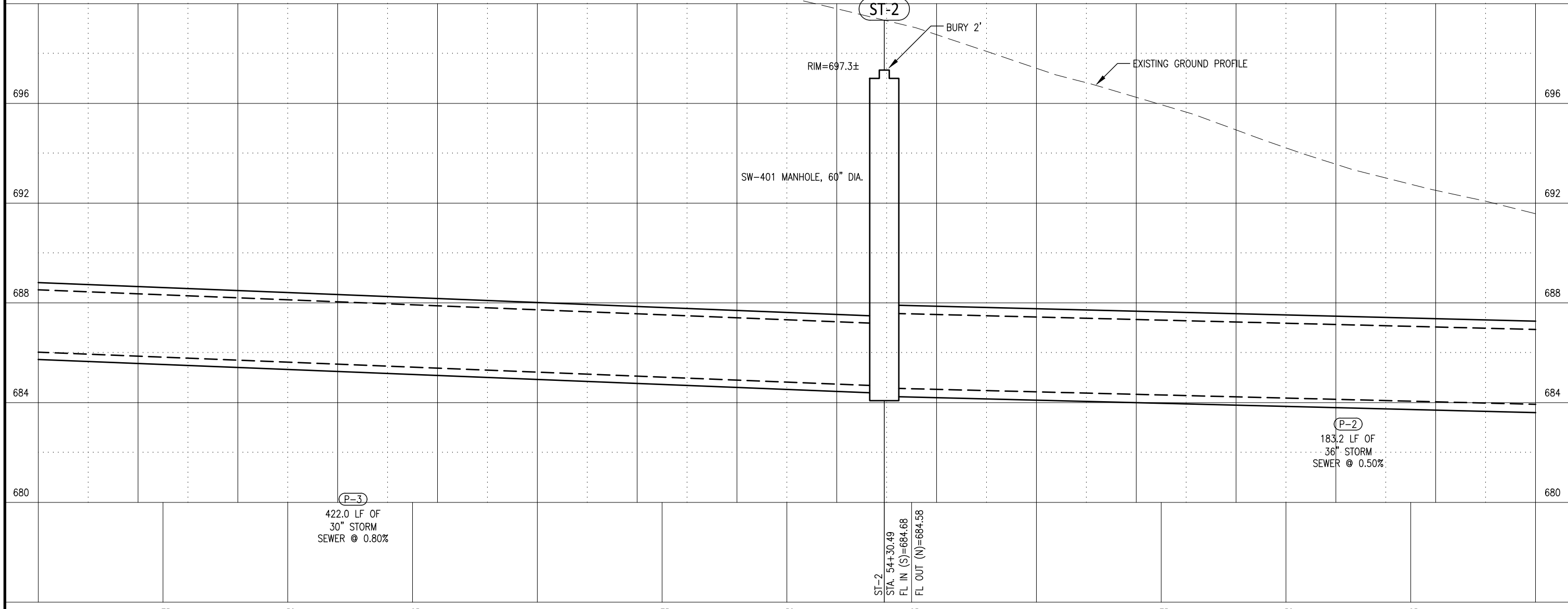
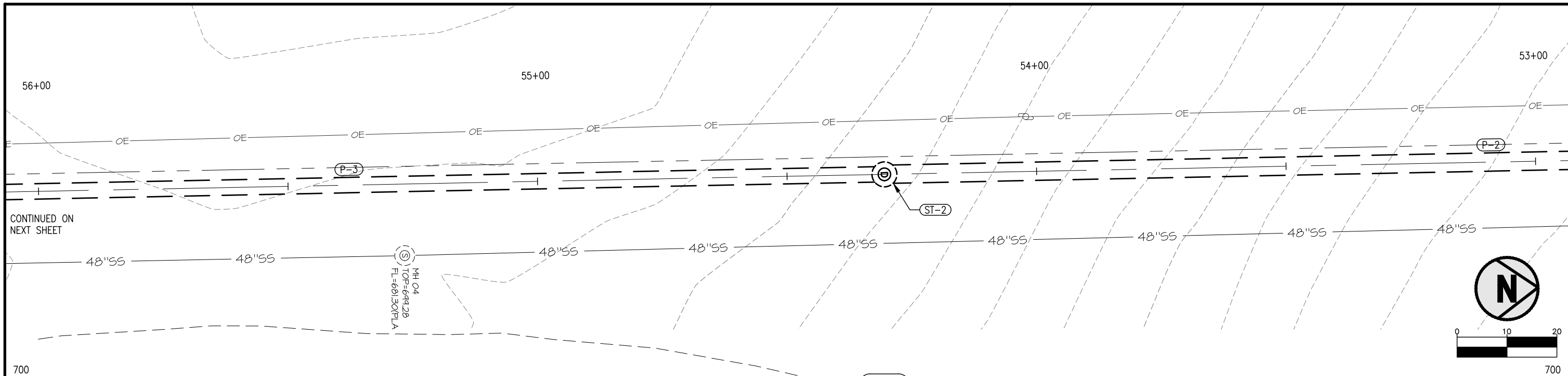
WHERE PIPE MATERIAL IS NOTED AS "RCP", USE RCP PIPE AS DESCRIBED IN THE ESTIMATE REFERENCE INFORMATION.

PIPE APRON LENGTHS ARE INCLUDED IN PIPE LENGTHS.

STORM SEWER PIPE AND STRUCTURE TABLES



**STORM SEWER PLAN AND PROFILE**



56+00      +75      +50      +25      55+00      +75      +50      +25      54+00      +75      +50      +25      53+00

422.0 LF OF 30" STORM SEWER @ 0.80%

ST-2  
STA. 54+30.49  
FL IN (S)=684.68  
FL OUT (N)=684.58

183.2 LF OF 36" STORM SEWER @ 0.50%

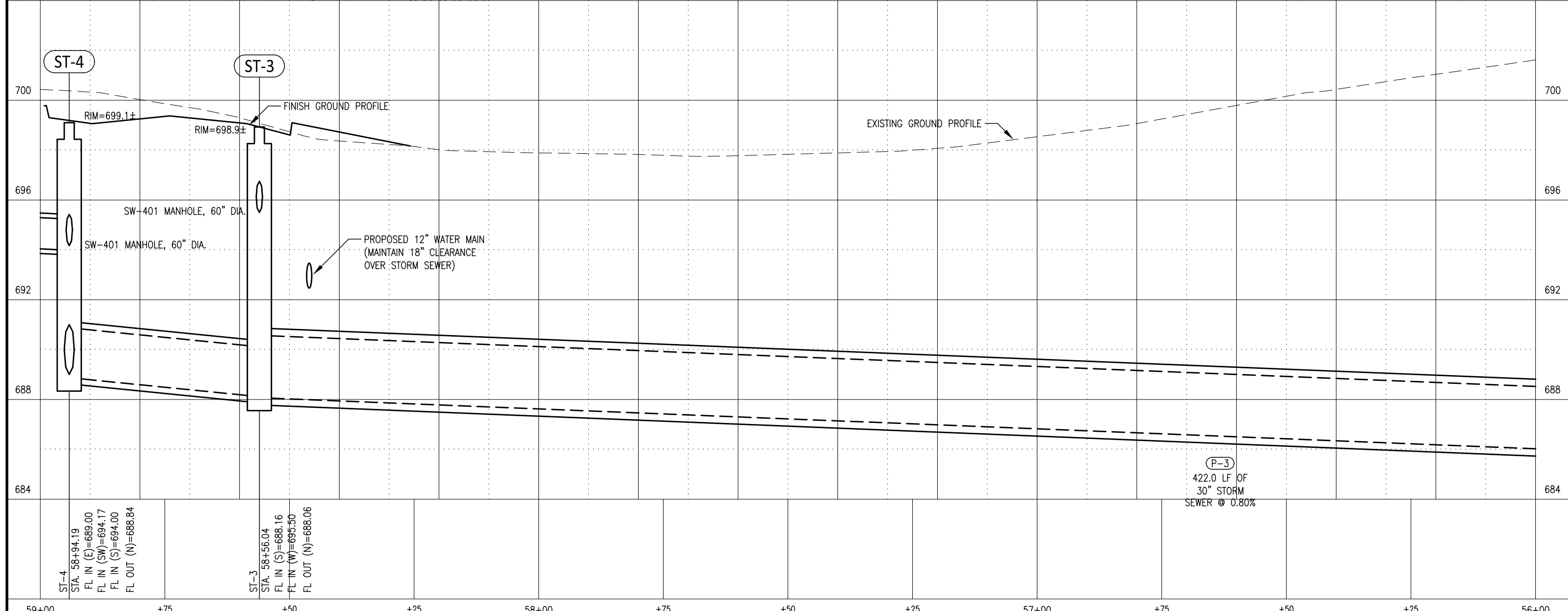
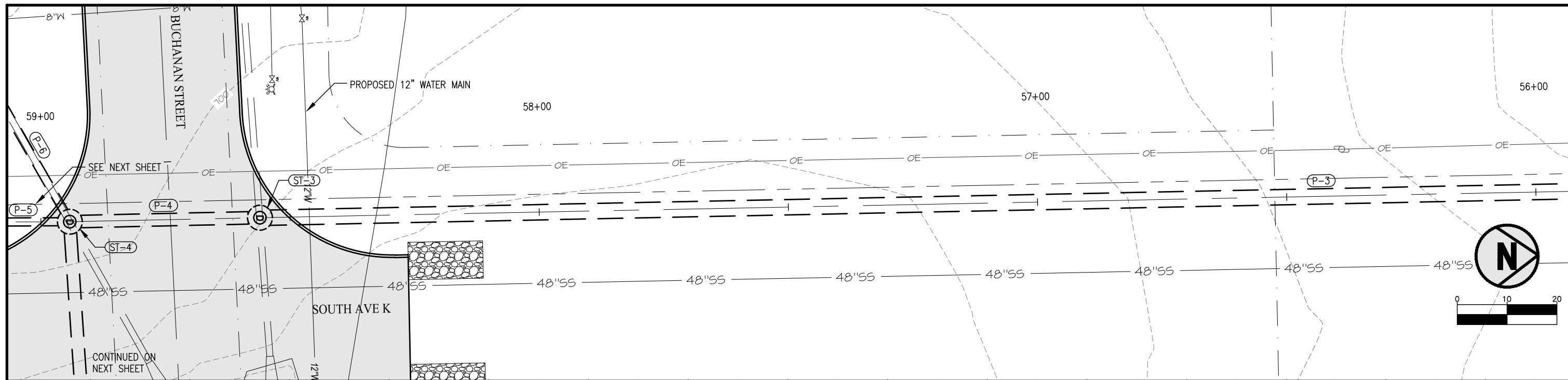
SW-401 MANHOLE, 60" DIA.  
RIM=697.3±  
BURY 2'  
EXISTING GROUND PROFILE

CONTINUED ON NEXT SHEET

N

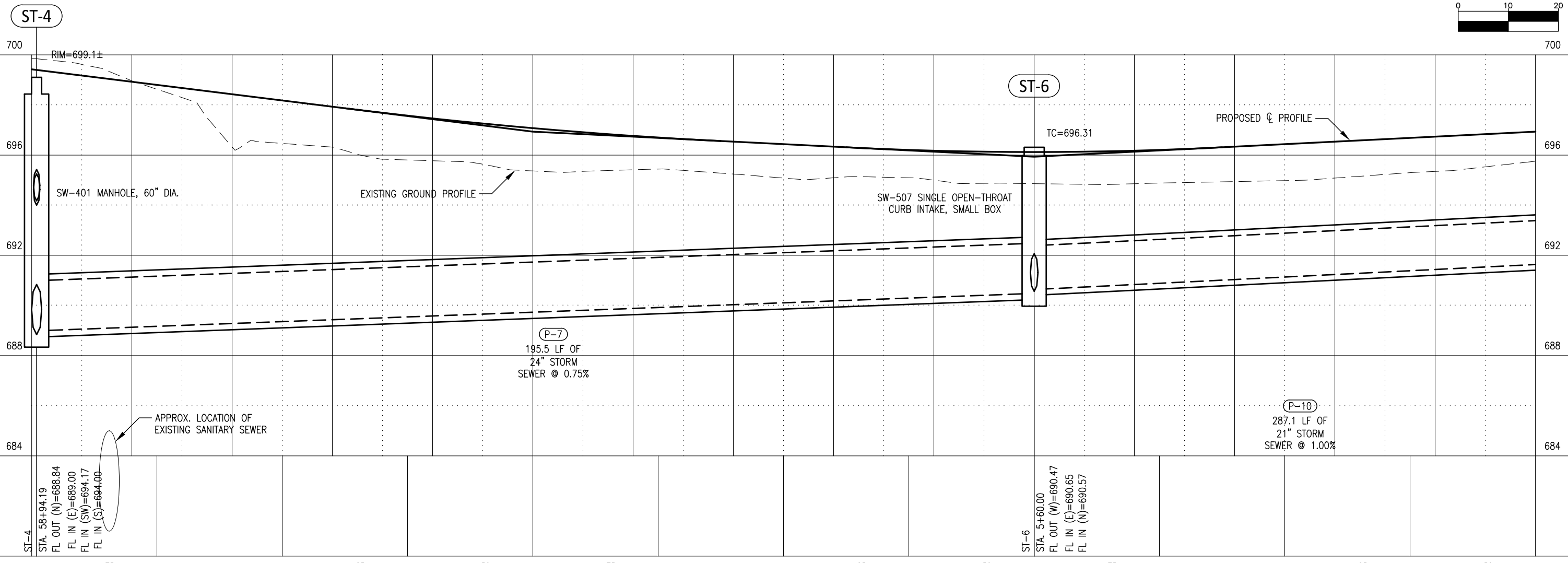
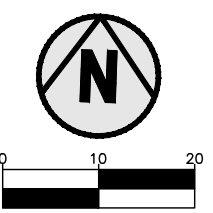
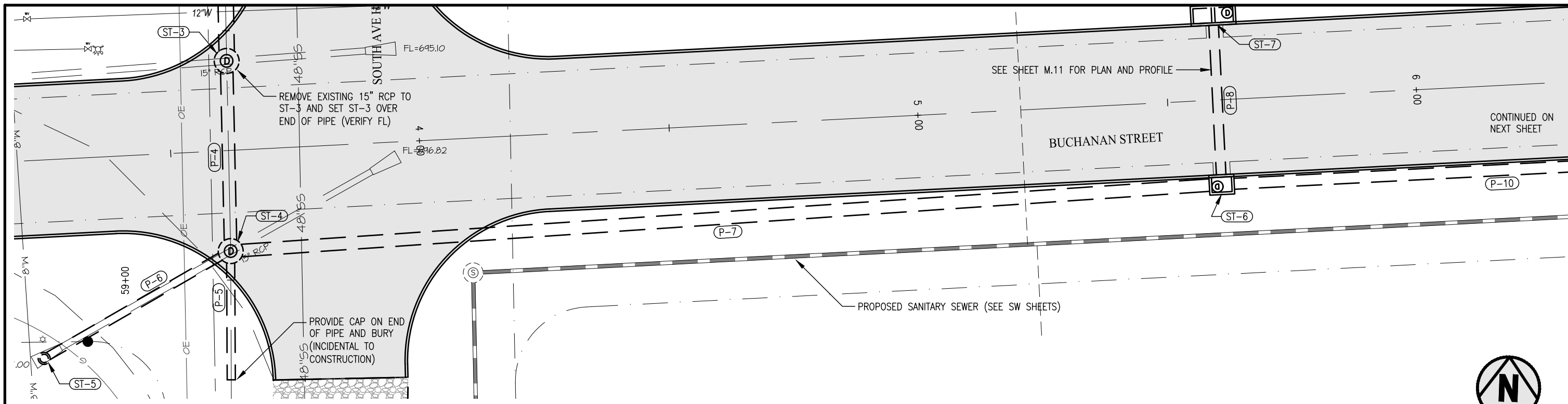
0 10 20

**STORM SEWER PLAN AND PROFILE**



ST-4 STA. 58+94.19 FL IN (E)=689.00 FL IN (SW)=694.17 FL IN (S)=694.00 FL OUT (N)=688.84	ST-3 STA. 58+56.04 FL IN (S)=688.16 FL IN (W)=695.50 FL OUT (N)=688.06
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(P-3)  
 422.0 LF OF  
 30" STORM  
 SEWER @ 0.80%



ST-4  
 STA. 58+94.19  
 FL OUT (N)=688.84  
 FL IN (E)=689.00  
 FL IN (SW)=694.17  
 FL IN (S)=694.00

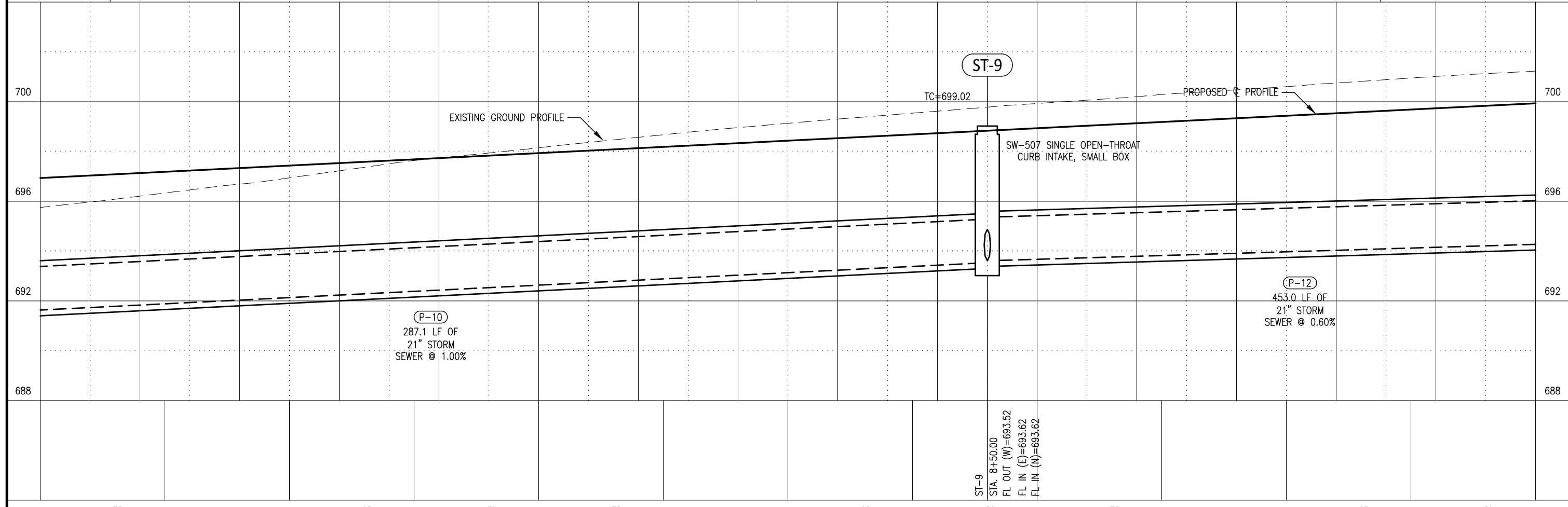
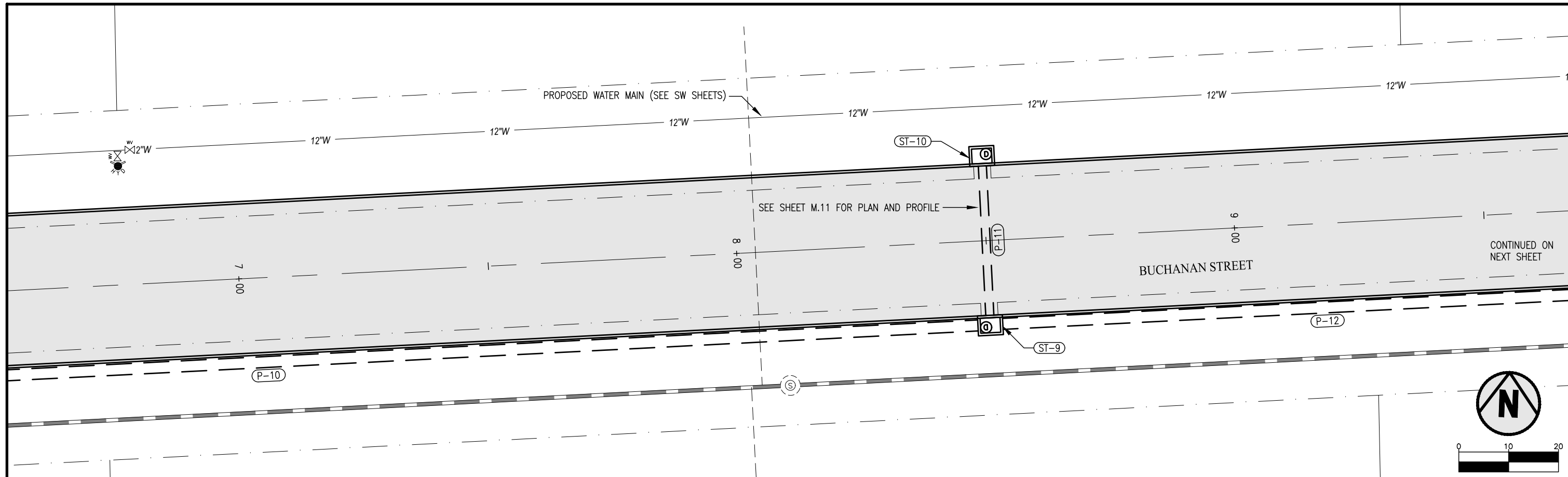
ST-6  
 STA. 5+60.00  
 FL OUT (W)=690.47  
 FL IN (E)=690.65  
 FL IN (N)=690.57

P-10  
 287.1 LF OF  
 21" STORM  
 SEWER @ 1.00%

P-7  
 195.5 LF OF  
 24" STORM  
 SEWER @ 0.75%

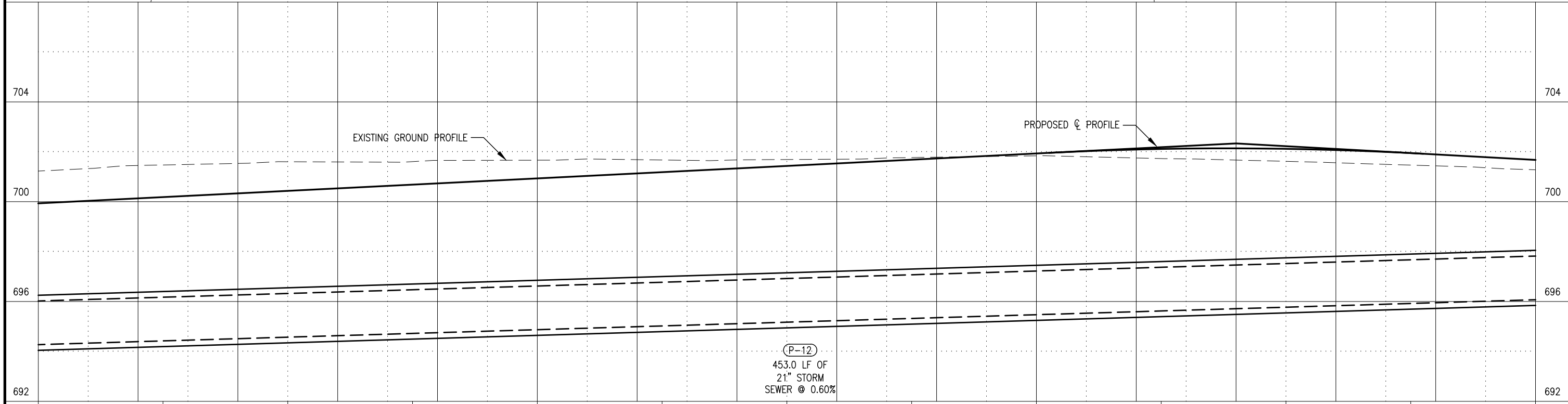
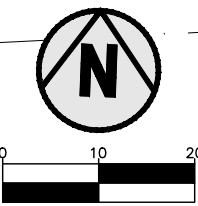
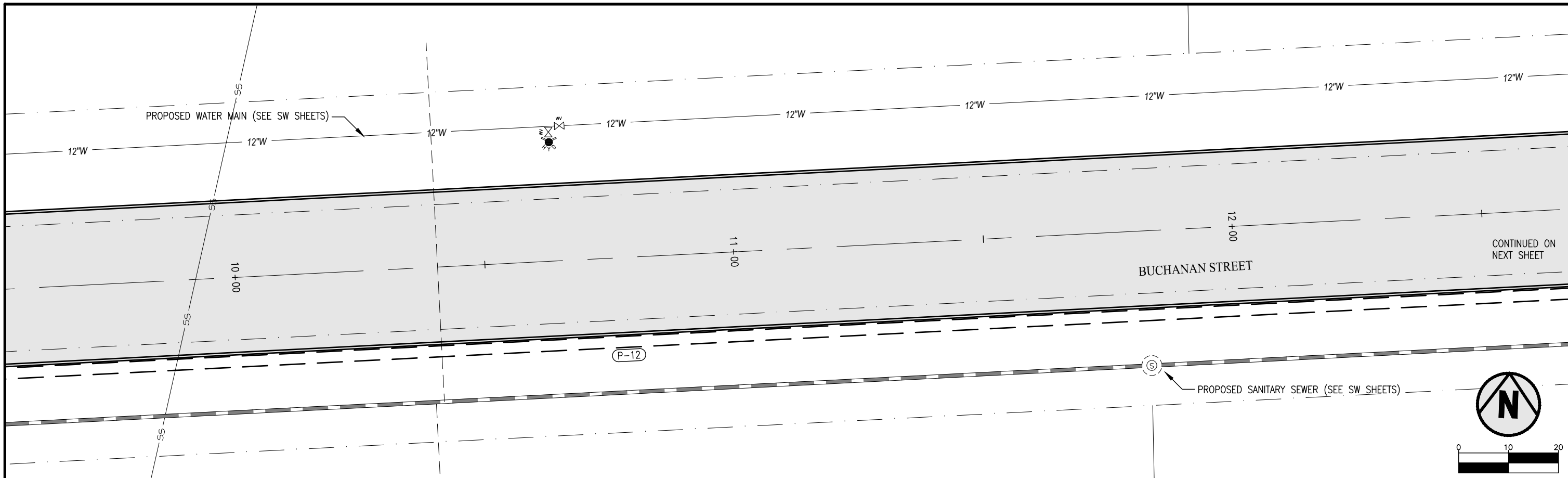
APPROX. LOCATION OF  
 EXISTING SANITARY SEWER

**STORM SEWER PLAN AND PROFILE**



6+60    +75    7+00    +25    +50    +75    8+00    +25    +50    +75    9+00    +25    +50    9+60

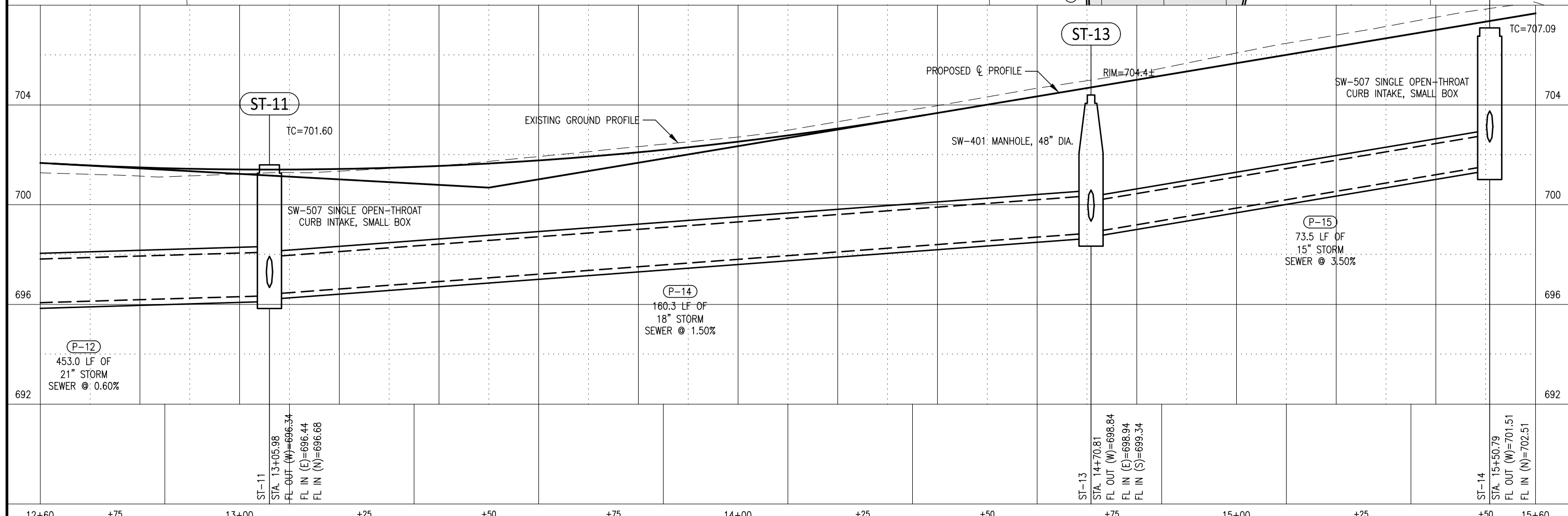
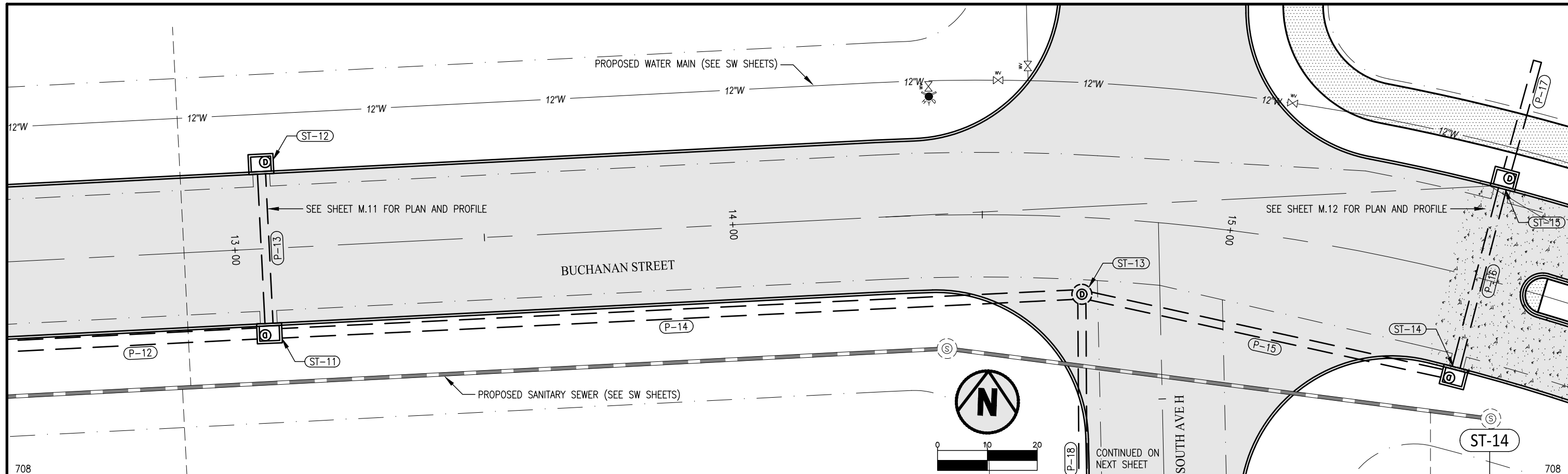
**STORM SEWER PLAN AND PROFILE**



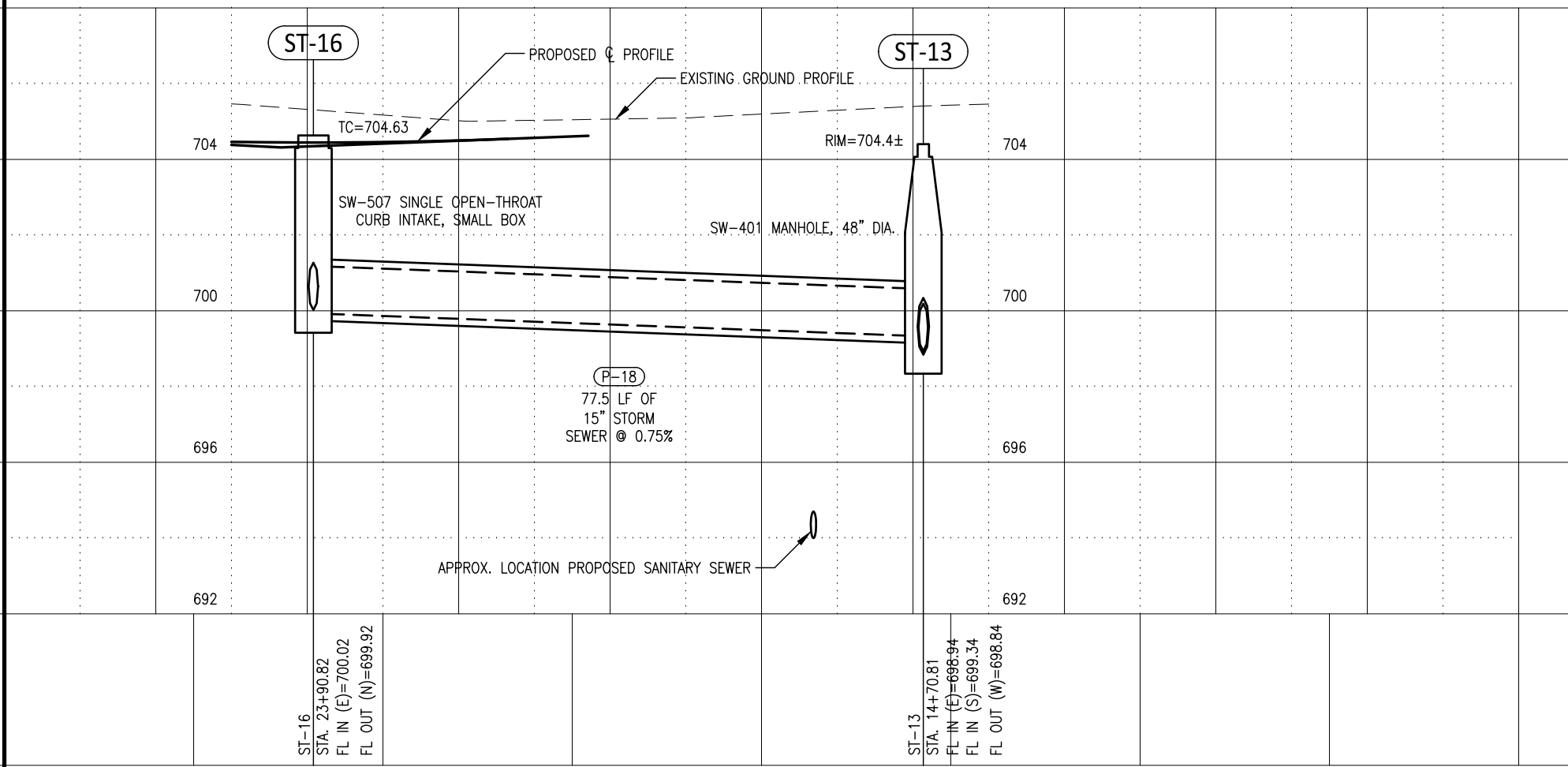
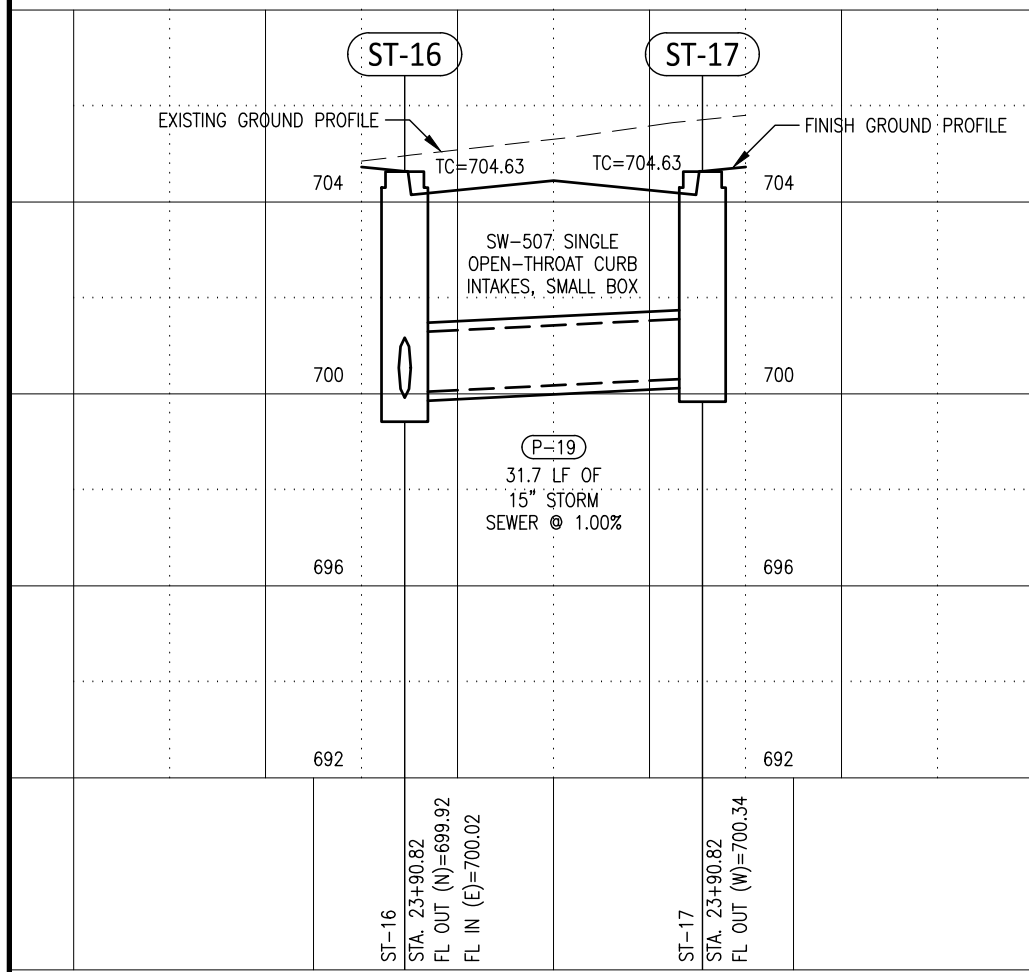
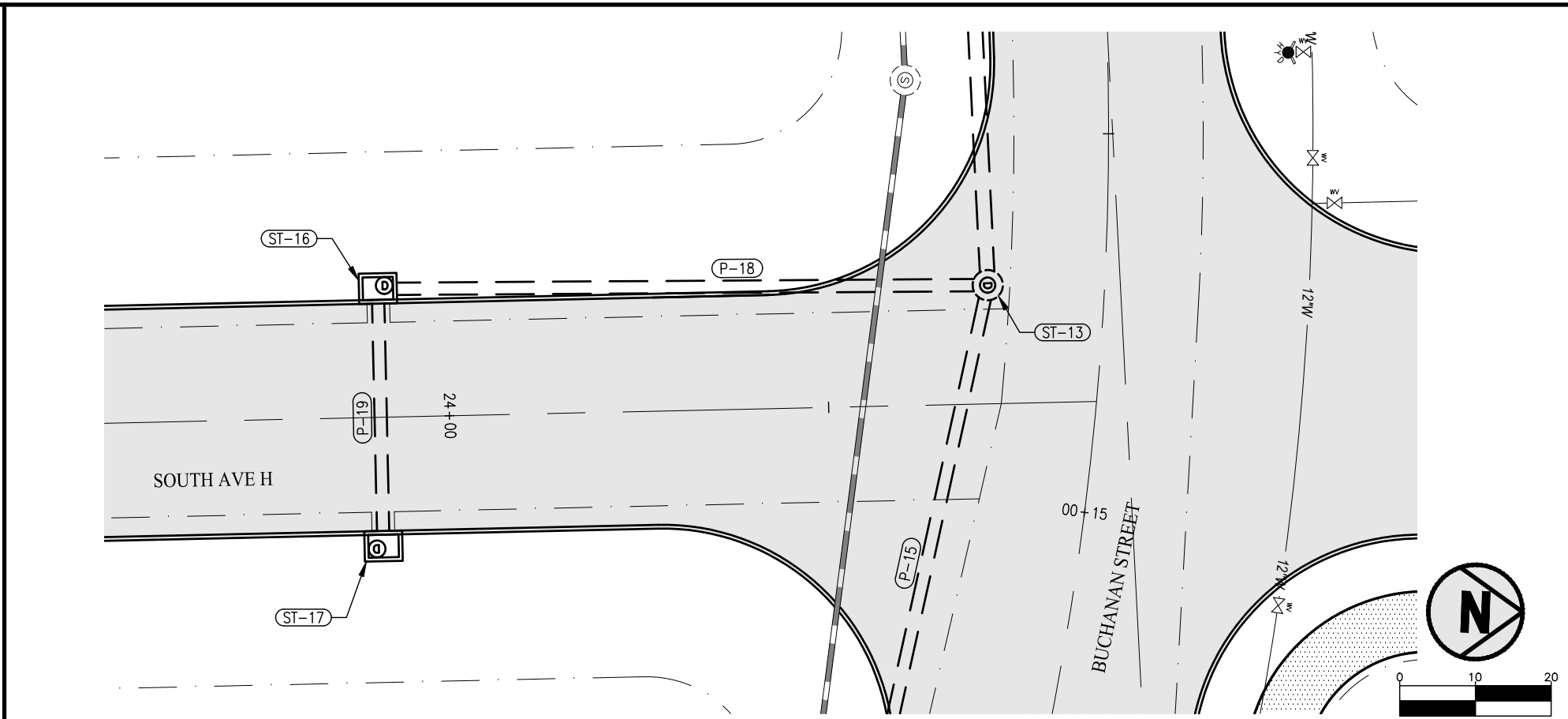
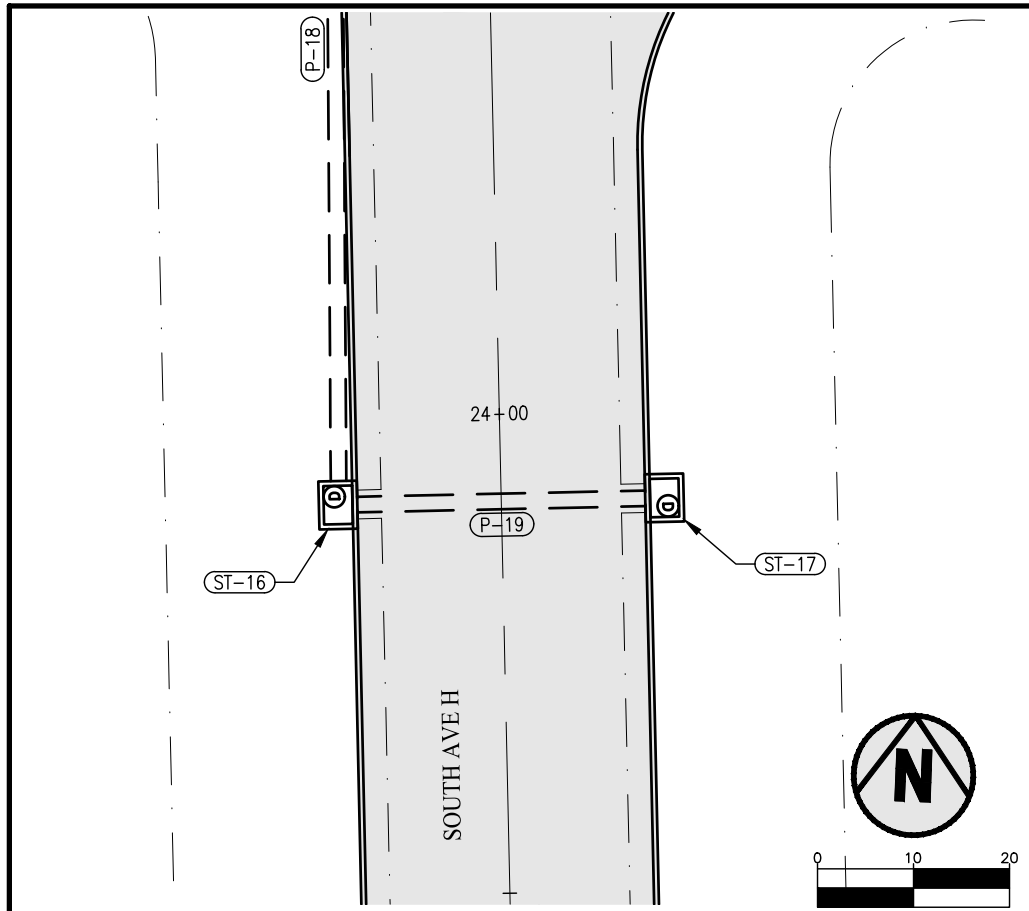
9+60	+75	10+00	+25	+50	+75	11+00	+25	+50	+75	12+00	+25	+50	12+60
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STORM SEWER PLAN AND PROFILE





