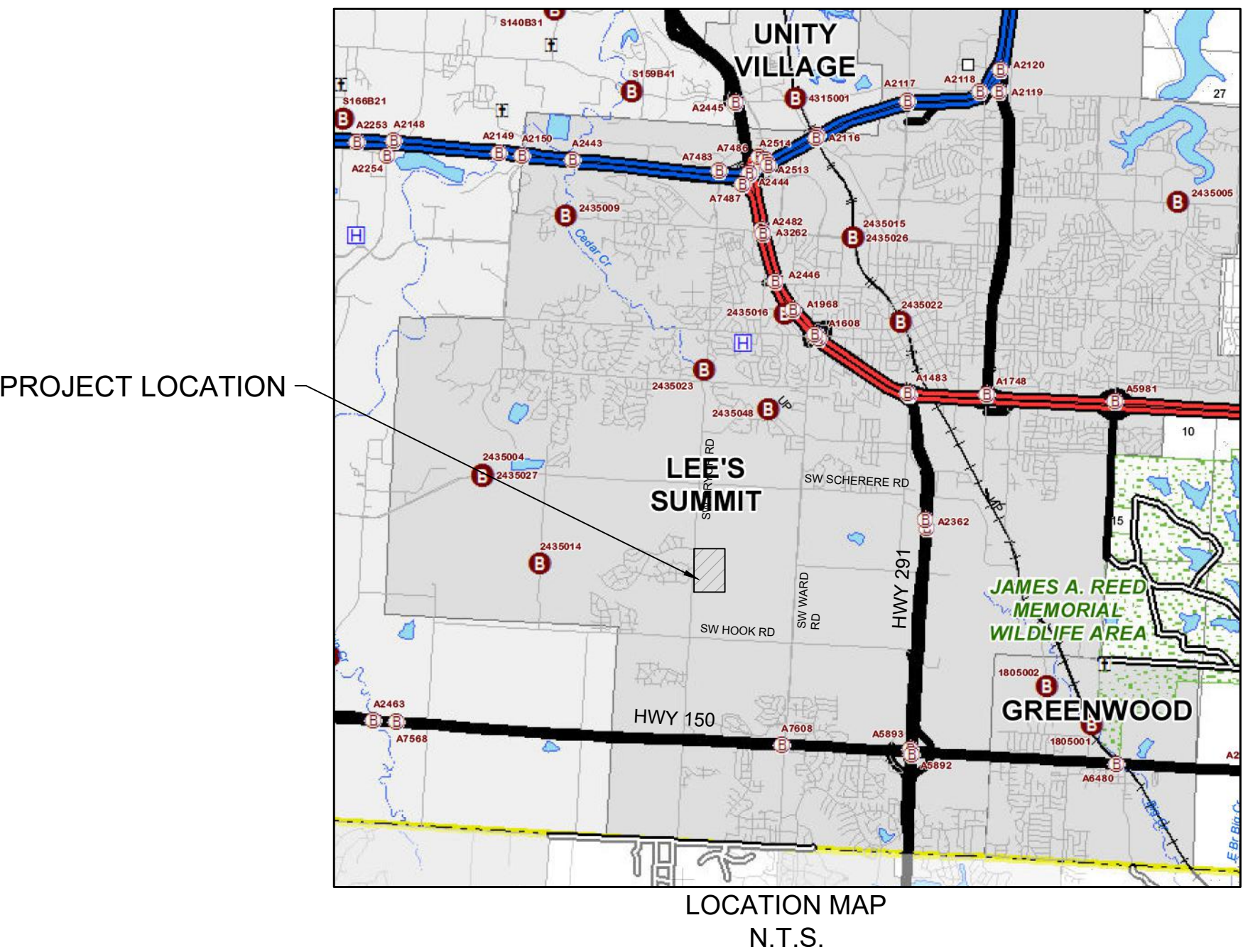


SANITARY SEWER PLANS
FOR
WHISPERING WOODS 3RD PLAT
CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI



| SUMMARY OF QUANTITIES | | | |
|-----------------------------------|------|-------|----------|
| ITEM | UNIT | PLAN | AS-BUILT |
| 8" Sanitary PVC (SDR-26) | LF | 1,943 | |
| Manholes, Std. 4' Dia. | EA | 13 | |
| Connect to Existing Sanitary Main | EA | 1 | |
| 4" Service Lines | LF | 1,779 | |
| Service Wye | EA | 30 | |
| As Built Drawings | EA | 1 | |

Summary of Quantities as indicated above and any quantities as shown within the plans have been provided for permitting purposes only and are not intended for use in preparation of contract documents. Quantities intended for, but not limited to, the preparation of proposals and bid documents shall be independently evaluated by the estimating party based upon the contents of these plans.

INDEX TO SHEETS

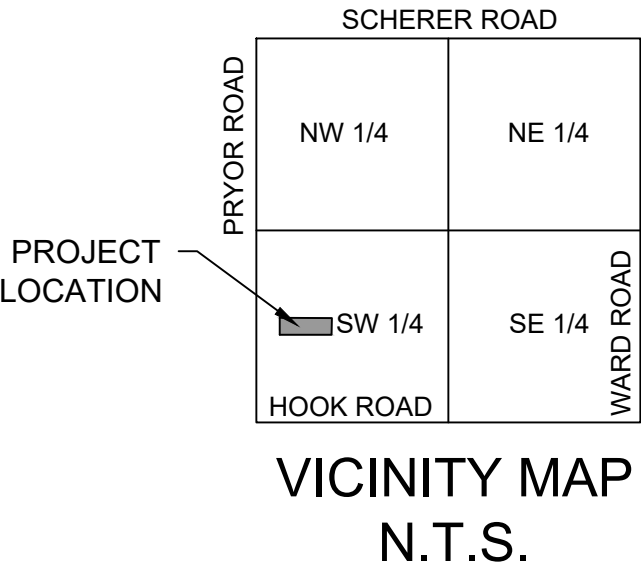
- 1 TITLE SHEET
- 2 GENERAL NOTES
- 3 STUB CHART
- 4 SANITARY GENERAL LAYOUT
- 5-6 SANITARY PLAN AND PROFILE
- 7-8 DETAILS

