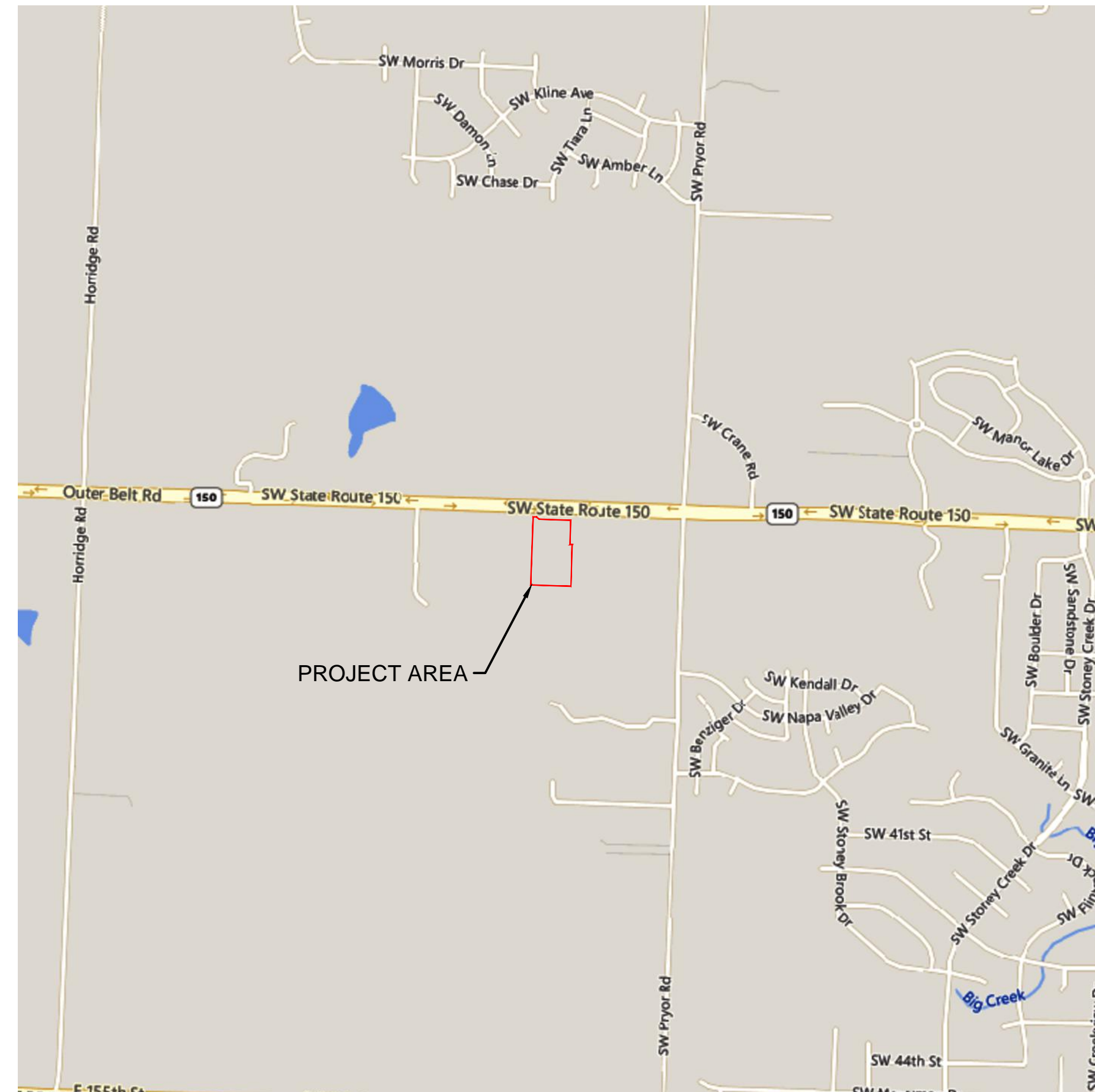
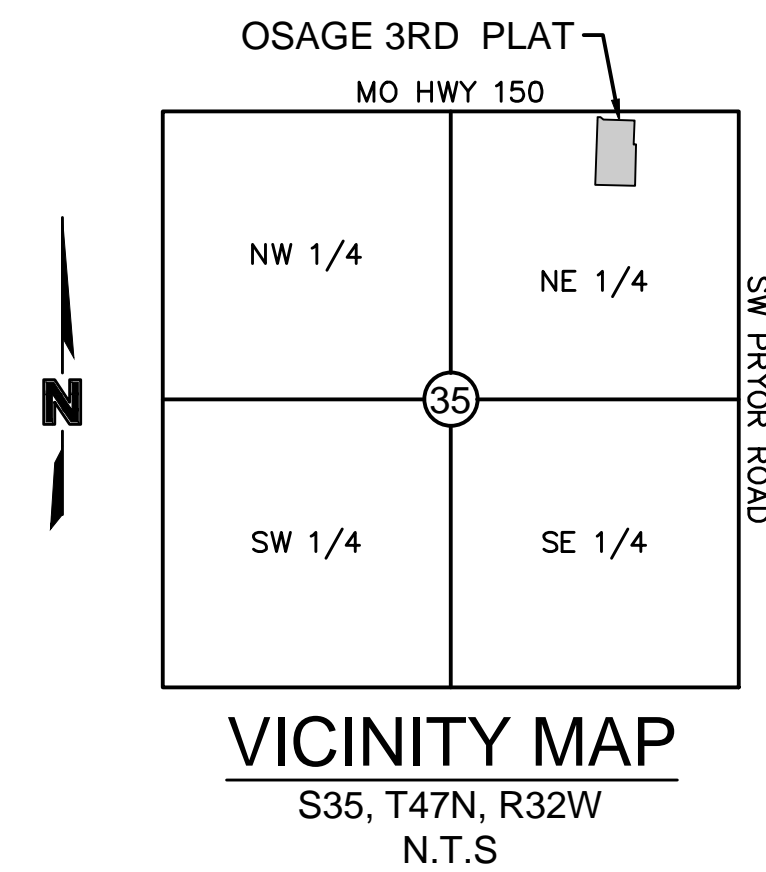


OSAGE THIRD PLAT STREET & STORM SEWER PLANS

NE 1/4 SECTION 35, TOWNSHIP 47 N, RANGE 32 W.
IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

**APPROVED RECORD
DRAWING**

These plans have been reviewed for
accuracy by the Development
Services Staff



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PROJECT TEAM & UTILITY CONTACT LIST	
OWNER / DEVELOPER CLAYTON PROPERTIES GROUP, INC. D.B.A. SUMMIT HOMES 120 SE 30TH STREET CONTACT: VINCENT WALKER LEE'S SUMMIT, MO 64082 PHONE: 816.246.6700 EMAIL: VINCENT@SUMMITHOMESKC.COM	UTILITY SERVICE NUMBERS NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800 NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT PHONE: 816-969-1940 NAME: SPIRE (MGE) PHONE: 314-342-0500 NAME: AT&T PHONE: 800-286-8313 NAME: EVERGY PHONE: 816-471-5275 NAME: SPECTRUM (TWC) PHONE: 877-772-2253 NAME: GOOGLE FIBER PHONE: 877-454-6959
ENGINEER OLSOON 1301 BURLINGTON ST. SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JULIE E. SELLERS, P.E. PHONE: 816.361.1177 EMAIL: JSSELLERS@OLSSON.COM	
SURVEYOR OLSOON 1301 BURLINGTON ST. SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH PHONE: 816.361.1177 EMAIL: JROUDEBUSH@OLSSON.COM	

NOT FOR CONSTRUCTION

REVIEWED FOR CONSTRUCTION

PROPERTY DESCRIPTION:

ALL OF THE WEST HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE FIFTH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY MISSOURI EXCEPT THAT PART IN MISSOURI STATE HIGHWAY NO. 150 RIGHT-OF-WAY

ALSO

A TRACT OF LAND IN THE WEST HALF OF THE SOUTHWEST QUARTER AND EAST HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED BY OR UNDER THE DIRECT SUPERVISION OF JASON S. ROUDEBUSH, P.L.S. 2002014092, AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE NORTH 88°07'14" WEST, ON THE NORTH LINE OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, 1,319.40 FEET TO THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE SOUTH 02°10'22" WEST, ON THE WEST LINE OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, 659.27 FEET TO THE NORTHWEST CORNER OF SAID SOUTHWEST QUARTER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER ALSO BEING A POINT ON THE WESTERLY LINE OF PROPOSED OSAGE 2ND PLAT; THENCE SOUTH 88°08'29" EAST ON THE NORTH LINE OF SAID SOUTHWEST QUARTER OF SAID NORTHEAST QUARTER, AND ALONG SAID WESTERLY LINE, 326.96 FEET TO THE NORTHEAST CORNER OF SAID WEST HALF OF SAID SOUTHWEST QUARTER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, ALSO BEING THE SOUTHWEST CORNER OF SAID EAST HALF OF SAID NORTHWEST QUARTER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE NORTH 02°09'46" EAST ON THE WEST LINE OF SAID EAST HALF OF SAID NORTHWEST QUARTER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, AND ALONG SAID WESTERLY LINE, 346.14 FEET; THENCE LEAVING SAID EAST LINE AND SAID WESTERLY LINE, SOUTH 88°11'07" EAST, ALONG THE NORTH LINE OF PROPOSED TRACT I OF SAID PROPOSED OSAGE 2ND PLAT, 21.17 FEET; THENCE SOUTH 01°48'53" WEST ALONG THE EASTERLY LINE OF SAID PROPOSED TRACT I, A DISTANCE OF 366.13 FEET; THENCE NORTH 88°11'07" WEST, ALONG SAID EASTERLY LINE AND ITS WESTERLY EXTENSION 353.36 FEET TO A POINT ON SAID WEST LINE OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE NORTH 02°10'22" EAST ON SAID WEST LINE, 20.25 FEET TO THE POINT OF BEGINNING. CONTAINING 14,798 SQUARE FEET OR 0.34 ACRES, MORE OR LESS.

BENCHMARK

BENCHMARK NO. 1
CHISELED PLUS ON THE EAST FLANGED BOLT OF THE FIRE HYDRANT ON THE WEST SIDE OF SW PRYOR ROAD ON ADJOINING PROPERTY SOUTH OF THE SOUTHWEST CORNER OF SUBJECT PROPERTY.
ELEVATION = 1014.830

BENCHMARK NO. 2
RAILROAD SPIKE IN THE NORTH FACE OF POWER POLE LOCATED ON THE SOUTH SIDE MISSOURI STATE HIGHWAY 150 AT THE WEST SIDE OF THE DRIVEWAY TO 2025 MISSOURI STATE HIGHWAY 150, LEE'S SUMMIT, MO.
ELEVATION = 1031.313

AS BUILT
08-22-2022

OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT.

Julie E. Sellers
JULIE E. SELLERS, P.E.
CIVIL ENGINEER
MO# PE-2019000237

5/9/2023
DATE

olsson

Olsson - Civil Engineering
Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
www.olsson.com



REV. NO.	DATE	REVISIONS DESCRIPTION
1	08/11/2023	REVISED PER CITY COMMENTS

TITLE SHEET
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT
LEE'S SUMMIT, MO
2021

drawn by:	MJD
checked by:	JES
designed by:	MJD
QA/QC by:	JES
project no.:	D19-2339
drawing no.:	C_TTL01_D192339
date:	3/14/2023

SHEET
C101

DWG: F:\2019\2001-2500\019-2339-D\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\CNCV\Street & Storm Plans\C_TTL01_D192339.dwg
 USER: sscaylor
 DATE: Mar 14, 2023 2:16pm
 XREFS: C:\P\B\K_D192339



GENERAL NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.
3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

- 1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:
A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
B. ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES..
E. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

- 1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION

- 1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
3. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
4. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
5. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

- 1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES IN CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
A. ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
B. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

STORM SEWER GENERAL NOTES:

- 1. STORM STRUCTURES SHALL BE PER CURRENT CITY DETAILS. IF CITY DOES NOT HAVE PUBLISHED DETAILS STRUCTURES SHALL BE PER CURRENT APWA SPECIFICATIONS.
2. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH CITY OF LEE'S SUMMIT, MISSOURI.
3. ALL PIPE LENGTHS AND ELEVATIONS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
4. ALL STRUCTURE DIMENSIONS ARE TO INSIDE FACE OF STRUCTURE.
5. COORDINATES ARE PROVIDED AT THE CENTER OF STRUCTURE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING THE BOX DURING INSTALLATION.
6. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF STORM SEWER.
7. STORM SEWER TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
8. STRUCTURE INVERT CHANNELS SHALL BE SMOOTH, CIRCULAR, AND CONFORMING TO 1/2 THE ADJACENT PIPE SECTION (INVERT TO CENTER). CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AND MAINTAIN SHAPE THROUGHOUT. CHANGES IN GRADE OF ADJACENT PIPES SHALL BE TRANSITIONED SMOOTHLY AND EVENLY THROUGH THE STRUCTURE.
9. PIPE PENETRATIONS SHALL BE GROUTED TO ENSURE WATERTIGHT SEALS.
10. MAINTAIN MINIMUM DEPTH OF COVER PER APWA 5606.06

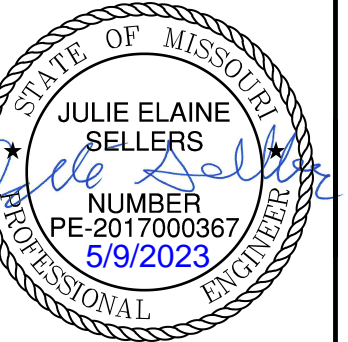
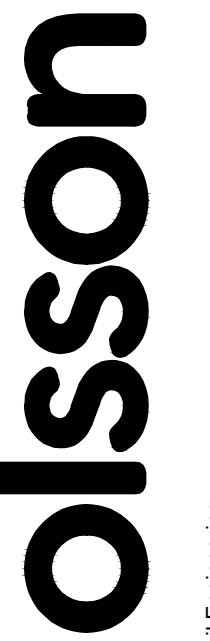
APPROVED RECORD DRAWING
These plans have been reviewed for accuracy by the Development Services Staff

ESTIMATE OF QUANTITIES table with columns: ITEM NO., DESCRIPTION, UNIT, QUANTITY, AS-BUILT. Rows include STREET (EXCAVATION, EMBANKMENT, SUBGRADE STABILIZATION, ASPHALT PAVEMENT, CONCRETE CURB & GUTTER, CONCRETE SIDEWALK, MILL & OVERLAY, ADA RAMP, STOP SIGNS, STREET NAME SIGNS, END OF ROAD TREATMENT) and STORM (STD. CURB INLET, STD. STORM MANHOLE, STD. FIELD INLET, BASIN OUTLET STRUCTURE, WATER QUALITY OUTLET STRUCTURE, HDPE pipes, PVC, HDPE END SECTION, CONNECTION TO EXISTING STRUCTURE, RIPRAP, TURF REINFORCEMENT MATTING).

AS PROVIDED BY CONTRACTOR*

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.

AS BUILT
08-22-2022



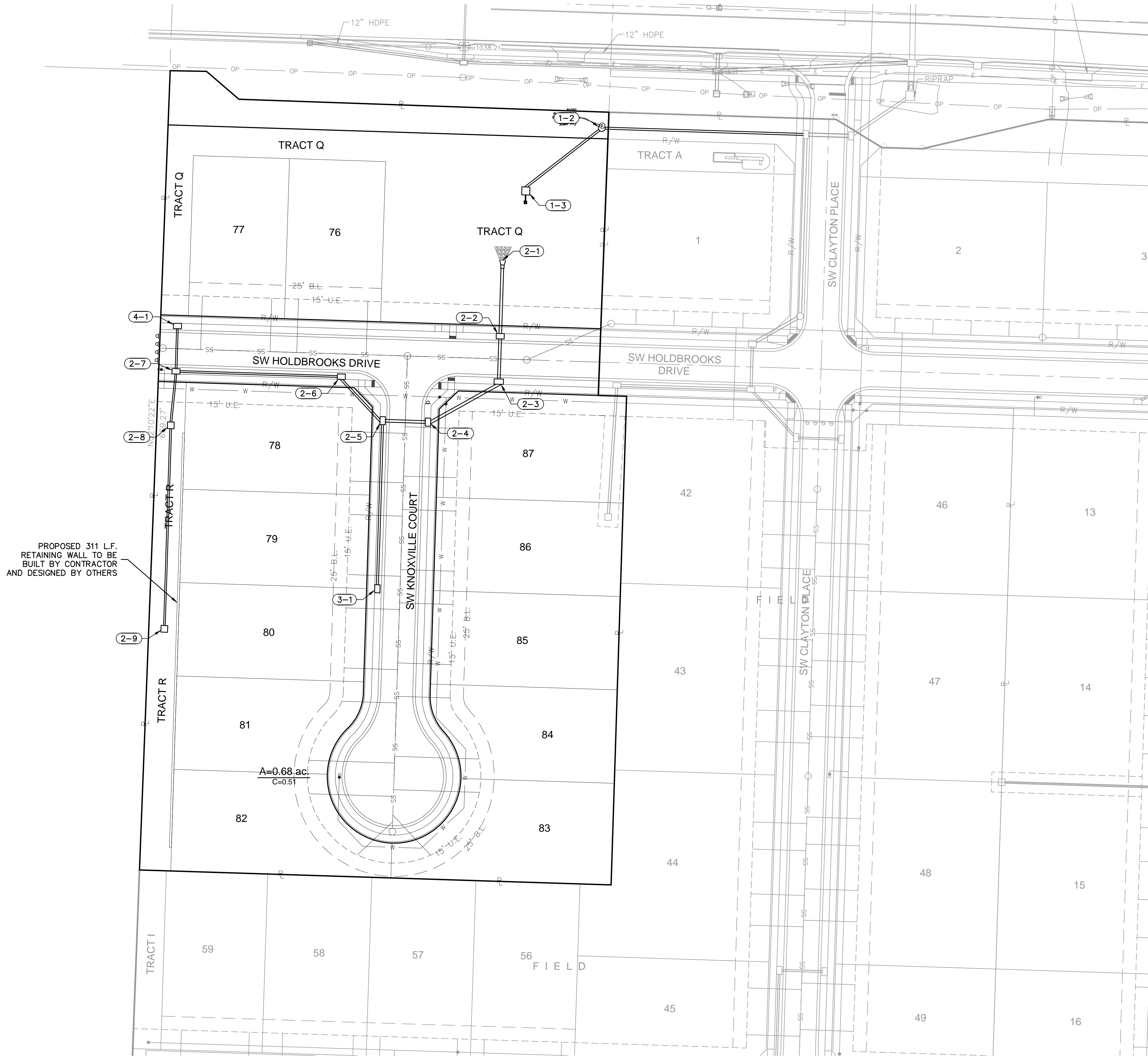
REVISIONS table with columns: REV. NO., DATE, DESCRIPTION, COMMENTS. Row 1: 1, 08/11/2023, REVISIONS DESCRIPTION, REVISED PER CITY COMMENTS.