12+60	+75	13+00	+25	+50	+75	14+00	+25	+50	+75	15+00	+25	+50	15+60
-------	-----	-------	-----	-----	-----	-------	-----	-----	-----	-------	-----	-----	-------



ST-16  
 STA. 23+90.82  
 FL OUT (N)=699.92  
 FL IN (E)=700.02

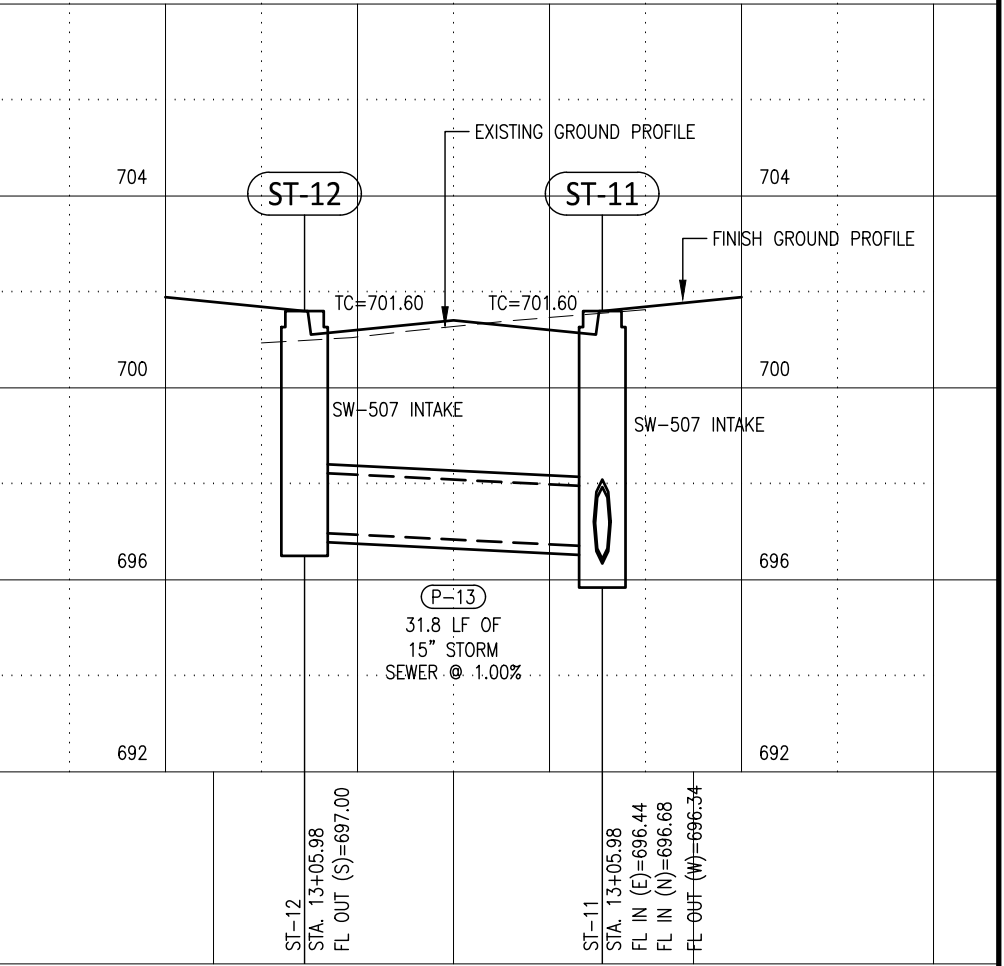
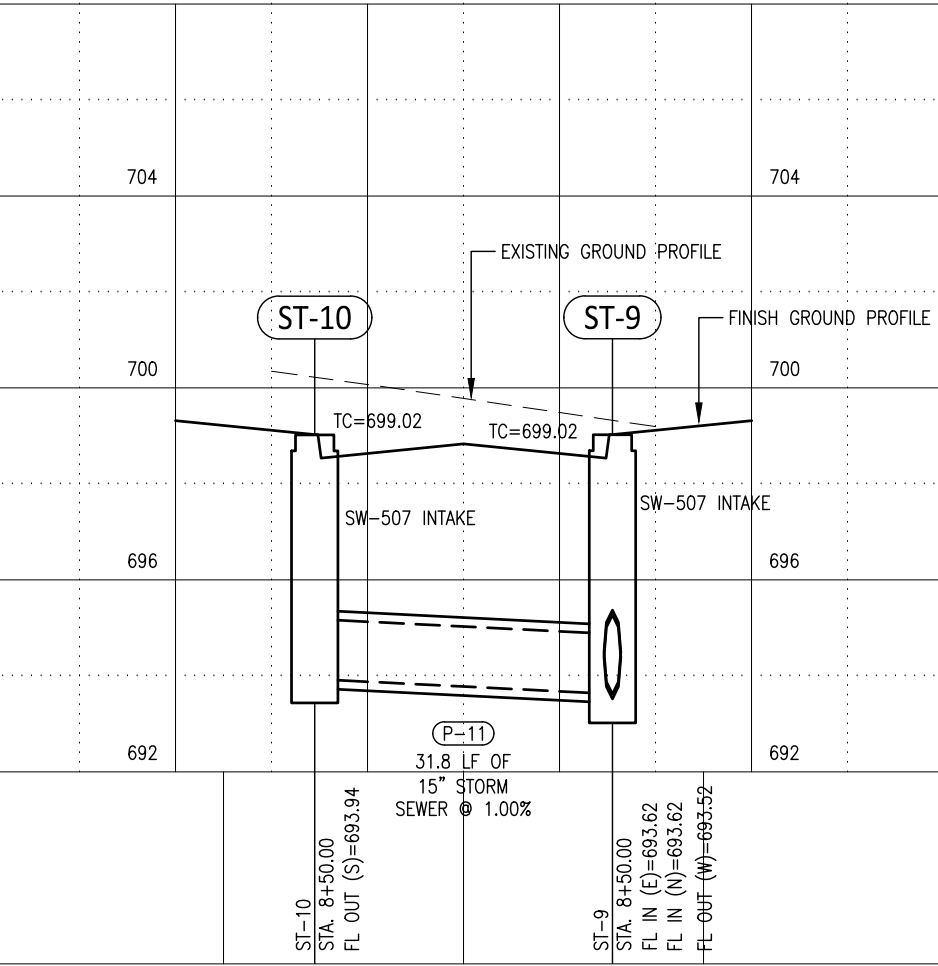
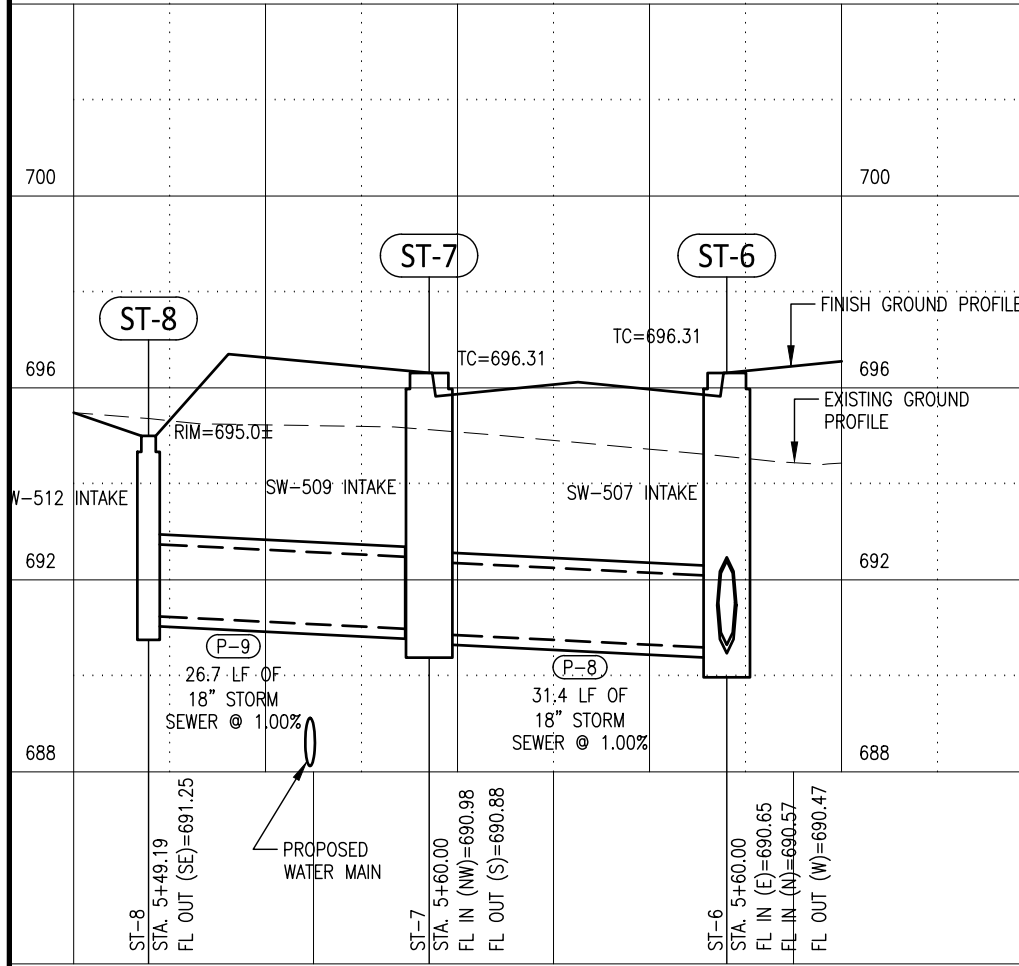
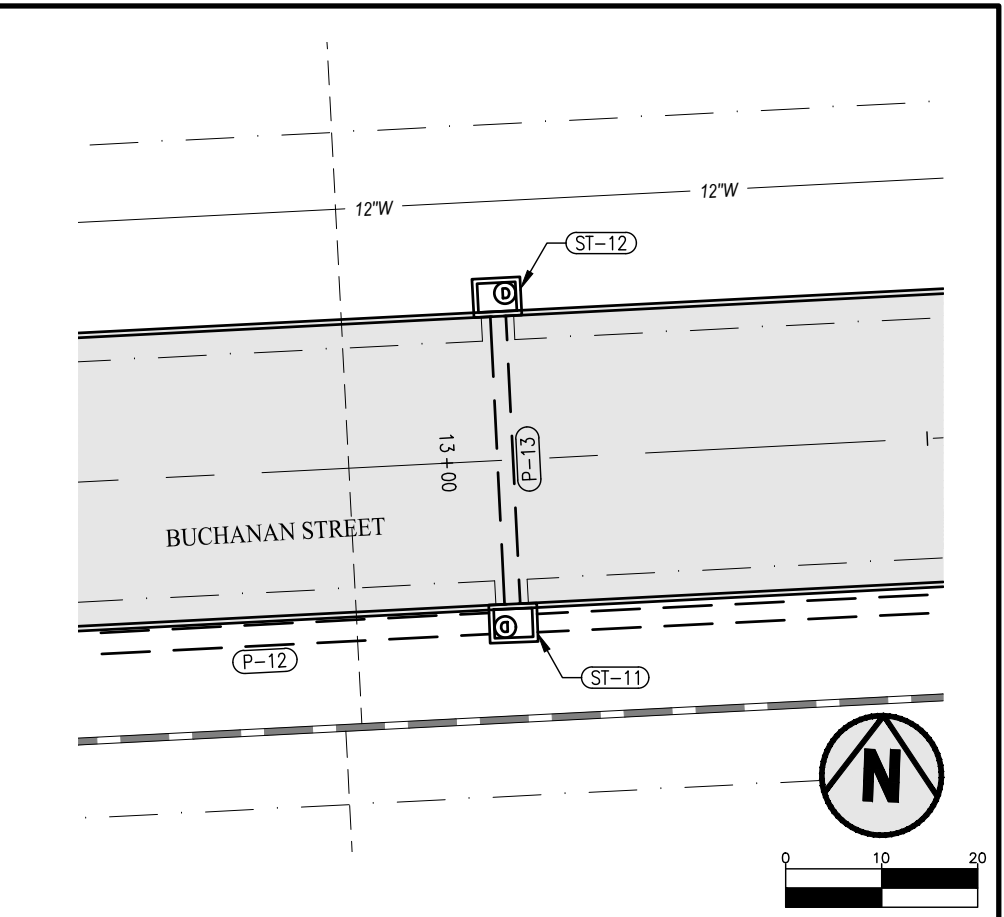
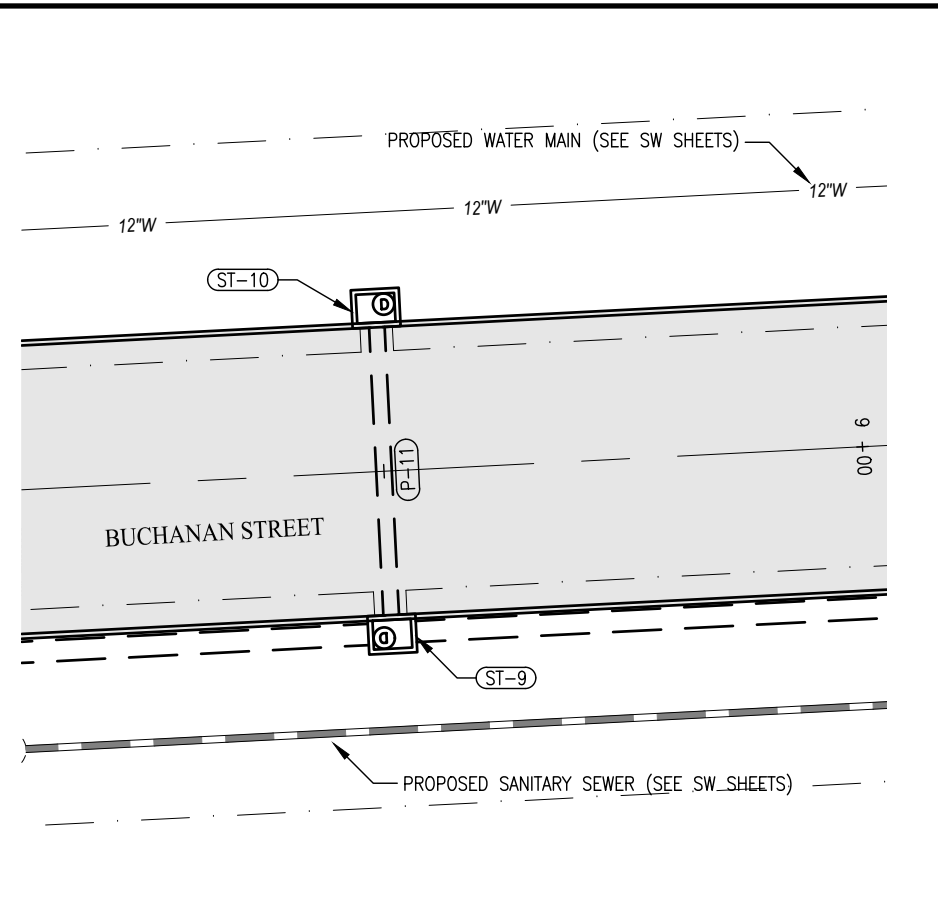
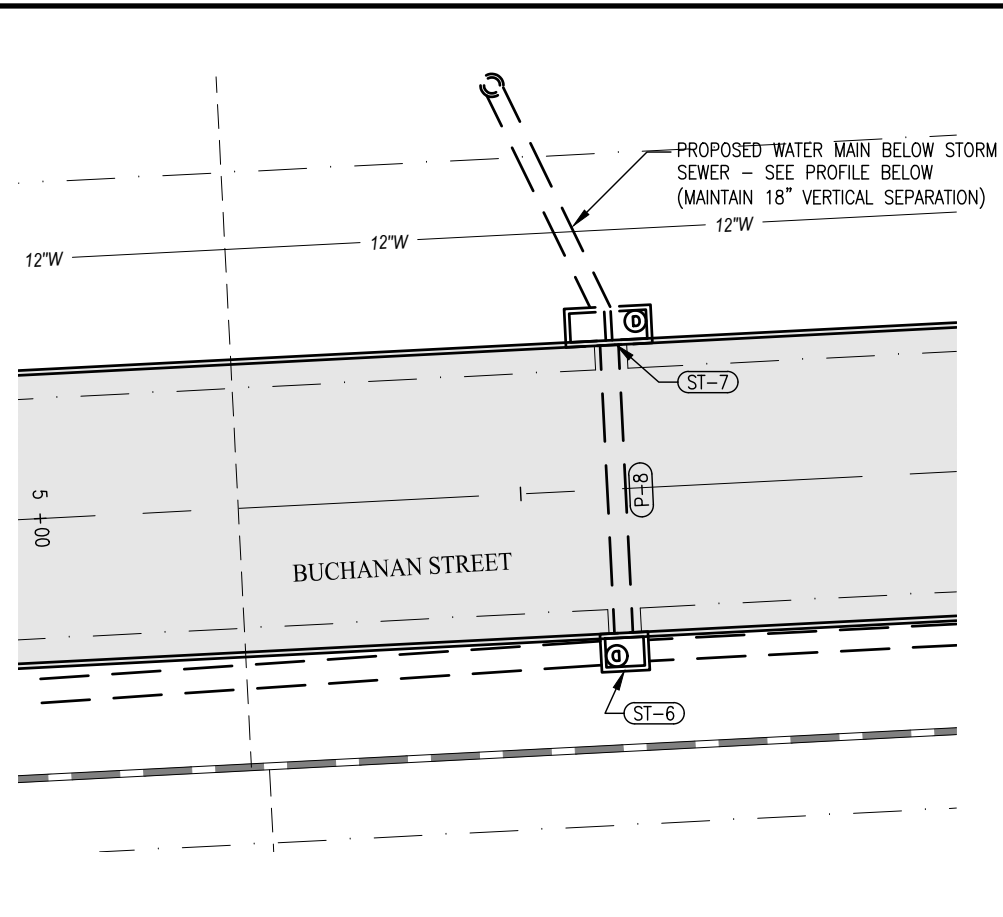
ST-17  
 STA. 23+90.82  
 FL OUT (W)=700.34

ST-16  
 STA. 23+90.82  
 FL IN (E)=700.02  
 FL OUT (N)=699.92

ST-13  
 STA. 14+70.81  
 FL IN (E)=698.94  
 FL IN (S)=699.34  
 FL OUT (W)=698.84

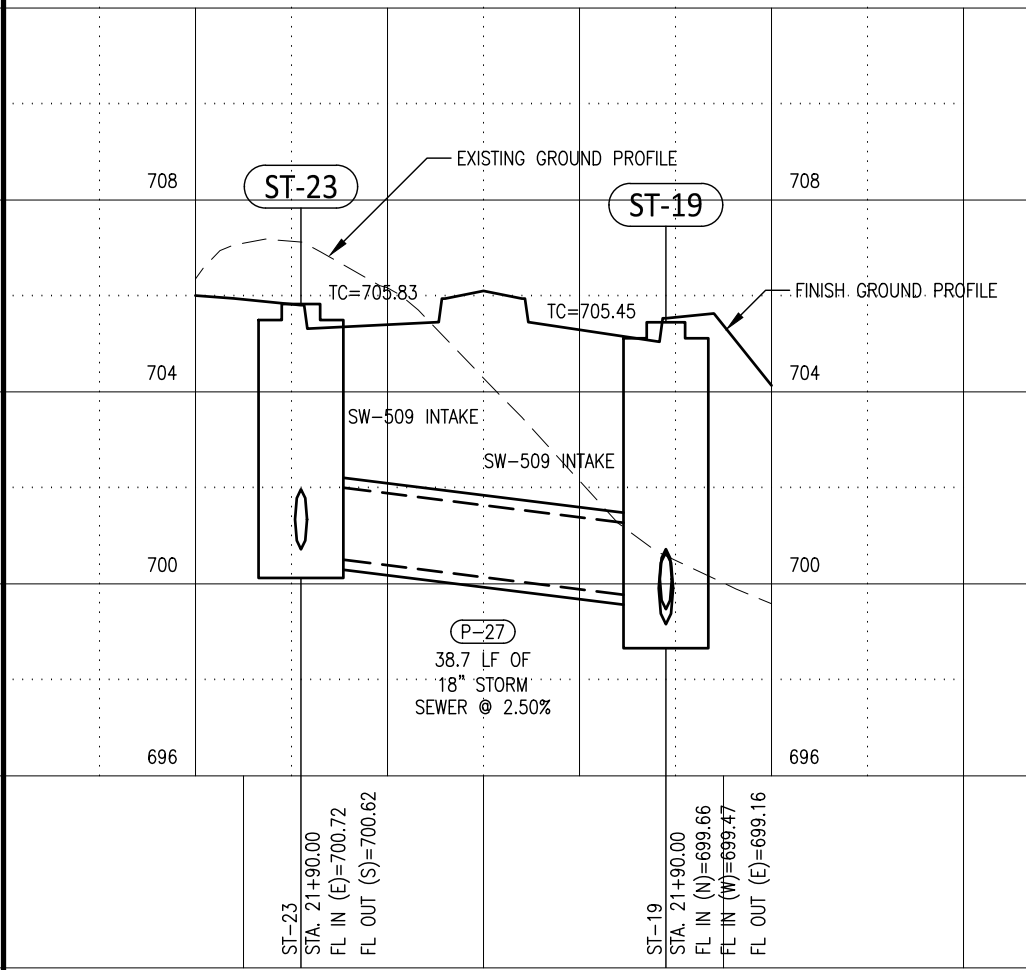
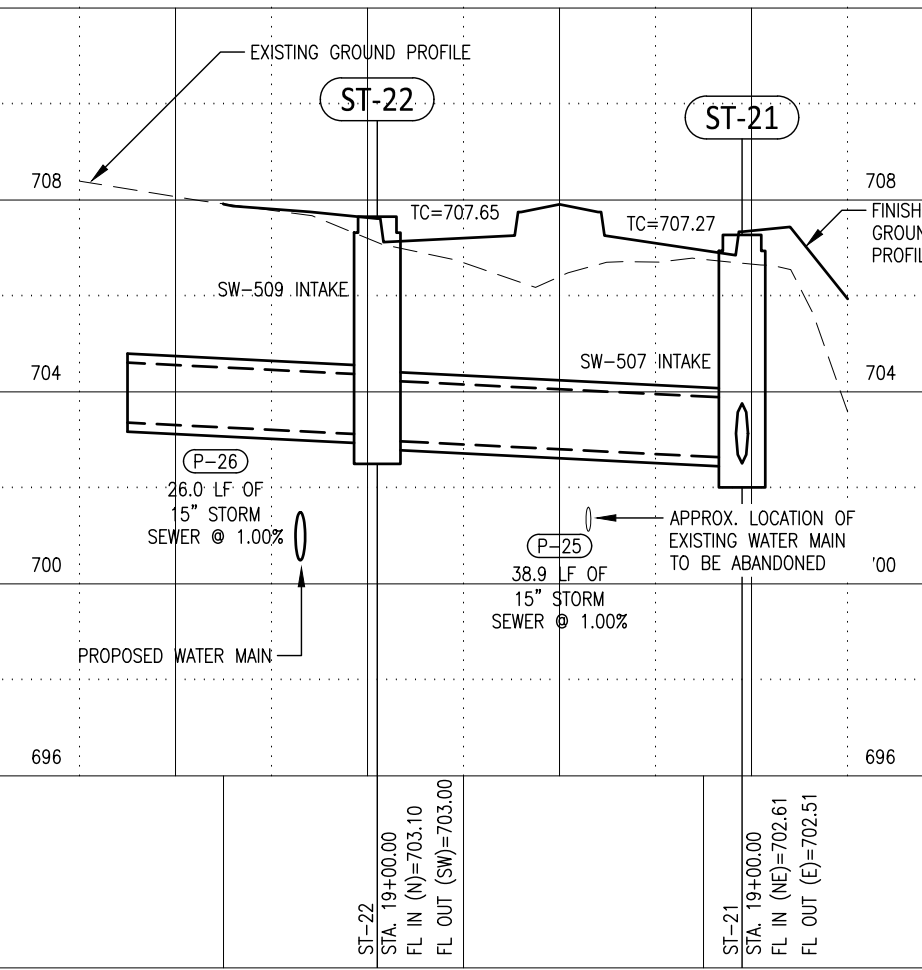
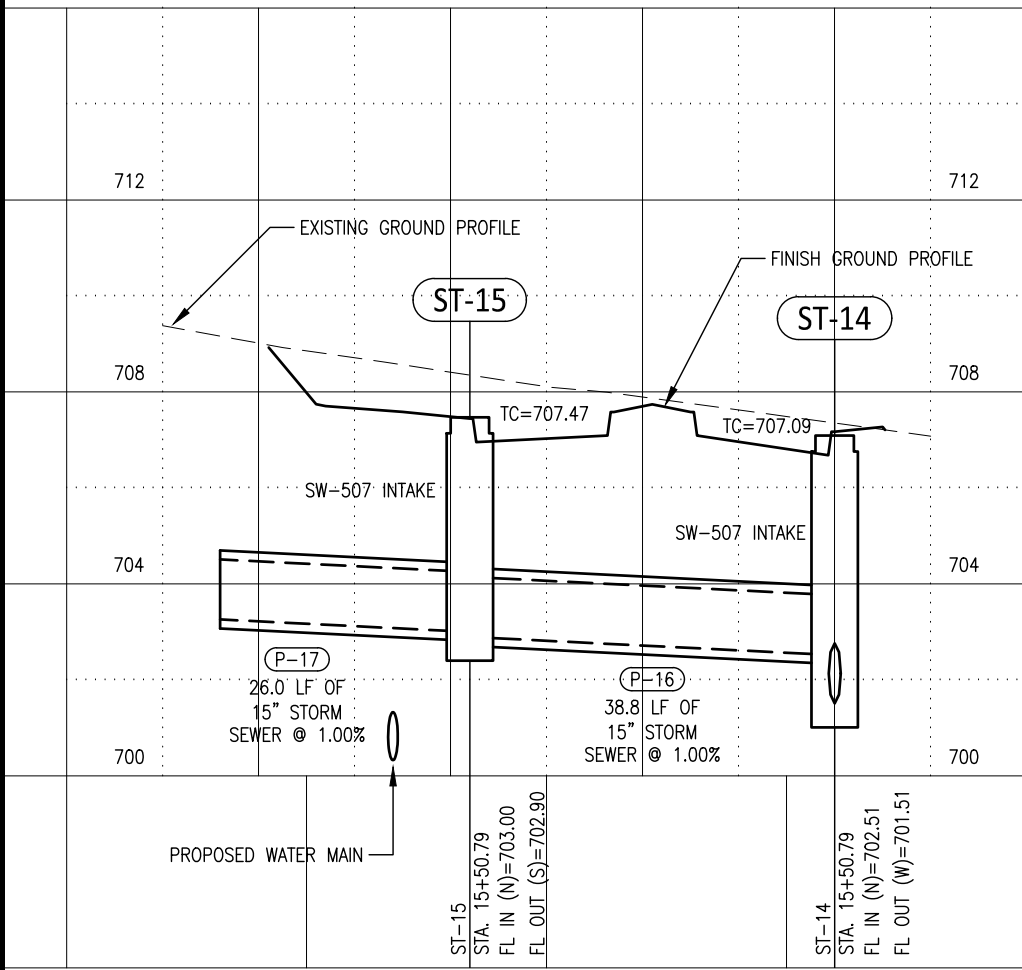
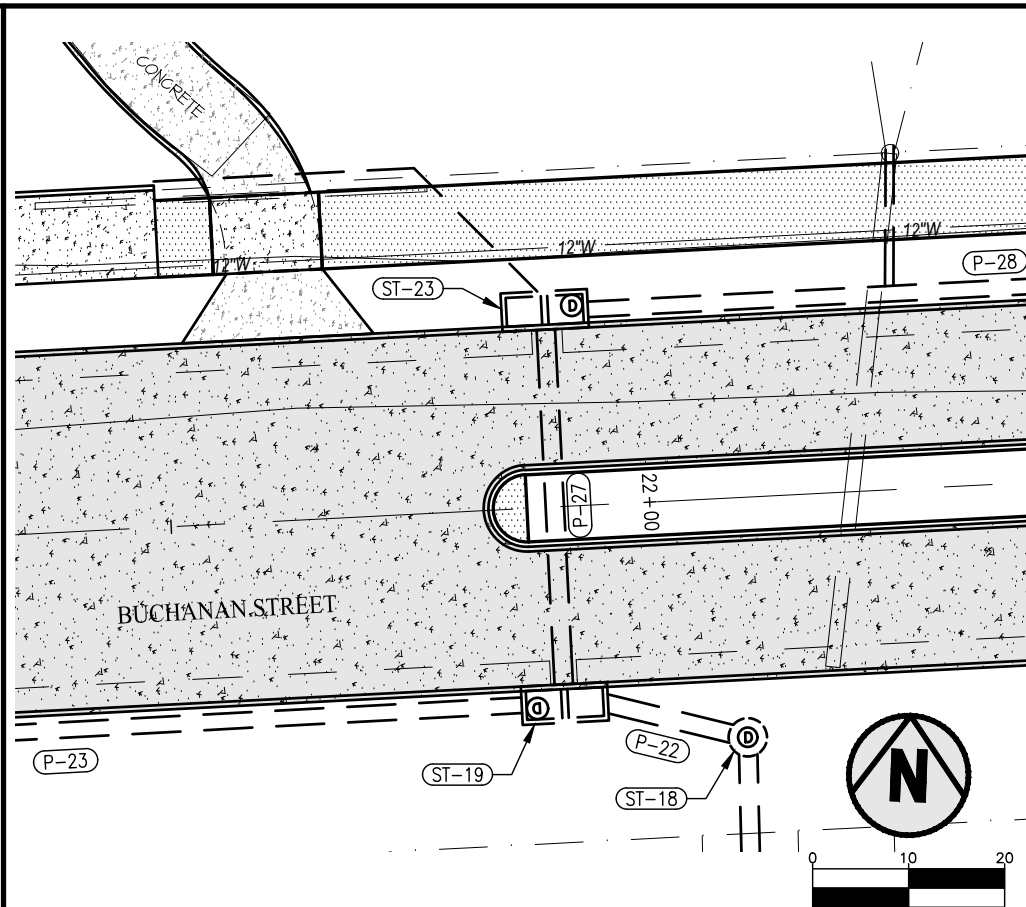
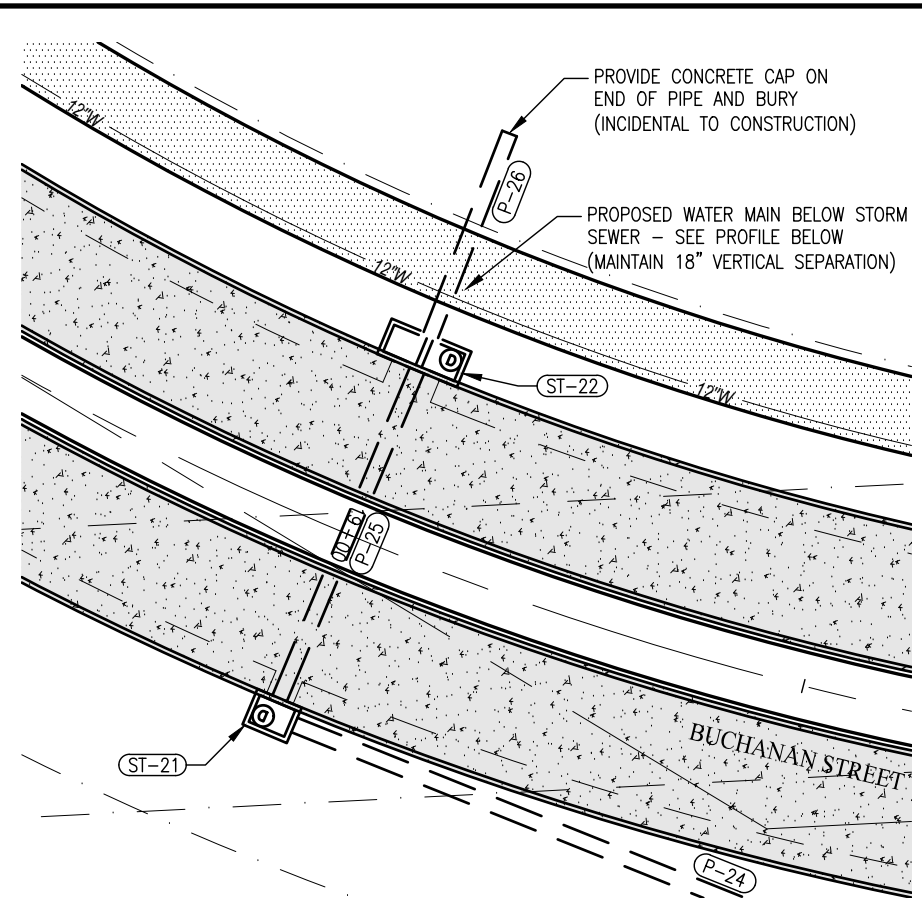
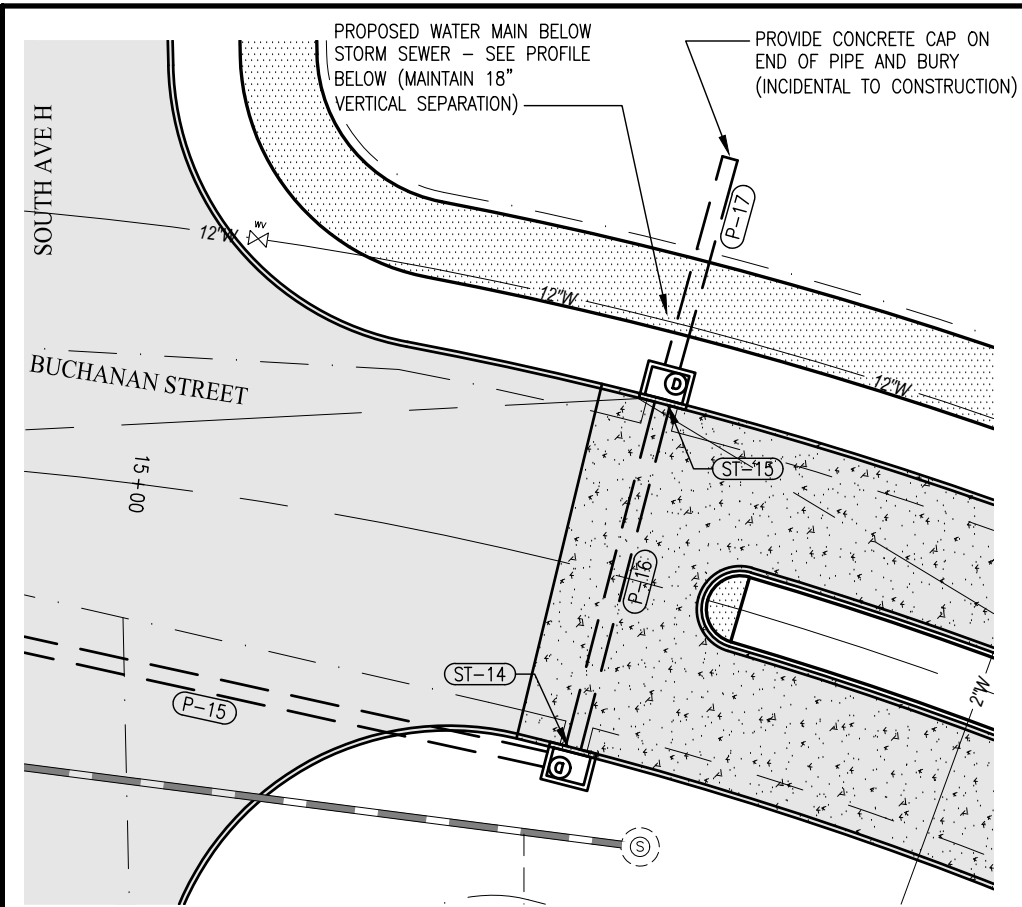
23+80      24+00      +25      +50      +75 24+80

