

I:\BOI_Projects\19\2529 - Lyons Contract Town Engineer\Projects\23_Longs Peak Avenue\CAD\Sheets\19-2529-CO-G-LONGS_PEA.dwg G-1 4/20/2020 11:39 PM ADRIENNE-ANGELOS 23.0s (LMS Tech)



TOWN OF LYONS, COLORADO

LONGS PEAK DRIVE

PROJECT NO.: 19-2529.01

APRIL 2020

30% SUBMITTAL

INDEX OF DRAWINGS

GENERAL

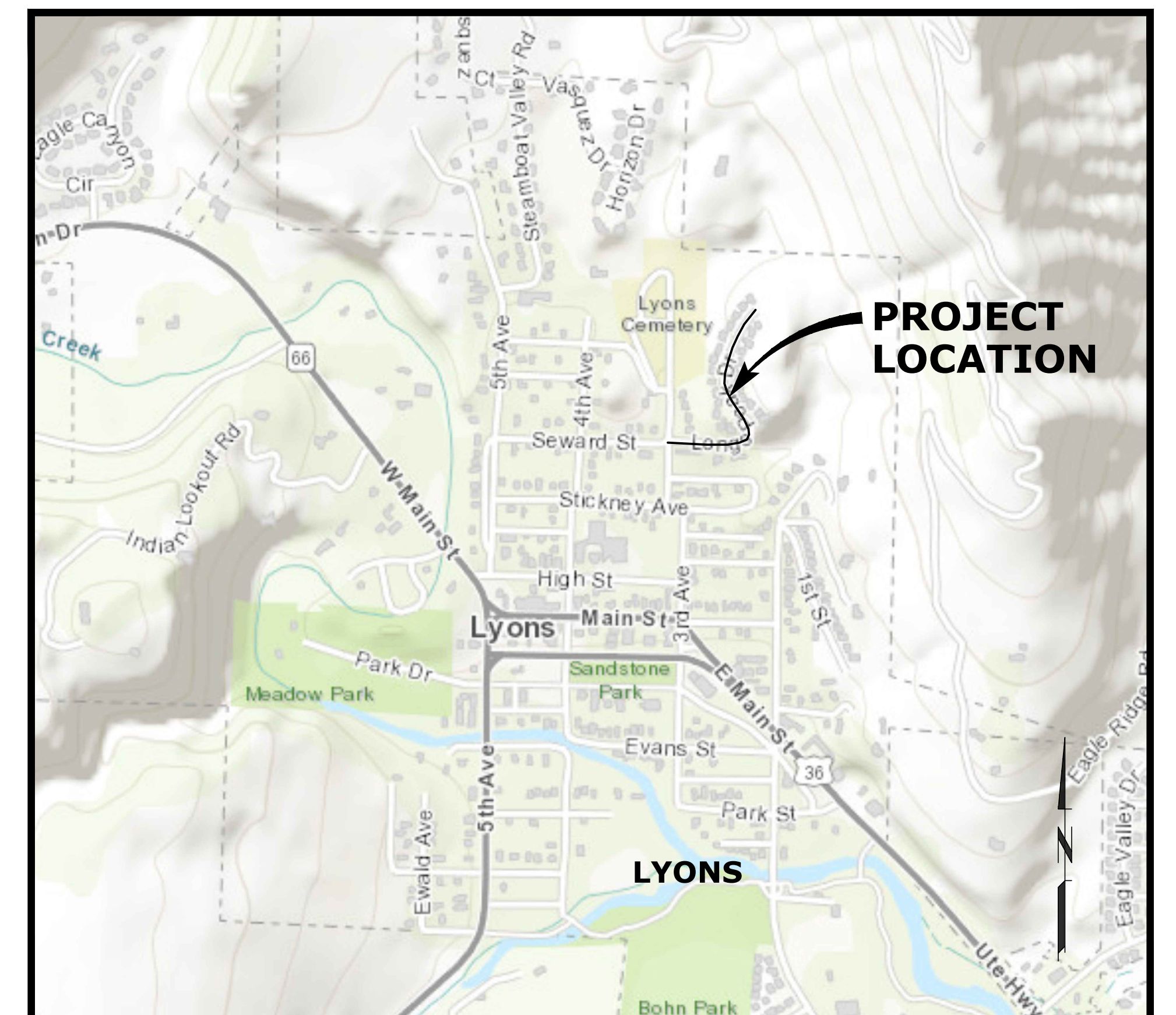
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CIVIL - WATER

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EROSION AND SEDIMENT CONTROL PLAN

TO BE COMPLETED DURING 60% DESIGN



VICINITY MAP

NTS



850 W SOUTH BOULDER ROAD, SUITE 200
LOUISVILLE, COLORADO 80027
P 303.589.7981

ATTENTION: COLORADO LAW REQUIRES THE CONTRACTOR TO FOLLOW THE RULES ADOPTED BY THE COLORADO UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN THE 2017 PROCEDURES GUIDE, EXCAVATION HANDBOOK & TITLE 9 SAFETY- INDUSTRIAL AND COMMERCIAL ARTICLE 1.5 EXCAVATION REQUIREMENTS 9-1.5-101 THROUGH 9-1.5-107. THE CONTRACTOR MAY OBTAIN COPIES OF THE RULES BY DOWNLOADING FROM THE WEB SITE [HTTP://COLORADO811.ORG/EDUCATION/CONSOLIDATED/](http://colorado811.org/education/consolidated/) OR CALLING UTILITY NOTIFICATION CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE COLORADO UTILITY NOTIFICATION CENTER IS 800-922-1987.)



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GENERAL NOTES

1. THE CONTRACTOR SHALL POTHOLE AND VERIFY LOCATIONS, ELEVATIONS, TYPES AND SIZES OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTING NEW PIPING FAR ENOUGH IN ADVANCE TO ALLOW NECESSARY ADJUSTMENTS IN GRADE AND SHALL NOTIFY ENGINEER OF NEED TO ADJUST PIPING INSTALLATION ACCORDINGLY. POTHOLING SHALL SUFFICIENTLY PRECEDE LAYING OF PIPE TO ALLOW REQUIRED ELEVATION ADJUSTMENTS TO BE ACCOMPLISHED WITHOUT REWORK. ELEVATION ADJUSTMENTS SHALL BE EXPECTED AND ARE INCIDENTAL TO THE WORK. DEFLECT PIPE AS REQUIRED AND WITHIN SPECIFIED TOLERANCES TO AVOID EXISTING UTILITIES AND COMPLETE TIE-INS.
2. LOCATIONS OF EXISTING UTILITIES ARE BASED ON INFORMATION SUPPLIED BY THE UTILITIES AND CONSIDERED APPROXIMATE ONLY. AS REQUIRED BY STATE LAW, THE CONTRACTOR SHALL OBTAIN UTILITY LOCATES PRIOR TO COMMENCING CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE ENGINEER WITH MINIMUM 24 HOURS NOTICE WHEN POTHOLING WILL BE COMPLETE. COORDINATE WITH ENGINEER TO REVIEW UTILITY INVESTIGATIONS AND TO MAKE APPROPRIATE ADJUSTMENTS FOR ANY ALIGNMENT CONFLICTS WHERE CONNECTING TO EXISTING UTILITIES.
4. COLORADO LAW REQUIRES THE CONTRACTOR TO FOLLOW THE RULES ADOPTED BY THE COLORADO UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN THE 2017 PROCEDURES GUIDE, EXCAVATION HANDBOOK & TITLE 9 SAFETY- INDUSTRIAL AND COMMERCIAL ARTICLE 1.5 EXCAVATION REQUIREMENTS 9-1.5-101 THROUGH 9-1.5-107. THE CONTRACTOR MAY OBTAIN COPIES OF THE RULES BY DOWNLOADING FROM THE WEBSITE HTTP://COLORADO811.ORG/EDUCATION_CONSOLIDATED/ OR CALLING UTILITY NOTIFICATION CENTER.
5. PROVIDE "AS CONSTRUCTED" DRAWINGS INDICATING ALL CHANGES IN GRADE, ALIGNMENT, FITTINGS AND MATERIALS INSTALLED AND ANY OTHER UTILITIES OR OBSTACLES NOT SO INDICATED ON THESE PLANS.
6. AT THE END OF EACH WORK DAY ALL OPEN TRENCHES SHALL BE BACKFILLED AND ALL TRENCHES SHALL EITHER BE TEMPORARILY PAVED OR FILLED TO THE SATISFACTION OF THE ENGINEER.
7. CONTRACTOR SHALL PROTECT ALL PROPERTY CORNERS, SURVEY MONUMENTS AND CONTROL SURVEY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AT CONTRACTOR'S EXPENSE, WITH APPROPRIATE SURVEY FILED WITH COUNTY SURVEYOR.
8. CONTRACTOR SHALL SUPPORT AND PROTECT AS NECESSARY ANY PIPE OR CONDUIT EXPOSED AS PART OF THE NEW PIPE TRENCH EXCAVATION. CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES IN SERVICE AT ALL TIMES AND SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES TO MAINTAIN AND PROTECT SERVICES.
9. THE CONTRACTOR SHALL DISPOSE OF ALL REMOVED OR REPLACED MATERIAL AND EQUIPMENT IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
10. CONTRACTOR TO LEAVE ALL AREAS OF PROJECT FREE OF DEBRIS AND UNUSED CONSTRUCTION MATERIAL.
11. ALL EXISTING FEATURES INCLUDING, BUT NOT LIMITED TO, ROADWAYS, STRUCTURES, LOTS, CURBS, SIDEWALKS, FENCES, WALLS, TREES AND PLANTINGS, DITCHES, MAILBOXES, SIGNS, PIPING AND UTILITIES DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO AS GOOD OR BETTER THAN EXISTING CONDITION UNLESS OTHERWISE SPECIFIED. IF A UTILITY IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT OWNER OF UTILITY FOR INSPECTION OF DAMAGE PRIOR TO REPAIRS. CONTRACTOR SHALL REPAIR ALL UTILITY SERVICES DAMAGED DURING CONSTRUCTION AND SUCH REPAIR SHALL BE CONSIDERED INCIDENTAL.
12. CONTRACTOR TO OBTAIN AND COMPLY WITH APPLICABLE TOWN OF LYONS AND BOULDER COUNTY UTILITY CONSTRUCTION PERMIT AND STORMWATER QUALITY PERMIT.
13. PRIOR TO BACKFILLING ANY UTILITY CONTRACTOR SHALL NOTIFY TOWN STAFF TO OBTAIN GEOGRAPHIC INFORMATION SYSTEM (GIS) INFORMATION ON ALL FITTINGS, CAPS, VALVES, METERS, AND CHANGES OF DIRECTION.
14. ALL STAGING AND STOCKPILING AND PARKING AREAS FOR WORKERS WILL TAKE PLACE IN TOWN LIMITS ON PLANET BLUEGRASS PROPERTY.
15. PROVIDE THRUST BLOCKS AT ALL BENDS, VALVES, TEES, AND WYES.

PROJECT CONTACTS

OWNER:
TOWN OF LYONS UTILITIES DEPT
432 5TH AVE
PO BOX 49
LYONS, CO 80540
CONTACT: AARON CAPLAN
E: ACAPLAN@TOWNOFFLYONS.COM
303-823-6622 EXT 42

CIVIL ENGINEER:
MURRAYSMITH
850 W SOUTH BOULDER ROAD, SUITE 200
LOUISVILLE, COLORADO 80027
CONTACT: JOEL PRICE, P.E.
E: JOEL.PRICE@MURRAYSMITH.US
P: 970-567-8020

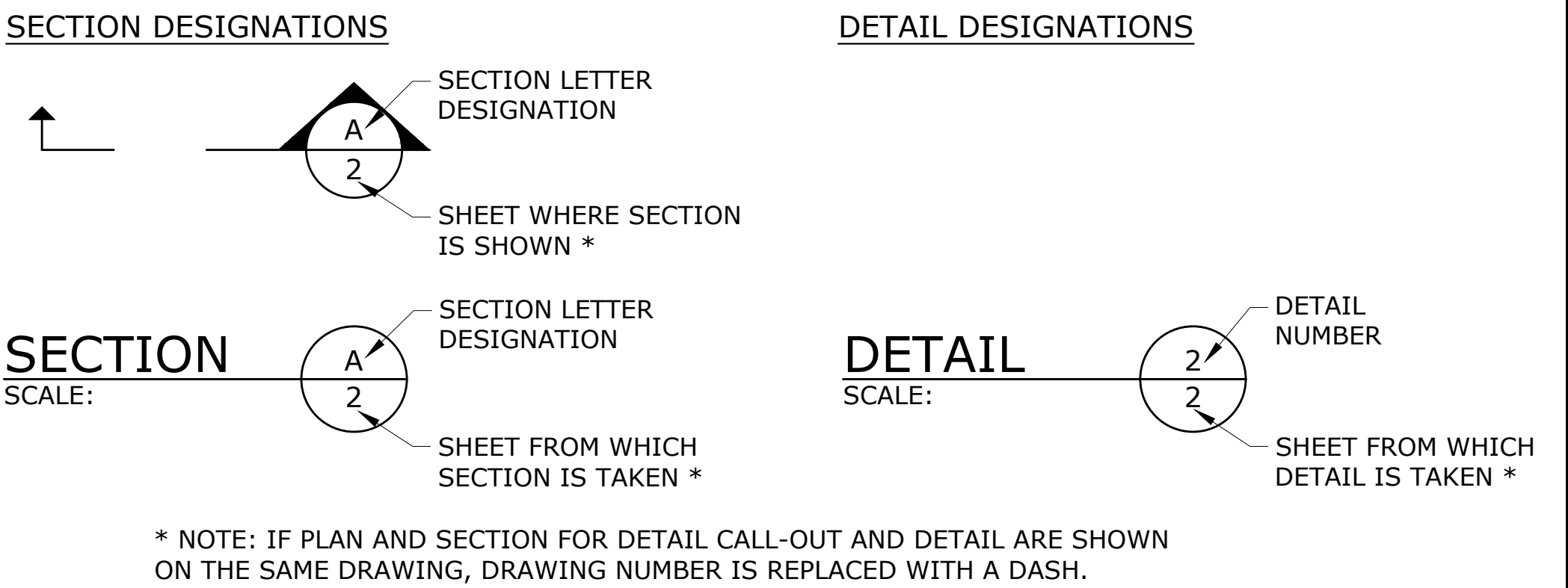
GEOTECHNICAL ENGINEER:

UTILITY:
XCEL ENERGY
2655 NORTH 63RD ST
BOULDER, COLORADO 80301
CONTACT: BARBARA TEMPLE
E: BARBARA.TEMPLE@XCELENERGY.COM
303-245-2226

TOPOGRAPHIC LEGEND

	EXISTING	PROPOSED
WATERLINE	--- 10"W ---	— 12"DI W —
ELECTRICITY	--- E ---	— E —
GAS	--- 4"G ---	— 4"G —
TELEPHONE/TELEMETRY	--- T ---	— T —
CABLE TELEVISION	--- CATV ---	— CATV —
SANITARY SEWER LINE	--- 8"SS ---	— 8"SS —
SANITARY SEWER FORCE MAIN	--- 6"FM ---	— 6"FM —
STORM DRAIN	--- 8"SD ---	— 8"SD —
CULVERT	= = = = =	> 18"D <
ABANDON PIPE		+++++
DRAINAGE DITCH	-----	-----
BARBWIRE FENCE	- x - x - x -	- x - x - x -
CHAIN LINK FENCE	- o - o - o - o -	- o - o - o - o -
TEMPORARY SILT FENCE		- □ - □ -
GUARDRAIL	o o o o o o o o	
ROCK WALL		
TREE/BUSH LINE		
CENTERLINE	- - - - -	- - - - -
BOULDER COUNTY SHADING		
EASEMENT/PROPERTY LINE	- - - - -	- - - - -
RIGHT-OF-WAY	- - - - -	- - - - -
EDGE OF PAVEMENT/AC	-----	-----
EDGE OF GRAVEL	-----	-----
CURB	=====	=====
SIDEWALK	----- S/W -----	----- S/W -----
STRUCTURE OR FACILITY		
CONTOUR MINOR	- - - - -	- - - - -
CONTOUR MAJOR	----- 200 -----	----- 200 -----
MANHOLE	o	o
CLEAN-OUT	o	o
CATCH BASIN/FIELD INLET		
THRUST BLOCK	△	▲
VALVE	⊗	⊗
AIR INJECTION ASSEMBLY		
BLOW-OFF ASSEMBLY		
AIR RELEASE ASSEMBLY		
FIRE HYDRANT ASSEMBLY		
WATER METER		
PULL BOX/JUNCTION BOX		
UTILITY POLE	o	o
GUY WIRE	└┐	└┐
LIGHT POST	⊙	⊙
MAILBOX		
SIGN		
BENCHMARK		
TREE DECIDUOUS		
TREE CONIFEROUS		
RESTRAINED JOINT PIPE		⊠
SURFACE ELEVATION	+ 176.63	+ 176.63