GENERAL NOTES
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT
LEE'S SUMMIT, MO
2021

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_TTL01_D192339
date: 3/14/2023

SHEET
C102

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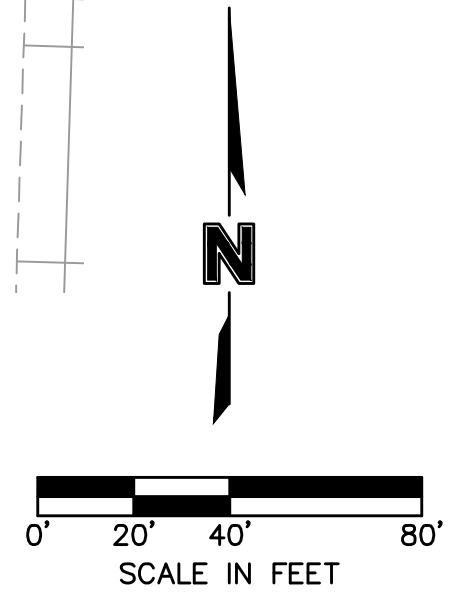


**APPROVED RECORD
DRAWING**

These plans have been reviewed for
accuracy by the Development
Services Staff

PROPOSED 311 L.F.
RETAINING WALL TO BE
BUILT BY CONTRACTOR
AND DESIGNED BY OTHERS

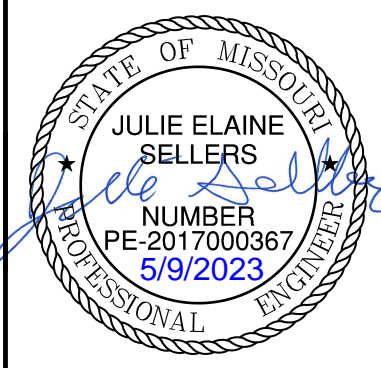
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NOT AS BUILT

olsson

Olsson - Civil Engineering
Missouri Certification of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08/11/2023	REVISED PER CITY COMMENTS	

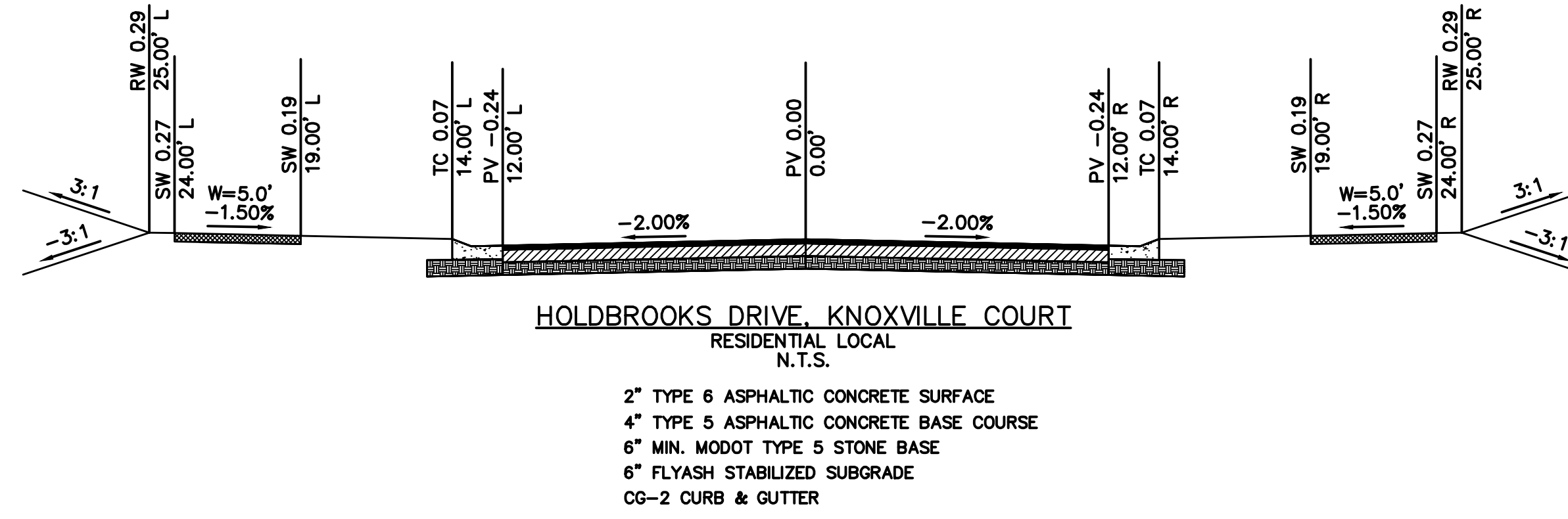
GENERAL LAYOUT
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

2021

LEE'S SUMMIT, MO

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_GEN01_D192339
date: 3/14/2023

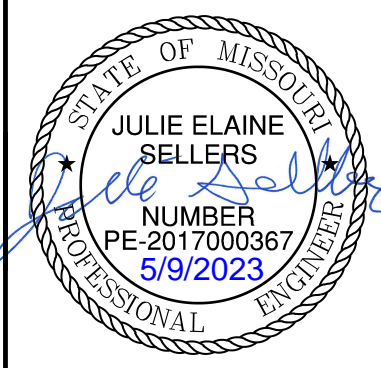
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**APPROVED RECORD
DRAWING**

These plans have been reviewed for
accuracy by the Development

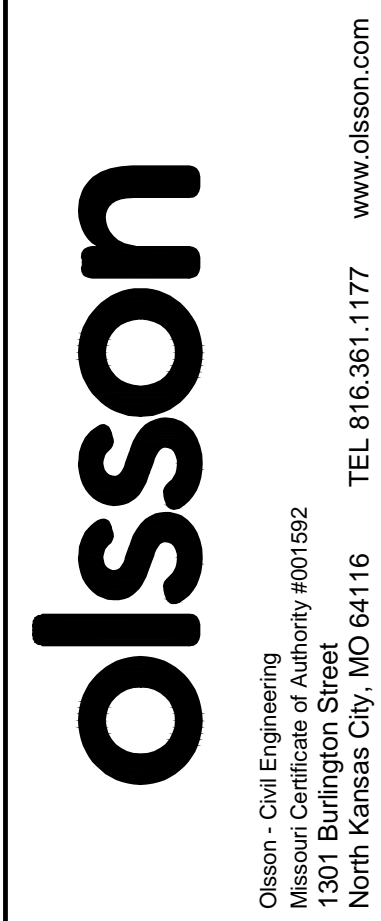
Services Staff



REV NO.	DATE	REVISIONS DESCRIPTION	BY
1	08/11/2023	REVISED PER CITY COMMENTS	

TYPICAL SECTIONS STREET & STORM SEWER PLANS	2021	2021
OSAGE 3RD PLAT		
LEE'S SUMMIT, MO		
drawn by: MJD	checked by: JES	
designed by: MJD	QA/QC by: JES	
project no.: D19-2339		
drawing no.: C_TYP01_D192339		
date: 3/14/2023		
SHEET C104		

NOT AS BUILT



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GENERAL NOTES:

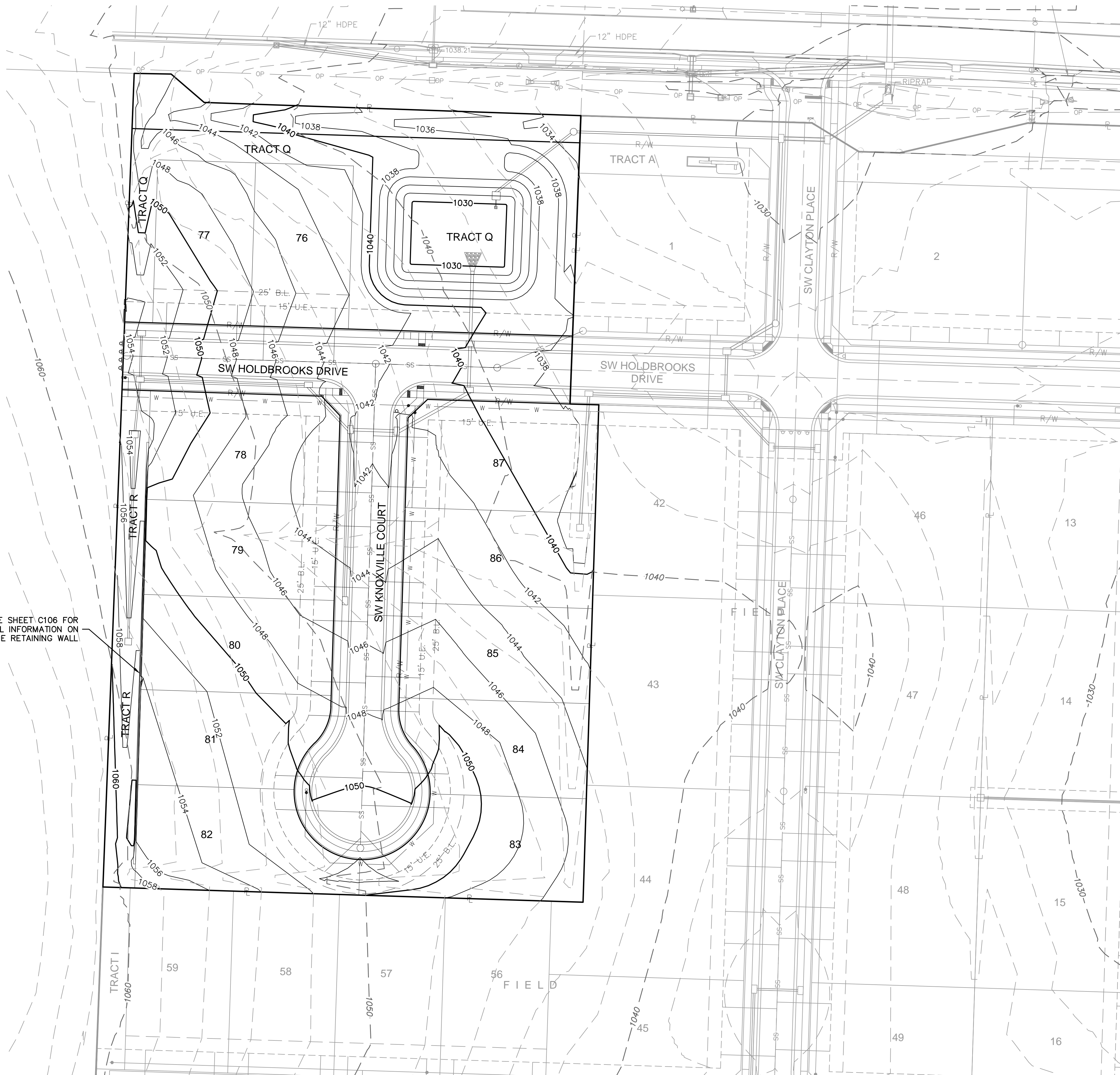
- CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.
- AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH AS RECOMMENDED BY GEOTECHNICAL ENGINEER AND OR TESTING AGENCY. SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE GEOTECHNICAL ENGINEER AND OR TESTING AGENCY SHALL BE REMOVED FROM THE JOB SITE BY THE CONTRACTOR AT HIS EXPENSE.
- ALL EMBANKMENT OUTSIDE OF RIGHT-OF-WAY SHOULD BE PLACED IN CONTROLLED LIFTS HAVING A MAXIMUM LOOSE LIFT THICKNESS OF 8". EMBANKMENT SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION). MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF -0 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT.

EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	1901	147
SITE	9104	3610
TOTAL	11005	3757

EARTHWORK QUANTITIES NOTES:

- EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
- EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR EXCAVATION, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL AND FOR REPLACING IT WITH SUITABLE MATERIAL.

REFERENCE SHEET C106 FOR ADDITIONAL INFORMATION ON THE RETAINING WALL



LOT FILL INFORMATION			
LOT NUMBER	MAX DEPTH OF FILL (OVER 2' PLACED)	FILL PLACED ON EXISTING SLOPES > 5:1	PROPOSED SLOPES > 3:1
76			
77			
78			
79			
80			
81			
82			
83	3.4	X	
84	3.4	X	
85		X	
86	3.4	X	
87			

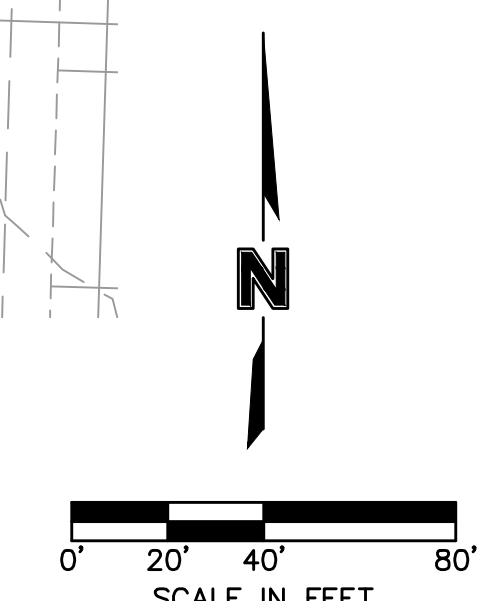
X Indicates condition applies to lot

APPROVED RECORD DRAWING

 These plans have been reviewed for accuracy by the Development Services Staff

NOT AS BUILT

LEGEND	
- -100-	EXISTING INDEX CONTOURS
- -100-	EXISTING INTERMEDIATE CONTOURS
100	PROPOSED INDEX CONTOURS
100	PROPOSED INTERMEDIATE CONTOURS



Lee's Summit, MO
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177

olsson

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Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177

STATE OF MISSOURI
JULIE ELAINE SELLERS
Professional Engineer
NUMBER PE 2017000367
5/9/2023

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08/11/2023	REVISED PER CITY COMMENTS	

GRADING PLAN (FOR REFERENCE ONLY)
STREET & STORM SEWER PLANS

OSAGE 3RD PLAT

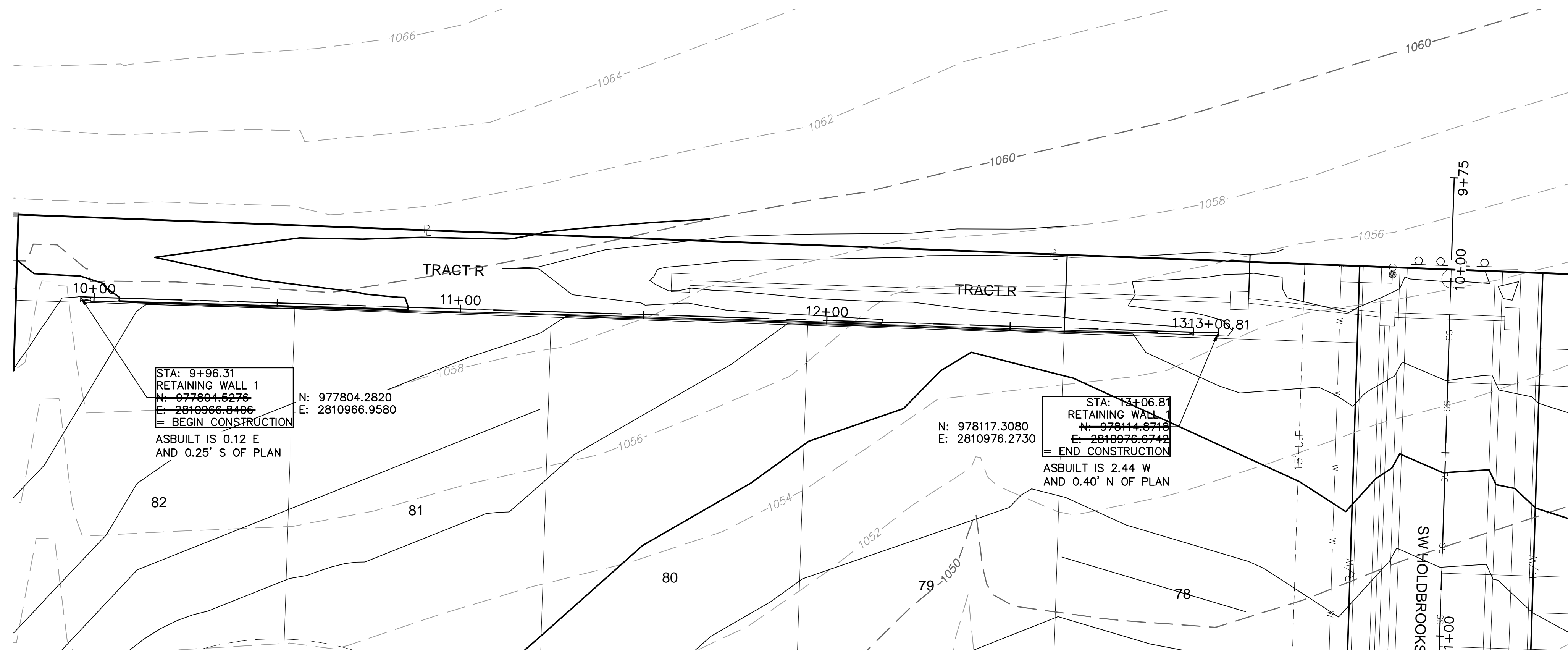
LEE'S SUMMIT, MO

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_GRD01_D192339
date: 3/14/2023

2021

SHEET C105

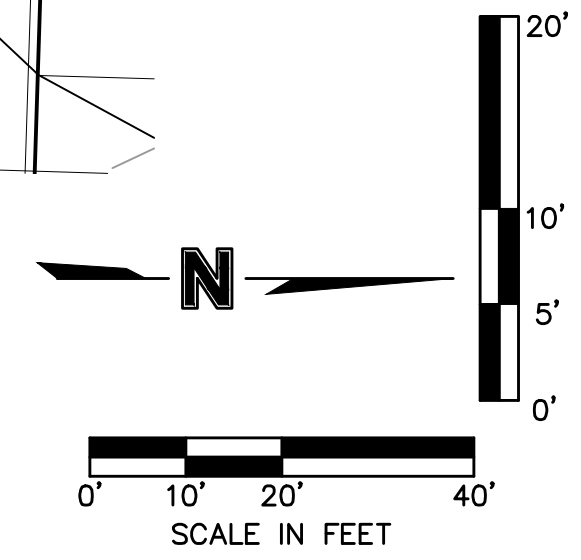
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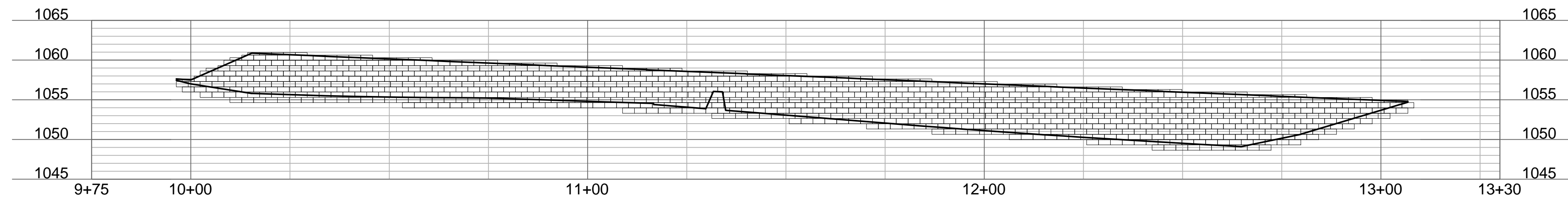
STA: 9+96.31
 RETAINING WALL 1
 N: 977804.6276 N: 977804.2820
 E: 2810966.8426 E: 2810966.9580
 = BEGIN CONSTRUCTION
 ASBUILT IS 0.12 E
 AND 0.25' S OF PLAN

STA: 13+06.81
 RETAINING WALL 1
 N: 978117.3080 N: 978117.3080
 E: 2810976.2730 E: 2810976.2730
 = END CONSTRUCTION
 ASBUILT IS 2.44 W
 AND 0.40' N OF PLAN

NOTE:
 RETAINING WALL TO BE STRUCTURALLY DESIGNED BY OTHERS.
 PLAN AND PROFILE VIEW ARE SHOWN FOR REFERENCE ONLY.
 REFER TO RETAINING WALL PLANS FOR MORE DETAILS.