**STORM SEWER PLAN AND PROFILE**

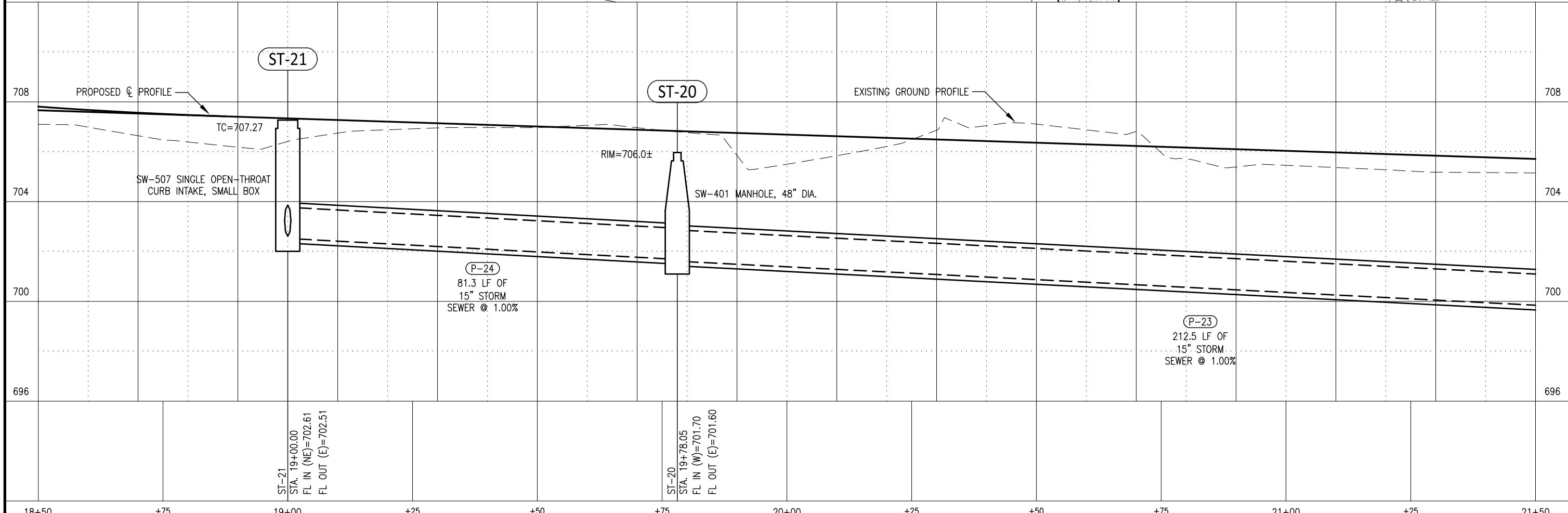
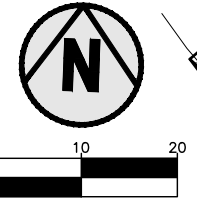
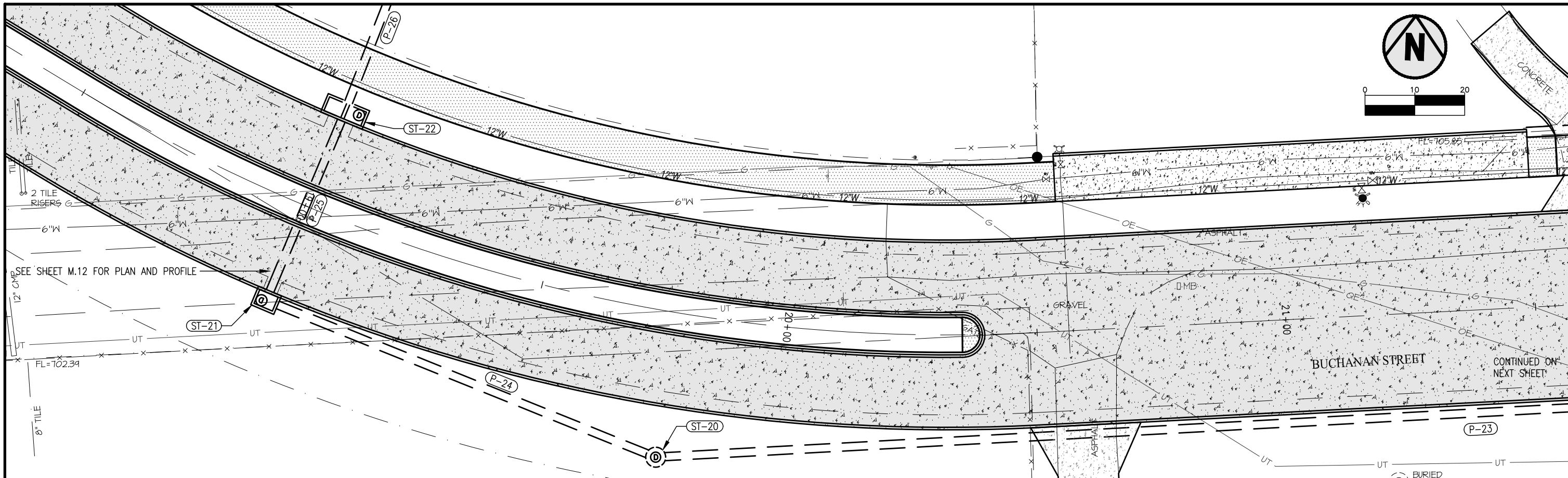


ST-8 STA. 5+49.19 FL OUT (SE)=691.25	ST-7 STA. 5+60.00 FL IN (NW)=690.98 FL OUT (S)=690.88	ST-6 STA. 5+60.00 FL IN (E)=690.65 FL IN (N)=690.57 FL OUT (W)=690.47	ST-10 STA. 8+50.00 FL OUT (S)=693.94	ST-9 STA. 8+50.00 FL IN (E)=693.62 FL IN (N)=693.62 FL OUT (W)=693.52	ST-12 STA. 13+05.98 FL OUT (S)=697.00	ST-11 STA. 13+05.98 FL IN (E)=696.44 FL IN (N)=696.68 FL OUT (W)=696.34
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**STORM SEWER PLAN AND PROFILE**



**STORM SEWER PLAN AND PROFILE**



18+50	+75	19+00	+25	+50	+75	20+00	+25	+50	+75	21+00	+25	21+50
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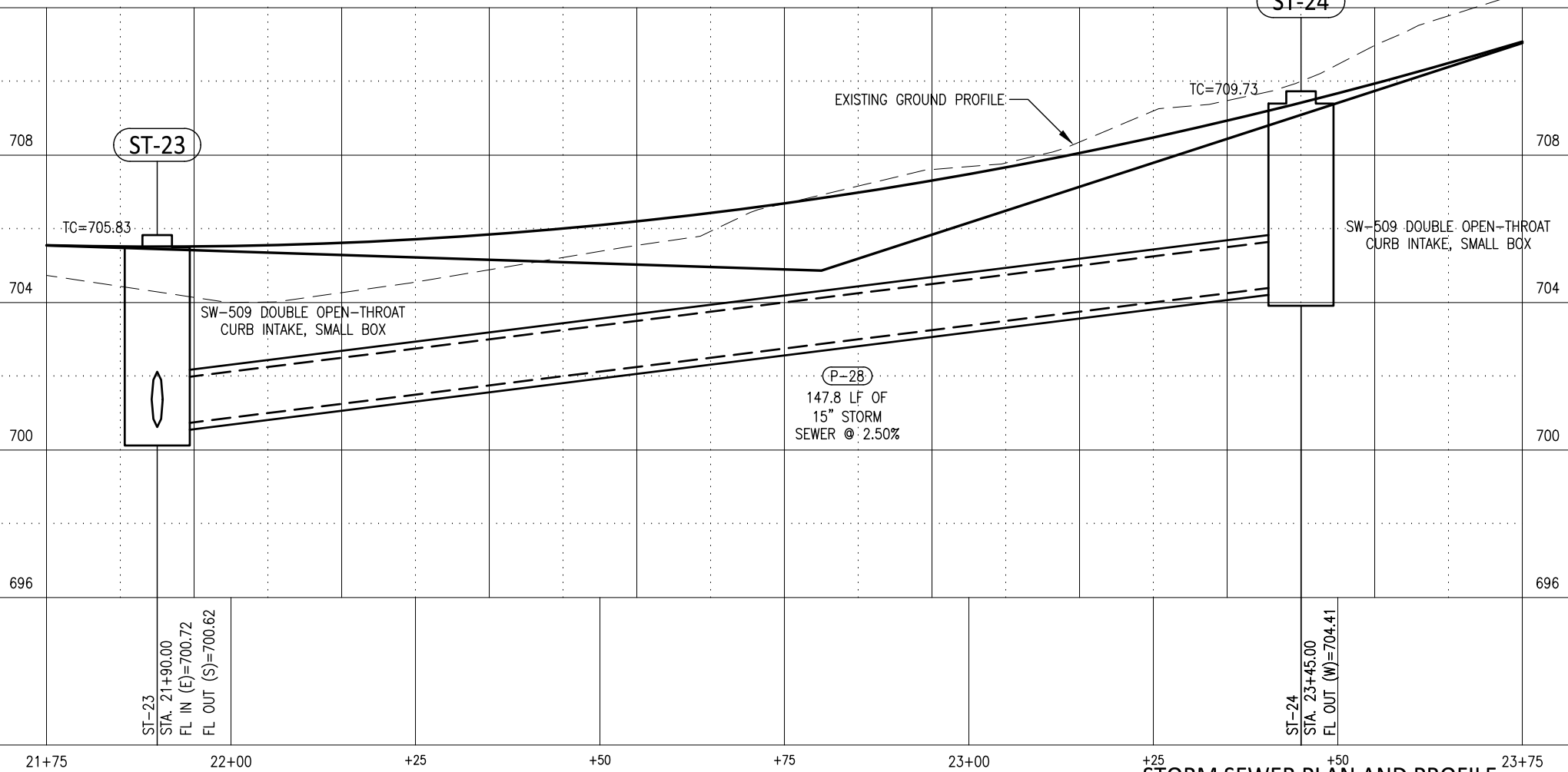
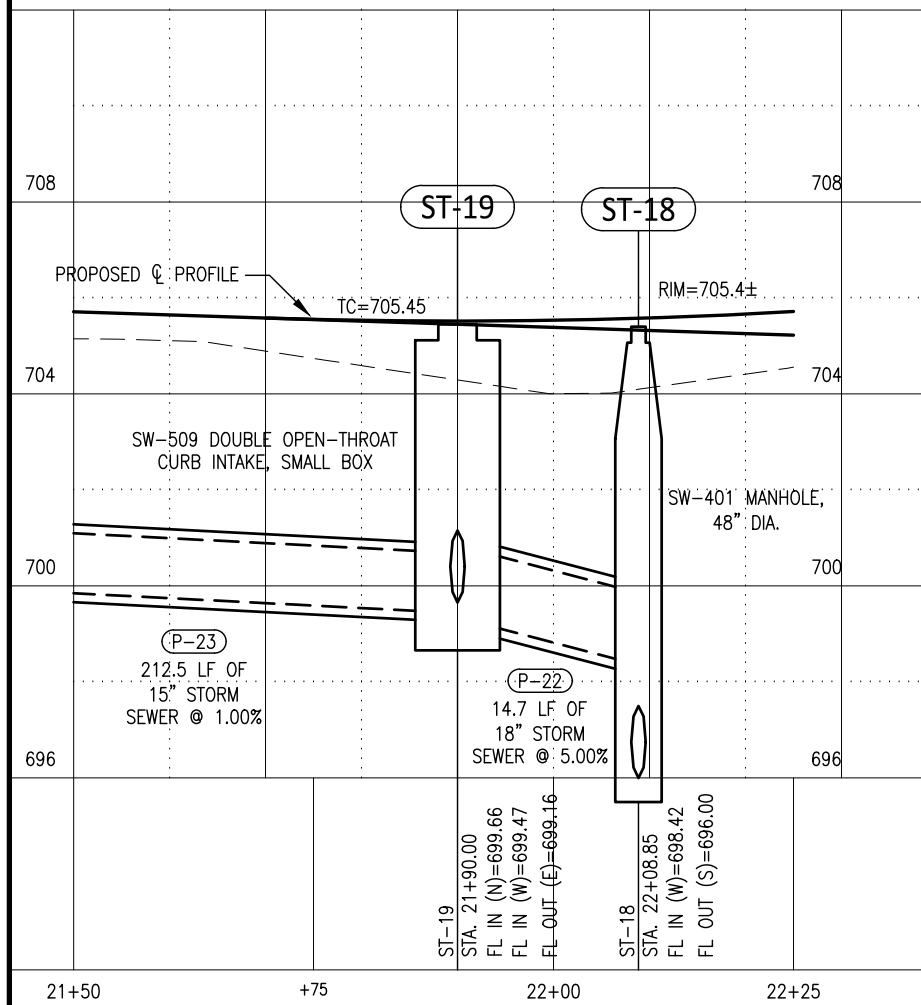
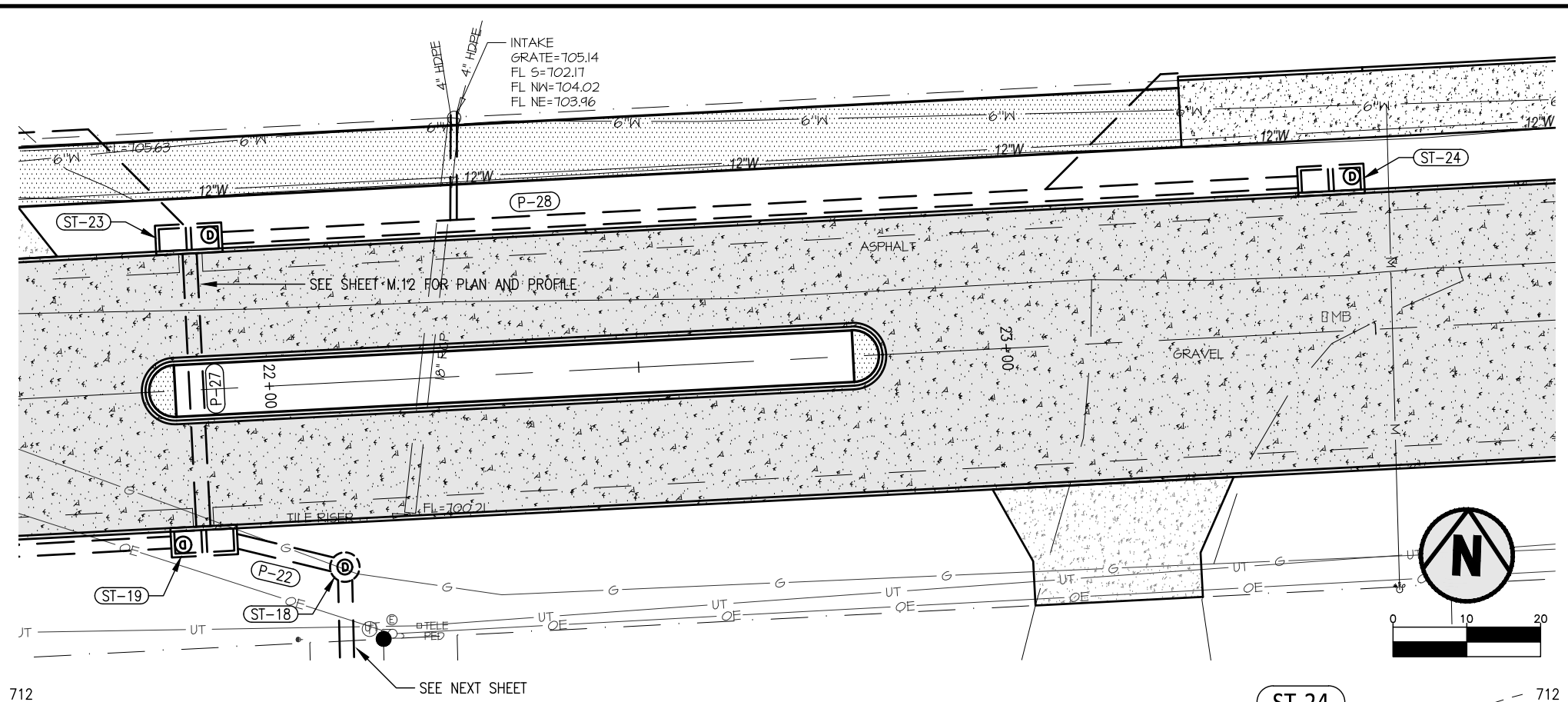
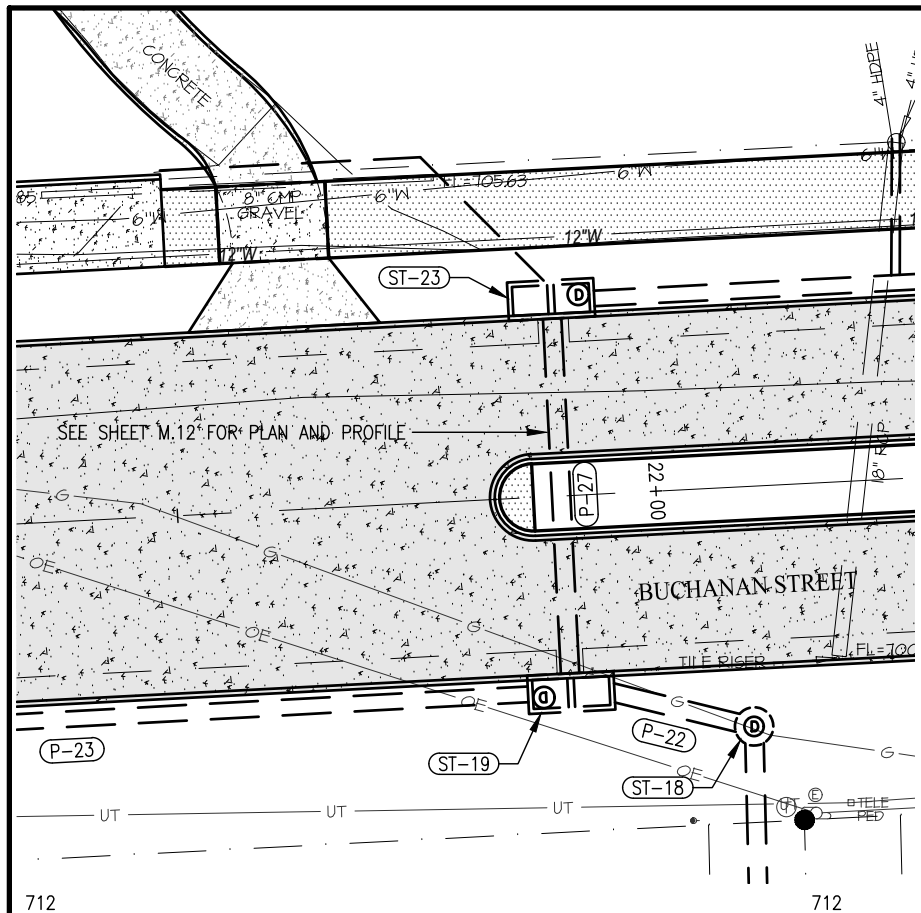
ST-21  
 STA. 19+00.00  
 FL IN (NE)=702.61  
 FL OUT (E)=702.51

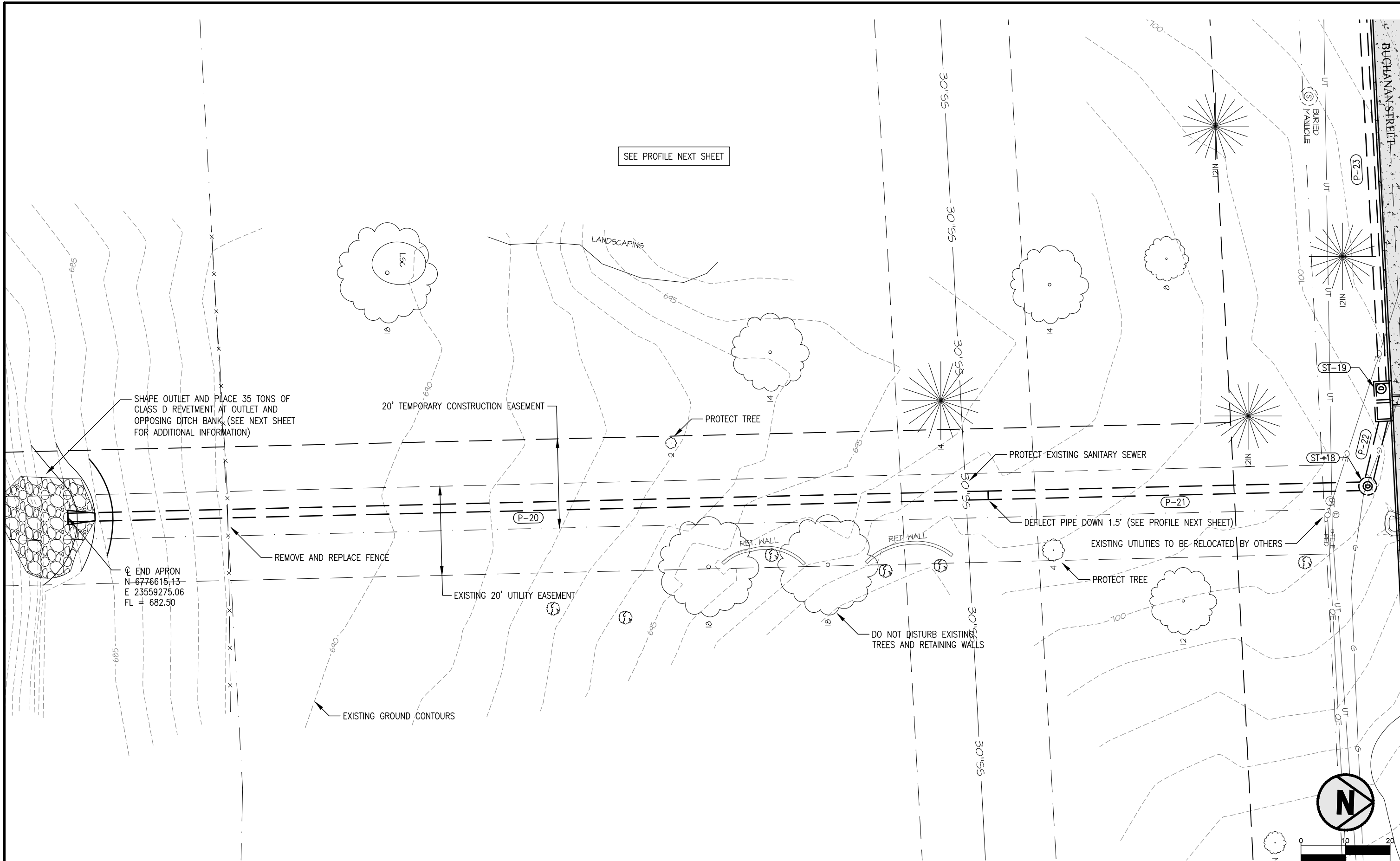
ST-20  
 STA. 19+78.05  
 FL IN (W)=701.70  
 FL OUT (E)=701.60

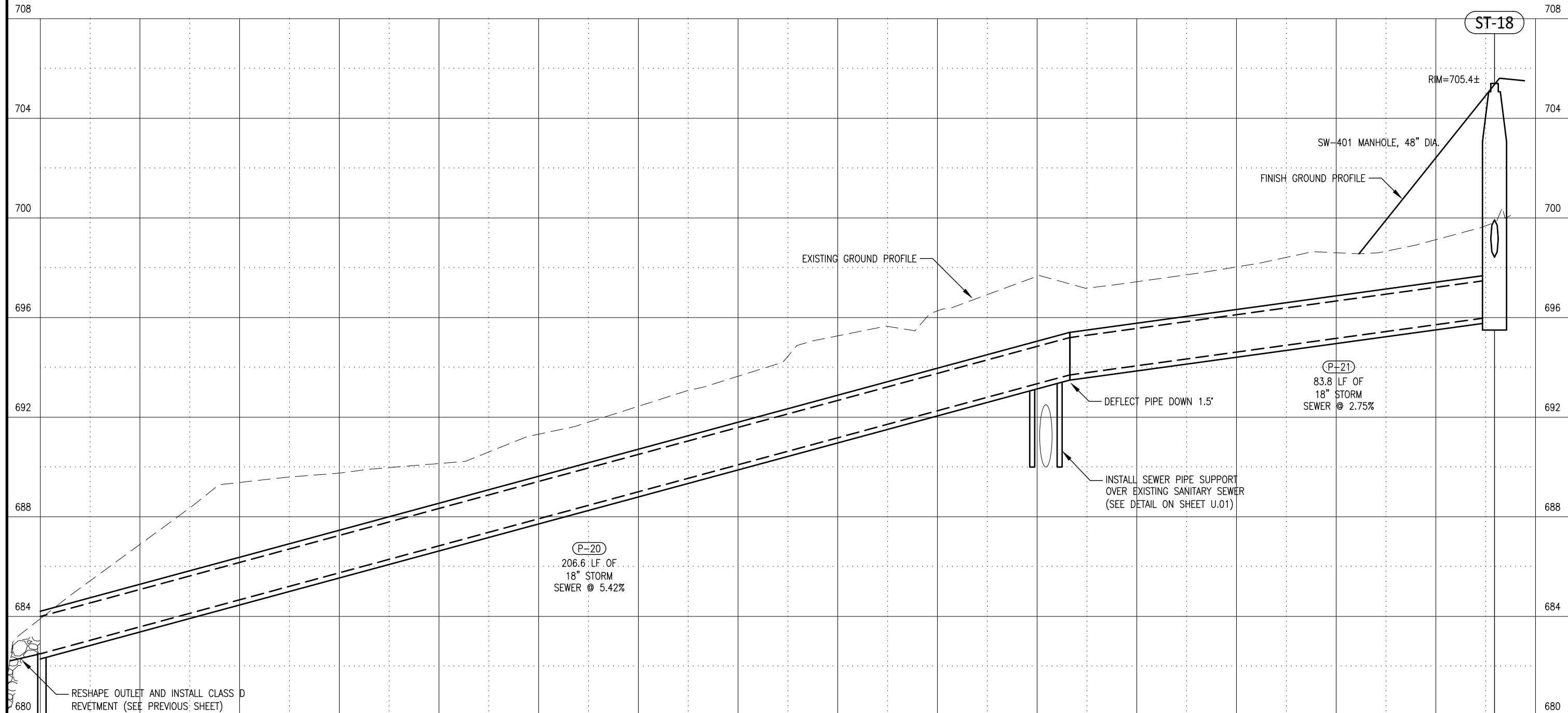
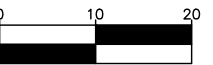
P-24  
 81.3 LF OF  
 15" STORM  
 SEWER @ 1.00%

P-23  
 212.5 LF OF  
 15" STORM  
 SEWER @ 1.00%

**STORM SEWER PLAN AND PROFILE**







ST-18

RM=705.4±

SW-401 MANHOLE, 48" DIA.

FINISH GROUND PROFILE

EXISTING GROUND PROFILE

(P-21)  
83.8 LF OF  
18" STORM  
SEWER @ 2.75%

DEFLECT PIPE DOWN 1.5'

INSTALL SEWER PIPE SUPPORT  
OVER EXISTING SANITARY SEWER  
(SEE DETAIL ON SHEET U.01)

(P-20)  
206.6 LF OF  
18" STORM  
SEWER @ 5.42%

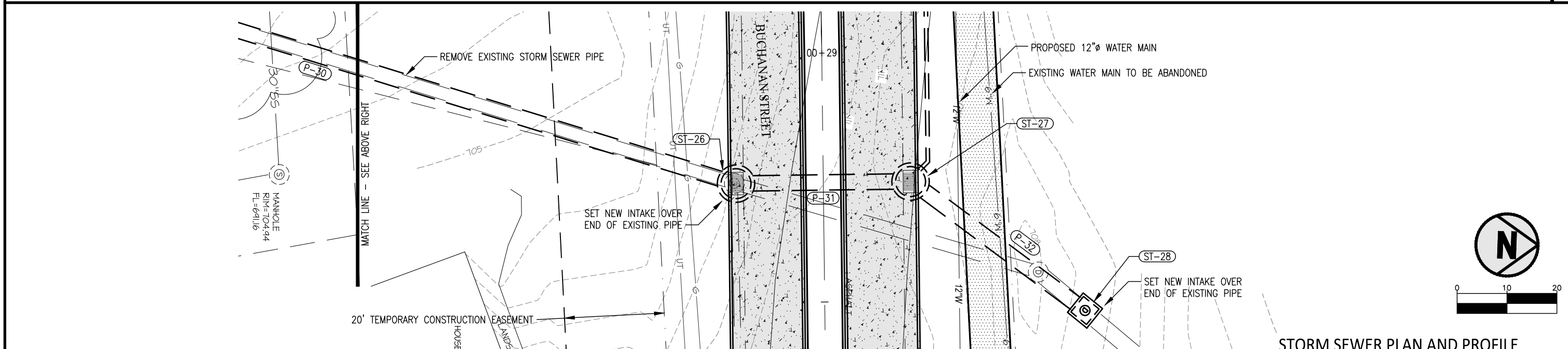
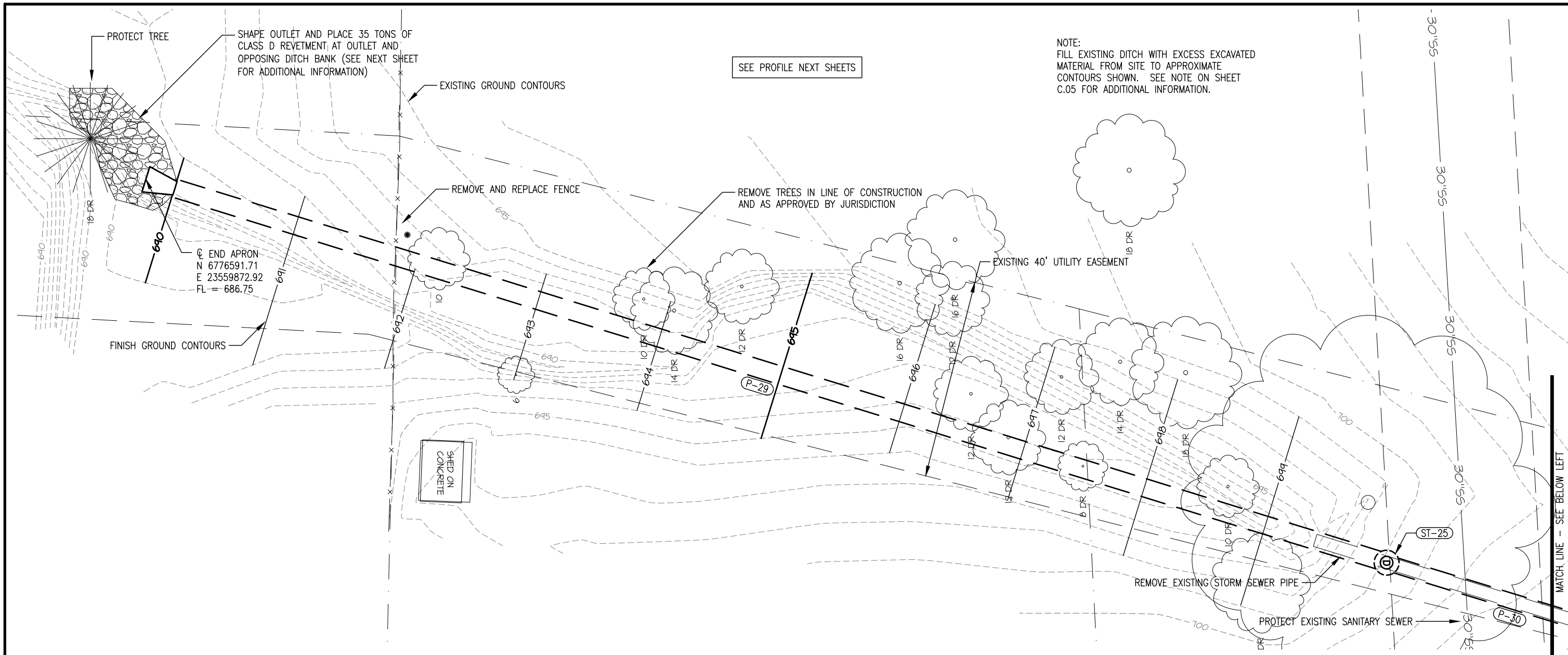
RESHAPE OUTLET AND INSTALL CLASS D  
REVETMENT (SEE PREVIOUS SHEET)

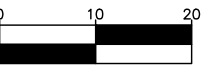
INSTALL CONCRETE APRON SECTION  
FOOTING PER DETAIL ON SHEET U.01

ST-18  
STA. 22+08.85  
FL OUT (S)=696.00  
FL IN (W)=698.42

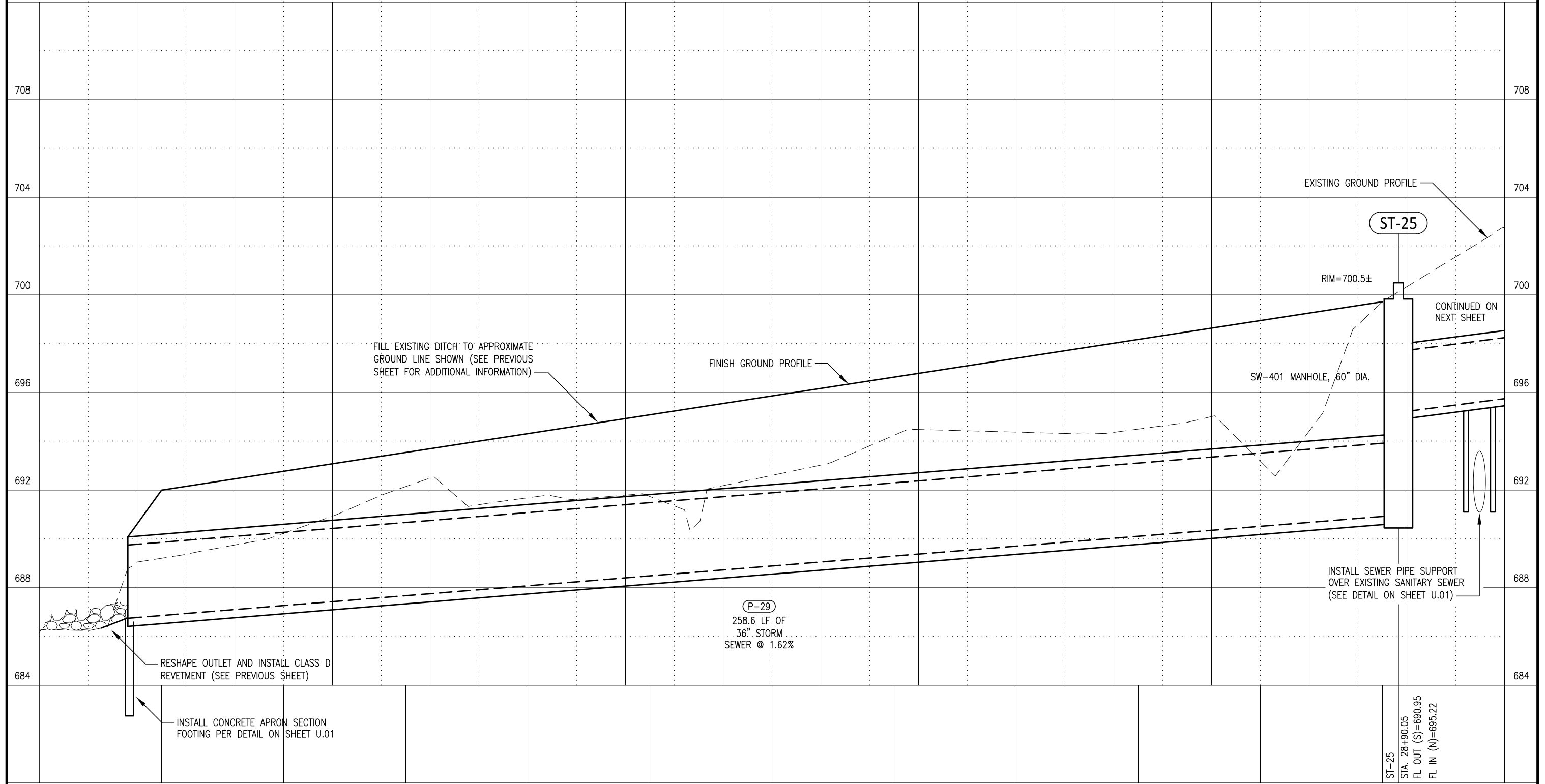
STORM SEWER PLAN AND PROFILE



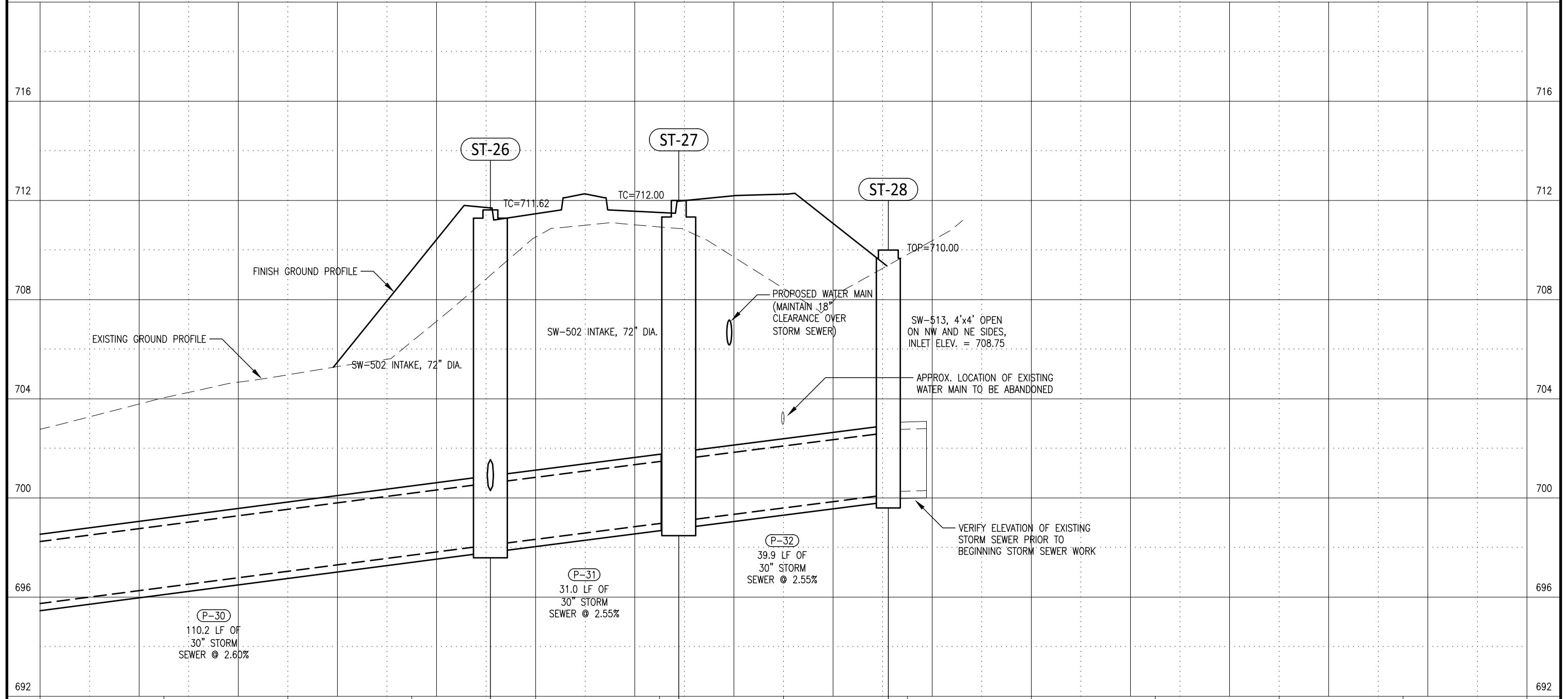
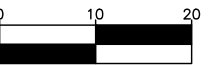