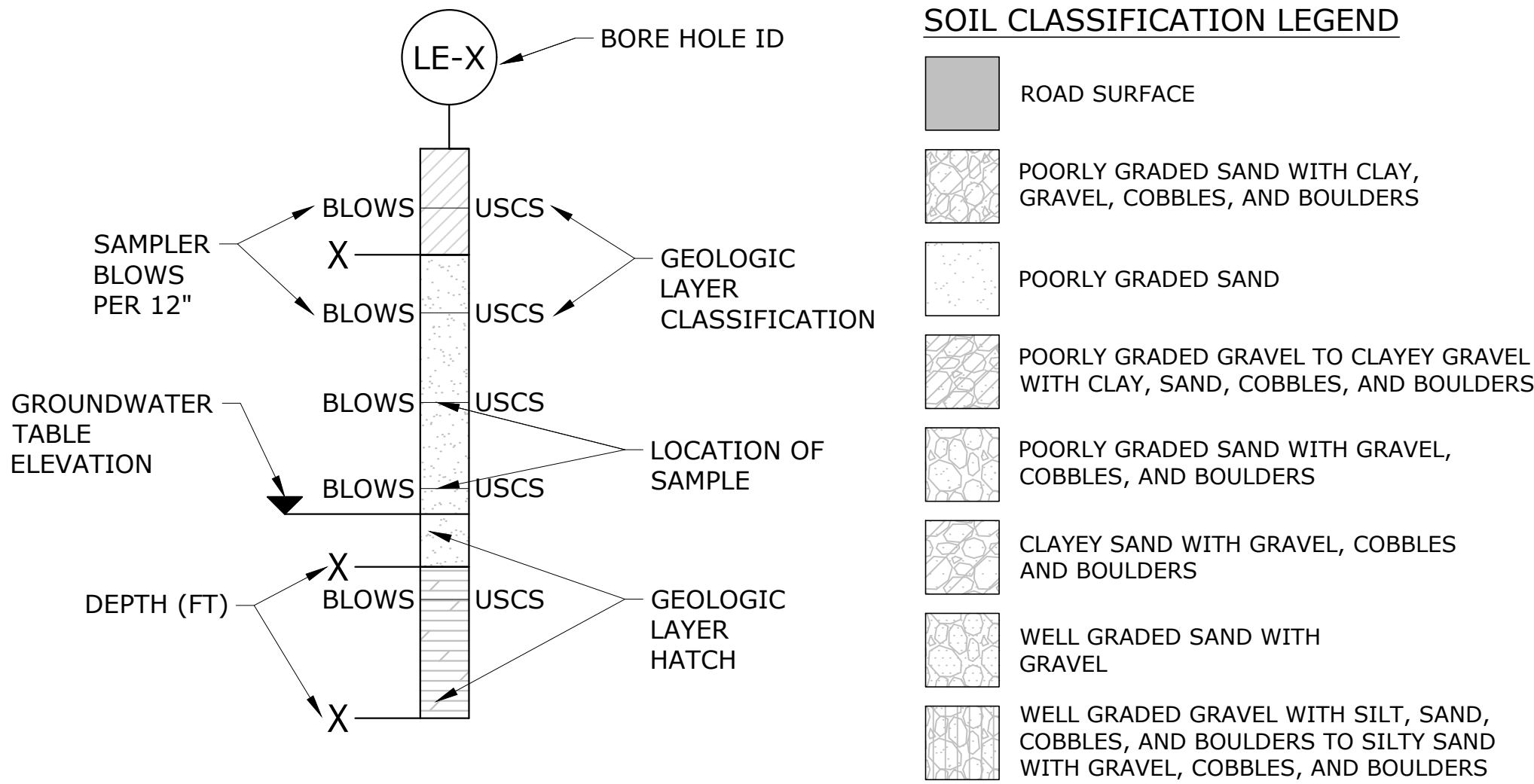
SECTION AND DETAIL DESIGNATIONS



GEOTECHNICAL TEST HOLE LEGEND

TEST HOLE LOCATION IN PLAN VIEW: ⊕

LITHOS ENGINEERING (LE) BORING DETAILS



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NOTICE

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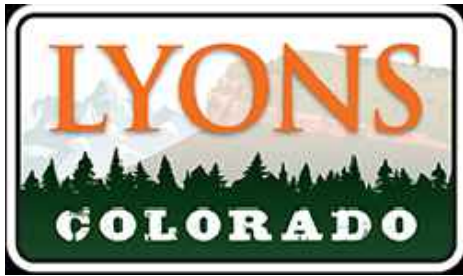
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**GENERAL NOTES,
SYMBOLS AND LEGEND**

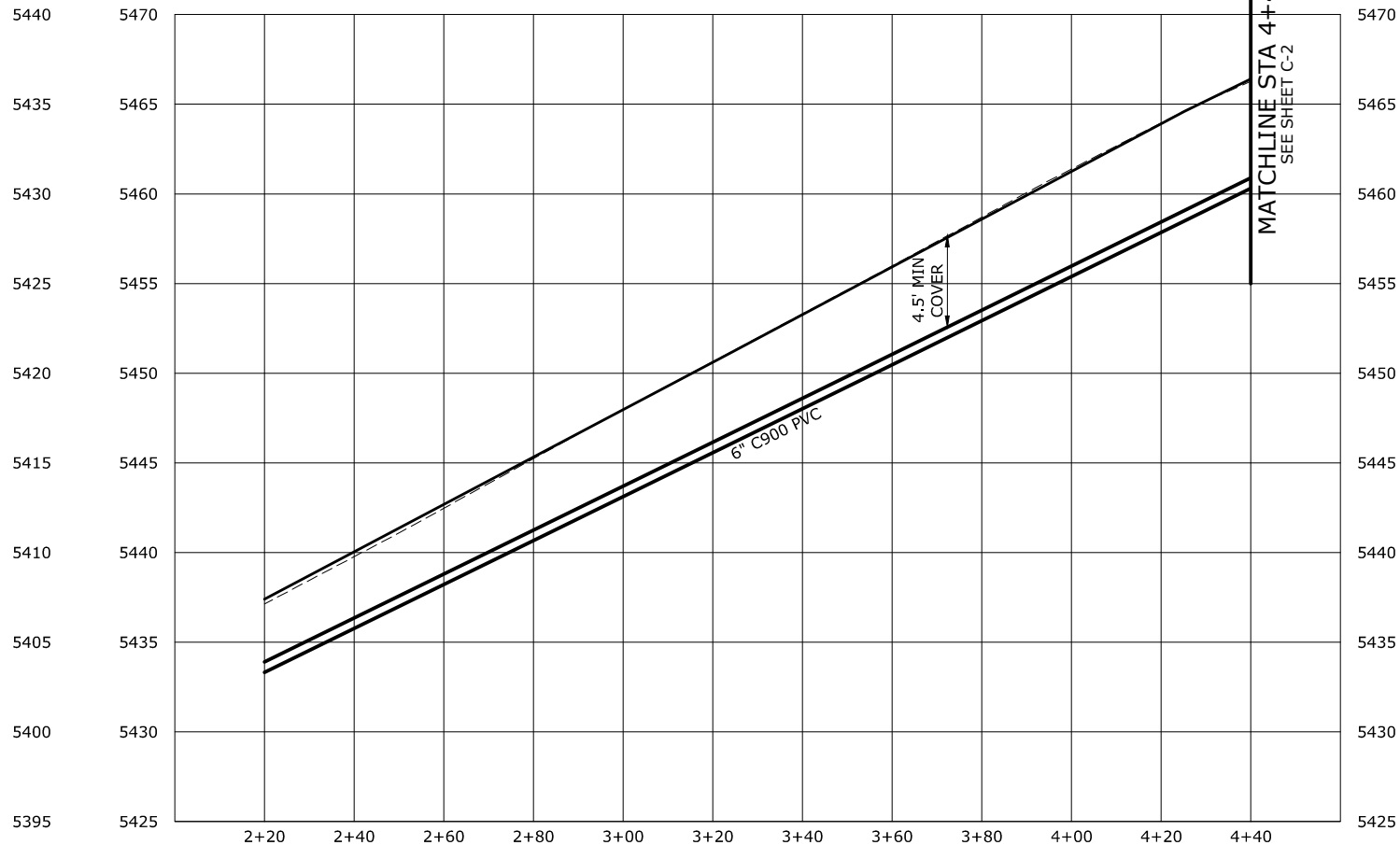
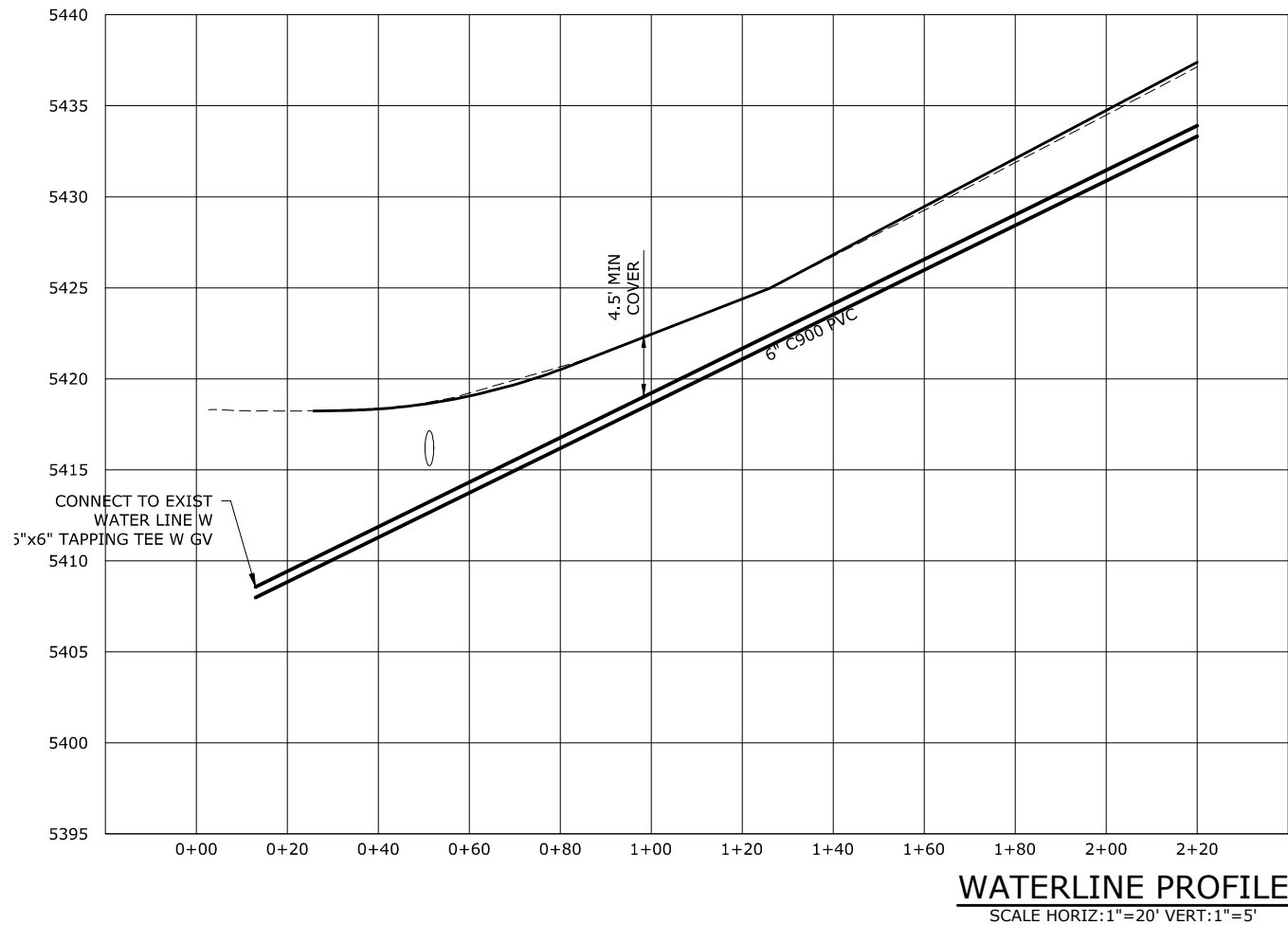
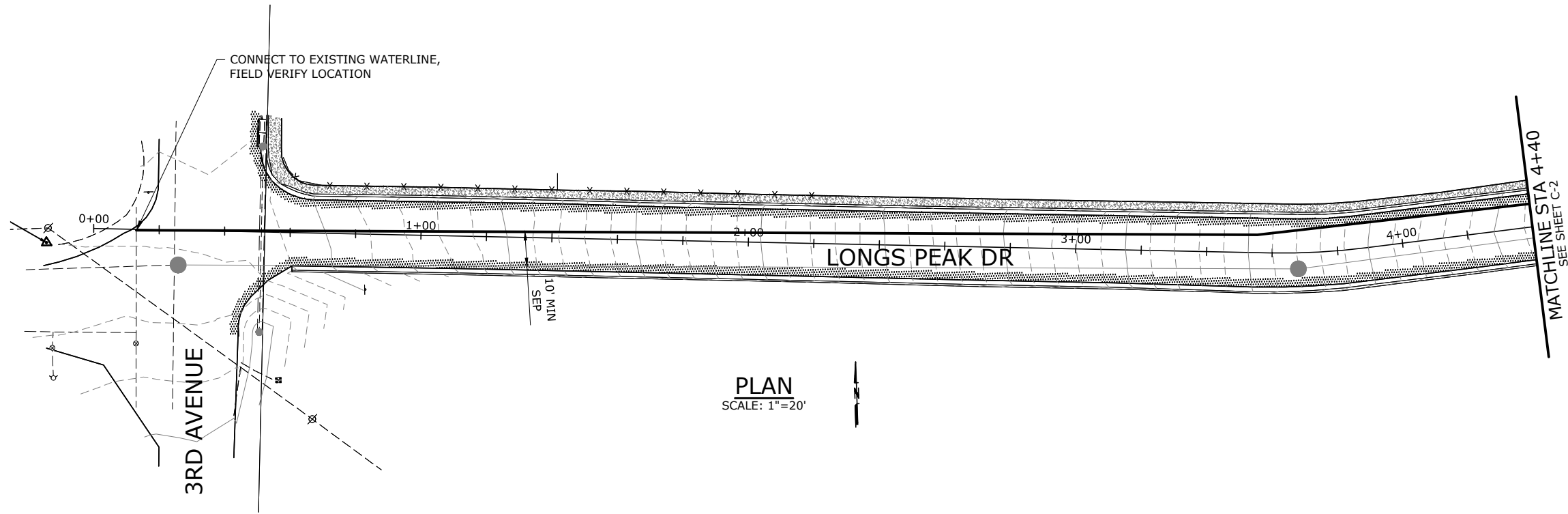
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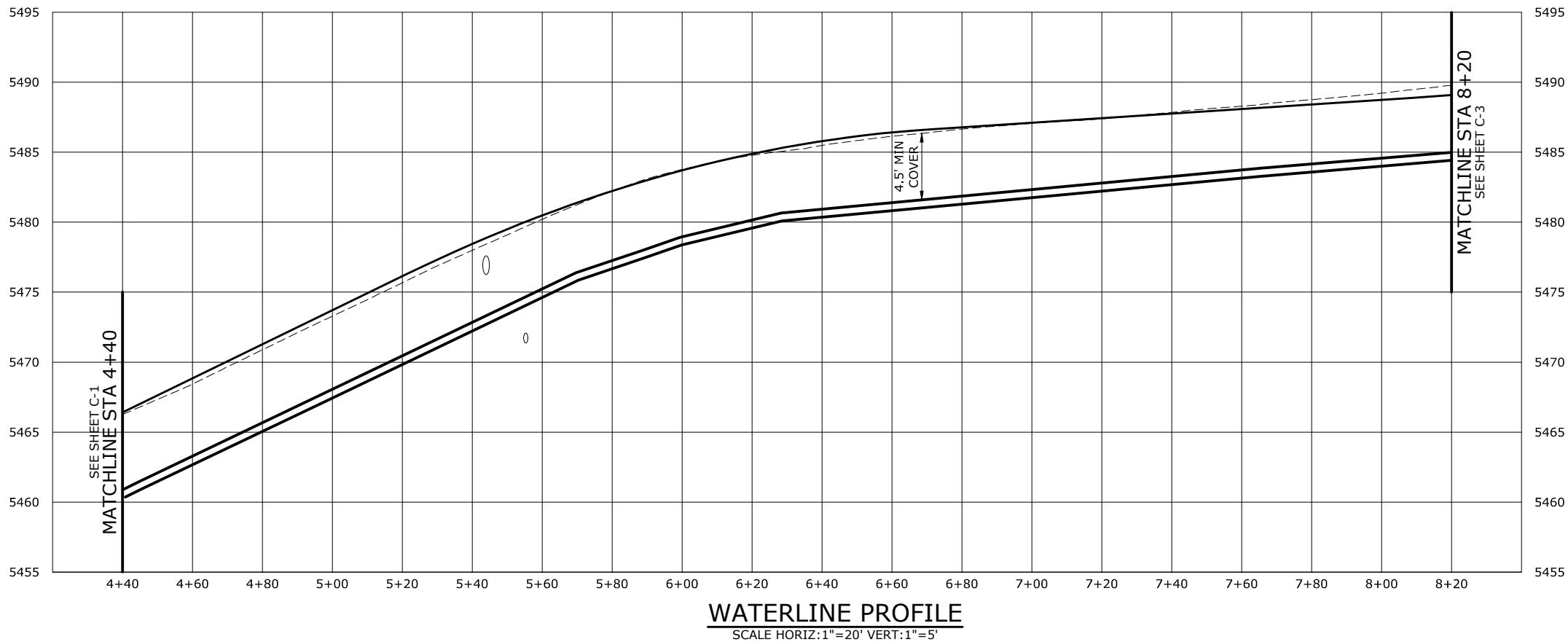
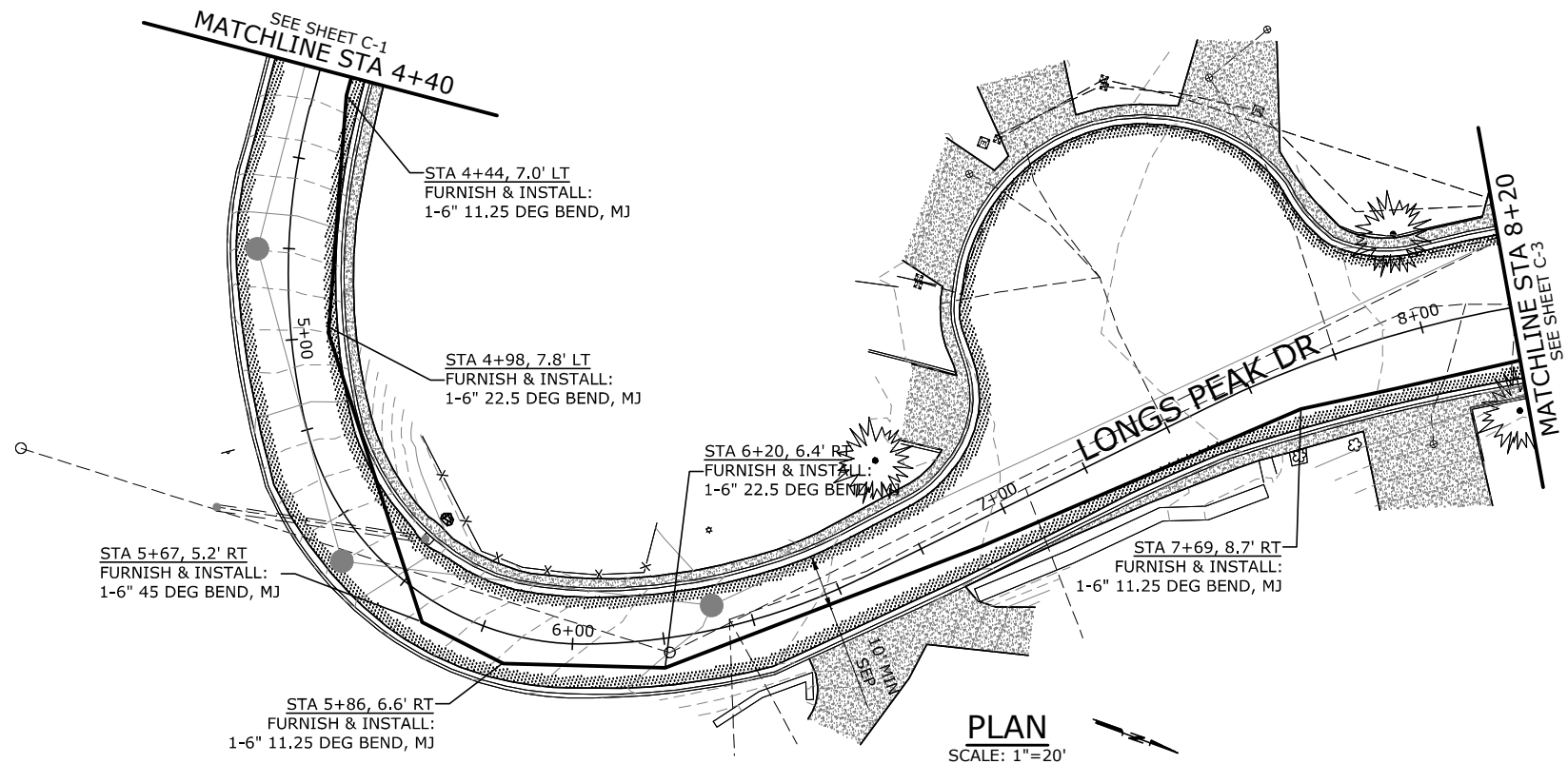
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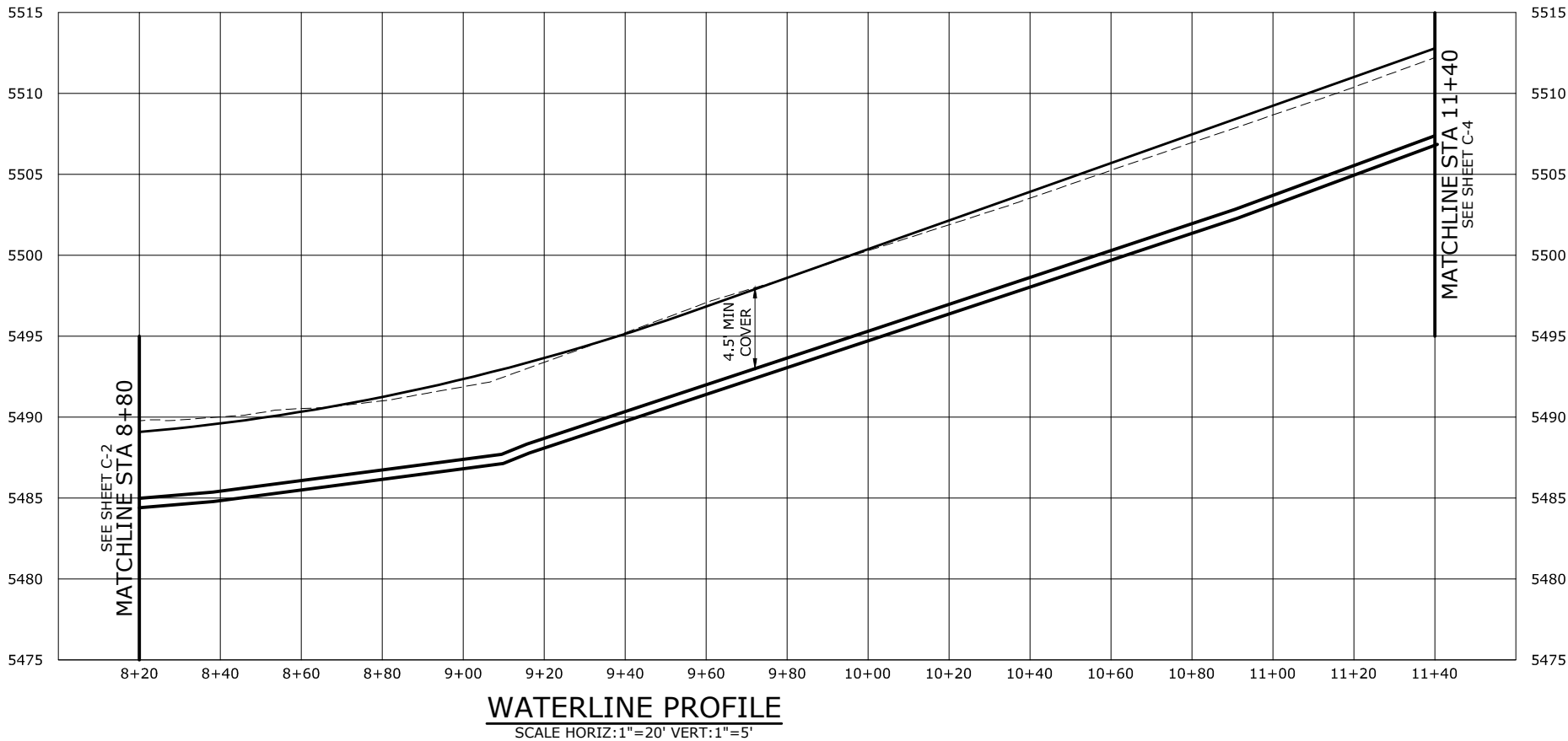
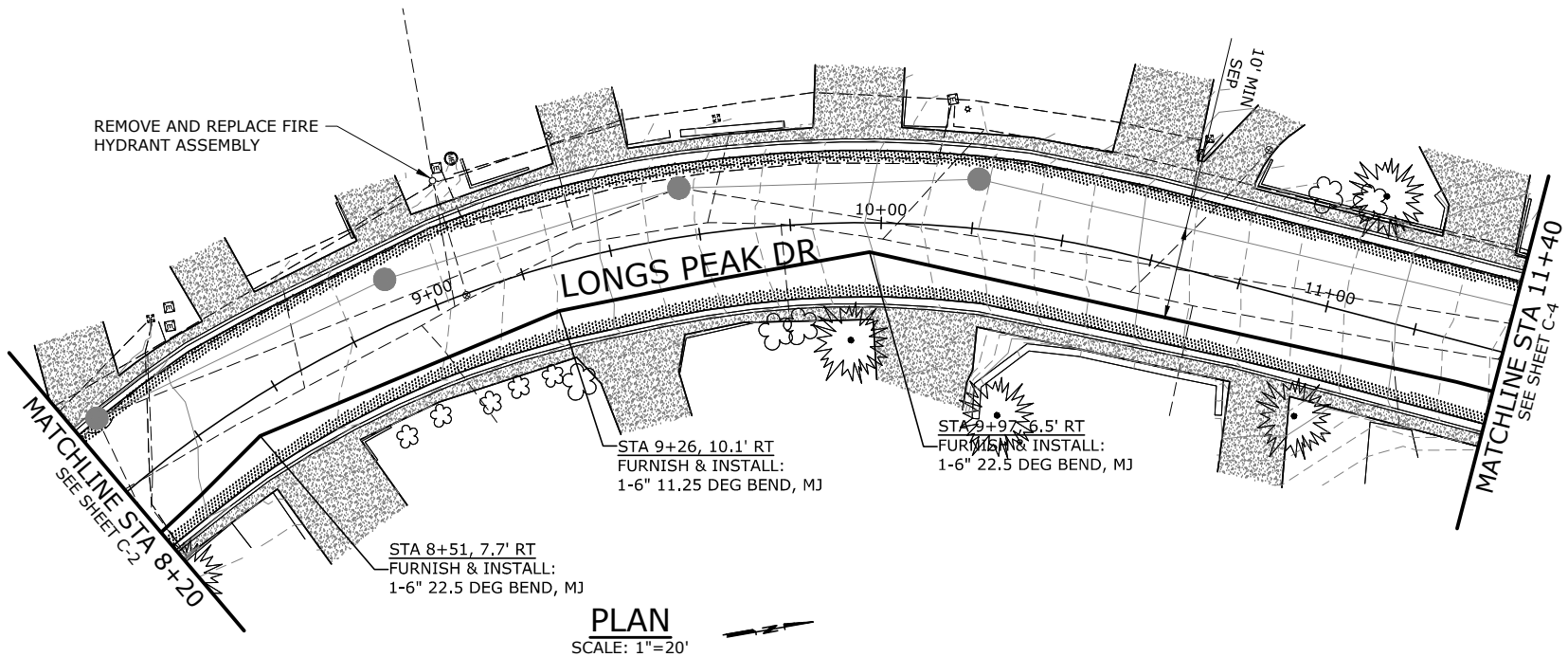
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**LONGS PEAK WATERLINE
PLAN AND PROFILE**

