

ENGINEERING
ENGINEERING & SURVEYING
SOLUTIONS

50 SE. 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816) 623-9849

Professional Registration
Missouri
Engineering 200502196-D
Surveying 2005008319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Professional Registration
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Engineering 2005002186-D
Surveying 2005008319-D
Kansas
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Nebraska
Engineering CA2821

THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-74 and Tracts C-1 & D-1
Lee's Summit, Jackson County, Missouri

Project: VILLAS OF CHAPEL
RIDGE, LSMO

Issue Date: June 24, 2022

COVER SHEET

CONSTRUCTION PLANS FOR:

THE VILLAS OF CHAPEL RIDGE-2ND PLAT

LOTS 43-74 and Tracts C-1 & D-1

Lee's Summit, Jackson County, Missouri



Matthew J. Schlicht
 MO PE 2006019708
 KS PE 19071
 OK PE 25226
 NE PE E-14335

REVISIONS

REV. 8/12/2022

C.400

SANITARY SEWERS:

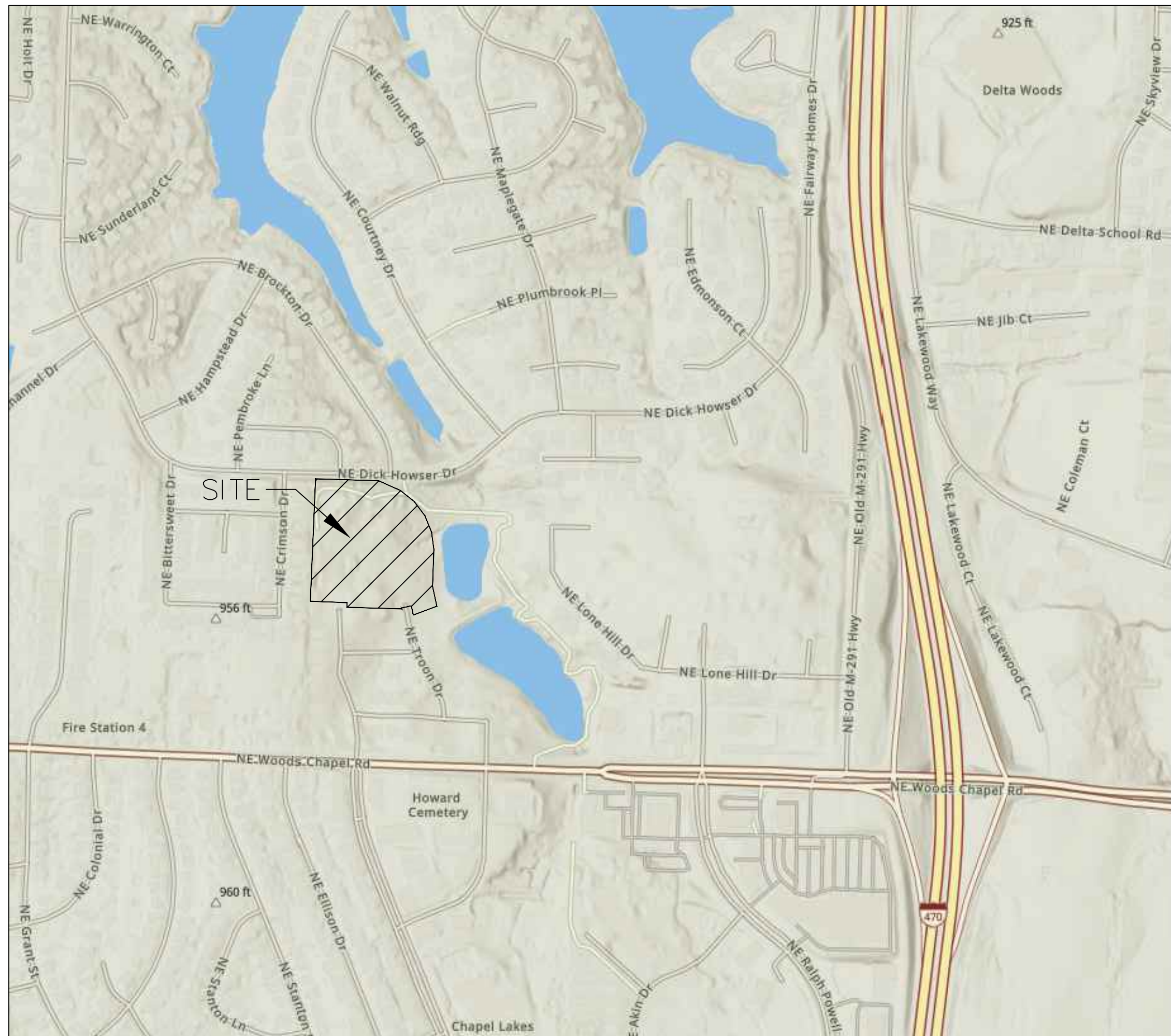
1. SANITARY SEWER PIPE SHALL BE POLY VINYL CHLORIDE (PVC), SDR-26, UNLESS NOTED OTHERWISE IN THESE PLANS.
2. HOUSE SEWER LATERALS SHALL BE 4" INCH PVC, SDR-26. LATERALS SHALL BE CONSTRUCTED USING A TOP ORIENTED "WYE" AT THE SEWER STATION SHOWN IN THESE PLANS. LATERALS SHALL BE LAID AT A GRADE OF 2.0% FROM THE SEWER MAIN TO THE STREET RIGHT-OF-WAY OR EASEMENT LINE AS REPRESENTED BY THE LATERAL LENGTH SHOWN IN THESE PLANS. THE ELEVATION SHOWN FOR THE END OF THE LATERAL IN THESE PLANS IS APPROXIMATE. THE ACTUAL ELEVATION SHALL BE DETERMINED BY THE FLOW LINE ELEVATION OF THE SEWER MAIN, THE FITTINGS AND GRADE OF THE SEWER LATERAL.
3. THE CONTRACTOR SHALL MAINTAIN A LOG OF THE "AS BUILT" STATION AND LENGTH OF EACH HOUSE LATERAL AND SHALL PROVIDE ENGINEERING SOLUTIONS, L.L.C. WITH A COPY OF SAID LOG UPON COMPLETION OF SEWER CONSTRUCTION.
4. ALL MANHOLES INSTALLED IN THE STREET RIGHT-OF-WAY SHALL BE FINISHED 1/2" PER FOOT ABOVE THE NEAREST ADJACENT BACK OF CURB
5. A STAKE SHALL BE PLACED AT THE END OF EACH WYE CONNECTION WITH THE END ELEVATION WRITTEN ON THE STAKE
6. FILL AREAS SHALL HAVE 18" OF COMPACTED FILL IN PLACE PRIOR TO TRENCHING
7. A TRENCH CHECK CONSISTING OF FLOWABLE FILL MUST BE INSTALLED ON EVERY PRIVATE LATERAL.