APPROVED:

City Engineer

Date

| UTILITY SERVICE NUMBERS | |
|-----------------------------|--------------|
| SPECTRUM | 886-874-2389 |
| EVERGY | 816-220-5213 |
| SPIRE GAS | 816-399-9633 |
| LEE'S SUMMIT PUBLIC WORKS | 816-969-1800 |
| CITY PLANNING & DEVELOPMENT | 816-969-1600 |
| FIRE DEPARTMENT | 816-969-1300 |



SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 3RD PLAT
SANITARY SEWER PLANS

TITLE SHEET

LEE'S SUMMIT, MO

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.
www.snyder-associates.com

802 FRANCIS STREET
ST. JOSEPH, MO 64501
816-364-5222



Project No: 1200485.11

Sheet 1

PROJECT NOTES:

1.

GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION.
2.

PRIOR TO ORDERING PRECAST STRUCTURES: SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. UPON APPROVAL THESE SHALL BE SUBMITTED TO THE CITY OF LEE'S SUMMIT FOR REVIEW.
3.

ALL WATER LINES, SANITARY SEWER LINES, AND STORM WATER DRAINAGE CROSSINGS SHALL BE IN PLACE OR A CASING PIPE PROVIDED FOR FUTURE INSTALLATION PRIOR TO BASE AND SURFACE ASPHALT COURSES.
4.

SIDEWALKS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY UNLESS OTHERWISE NOTES. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR HANDICAP RAMP CONSTRUCTION IN CURBS.
5.

REFER TO GRADING AND EROSION CONTROL SHEETS IN STREET AND STORM PLANS.
6.

SITE TOPOGRAPHY TAKEN FROM SURVEY COMPLETED BY R.L BUFORD & ASSOCIATES. CONTRACTOR TO VERIFY EXISTING CONDITIONS OF THE SITE THAT MAY NOT BE REPRESENTATIVE OF CONSTRUCTION PLANS.
7.

PROTECT EXISTING TREES, SHRUBS, FENCE AND LANDSCAPING UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS. REPLACE ANY FENCE, TREES, SHRUBS, LANDSCAPING ITEMS, OR OTHER VEGETATION NOT SCHEDULED FOR REMOVAL THAT ARE DAMAGED DURING CONSTRUCTION OPERATIONS WITHOUT ADDITIONAL COMPENSATION.

LEE'S SUMMIT NOTES:

1.

CONTRACTOR SHALL REFER TO THE CURRENT VERSION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION (D&C) MANUAL.
2.

ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF LEE'S SUMMIT, MISSOURI.
3.

LINEAL FOOT MEASUREMENTS SHOWN ON THESE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
4.

NO GEOLOGICAL INVESTIGATION WAS PERFORMED ON THIS PROJECT.
5.

THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. THEY DO NOT CONSTITUTE ACTUAL FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6.

CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES.
7.

ALL WASTE MATERIAL SHALL BE DISPOSED OF AT A LOCATION TO BE SELECTED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, SUCH LOCATION TO BE ON THE SITE.
8.

THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING AL PHASES OF CONSTRUCTION, HE SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS AND FOLLOW THE EROSION CONTROL PLAN PREPARED BY THE DESIGN ENGINEER.
9.

ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
10.

SUBGRADE SOIL FOR ALL CONCRETE STRUCTURES, REGARDLESS OF THE TYPE OR LOCATION, SHALL BE FIRM, DENSE AND THOROUGHLY COMPACTED AND CONSOLIDATED; SHALL BE FREE FROM MUCK AND MUD; AND SHALL BE SUFFICIENTLY STABLE TO REMAIN FIRM AND INTACT UNDER THE FEET OF THE WORKMAN OR MACHINERY ENGAGED IN SUBGRADE, LAYING REINFORCING STEEL, AND DEPOSITING CONCRETE THEREON. IN ALL CASES WHERE SUBSOIL IS MUCKY OR WORKS INTO MUD OR MUCK DURING SUCH OPERATION, A SEAL COURSE OF EITHER CONCRETE OR ROCK SHALL BE PLACED BELOW SUBGRADE TO PROVIDE A FIRM BASE FOR WORKING AND FOR PLACING THE FLOOR SLAB.
11.

A MINIMUM HORIZONTAL DISTANCE OF TEN FEET (10') SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. AT ANY POINT WHERE SANITARY SEWER LINES CROSS WATER MAIN, THE SANITARY SEWER SHALL BE CONSTRUCTED OF CAST IRON PIPE OR PIPE ENCASED IN CONCRETE FOR A DISTANCE OF TEN FEET (10') IN EACH DIRECTION FROM THE CROSSING UNLESS THE WATER IS A MINIMUM OF EIGHTEEN INCHES (18") ABOVE THE TOP OF THE SANITARY SEWER LINE.
12.

CONTRACTOR SHALL PROVIDE TESTING AND INSPECTION PER SECTION 3500 - SANITARY SEWERS CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
13.

DEVELOPMENT PLANS ARE APPROVED INITIALLY FOR ONE (1) YEAR, AFTER WHICH THEY AUTOMATICALLY BECOME VOID AND MUST BE UPDATED AND APPROVED BY THE CITY ENGINEER BEFORE ANY CONSTRUCTION WILL BE PERMITTED.
14.

ALL SANITARY SEWER STUBS SHALL BE SURVEYED AND STAKED ON SITE BEFORE THE CONSTRUCTION OF SANITARY SERVICE STUBS.
15.

THE CITY OF LEE'S SUMMIT PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE CITY OF LEE'S SUMMIT DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, OR DIMENSIONS AND ELEVATIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE. THE CITY OF LEE'S SUMMIT THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY OTHER THAN AS STATED ABOVE FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.
16.

THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS (APPROVED BY THE CITY OF LEE'S SUMMIT) AND ONE (1) COPY OF THE APPROPRIATE CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES.
17.

CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THIS SET OF DRAWINGS SHALL NOT BE INITIATED OR ANY PART THEREOF UNDERTAKEN UNTIL THE CITY ENGINEER IS NOTIFIED OF SUCH INTENT AND ALL REQUIRED AND PROPERLY EXECUTED BONDS AND PERMIT FEES ARE RECEIVED AND APPROVED BY THE CITY ENGINEER.
18.

ALL STUB LINES SHALL BE LAID ON 2.00% MINIMUM GRADE UNLESS APPROVED OTHERWISE.
19.

CONTRACTOR SHALL NOT BE ALLOWED TO WORK ON SATURDAYS, SUNDAYS, OR HOLIDAYS WITHOUT PRIOR APPROVAL OF THE CITY ENGINEER.
20.

RELOCATION OF ANY WATER LINE, SEWER LINE OR SERVICE LINE THEREOF REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT HIS EXPENSE.
21.

THE CONTRACTOR SHALL INSTALL AND PROPERLY MAINTAIN A MECHANICAL PLUG AT ALL CONNECTION POINTS WITH EXISTING LINES UNTIL SUCH TIME THAT THE NEW LINE IS TESTED AND APPROVED.
22.

THE CONTRACTOR SHALL CONSTRUCT MANHOLES PLACING ECCENTRIC CONE SECTION IN SUCH A MANNER THAT MANHOLE COVERS ARE ADJACENT TO THE PROPOSED SIDEWALKS. IN LOCATIONS WHERE MANHOLES ARE NOT NEAR PROPOSED SIDEWALKS THE MANHOLE COVERS SHALL GENERALLY BE PLACED ON THE UPSTREAM SIDE OF THE MANHOLES WHENEVER POSSIBLE.
23.

STUB LINES, LOCATIONS, AND MINIMUM BASEMENT FLOOR ELEVATIONS ARE LOCATED IN THE TABLE LABELED "TABLE OF SERVICE LOCATIONS."
24.

CONSTRUCTION PERMITS WILL NOT BE ISSUED UNTIL THE CITY OF LEE'S SUMMIT RECEIVES A SEWER EXTENSION PERMIT FROM MDNR.
25.

CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED AND CONNECTED WITH A WATERTIGHT FERNCO GASKET OR APPROVED EQUAL. THE GASKET IS TO BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

26.

ALL AREAS WHERE UTILITIES ARE TO BE INSTALLED IN FILL SHALL BE COMPACTED TO 95% TO 18 INCHES ABOVE THE LINE THEN EXCAVATED FOR CONSTRUCTION OF THE LINE.

27.

THE CONTRACTOR WILL BE RESPONSIBLE FOR TESTING OF MANHOLES AND PIPES TO THE CITY OF LEE'S SUMMIT DESIGN & CONSTRUCTION MANUAL REQUIREMENTS.

28.

THE ENDS OF ALL SANITARY SEWER STUBS SHALL BE SURVEYED AND MARKED BEFORE CONSTRUCTION.

28.

ALL UTILITY STREET CROSSINGS SHALL BE BACKFILLED WITH FLOWABLE FILL, OR AB-3. IF CONTRACTOR CHOOSES TO USE OTHER SUITABLE MATERIALS, EXTENSIVE SOIL TESTING REQUIREMENTS WILL BE REQUIRED.

30.

TRENCH CHECKS SHALL BE USED FOR ALL SANITARY SEWER STUBS.
- EROSION CONTROL NOTES:
- A MISSOURI STATE OPERATING PERMIT FOR STORM WATER DISCHARGE IS REQUIRED IF CONSTRUCTION ACTIVITY DISTURBS ONE ACRE OR MORE IN ACCORDANCE WITH THE MISSOURI DEPARTMENT OF NATURAL RESOURCES' REGULATION (10 CSR 20-6.200). COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED IN THIS INSTANCE. A CONSTRUCTION PERMIT FOR LAND DISTURBANCE WILL BE SECURED FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES AND PROVIDED TO THE CONTRACTOR.

SLOPES ARE TO BE LEFT IN A ROUGHENED CONDITION DURING GRADING.

CURB INLET SEDIMENTATION FILTERS ARE TO BE INSTALLED AROUND CURB INLETS WHERE SEDIMENTATION IS A CONCERN. (SEE SWPP FOR DETAILS)

INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF STORM INLETS & REMAIN IN PLACE UNTIL GROUND COVER HAS BEEN ESTABLISHED.

EROSION CONTROL MEASURES SHALL BE CONSTRUCTED PRIOR TO BEGINNING GRADING OPERATIONS WHERE POSSIBLE. ALL REMAINING EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IMMEDIATELY FOLLOWING GRADING OPERATIONS.

THE SITE IS TO BE SEEDED AND MULCHED AND TEMPORARY EROSION CONTROL MEASURES ARE TO REMAIN IN PLACE UNTIL GROUND COVER HAS BEEN ESTABLISHED.

SEDIMENT IS TO BE REMOVED FROM STORM WATER DRAINAGE SYSTEMS INCLUDING THE DETENTION BASIN.

ROCK LINING IS TO BE INSTALLED AT AREAS OF CONCENTRATED FLOW (I.E. CULVERT OUTLETS).

ROCK LINING SHALL BE TYPE 2 ROCK DITCH LINER ACCORDING TO MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SEC. 609.60. ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT SEDIMENT AND SOIL EROSION FROM BEING TRANSPORTED ONTO ADJACENT PROPERTY AND INTO STREAMS, LAKES, PONDS, OR OTHER AREAS.

CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY.

ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED.

A.
EROSION PROTECTION

1.