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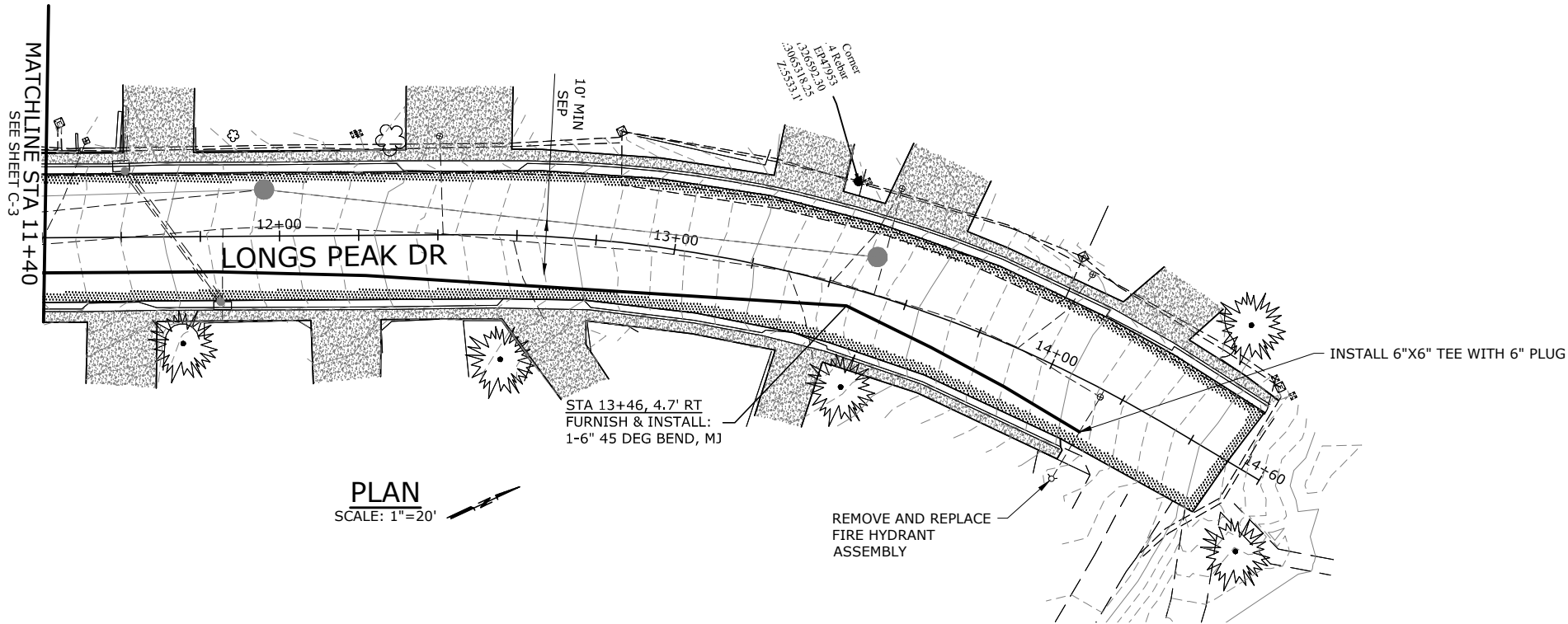
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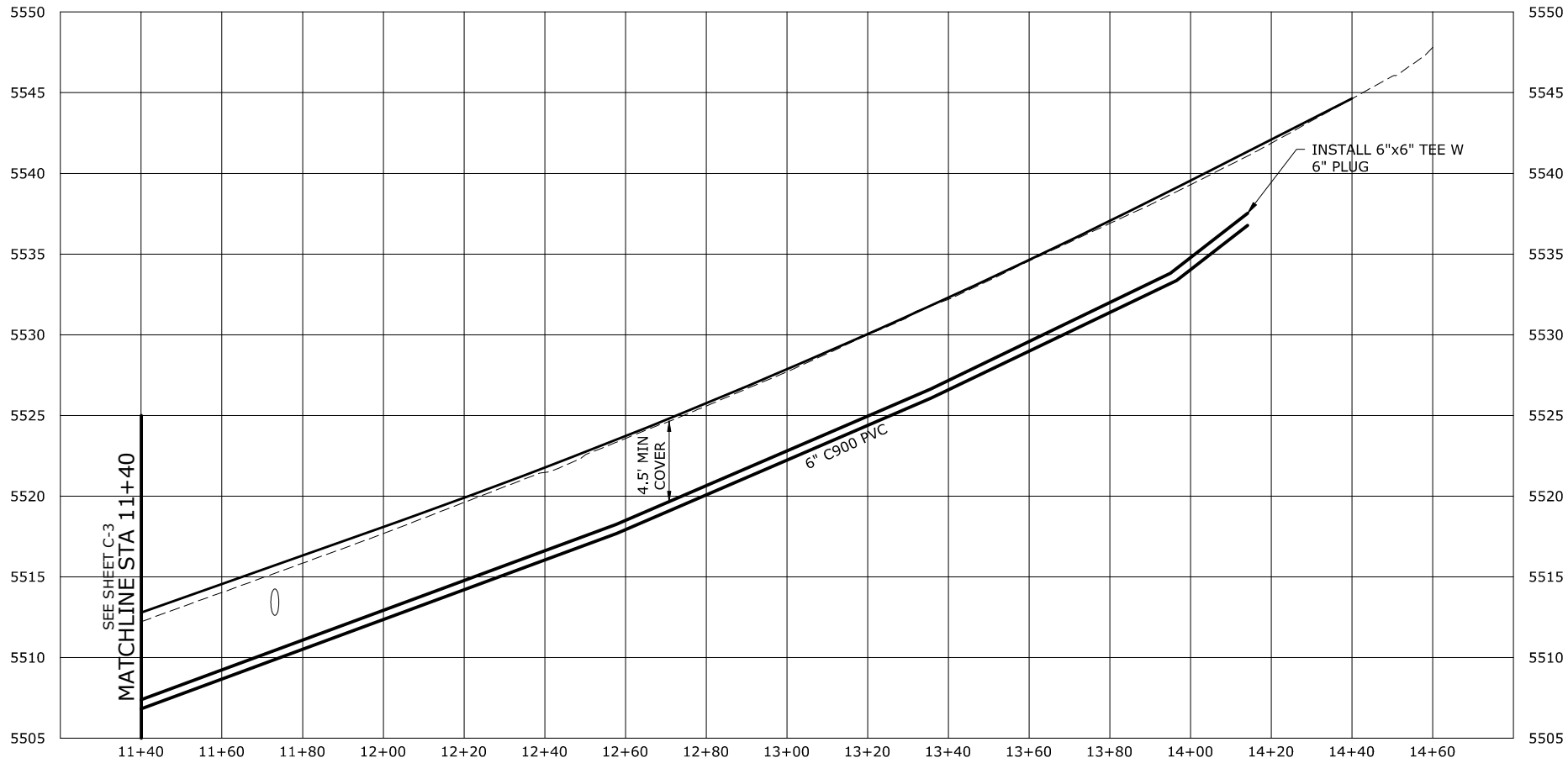
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PLAN
SCALE: 1"=20'



WATERLINE PROFILE
SCALE HORIZ:1"=20' VERT:1"=5'