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.

2 ~ TRENCH CHECKS SHALL BE INSTALL AT ALL SANITARY WYES LOCATION.

ACCORDING TO EDWARD ALTON MAY JR'S ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI IN 1995, THERE ARE NOT OIL AND GAS WELLS WITHIN 185 FEET OF THE PROPERTY AS SURVEYED HEREON.

The property is located in Zone "X" areas outside the 100 year flood plain per FEMA Map 29095C0430G, dated January 20, 2017



THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

EVERGY ~ 298-1196
MISSOURI GAS ENERGY ~ 756-5261
SOUTHWESTERN BELL TELEPHONE ~ 761-5011
COMCAST CABLE ~ 795-1100
WILLIAMS PIPELINE ~ 422-6300
CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800
CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING INSPECTION AT 816.969.1200
CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900
MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483

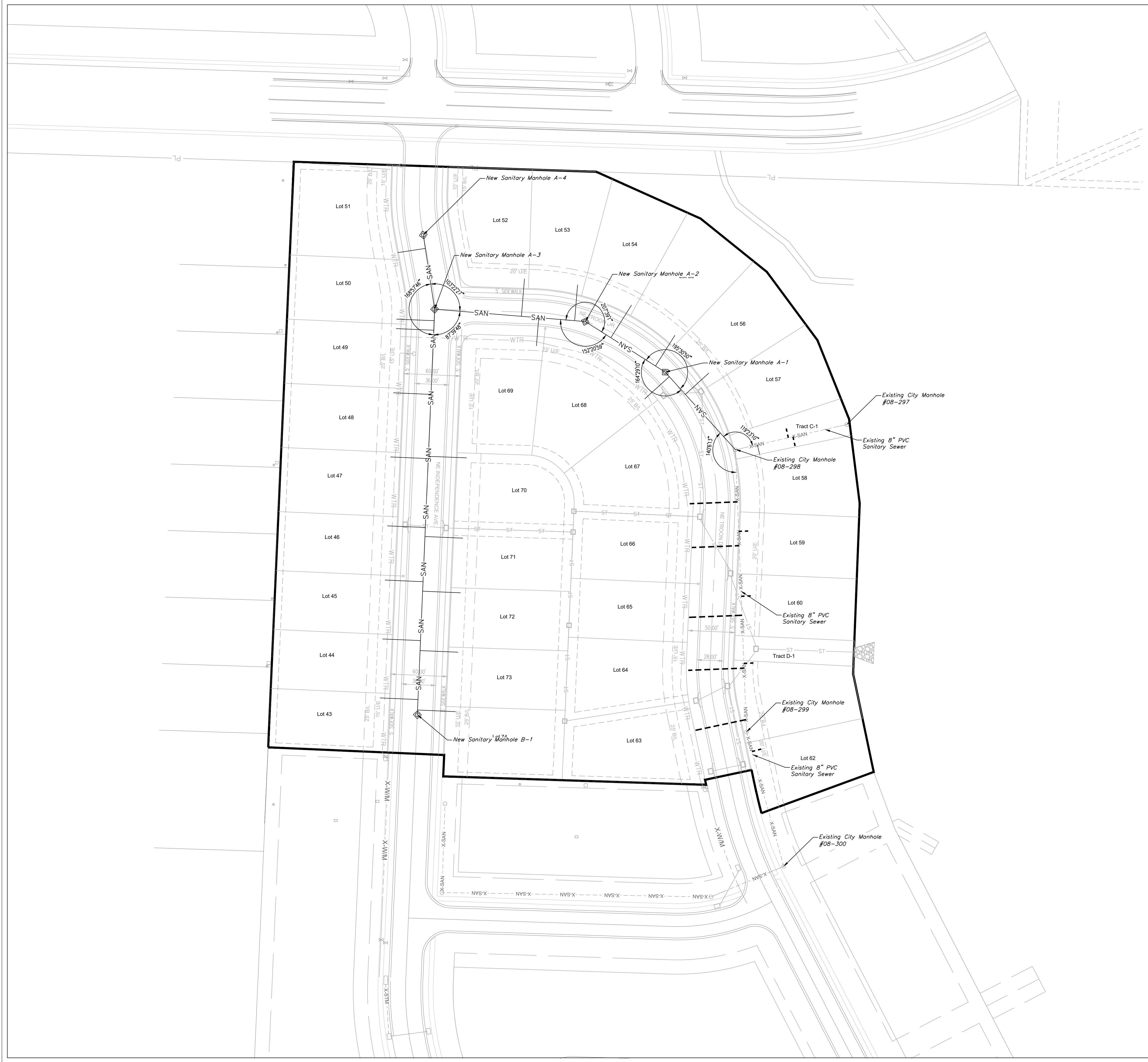
LEGEND:

B/L	- BUILDING SET-BACK
C/A	- COMMON AREA
D/E	- DRAINAGE EASEMENT
FND.	- FOUND
L/E	- LANDSCAPE EASEMENT
L.N.A.	- LIMITS OF NO ACCESS
R/W	- RIGHT OF WAY
SAN	- SANITARY SEWER LINE
S/W	- SIDEWALK
U/E	- UTILITY EASEMENT
W	- WATER LINE
ST	- STORM SEWER LINE

