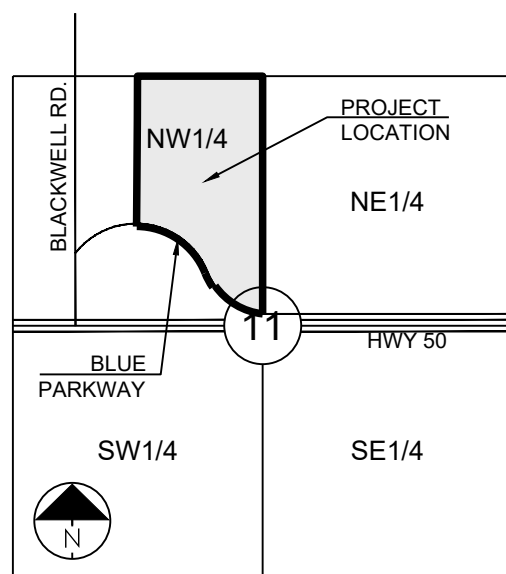


- A/C - ACCESS EASEMENT
- B/C - BACK OF CURB
- B/B - BACK TO BACK
- BM - BENCHMARK
- BL or B.L. - BUILDING LINE
- CO - CLEANOUT
- TJB - TELEPHONE JUNCTION BOX
- C&G - CURB AND GUTTER
- D/E - DRAINAGE EASEMENT
- E/E - ELECTRICAL EASEMENT
- EL - ELEVATION
- FL - FLOW LINE
- G/E - GAS LINE EASEMENT
- HDPE - HIGH-DENSITY POLYETHYLENE
- L/E - LANDSCAPE EASEMENT
- MSFE - MINIMUM SERVICEABLE FLOOR ELEVATION
- PVC - POLYVINYL CHLORIDE
- P/L - PROPERTY LINE
- PUB/E - PUBLIC EASEMENT
- RCP - REINFORCED CONCRETE PIPE
- ROW or R/W - RIGHT-OF-WAY
- S/E - SANITARY SEWER EASEMENT
- SL - SERVICE LINE
- SW - SIDEWALK
- TE - TOP ELEVATION
- U/E - UTILITY EASEMENT
- WSE - WATER SURFACE ELEVATION
- W/E - WATERLINE EASEMENT



LOCATION MAP
SCALE 1" = 2000'

MISSOURI DEPARTMENT OF
TRANSPORTATION (MODOT)

SPIRE

Brent Jones
3025 SE Clover Drive
Lynchburg, VA 24502

EVERGY

Philip Ingram
1300 SE Hamblin Road

Lee's Summit, MO 64081
Office: (816) 347-347-433
philip.inghram@evergy.com

Dena Mezger
220 SE Green Street
Lee's Summit, MO 64063
(816) 969-1800

AT&T
Mark Manion or Marty Lopez

John Meadows
4700 Little Blue Parkway
Independence, MO 64051
(816) 795-2257

Mark Schaufler
1200 SE Hamblen Road
Lee's Summit, MO 64081
(816) 969-1900



811 or
1-800-344-7483
mo1call.com

SUMMARY OF QUANTITIES				
	ITEM	QUANTITY	UNITS	
1	24" PVC SDR-26	495	LF	
2	12" PVC SDR-26	1235	LF	
3	8" PVC SDR-26	689	LF	
4	6" PVC SDR-26	341	LF	
5	12" D.I.P. W/RESTRAINED JOINTS	319	LF	
6	STANDARD 4' DIAMETER MANHOLE	10	EA	
7	STANDARD 5' DIAMETER MANHOLE	3	EA	
8	EXTRA DEPTH IN MANHOLES	155	VF	
9	TRENCHING UNDER FUTURE STREET	762	LF	
10	COMPACTION TESTING	1	LS	
11	BONDS	1	LS	
12	POST-CONSTRUCTION MANHOLE BARREL ADJUSTMENTS (ESTIMATED)	4	EA	
13	POST-CONSTRUCTION RING (3'-12") ADJUSTMENT (ESTIMATED)	4	EA	

GENERAL NOTES:

1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
3. ALL LOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
4. NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE.
5. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EARTH EXCAVATION ON PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-800-DIG-RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
7. PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. AFTER APPROVAL OF THE SHOP DRAWINGS, A COPY OF THE APPROVED AND SIGNED SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY OF LEE'S SUMMIT.
8. THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
9. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
10. ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER.
11. ALL EXCAVATIONS SHALL BE UNCLASSIFIED, NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
12. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
13. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
14. THE CONTRACTOR SHALL CONTACT DEVELOPMENT SERVICES INSPECTIONS AT: 816-969-1200 TO OBTAIN A DEVELOPMENT SERVICES CONSTRUCTION PERMIT. A MINIMUM 48 HOUR NOTICE SHALL BE GIVEN PRIOR TO PERMIT ISSUANCE.
15. THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT OF WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
16. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).