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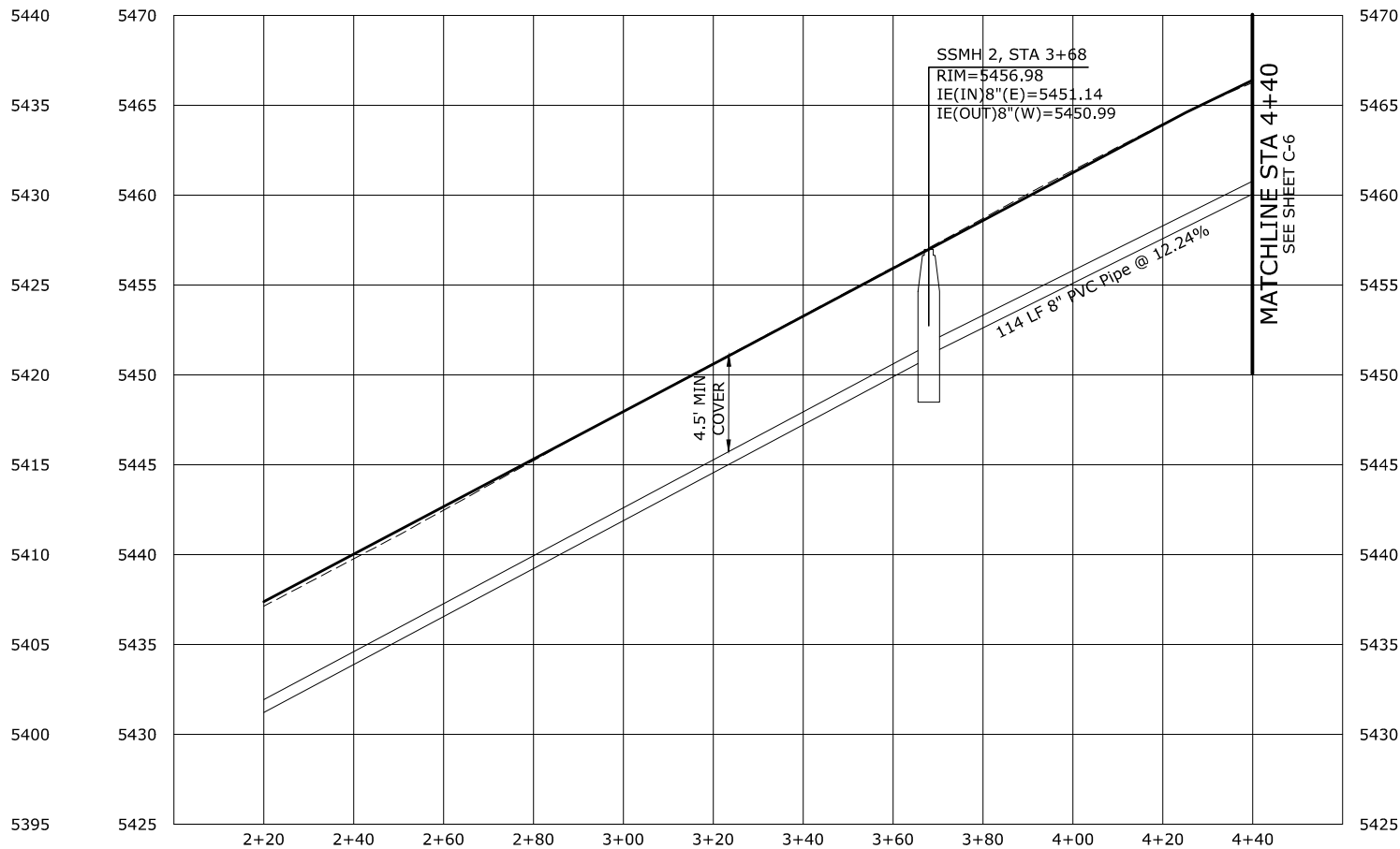
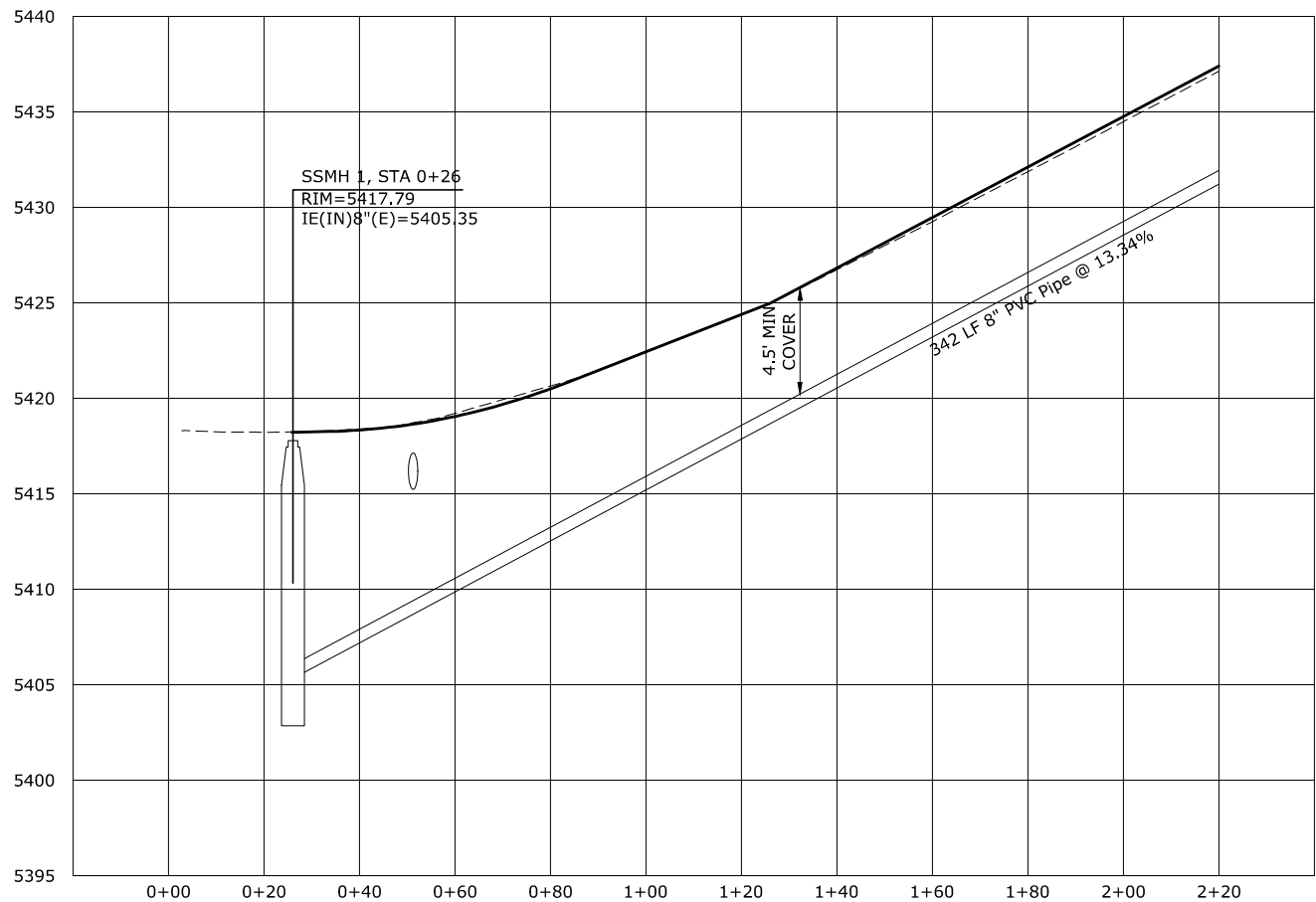
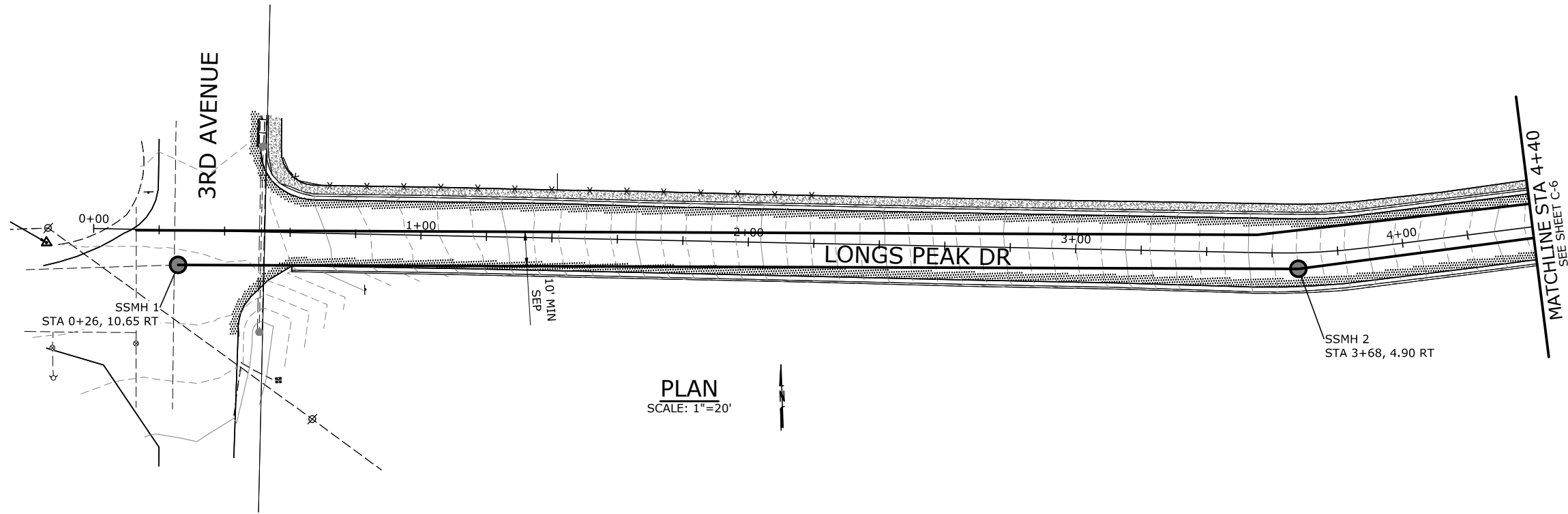
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SANITARY SEWER PROFILE
SCALE HORIZ:1"=20' VERT:1"=5'

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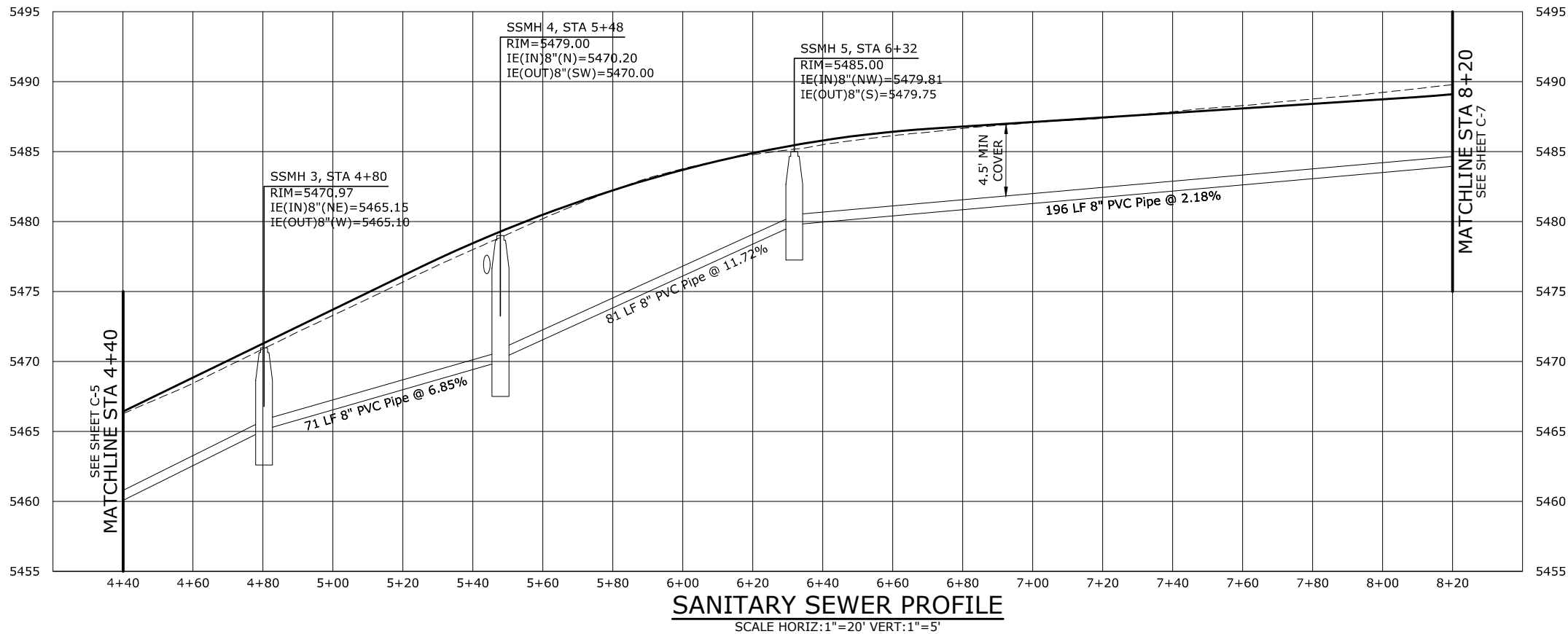
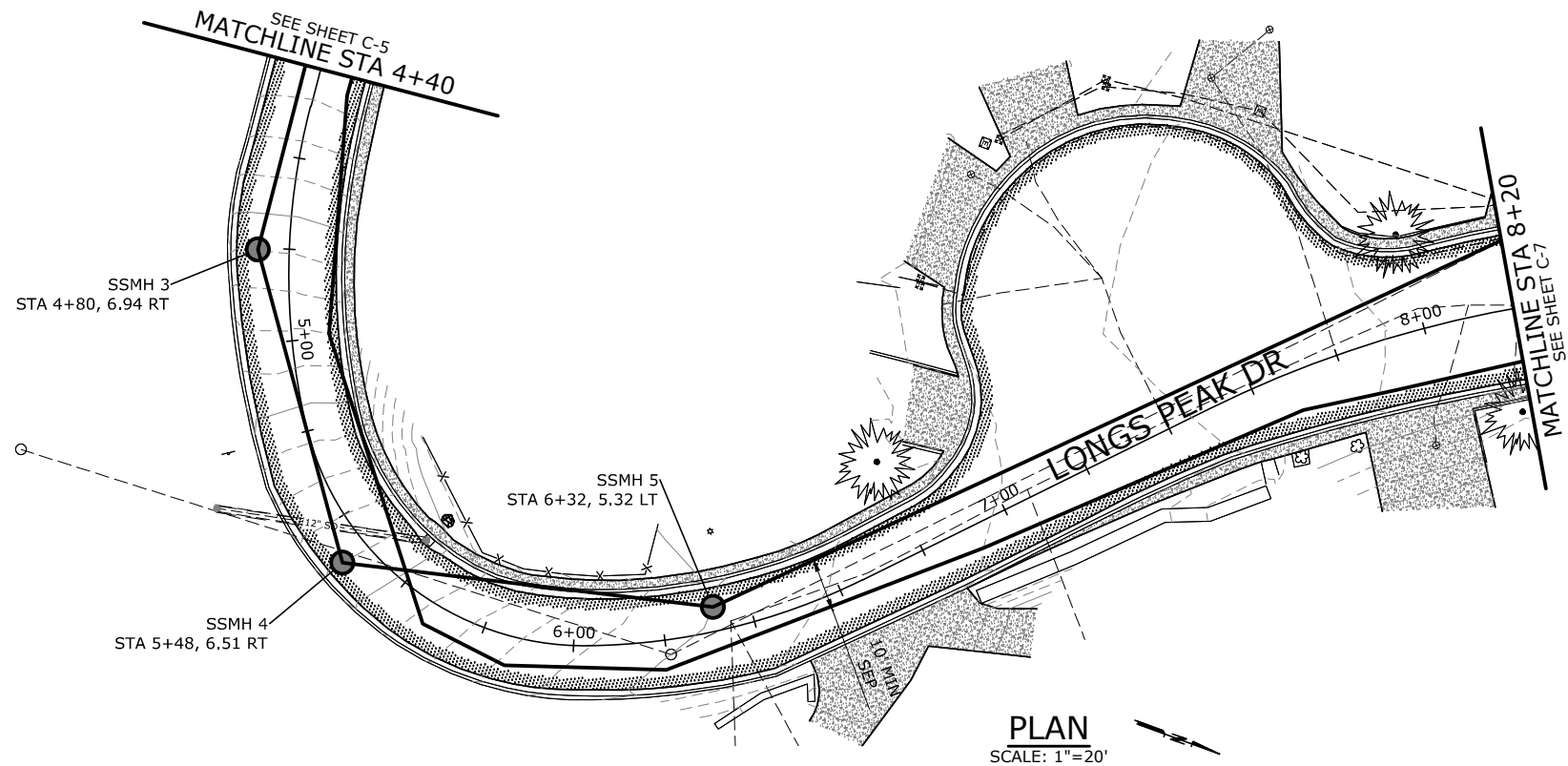
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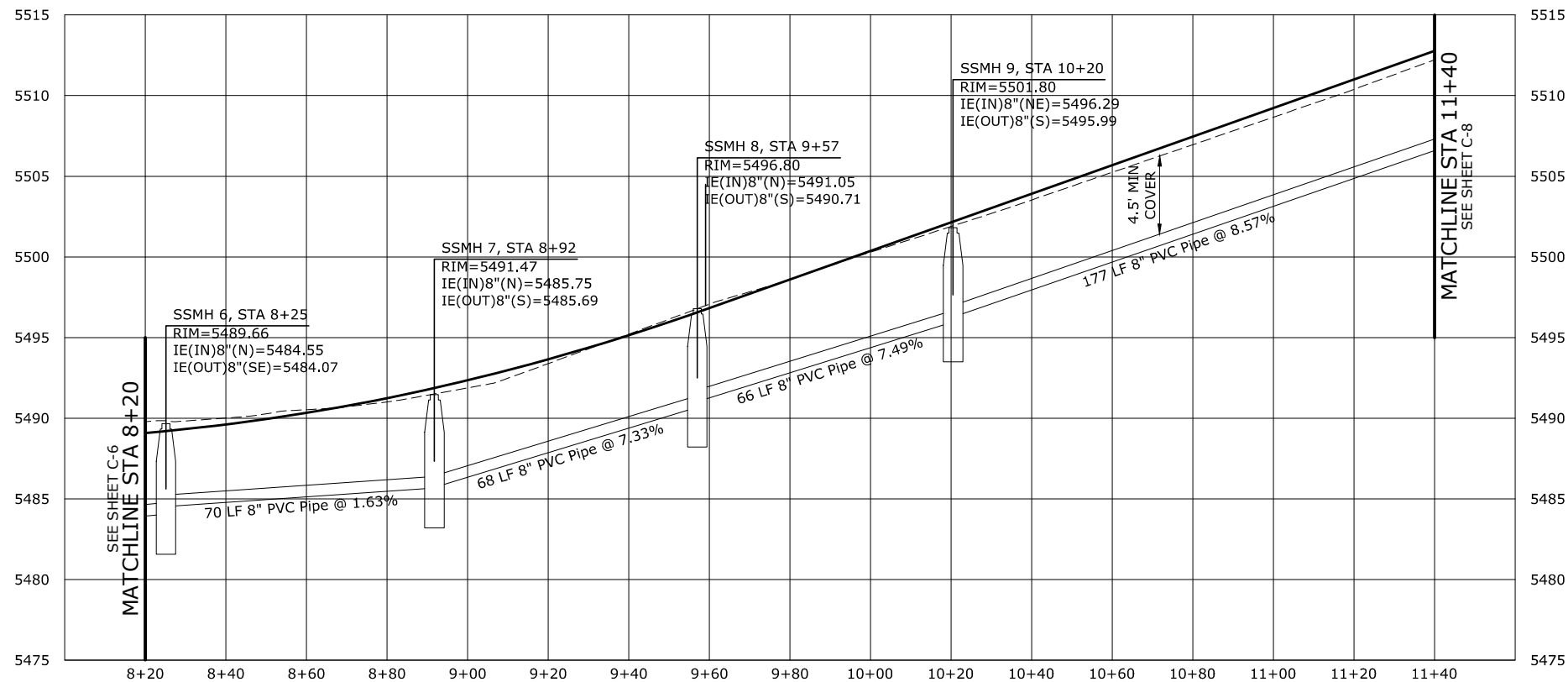
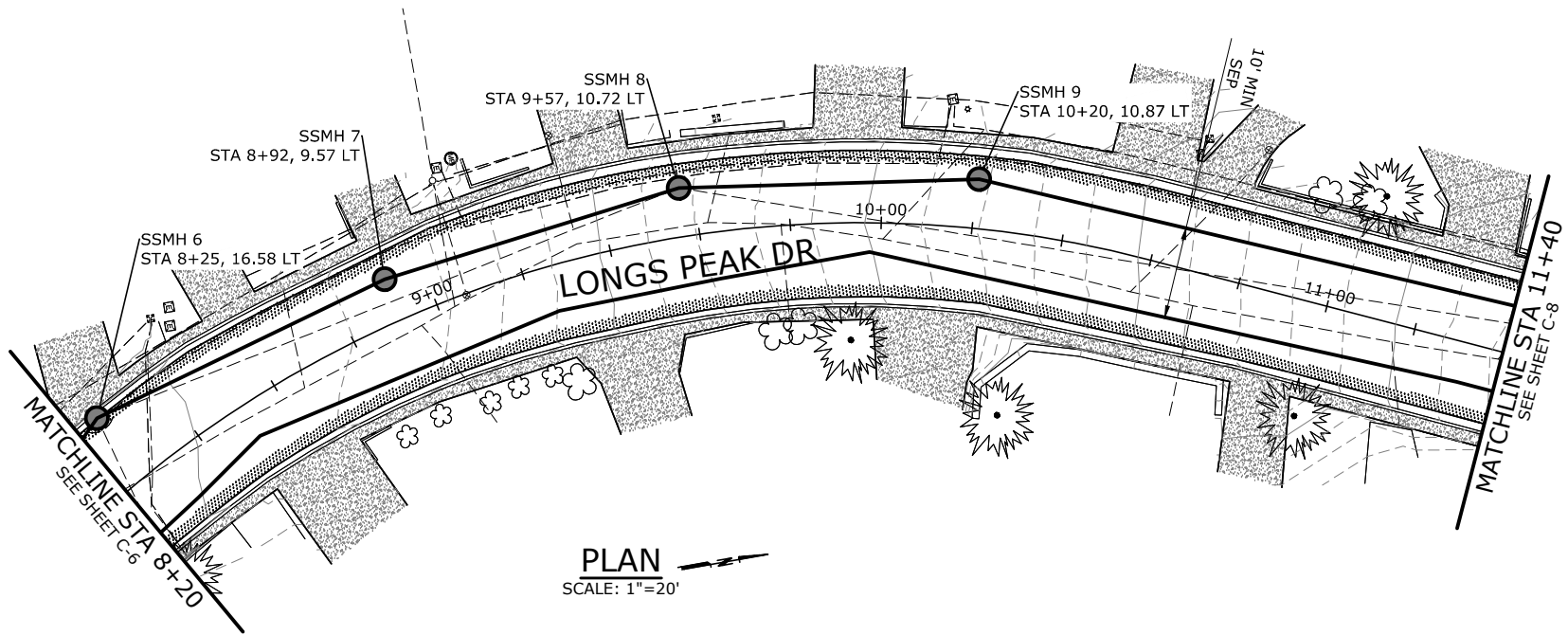
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SANITARY SEWER PROFILE
SCALE HORIZ: 1"=20' VERT: 1"=5'