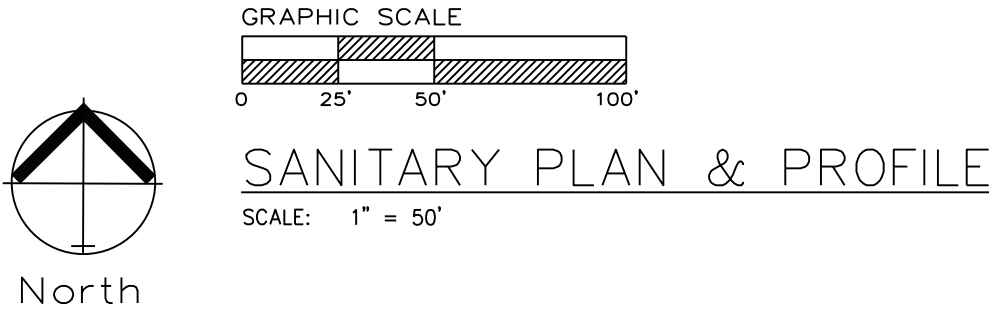
I HEREBY CERTIFY THAT THIS PROJECT HAS BEEN DESIGNED AND THESE PLANS PREPARED IN ACCORDANCE WITH THE CURRENT DESIGN CRITERIA OF THE CITY OF LEE'S SUMMIT, MISSOURI AND THE STATE OF MISSOURI. I FURTHER CERTIFY THAT THESE PLANS WERE DESIGNED IN ACCORDANCE TO AASHTO STANDARDS.

C.400 ~ SANITARY SEWER COVER SHEET
C.401 ~ SANITARY SEWER GENERAL LAYOUT
C.402 ~ SANITARY SEWER PLAN & PROFILE
C.403 ~ SANITARY SEWER PLAN & PROFILE
C.404 ~ SANITARY SEWER DETAILS

ITEM AND DESCRIPTION	UNIT	ESTIMATED QUANTITY
SANITARY		
4" PVC SDR 26 Service Line	LF	1,233.51
8" PVC SDR 26	LF	619.83
4" DIA Manhole	EA	5.00
TEES, BENDS, WYES	LS	32.00
CONNECTION TO EXISTING SANITARY SEWER	LS	1.00
TRACER WIRE AND EQUIPMENT	L.F.	1,233.51



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Sanitary Sewer General Layout
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-74 and Tracts C-1 & D-1
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RIDGE-LSMO

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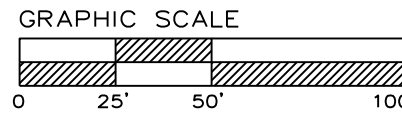
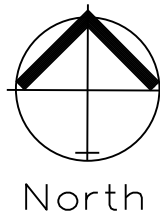
STATE OF MISSOURI
MATTHEW J. SCHLICHT
PROFESSIONAL ENGINEER
NUMBER
000000181

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
REV. 8/12/2022

C. 401

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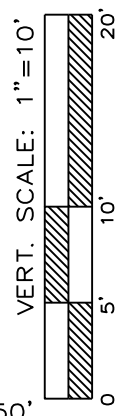
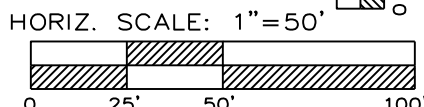
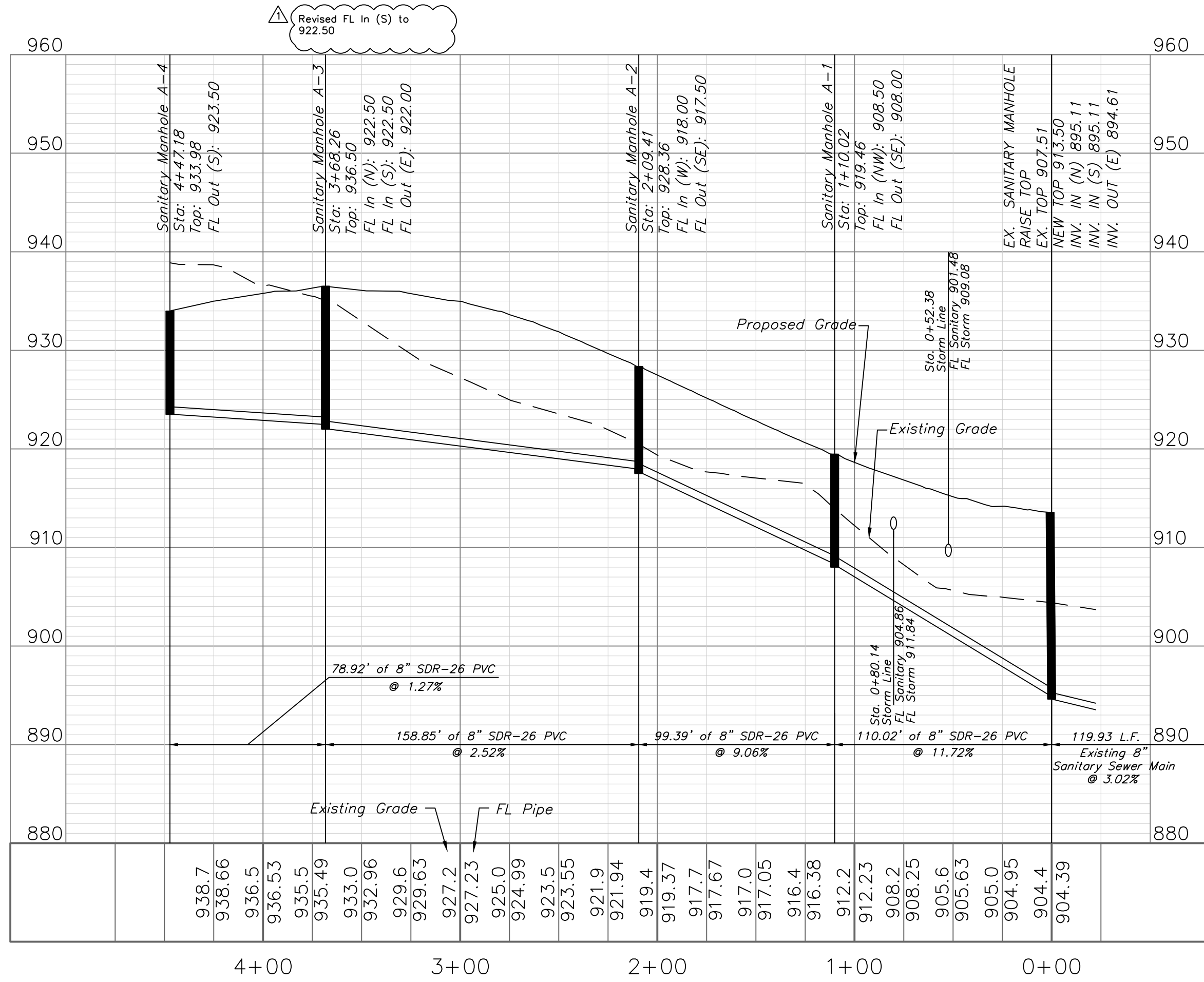