PROFILE CONTINUED  
ON NEXT SHEET



**STORM SEWER PLAN AND PROFILE**



(P-30)  
110.2 LF OF  
30" STORM  
SEWER @ 2.60%

(P-31)  
31.0 LF OF  
30" STORM  
SEWER @ 2.55%

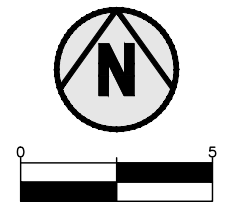
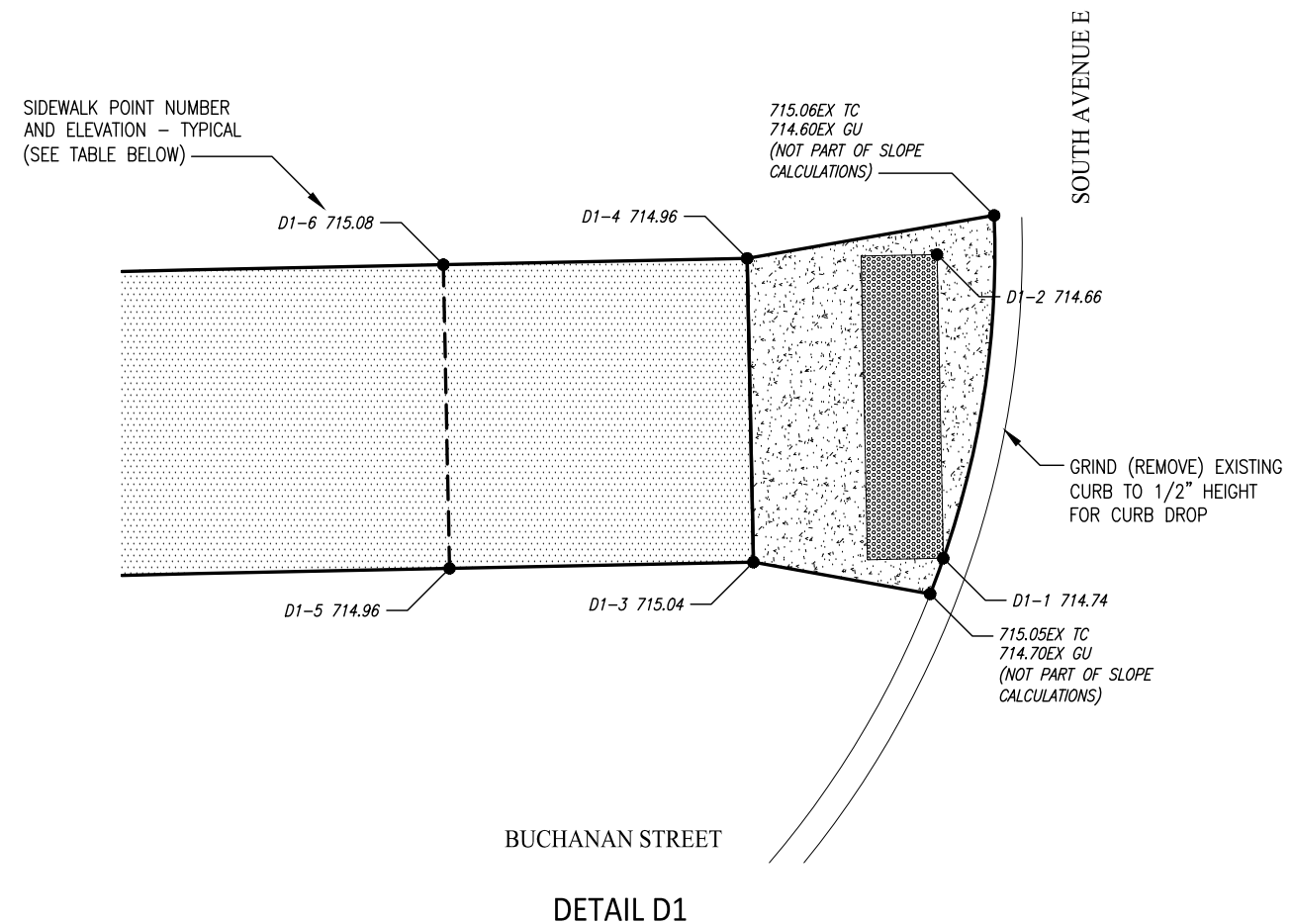
(P-32)  
39.9 LF OF  
30" STORM  
SEWER @ 2.55%

ST-26  
STA. 29+26.06  
FL OUT (S)=698.09  
FL IN (N)=698.19  
FL IN (E)=700.30

ST-27  
STA. 29+26.06  
FL OUT (S)=698.98  
FL IN (NE)=699.08

ST-28  
STA. 29+52.33  
FL OUT (SW)=706.10  
FL IN (NE)=700.25

**STORM SEWER PLAN AND PROFILE**



**SIDEWALK COMPLIANCE**  
See S Sheets

Designer Info

\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.  
 ② Refer to tabulation 113-01 for bid quantities.

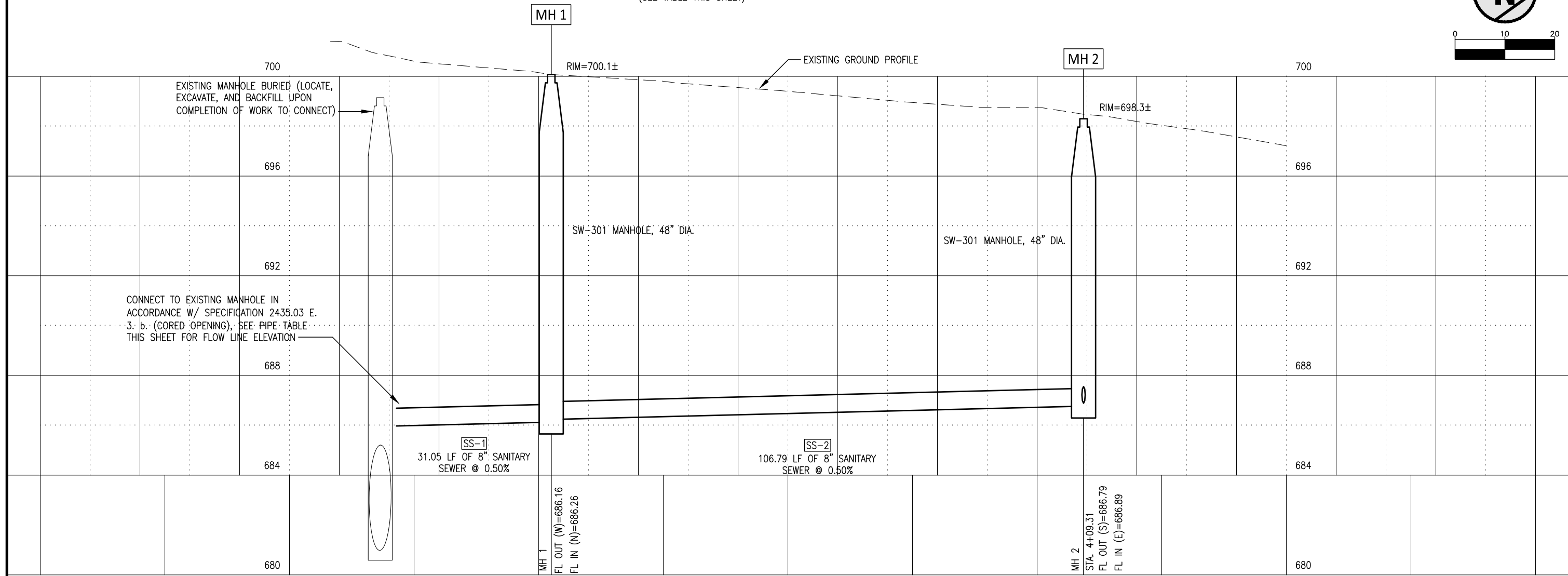
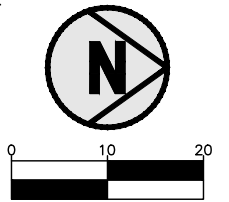
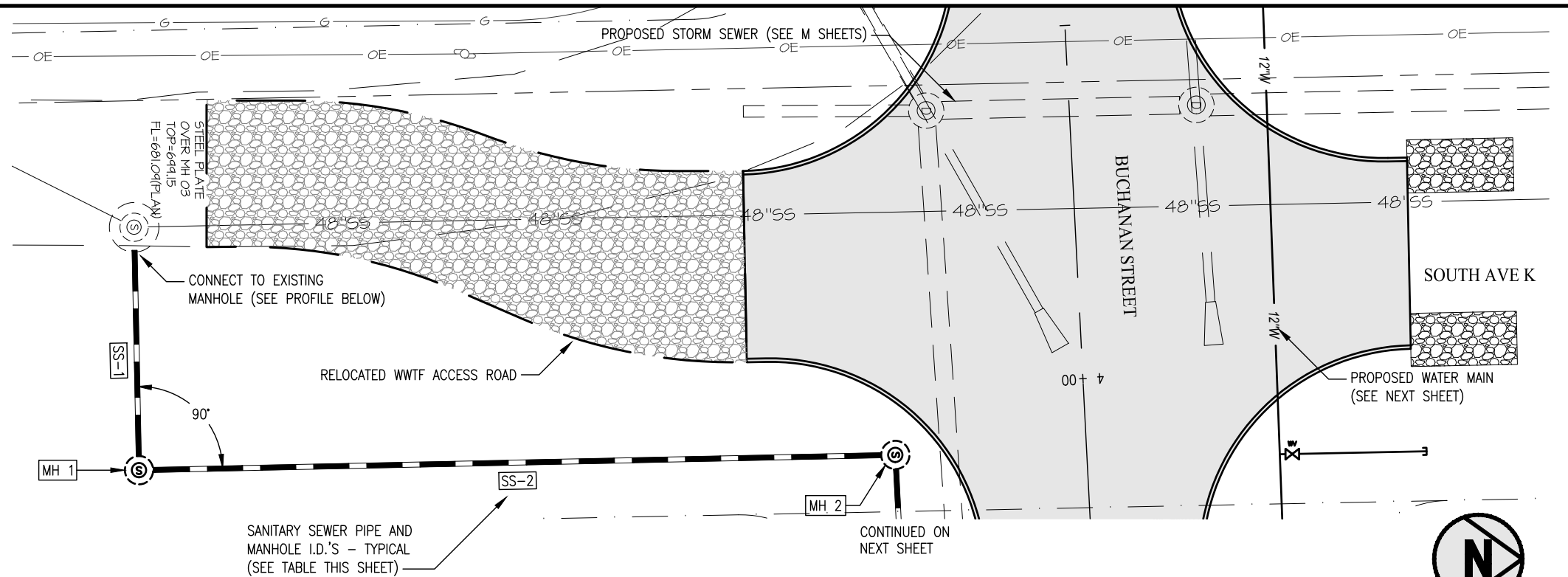
This Data Entry Sheet fills Tab 113-10 effective 04-18-17

Point	Station	Offset	Elevation	Point to Point		Sidewalk Designation	PCC Sidewalk	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES				
																			Point	Station	Offset	Elevation	
D1-1	30+48.67	31.87	714.74	D1-1	D1-3	Ramp Running Slope	6	5.00	0.30	6.0%	0.5% to 8.3%	2.3%	0.5% to 8.3%							D1-1	30+48.67	31.87	714.74
D1-2	30+48.61	39.86	714.66	D1-2	D1-4	Ramp Running Slope	6	5.00	0.30	6.0%	0.5% to 8.3%	2.3%	0.5% to 8.3%							D1-2	30+48.61	39.86	714.66
D1-3	30+43.67	31.82	715.04	D1-3	D1-4	Landing/Turning Space	6	8.00	-0.08	-1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%							D1-3	30+43.67	31.82	715.04
D1-4	30+43.61	39.82	714.96	D1-4	D1-6	Landing/Turning Space	5	8.00	0.12	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%							D1-4	30+43.61	39.82	714.96
D1-5	30+35.68	31.76	714.96	D1-3	D1-5	Landing/Turning Space	5	8.00	-0.08	-1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%							D1-5	30+35.68	31.76	714.96
D1-6	30+35.61	39.75	715.08	D1-5	D1-6	Landing/Turning Space	5	8.00	0.12	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%							D1-6	30+35.61	39.75	715.08

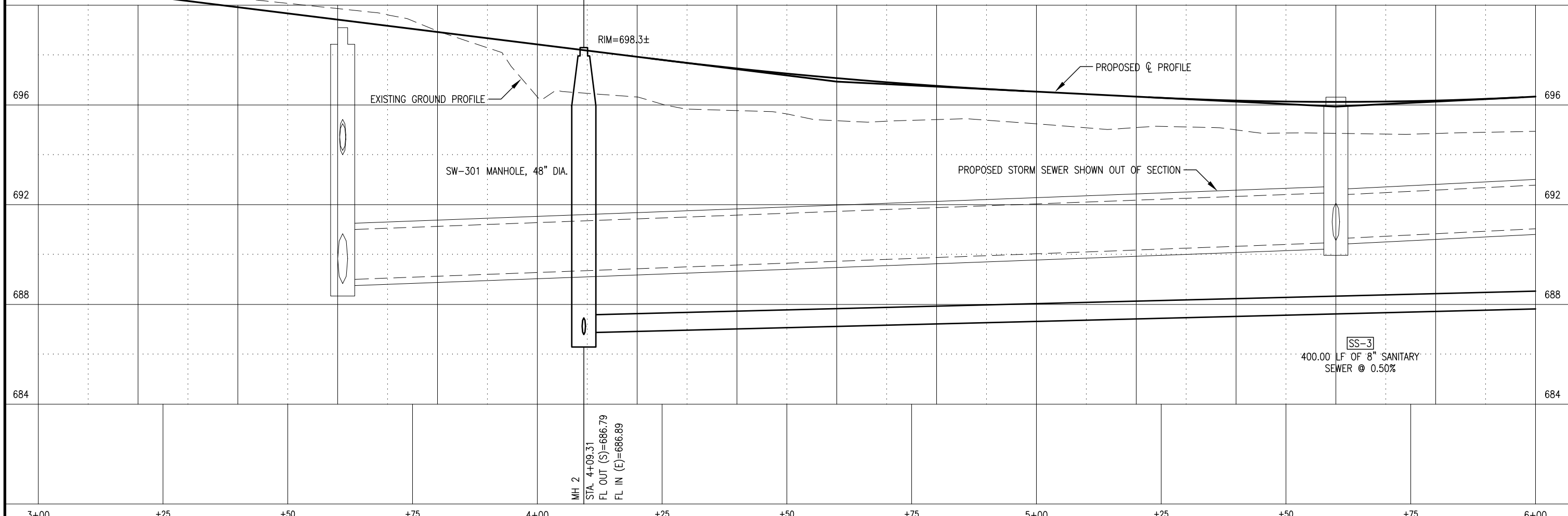
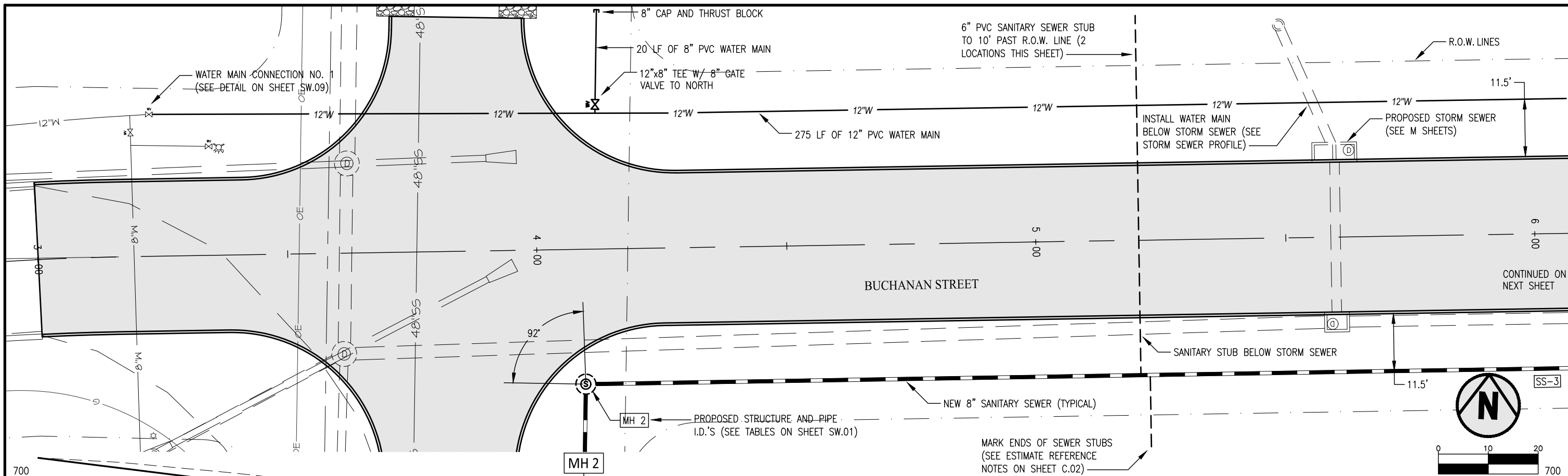
**SIDEWALK DETAILS**

SANITARY SEWER STRUCTURE TABLE				
STRUCTURE	NORTHING	EASTING	RIM ELEV.	STRUCTURE TYPE
MH 1	6776937.68	23557518.23	700.1±	SW-301 MANHOLE, 48" DIA.
MH 2	6777044.45	23557516.08	698.3±	SW-301 MANHOLE, 48" DIA.
MH 3	6777064.89	23557915.55	698.8±	SW-301 MANHOLE, 48" DIA.
MH 4	6777083.96	23558288.19	702.5±	SW-301 MANHOLE, 48" DIA.
MH 5	6777097.21	23558546.99	704.1±	SW-301 MANHOLE, 48" DIA.
MH 6	6777083.12	23558656.08	707.7±	SW-301 MANHOLE, 48" DIA.

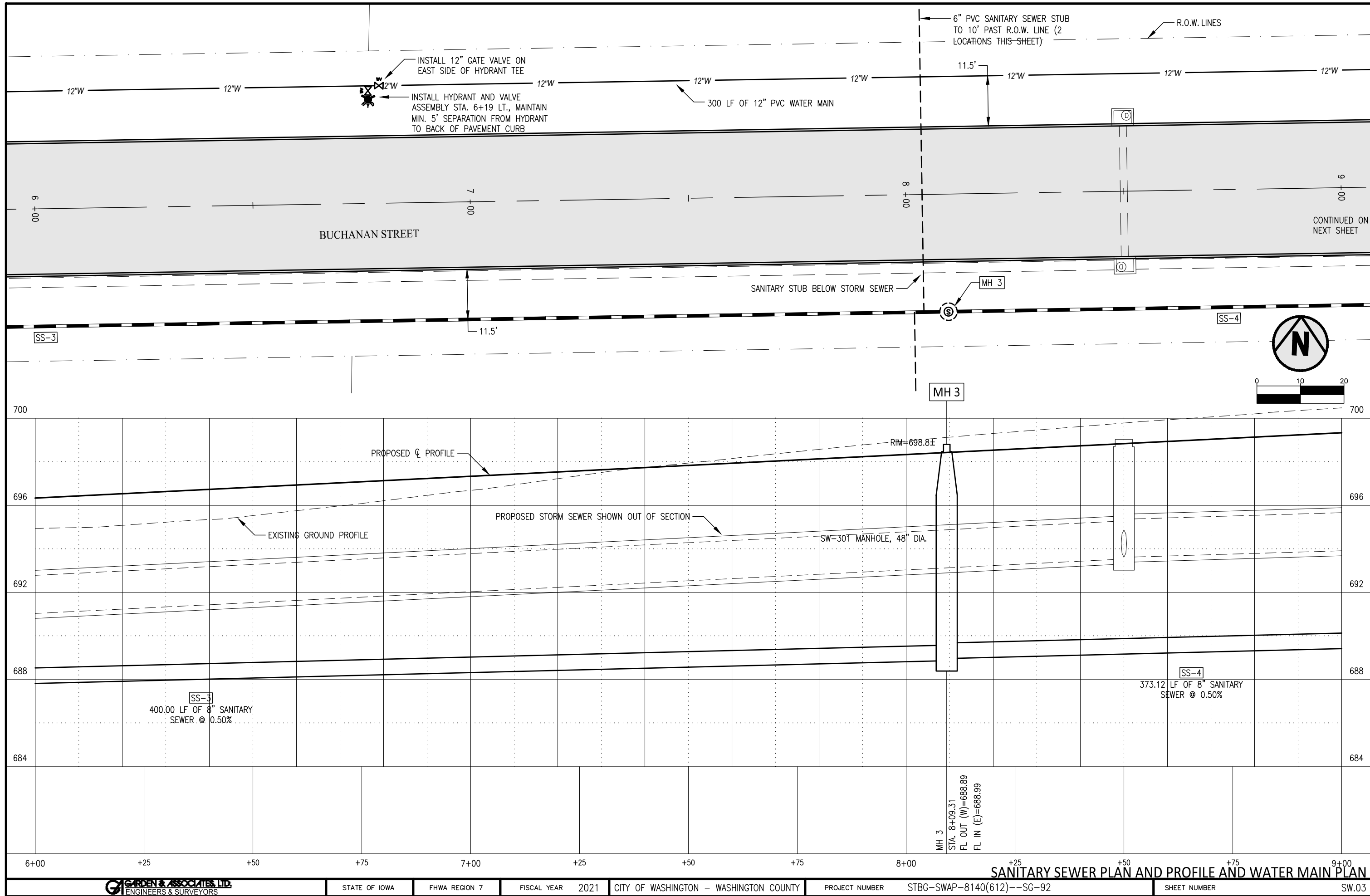
SANITARY SEWER PIPE TABLE								
PIPE	DIAMETER	MATERIAL	FROM	TO	LENGTH	SLOPE	PIPE I <sub>n</sub>	PIPE I <sub>o</sub>
SS-1	8"	SDR 26 PVC	MH 1		31.05 LF	0.50%	686.16	686.00
SS-2	8"	SDR 26 PVC	MH 2	MH 1	106.79 LF	0.50%	686.79	686.26
SS-3	8"	SDR 26 PVC	MH 3	MH 2	400.00 LF	0.50%	688.89	686.89
SS-4	8"	SDR 26 PVC	MH 4	MH 3	373.12 LF	0.50%	690.86	688.99
SS-5	8"	SDR 26 PVC	MH 5	MH 4	259.14 LF	1.00%	693.55	690.96
SS-6	8"	SDR 26 PVC	MH 6	MH 5	110.00 LF	1.00%	694.75	693.65



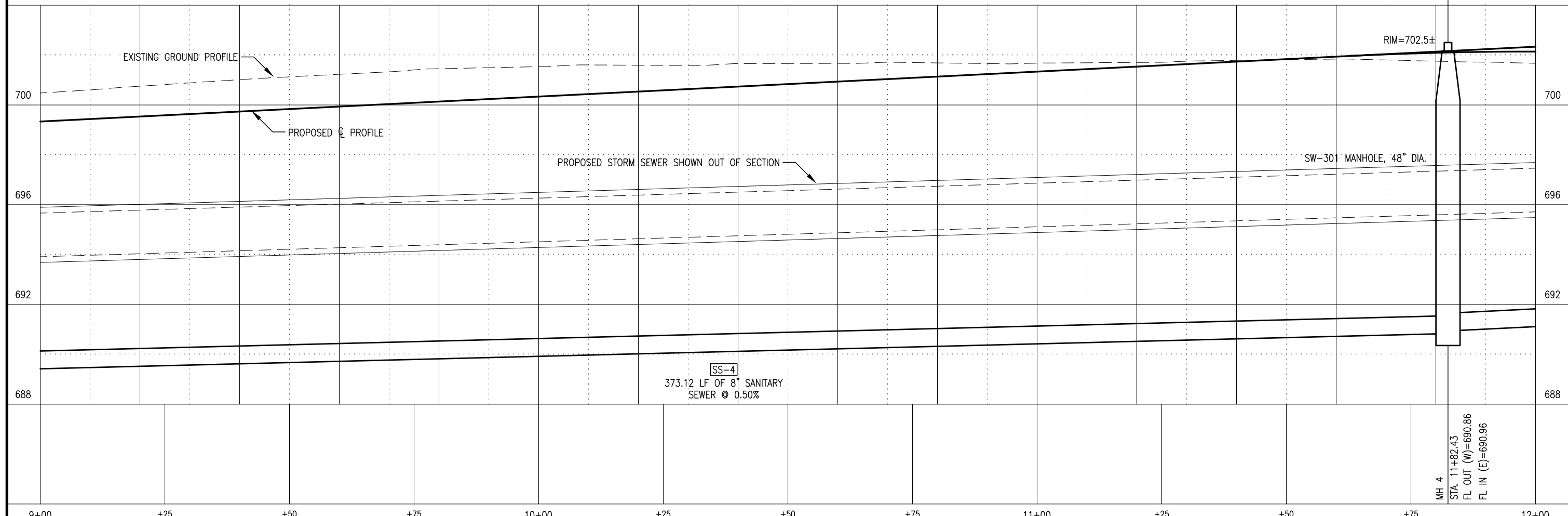
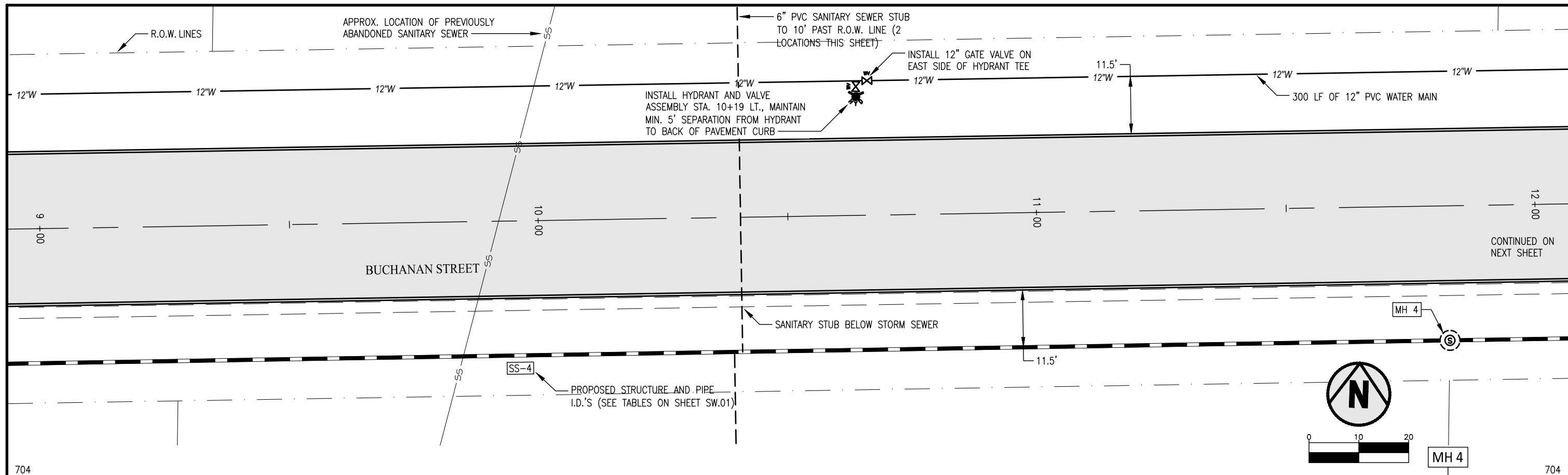
SANITARY SEWER PLAN AND PROFILE AND WATER MAIN PLAN



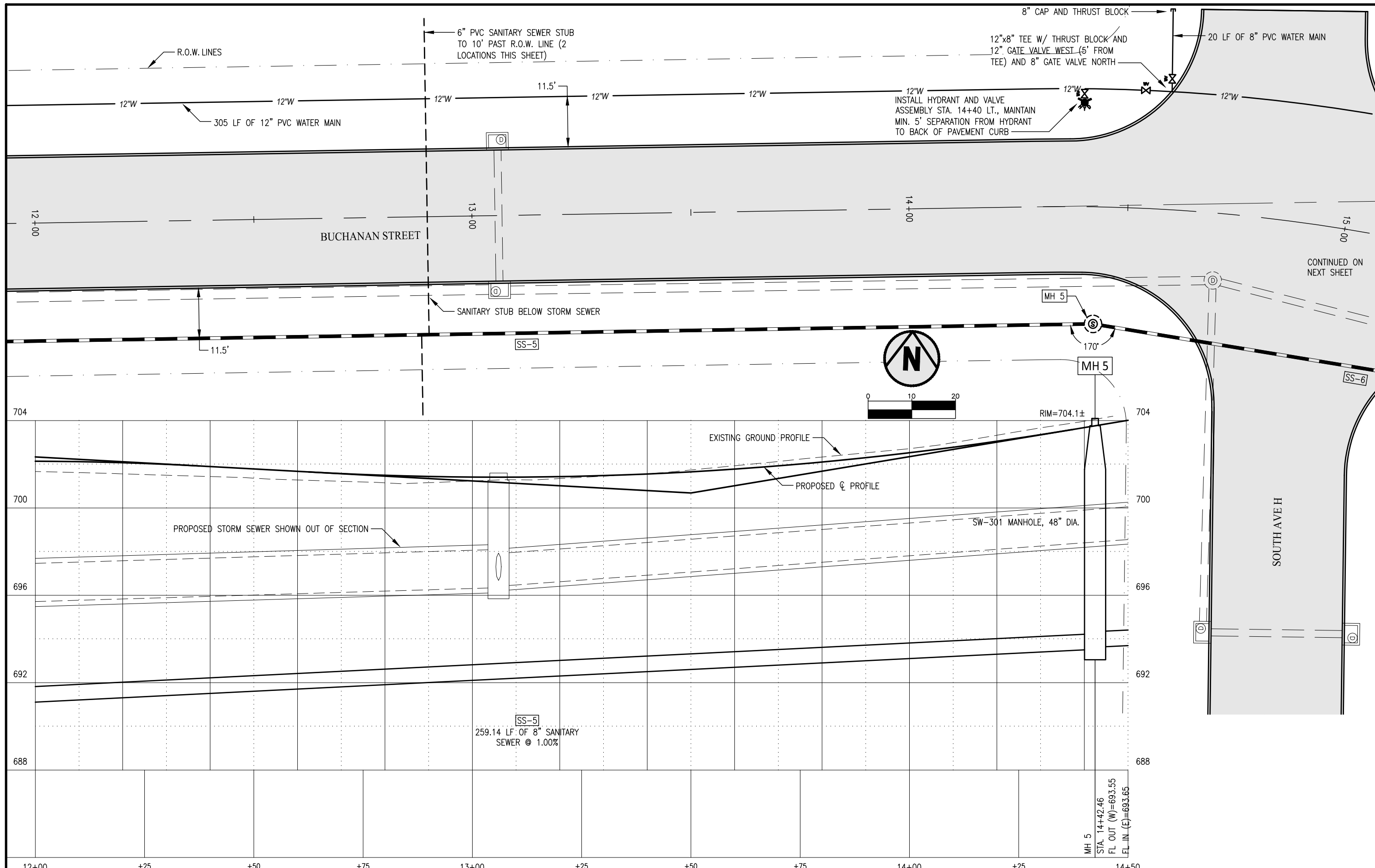
**SANITARY SEWER PLAN AND PROFILE AND WATER MAIN PLAN**



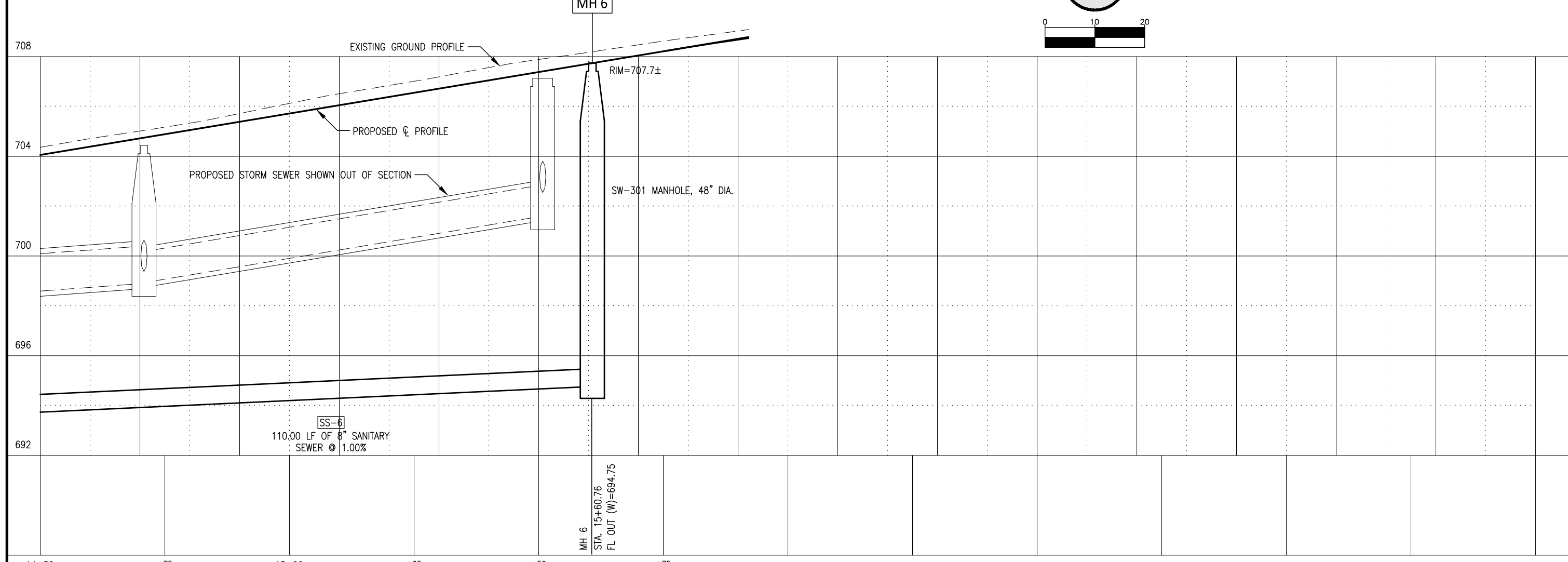
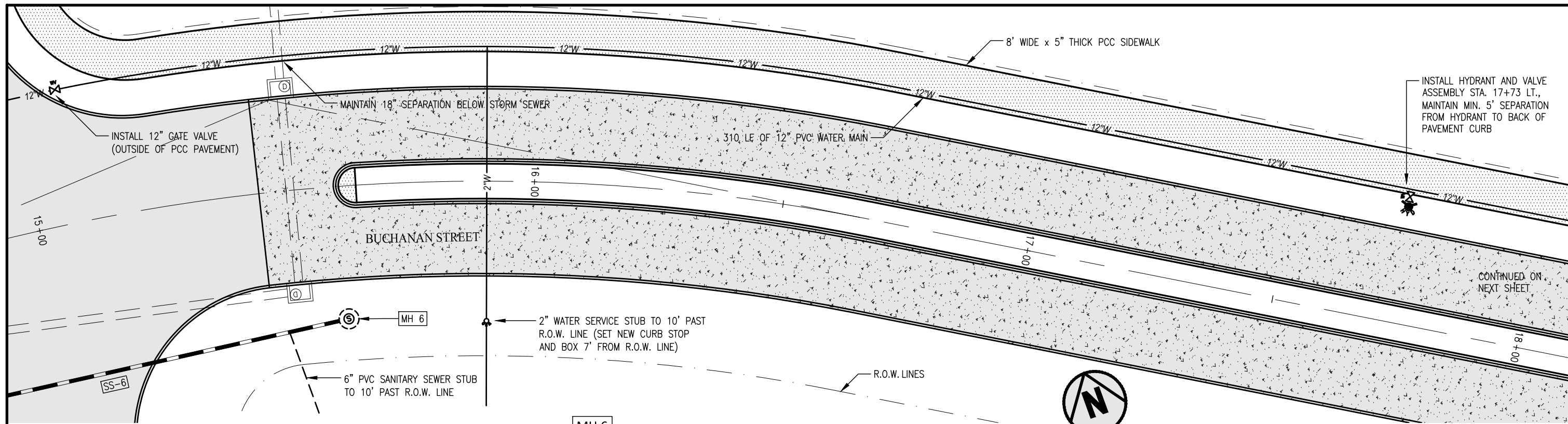
**SANITARY SEWER PLAN AND PROFILE AND WATER MAIN PLAN**