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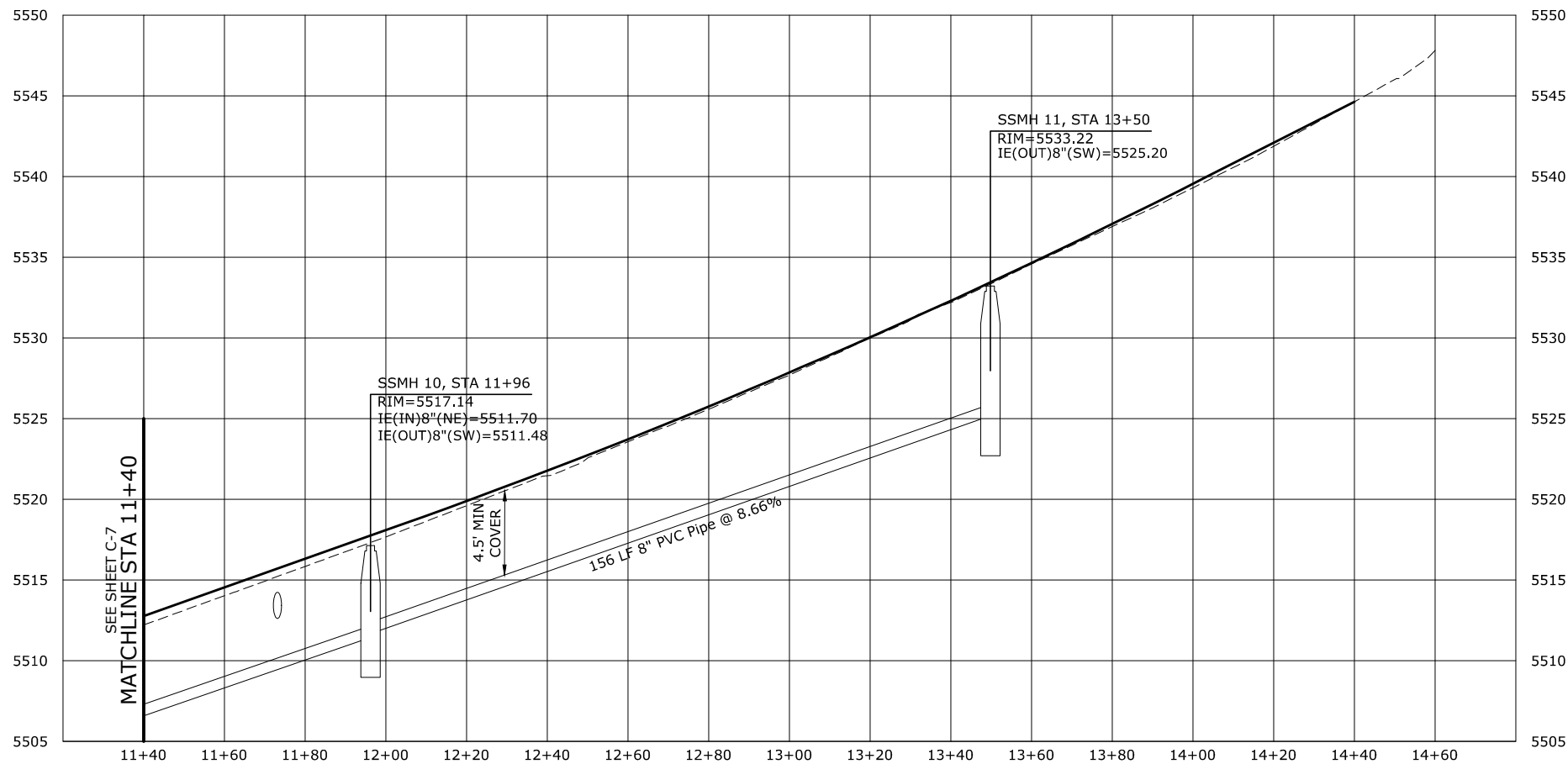
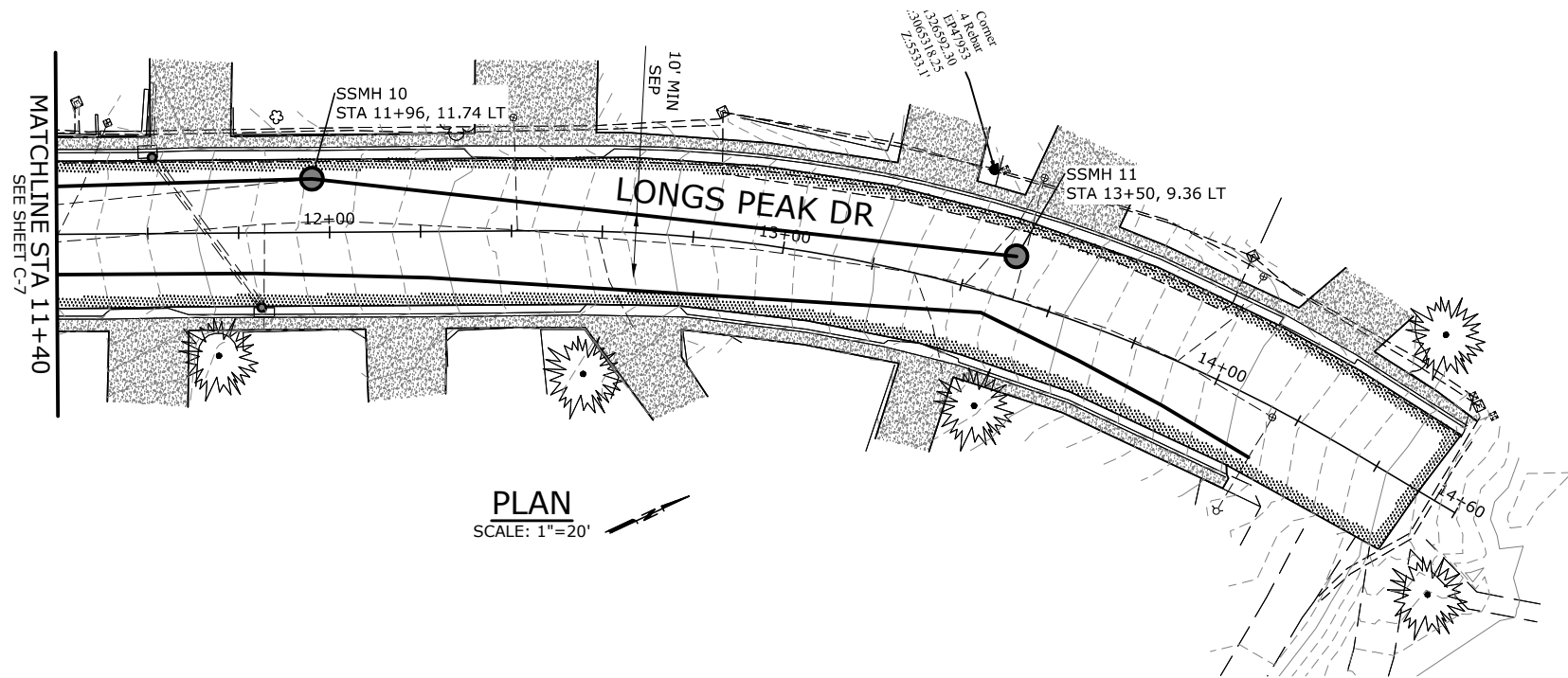
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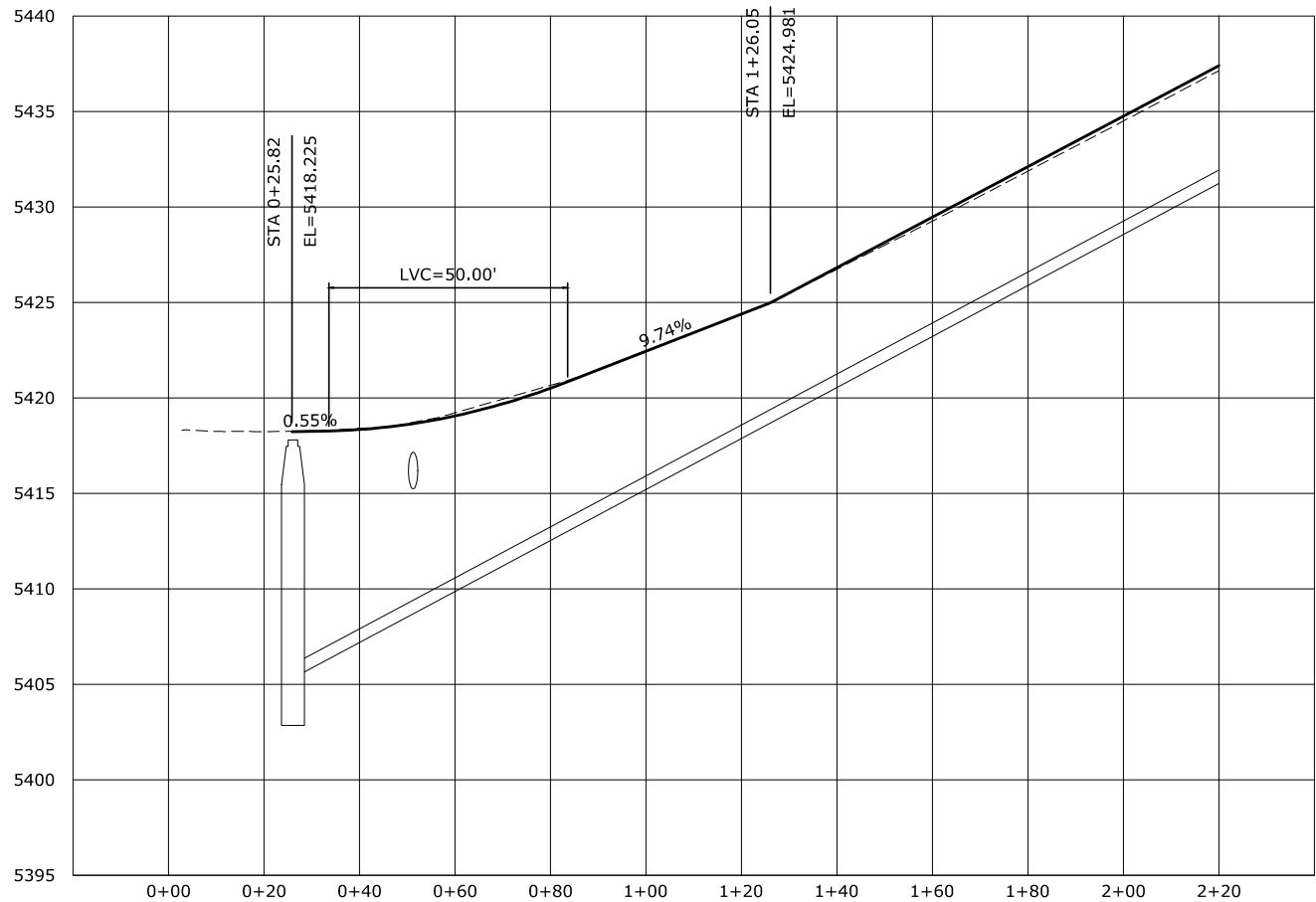
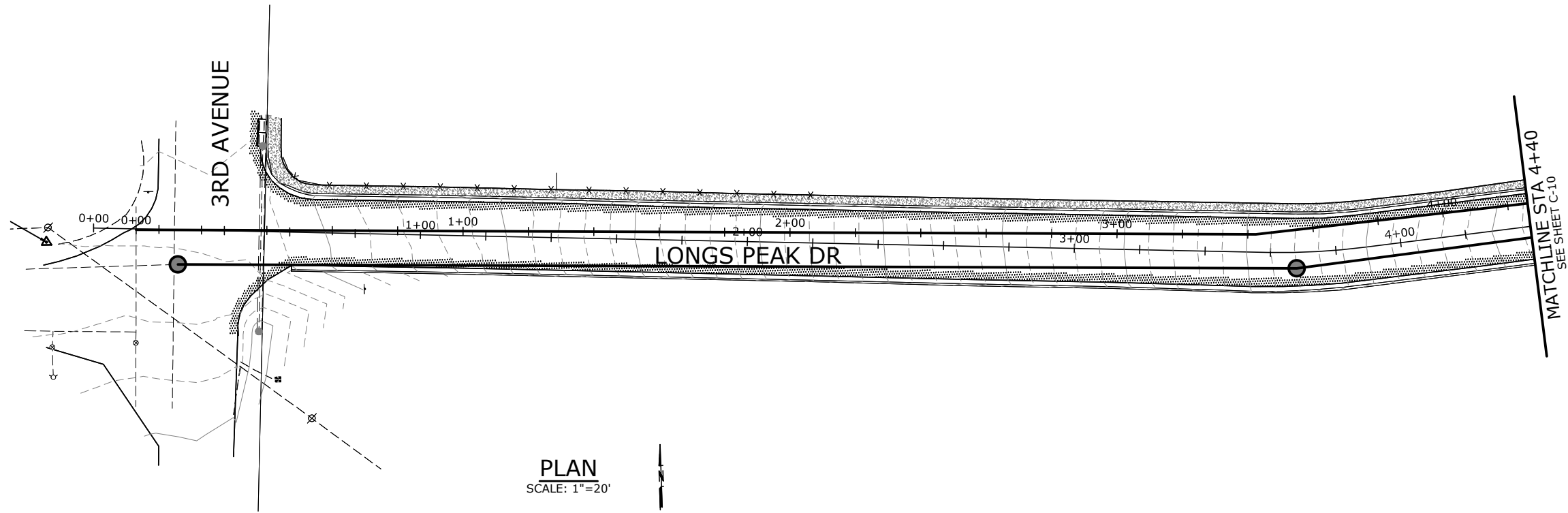
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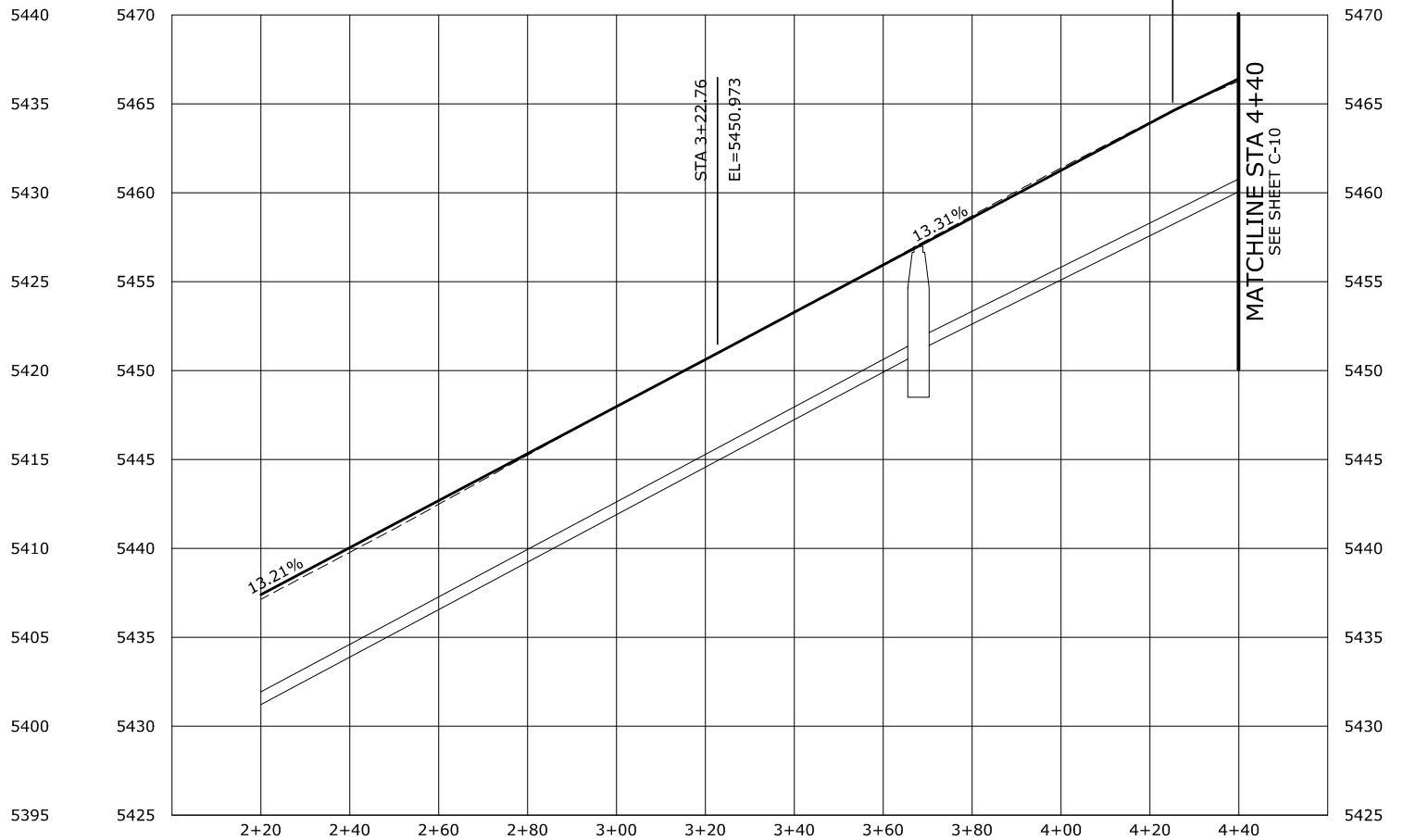
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ROADWAY PROFILE
SCALE HORIZ:1"=20' VERT:1"=5'