1. EXISTING UTILITIES HAVE BEEN SHOWN TO THE GREATEST EXTENT POSSIBLE BASED UPON INFORMATION PROVIDED TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES AND FIELD LOCATING UTILITIES PRIOR TO CONSTRUCTION AND IDENTIFYING ANY POTENTIAL CONFLICTS. ALL CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY REQUIRED UTILITY RELOCATIONS. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL VERIFY FLOW-LINES AND STRUCTURE TOPS PRIOR TO CONSTRUCTION, AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES. PROVIDE SHOP DRAWINGS FOR ALL PRECAST AND MANUFACTURED UTILITY STRUCTURES FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE STRUCTURES.
4. UTILITY SEPARATION: WATERLINES SHALL HAVE A MINIMUM OF 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION FROM ALL SANITARY SEWER LINES, MANHOLES, AND SANITARY SEWER SERVICE LATERALS, AS MEASURED FROM EDGE TO EDGE. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, CONCRETE ENCASEMENT OF THE SANITARY LINE SHALL BE REQUIRED 10 FEET IN EACH DIRECTION OF THE CONFLICT.
5. PAYMENT FOR TRENCHING, BACKFILLING, PIPE EMBEDMENT, FLOWABLE FILL, BACKFILL MATERIALS, CLEAN UP, SEEDING, SODDING AND ANY OTHER ITEMS NECESSARY FOR THE CONSTRUCTION OF THE UTILITY LINE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE UTILITY INSTALLATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING RESPECTIVE UTILITY COMPANIES 48-HOURS IN ADVANCE FOR THE INSPECTION OF ANY PROPOSED UTILITY MAIN EXTENSION OR SERVICE LINE OR SERVICE CONNECTION TO ANY EXISTING MAIN.
7. TRENCH SPOILS SHALL BE NEATLY PLACED ONSITE ADJACENT TO THE TRENCH, AND COMPACTED TO PREVENT SATURATION AND EXCESS SEDIMENT RUNOFF. UNSUITABLE MATERIALS, EXCESS ROCK AND SHALE, ASPHALT, CONCRETE, TREES, BRUSH ETC. SHALL BE PROPERLY DISPOSED OF OFFSITE. MATERIALS MAY BE WASTED ONSITE AT THE DIRECTION OF THE OWNER OR HIS APPOINTED REPRESENTATIVE.
8. ALL EXCAVATION IS CONSIDERED UNCLASSIFIED, UNLESS NOTED OTHERWISE. UNCLASSIFIED EXCAVATION FOR UTILITY TRENCHING IS SUBSIDIARY TO THE UNIT PRICE PROVIDED FOR THE PIPE. ANY QUANTITY PROVIDED FOR ROCK EXCAVATION IS ESTIMATED BASED ON THE BEST INFORMATION PROVIDED TO THE PROJECT ENGINEER. THE ENGINEER HAS THE AUTHORITY TO MODIFY AND REFINES THE PHYSICAL CHARACTERISTICS TO DETERMINE THE CLASSIFICATION. UNIT PRICE QUANTITIES FOR ROCK EXCAVATION WILL BE PAID AT A TRENCH WIDTH OF THE NOMINAL PIPE DIAMETER OF THE INSTALLED MAIN PLUS 18 INCHES. CONTRACTOR IS REQUIRED TO DISPOSE OF EXCESS ROCK FROM THEIR TRENCHES BY DISPOSING IT IN AREAS AS SPECIFIED BY THE PROJECT ENGINEER.

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL LAYOUT & GRADING
3	TRIB MAP
4	LINE A
5	LINE A
6	EXISTING LINE
7	LINE B
8	DETAILS

PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

RESIDENCES AT BLACKWELL
PUBLIC SANITARY SEWER MAIN PLANS
HERITAGE STREET LEE'S SUMMIT, MO

APPROVED BY:

CITY ENGINEER
APPROVED FOR ONE YEAR FROM THIS DATE

OWNER/DEVELOPER:

GRIFFIN RILEY PROPERTY GROUP
 JAKE LOVELESS, VICE PRESIDENT
 21 SE 29TH TERRACE
 LEE'S SUMMIT
 p 816-366-7900
 JAKE@GRIFFINRILEY.COM

MO GRS BENCHMARK:

STATION NAME - JA-90

KC METRO ALUMINUM GRS DISK SET IN CONCRETE STAMPED "JA-90, 1988"
LOCATED NEAR THE INTERSECTION OF LANGSFORD ROAD AND OLD
LANGSFORD ROAD, 43 FEET SOUTHEAST OF THE CENTER OF LANGSFORD
ROAD AND 32 FEET NORTH OF THE CENTER OF OLD LANGSFORD ROAD.
N:1001052.8503, E:2845604.8272

ELEV. 997.045

PROJECT BENCHMARK:

"SQUARE" CUT IN TOP OF CONCRETE STORM MANHOLE
STORM MANHOLE IS LOCATED APPROX. 130 FEET EAST OF THE
INTERSECTION OF SE JOEL AVE & BLUE PARKWAY AND 26 FEET SOUTH
OF THE CENTERLINE OF BLUE PARKWAY.
N:996874.9690, E:2840937.1365

ELEV. 1005.719

SHEET





NOTE:
CITY OF LEE'S SUMMIT TO PROVIDE
SANITARY SEWER CALCULATIONS.

MO GRS BENCHMARK:

STATION NAME - JA-90

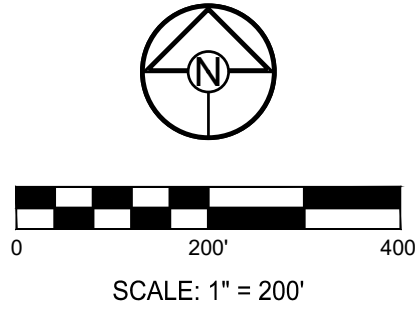
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N:996874.9690, E:2840937.1365

ELEV. 1005.719



SCHLAGEL

ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS

14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificate of Authority
#E2002003600-F #LAC001006237 #LS2002008659-F

PREPARED BY:

STATE OF MISSOURI

MARK ALLEN BREUER

NUMBER

PE-2003007268

03-29-2023

SCHLAGEL & ASSOCIATES, P.A.