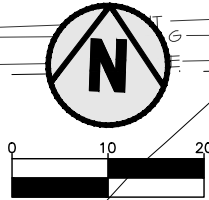
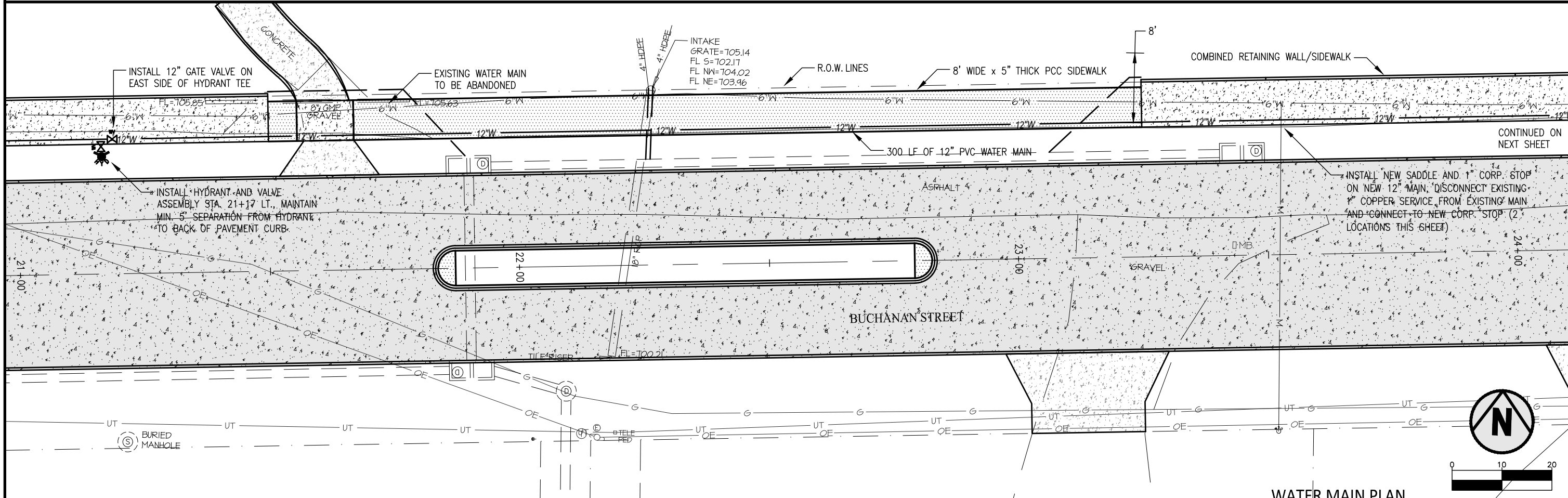
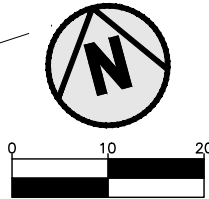
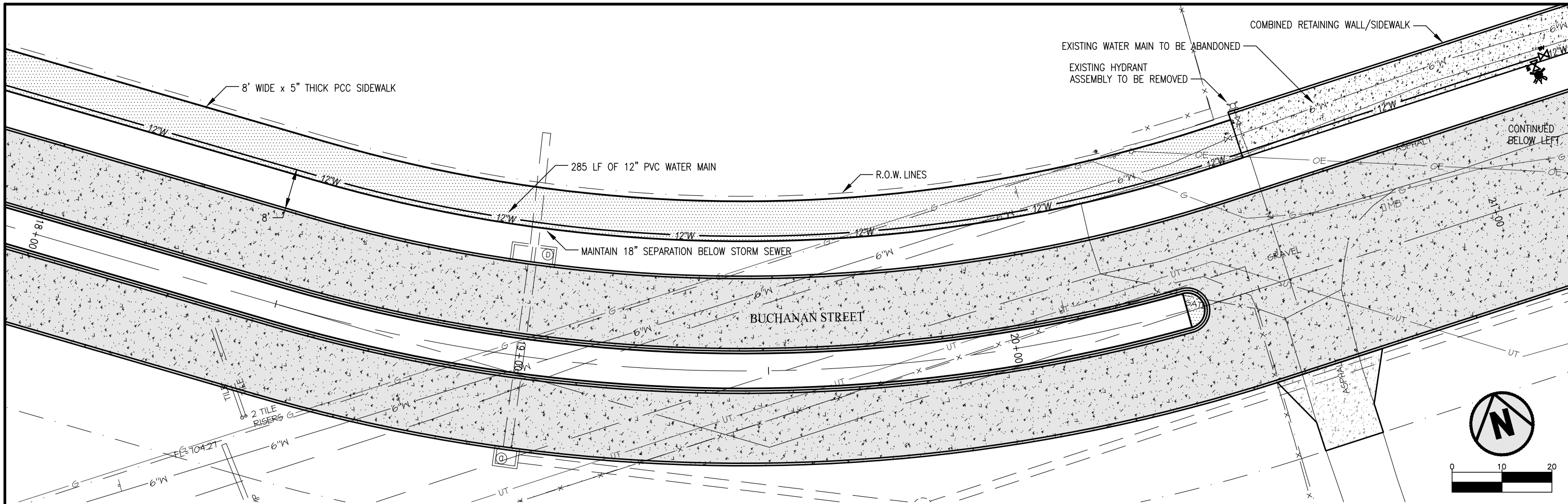




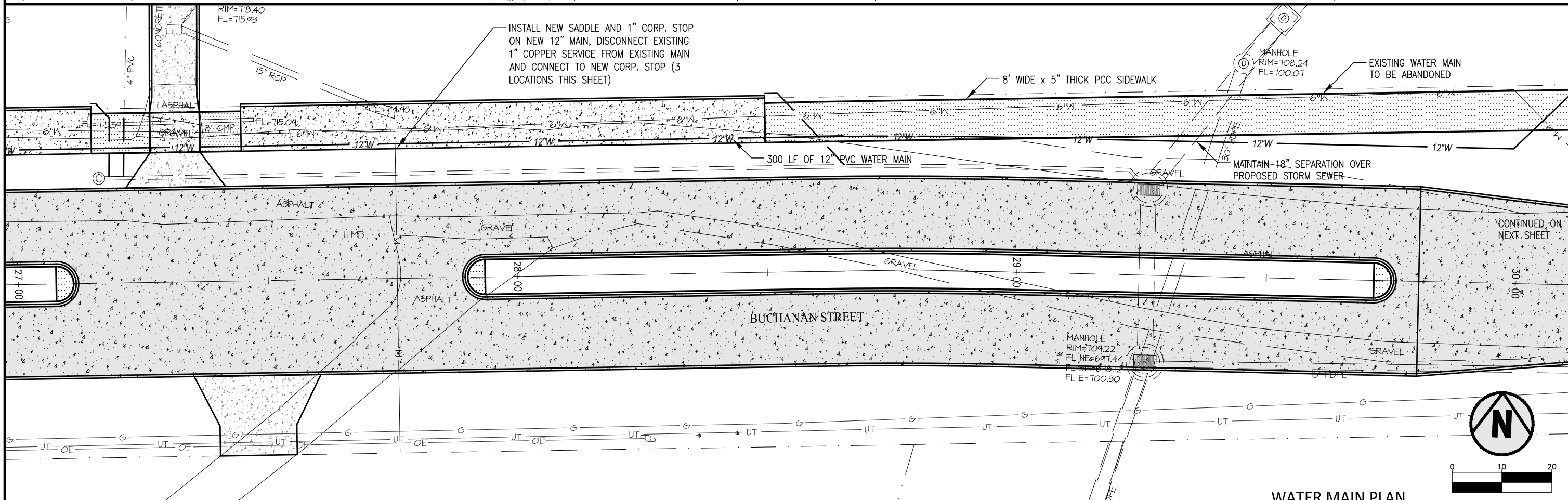
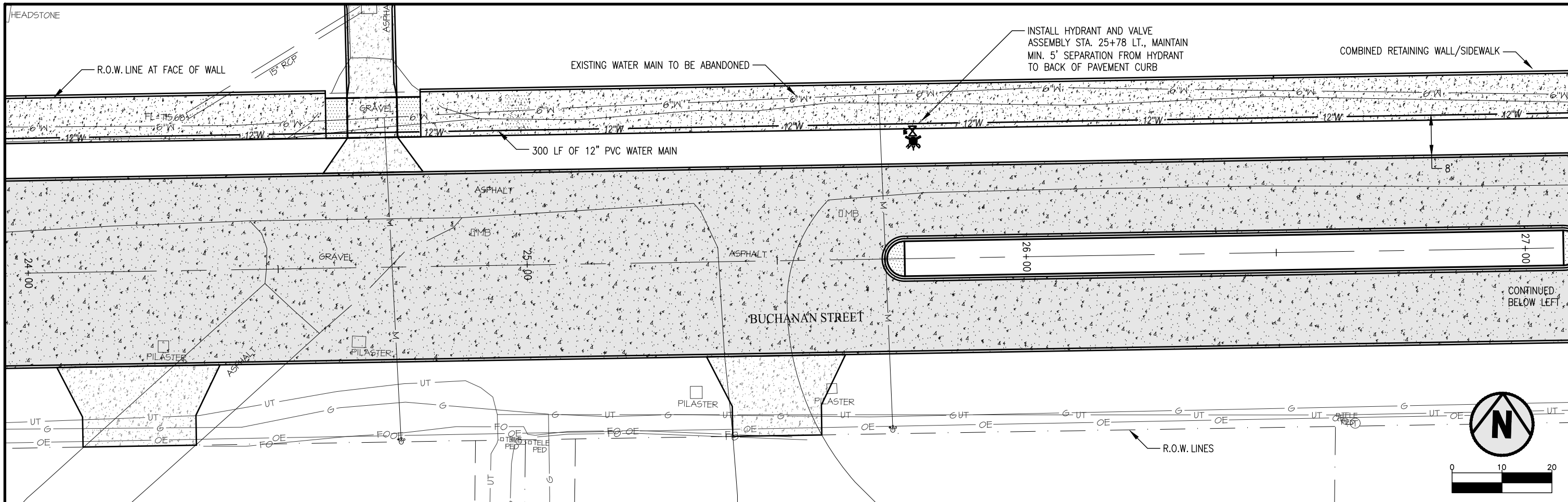


**SANITARY SEWER PLAN AND PROFILE AND WATER MAIN PLAN**

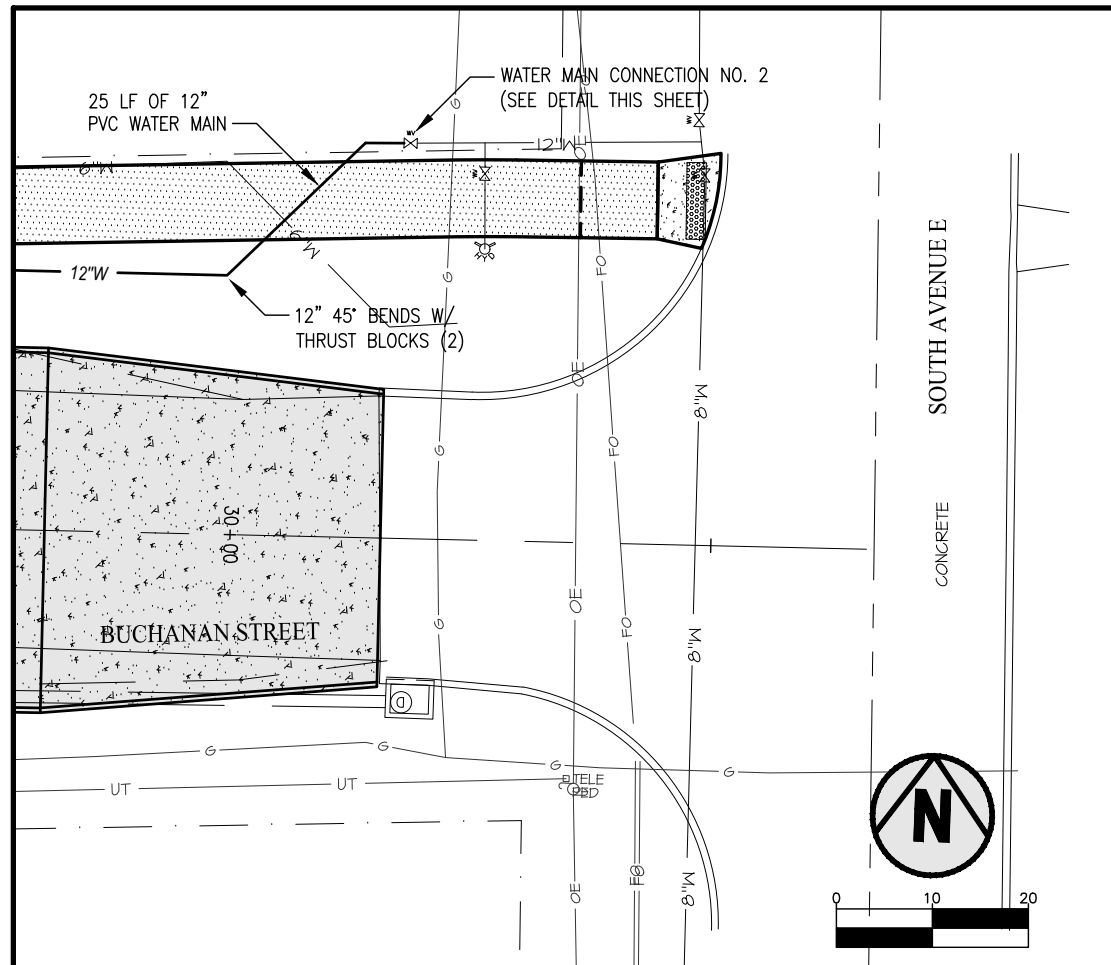




**WATER MAIN PLAN**

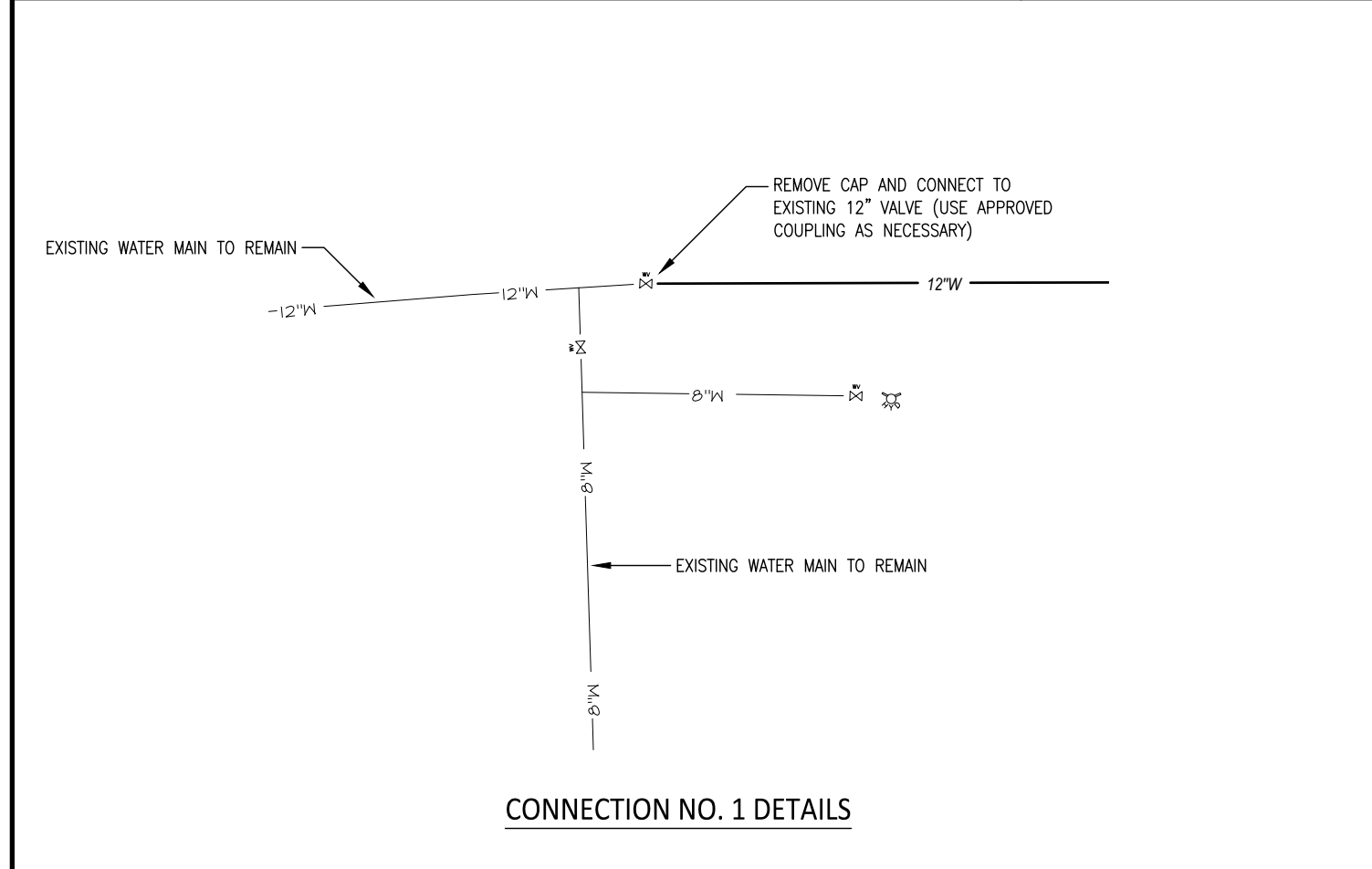


**WATER MAIN PLAN**

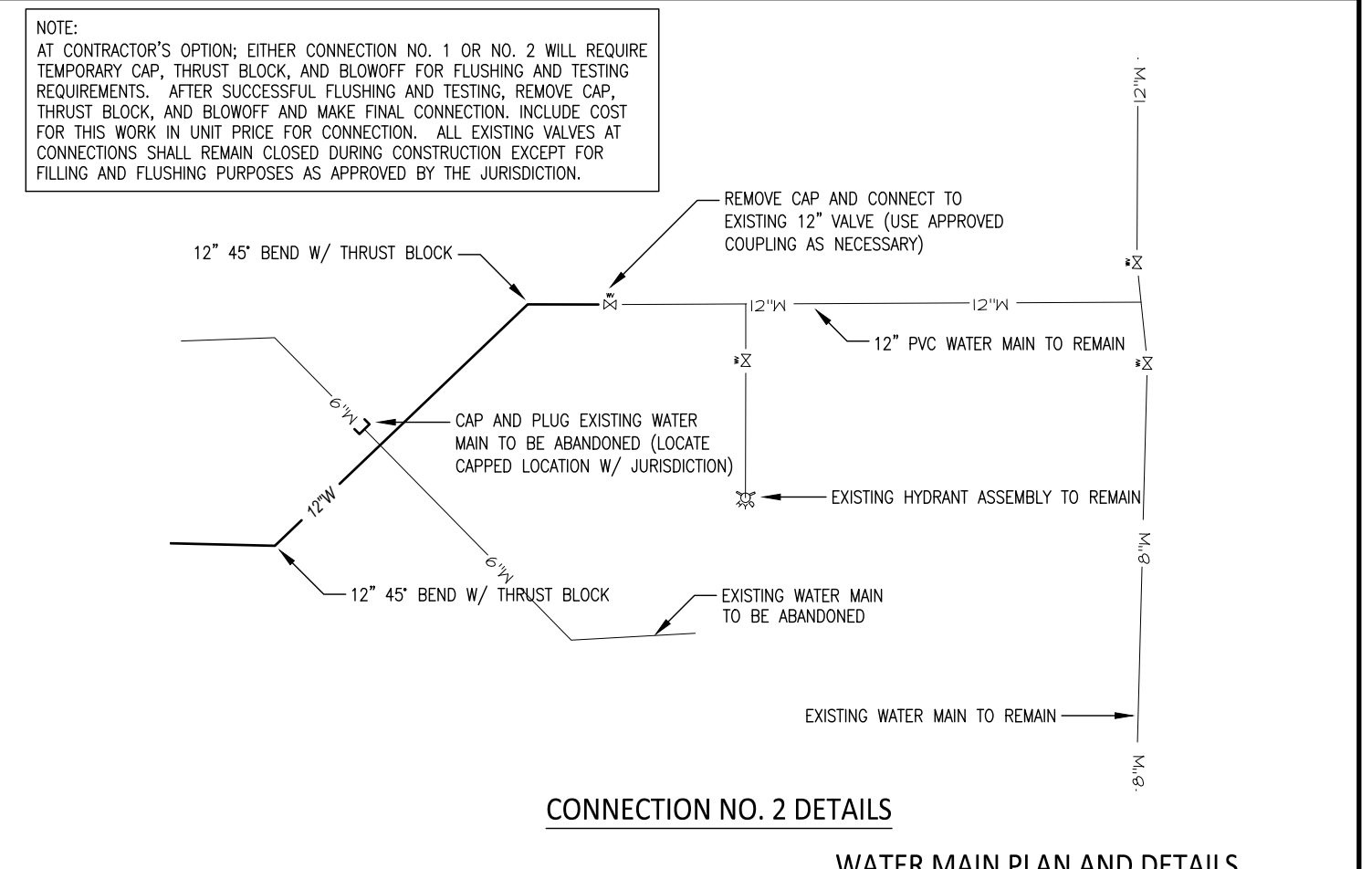


**WATER MAIN: CONSTRUCTION AND GENERAL NOTES**

1. COORDINATE ALL SHUTDOWN REQUESTS WITH THE JURISDICTION. CONTRACTOR SHALL NOT OPERATE EXISTING VALVES AND HYDRANTS UNLESS APPROVED BY THE JURISDICTION.
2. EXISTING WATER MAIN AND SERVICES SHALL REMAIN IN OPERATION UNTIL NEW WATER MAIN IS INSTALLED AND SUCCESSFULLY DISINFECTED AND PRESSURE TESTED.
3. THERE IS AN ABANDONED 4" CAST IRON PIPE WATER MAIN THAT MAY BE ENCOUNTERED DURING CONSTRUCTION. PREVIOUS KNOWN LOCATION INFORMATION SUGGESTS IT LIES TO THE SOUTH OF THE EXISTING 6" PVC WATER MAIN TO BE ABANDONED. ANY PREVIOUSLY ABANDONED PIPE ENCOUNTERED SHALL BE DISPOSED OF BY THE CONTRACTOR. THIS WORK IS INCIDENTAL TO CONSTRUCTION.
4. THE JURISDICTION WILL DELIVER 500 LF OF 12" C900 PVC WATER MAIN TO THE PROJECT SITE FOR INSTALLATION BY THE CONTRACTOR. SEE ESTIMATE REFERENCE INFORMATION FOR ADDITIONAL INFORMATION.
5. IT IS BELIEVED THAT THE NEW MAIN WILL LIE ON THE SOUTH SIDE OF THE EXISTING 6" ACTIVE WATER MAIN. THE INTENT OF WATER SERVICE CONNECTIONS TO NEW WATER MAIN SHALL BE TO DISCONNECT THE EXISTING 1" COPPER SERVICE LINES FROM EXISTING 6" MAIN, CUT TO NEW REQUIRED (SHORTER) LENGTH AND CONNECT TO NEW CORPORATION STOP ON NEW 12" WATER MAIN WITH BRASS FITTINGS IF REQUIRED (ONLY SADDLE AND CORPORATION STOP ARE INTENDED TO BE NEW MATERIALS).
6. WATER SERVICE MATERIALS SHALL BE AS FOLLOWS:
  - 6.1. SERVICE SADDLE: SMITH BLAIR 317 OR APPROVED EQUAL
  - 6.2. CORPORATION VALVE: MUELLER H1502-2 OR H-1504-1 OR APPROVED EQUAL
  - 6.3. SERVICE PIPE: TYPE K COPPER
  - 6.4. CURB STOP: MUELLER H1502-2 OR H-1504-1 OR APPROVED EQUAL
  - 6.5. CURB STOP BOX: TYLER UNION OR APPROVED EQUAL WITH STAINLESS STEEL OPERATING ROD
7. WATER VALVES SHALL BE KENNEDY RESILIENT WEDGE GATE VALVES; C509 OR C515.
8. FIRE HYDRANT SHALL BE MUELLER SUPER CENTURION OR WATEROUS PACER (WITH PUMPER AND HOSE NOZZLES). COLOR: YELLOW.



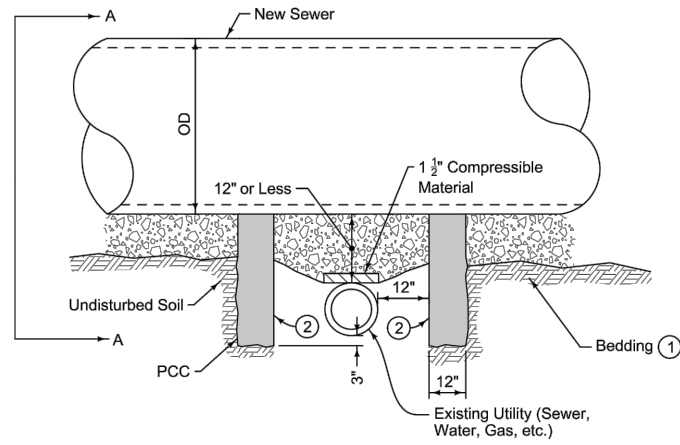
**CONNECTION NO. 1 DETAILS**



NOTE:  
 AT CONTRACTOR'S OPTION; EITHER CONNECTION NO. 1 OR NO. 2 WILL REQUIRE TEMPORARY CAP, THRUST BLOCK, AND BLOWOFF FOR FLUSHING AND TESTING REQUIREMENTS. AFTER SUCCESSFUL FLUSHING AND TESTING, REMOVE CAP, THRUST BLOCK, AND BLOWOFF AND MAKE FINAL CONNECTION. INCLUDE COST FOR THIS WORK IN UNIT PRICE FOR CONNECTION. ALL EXISTING VALVES AT CONNECTIONS SHALL REMAIN CLOSED DURING CONSTRUCTION EXCEPT FOR FILLING AND FLUSHING PURPOSES AS APPROVED BY THE JURISDICTION.

**CONNECTION NO. 2 DETAILS**

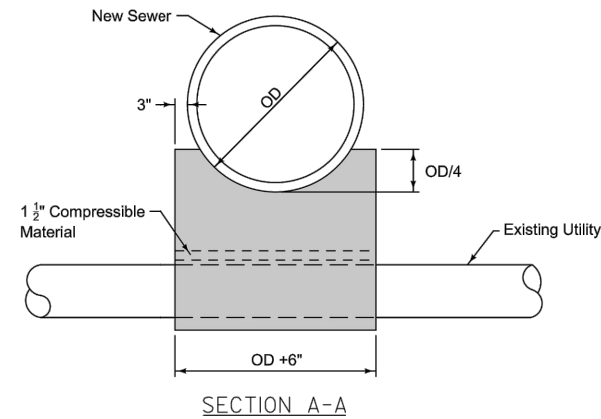
**WATER MAIN PLAN AND DETAILS**



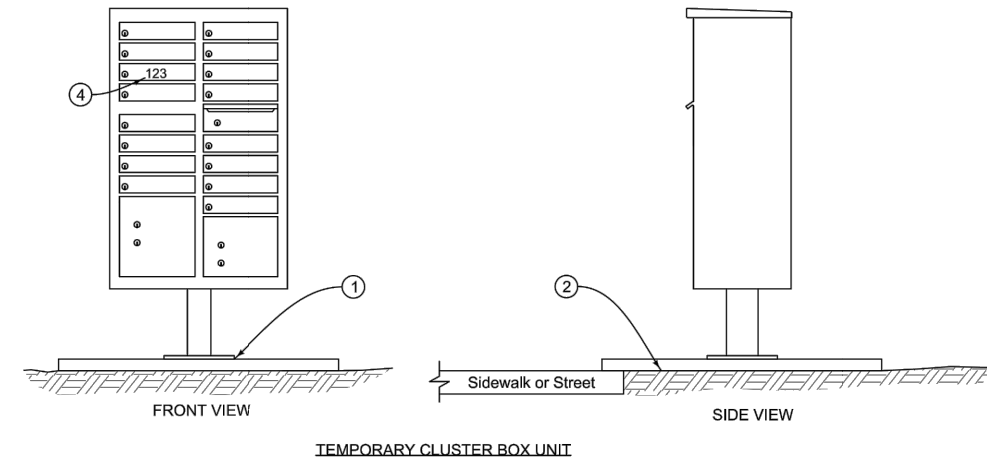
Install pipe support for all new sewers 12 inches in diameter or larger when clearance between bottom of new sewer and top of existing line is 12 inches or less.

- Comply with Figure 3010.101.
- Form interior surface of footings. Keep the 12 inch utility clear zone free of concrete.

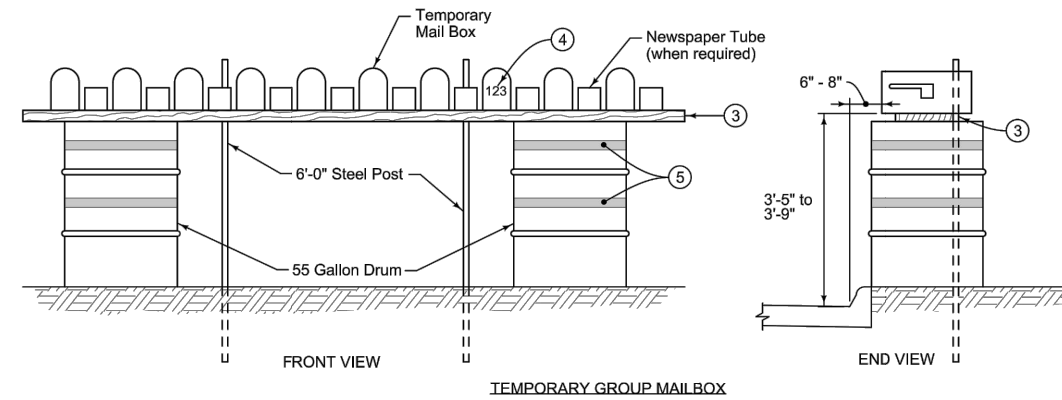
OD = Outside pipe diameter



REVISION	1	10-21-14
<b>3010.901</b>		
SHEET 1 of 1		
SEWER PIPE SUPPORT OVER EXISTING UTILITY LINE		



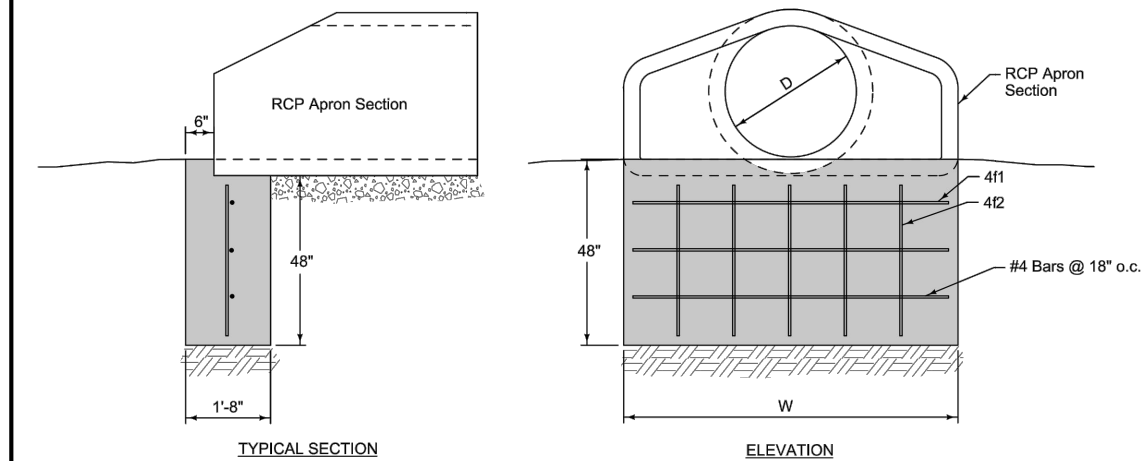
- Attach cluster box unit to a stable skid or anchor plate.
- Set cluster box on firm and level ground adjacent to sidewalk or street paving. Provide anchorage as needed to prevent overturning.
- Provide a 2 inch x 12 inch plank with length as required. Firmly attach mailboxes and newspaper tubes to plank. Secure plank to steel posts for lateral support.
- Label each mailbox with property address.
- Attach two bands of 2 inch wide reflectorized tape to each barrel.



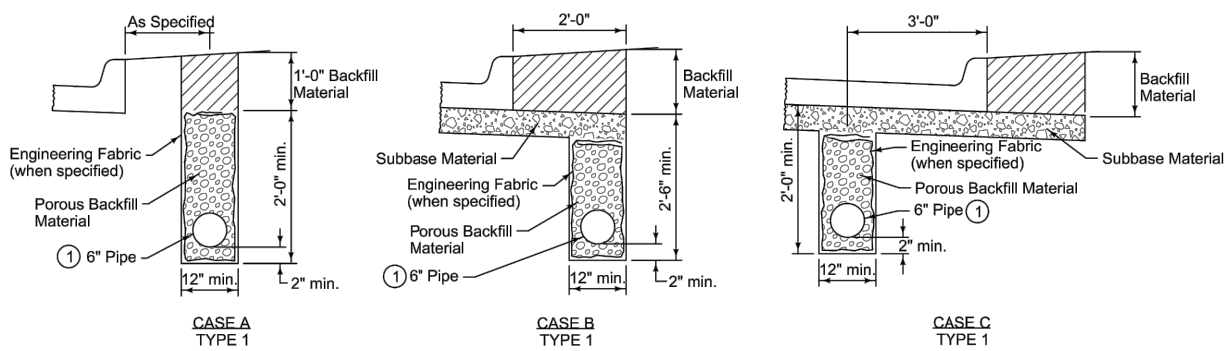
REVISION	1	10-18-16
<b>11030.101</b>		
SHEET 1 of 1		
TEMPORARY MAILBOXES		

FIGURE 3010.901 SHEET 1 OF 1

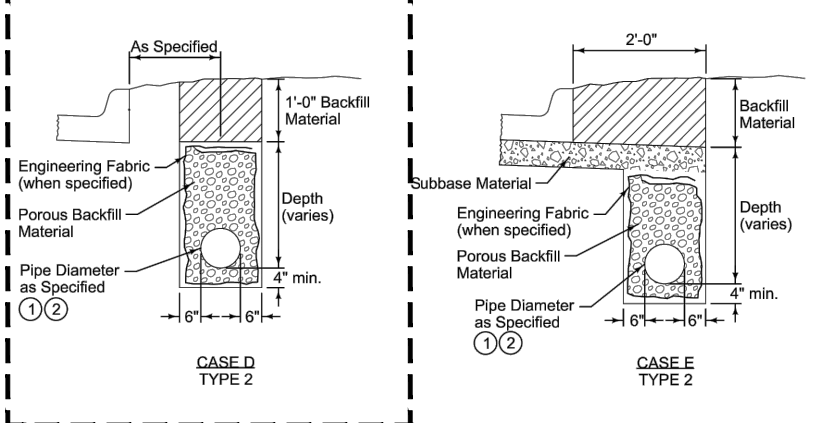
FIGURE 11030.101 SHEET 1 OF 1



REVISION	1	10-21-14
<b>4030.221</b>		
SHEET 1 of 1		
RCP APRON SECTION FOOTING		



CASE D TYPE 2 INSTALLATION FOR ITEM NO. 33 (LONGITUDINAL SUBDRAIN INSTALLATION SHALL BE PER SR PLAN DR-303 TYPE 12)