SANITARY PLAN & PROFILE

SCALE: 1" = 50'



SANITARY LINE A



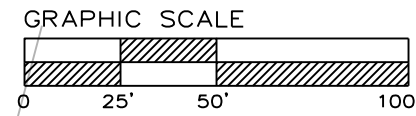
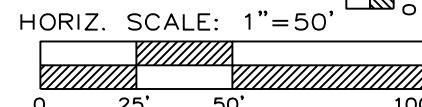
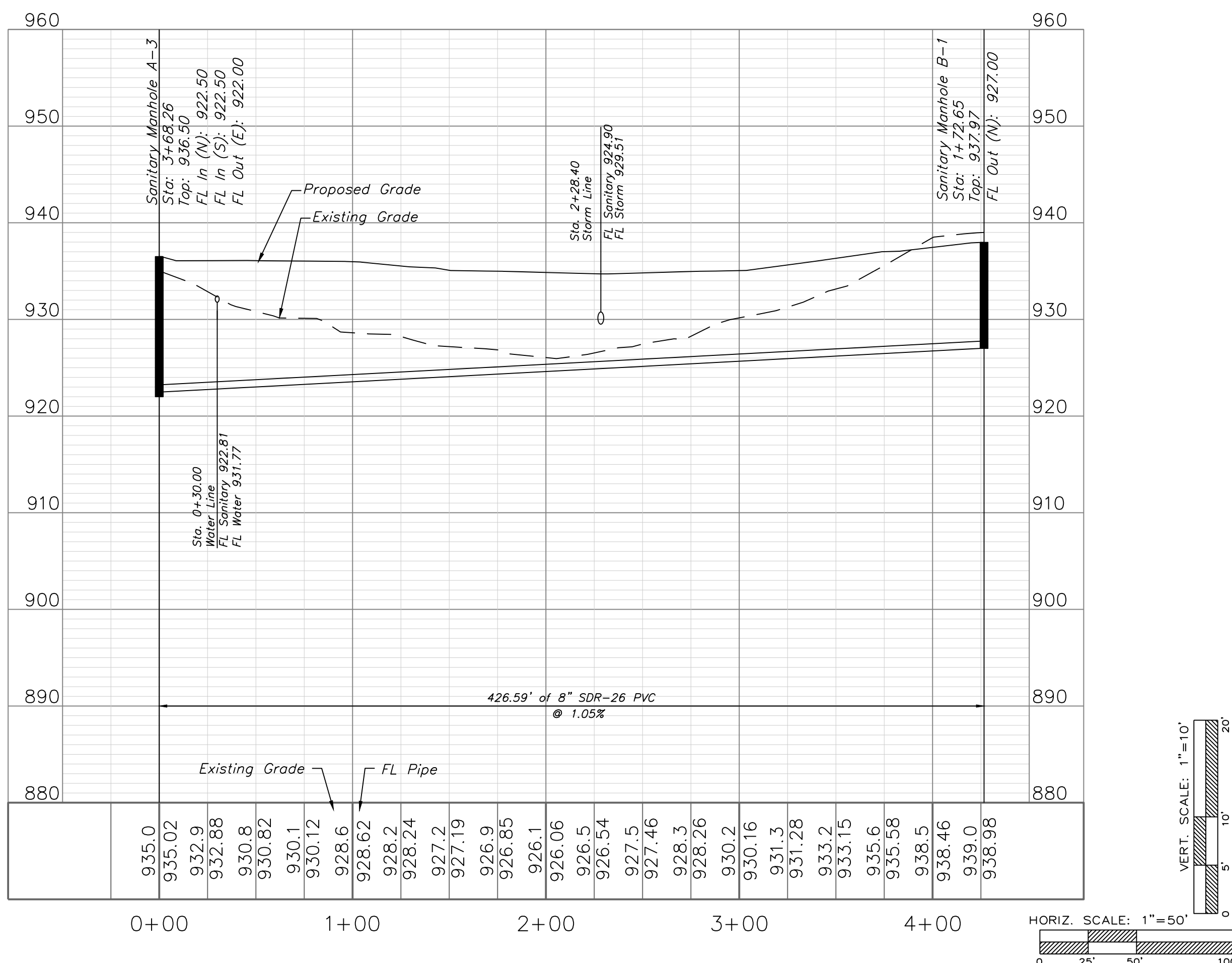
Sewer Stub Table - Line A					
Lot	Station	Main FL	Length	Slope (%)	MSFE
51	4+32.87	923.32	29.29	2	927.32
52	2+76.75	919.70	39.56	2	923.70
53	2+20.63	918.28	37.76	2	922.28
54	1+67.62	913.71	40.59	2	917.71
55	1+22.09	909.59	38.24	2	913.59
56	0+78.5	904.66	33.41	2	908.66
57	0+20.2	897.56	18.78	2	901.56
69	2+58.43	919.24	29.7	2	923.24
68	1+03.62	907.72	34.98	2	911.72

Sewer Stub Table - Line B					
Lot	Station	Main FL	Length	Slope (%)	MSFE
50	0+12.07	922.14	39.6	2	926.14
49	0+22.15	922.26	39.62	2	926.26
48	0+89.65	923.05	40	2	927.05
47	1+57.51	923.84	40	2	927.84
46	2+29.65	924.67	40	2	928.67
45	2+86.65	925.35	40	2	929.35
44	3+48.65	926.08	40	2	930.08
43	4+10.65	926.8	40	2	930.80
70	1+54.75	923.81	40.05	2	927.81
71	2+34.10	924.74	40	2	928.74
72	2+96.59	925.46	40	2	929.46
73	3+61.05	926.22	40	2	930.22
74	4+21.59	926.93	40	2	930.93

Provided existing manhole numbers.