CODE COMPLIANCE: THE CONTRACTOR SHALL COMPLY WITH SOIL EROSION CONTROL REQUIREMENTS OF THE MISSOURI CODE, THE MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES PERMIT, AND LOCAL ORDINANCE. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASUREMENTS TO PROTECT AGAINST EROSION AND DUST POLLUTION ON THIS PROJECT SITE AND ALL OFF-SITE BORROW OR DEPOSIT AREAS DURING PERFORMANCE OR AS A RESULT OF PERFORMANCE.

2.

DAMAGE CLAIMS: THE CONTRACTOR WILL HOLD THE OWNER, ARCHITECT AND ENGINEER HARMLESS FROM ANY AND ALL CLAIMS OF ANY TYPE WHATSOEVER RESULTING FROM DAMAGES TO ADJOINING PUBLIC OR PRIVATE PROPERTY, INCLUDING REASONABLE ATTORNEY FEES INCURRED TO OWNER. FURTHER, IF THE CONTRACTOR FAILS TO TAKE NECESSARY STEPS TO PROMPTLY REMOVE EARTH SEDIMENTATION OR DEBRIS WHICH COMES ONTO ADJOINING PUBLIC OR PRIVATE PROPERTY, THE OWNER MAY, BUT NEED NOT, REMOVE SUCH ITEMS AND DEDUCT THE COST THEREOF FROM AMOUNTS DUE TO THE CONTRACTOR.

3.

ALL AREAS DISTURBED BY CONSTRUCTION ON THIS PROJECT WILL BE SUBJECT TO CURRENT REGULATORY REQUIREMENTS AND THESE STANDARDS.

B.
STORM WATER DISCHARGE PERMIT:

1.

THIS PROJECT REQUIRES A LAND DISTURBANCE PERMIT FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, AS REQUIRED BY THE ENVIRONMENTAL PROTECTION COMMISSION (EPC). THE OWNER SHALL OBTAIN THE PERMIT. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE AND FULFILLING ALL REQUIREMENTS OF THE PERMIT INCLUDING THE STORM WATER POLLUTION PREVENTION PLAN.

2.

ALL DOCUMENTS RELATED TO THE STORM WATER DISCHARGE PERMIT SHALL BE KEPT ON SITE AT ALL TIMES AND MUST BE PRESENTED TO THE MISSOURI DNR UPON REQUEST WHICH INCLUDE THE NOTICE OF INTENT, PROOF OF PUBLICATION, POLLUTION PREVENTION PLAN, PROJECT INSPECTION DIARY, AND OTHER ITEMS. FAILURE TO COMPLY WITH THE DISCHARGE REQUIREMENTS IS IN VIOLATION OF THE CLEAN WATER ACT AND THE CODE OF MISSOURI.

3.

UPON FINAL STABILIZATION OF THE DISTURBED AREA, A"NOTICE OF DISCONTINUATION" MUST BE FILED BY THE OWNER WITH THE MISSOURI DNR. ALL PLANS, INSPECTION REPORTS, AND OTHER DOCUMENTS MUST BE RETAINED FOR A PERIOD OF THREE YEARS AFTER PROJECT COMPLETION. THE CONTRACTOR SHALL RETAIN RECORD COPY AND PROVIDE ORIGINAL DOCUMENTS TO THE OWNER UPON ISSUANCE OF THE NOTICE OF DISCONTINUATION.

POLLUTION PREVENTION PLAN:

1.

SITE DESCRIPTION: THIS PROJECT IS FOR THE CONSTRUCTION OF ROUGH GRADING FOR COMMERCIAL DEVELOPMENT. THE ENTIRE PROJECT COVERS APPROXIMATELY 1.70 ACRES. THE ESTIMATED AVERAGE RUNOFF COEFFICIENT WILL BE 0.80 RUNOFF FROM THIS PROJECT SITE AND WILL BE ROUTED THROUGH THE EXISTING CITY STORM SEWER.

2.

POTENTIAL SOURCES OF POLLUTION FOR THIS PROJECT RELATE TO SILTS, SEDIMENT, AND OTHER MATERIALS WHICH MAY BE TRANSPORTED FROM THE CONSTRUCTION SITE AS THE RESULT OF A STORM EVENT .

3.

RESPONSIBILITY: THIS POLLUTION PREVENTION PLAN ILLUSTRATES GENERAL MEASURES TO BE TAKEN FOR COMPLIANCE WITH THE PERMIT. ALL MITIGATION MEASURES REQUIRED, AS A RESULT OF ACTIVITIES, ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL ACTIONS NECESSARY FOR INSTALLATION OF CONTROL MEASURES FOR COMPLIANCE WITH PERMIT REQUIREMENTS.

4.

CONTROLS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND FULFILLING ALL THE REQUIREMENTS OF THE GENERAL PERMIT INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

a.

THE CONTRACTOR SHALL PROTECT ADJOINING PROPERTY INCLUDING PUBLIC UTILITIES, SANITARY AND STORM DRAINAGE SYSTEMS, AND STREETS FROM ANY DAMAGE RESULTING FROM MOVEMENT OF EARTH OR OTHER DEBRIS FROM PROJECT SITE. REPAIR ANY DAMAGE IMMEDIATELY AT NO ADDITIONAL COST.

b.

THE CONTRACTOR SHALL PREVENT ACCUMULATION OF EARTH, SILTATION, OR DEBRIS ON ADJOINING PUBLIC OR PRIVATE PROPERTY FROM PROJECT SITE. REMOVE ANY ACCUMULATION OF EARTH OR DEBRIS IMMEDIATELY AND TAKE REMEDIAL ACTIONS FOR PREVENTION.

c.

PRIOR TO SITE CLEARING AND GRADING OPERATIONS, CONTRACTOR SHALL INSTALL SILT FENCE ALONG THE PERIMETER OF THE PROJECT DOWNSTREAM OF DISTURBING ACTIVITIES AS REQUIRED AND AS SHOWN ON THE PLANS.

d.

THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION.
-
- SHAWN DUKE - ENGINEER
MO PE#2013006489
- WHISPERING WOODS 3RD PLAT
SANITARY SEWER PLANS

GENERAL NOTES

LEE'S SUMMIT, MO
- 802 FRANCIS STREET
ST. JOSEPH, MO 64501
816-364-5222
- SNYDER & ASSOCIATES**
ENGINEERS & PLANNERS, INC.

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-
- Project No: 1200485.11
- Sheet 2

| SANITARY SEWER LATERALS | | | | | | | | | | | | |
|-------------------------|----------------------|------------|--------------|----------------------|-----------------|---------------------|--|-------------|---------------------|------------------------|-----------------|----------------------------------|
| LOT NUMBER | SERVICE STUB STATION | SEWER LINE | D.S. MANHOLE | STATION D.S. MANHOLE | FL D.S. MANHOLE | DIST FROM D.S. M.H. | Main Pipe Slope Along Section of Pipe at Stub Connection | STUB LENGTH | F/L OF MAIN AT STUB | RISER AT SANITARY MAIN | STUB F/L AT END | MINIMUM BASEMENT FLOOR ELEVATION |
| 18 | 19+04.31 | A | A-4 | 18+71.36 | 952.95 | 32.95 | 0.67 | 56.35 | 953.17 | 0.00 | 955.30 | 957.17 |
| 19 | 18+33.68 | A | A-3 | 16+19.27 | 951.10 | 214.41 | 0.65 | 58.07 | 952.49 | 0.00 | 954.66 | 956.49 |
| 20 | 17+47.92 | A | A-3 | 16+19.27 | 951.10 | 128.65 | 0.65 | 57.58 | 951.94 | 0.00 | 954.09 | 955.94 |
| 21 | 16+62.92 | A | A-3 | 16+19.27 | 951.10 | 43.65 | 0.65 | 56.58 | 951.38 | 0.00 | 953.52 | 955.38 |
| 22 | 15+90.04 | A | A-2 | 14+82.72 | 950.00 | 107.32 | 0.66 | 57.77 | 950.71 | 0.00 | 952.86 | 954.71 |
| 23 | 15+11.28 | A | A-2 | 14+82.72 | 950.00 | 28.56 | 0.66 | 74.73 | 950.19 | 0.00 | 952.68 | 954.19 |
| 24 | 14+03.35 | A | A-1 | 11+62.76 | 945.68 | 240.59 | 1.19 | 9.98 | 948.54 | 0.00 | 949.74 | 952.54 |
| 25 | 13+98.27 | A | A-1 | 11+62.76 | 945.68 | 235.51 | 1.19 | 9.85 | 948.48 | 0.00 | 949.68 | 952.48 |
| 26 | 15+35.00 | A | A-2 | 14+82.72 | 950.00 | 52.28 | 0.66 | 60.56 | 950.35 | 0.00 | 952.56 | 954.35 |
| 27 | 16+69.54 | A | A-3 | 16+19.27 | 951.10 | 50.27 | 0.65 | 53.65 | 951.43 | 0.00 | 953.50 | 955.43 |
| 28 | 17+62.65 | A | A-3 | 16+19.27 | 951.10 | 143.38 | 0.65 | 52.37 | 952.03 | 0.00 | 954.08 | 956.03 |
| 29 | 18+47.92 | A | A-3 | 16+19.27 | 951.10 | 228.65 | 0.65 | 53.36 | 952.59 | 0.00 | 954.65 | 956.59 |
| 30 | 21+23.43 | A | A-5 | 20+89.21 | 954.60 | 34.22 | 0.66 | 51.90 | 954.83 | 0.00 | 956.86 | 958.83 |
| 31 | 22+12.56 | A | A-6 | 21+72.62 | 955.35 | 39.94 | 0.65 | 56.08 | 955.61 | 0.00 | 957.73 | 959.61 |
| 32 | 22+88.03 | A | A-6 | 21+72.62 | 955.35 | 115.41 | 0.65 | 58.09 | 956.10 | 0.00 | 958.26 | 960.10 |
| 33 | 23+58.36 | A | A-7 | 23+50.82 | 956.70 | 7.54 | 0.66 | 89.29 | 956.75 | 0.00 | 959.54 | 960.75 |
| 34 | 24+01.86 | A | A-7 | 23+50.82 | 956.70 | 51.04 | 0.66 | 93.48 | 957.04 | 0.00 | 959.91 | 961.04 |
| 35 | 24+11.23 | A | A-7 | 23+50.82 | 956.70 | 60.41 | 0.66 | 69.55 | 957.10 | 0.00 | 959.49 | 961.10 |
| 36 | 55+15.91 | B | B-2 | 53+76.92 | 956.70 | 138.99 | 0.65 | 55.00 | 957.60 | 0.00 | 959.70 | 961.60 |
| 37 | 54+34.18 | B | B-2 | 53+76.92 | 959.10 | 57.26 | 0.65 | 55.00 | 959.47 | 0.00 | 961.57 | 963.47 |
| 38 | 54+19.68 | B | B-2 | 53+76.92 | 959.10 | 42.76 | 0.65 | 55.00 | 959.38 | 0.00 | 961.48 | 963.38 |
| 39 | 53+60.15 | B | B-3 | 53+15.66 | 958.30 | 44.49 | 0.65 | 95.70 | 958.59 | 0.00 | 961.50 | 962.59 |
| 40 | 53+22.72 | B | B-3 | 53+15.66 | 958.30 | 7.06 | 0.65 | 97.40 | 958.35 | 0.00 | 961.29 | 962.35 |
| 41 | 52+90.71 | B | B-4 | 51+84.82 | 957.05 | 105.89 | 0.65 | 62.77 | 957.74 | 0.00 | 959.99 | 961.74 |
| 42 | 52+05.85 | B | B-4 | 51+84.82 | 957.05 | 21.03 | 0.65 | 61.11 | 957.19 | 0.00 | 959.41 | 961.19 |
| 43 | 51+45.06 | B | B-5 | 50+00.00 | 955.65 | 145.06 | 0.65 | 60.25 | 956.59 | 0.00 | 958.80 | 960.59 |
| 44 | 50+46.40 | B | B-5 | 50+00.00 | 955.65 | 46.40 | 0.67 | 56.93 | 955.96 | 0.00 | 958.10 | 959.96 |
| 45 | 22+44.21 | A | A-6 | 21+72.62 | 955.35 | 71.59 | 0.65 | 53.11 | 955.82 | 0.00 | 957.88 | 959.82 |
| 46 | 54+72.18 | B | B-2 | 53+76.92 | 956.70 | 95.26 | 0.65 | 55.00 | 957.32 | 0.00 | 959.42 | 961.32 |
| 47 | 23+01.65 | A | A-6 | 21+72.62 | 955.35 | 129.03 | 0.65 | 51.59 | 956.19 | 0.00 | 958.22 | 960.19 |



SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS 3RD PLAT
SANITARY SEWER PLANS

STUB CHARTS

LEE'S SUMMIT, MO

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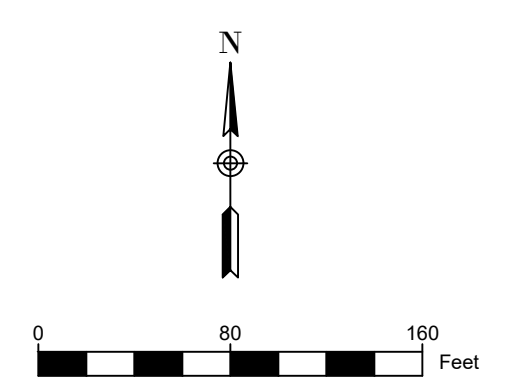
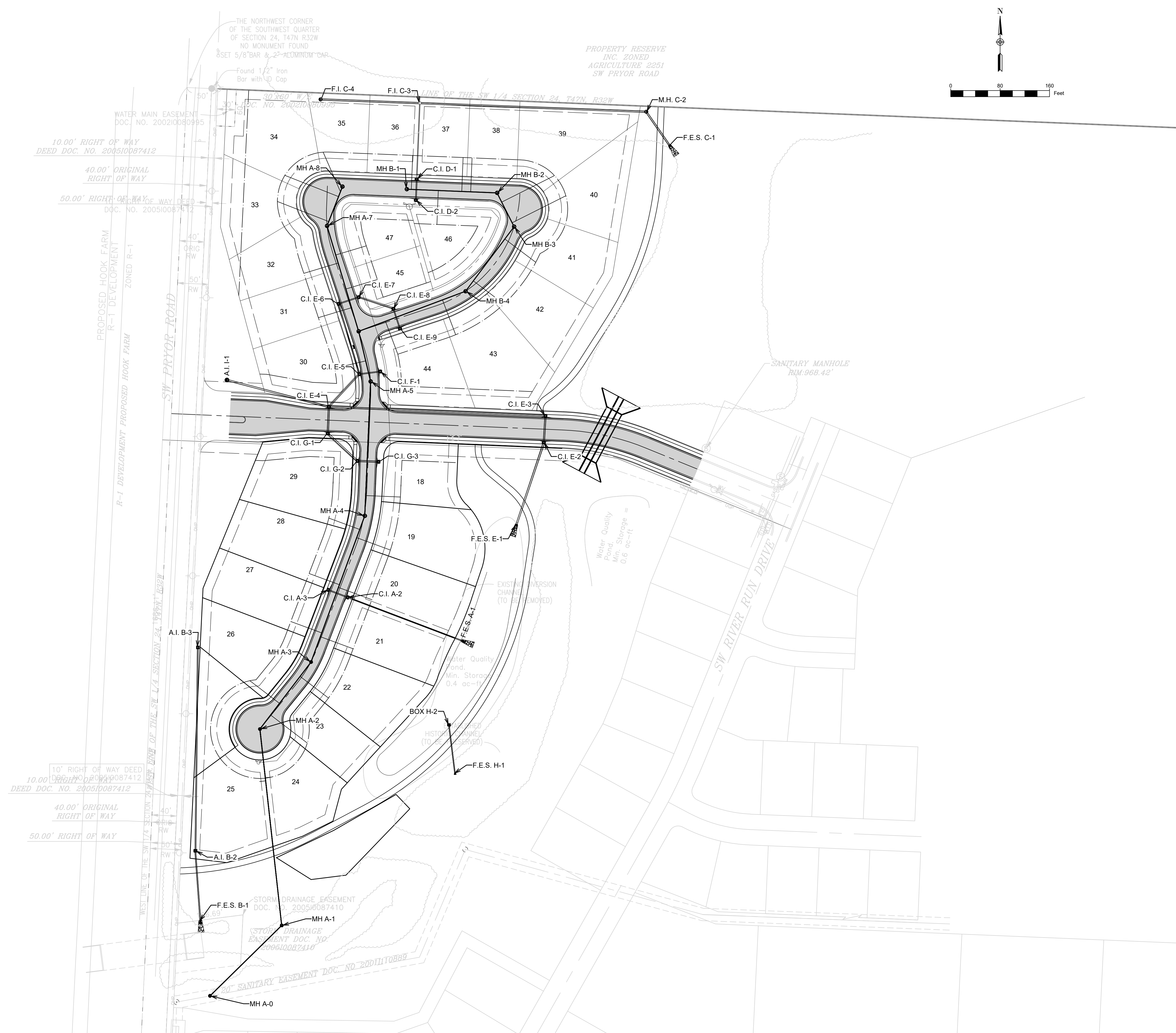
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816-364-5222