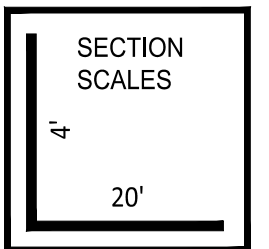
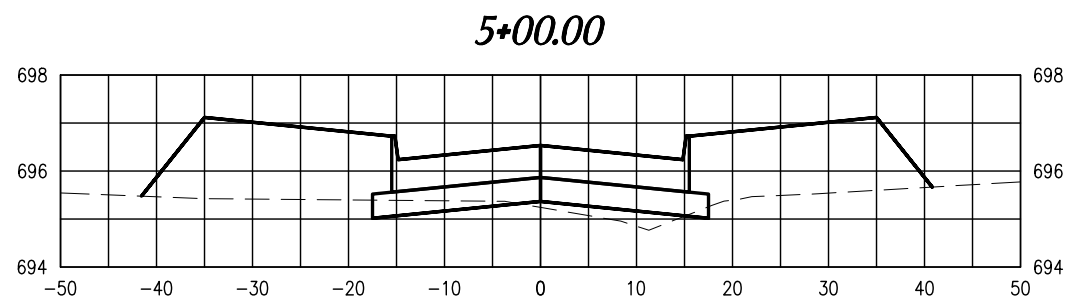
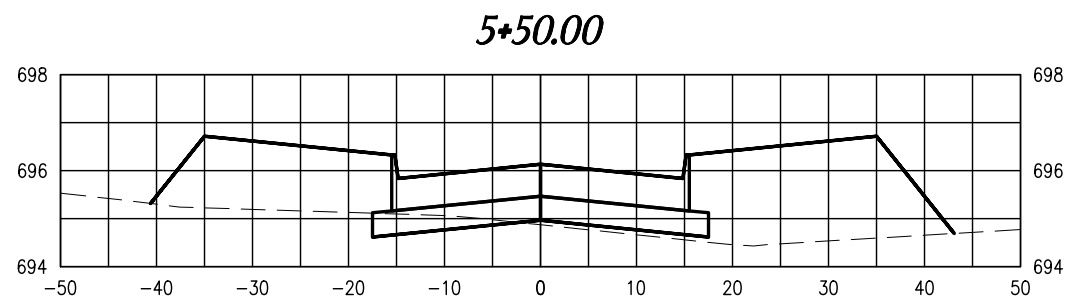
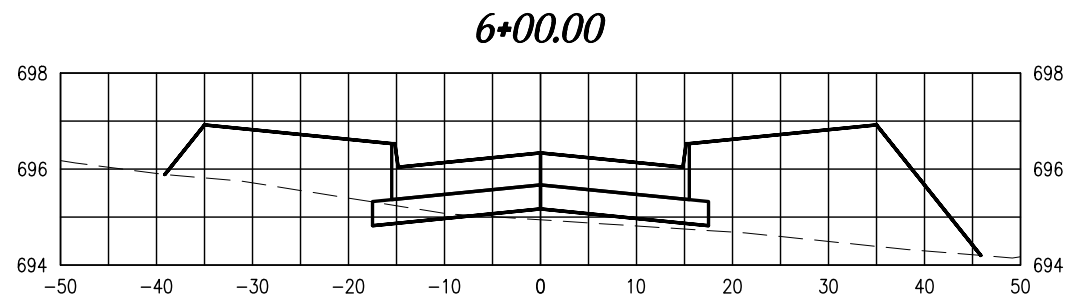
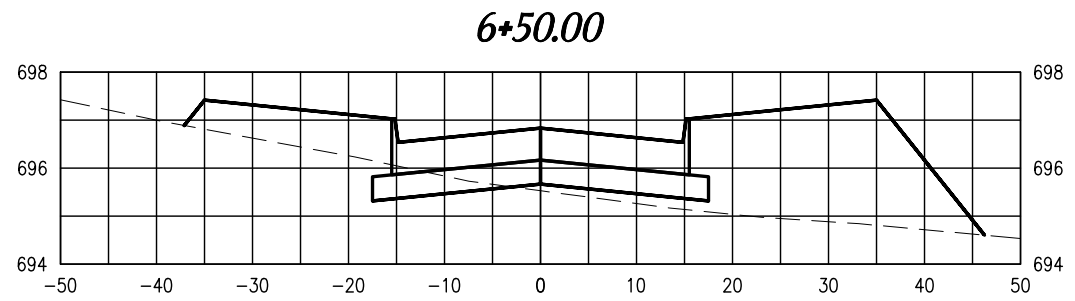
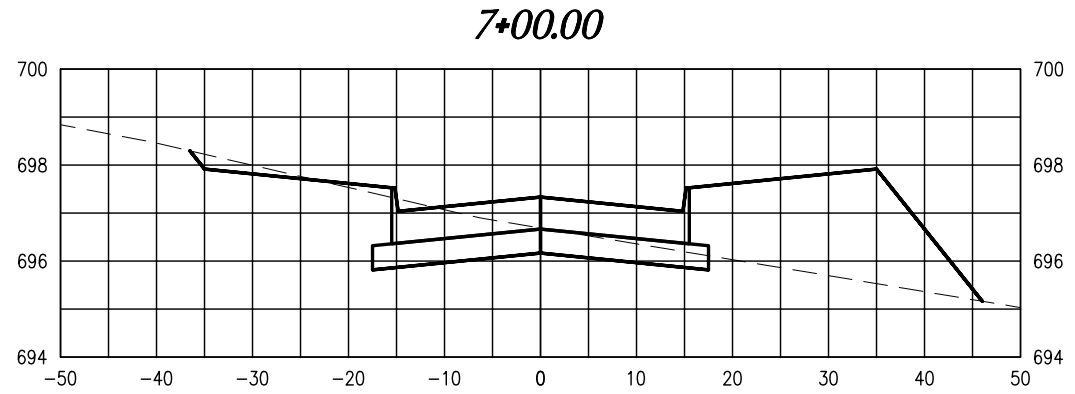
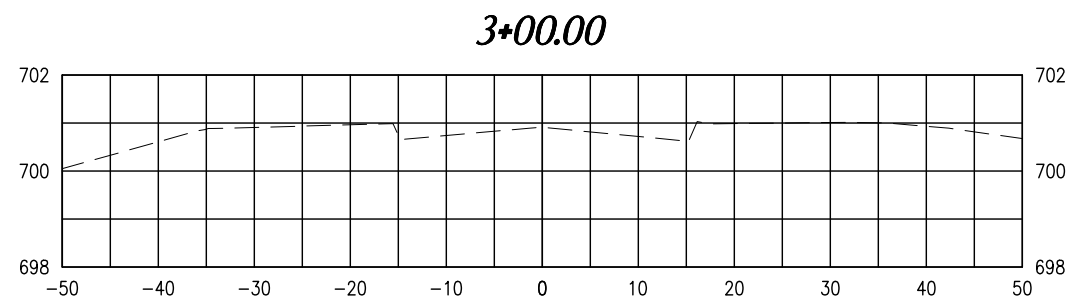
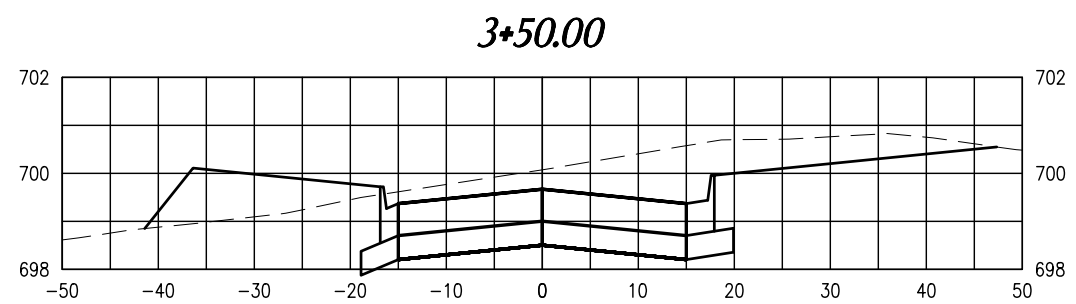
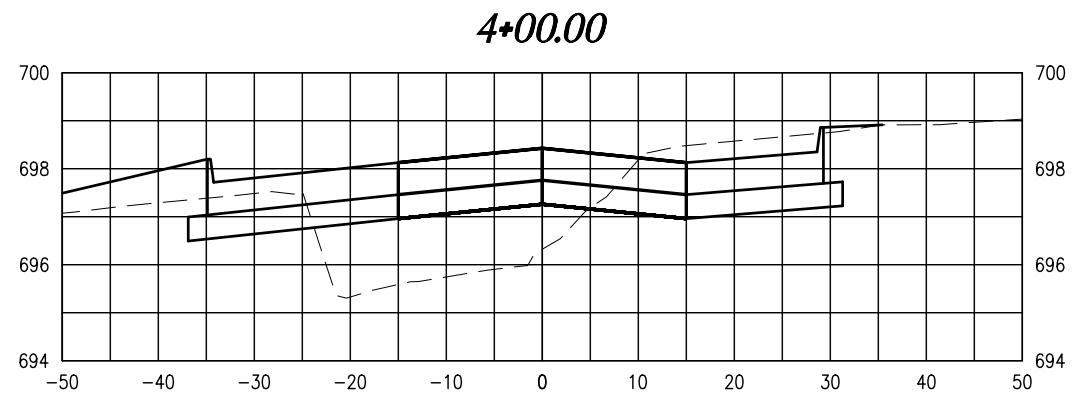
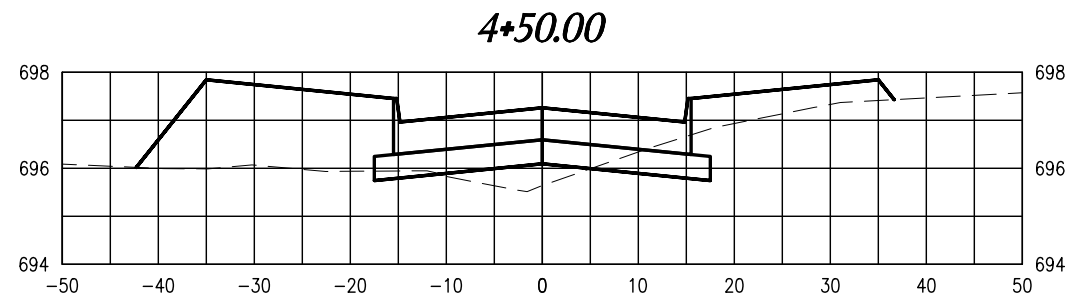
- Type 1 installation is for longitudinal subdrain only. Type 2 installation is for combination subdrain/footing drain collectors.
- Place perforations down for all installations.
  - When concrete pipe is specified, wrap pipe joints with engineering fabric. Do not apply joint sealant. Comply with Figure 4020.211

FIGURE 4030.221 SHEET 1 OF 1

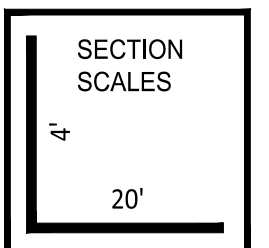
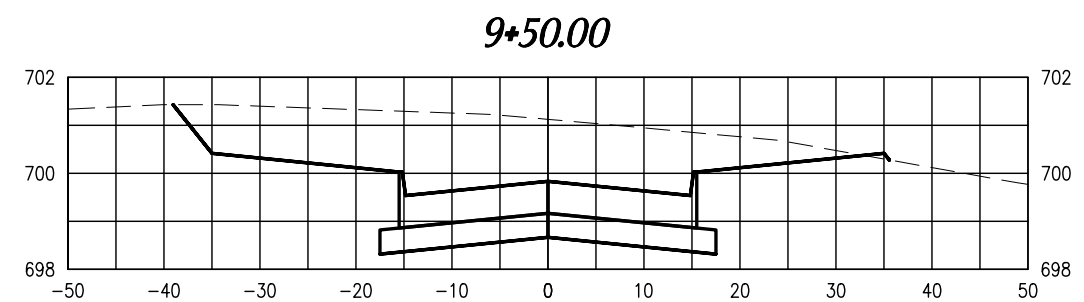
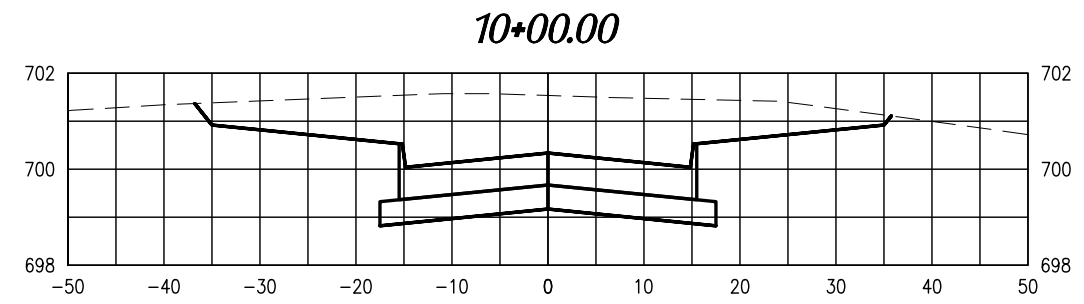
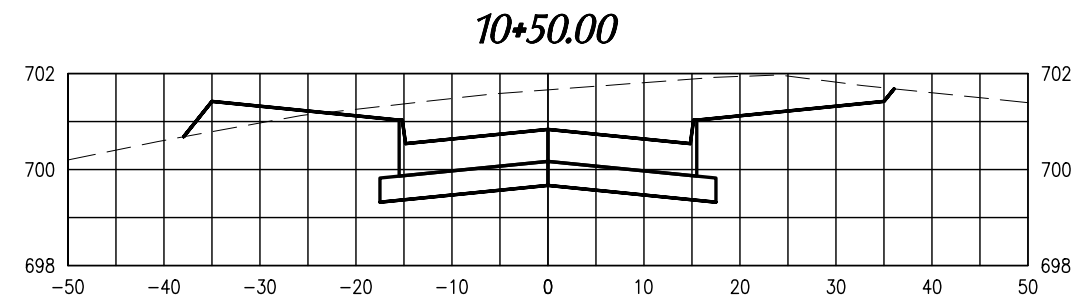
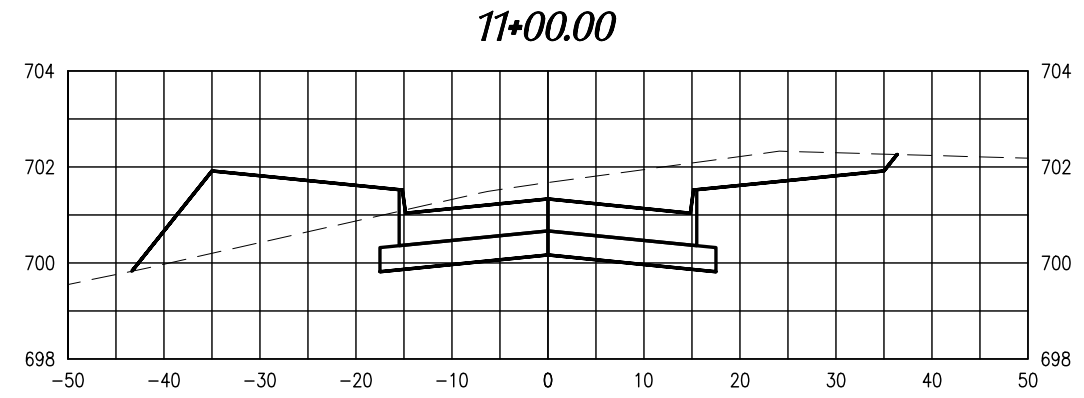
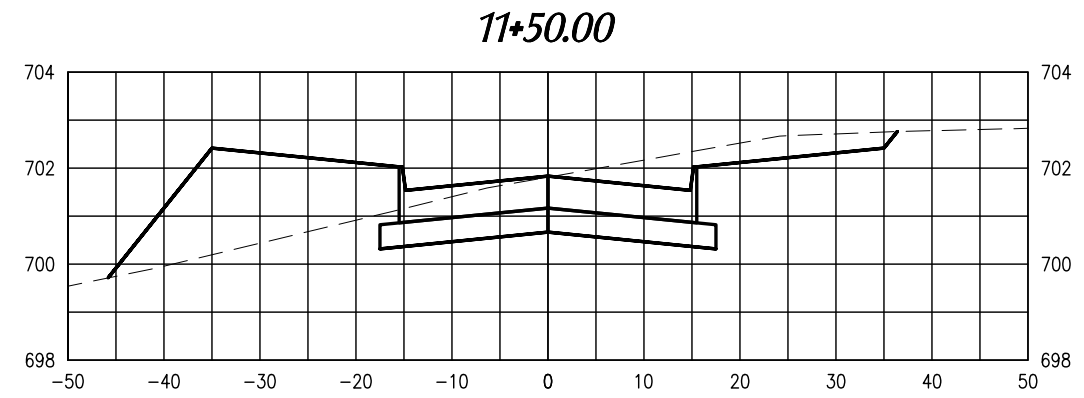
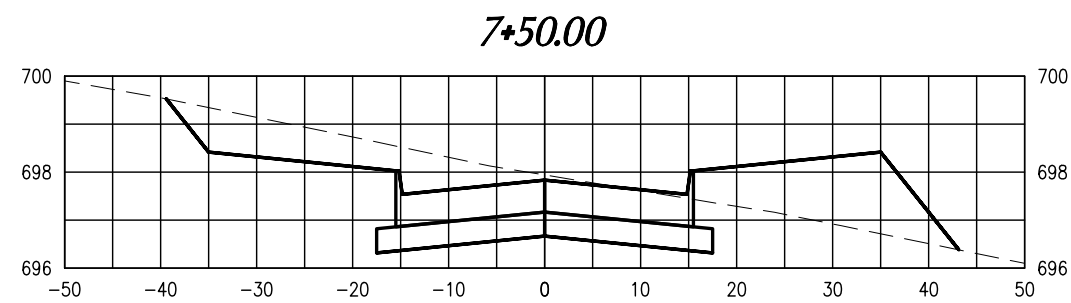
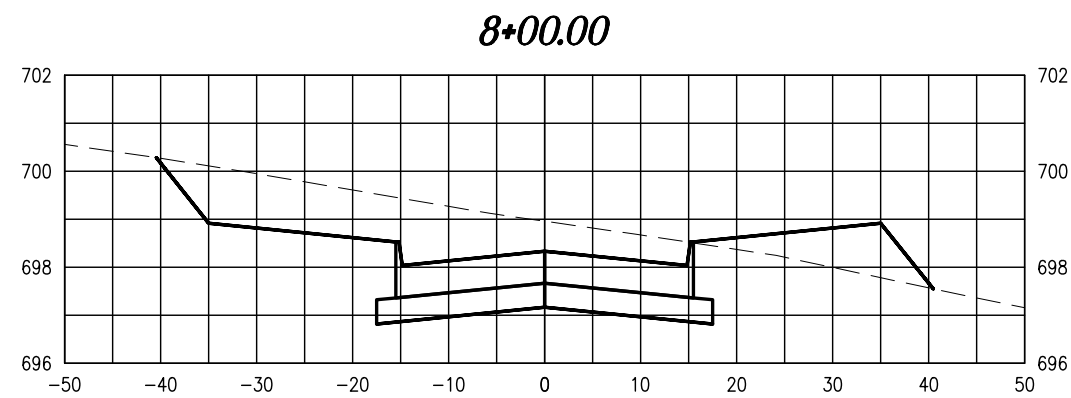
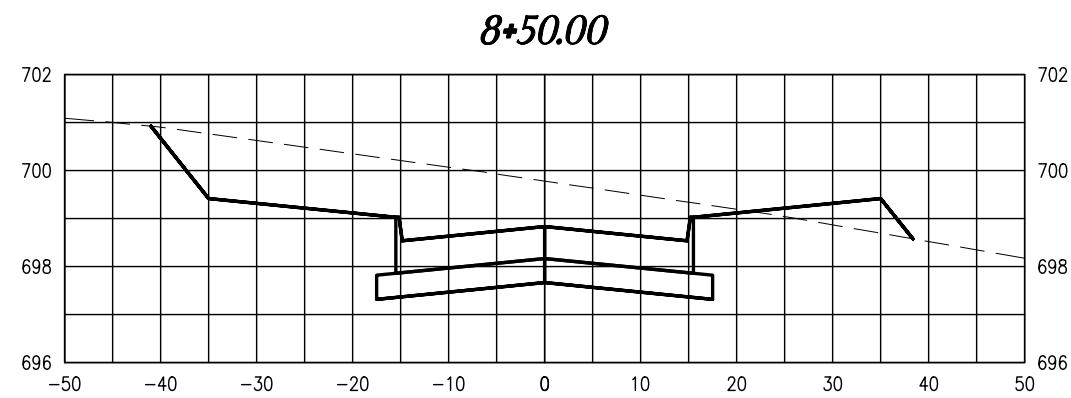
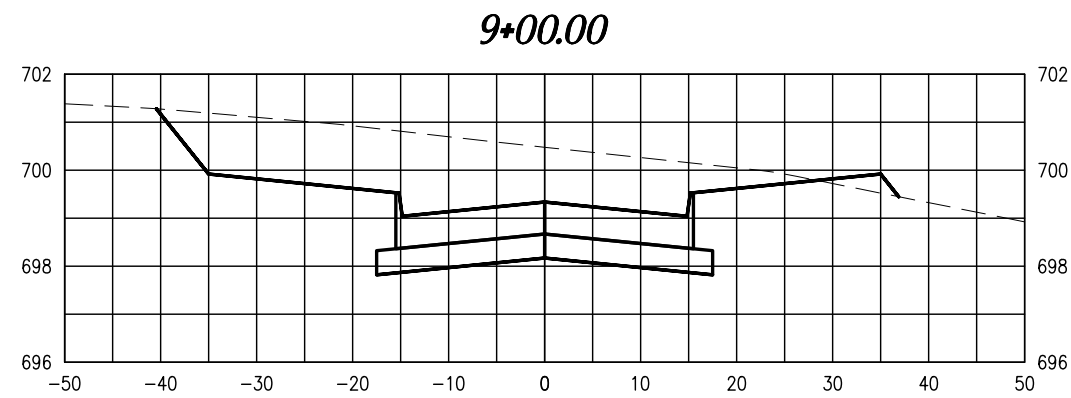
FIGURE 4040.231 SHEET 1 OF 1

REINFORCING BAR LIST						REINFORCING BAR LIST					
D	W	Mark	Size	Length	Count	D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3	48"	7'-10"	4f1	4	7'-6"	3
		4f2	4	3'-8"	2			4f2	4	3'-8"	6
15"	2'-10 1/2"	4f1	4	2'-6 1/2"	3	54"	8'-5"	4f1	4	8'-1"	3
		4f2	4	3'-8"	2	4f2	4	3'-8"	6		
18"	3'-5"	4f1	4	3'-1"	3	60"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	3	4f2	4	3'-8"	6		
24"	4'-6"	4f1	4	4'-2"	3	66"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	3	4f2	4	3'-8"	6		
30"	5'-7"	4f1	4	5'-3"	3	72"	10'-0"	4f1	4	9'-8"	3
		4f2	4	3'-8"	4	4f2	4	3'-8"	7		
36"	6'-8"	4f1	4	6'-4"	3	78"	10'-7"	4f1	4	10'-3"	3
		4f2	4	3'-8"	5	4f2	4	3'-8"	7		
42"	7'-3"	4f1	4	6'-11"	3	84"	11'-1"	4f1	4	10'-9"	3
		4f2	4	3'-8"	5	4f2	4	3'-8"	8		

REVISION	1	10-21-14
<b>4040.231</b>		
SHEET 1 of 1		
SUBDRAINS		

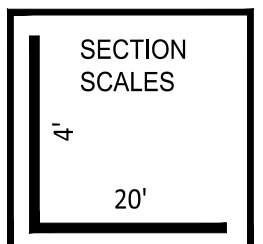
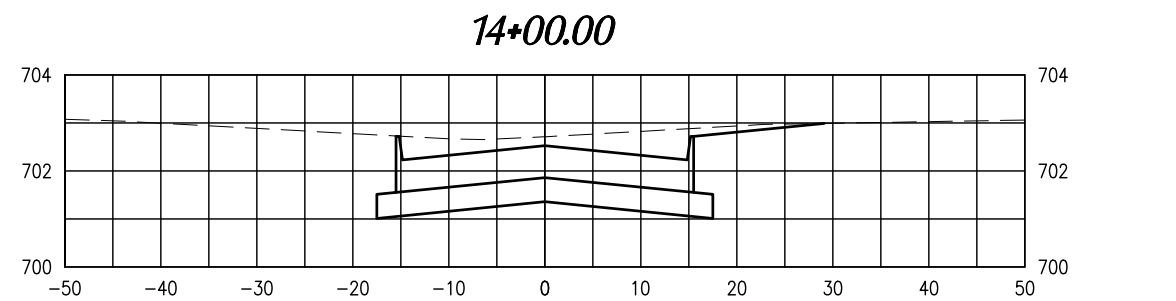
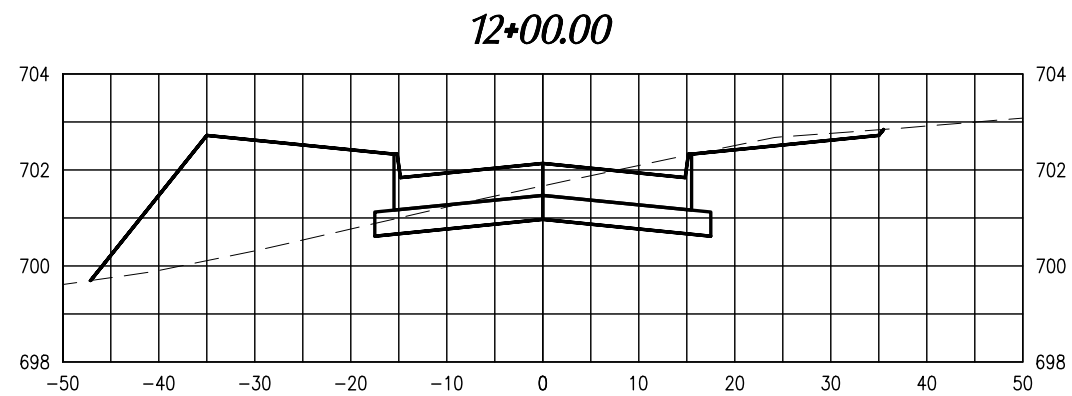
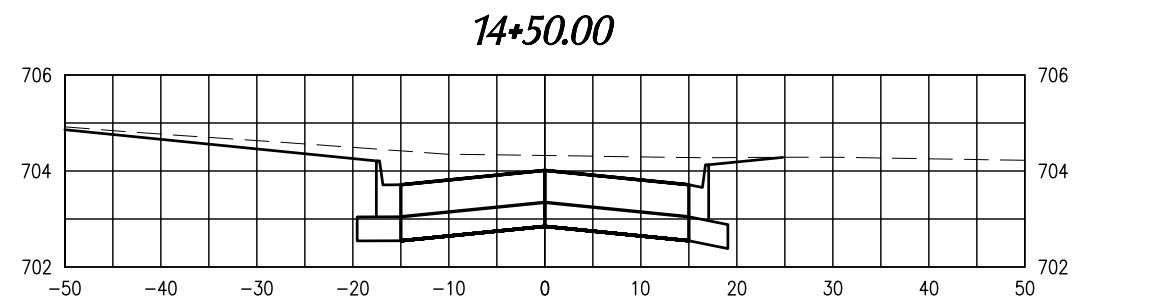
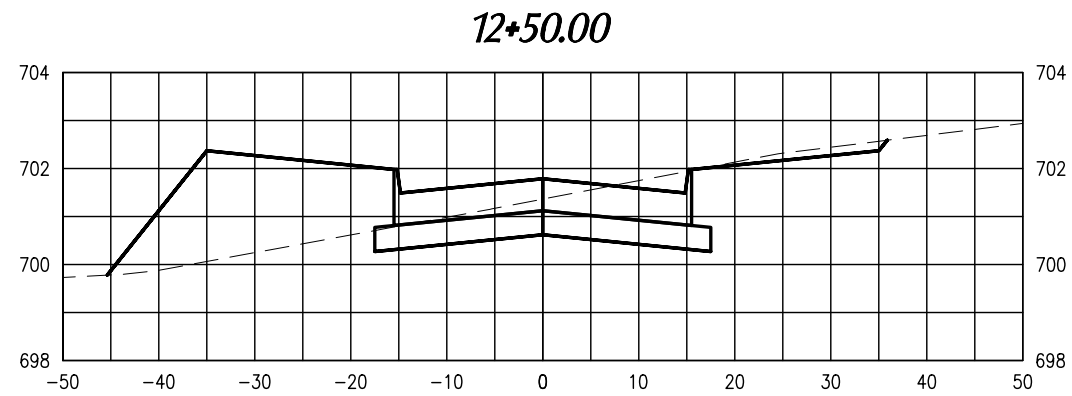
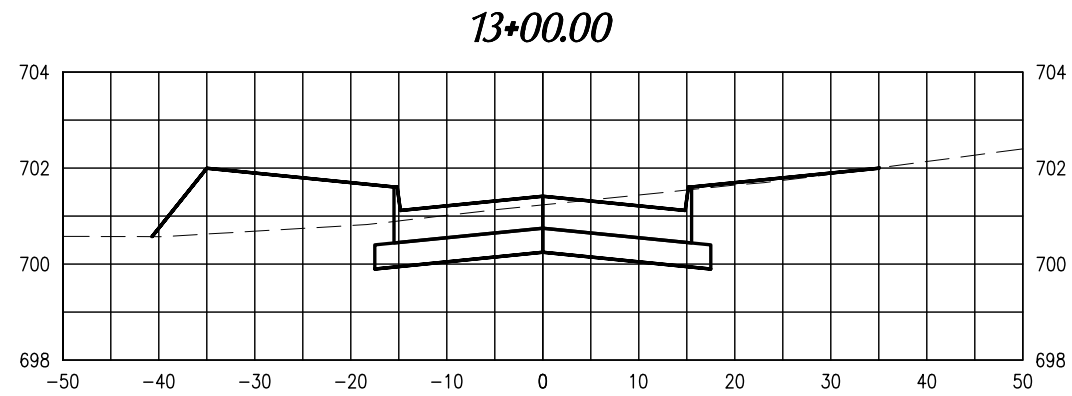
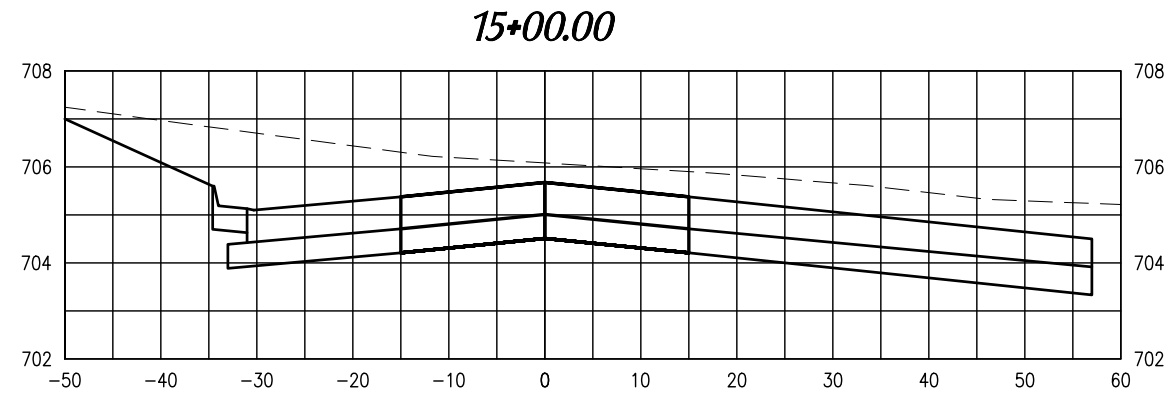
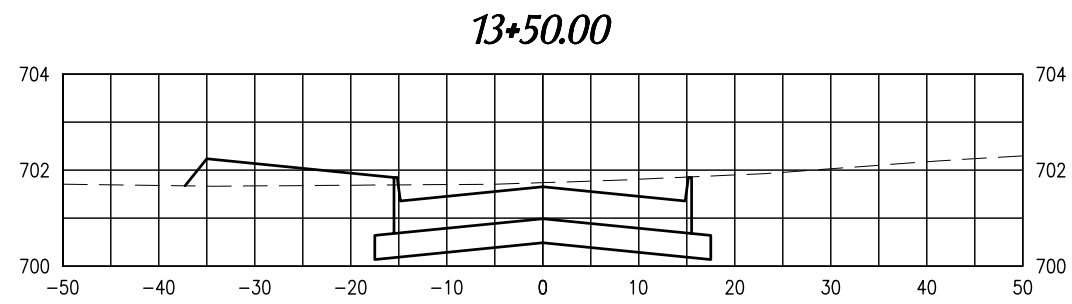


**CROSS SECTIONS - PROPOSED BUCHANAN ST.**

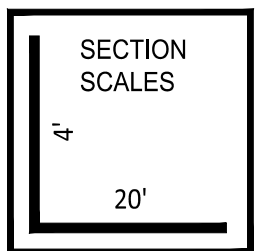
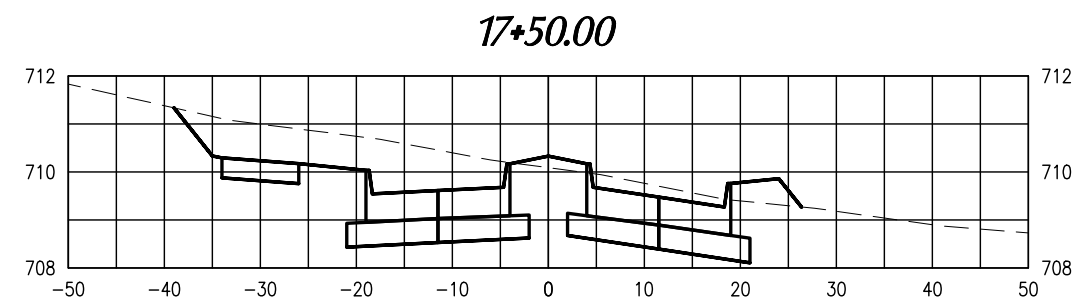
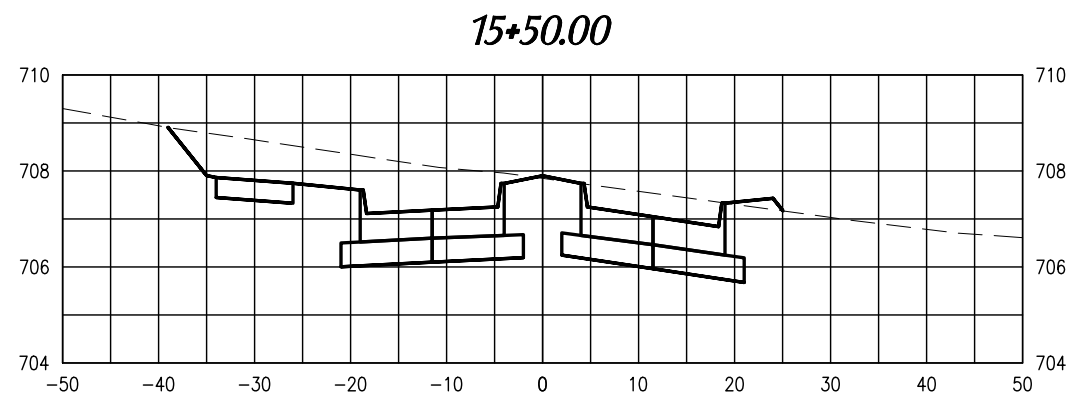
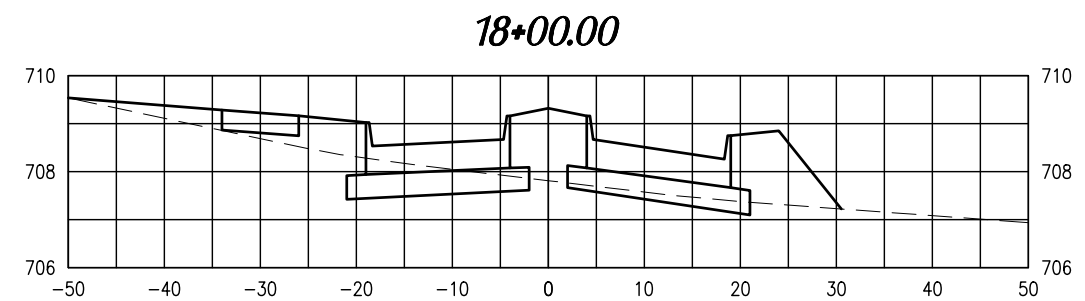
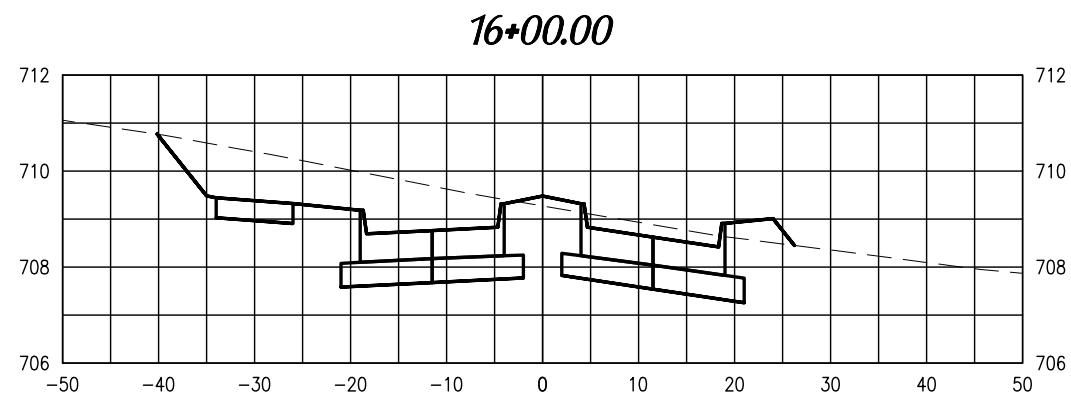
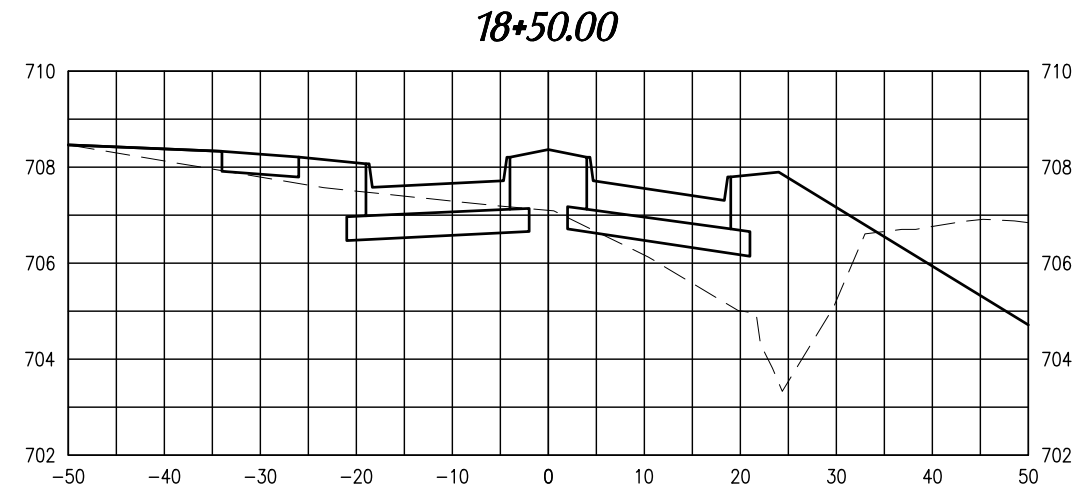
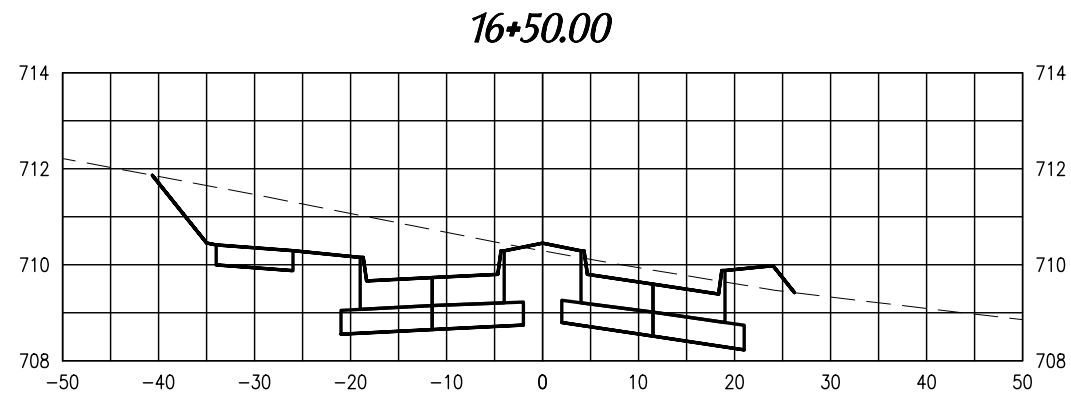
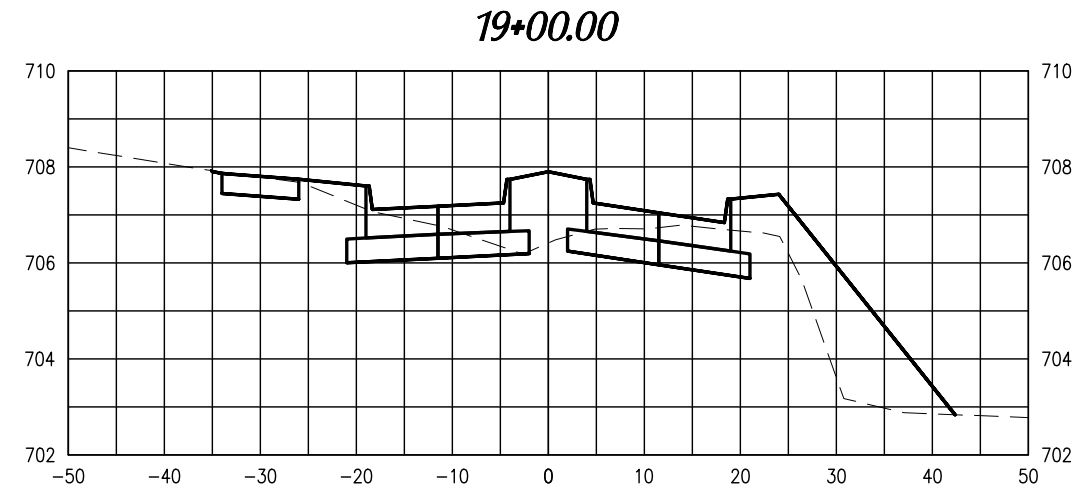
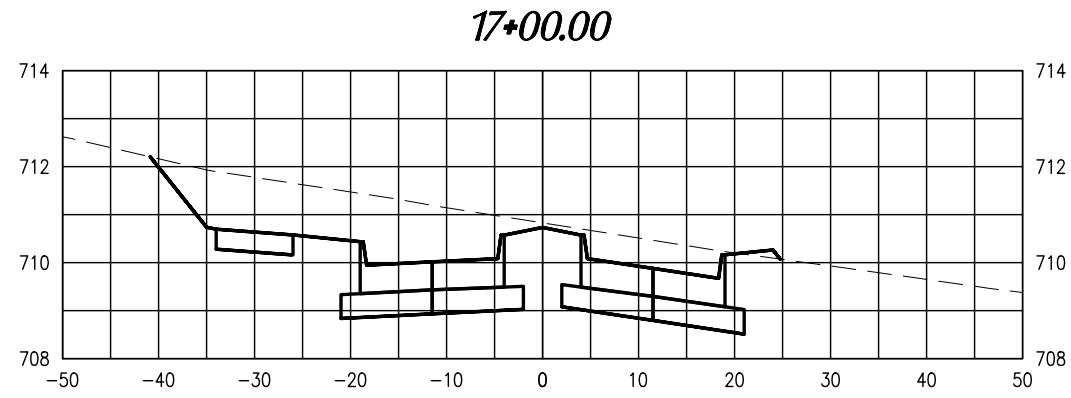