RETAINING WALL 1 (9+75 - 13+30)



APPROVED RECORD
 DRAWING

These plans have been reviewed for
 accuracy by the Development
 Services Staff

AS BUILT
 08-22-2022



REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08/11/2023	REVISED PER CITY COMMENTS	

RETAINING WALL PLAN & PROFILE
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT
 LEE'S SUMMIT, MO
 2021

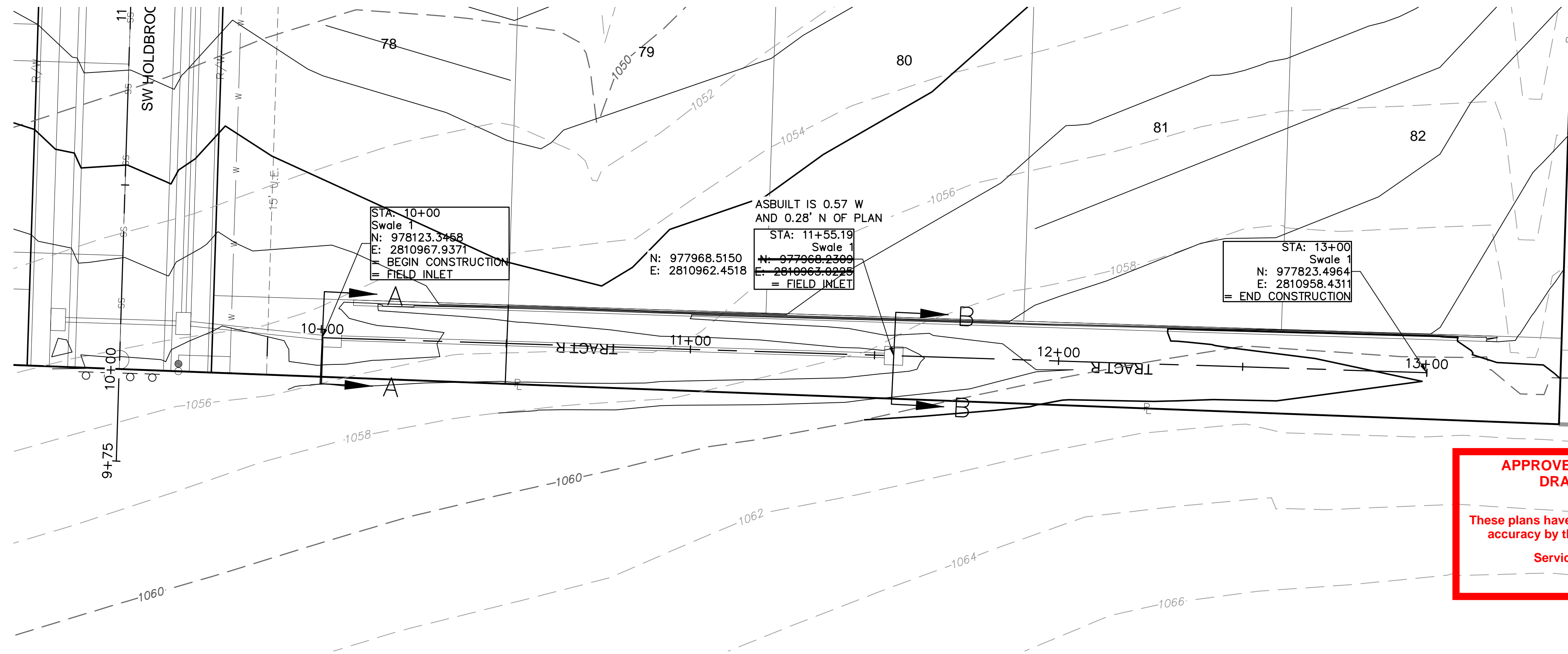
drawn by: MJD
 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_RWL01_D192339
 date: 3/14/2023

SHEET
 C106

olsson

Olsson - Civil Engineering
 Missouri Certification of Authority #001592
 1301 Burlington Street
 North Kansas City, MO 64116 TEL 816.361.1177 www.olson.com

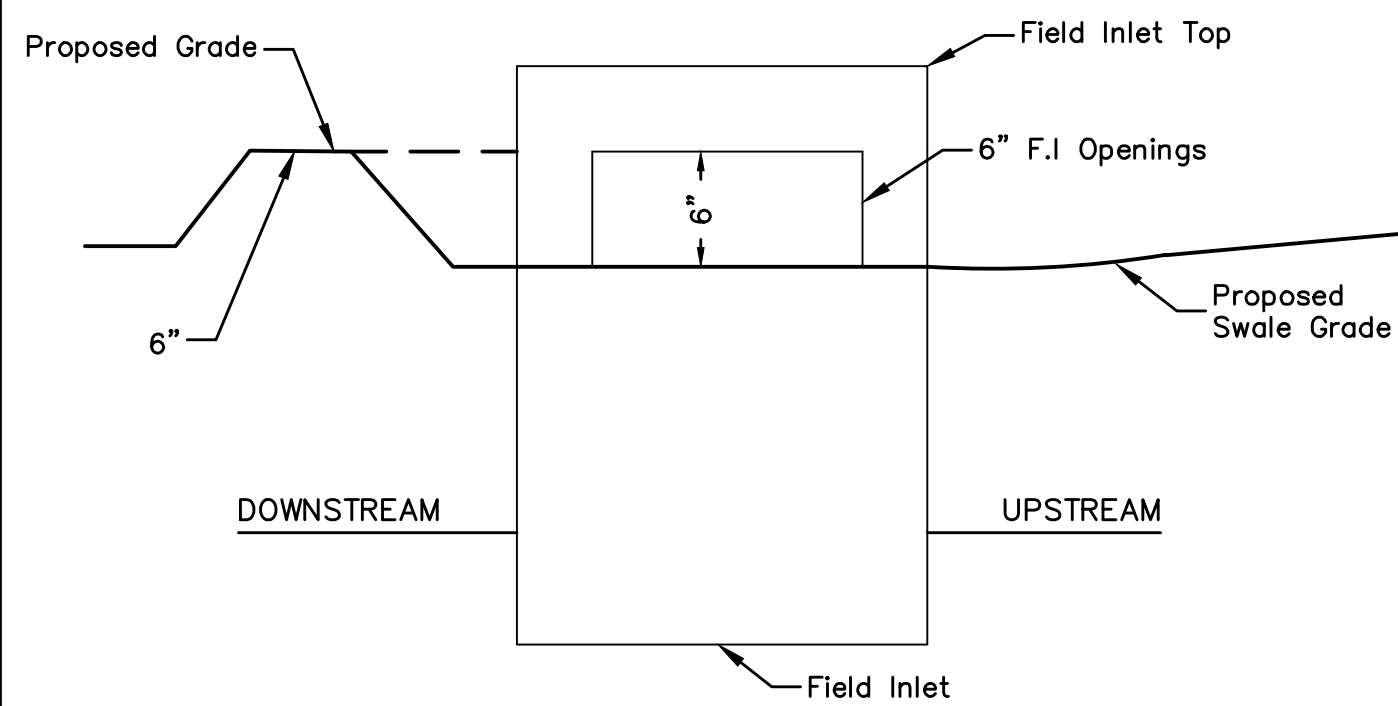
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APPROVED RECORD DRAWING
 These plans have been reviewed for accuracy by the Development Services Staff

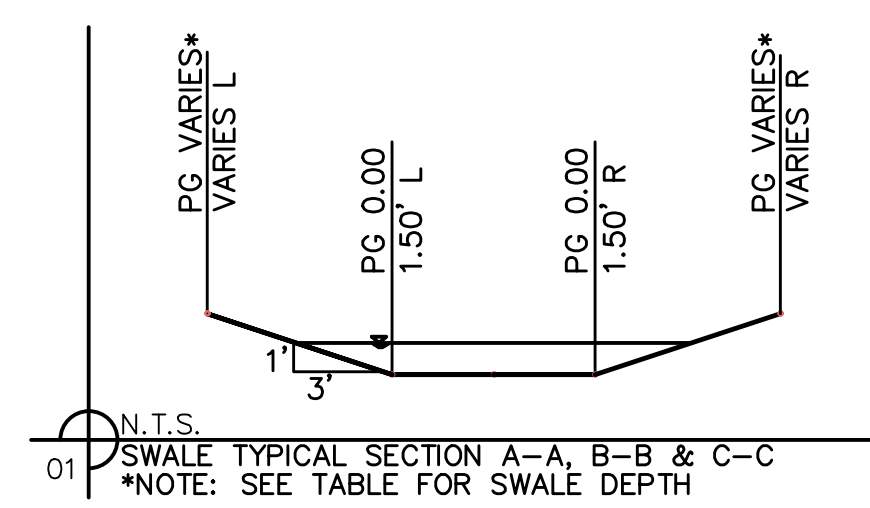
Swale Design Table (100 Year Return Frequency)														
SECTION	Manning's Coefficient	Channel Slope (%)	Swale Depth (ft)	Section Data			Flow Data							
				Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft ²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft ²)
A-A	0.03	2.10%	1.39	3:1	3:1	3.00	5.03	0.39	1.63	3.09	5.47	5.34	0.54	0.39
B-B	0.03	2.10%	1.39	3:1	3:1	3.00	5.03	0.39	1.63	3.09	5.47	5.34	0.54	0.39

Swale Drainage Area Table (100 year Return Frequency)					
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	Peak Flow (cfs)
A-A	1.3	0.3	5	10.32	1.25
B-B	1.3	0.3	5	10.32	1.25



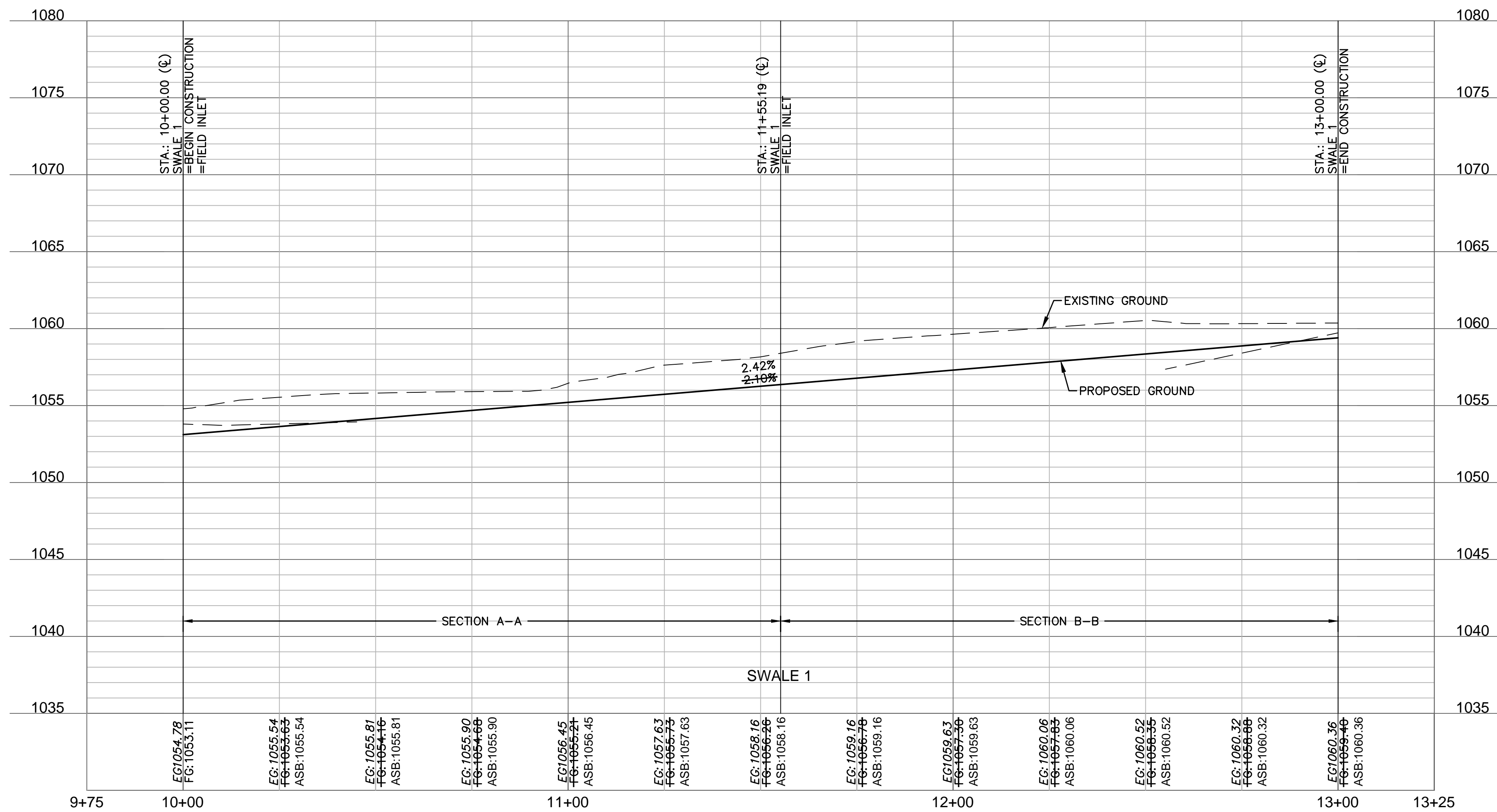
NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE FIELD INLETS ARE LOCATED WITHIN SWALES.

SUMP DETAIL
N.T.S.



SWALE GRADING NOTES:

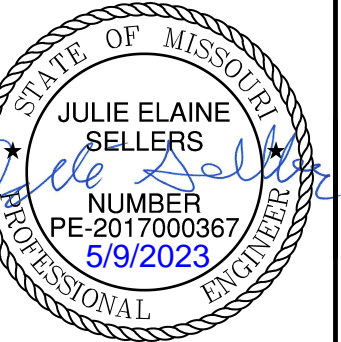
- CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.
- AS-BUILT SURVEY IS REQUIRED/APPROVED BY CITY FOR ALL SWALES AND PRIOR TO APPROVAL FOR ANY BUILDING FOUNDATION PERMIT. CONTRACTOR SHALL BE REQUIRED TO REGRADE SWALES AT CONTRACTOR'S EXPENSE IF ABOVE REQUIREMENTS ARE NOT MET.



AS BUILT
08-22-2022

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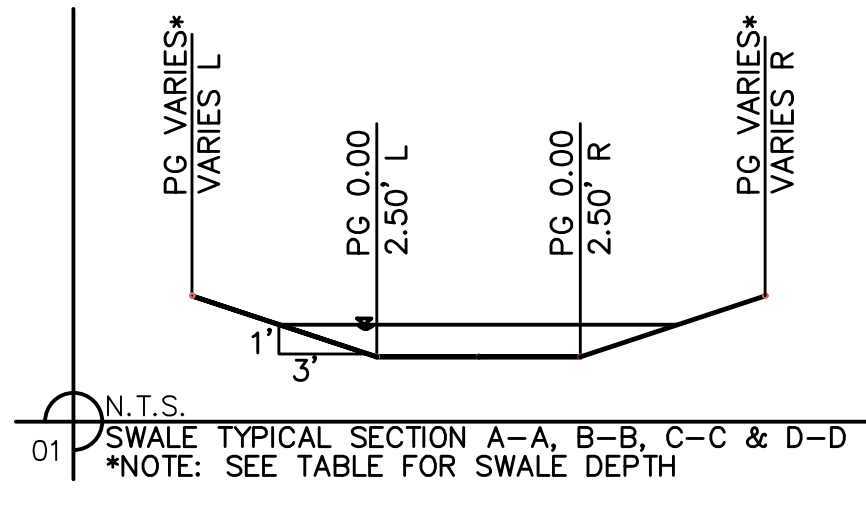
Olsson - Civil Engineering
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 North Kansas City, MO 64116
 TEL 816.361.1177
 www.olsson.com



REV. NO.	DATE	REVISIONS DESCRIPTION
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SWALE 1 PLAN & PROFILE
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT
 LEE'S SUMMIT, MO
 2021

DWG: F:\2019\2001-2500\019-2339-D\40-Design\AutoCAD\Final Plans - Ashville\Sheets\CNV\Street & Storm Plans\C_SWL01_D192339.dwg USER: ssoylor C:\PSURF_D192339
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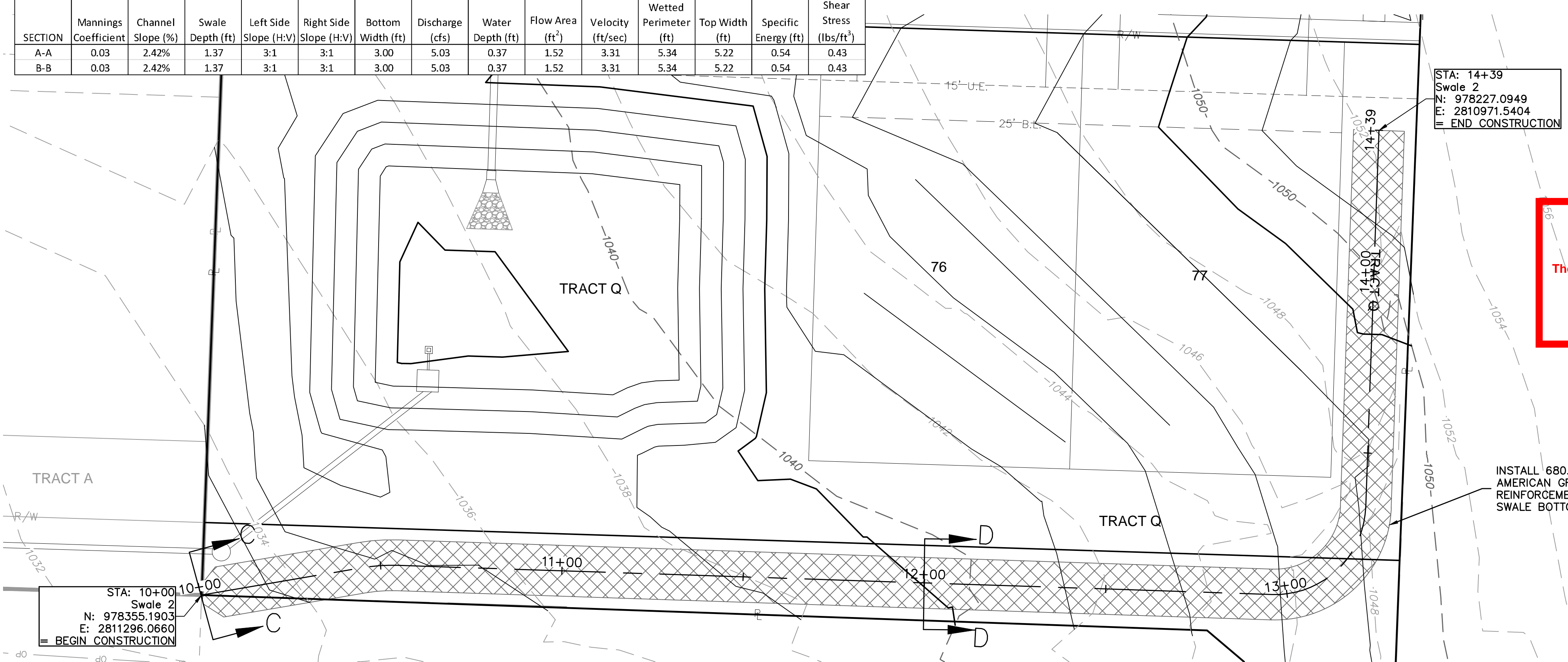
- SWALE GRADING NOTES:**
- CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.
 - AS-BUILT SURVEY IS REQUIRED/APPROVED BY CITY FOR ALL SWALES AND PRIOR TO APPROVAL FOR ANY BUILDING FOUNDATION PERMIT. CONTRACTOR SHALL BE REQUIRED TO REGRADE SWALES AT CONTRACTOR'S EXPENSE IF ABOVE REQUIREMENTS ARE NOT MET.