RESIDENCES AT BLACKWELL

PUBLIC SANITARY SEWER MAIN PLANS

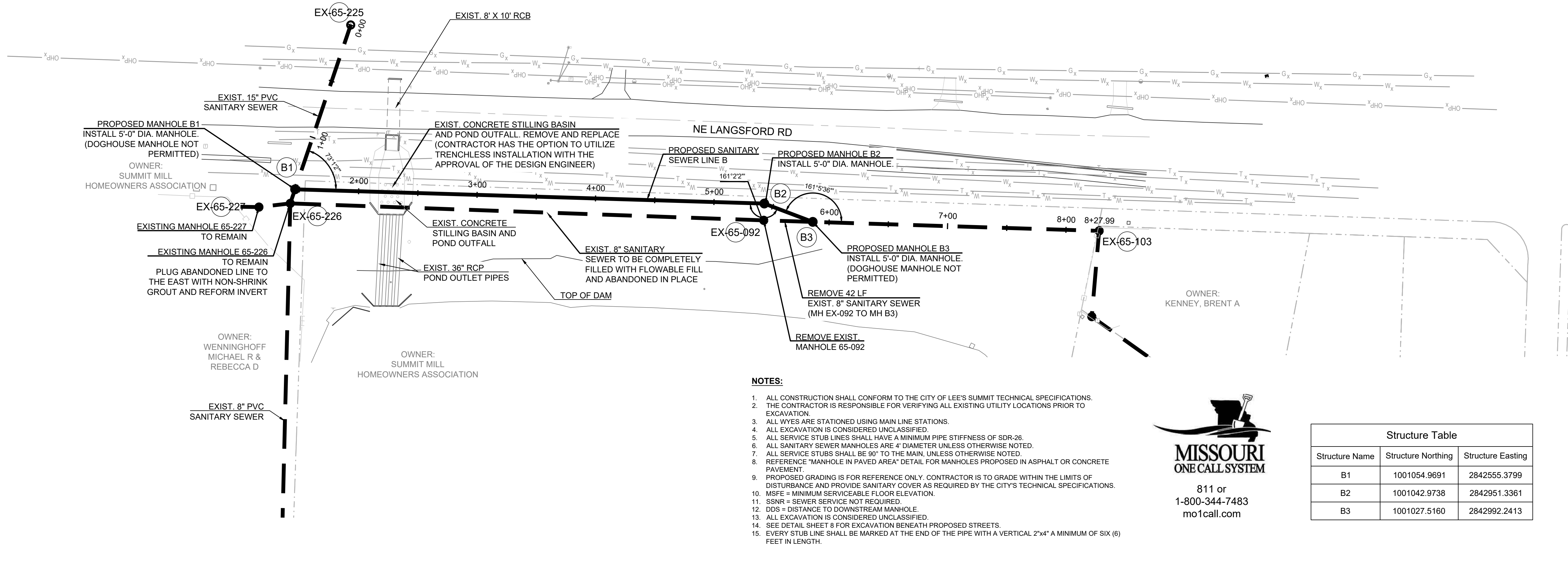
HERITAGE STREET LEE'S SUMMIT, MO

REVISION DATE	DESCRIPTION
1 01/23/2023	PER CITY COMMENTS
2 03/24/2023	PER CITY COMMENTS
3	
4	
5	
6	
DATE PREPARED:	11/30/2022
PROJ. NUMBER:	22-102

TRIB MAP

SHEET

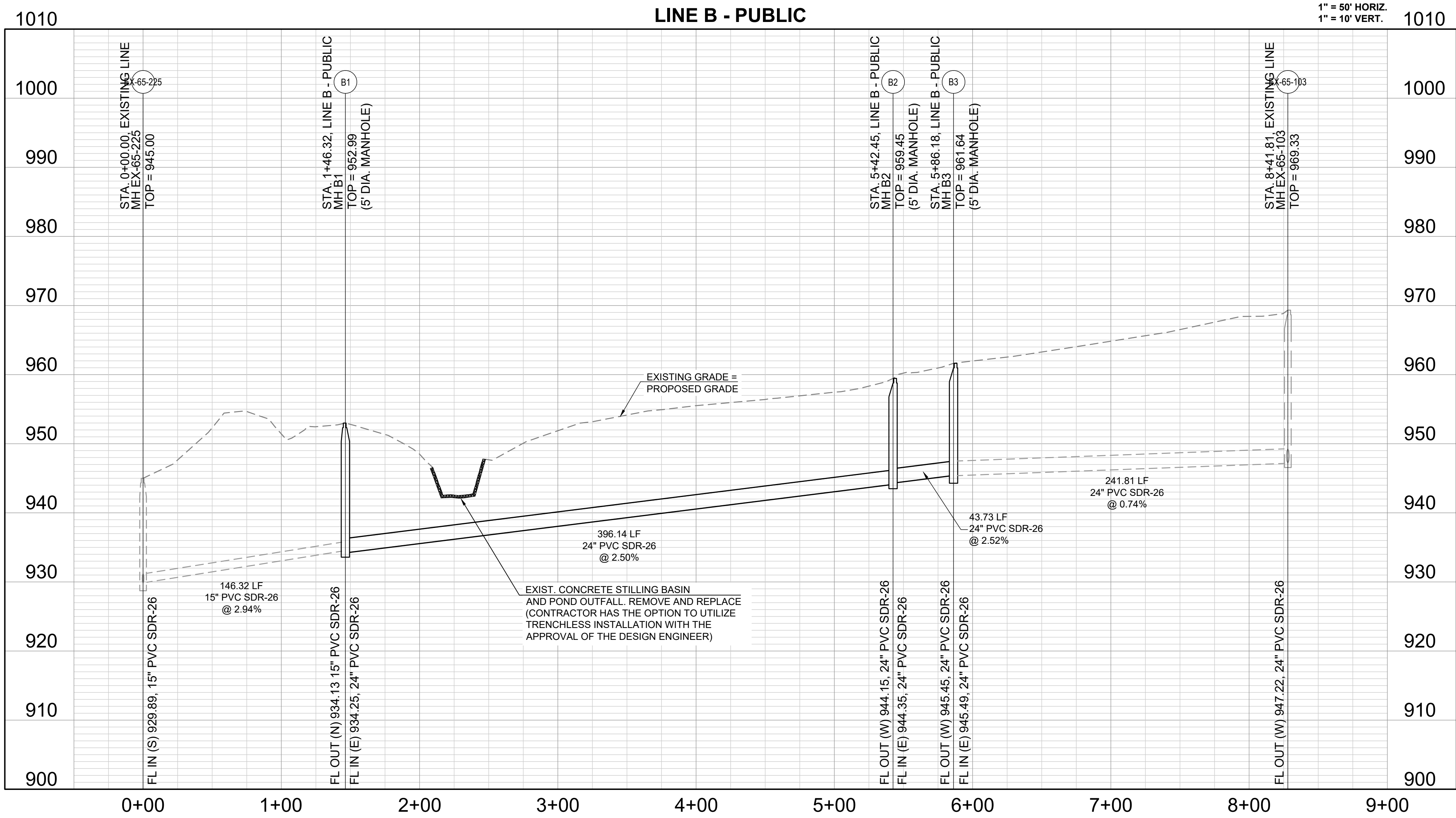
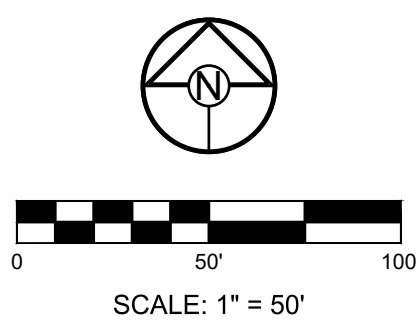
3