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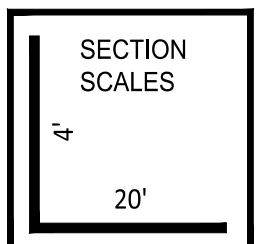
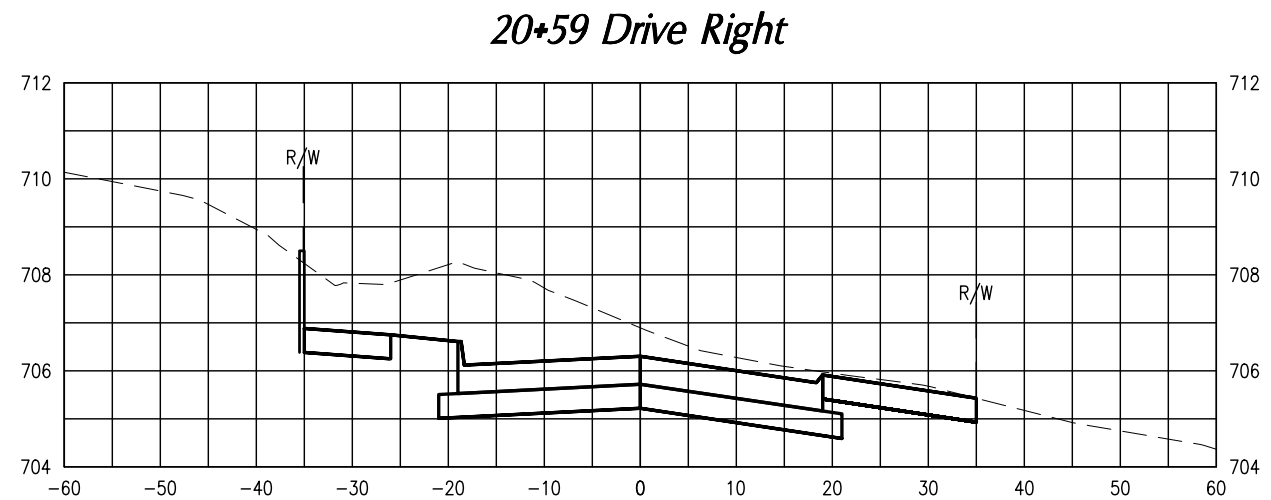
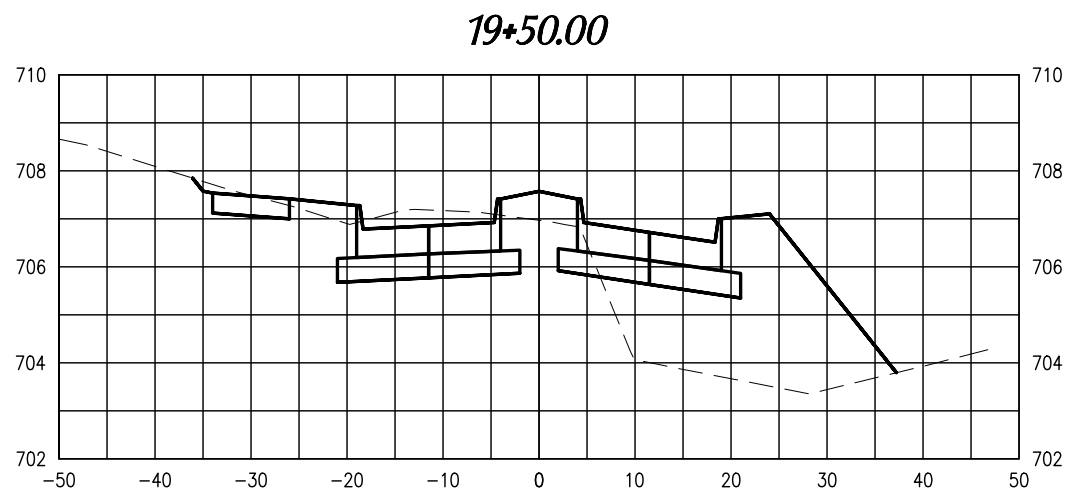
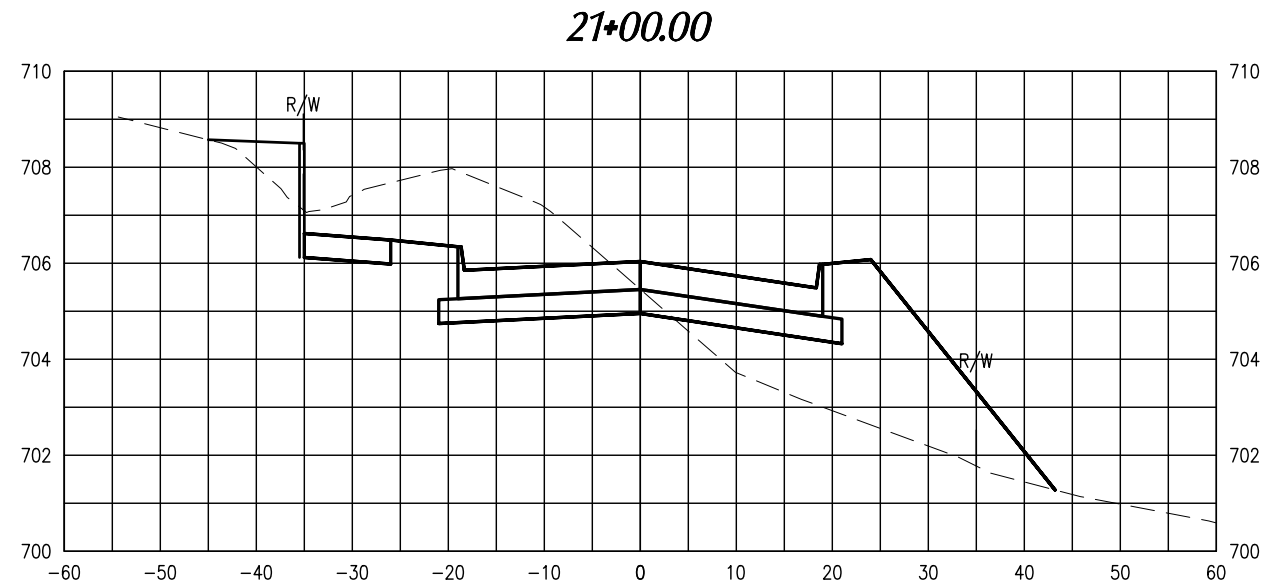
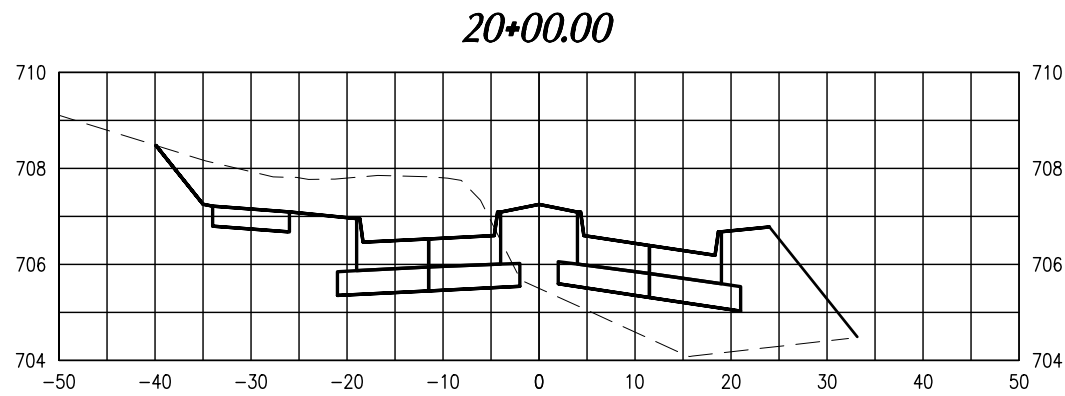
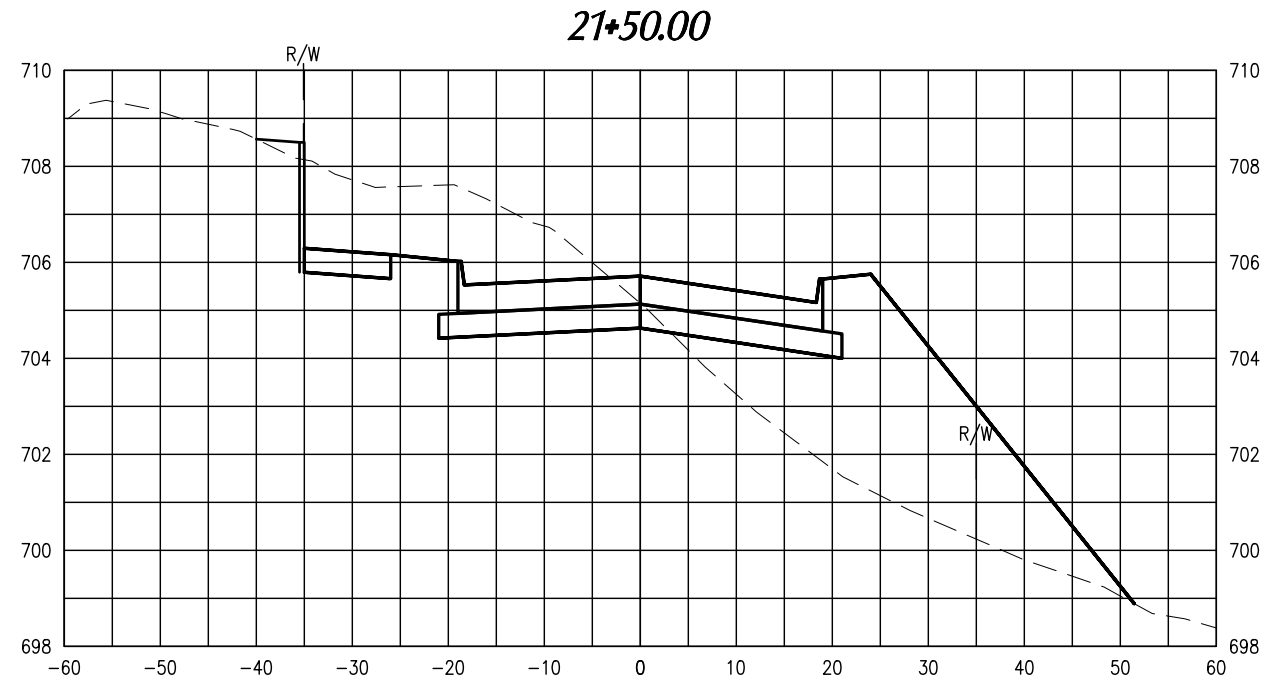
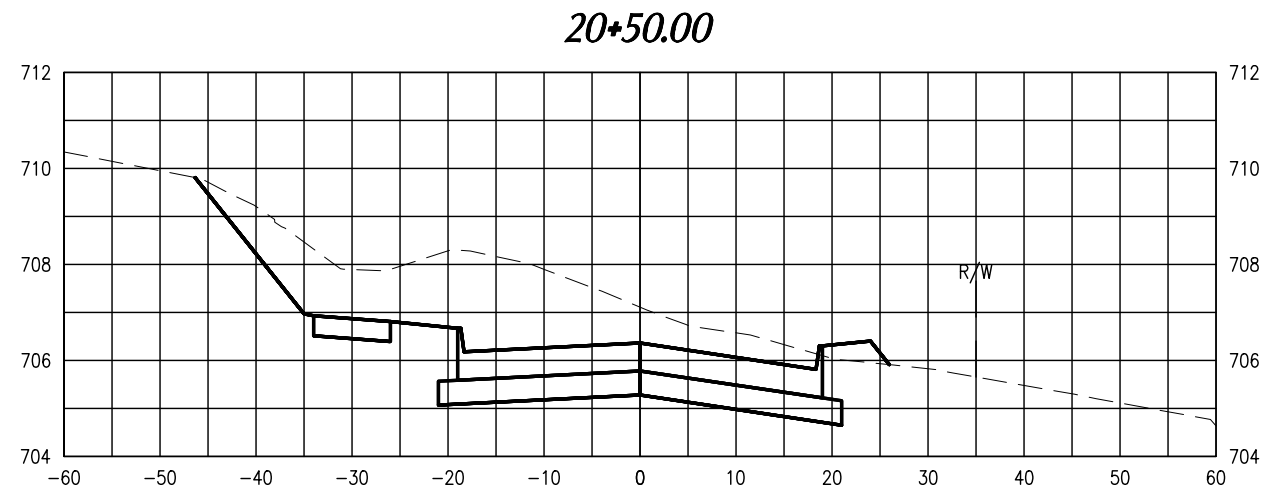




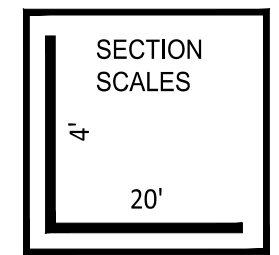
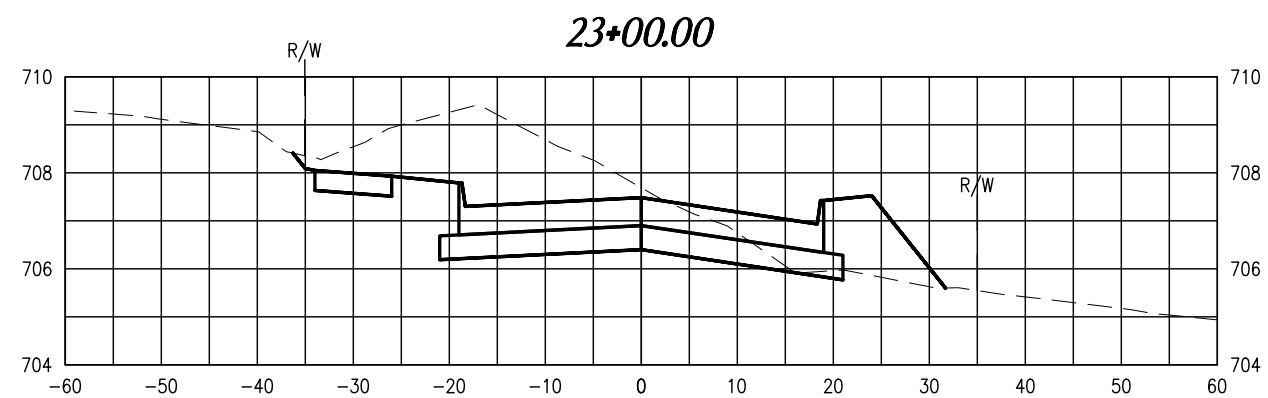
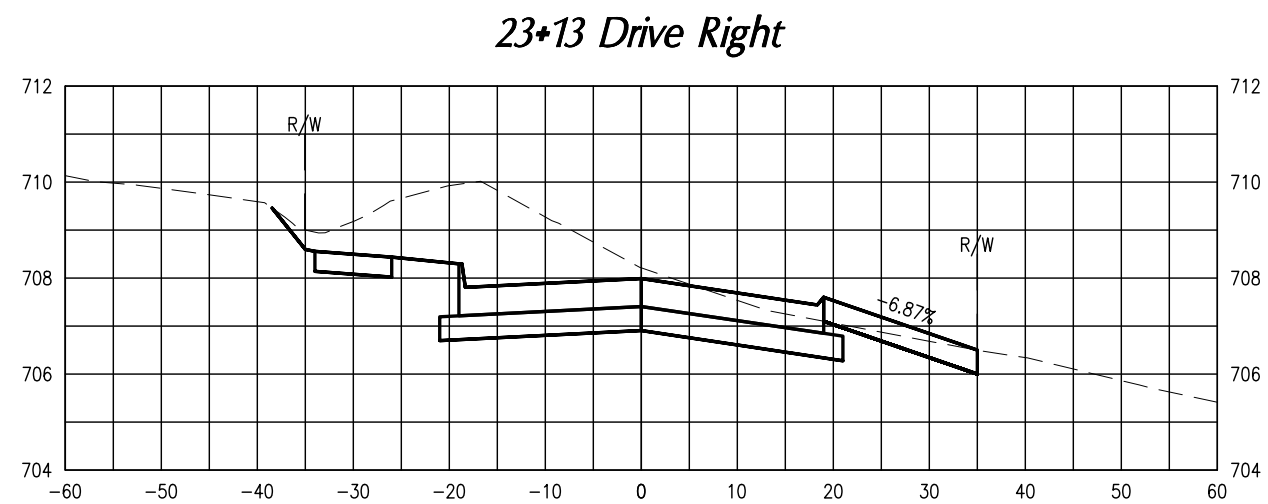
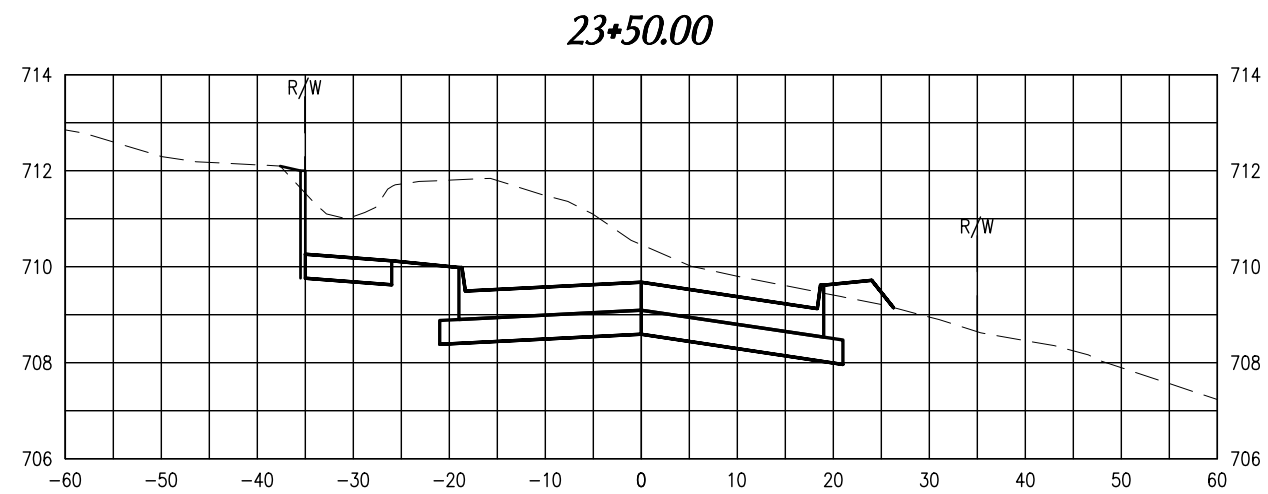
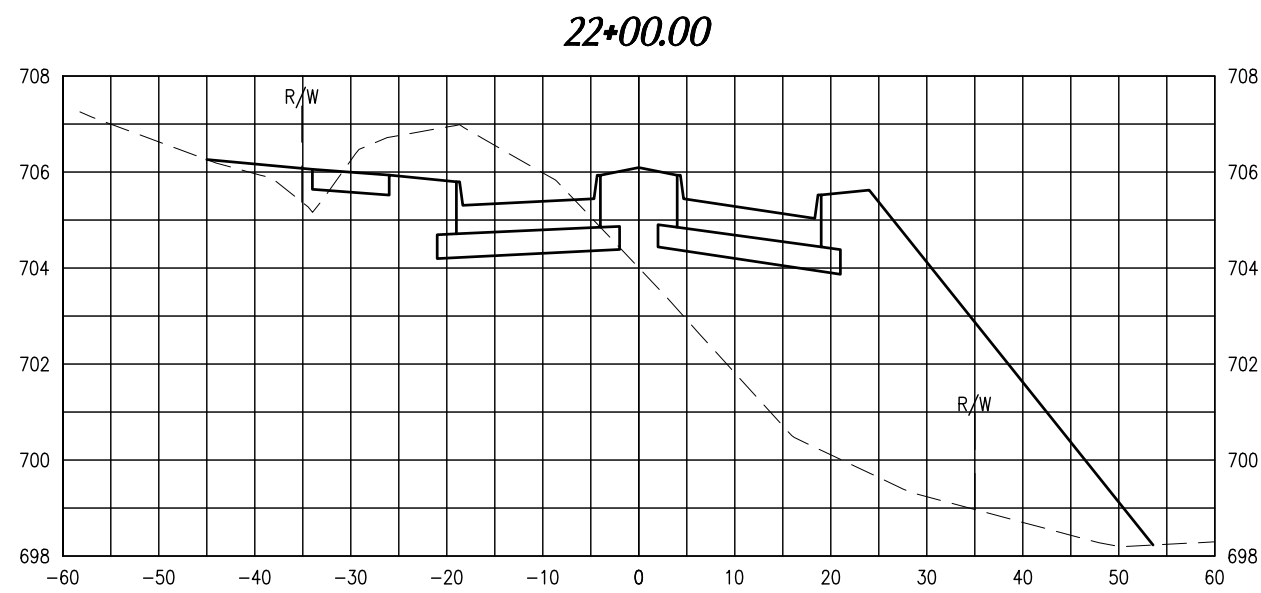
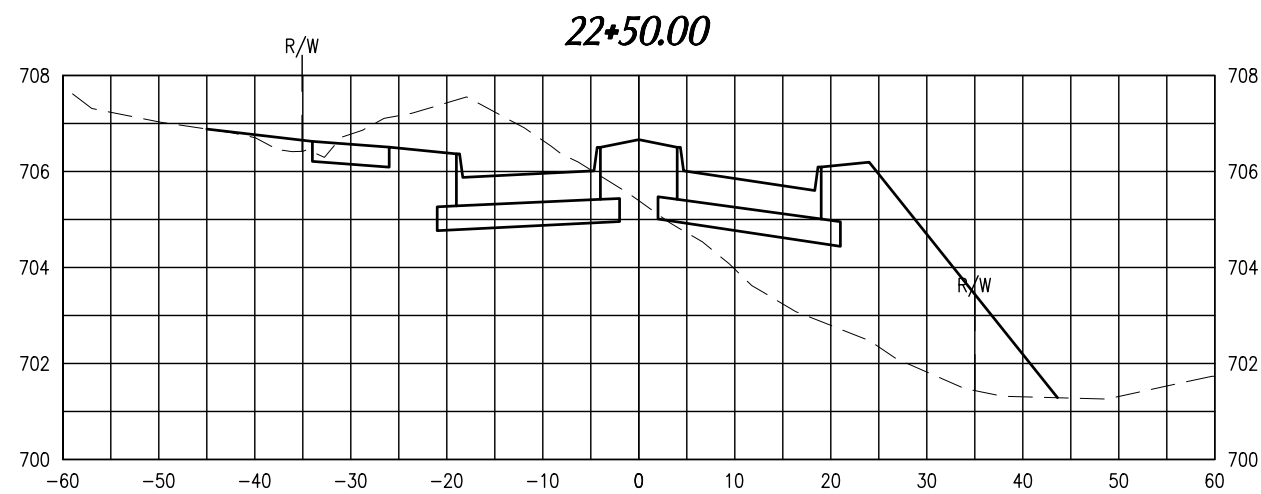
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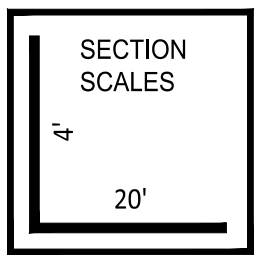
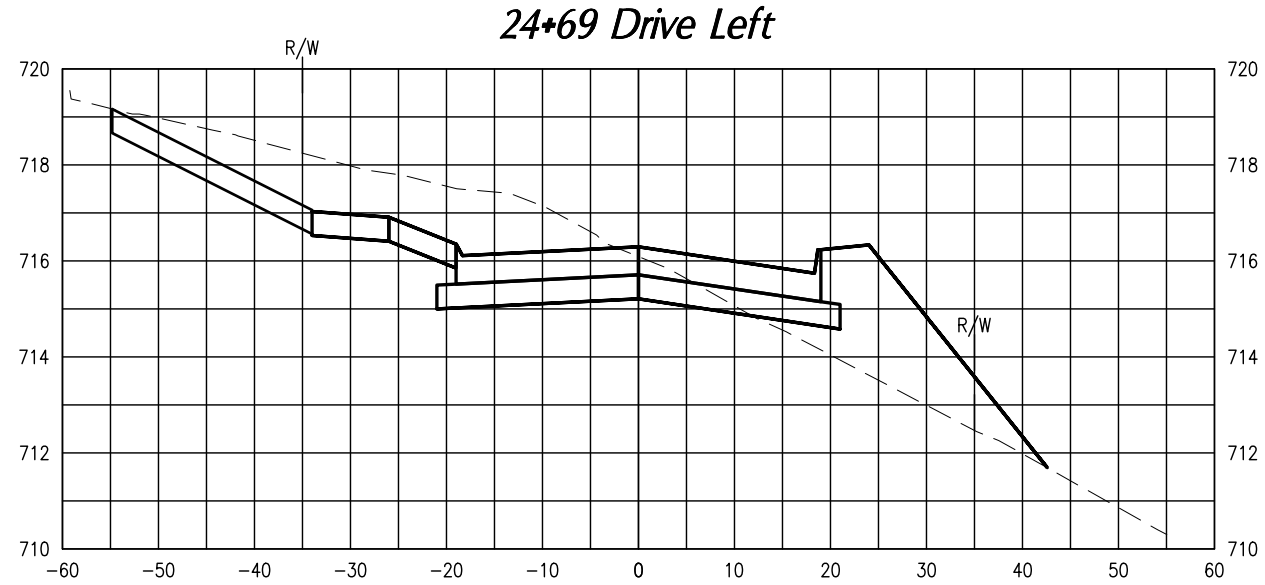
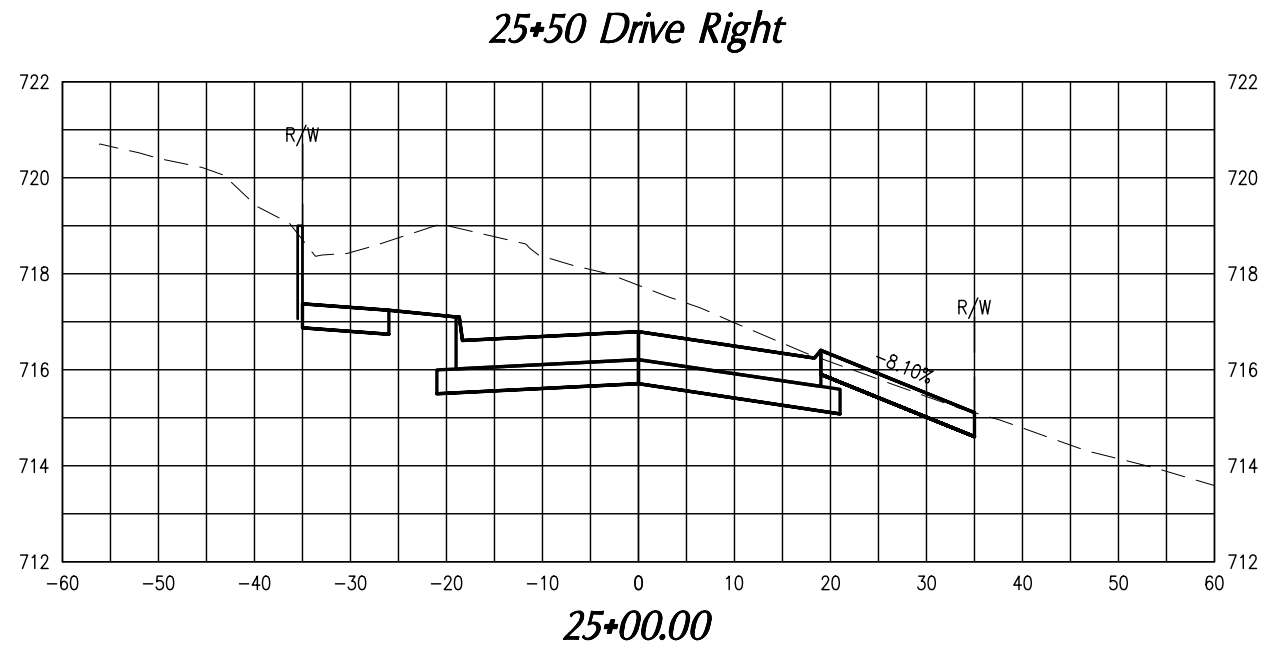
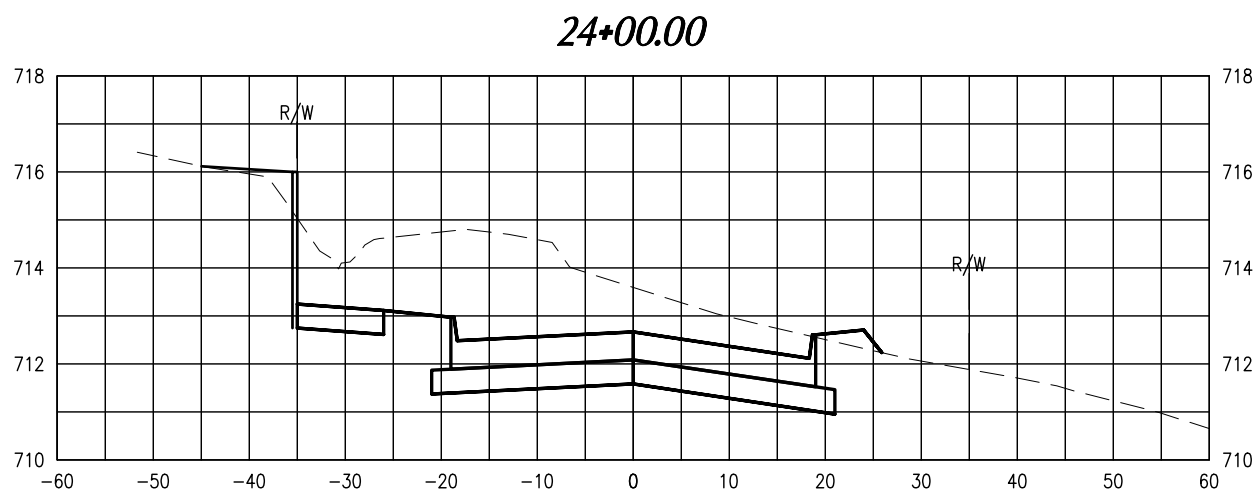
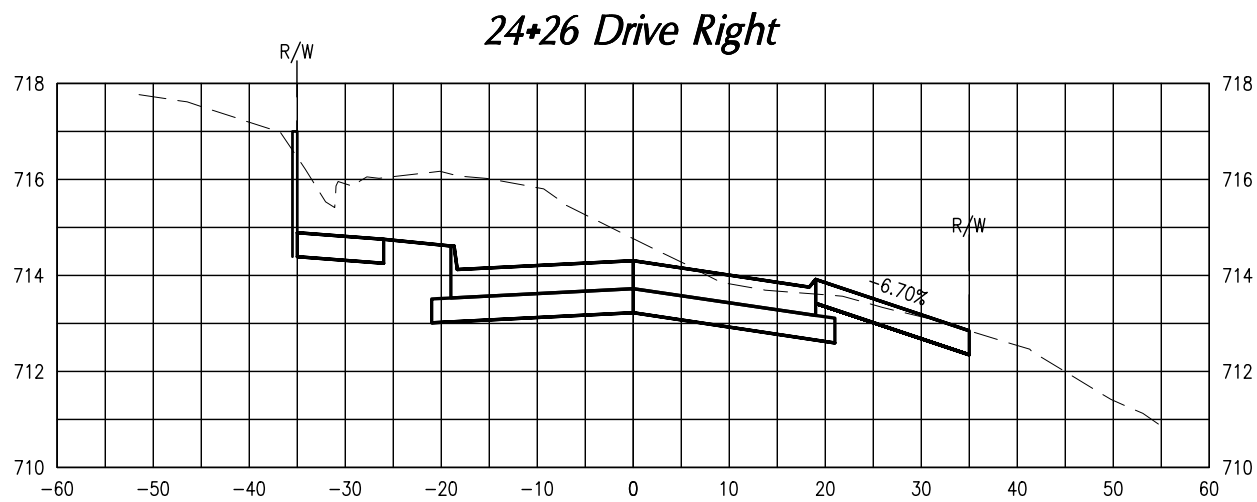
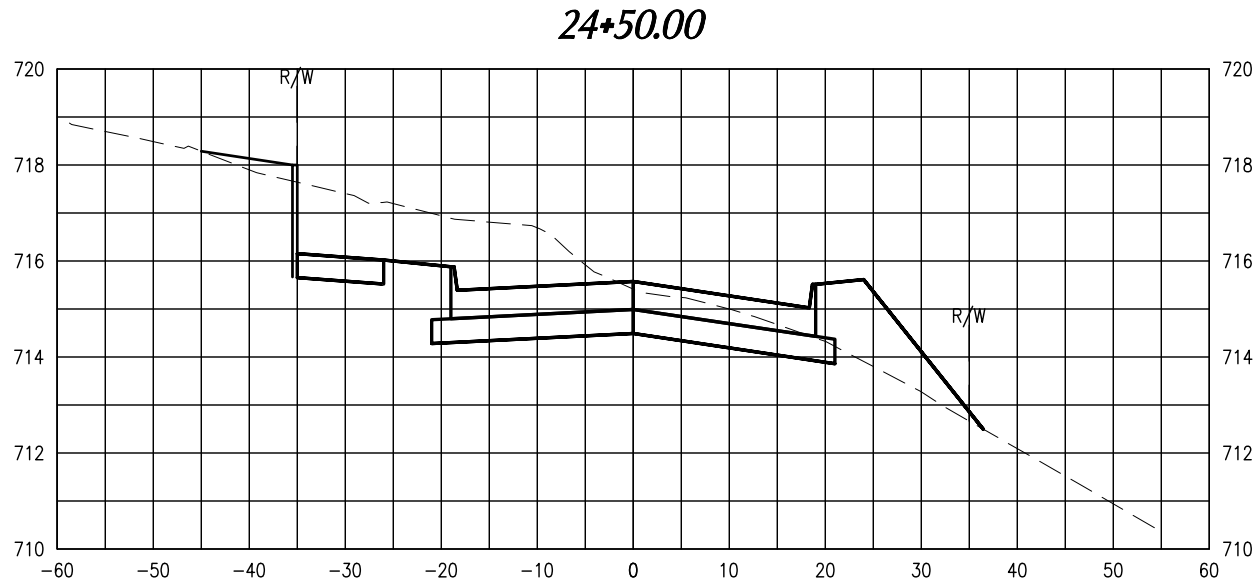
**CROSS SECTIONS - PROPOSED BUCHANAN ST.**



CROSS SECTIONS - PROPOSED BUCHANAN ST.