 NAG VMAX SC250 TURF REINFORCEMENT MAT

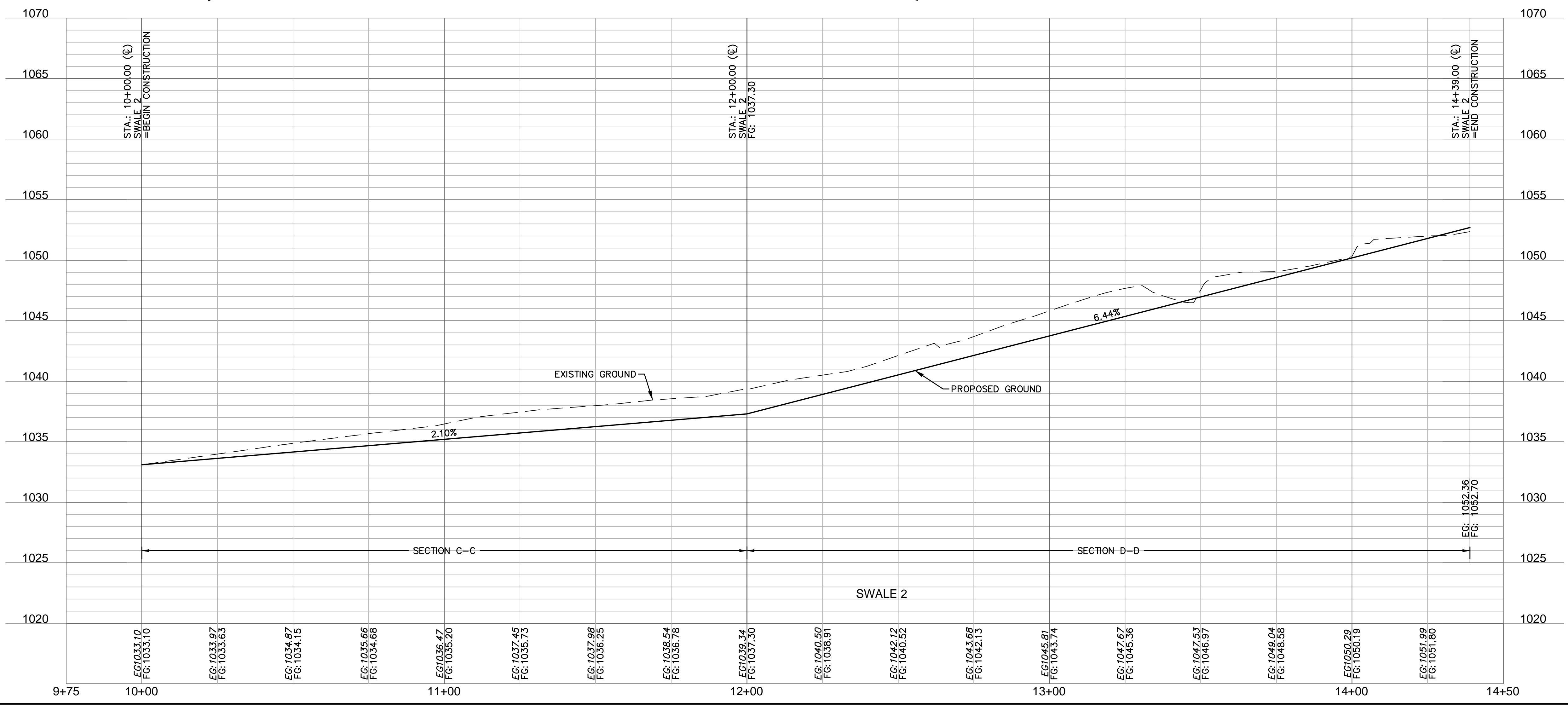
Swale Design Table (100 Year Return Frequency)														
Section Data							Flow Data							
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft ²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft ²)
A-A	0.03	2.42%	1.37	3:1	3:1	3.00	5.03	0.37	1.52	3.31	5.34	5.22	0.54	0.43
B-B	0.03	2.42%	1.37	3:1	3:1	3.00	5.03	0.37	1.52	3.31	5.34	5.22	0.54	0.43

Swale Design Table (100 Year Return Frequency)														
Section Data							Flow Data							
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft ²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft ²)
C-C	0.03	2.10%	1.37	3:1	3:1	5.00	7.22	0.37	2.26	3.19	7.34	7.22	0.53	0.40
D-D	0.03	6.44%	1.24	3:1	3:1	5.00	5.93	0.24	1.37	4.32	6.52	6.44	0.53	0.85

Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
C-C	1.4	0.4	5	10.32	1.25	7.22
D-D	1.15	0.4	5	10.32	1.25	5.93



NOT AS BUILT
 PROPOSED SWALE WAS ELIMINATED DUE TO EXISTING SWALE ADEQUATELY CONVEYING WATER AROUND LOTS 76 & 77 AND DETENTION BASIN.



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STATE OF MISSOURI
 JULIE ELAINE
 SELLERS
 PE 2017000367
 5/9/2023
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08/11/2023	REVISED PER CITY COMMENTS

SWALE 2 PLAN & PROFILE
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT

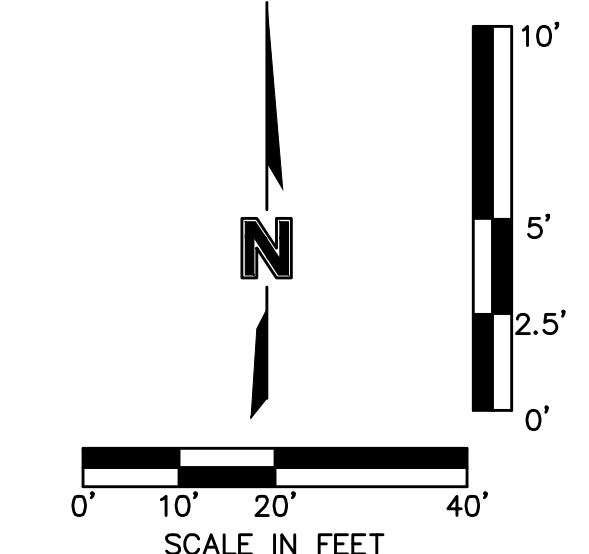
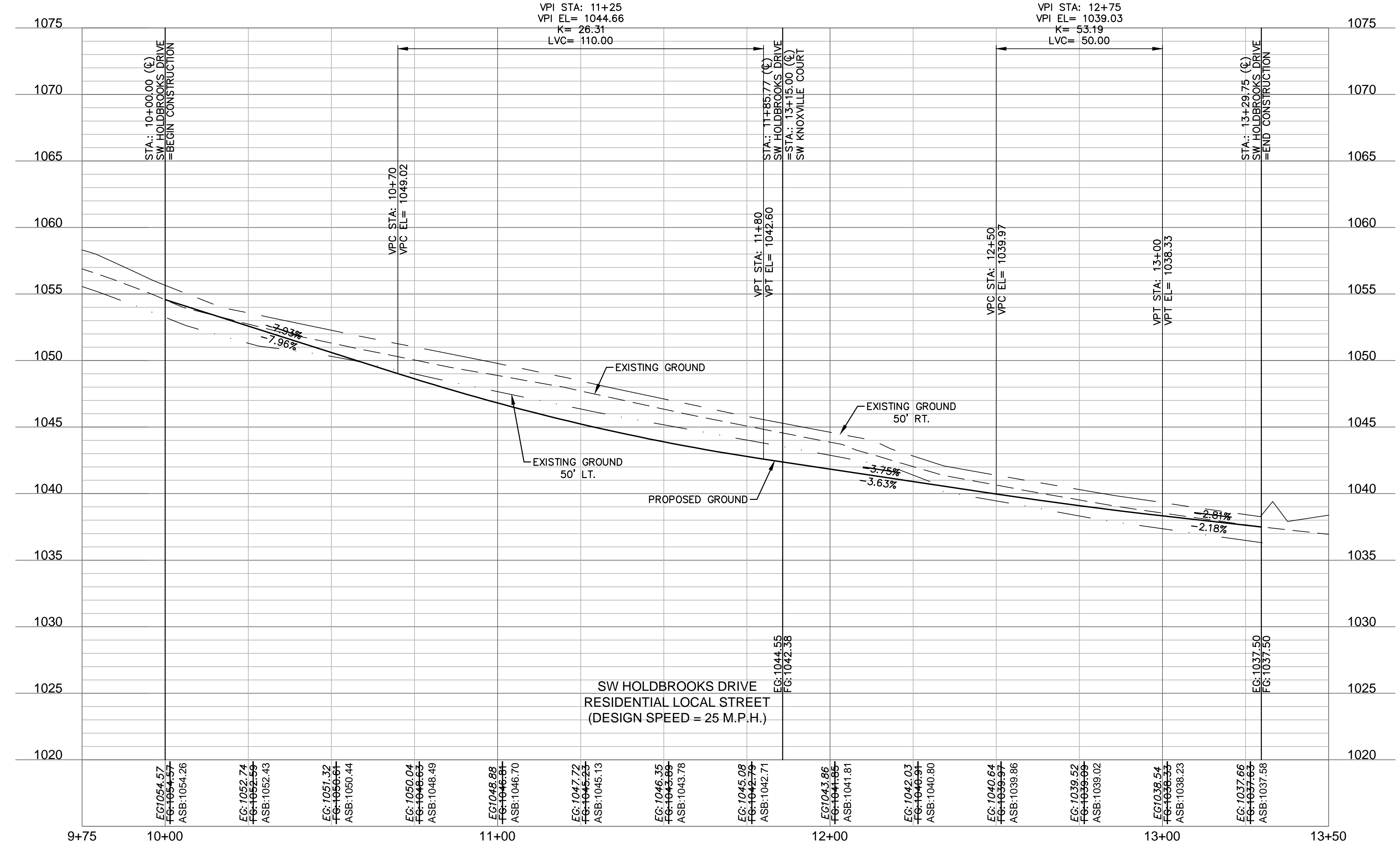
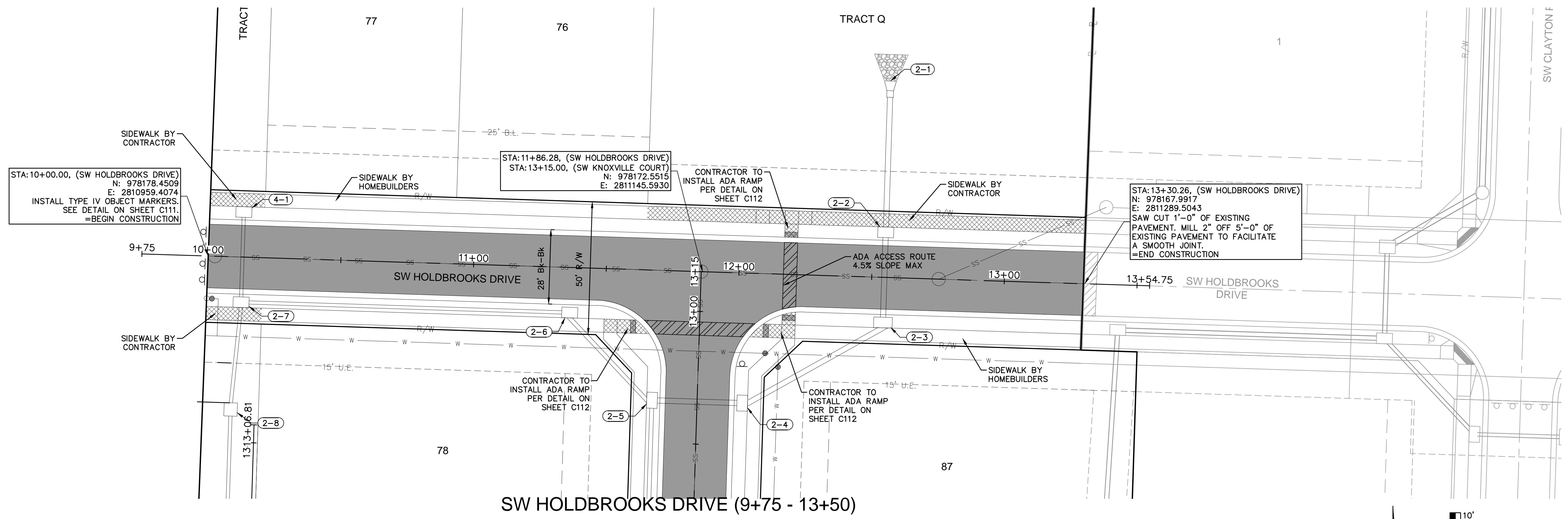
LEE'S SUMMIT, MO

2021

SHEET
 C108

drawn by: MJD
 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_SWL01_D192339
 date: 3/14/2023

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LEGEND	
	ADA ACCESS ROUTE
	MILL & OVERLAY
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

AS BUILT
08-22-2022

APPROVED RECORD DRAWING

These plans have been reviewed for accuracy by the Development Services Staff



REV. NO.	DATE	REVISIONS DESCRIPTION
1	08/11/2023	REVISED PER CITY COMMENTS

ROADWAY PLAN & PROFILE (SW HOLDBROOKS DRIVE)
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

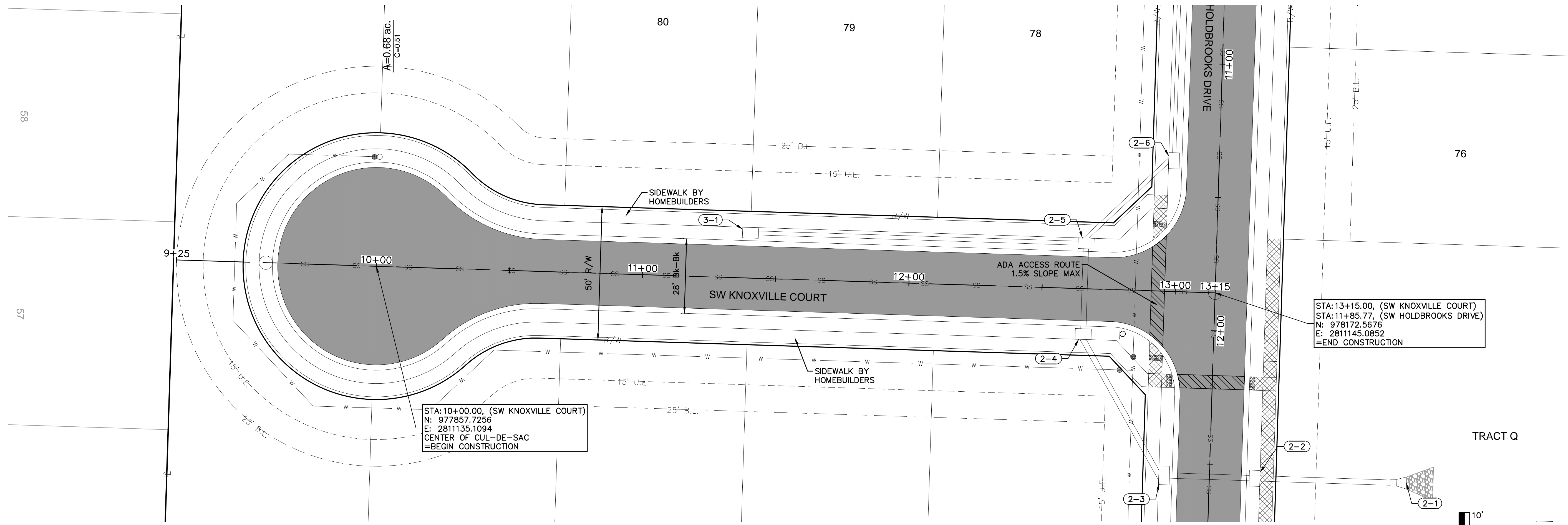
2021

LEE'S SUMMIT, MO

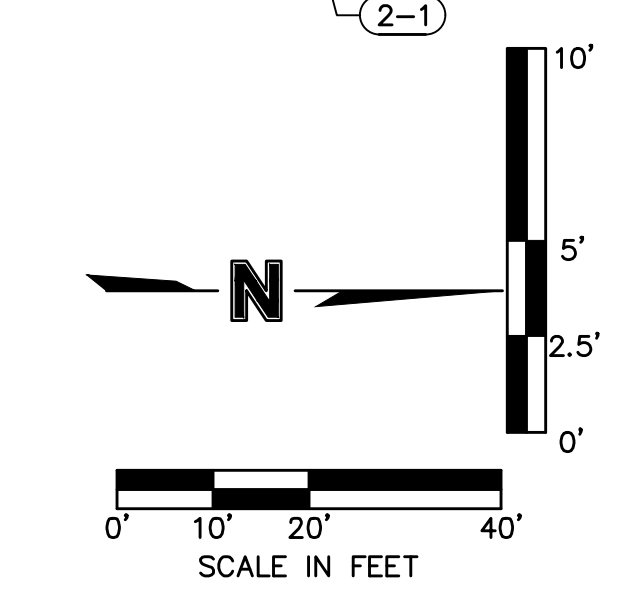
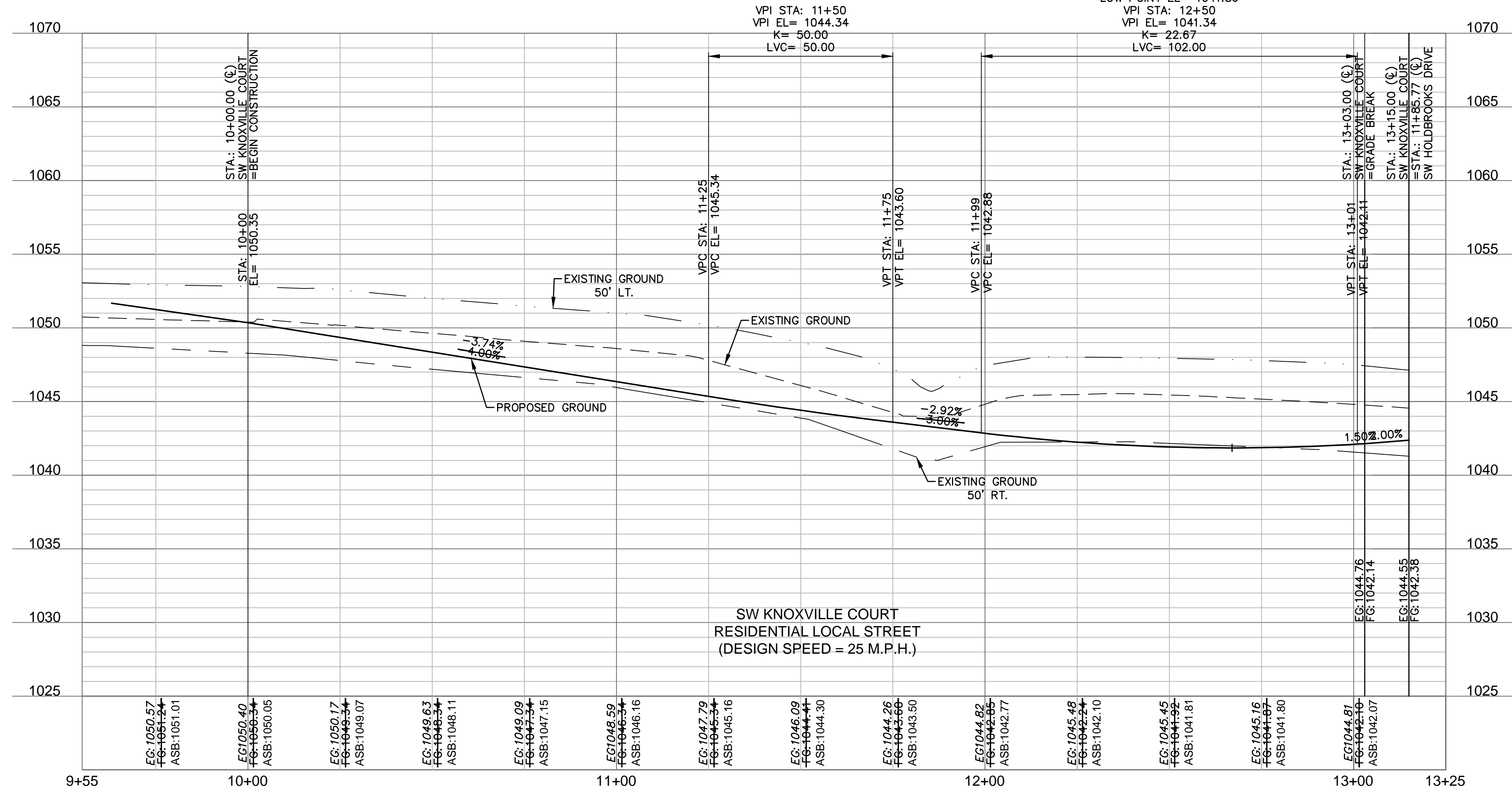
SHEET C109

drawn by: MJD
 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_RPP01_D192339
 date: 3/14/2023

DWG: F:\2019\2001-2500\019-2339-D\40-Design\AutoCAD\Final Plans - Asheville\Sheets\CNV\Street & Storm Plans\C_PPP01_D192339.dwg USER: esoyfor
 DATE: Mar 14, 2023 2:22pm XREFS: C:\PTBLK_D192339 C:\PBASE_D192339 C:\PNDY_D192339 C:\PATT_D192339 C:\PSTRM_D192339



SW KNOXVILLE COURT (9+55 - 13+25)



LEGEND	
	ADA ACCESS ROUTE
	MILL & OVERLAY
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

AS BUILT
08-22-2022

APPROVED RECORD DRAWING
These plans have been reviewed for accuracy by the Development Services Staff

Olsson - Civil Engineering
 Missouri Certification of Authority #001592
 1307 Burlington Street
 North Kansas City, MO 64116
 TEL 816.361.1177
 www.olsson.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08/11/2023	REVISED PER CITY COMMENTS	