- NOTES:**
1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT TECHNICAL SPECIFICATIONS.
 2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
 3. ALL WYES ARE STATIONED USING MAIN LINE STATIONS.
 4. ALL EXCAVATION IS CONSIDERED UNCLASSIFIED.
 5. ALL SERVICE STUB LINES SHALL HAVE A MINIMUM PIPE STIFFNESS OF SDR-26.
 6. ALL SANITARY SEWER MANHOLES ARE 4' DIAMETER UNLESS OTHERWISE NOTED.
 7. ALL SERVICE STUBS SHALL BE 90° TO THE MAIN, UNLESS OTHERWISE NOTED.
 8. REFERENCE 'MANHOLE IN PAVED AREA' DETAIL FOR MANHOLES PROPOSED IN ASPHALT OR CONCRETE PAVEMENT.
 9. PROPOSED GRADING IS FOR REFERENCE ONLY. CONTRACTOR IS TO GRADE WITHIN THE LIMITS OF DISTURBANCE AND PROVIDE SANITARY COVER AS REQUIRED BY THE CITY'S TECHNICAL SPECIFICATIONS.
 10. MSFE = MINIMUM SERVICEABLE FLOOR ELEVATION.
 11. SSNR = SEWER SERVICE NOT REQUIRED.
 12. DDS = DISTANCE TO DOWNSTREAM MANHOLE.
 13. ALL EXCAVATION IS CONSIDERED UNCLASSIFIED.
 14. SEE DETAIL SHEET 8 FOR EXCAVATION BENEATH PROPOSED STREETS.
 15. EVERY STUB LINE SHALL BE MARKED AT THE END OF THE PIPE WITH A VERTICAL 2"x4" A MINIMUM OF SIX (6) FEET IN LENGTH.