Project No: 1200485.11

Sheet 3

| MARK | | REVISION | | DATE | BY |
|--|----|-------------|---------|-----------|---------|
| Engineer: | SD | Checked By: | SD | Scale: | 1"= N/A |
| Technician: | JS | Date: | 3-18-21 | Field Bk: | Pg: |
| Snyder & Associates Engineers & Planners, Inc. Missouri State Certificate of Authority #200000644 | | | | | Sheet 3 |



WHISPERING WOODS 3RD PLAT
SANITARY SEWER PLANS

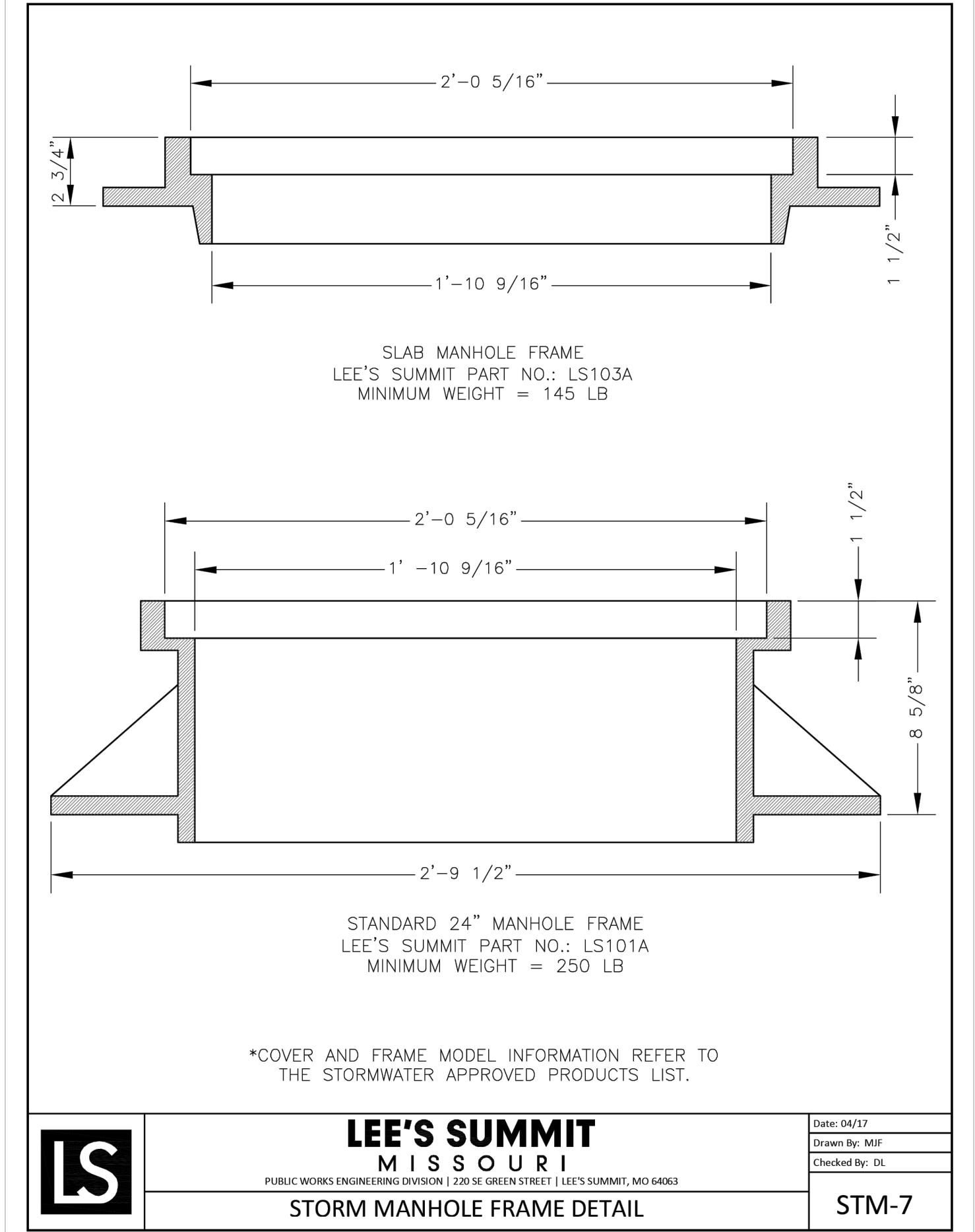
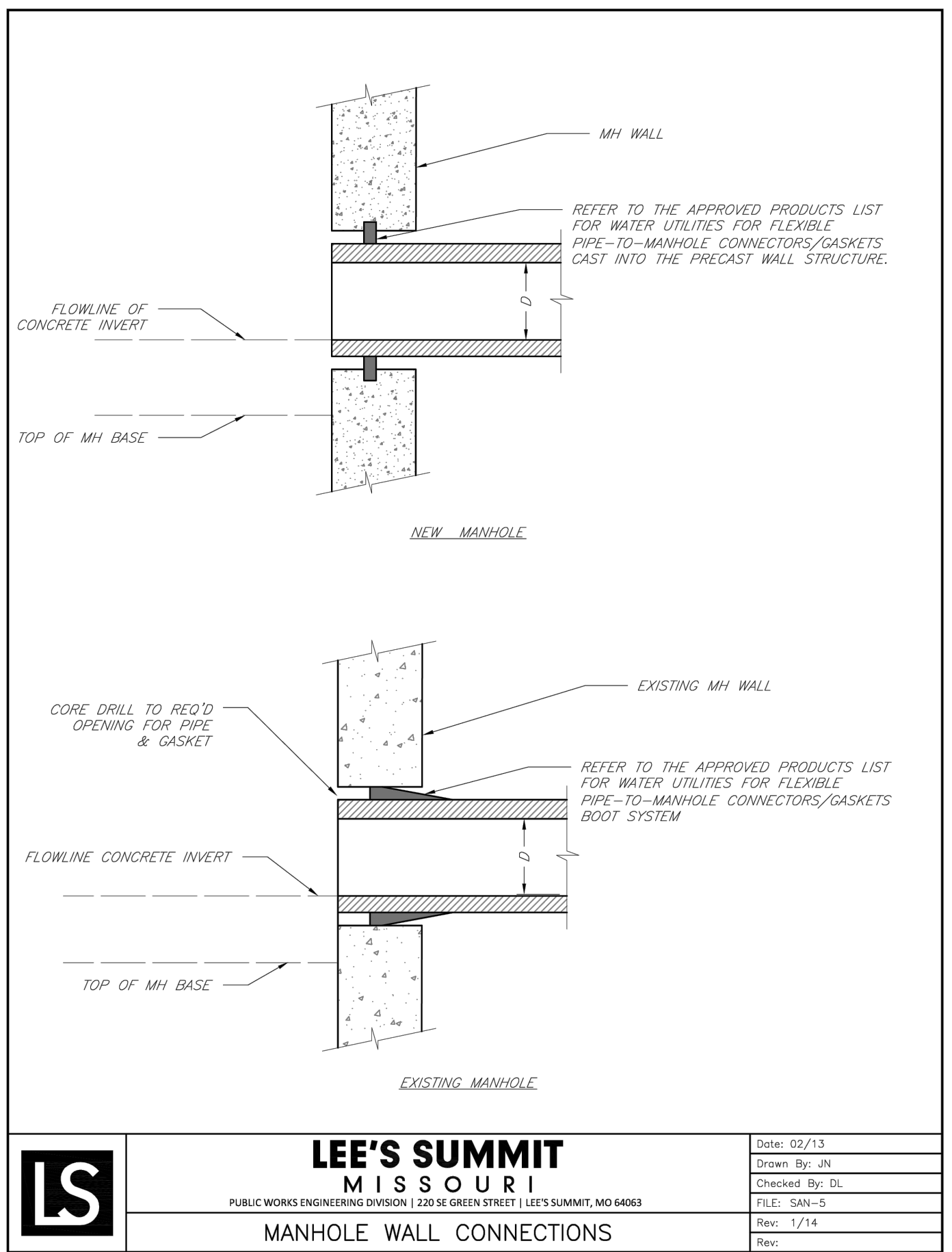