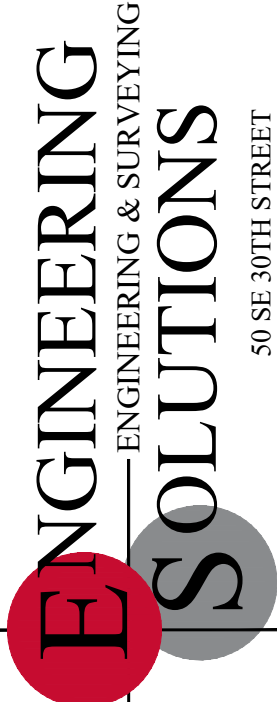


SANITARY LINE B



SANITARY PLAN & PROFILE

SCALE: 1" = 50'

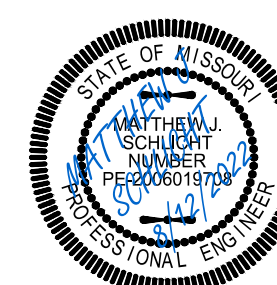


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RIDGE-LSMO
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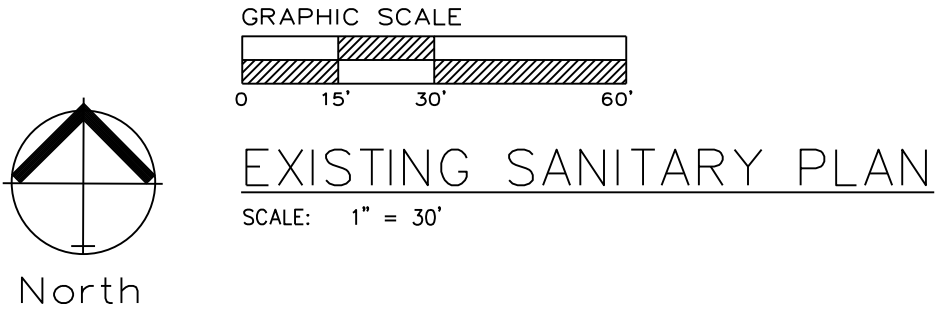
Sanitary Plan and Profile
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
LOTS 43-74 and Tracts C-1 & D-1
Lee's Summit, Jackson County, Missouri



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Sewer Stub Table- Existing Line						
Lot	Station	Main FL	Length	Slope (%)	MSFE	
58	6+23.45	890.63	10.00	2	892.5	
57	6+28.45	890.95	10.00	2	892.982	
67	0+54.80	895.33	50.22	2	898	
59	0+85.87	895.52	10.00	2	897.39	
66	1+00.87	895.61	49.89	2	898.28	
60	1+54.11	895.92	10.00	2	897.79	
65	1+74.11	896.04	55.72	2	898.82	
61	2+24.68	896.35	10.00	2	898.22	
64	2+29.68	896.38	58.67	2	899.22	
63	2+83.81	896.7	54.38	2	899.46	
62	3+18.21	897.13	10.00	2	899	



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ENGINEERING SOLUTIONS

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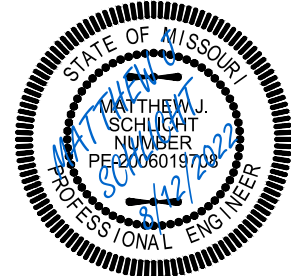
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Lee's Summit, Jackson County, Missouri

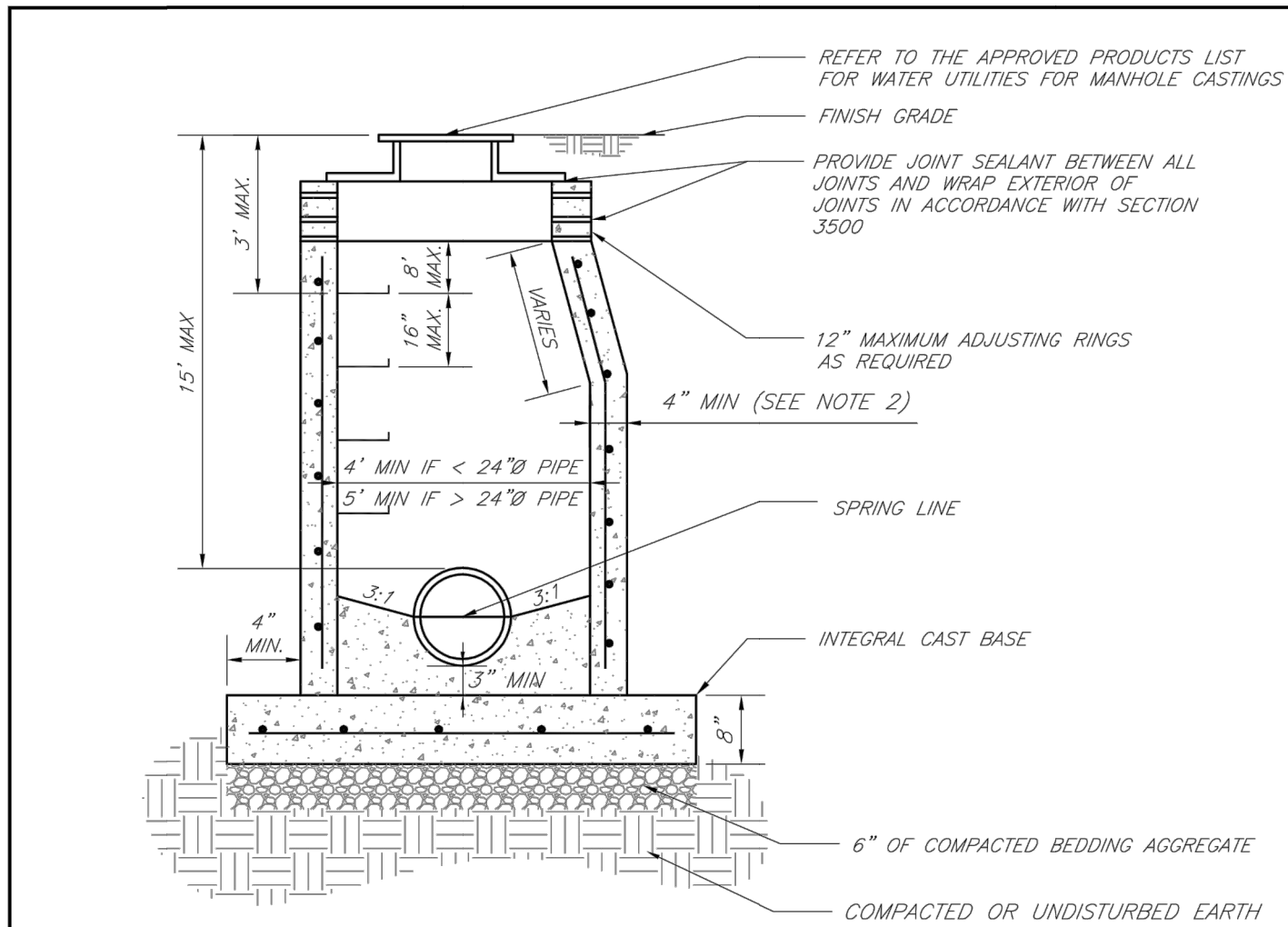
Project: VILLAS OF CHAPEL RIDGE-LSMO
Issue Date: June 24, 2022