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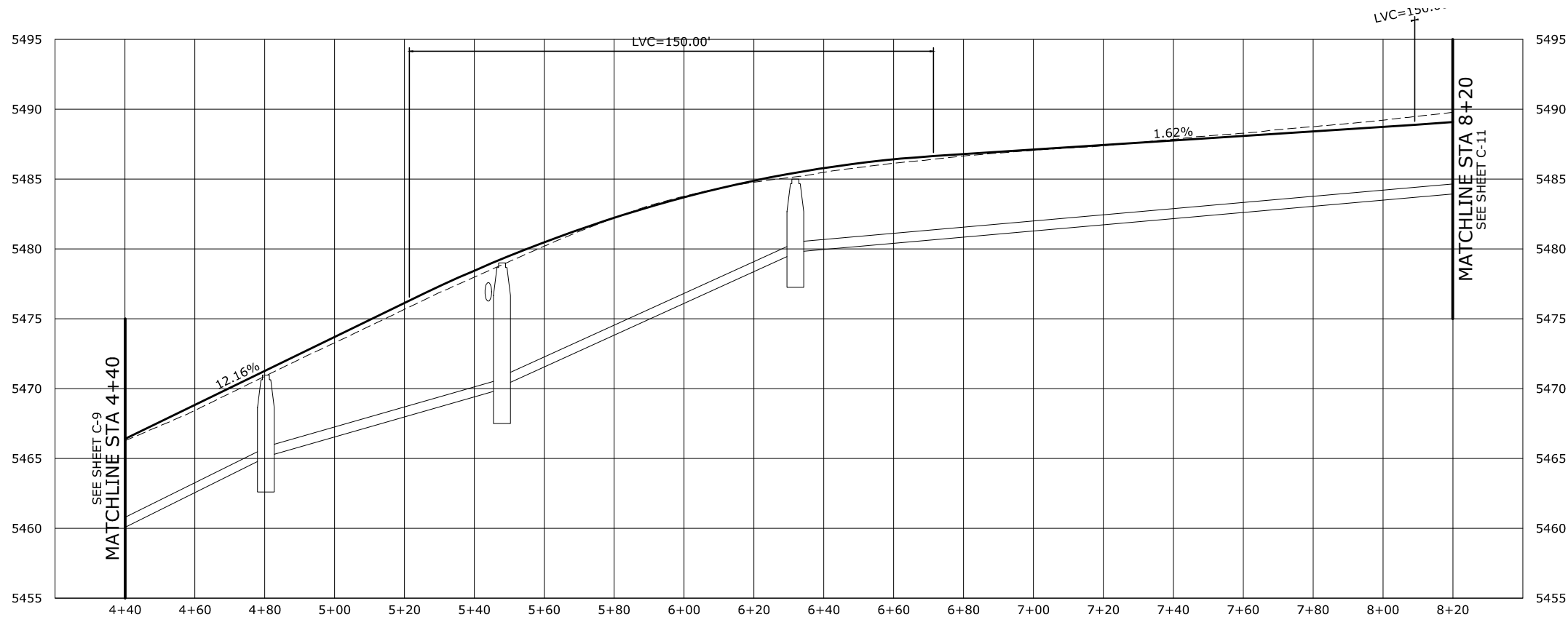
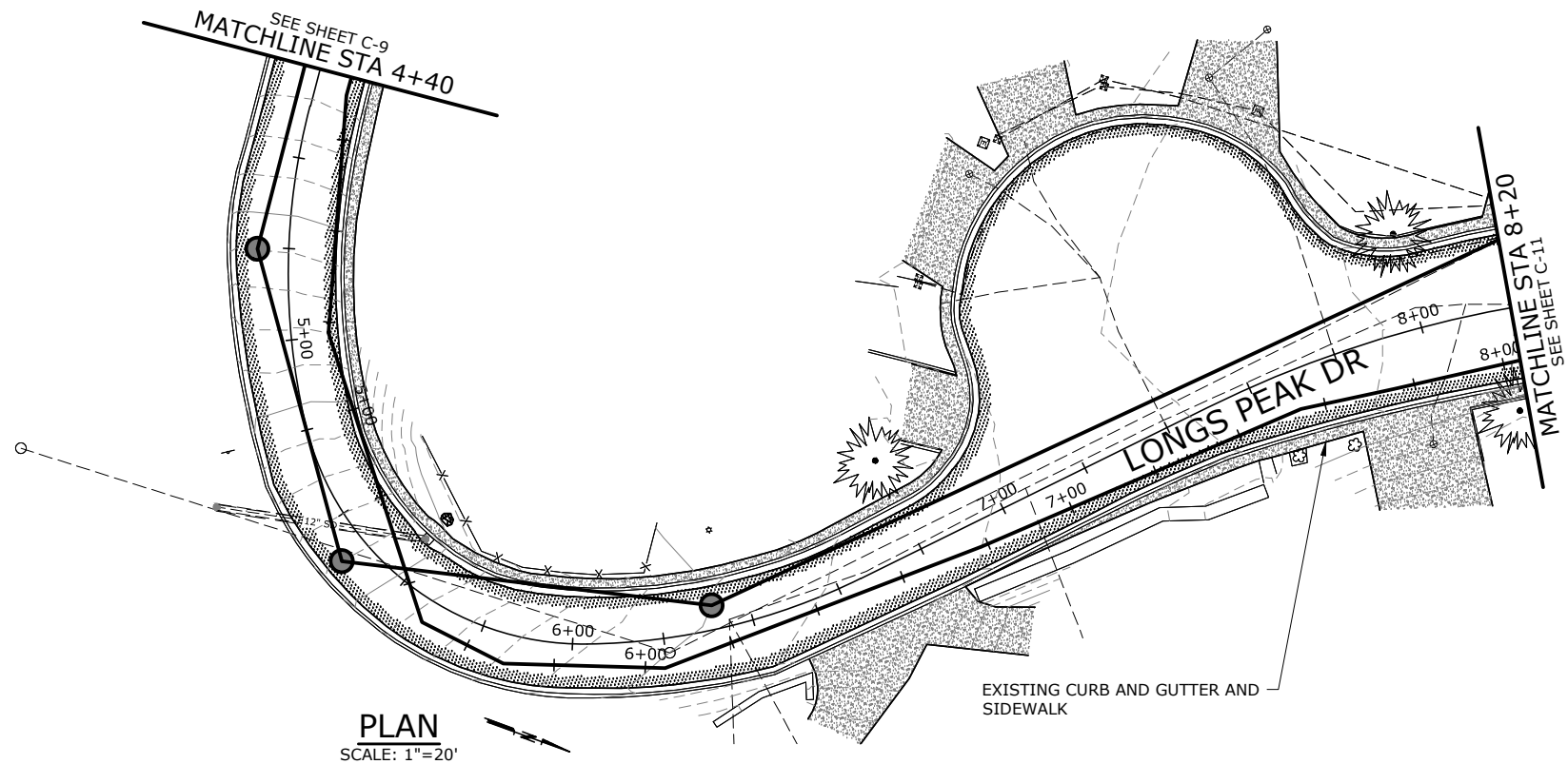
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NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

AMA
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CHK
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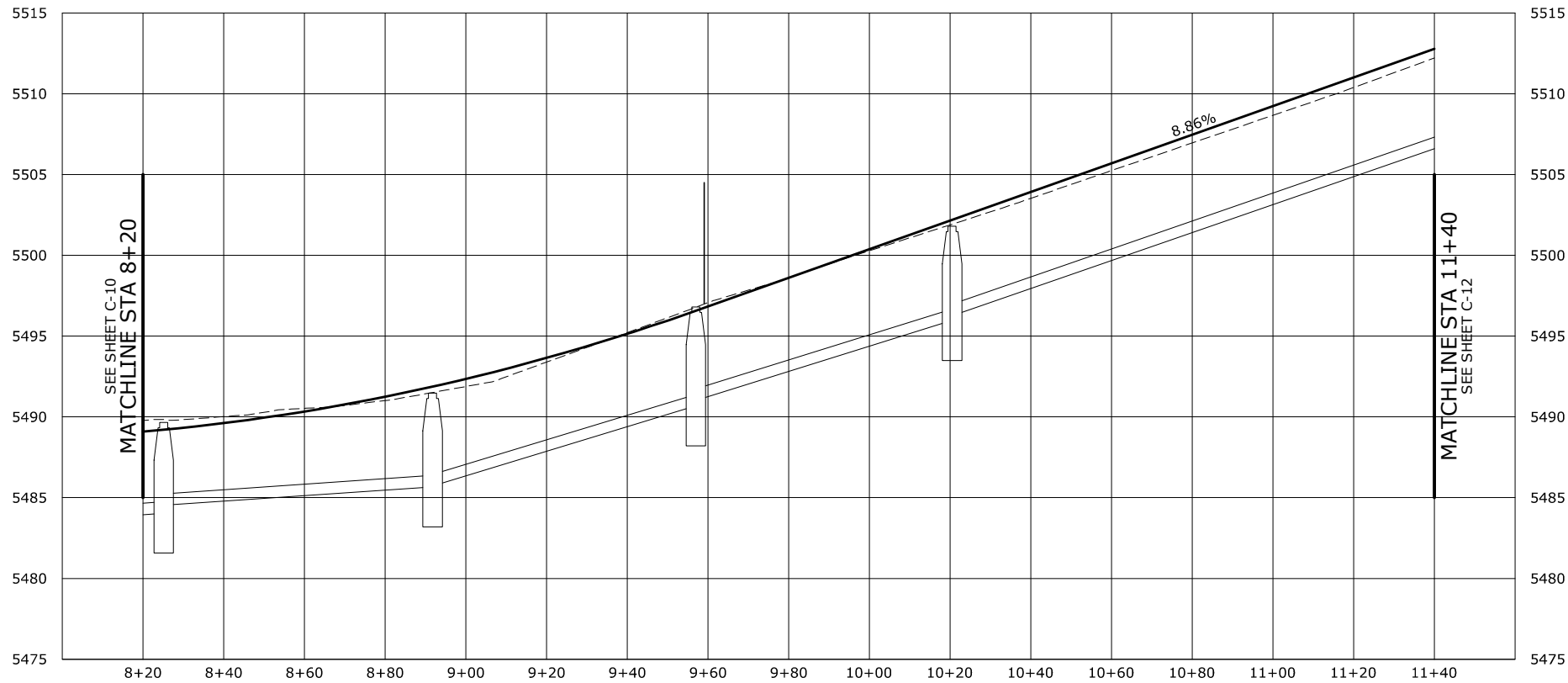
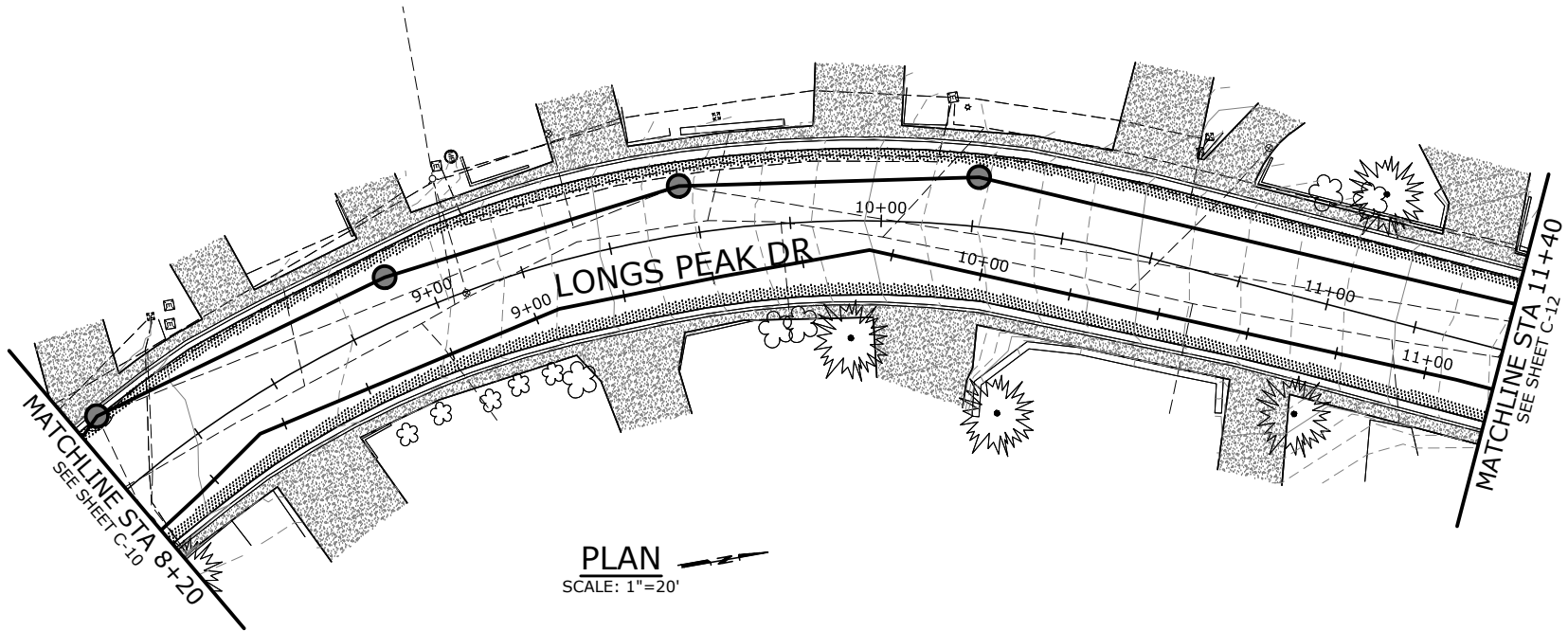
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LONGS PEAK ROADWAY
PLAN AND PROFILE
PROJECT NO.: 19-2529.100
SCALE: AS SHOWN
DATE: APRIL 2020