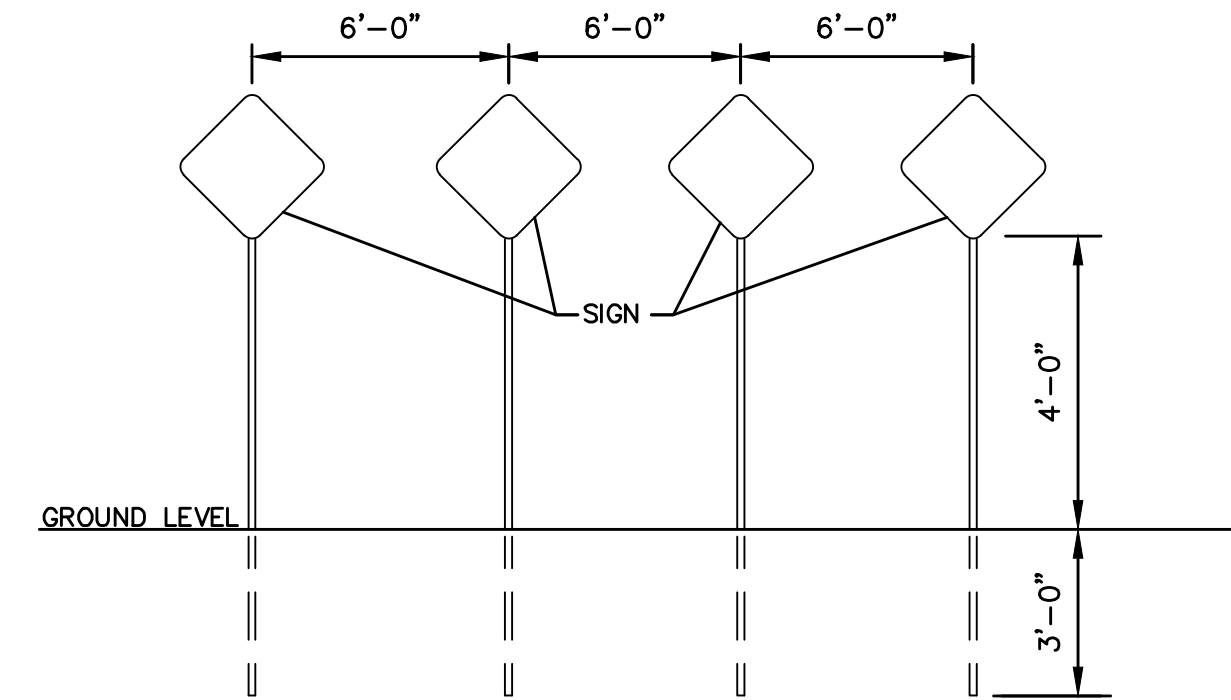
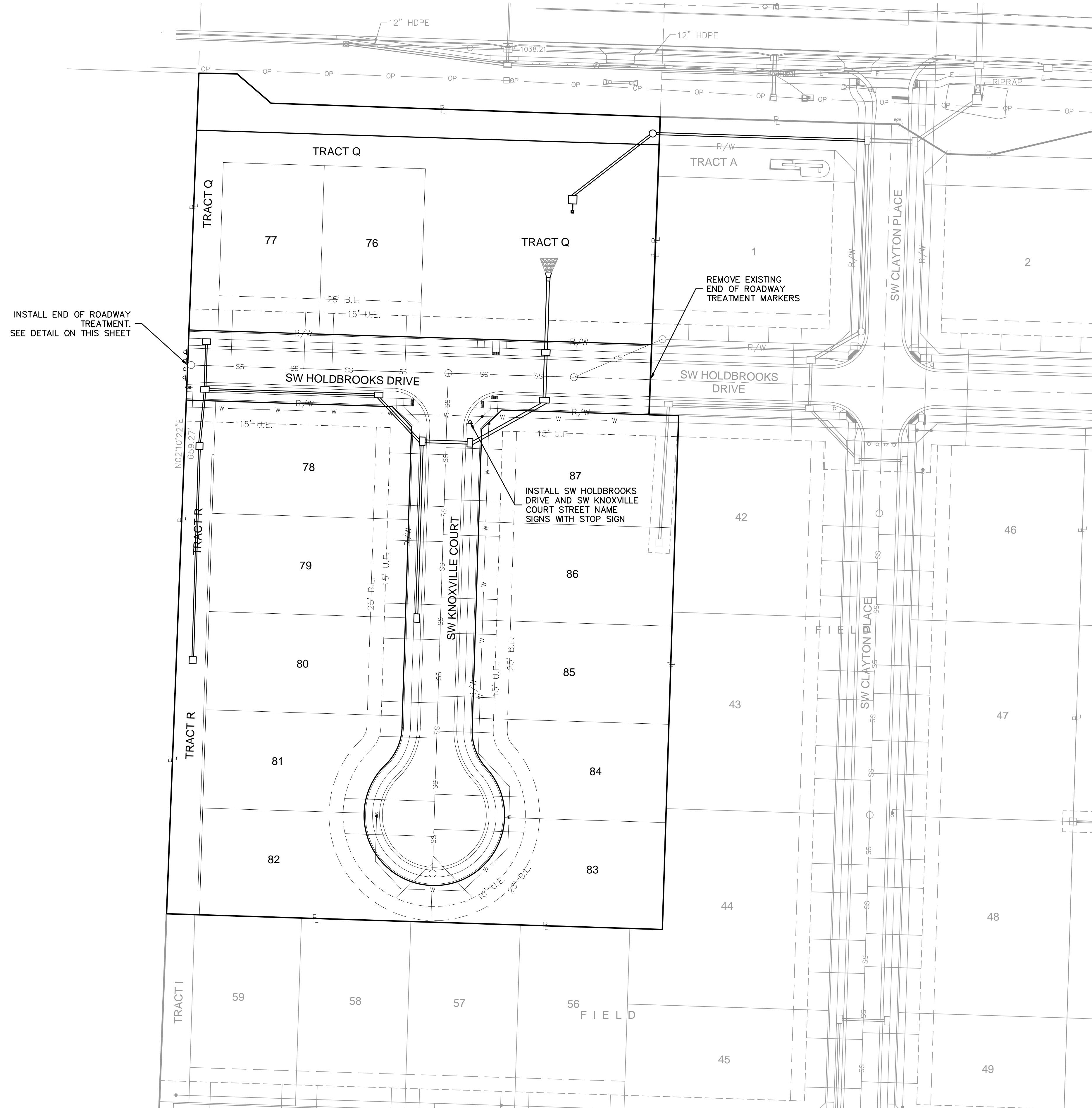
ROADWAY PLAN & PROFILE (SW KNOXVILLE COURT)
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT

2021

LEE'S SUMMIT, MO

SHEET
C110

F:\2019\2001-2500\019-2339-D\10-Design\AutoCAD\Final Plans - Asbuilts\Sheets\CAD\Street & Storm Plans\C_TCP01_D192339.dwg USER: ssoylor
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OBJECT MARKERS (TYPE OM4-3, 18"X18") ARE TO BE INSTALLED 2' FROM END OF PROPOSED PAVEMENT.



APPROVED RECORD DRAWING
 These plans have been reviewed for accuracy by the Development Services Staff



REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08/11/2023	REVISED PER CITY COMMENTS	

TRAFFIC CONTROL PLAN
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT
 LEE'S SUMMIT, MO

drawn by: MJD
 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_TCP01_D192339
 date: 3/14/2023

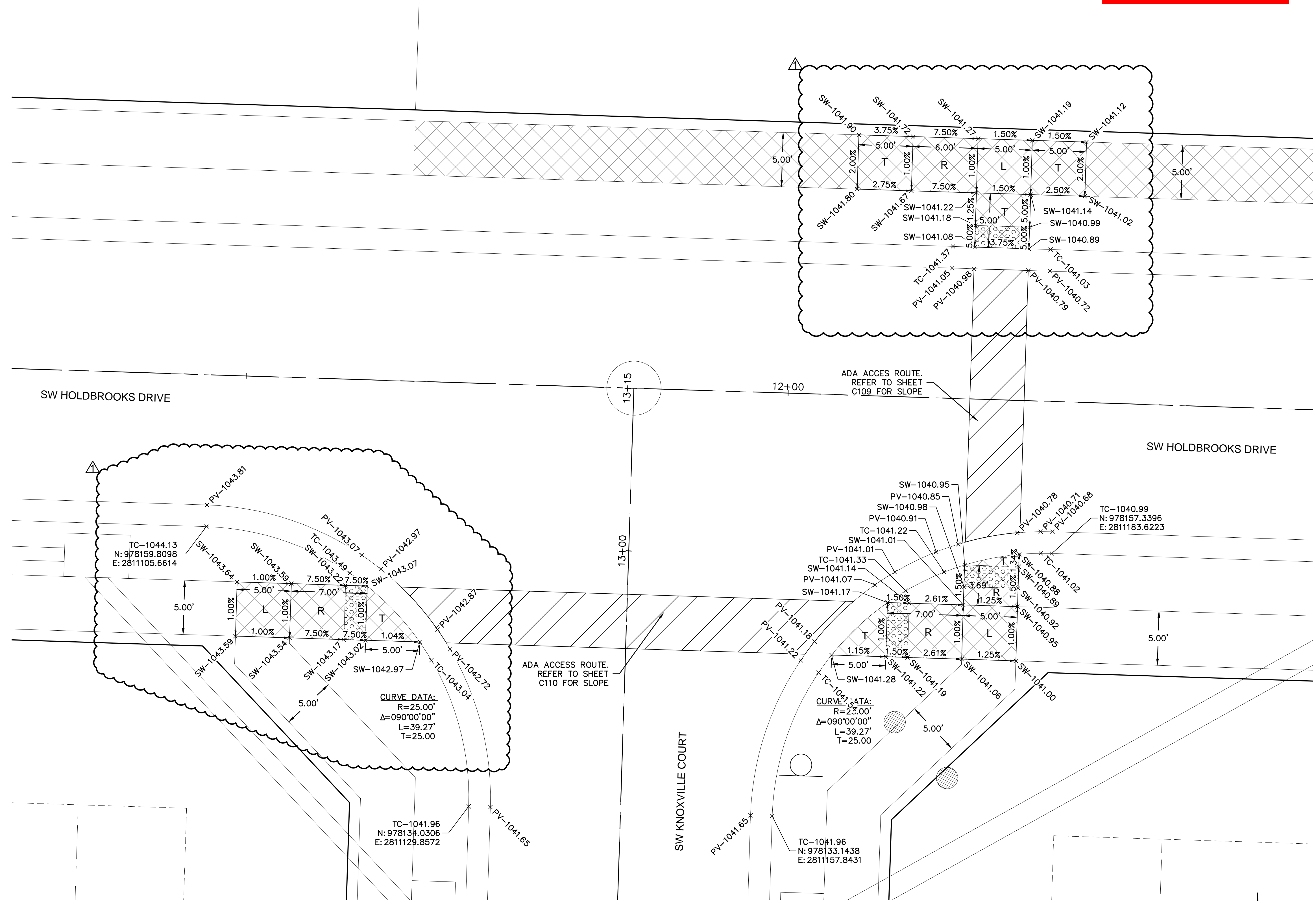
SHEET C111

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 1307 Burlington Street
 North Kansas City, MO 64116
 TEL 816.361.1177
 www.olson.com

NOT AS BUILT

- INTERSECTION AND ADA DETAIL NOTES:
1. ALL ADA CURB RAMP SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
 2. CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10 MAX SLOPES.
 3. LANDING SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR BY PROWAG STANDARDS. LANDING SHALL BE 4'X4' MINIMUM.
 4. RAMP RUNS SHALL HAVE A MAXIMUM RUNNING SLOPE OF 1:12 UNLESS THE RAMP LENGTH IS OVER 15 FEET, THEN THE SLOPE CAN BE GREATER AS INDICATED IN DETAILS TO REACH STREET GRADES.
 5. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
 6. CROSS SLOPE FOR RAMP AND SIDEWALK SHALL NOT EXCEED 2%.
 7. AFTER CURBS HAVE BEEN CONSTRUCTED, AND BEFORE ASPHALT OR CONCRETE PAVEMENT IS POURED, CURBS SHOULD BE MEASURED WITH A LEVEL TO ENSURE CURB ALONG ADA RAMP AND LANDINGS WILL MEET ADA REQUIREMENTS.
 8. ADA RAMP CONSTRUCTION WILL BE INSPECTED THOROUGHLY BY THE CITY INSPECTOR. CONTRACTOR SHALL BE REQUIRED TO RECONSTRUCT RAMP, CURBS AND/OR PAVEMENT AT CONTRACTOR'S EXPENSE IF ADA RAMP AND LANDINGS CANNOT MEET THE ADA REQUIREMENTS, PER APPROVED PLAN OR APPROVED ALTERNATIVE.
 9. CURVE DATA IS FOR BACK OF CURB.

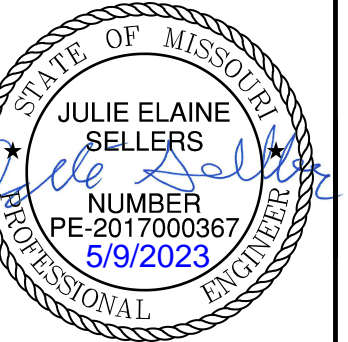
LEGEND	
TC-	TOP OF CURB
PV-	TOP OF PAVEMENT
SW-	SIDEWALK
L	LANDING AREA
R	RAMP AREA
T	TRANSITION AREA
	ADA ACCESS ROUTE
	CG-2 CURB & GUTTER
	CONCRETE SIDEWALK (CONSTRUCTED BY CONTRACTOR)



**APPROVED RECORD
DRAWING**

These plans have been reviewed for
accuracy by the Development
Services Staff

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REV. NO.	DATE	REVISIONS DESCRIPTION
1	08/11/2023	REVISED PER CITY COMMENTS

SW HOLDBROOKS DRIVE & SW KNOXVILLE COURT INTERSECTION
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

2021

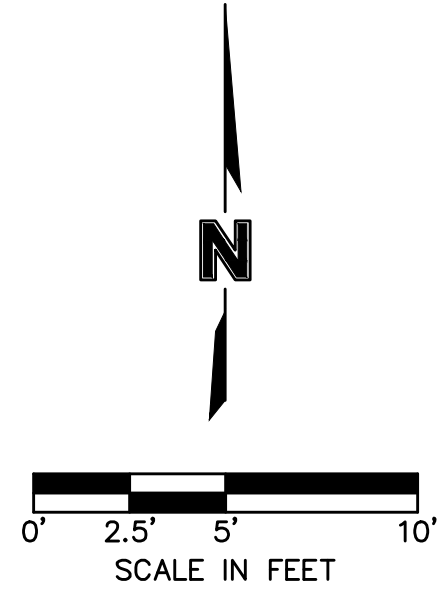
LEE'S SUMMIT, MO

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_INT01_D192339
date: 3/14/2023