Existing Sanitary Sewer Plan
Construction Plans for:
THE VILLAS OF CHAPEL RIDGE-2ND PLAT
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NOTES:

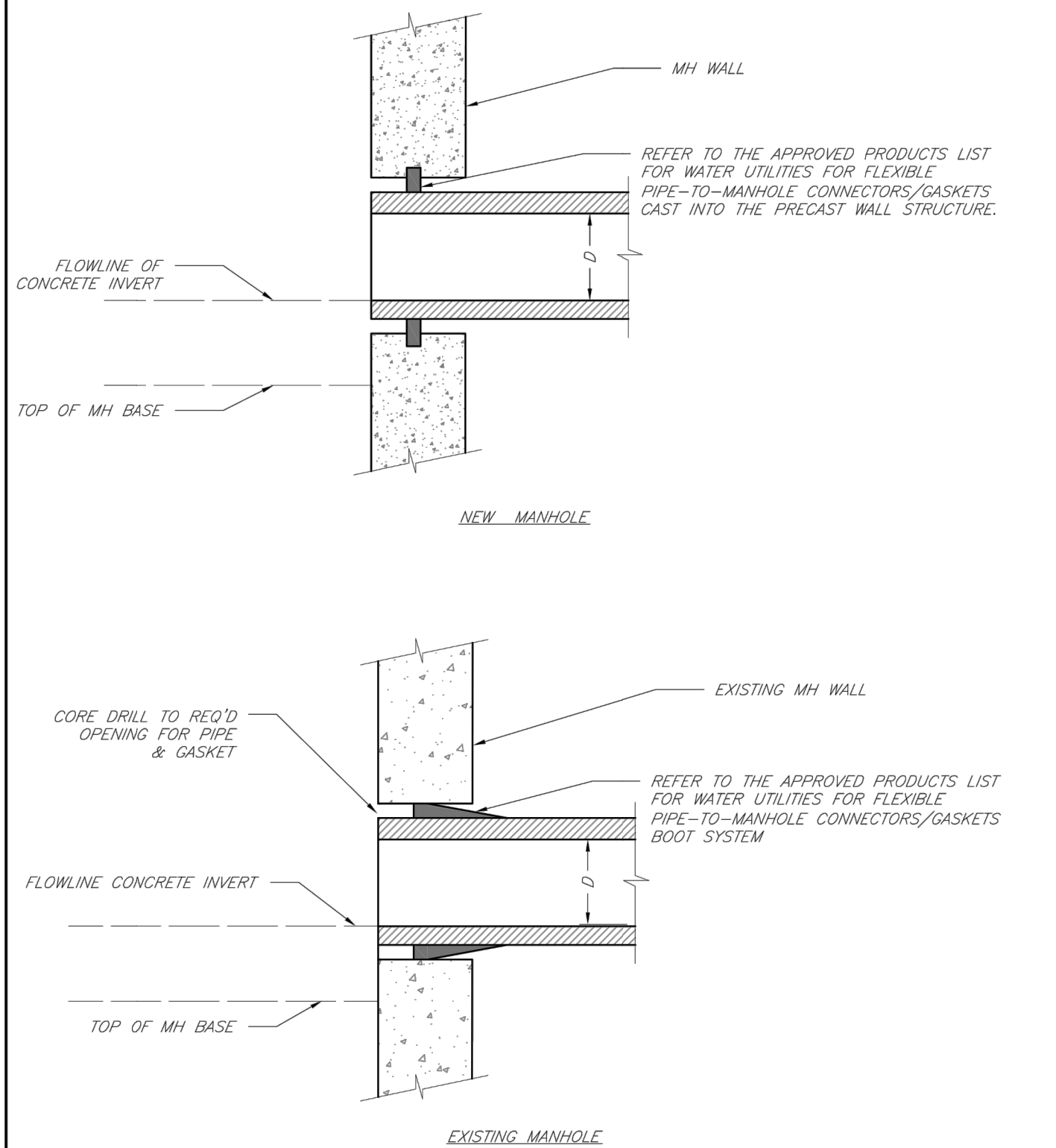
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THAN 15'.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
4. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
6. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
7. REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

LS

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64083

STANDARD PRECAST MANHOLE – SANITARY SEWER

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: SAN-2
Rev: 1/14
Rev:

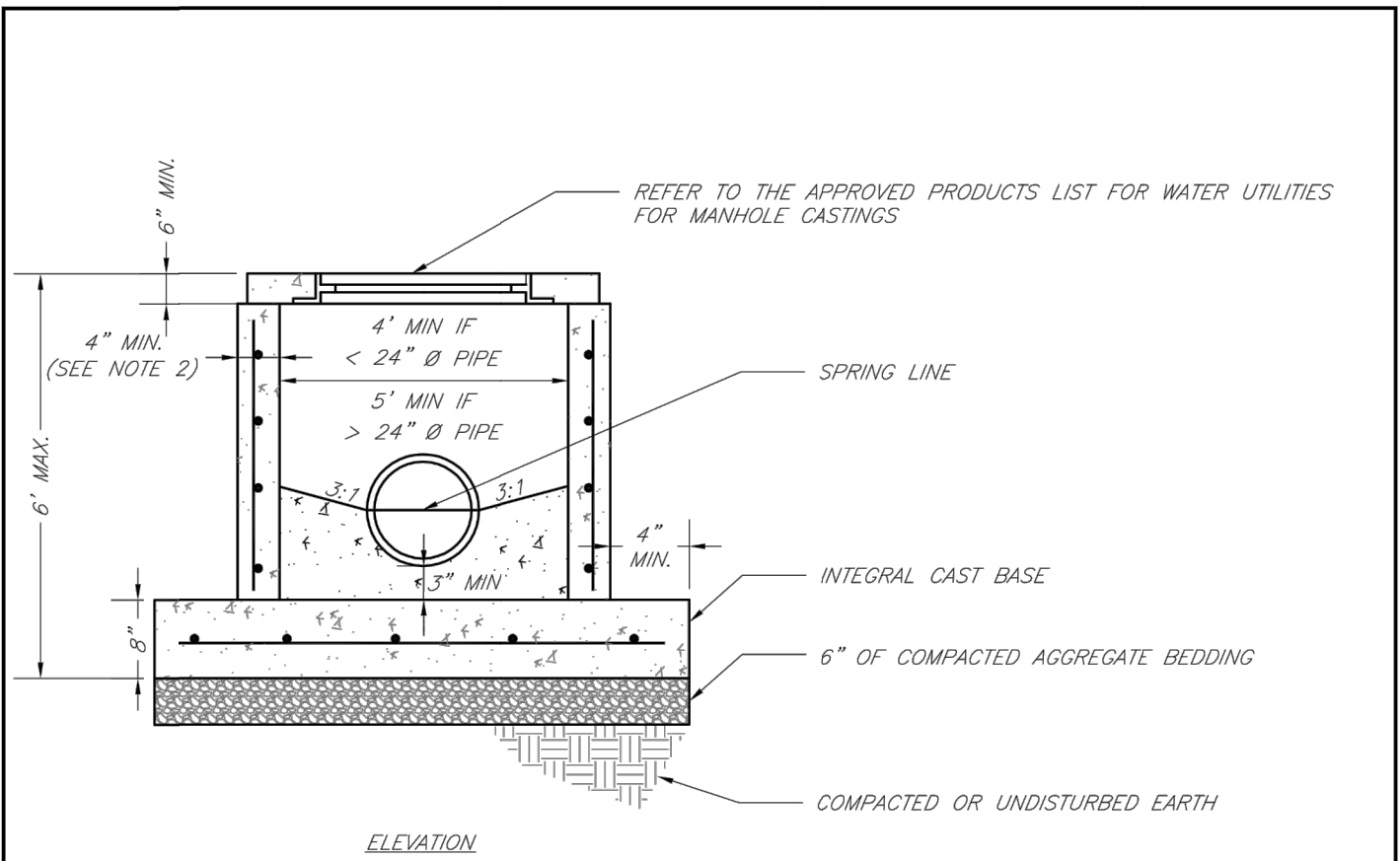


LS

LEE'S SUMMIT
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PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64083

MANHOLE WALL CONNECTIONS

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: SAN-5
Rev: 1/14
Rev:



NOTES:

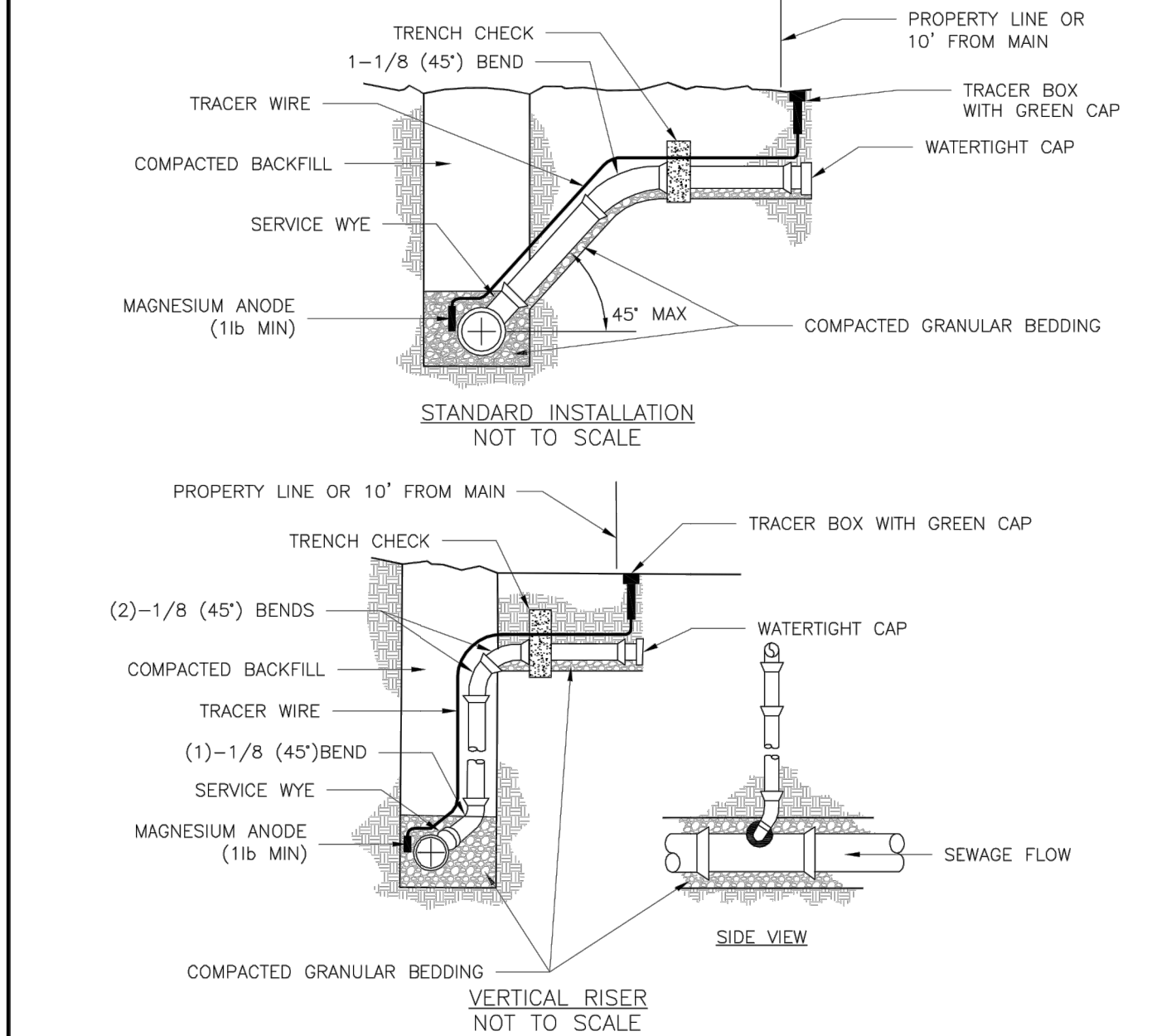
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2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER SHALL BE USED.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
4. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
5. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR MANHOLE GASKET MODELS.
6. PROVIDE STEPS AS SHOWN ON THE APPROVED PRODUCTS LIST FOR MANHOLE DEPTHS GREATER THAN 4'.