SHEET
C-10
1 of XX

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ROADWAY PROFILE
SCALE HORIZ: 1"=20' VERT: 1"=5'

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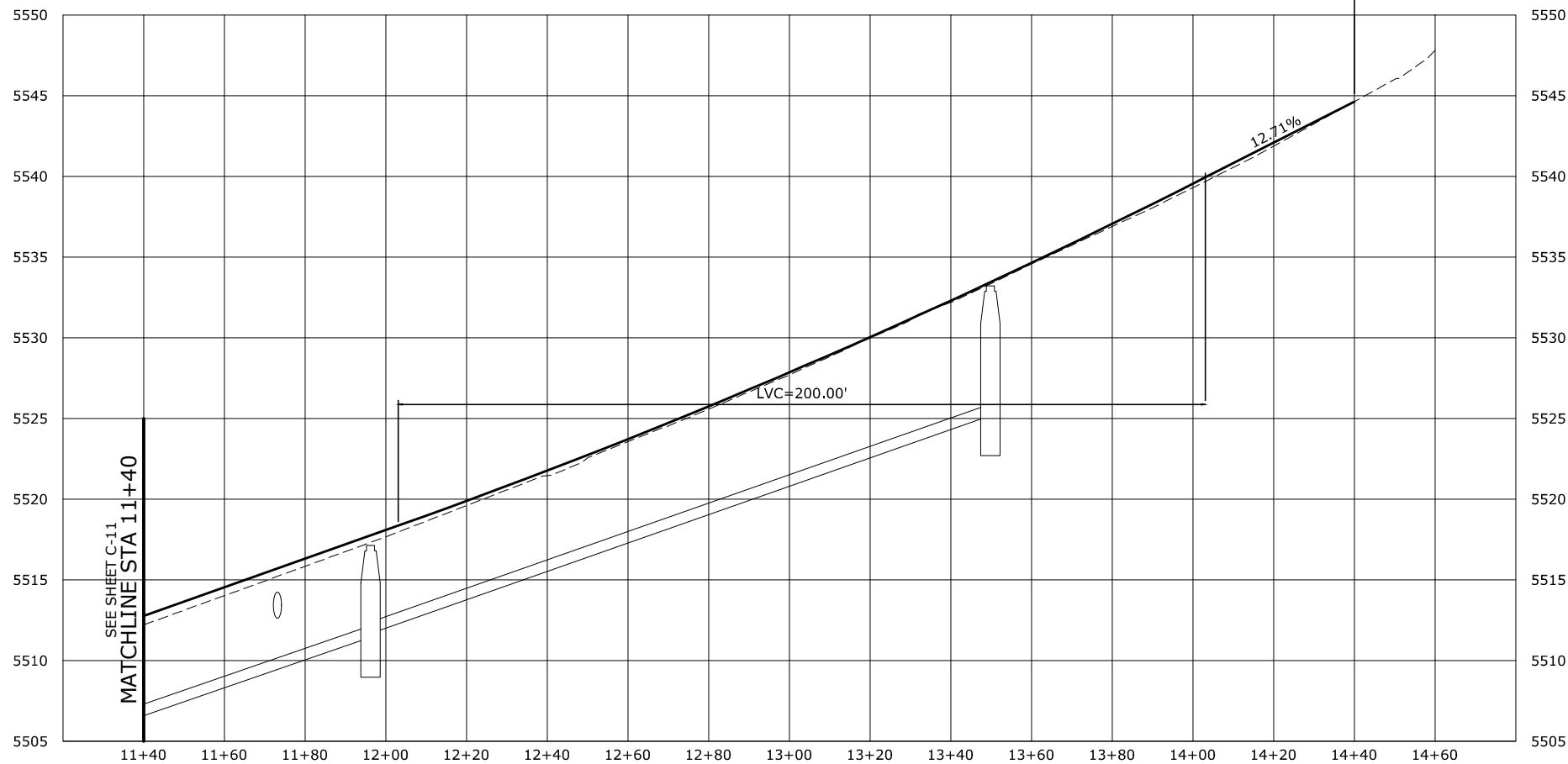
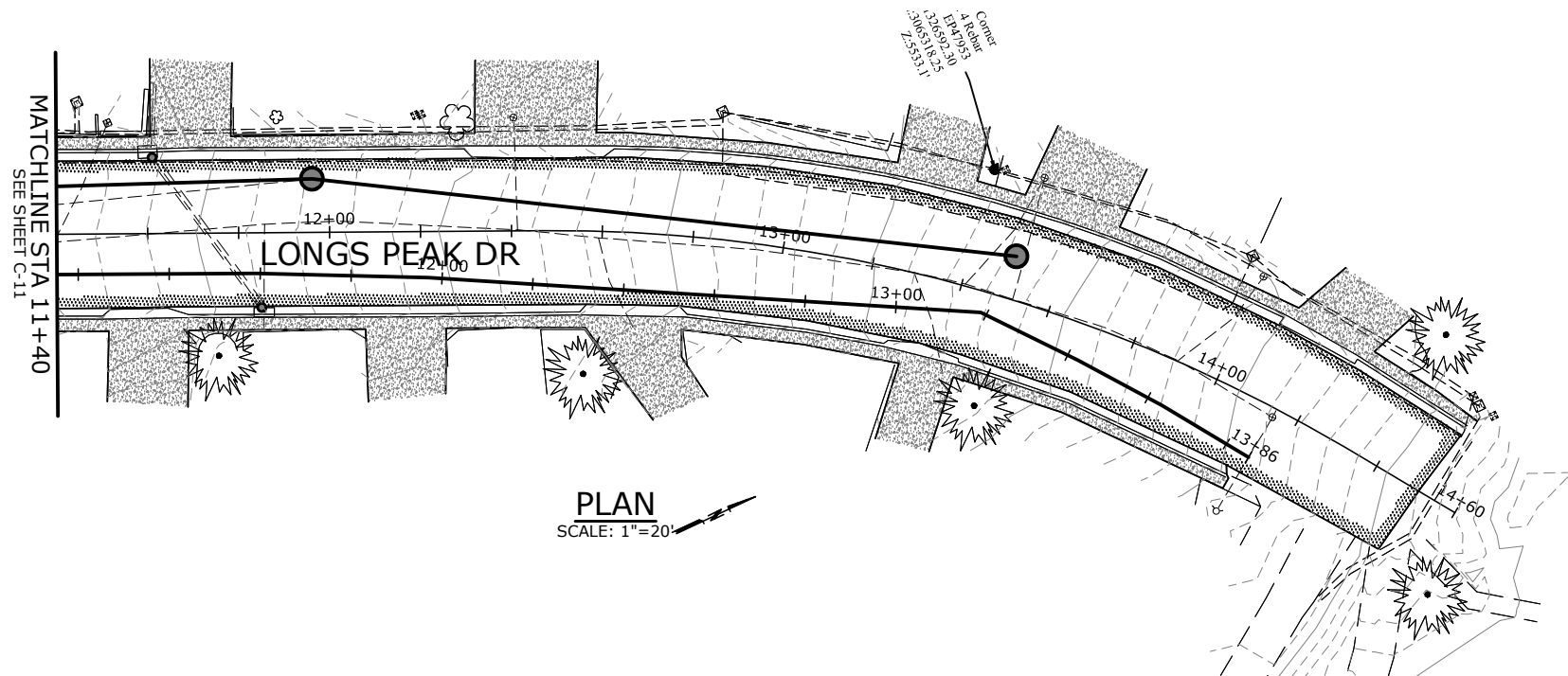
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LONGS PEAK ROADWAY PLAN AND PROFILE			
PROJECT NO.: 19-2529.100	SCALE:	AS SHOWN	DATE: APRIL 2020

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C-11
1 of XX

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ROADWAY PROFILE
SCALE HORIZ:1"=20' VERT:1"=5'

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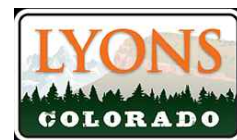
NO.	DATE	BY	REVISION

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LONGS PEAK ROADWAY
PLAN AND PROFILE

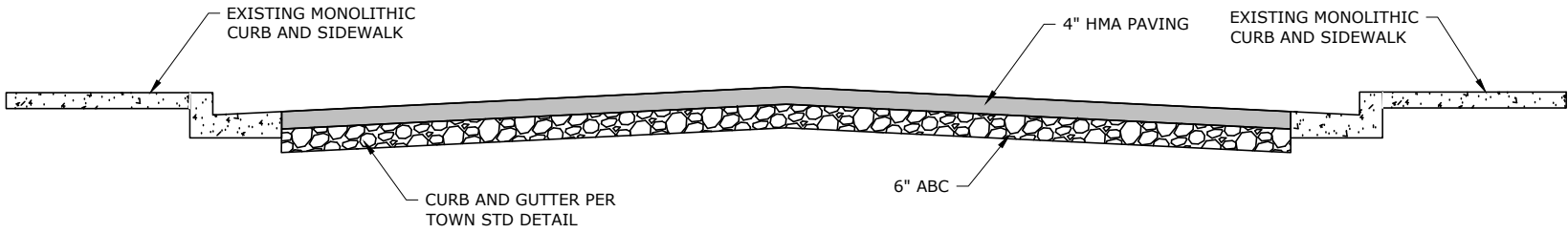
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C-12

1 of XX

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STA	to	STA	LANE WIDTH	GUTTER WIDTH
0+00	-	5+40	16'	2'
5+40	-	6+60	16'	1.5'
6+60	-	7+60	16'	1.5'
7+60	-	10+80	10'	1.5'
10+80	-	14+00	11'	1.5'

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NO.	DATE	BY	REVISION

NOTICE

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TYPICAL ROAD SECTIONS

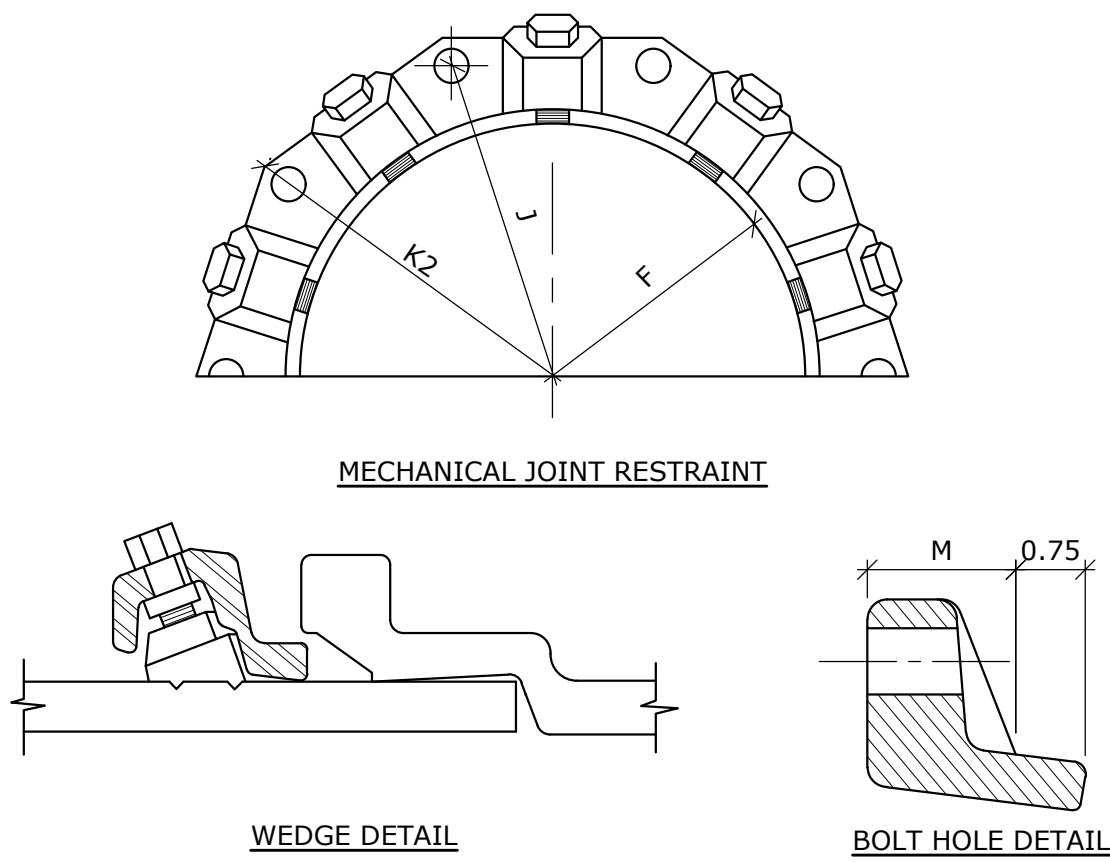
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C-13

1 of XX

I:\BOL Projects\19\2529 - Lyons Contract Town Engineer\Projects\23_Longs Peak Avenue\CAD\Sheets\19-2529-CO-DT-LONGS_Peak.dwg C-14 4/20/2020 11:54 PM ADRIENNE ANGELOS 23.0s (LMS Tech)



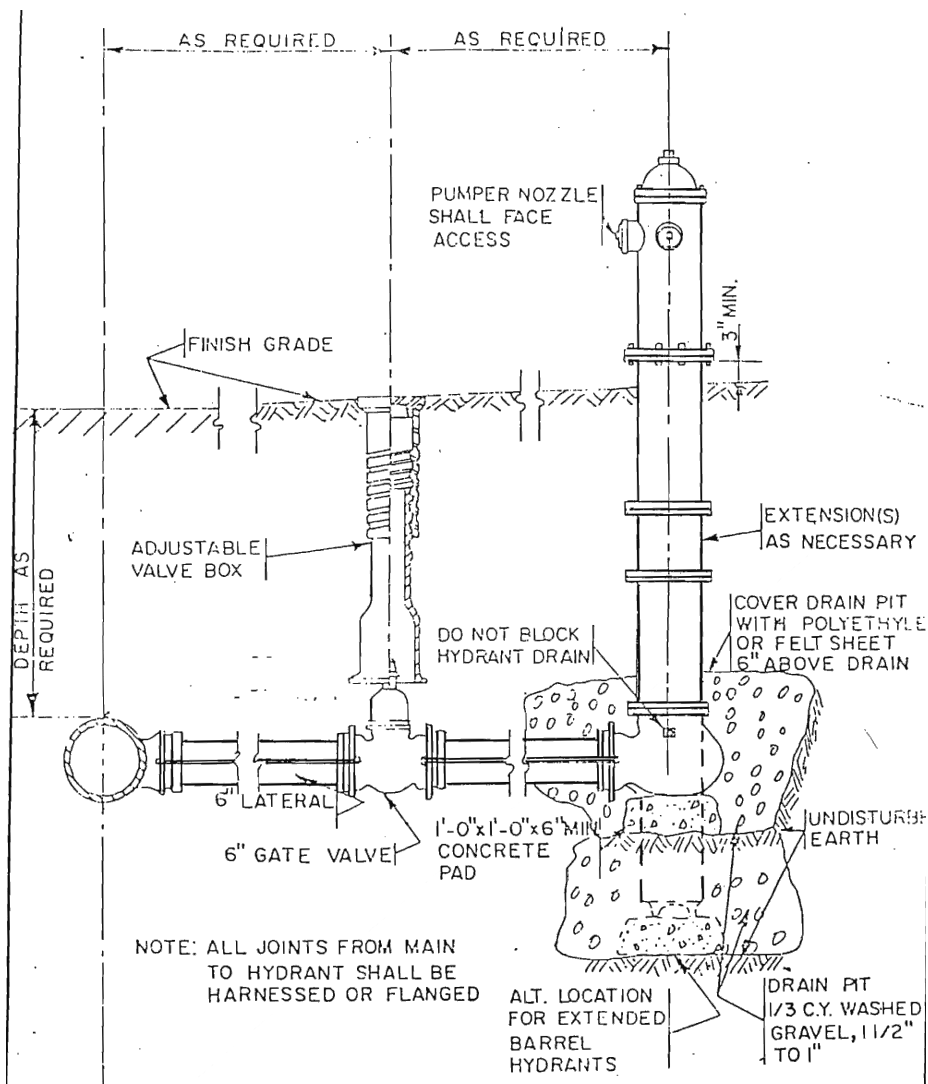
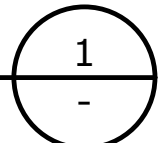
DIMENSIONS							
	NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
PVC	4"	2	2	11.12	9.50	7.00	0.88
	6"	6	3	13.37	11.75	9.15	1.00
	8"	6	4	13.37	11.75	9.15	1.00
	10"	8	6	15.62	14.00	11.20	1.00
DI	12"	8	8	17.88	16.25	13.30	1.25
	4"	4	2	11.12	9.50	7.00	0.88
	6"	6	3	13.37	11.75	9.15	1.00
	8"	6	4	13.37	11.75	9.15	1.00
DI	10"	8	6	15.62	14.00	11.20	1.00
	12"	8	8	17.88	16.25	13.30	1.25
	16"	12	12	22.50	21.00	17.54	1.56
	20"	14	14	27.00	25.50	21.74	1.69

NOTES:

1. BASED ON "MEGA LUG" PIPE RESTRAINT SYSTEM BY EBAA IRON.
2. OTHER MECHANICAL JOINT RESTRAINT DEVICES MUST BE APPROVED BEFORE INSTALLATION.