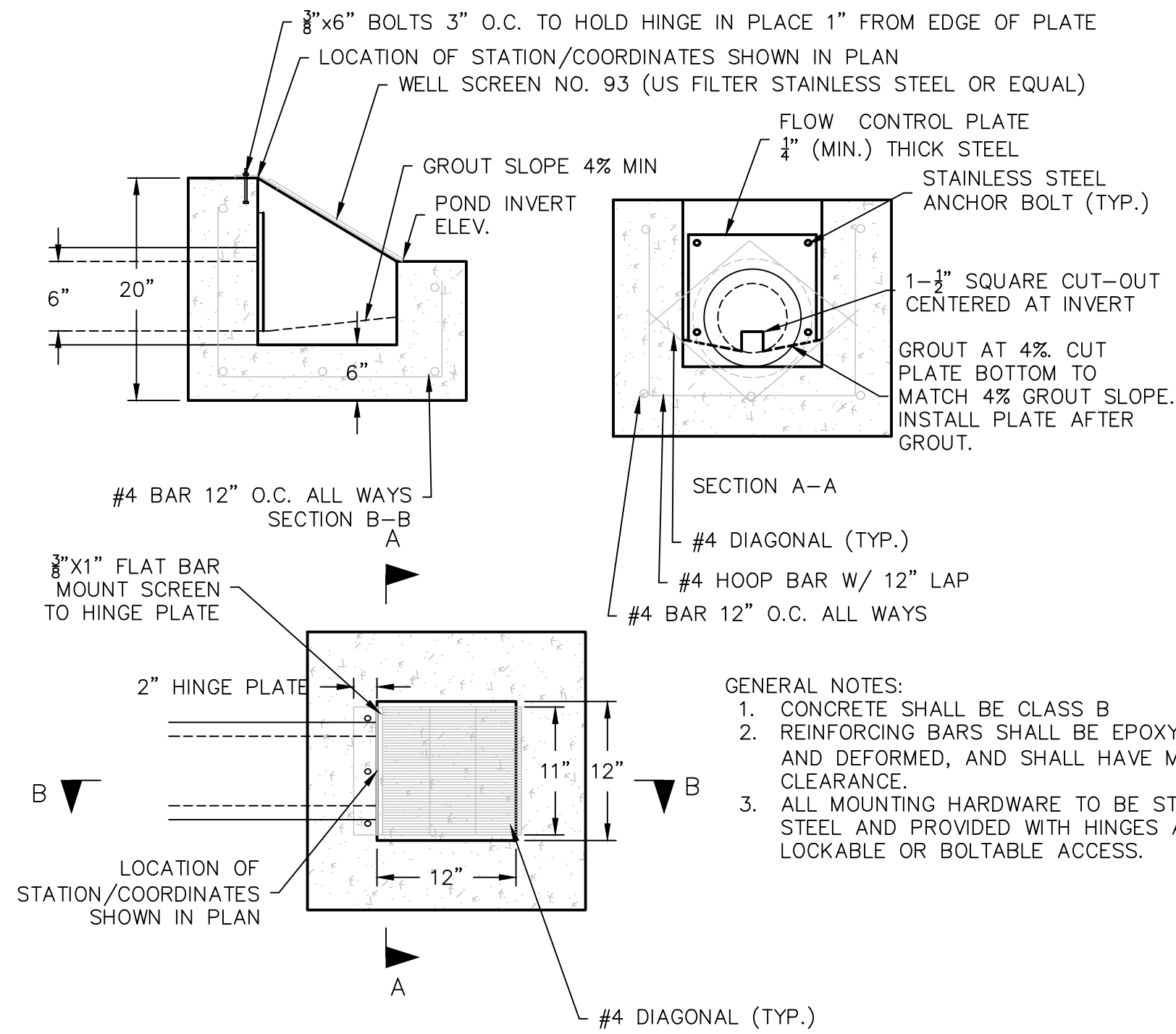
SHEET
C112

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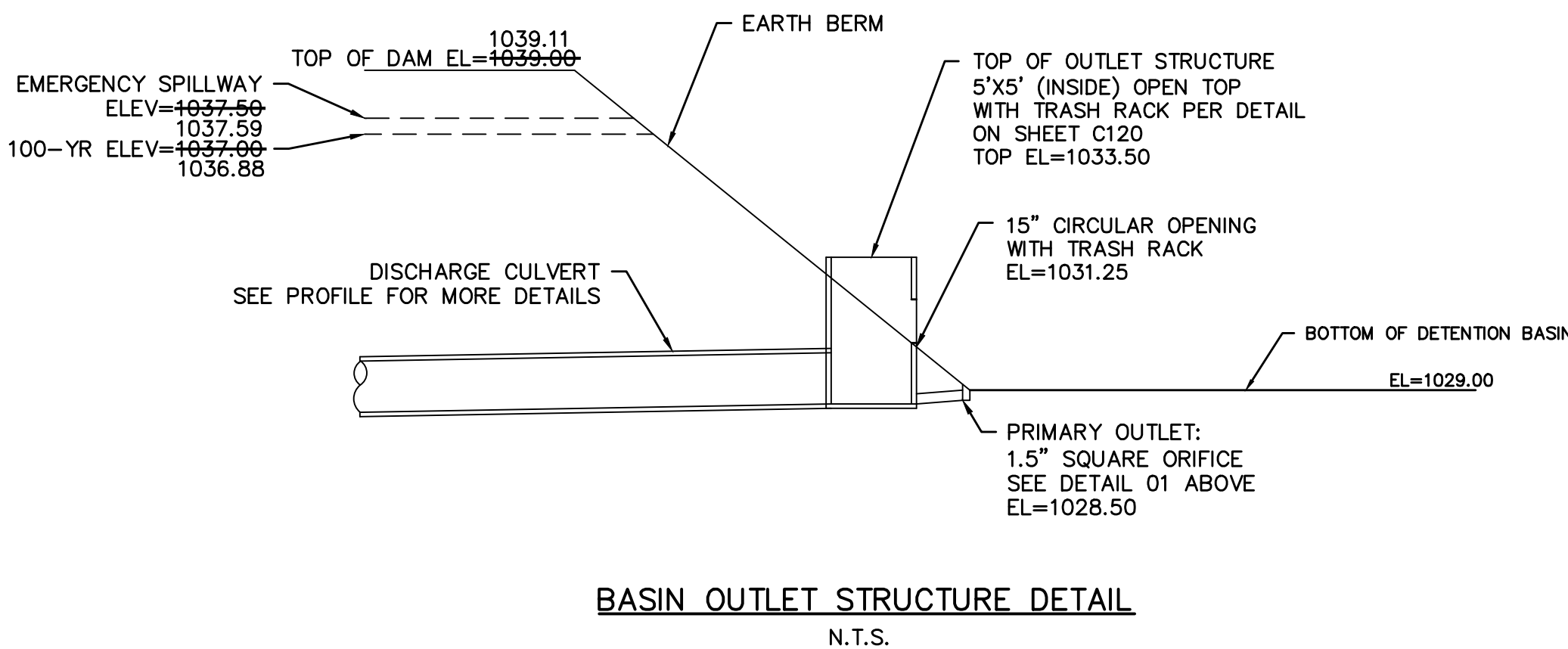
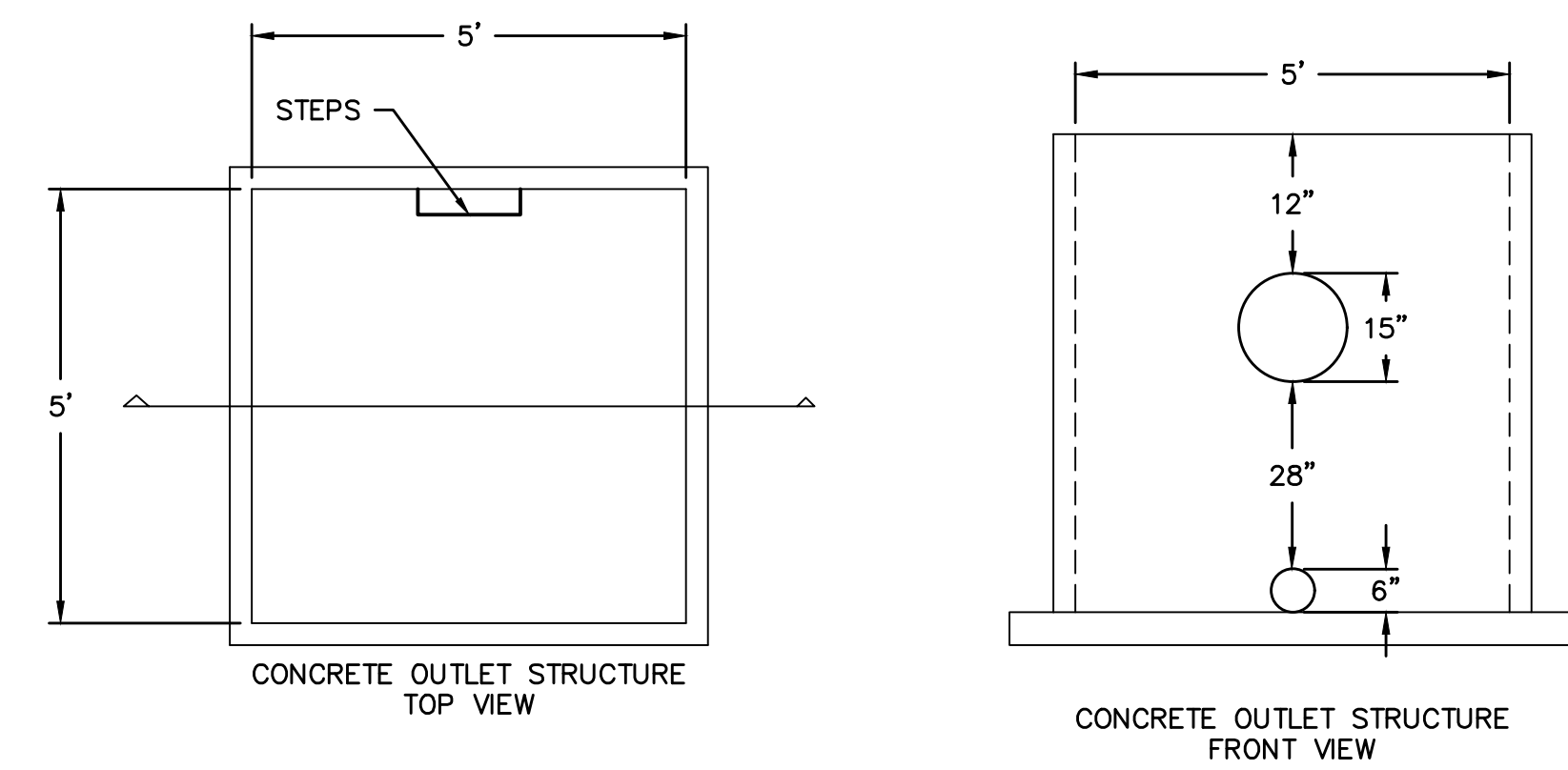
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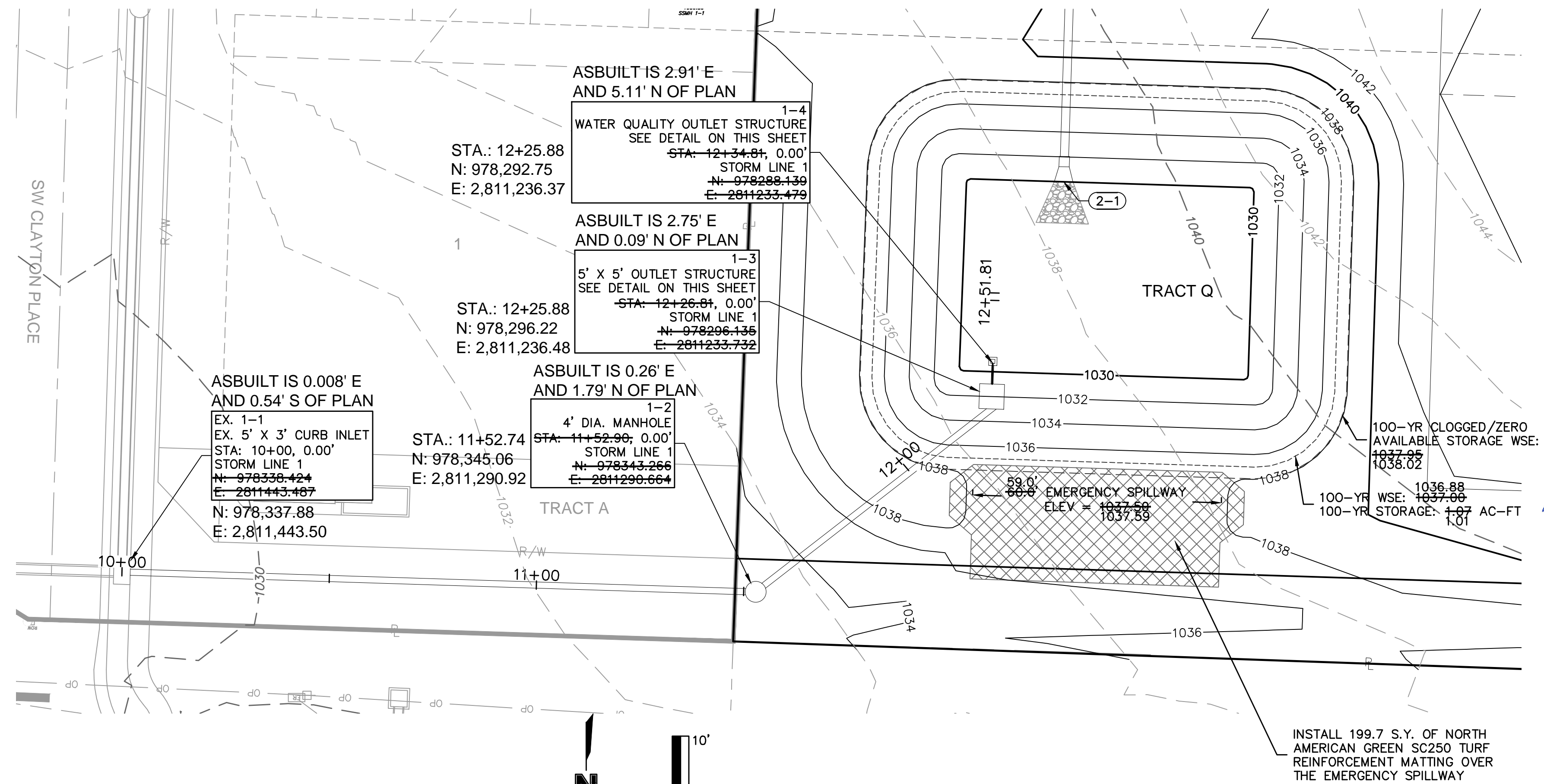
- GENERAL NOTES:**
1. CONCRETE SHALL BE CLASS B
 2. REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED, AND SHALL HAVE MINIMUM 2" CLEARANCE.
 3. ALL MOUNTING HARDWARE TO BE STAINLESS STEEL AND PROVIDED WITH HINGES AND LOCKABLE OR BOLTABLE ACCESS.



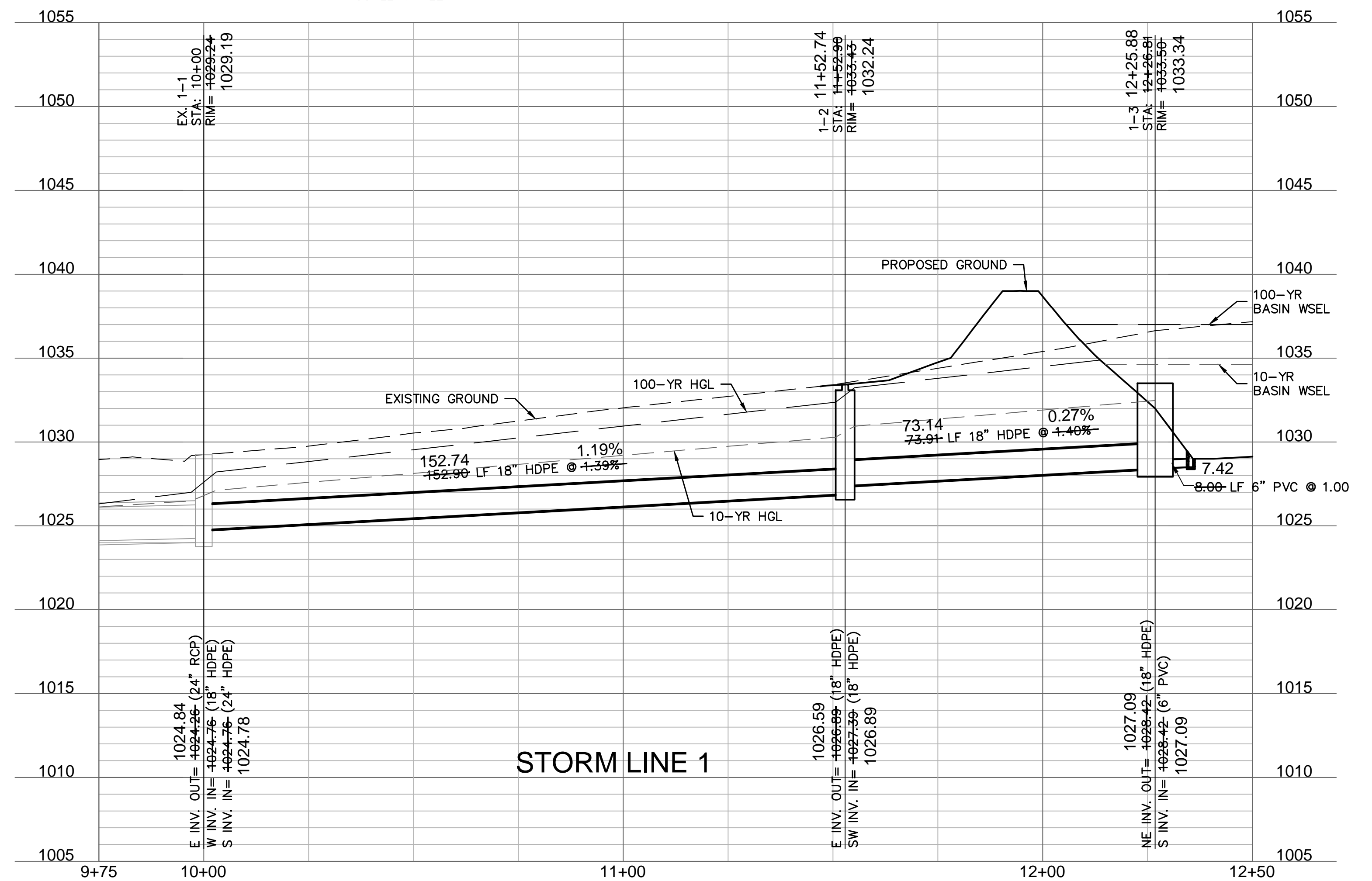
BASIN DETAILS	
EMERGENCY SPILLWAY TYPE	RECTANGULAR BROAD CRESTED WEIR
EMERGENCY SPILLWAY LENGTH	60 FT 59 FT
EMERGENCY SPILLWAY ELEVATION	1037.59 1037.59
EMERGENCY SPILLWAY DEPTH	1.50 FT 1.52 FT
TOP OF DAM ELEVATION	1039.00 1039.11
100-YR FLOW (AT 0.47' FLOW DEPTH)	50.60 CFS 50.60 CFS
100 YEAR PROPOSED STORAGE	1.07 AC-FT 1.01 AC-FT
100 YEAR 100% CLOGGED/ZERO STORAGE AVAILABLE STORAGE WATER SURFACE ELEVATION	1037.95 1038.02
100 YEAR WATER SURFACE ELEVATION	1037.00 1036.88

APPROVED RECORD DRAWING

 These plans have been reviewed for accuracy by the Development Services Staff



AS BUILT
 08-22-2022



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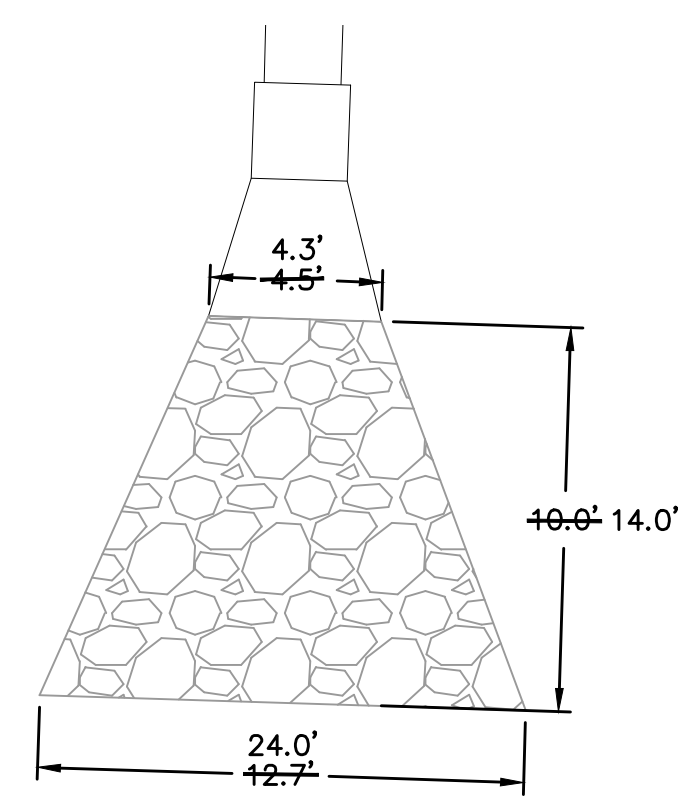
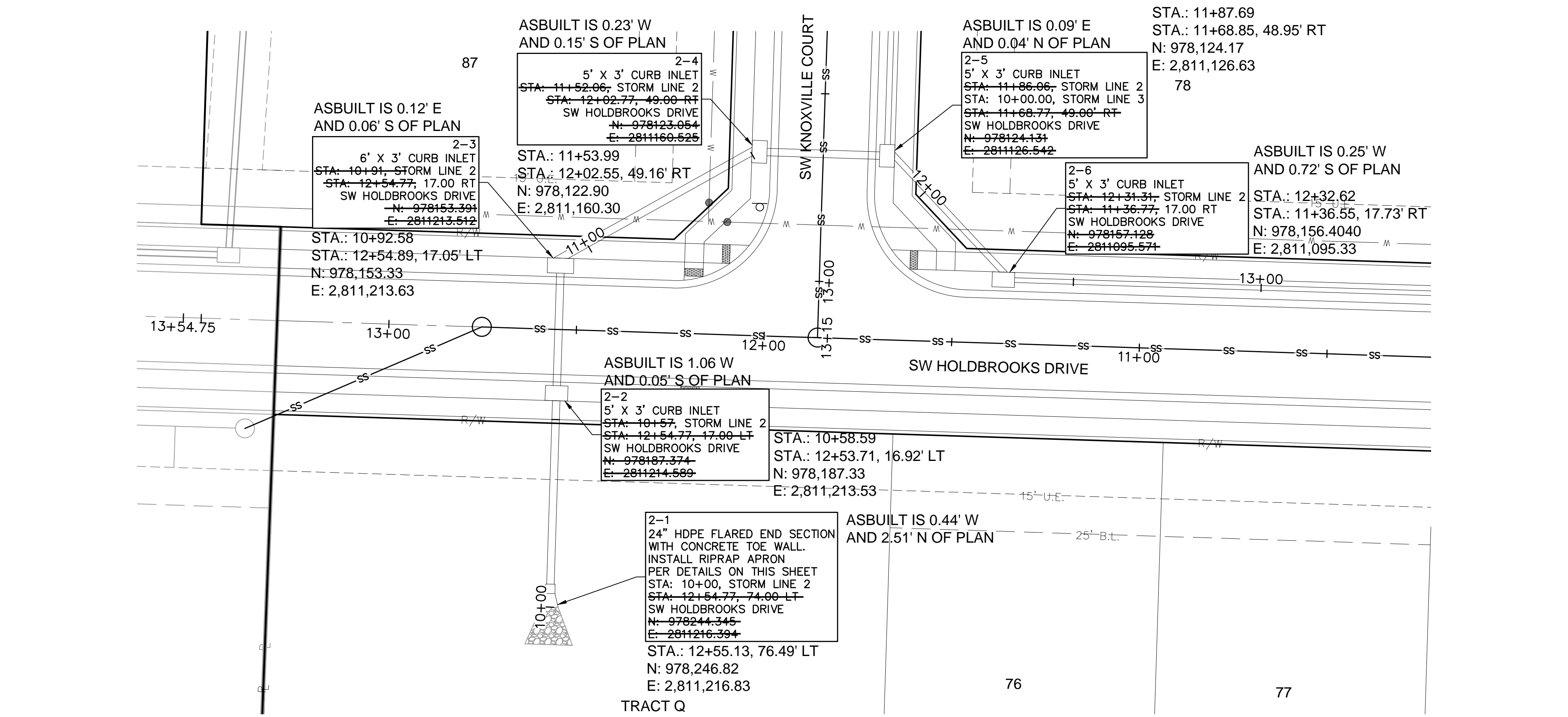
JULIE ELAINE SELLERS
 PROFESSIONAL ENGINEER
 NUMBER: PE 2017000367
 EXPIRES: 5/9/2023

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08/11/2023	REVISED PER CITY COMMENTS

DETENTION BASIN PLAN
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT
 LEE'S SUMMIT, MO
 2021