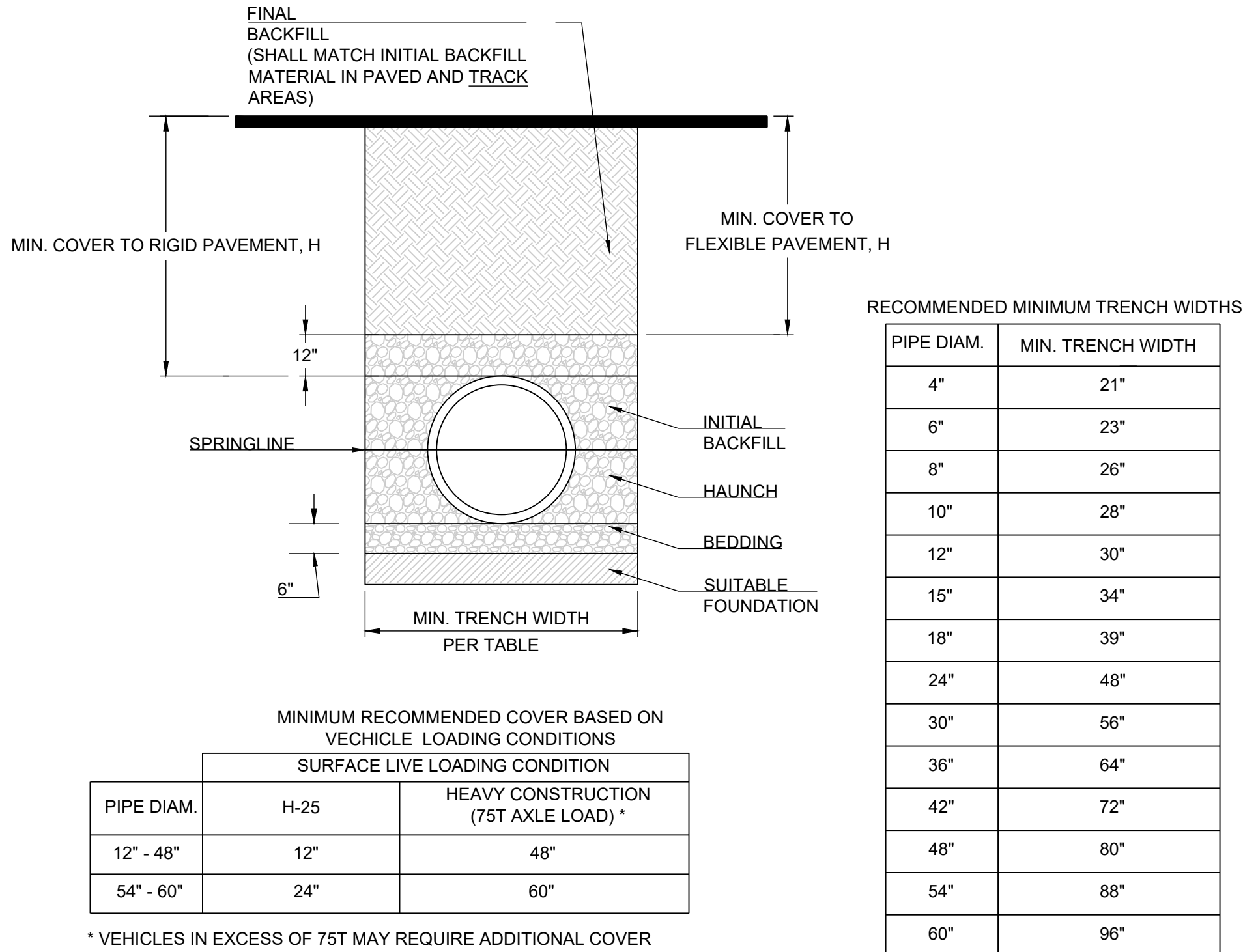
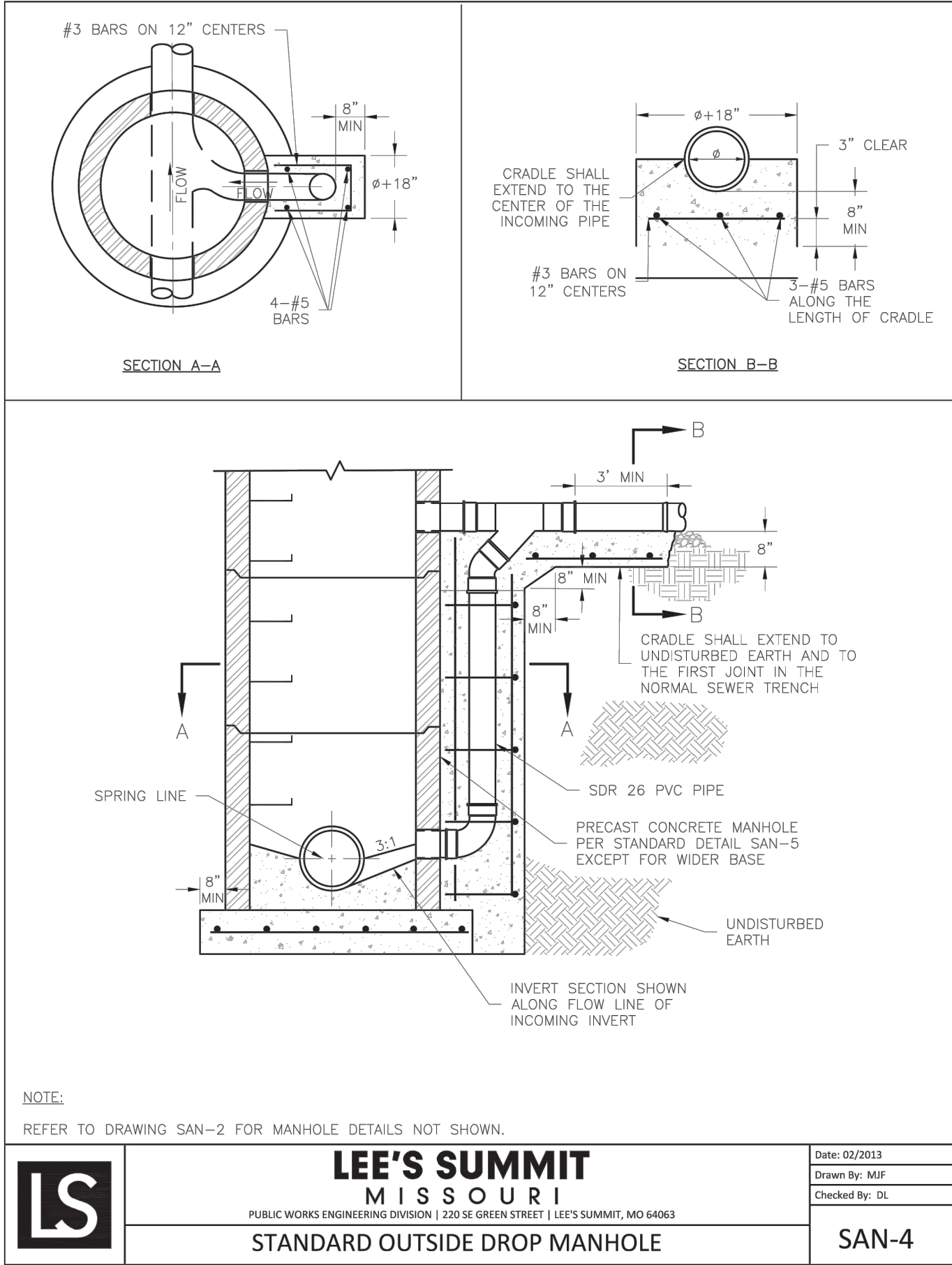