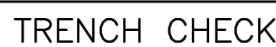
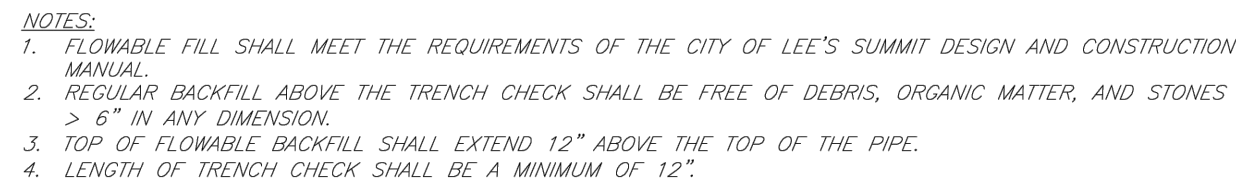
Project No: 1200485.11
Sheet 4

GENERAL LAYOUT
LEE'S SUMMIT, MO
802 FRANCIS STREET
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SHAWN DUKE - ENGINEER
MO PE#2013006489

| MARK | REVISION | DATE | BY |
|---|----------------|----------------|-----------|
| Engineer: SD | Checked By: SD | Scale: 1"= 60' | Field Bk: |
| Technician: JS | Date: 3-18-21 | | Pg: |
| Snyder & Associates Engineers & Planners, Inc. | | | Sheet 4 |
| Missouri State Certificate of Authority #2000006544 | | | |





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|----------------|
| Date: 02/13 |
| Drawn By: JN |
| Checked By: DL |
| FILE: WAT-6 |
| Rev: 1/14 |
| Rev: |

| LEGEND | |
|---|-----------------------------------|
| BC | OUTSIDE DIA. OF PIPE |
| D | NOMINAL PIPE SIZE |
| A | EMBEDMENT BELOW PIPE |
|  | TRENCH BACKFILL (TYPE 1) |
|  | TAMPED GRANULAR BACKFILL (TYPE 3) |
|  | GRANULAR BEDDING |
|  | CONCRETE |
|  | CLEAN CRUSHED STONE |

PIPE EMBEDMENT NOTES

| D | A MIN SOIL | A MIN ROCK |
|---------|---------------|---------------|
| 0"—27" | 4" | 6" |
| 30"—60" | 6" | 9" |
| 66"—UP | 8" | 12" |

1. GRANULAR BEDDING SHALL BE CRUSHED ROCK OR PEA GRAVEL WITH NOT LESS THAN 95% PASSING 3/4" (95% PASSING 1" FOR 30" AND LARGER PIPE) AND NOT LESS THAN 95% RETAINED ON A 3/8"; TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING.
2. TAMPED GRANULAR BACKFILL (TYPE 3) SHALL BE GRANULAR MATERIAL CONFORMING TO THE REQUIREMENTS OF SECTION 1007.3.1 OF THE LATEST ISSUE OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
3. TRENCH BACKFILL (TYPE 1) SHALL BE FINELY DIVIDED MATERIAL FREE FROM DEBRIS AND STONES, COMPACTED TO 95% MAXIMUM DENSITY.
4. CLEAN CRUSHED STONE SHALL BE GRANULAR MATERIAL CONFORMING TO THE GRADATION REQUIREMENTS OF SECTION 1005.1.4.1 OF THE LATEST ISSUE OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
5. WHEN PROPOSED MAIN IS UNDER PAVEMENT CONTRACTOR TO BACKFILL WITH COMPACTED AGGREGATE TO PAVEMENT SUBGRADE.

WHISPERING WOODS 3RD PLAT SANITARY SEWER PLANS

DETAILS

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.
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Project No: 1200485.11

Sheet 8