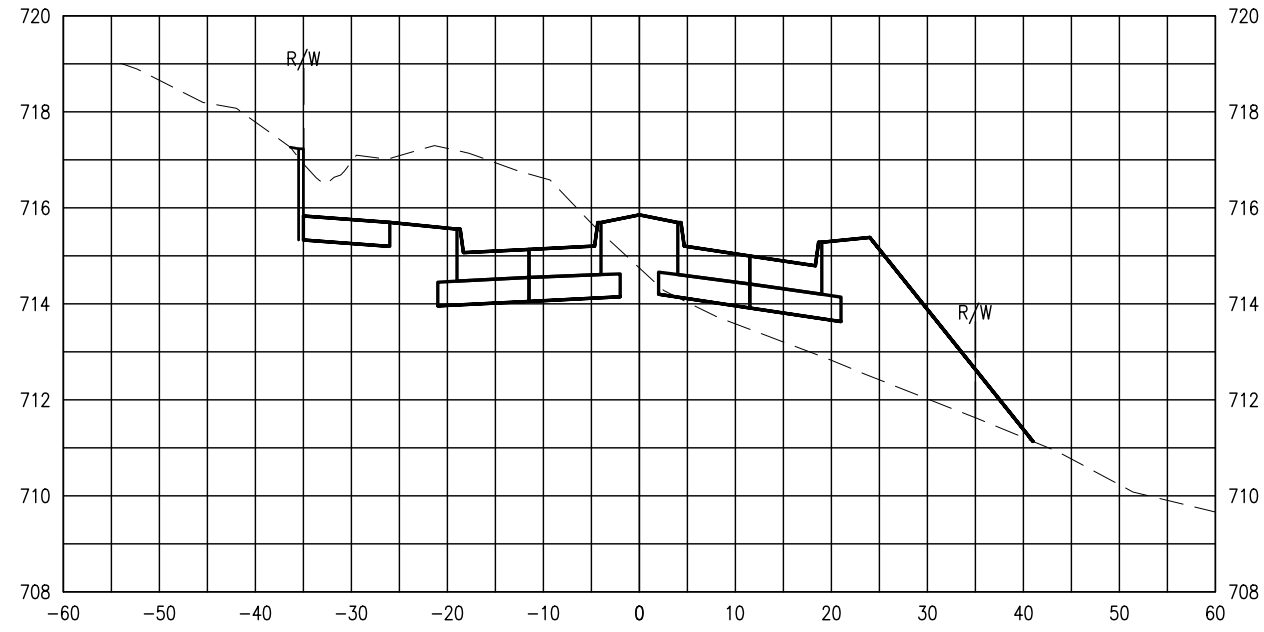


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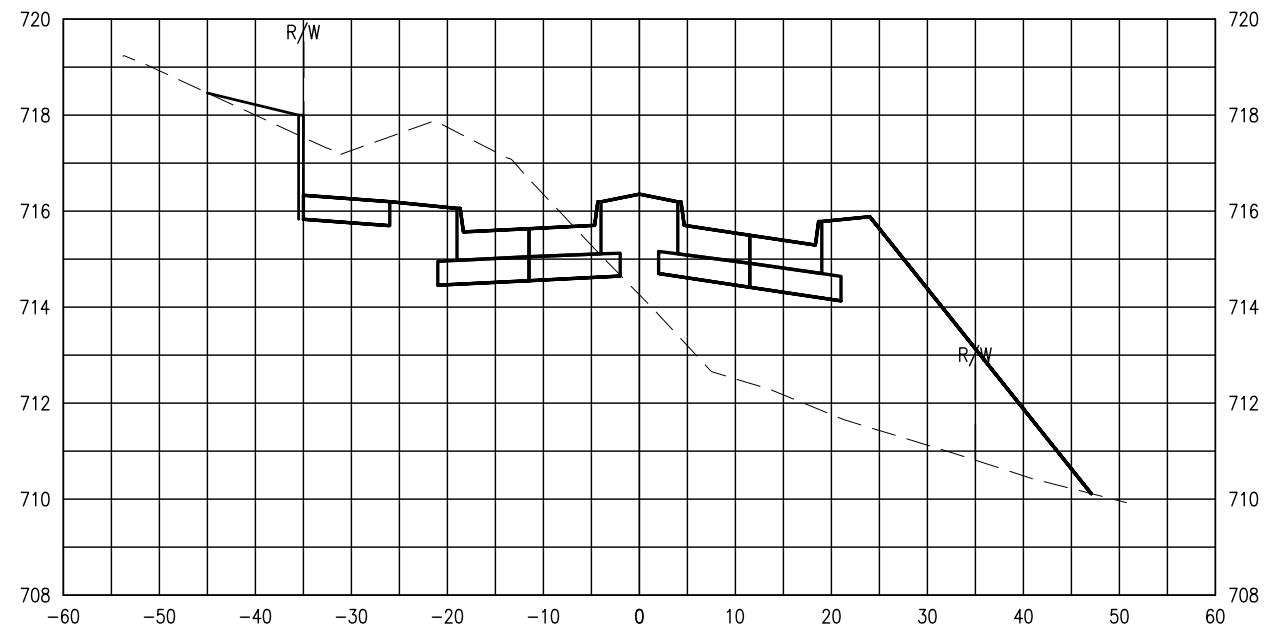


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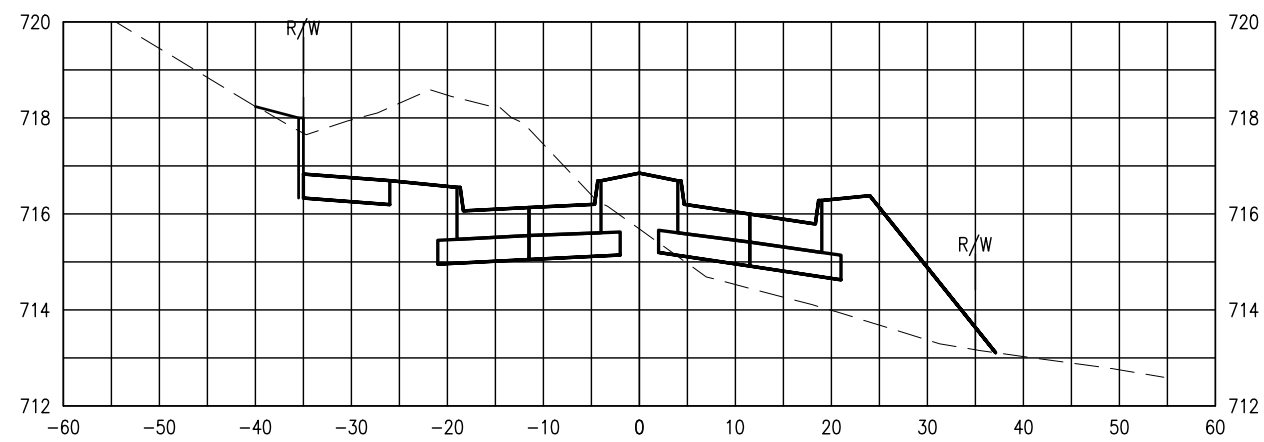
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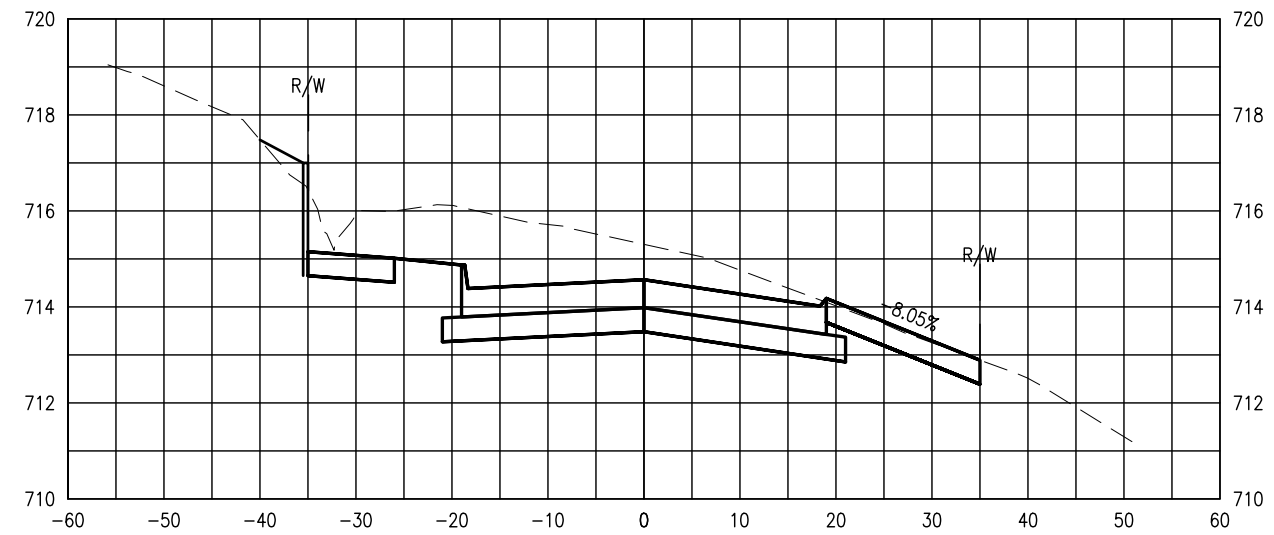
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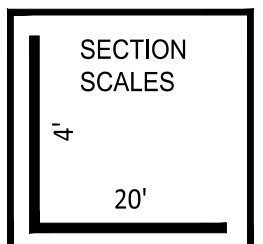
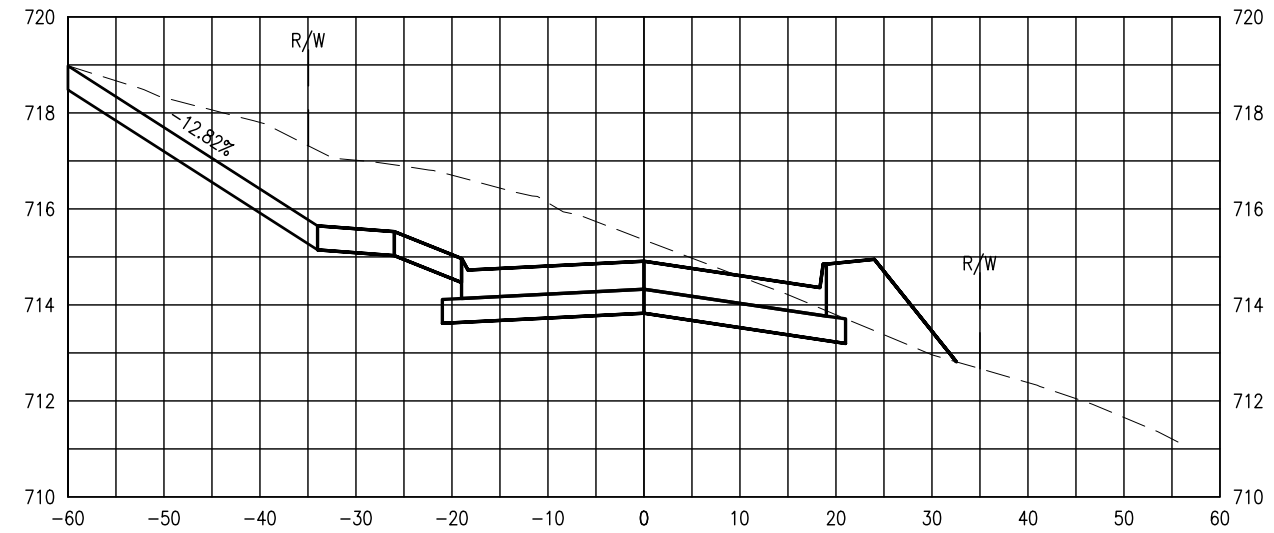
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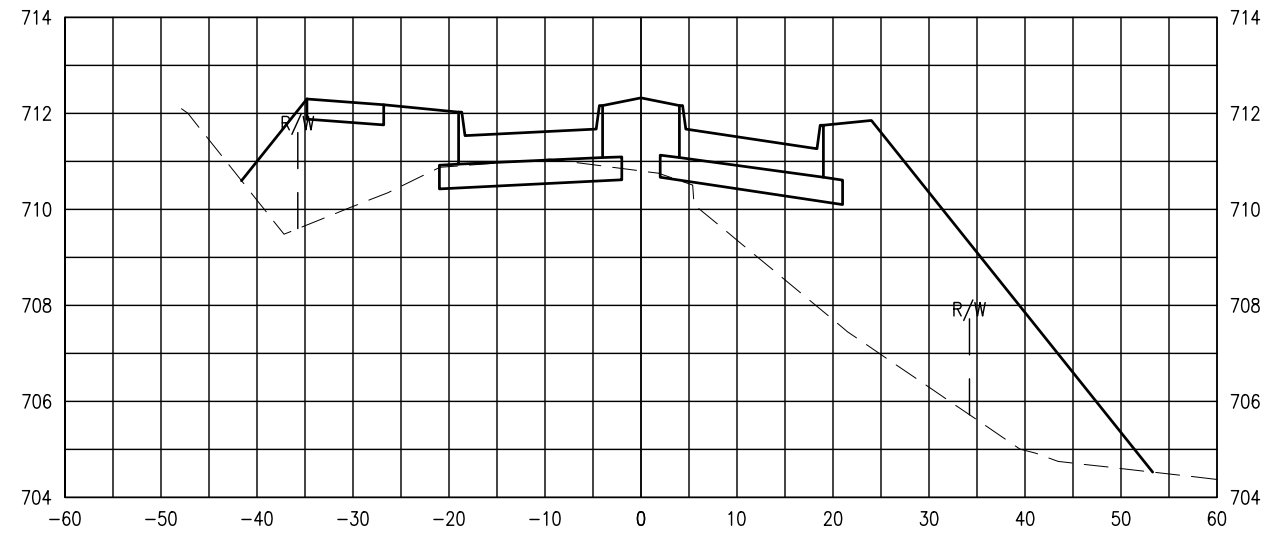


27+32 Drive Left

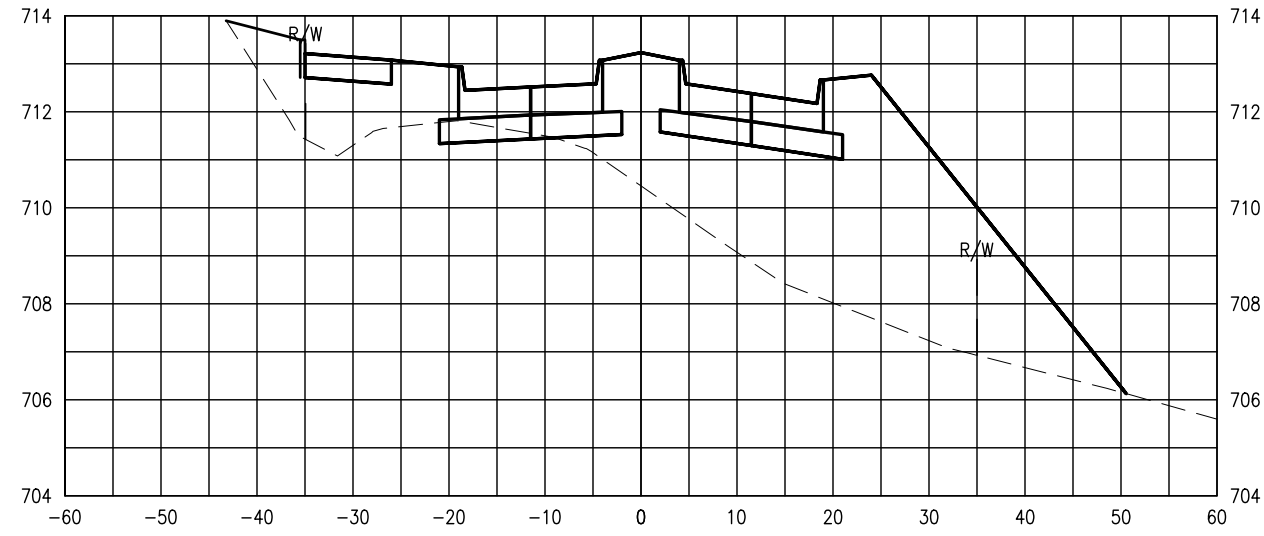


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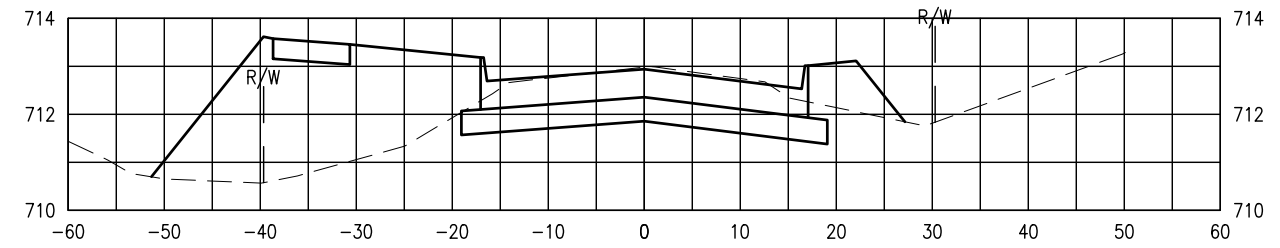
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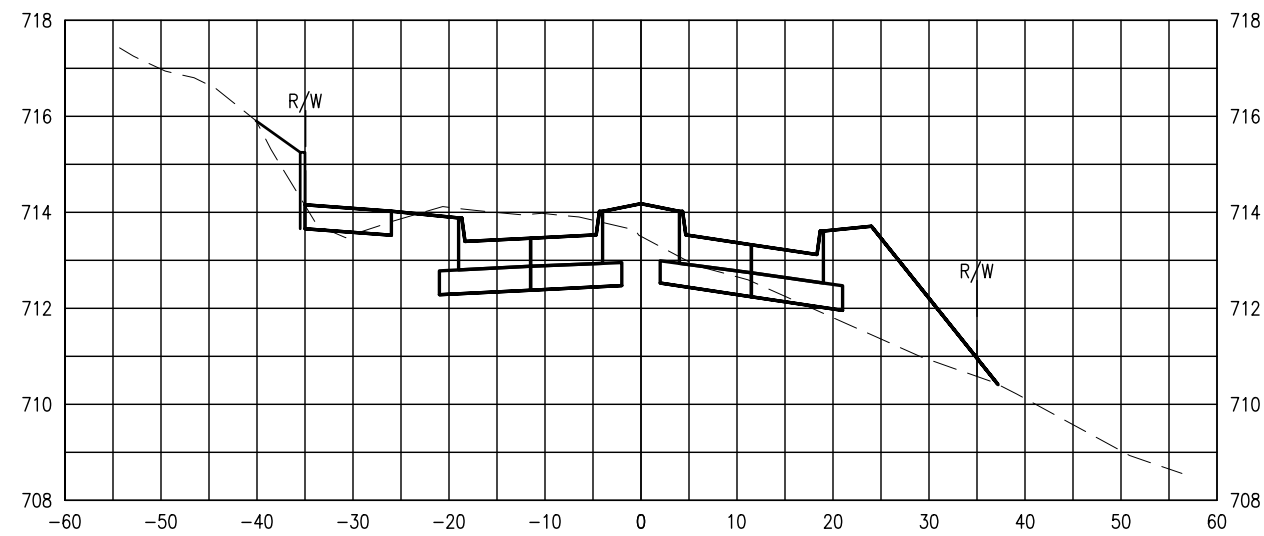
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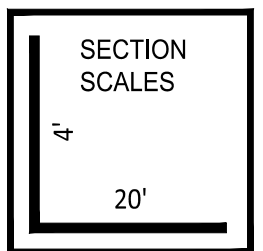
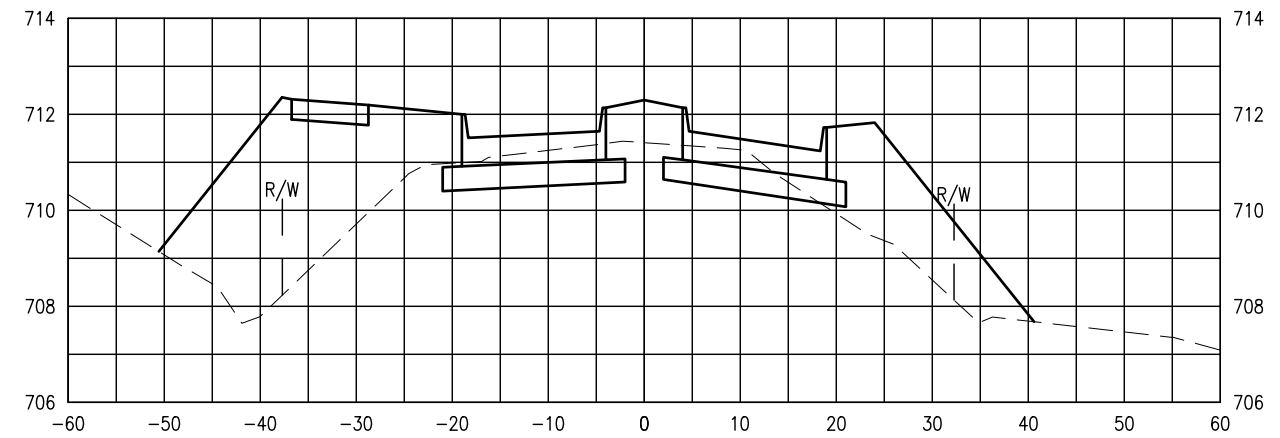
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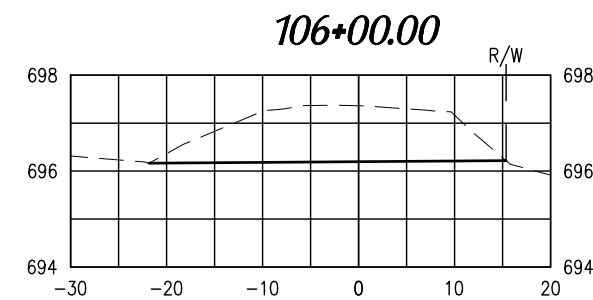
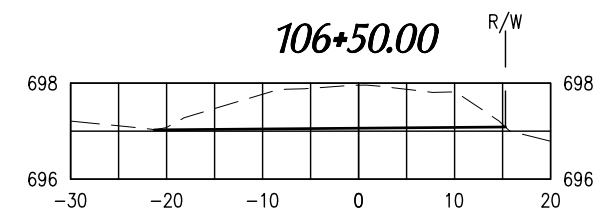
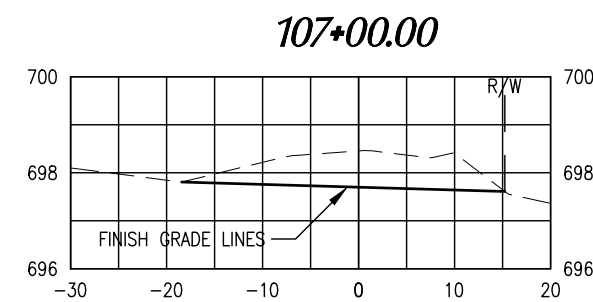
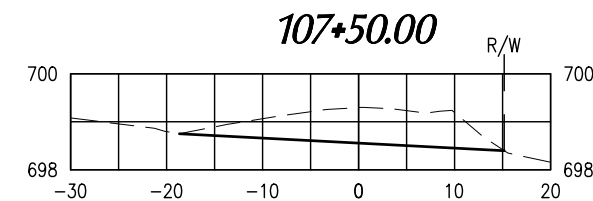
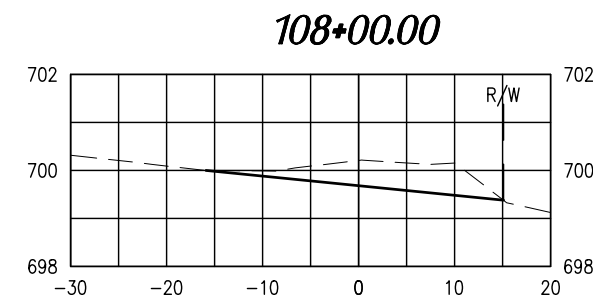
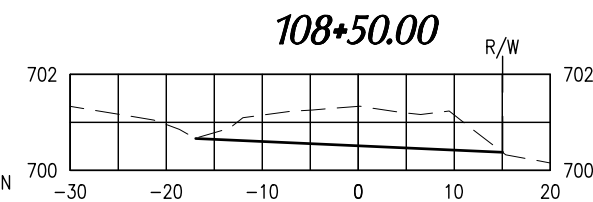
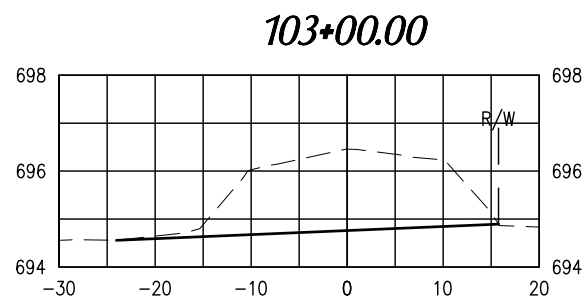
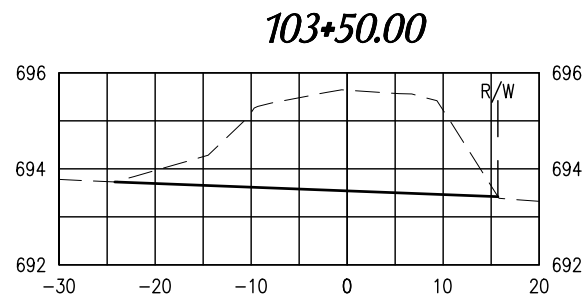
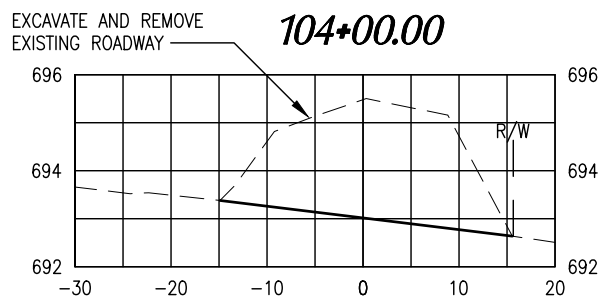
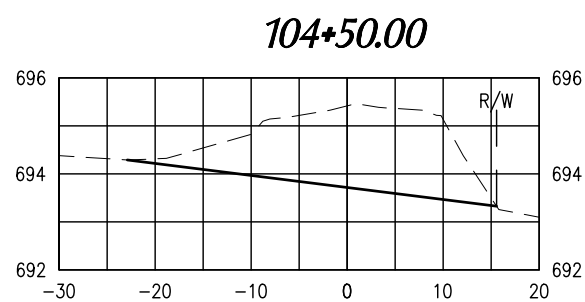
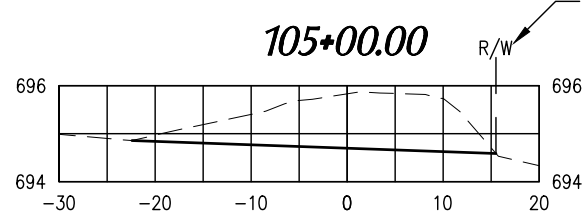
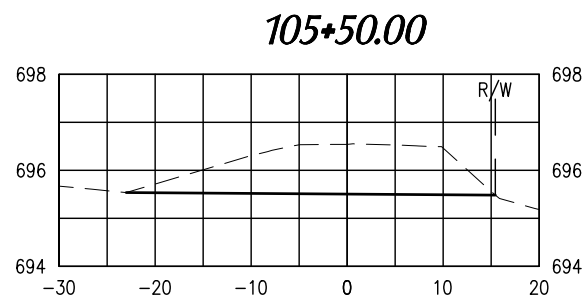
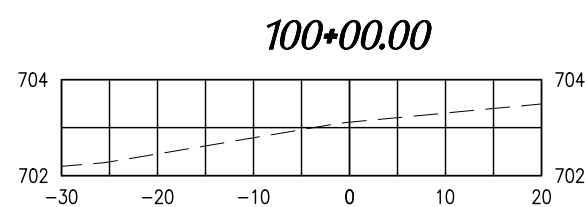
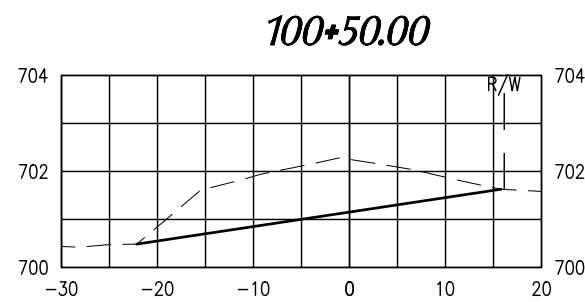
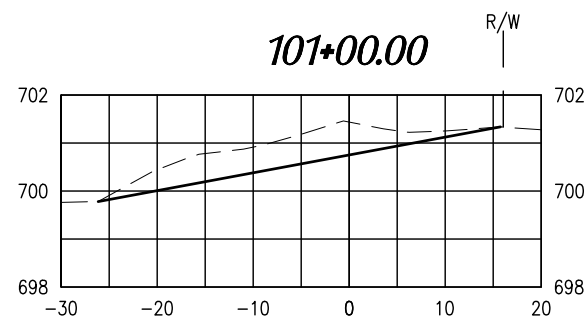
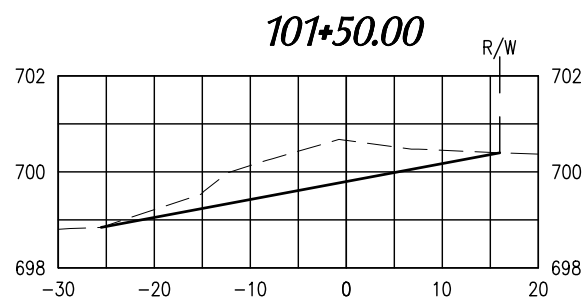
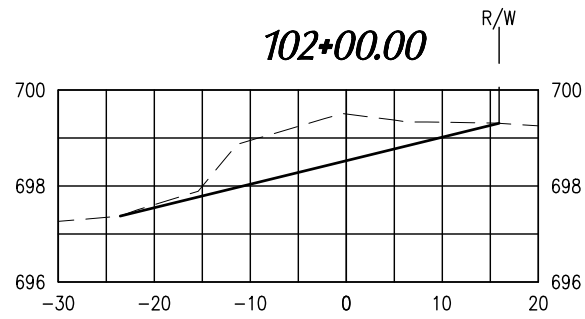
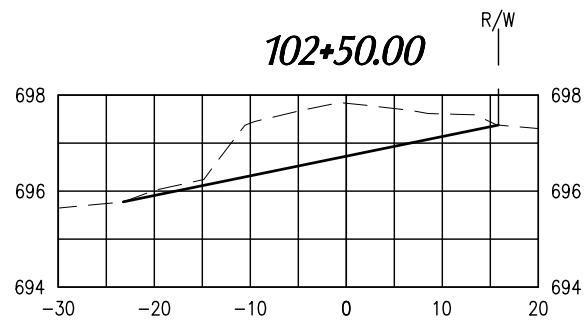
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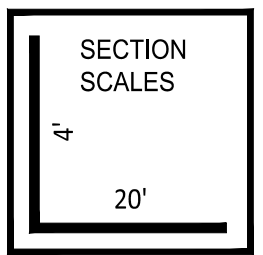
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CROSS SECTIONS - PROPOSED BUCHANAN ST.



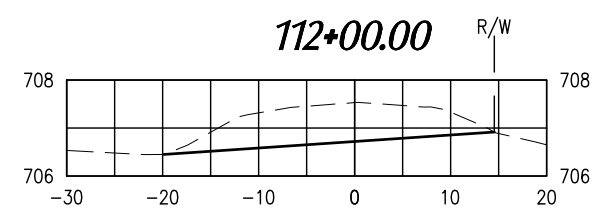
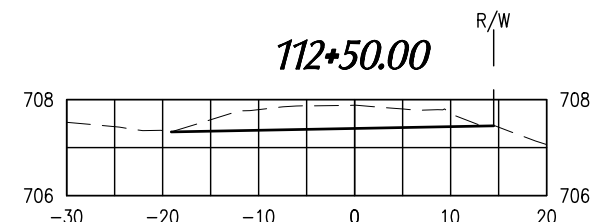
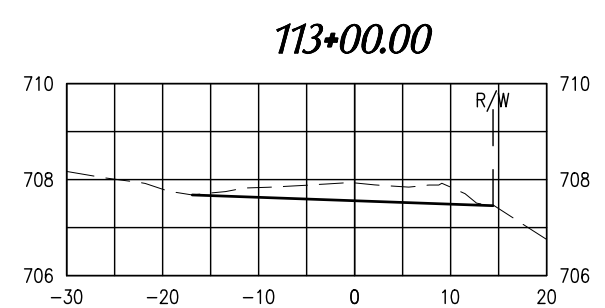
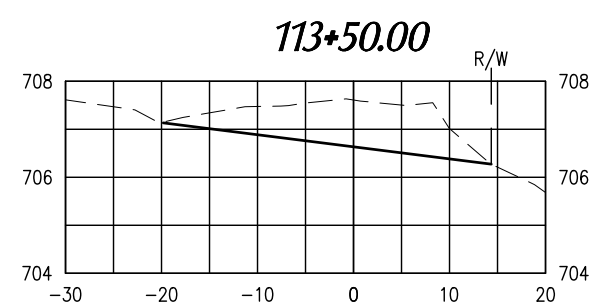
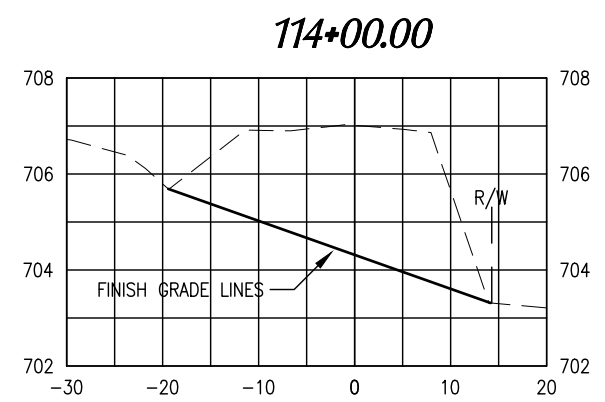
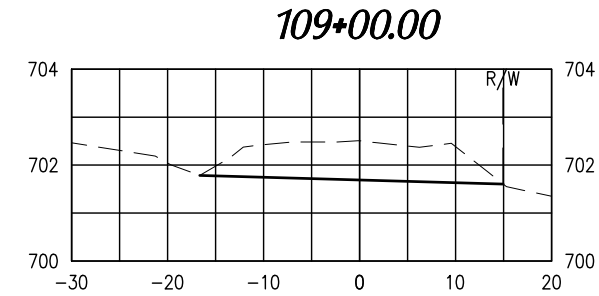
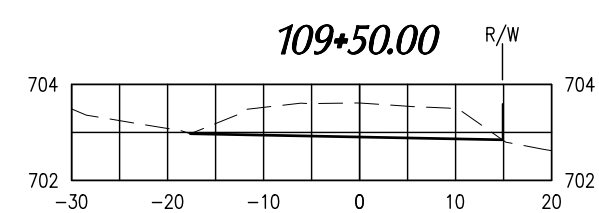
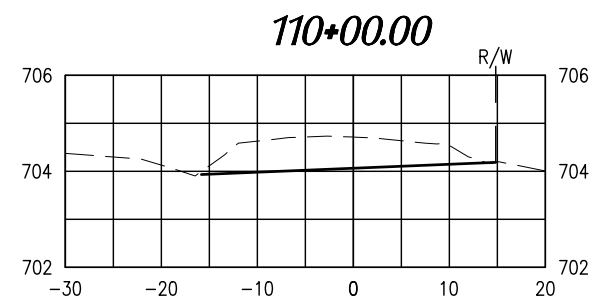
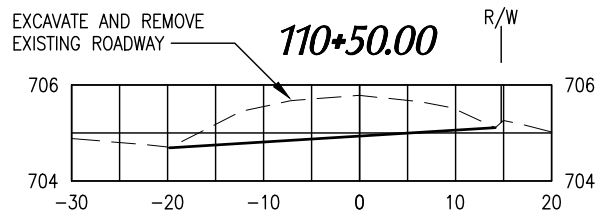
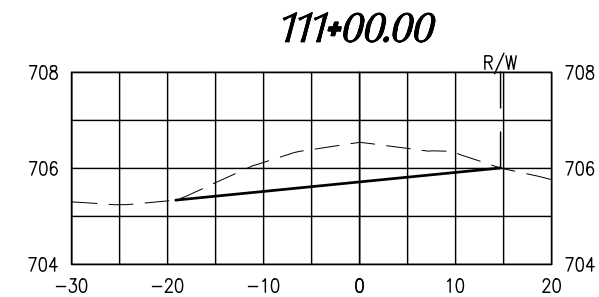
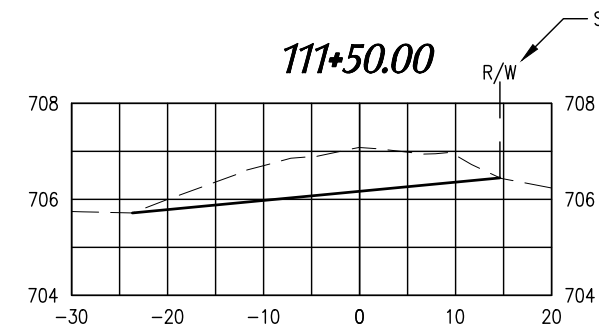
SOUTH RIGHT-OF-WAY LINE LOCATION



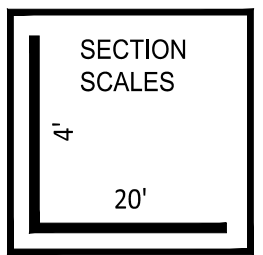
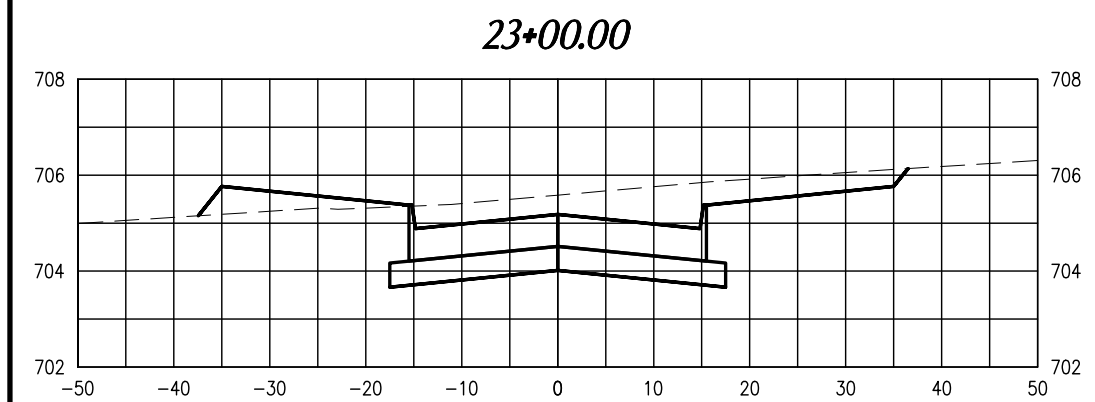
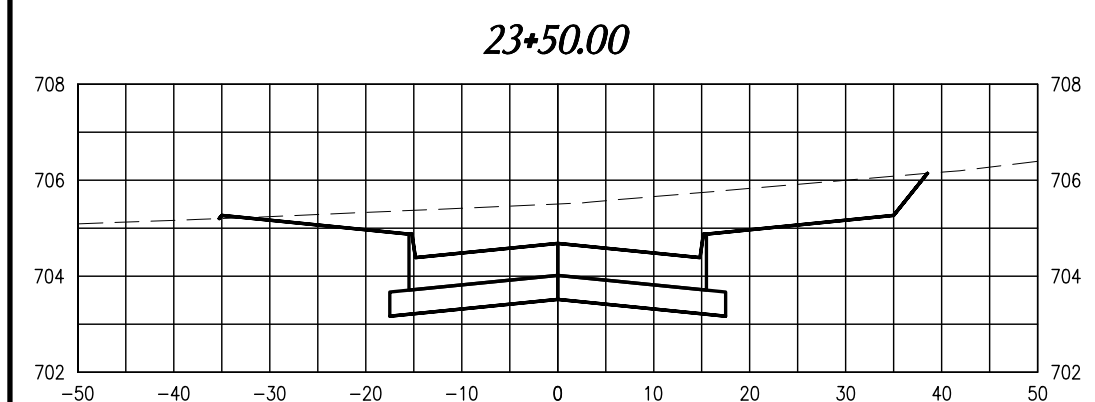
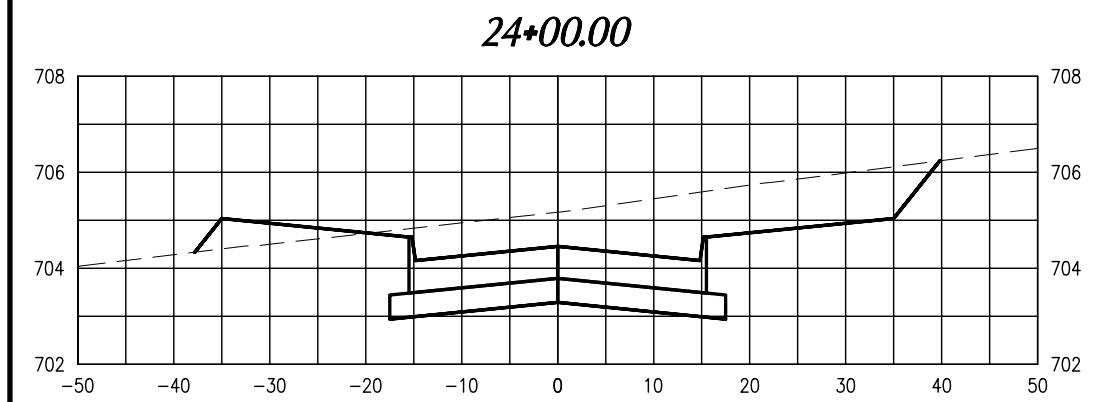
CROSS SECTIONS - EXISTING BUCHANAN ST.



EXISTING BUCHANAN STREET



PROPOSED SOUTH AVE. H



CROSS SECTIONS - EXISTING BUCHANAN ST. AND PROPOSED SOUTH AVE. H