SHEET
 C113

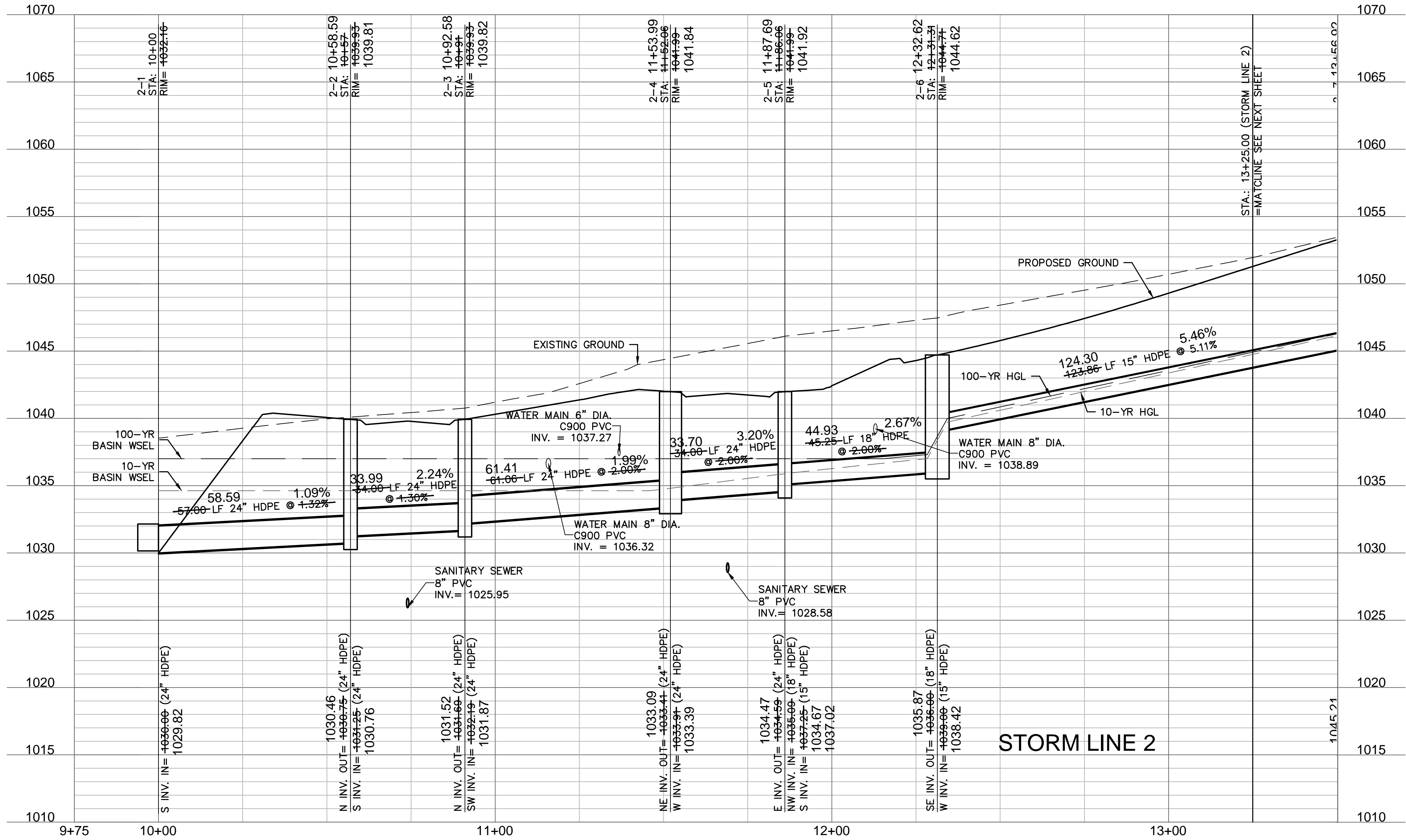
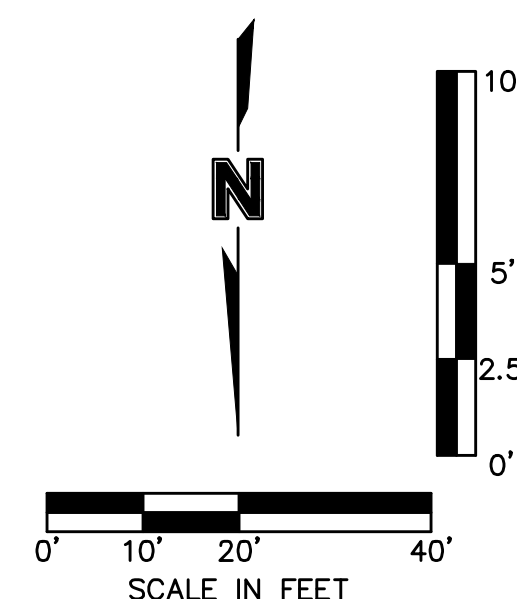
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Riprap Calculations

End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50† (mm)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 2-1	28.19	2	3	10	10	2.00	10.4

*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18



APPROVED RECORD DRAWING

These plans have been reviewed for accuracy by the Development Services Staff

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STATE OF MISSOURI
 JULIE ELAINE SELLERS
 LICENSE NUMBER
 PE 2017000367
 5/9/2023
 PROFESSIONAL ENGINEER

BY: _____
 REVISIONS DESCRIPTION
 REV. NO. DATE REVISIONS PER CITY COMMENTS

1 08/11/2023

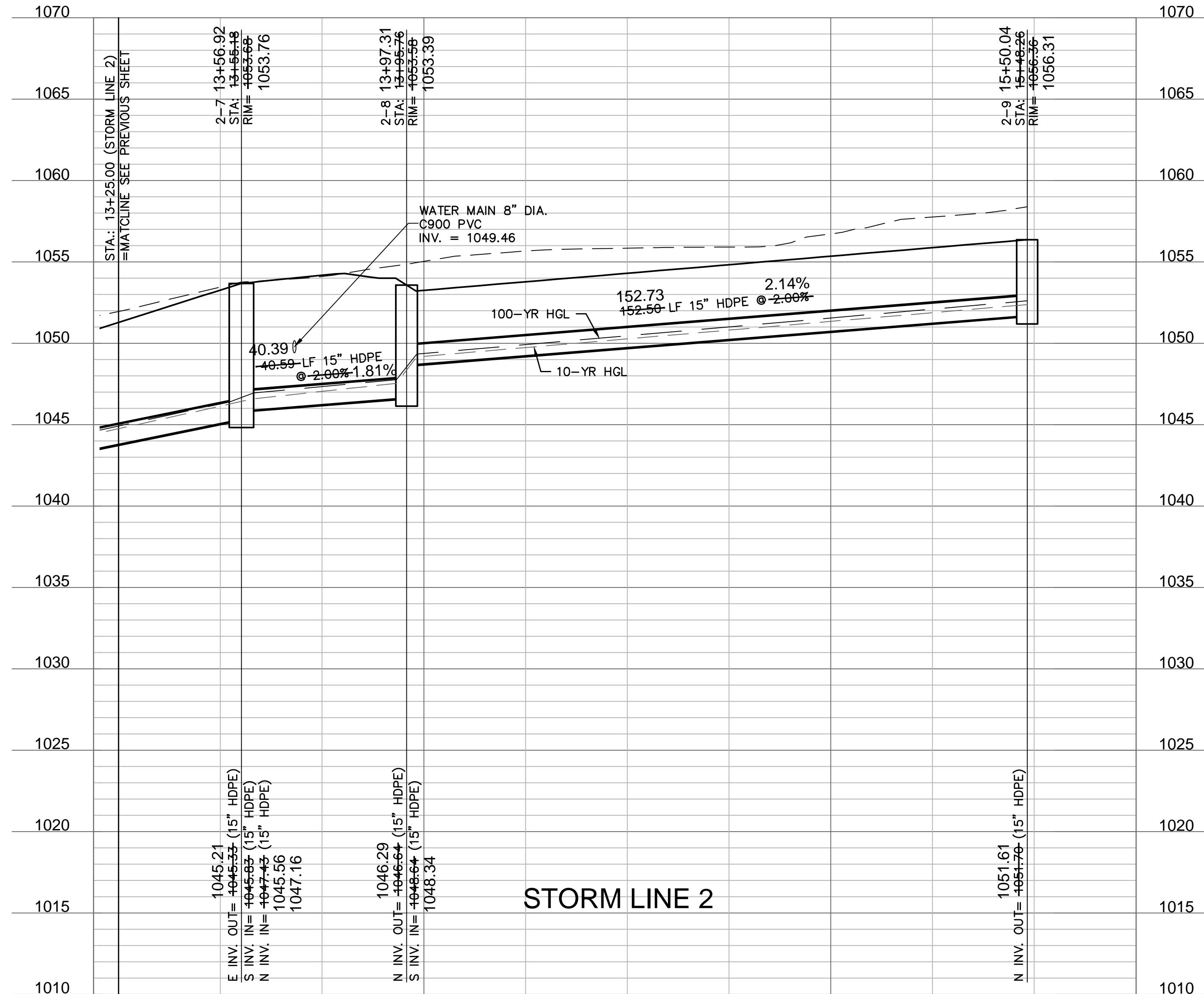
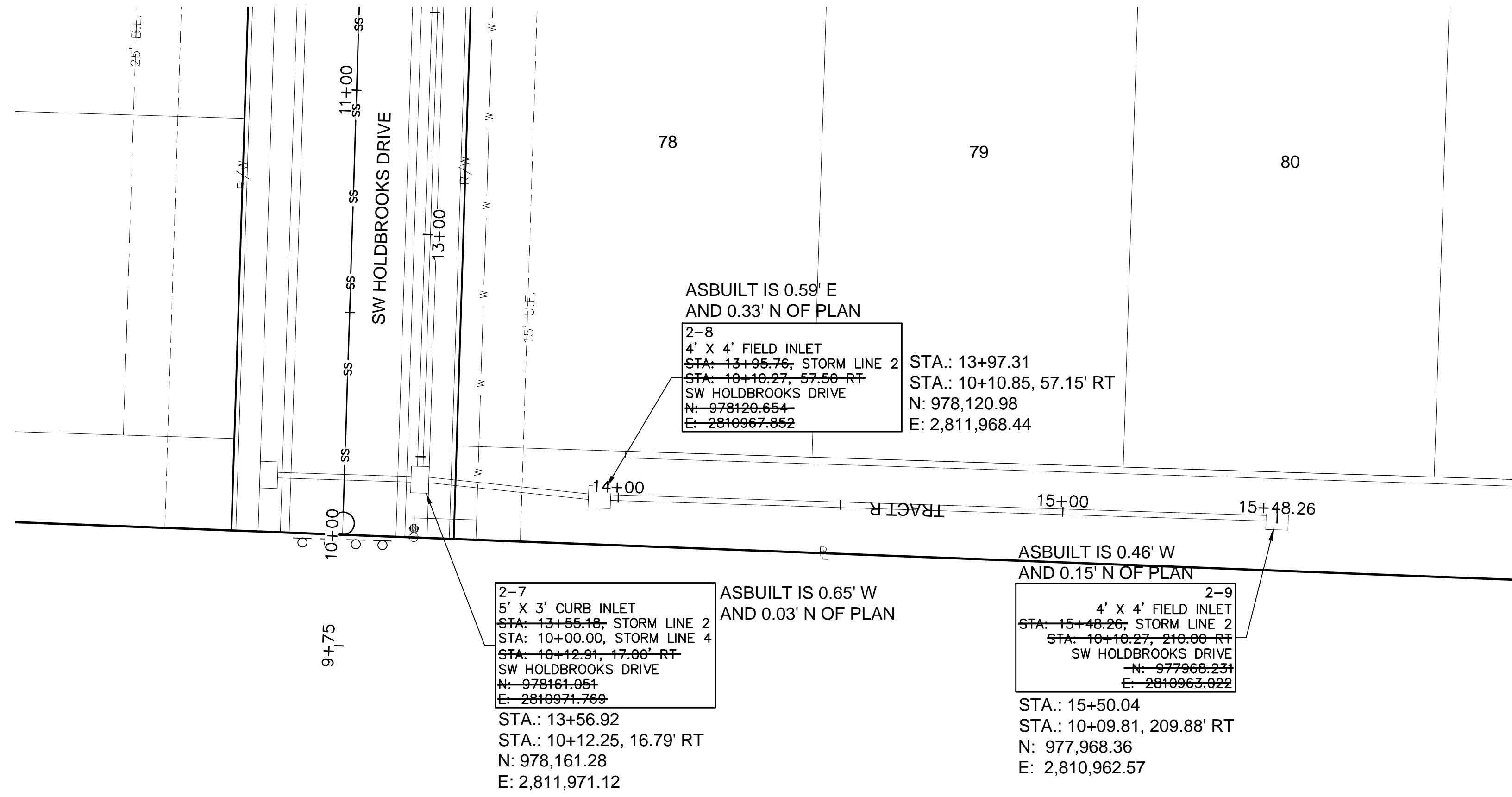
STORM SEWER PLAN & PROFILE (LINE 2)
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT

LEE'S SUMMIT, MO 2021

drawn by: MJD
 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_STM01_D192339
 date: 3/14/2023

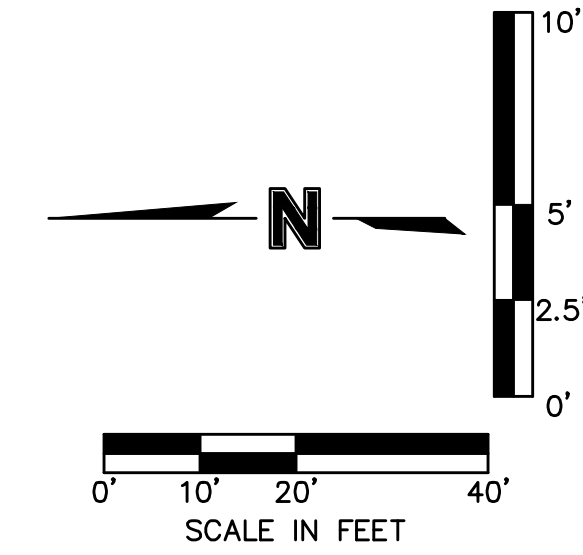
SHEET C114

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STORM SEWER PLAN & PROFILE (LINE 2 CONT.)
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

2021

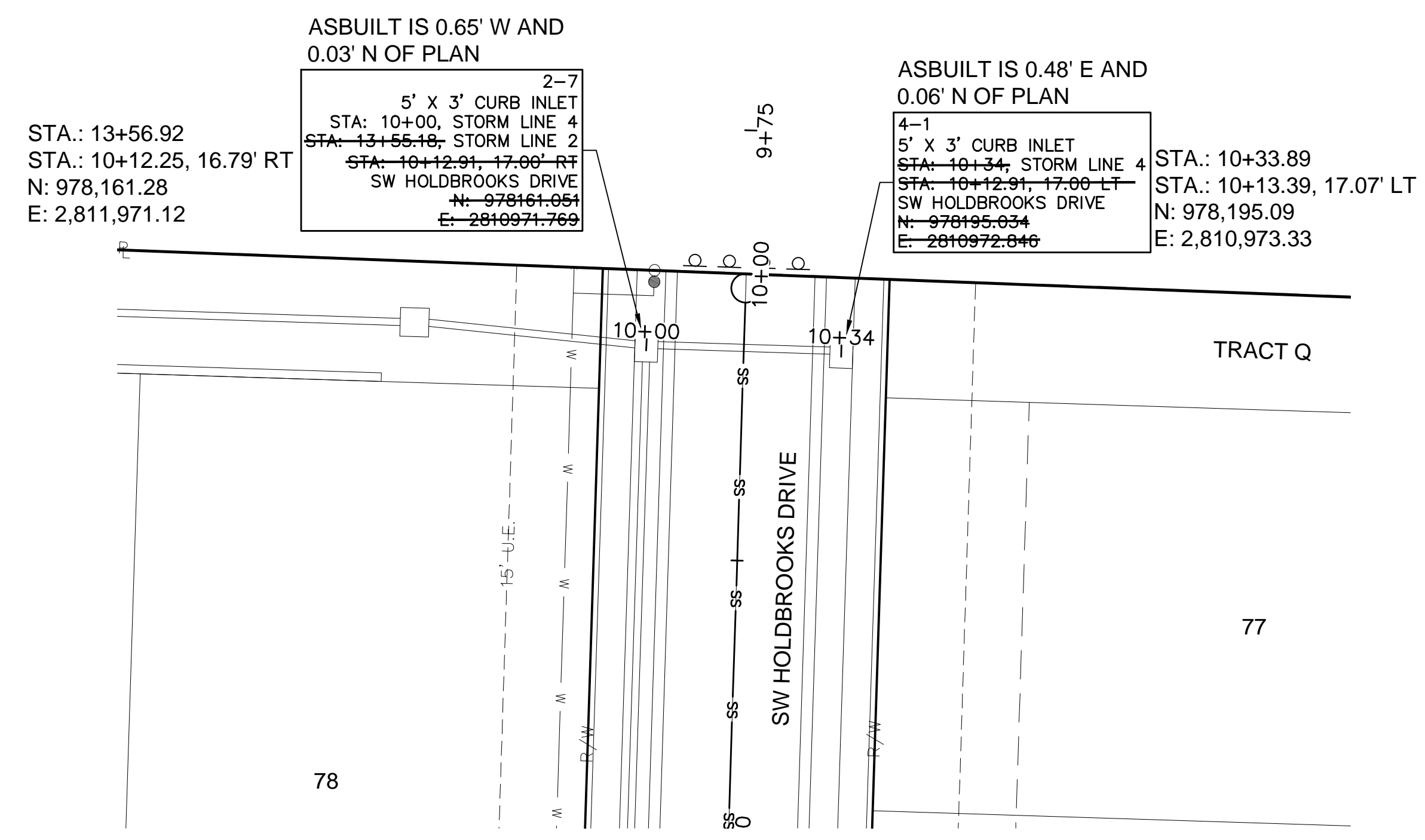
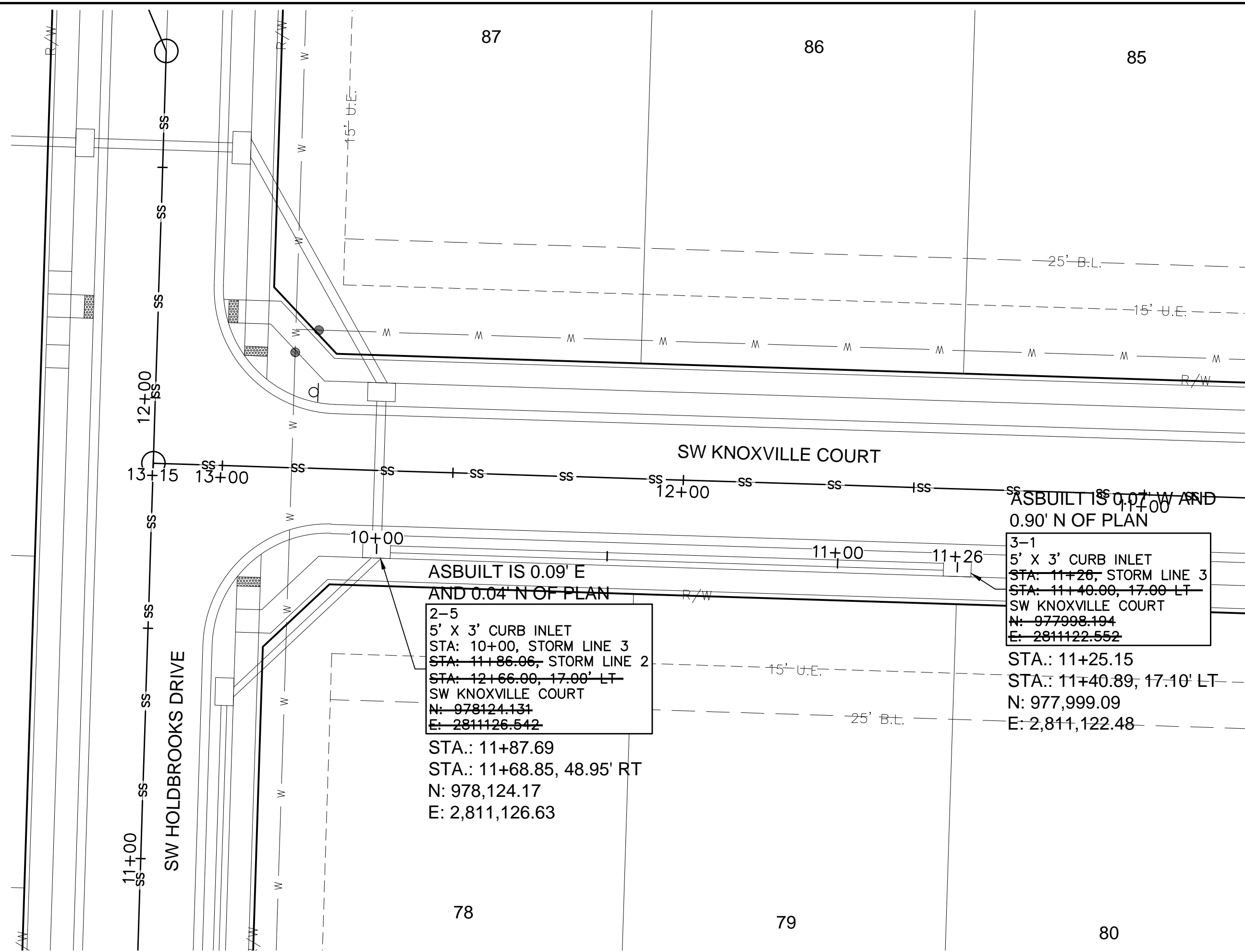
drawn by: MJD
 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_STM01_D192339
 date: 3/14/2023