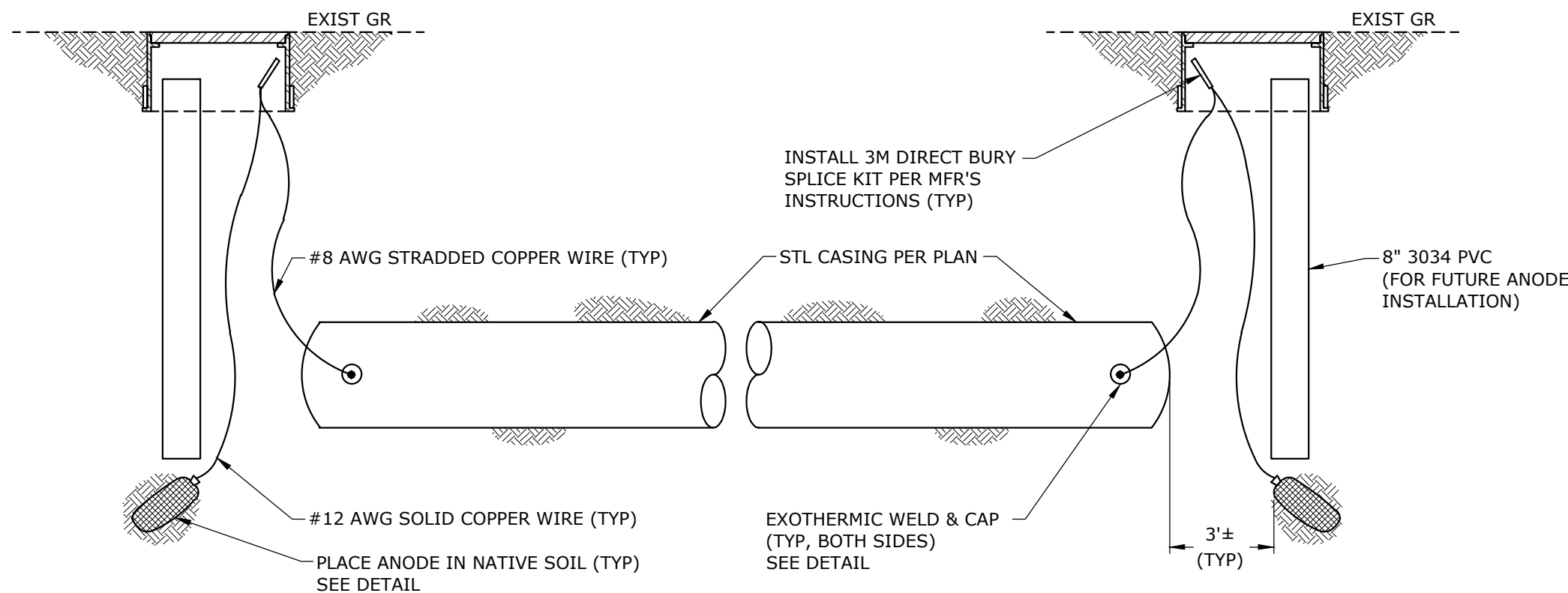
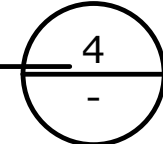
MECHANICAL JOINT RESTRAINT DETAIL

SCALE: NTS



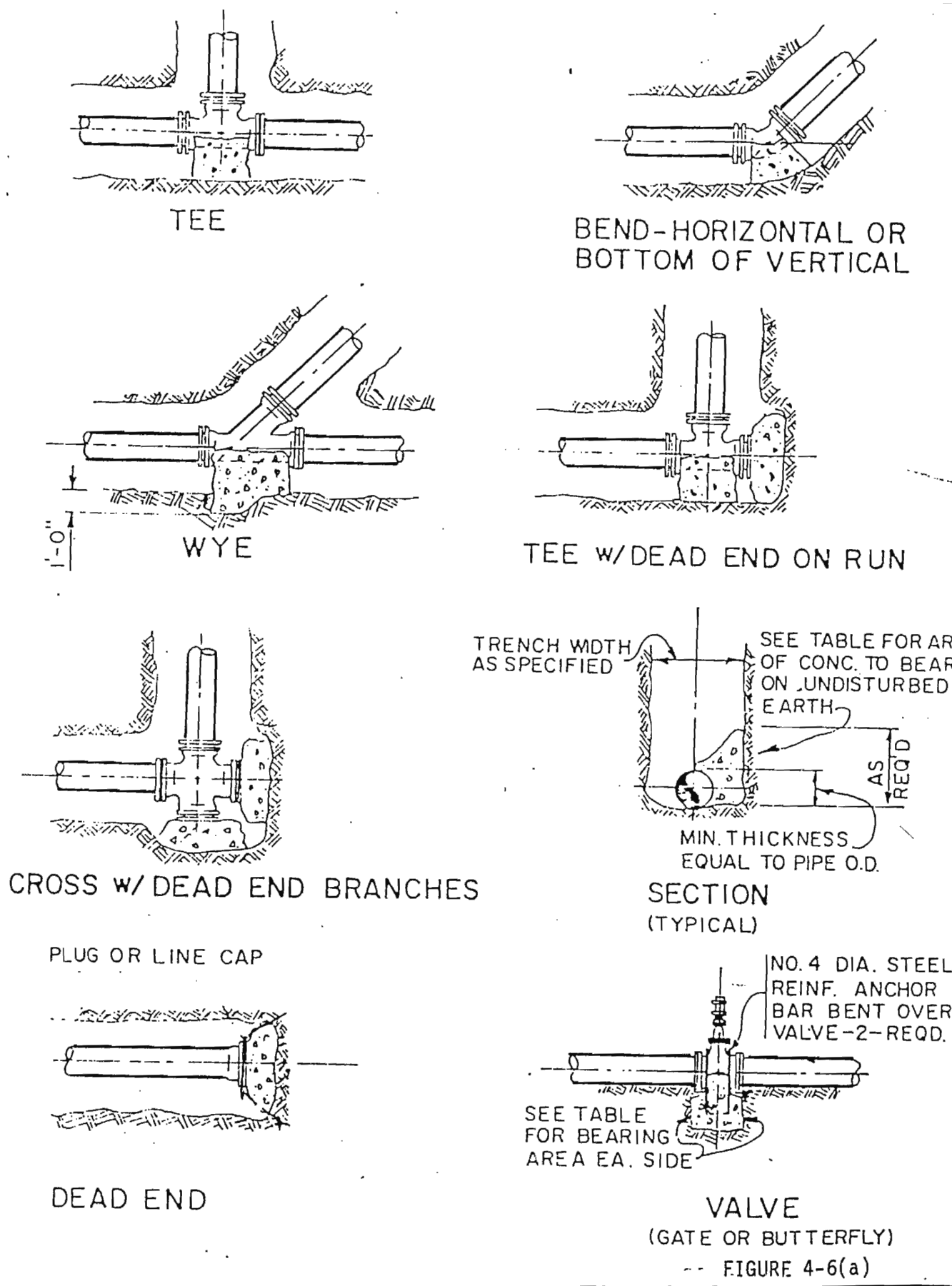
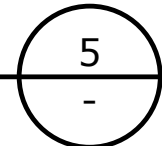
FIRE HYDRANT ASSEMBLY

SCALE: NTS



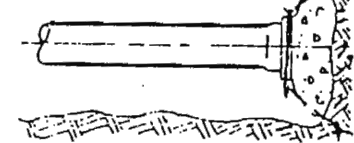
TYPICAL CASING CATHODIC PROTECTION ANODE PLACEMENT AND TEST STATION DETAIL

SCALE: NTS



CROSS W/DEAD END BRANCHES

PLUG OR LINE CAP



DEAD END

CONCRETE THRUST BLOCKS

SCALE: NTS

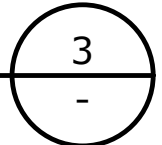


TABLE OF BEARING AREAS IN SQ. FT. FOR CONCRETE THRUST BLOCKING

FOR 100 P.S.I. INTERNAL STATIC PRESSURE AND 1000 LBS. PER SQ. FT. SOIL BEARING CAPACITY.

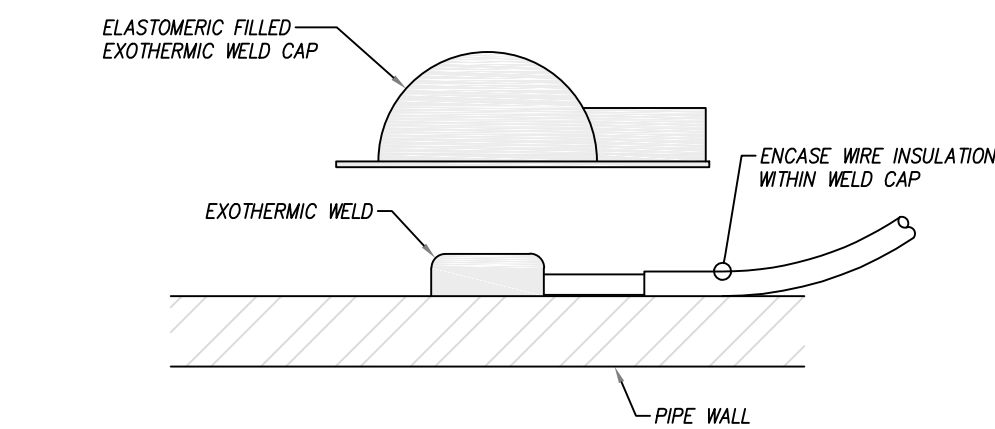
SIZE	BENDS				TEES	GATE VALVES	DEAD ENDS	CROSS W/ BRANCH 2 BR/1 PLUGGED	CROSS W/ BRANCH 2 BR/1 PLUGGED
	90°	45°	22 1/2°	11 1/4°					
3	1.0	0.6	0.3	0	0.7	0.5	0.7	0.7	0.7
4	1.8	1.0	0.5	0	1.3	0.5	1.3	1.3	1.3
6	4.0	2.2	1.1	0	2.8	0.7	2.8	2.8	2.8
8	7.1	3.8	2.0	1.0	5.0	2.4	5.0	5.0	5.0
10	11.1	6.0	3.0	1.5	7.8	4.5	7.8	7.8	7.8
12	16.0	8.6	4.4	2.2	11.3	7.3	11.3	11.3	11.3
14	21.7	11.8	6.0	3.0	15.4	11.0	15.4	15.4	15.4
15	25.0	13.5	7.0	3.5	17.6	SPECIAL DESIGN	17.6	17.6	17.6
16	28.4	15.3	8.0	4.0	20.0		20.0	20.0	20.0
18	36.0	19.4	10.0	5.0	25.4		25.4	25.4	25.4
20	44.2	24.0	12.2	6.1	31.4		31.4	31.4	31.4
21	49.0	26.5	13.5	6.8	34.6		34.6	34.6	34.6
22	54.0	29.0	14.8	7.4	38.0		38.0	38.0	38.0
24	64.0	34.5	17.7	8.8	45.0		45.0	45.0	45.0
30	100.0	54.0	27.6	13.8	71.0	SPECIAL DESIGN	71.0	71.0	71.0
36	144.0	78.0	40.0	20.0	102.0		102.0	102.0	102.0

SIZE IS BRANCH SIZE.

AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 100 P.S.I. AND A SOIL BEARING CAPACITY OF 1000 LBS. PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

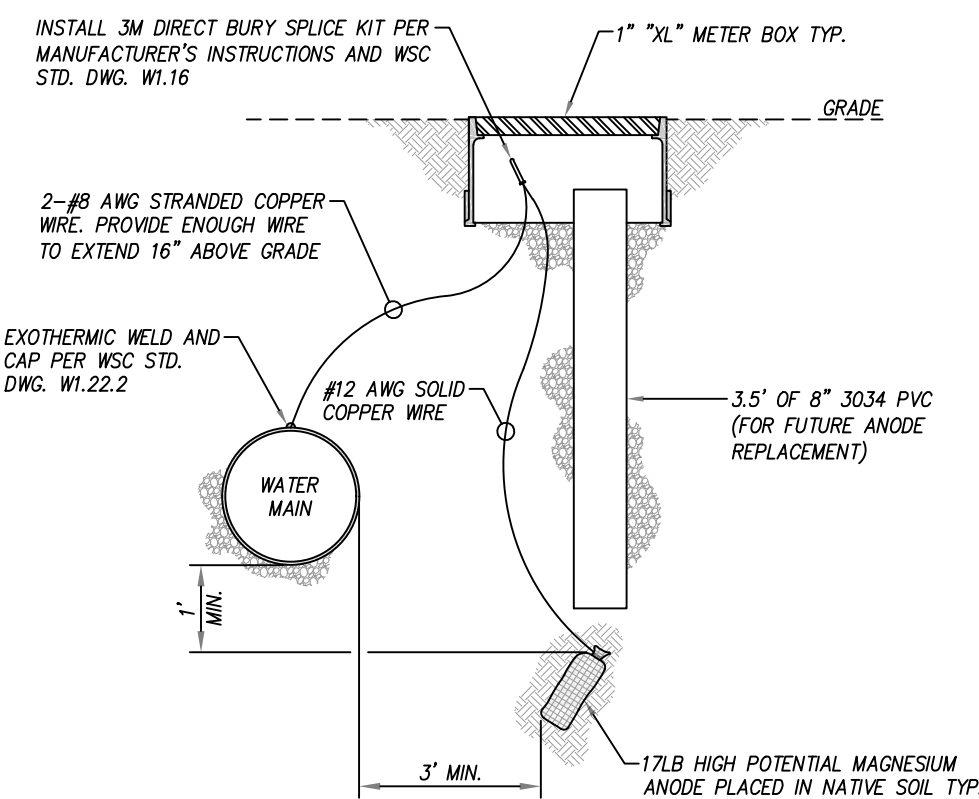
F = $\frac{\text{ACTUAL SPECIFIED TEST PRESSURE IN HUNDREDS OF LBS./SQ. IN.}}{\text{ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS.}}$

FIGURE 4-6(b)



NOTES

1. GRIND PIPE SURFACE TO BRIGHT METAL PRIOR TO EXOTHERMIC WELDING.
2. APPLY WELD CAP DIRECTLY TO PIPE, NOT TO PIPE WRAP. USE PRIMER AS REQUIRED BY MANUFACTURER. COMPLETELY ENCLOSE WIRE WITHIN ELASTOMER.
3. REPAIR ANY DAMAGED COATING NOT COVERED BY WELD CAP.
4. PROVIDE ONE (1) 17 POUND HIGH POTENTIAL MAGNESIUM ANODE PER SIX (6) STEEL PIPE JOINTS AND ONE (1) 17 POUND HIGH POTENTIAL MAGNESIUM ANODE PER CAST IRON PIPE LENGTH. INSTALL ANODES AT JOINTS AND BOND THE EXCAVATED JOINTS.
5. DIELECTRICALLY ISOLATE ALL MAINS AND SERVICE CONNECTIONS FROM THE PROJECT MAINS. DO NOT BREAK THE EXISTING RESTRAINED JOINT SCHEDULE; IF ISOLATION IS WITHIN A RESTRAINED JOINT SECTION OF PIPE, PROVIDE AN INSULATING RESTRAINED JOINT. PROVIDE A TEST STATION AT ALL BURIED INSULATION JOINTS PER WSC STANDARD DWG. W1.22.3, EXCEPT SERVICE CONNECTIONS WHERE THERE IS ACCESS TO THE SERVICE AT A VAULT, ETC. AT THOSE INSULATION JOINTS WITH TEST STATIONS PROVIDE TWO (2) ANODES SPACED AS FAR AS POSSIBLE IN THE EXCAVATION, AND BRING THE ANODE WIRES TO THE TEST STATION AND CONNECT ONE ANODE TO EACH SIDE OF THE JOINT.
6. THE ENGINEER WILL EVALUATE ISOLATION AND DETERMINE ADDITIONAL ANODE REQUIREMENTS, IF ANY, AFTER THE ISOLATION WORK IS COMPLETE. THIS PRELIMINARY CORROSION CONTROL WORK IS NOT INTENDED TO PROVIDE A COMPLETE NUMBER OF ANODES OR THE ASSURED CATHODIC PROTECTION OF CONTINUOUSLY BONDED JOINT PIPE.
7. FOR LIFE AND SAFETY CONCERNS, BEFORE DIELECTRIC ISOLATION OF SERVICES NOTIFY THE CUSTOMER AND ASSURE THAT ALTERNATE ELECTRICAL GROUNDING IS INSTALLED.



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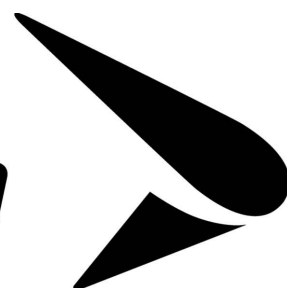
NO.	DATE	BY	REVISION
1	02/28/20	JSP	RECORD DRAWING

NOTICE
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WATERLINE DETAILS

PROJECT NO.: 19-2529.100 SCALE: AS SHOWN DATE: APRIL 2020

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