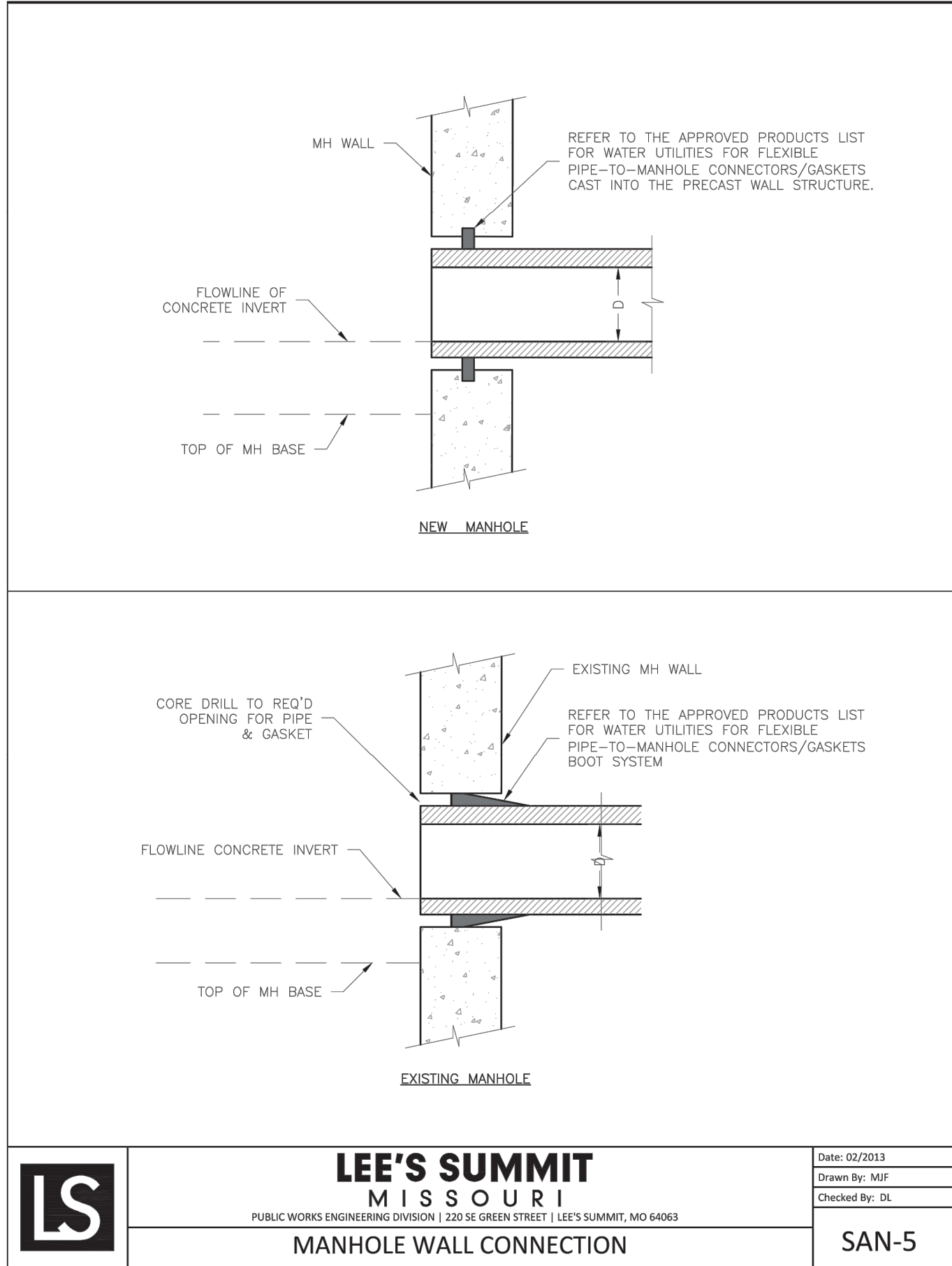