LS

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64083

SHALLOW PRECAST MANHOLE – SANITARY SEWER

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: SAN-3
Rev: 1/14
Rev:



NOTES:

1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
2. ALL NEW CONSTRUCTION OFF SEWER STUBS SHALL BE TEMPORARILY MARKED WITH A MARKING STAKE, 36" ABOVE GROUND AND PAINTED GREEN.
3. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
4. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
5. SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
6. #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
7. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
8. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
9. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

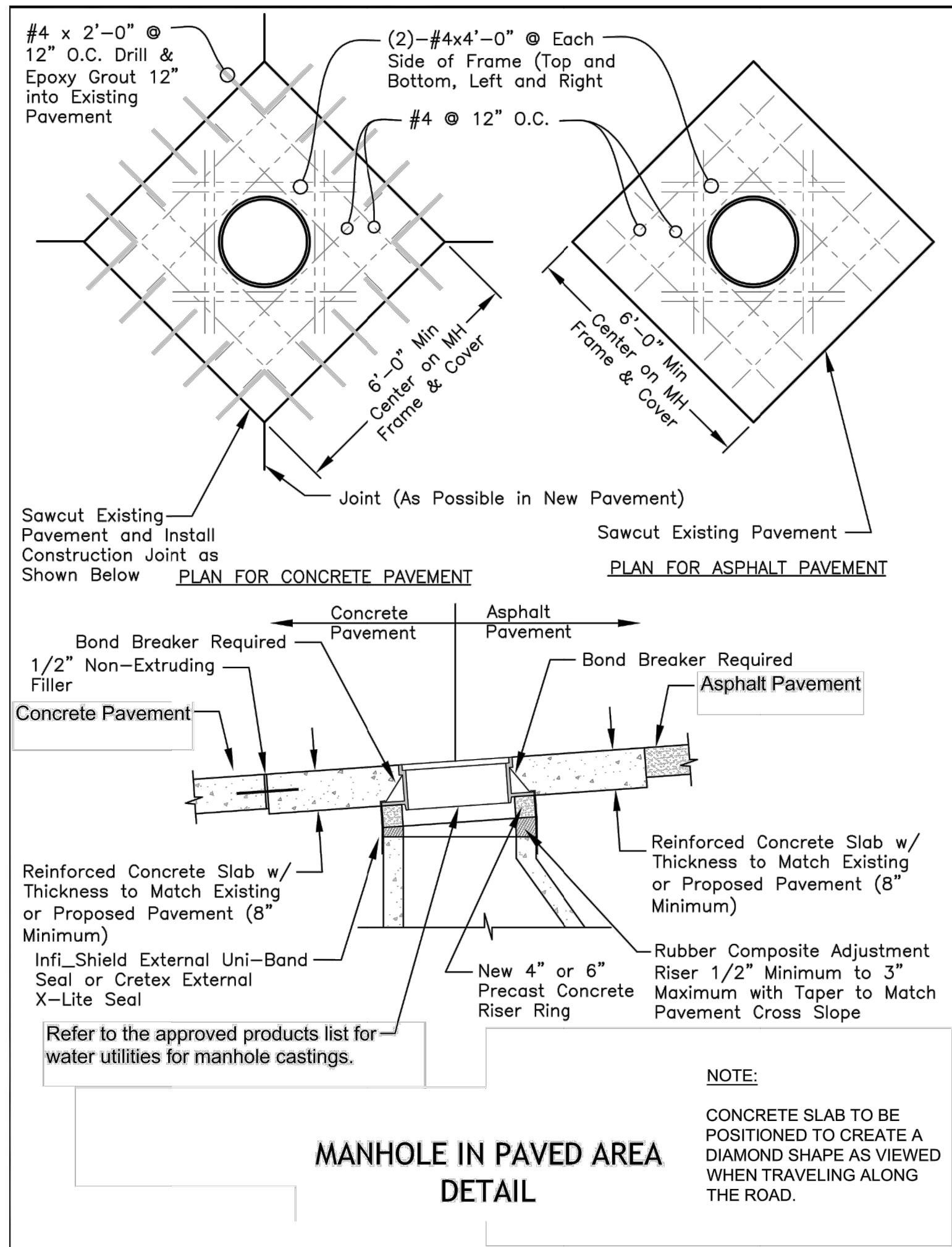
LS

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64083

BUILDING SEWER STUB AND RISER

Date: 04/21
Drawn By: MIF
Checked By: DL
Rev: 1/14
Rev:

SAN-1



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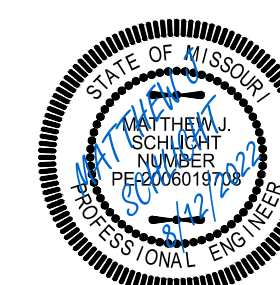
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