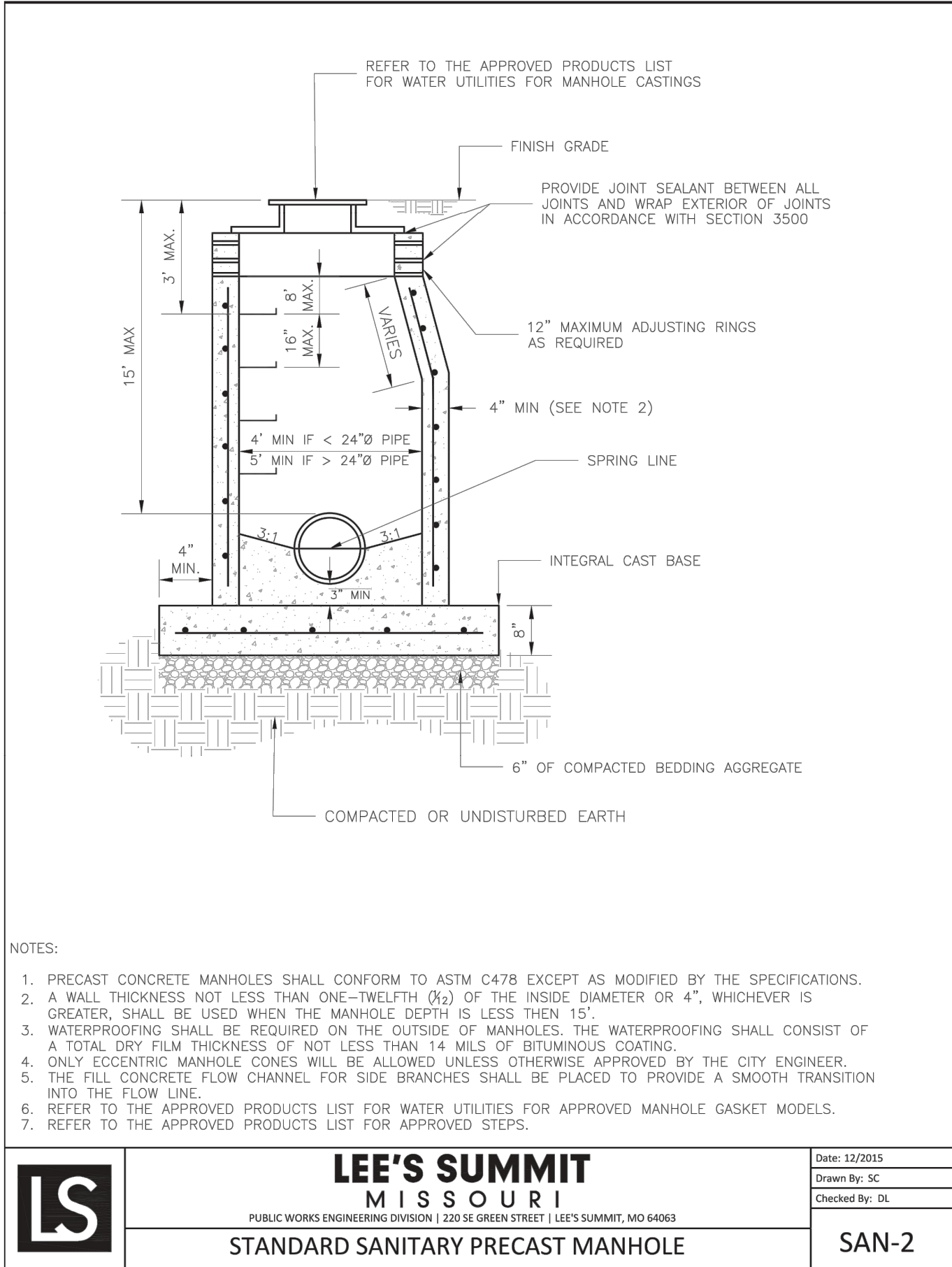
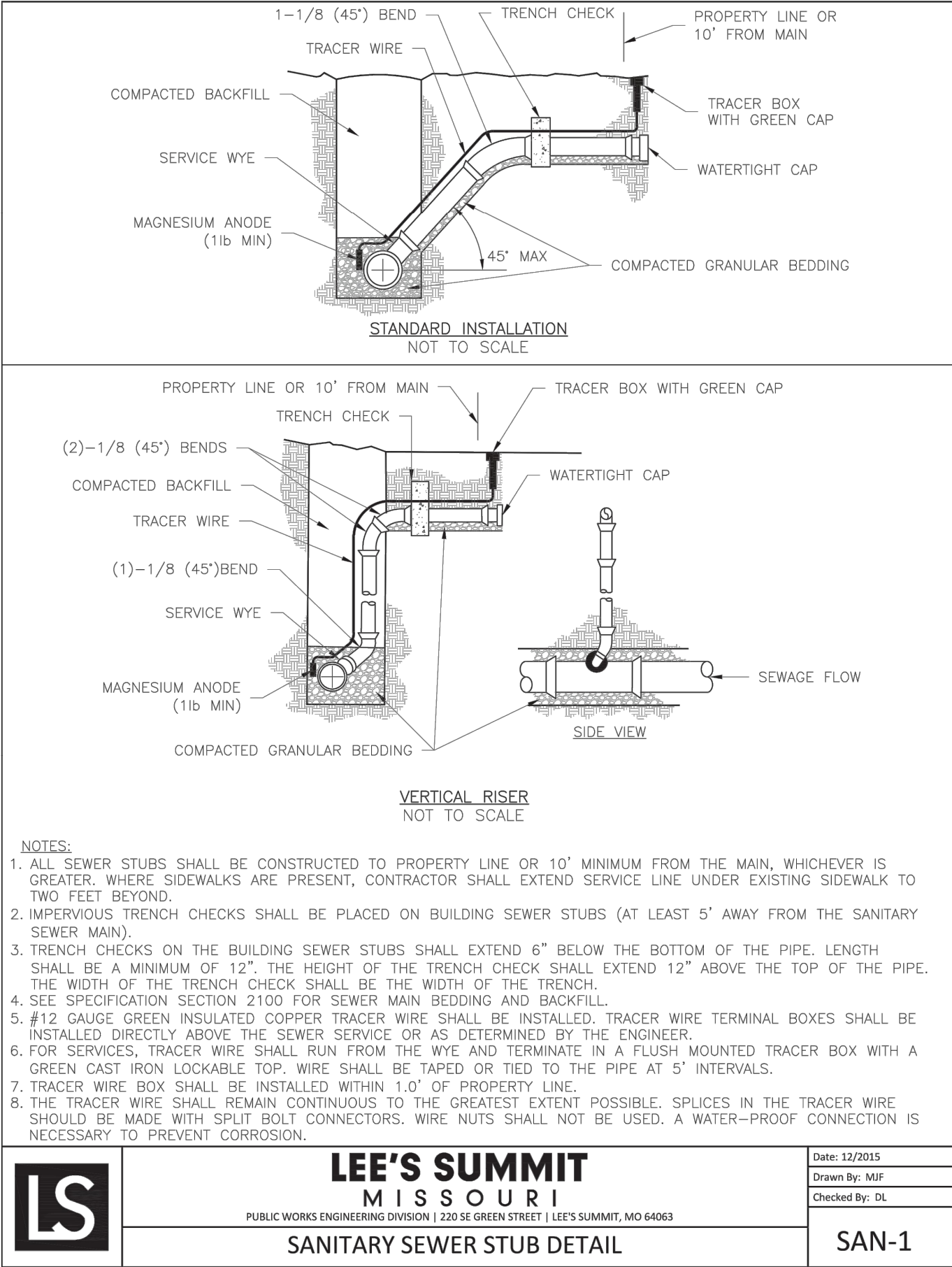


Structure Table		
Structure Name	Structure Northing	Structure Easting
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B2	1001042.9738	2842951.3361
B3	1001027.5160	2842992.2413

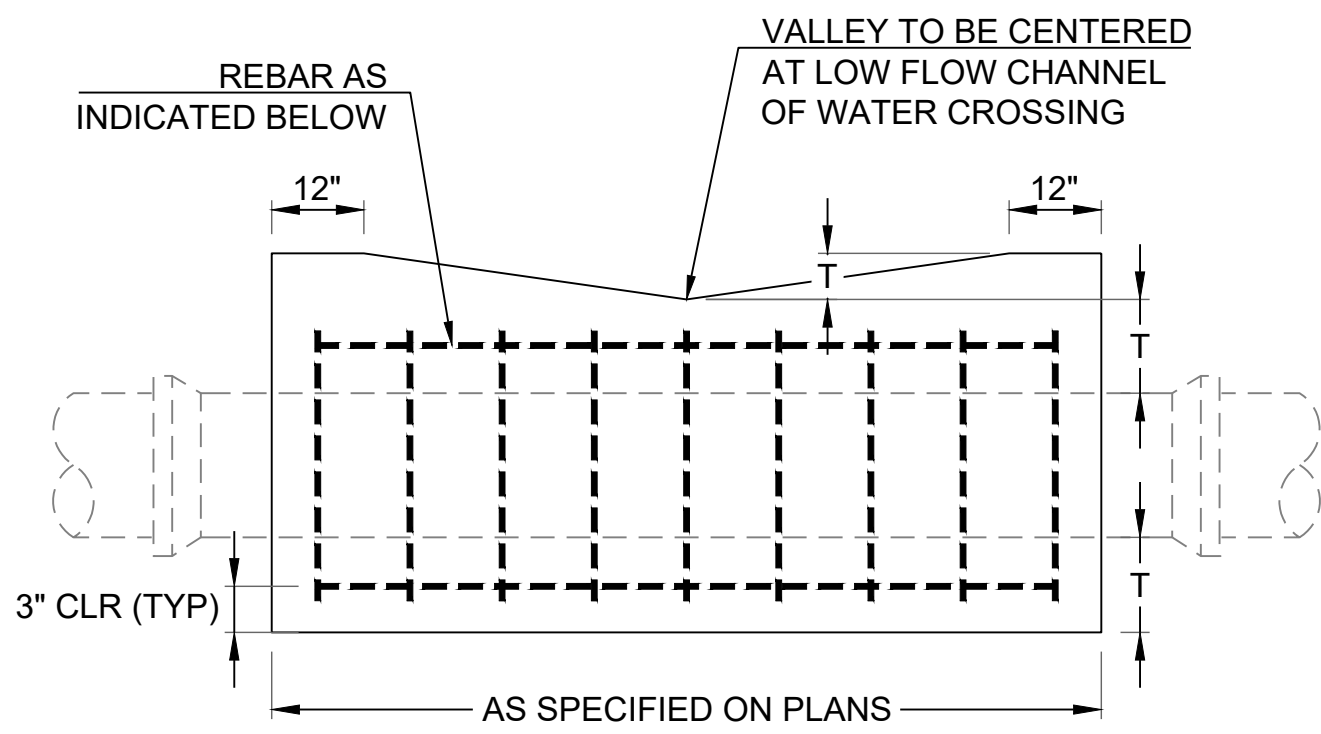
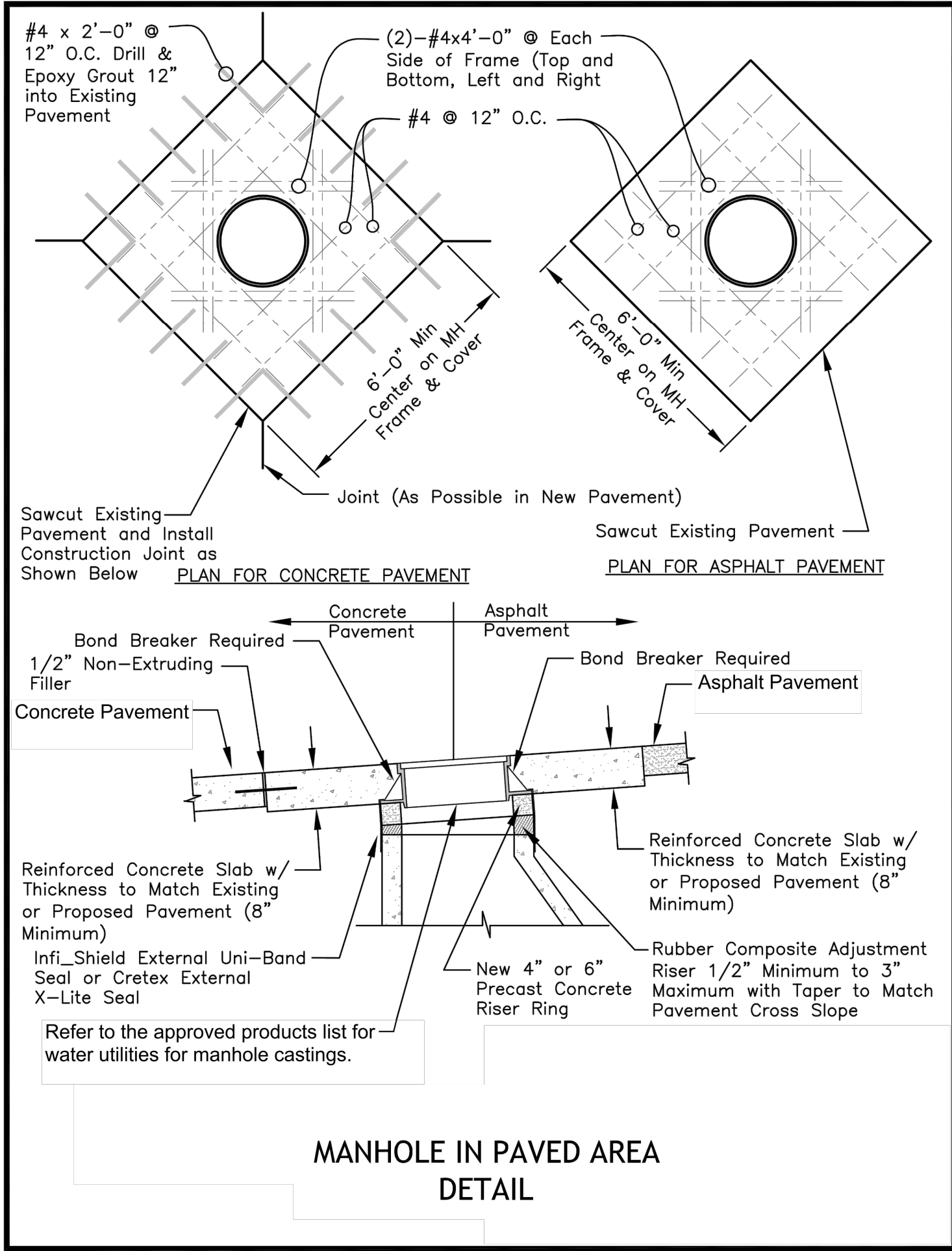


RESIDENCES AT BLACKWELL
PUBLIC SANITARY SEWER MAIN PLANS
HERITAGE STREET LEE'S SUMMIT, MO

REVISION DATE	DESCRIPTION
1 01/23/2023	PER CITY COMMENTS
2 03/24/2023	PER CITY COMMENTS
3	
4	
5	
6	
7 11/30/2022	DATE PREPARED
22-102	PROJ. NUMBER



- NOTES:**
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION
 2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 3. **FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
 4. **BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 6" (100mm).
 5. **INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
 6. **MINIMUM COVER:** MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

RESIDENCES AT BLACKWELL
PUBLIC SANITARY SEWER MAIN PLANS
HERITAGE STREET LEE'S SUMMIT, MO

REVISION	DATE	DESCRIPTION
1	01/23/2023	PER CITY COMMENTS
2	03/24/2023	PER CITY COMMENTS
3		
4		
5		
6		
7		
8		

DRAWN BY:	TRC
CHECKED BY:	MAB
DATE PREPARED:	11/30/2022
PROJ. NUMBER:	22-102

DETAILS

SHEET

8