SHEET
C115

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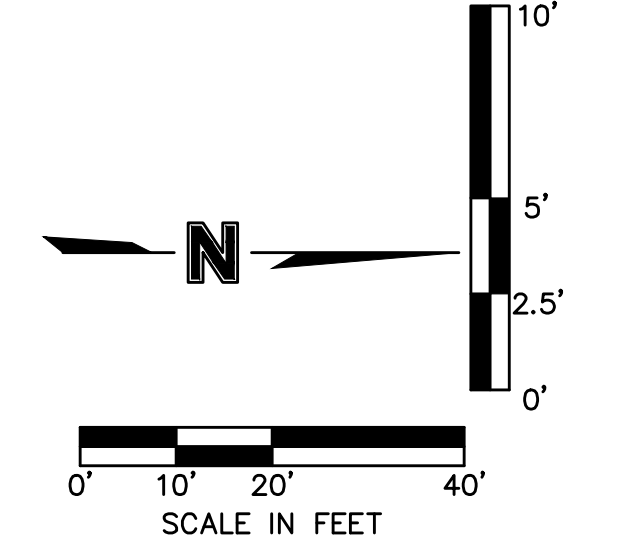
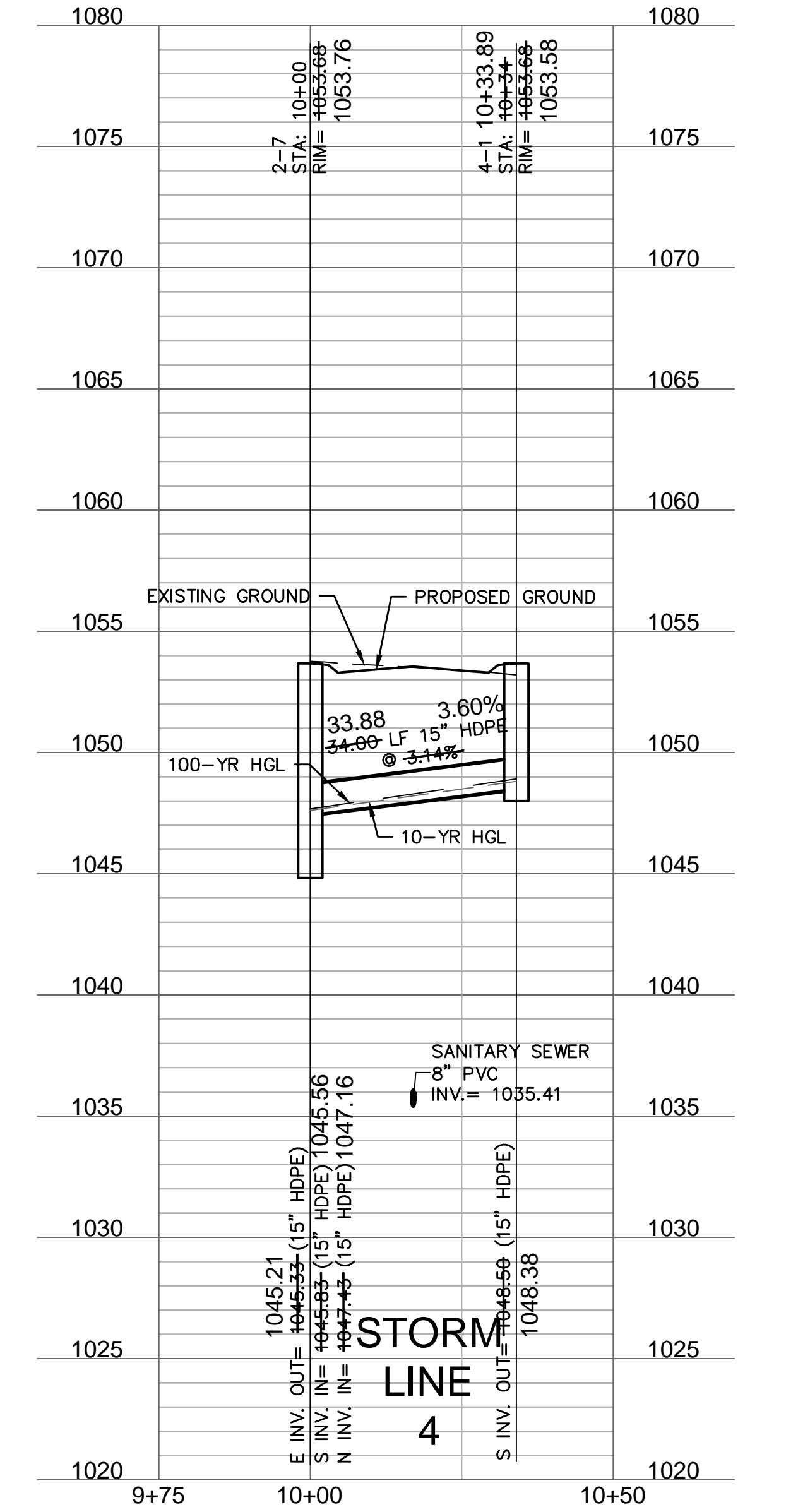
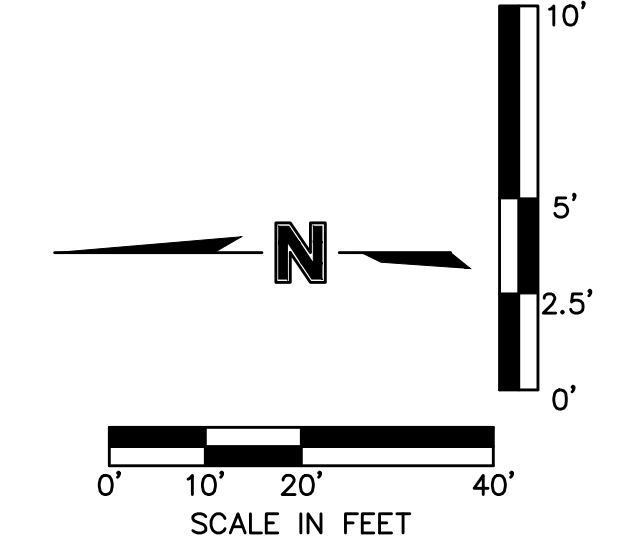
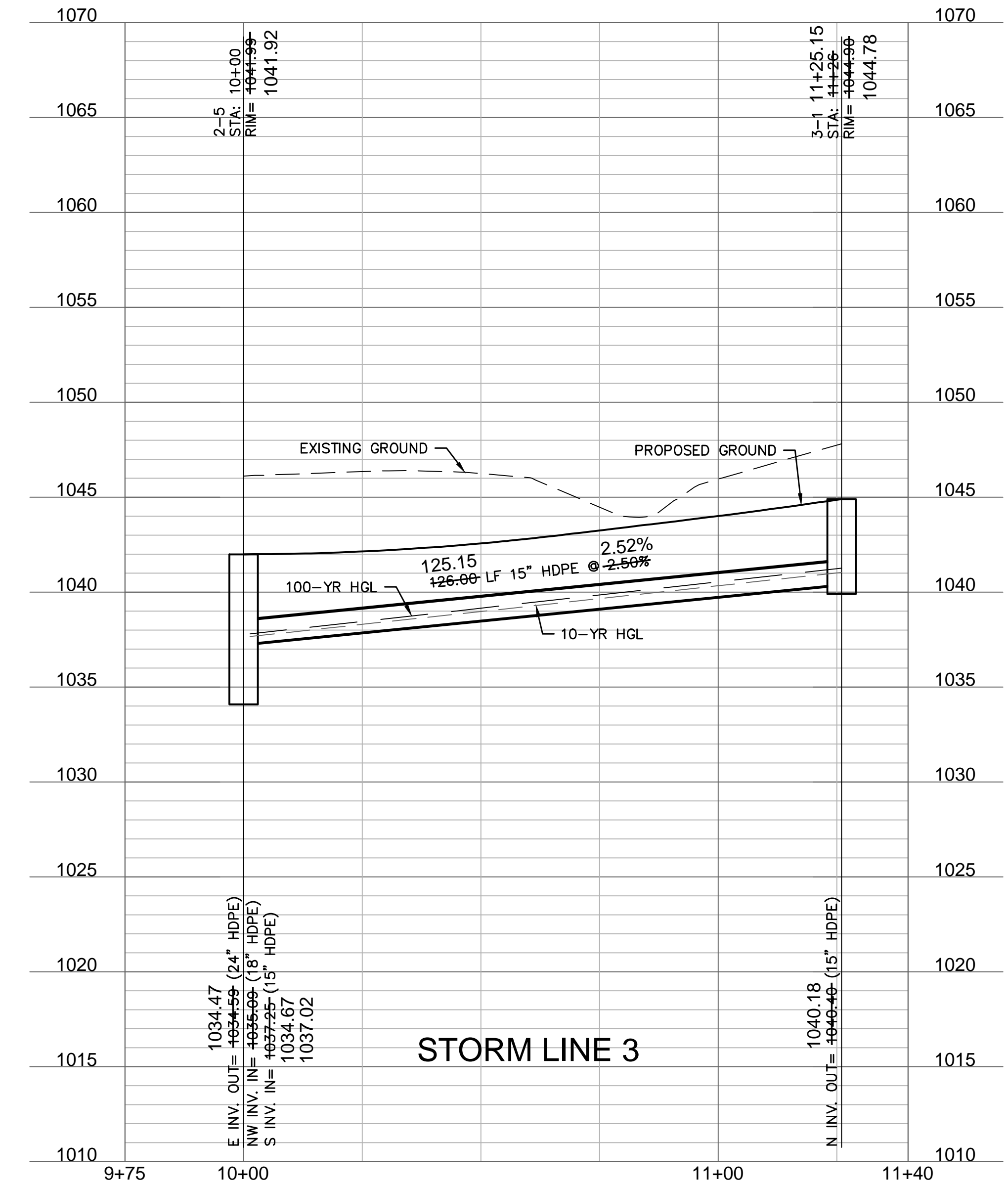
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08-22-2022

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BY _____

REVISIONS

STORM SEWER PLAN & PROFILE (LINE 4 & 5)
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT

LEE'S SUMMIT, MO

2021

drawn by: _____ MJD
 checked by: _____ JES
 designed by: _____ MJD
 QA/QC by: _____ JES
 project no.: D19-2339
 drawing no.: C_STM01_D192339
 date: 3/14/2023

SHEET
C116

NOTES:
 MBOE - MINIMUM BUILDING OPENING ELEVATION
 FG - FINISHED GRADE

LEGEND	
	FINISHED INDEX CONTOURS
	FINISHED INTERMEDIATE CONTOURS

BASEMENT TYPES

- (S) STANDARD
- (D) DAYLIGHT

- NOTES:
- INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.
 - PLAT IS LOCATION IN ZONE X, "AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"
 - PLAT IS LOCATED OUTSIDE OF ANY REQUIRED BUFFER ZONES FOR NATURAL STREAMS.
 - MBOE ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN THE RIGHT AND LEFT SIDE MBOE'S SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.
 - REFER TO SHEET C107-C108 FOR SWALE GRADING DETAILS.
 - DRAINAGE PATHS TO BE CONSTRUCTED BETWEEN LOTS LABELED AS STANDARD AND/OR UPHILL LOTS.
 - NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.

REFER TO SHEET C108 FOR SWALE DETAILS

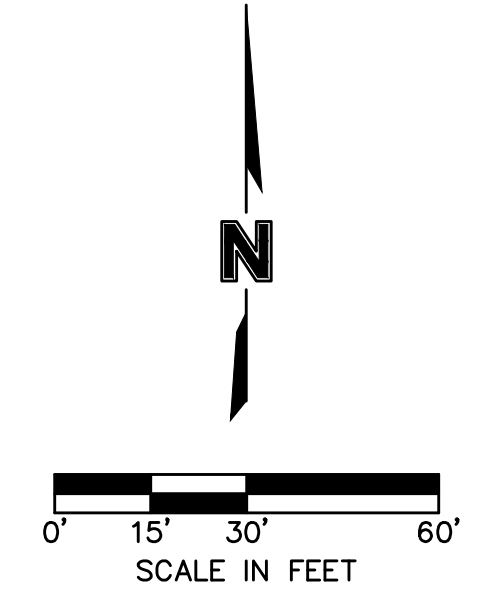
REFER TO SHEET C107 FOR SWALE DETAILS

Osage Third Plat Minimum Building Opening Elevation			
Lot	Rear Left MBOE	Rear Right MBOE	As Built Plot Plan Required
76	1043.23	1040.91	Y
77	1047.97	1043.23	Y
83	1045.23	1045.46	Y
84	1043.44	1045.23	Y
85	1041.77	1043.44	Y
86	1038.00	1041.77	Y
87	1038.50	1038.00	Y

MBOE elevations have been provided per lot lines, facing the lot from the street. Interpolation will be allowed between the right and left side MBOE's provided, depending on the location of the lowest opening on the proposed structure.

AS BUILT
 08-22-2022

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1	08/11/2023	REVISED PER CITY COMMENTS	

MASTER DRAINAGE PLAN
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT

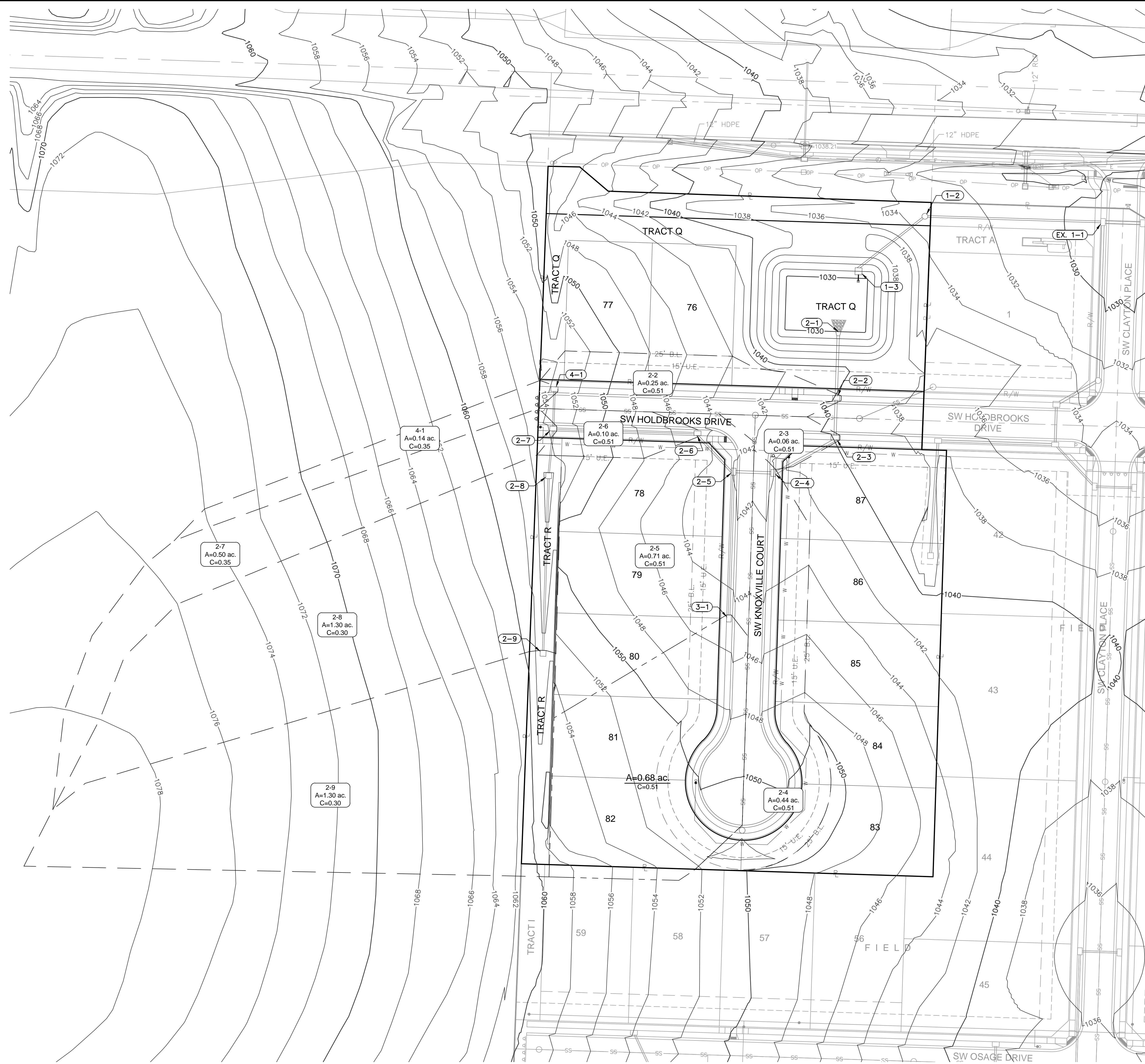
LEE'S SUMMIT, MO

2021

drawn by: MJD
 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_DRN01_D192339
 date: 3/14/2023

SHEET
 C117

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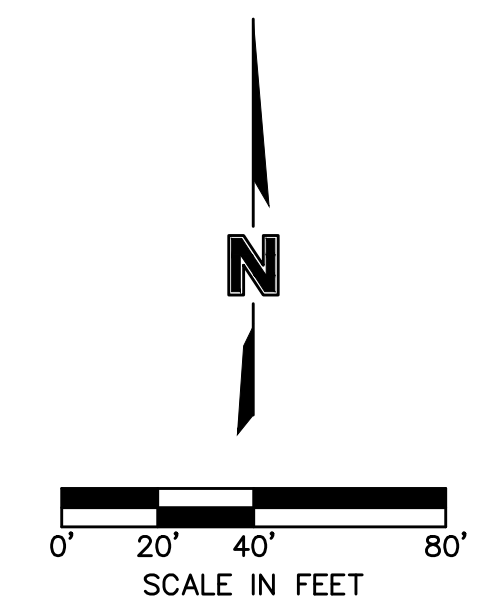


LEGEND	
100	FINISHED INDEX CONTOURS
100	FINISHED INTERMEDIATE CONTOURS
	RIDGE LINE
A	DRAINAGE AREA
C	RUNOFF COEFFICIENT
C.I. 0-0	STORM STRUCTURE NUMBER

**APPROVED RECORD
DRAWING**

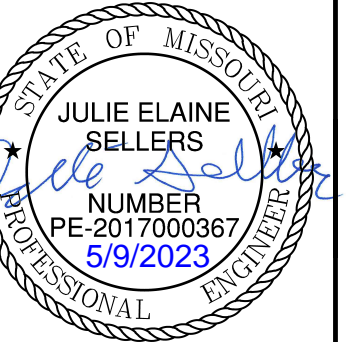
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DRAINAGE PLAN
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

2021

drawn by: MJD
 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_DRN02_D192339
 date: 3/14/2023

SHEET
C118

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Drainage Area Design Table						
10 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 2-2	0.25	0.51	5.00	7.35	1.00	0.94
C.I. 2-3	0.06	0.51	5.00	7.35	1.00	0.23
C.I. 2-4	0.44	0.51	5.00	7.35	1.00	1.65
C.I. 2-5	0.71	0.51	5.00	7.35	1.00	2.66
C.I. 2-6	0.10	0.51	5.00	7.35	1.00	0.38
C.I. 2-7	0.50	0.35	5.00	7.35	1.00	1.29
F.I. 2-8	1.30	0.30	5.00	7.35	1.00	2.87
F.I. 2-9	1.30	0.30	5.00	7.35	1.00	2.87
C.I. 3-1	0.68	0.51	5.00	7.35	1.00	2.55
C.I. 4-1	0.25	0.35	5.00	7.35	1.00	0.64

Drainage Area Design Table						
100 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 2-2	0.25	0.51	5.00	10.32	1.25	1.65
C.I. 2-3	0.06	0.51	5.00	10.32	1.25	0.39
C.I. 2-4	0.44	0.51	5.00	10.32	1.25	2.90
C.I. 2-5	0.71	0.51	5.00	10.32	1.25	4.67
C.I. 2-6	0.10	0.51	5.00	10.32	1.25	0.66
C.I. 2-7	0.50	0.35	5.00	10.32	1.25	2.26
F.I. 2-8	1.30	0.30	5.00	10.32	1.25	5.03
F.I. 2-9	1.30	0.30	5.00	10.32	1.25	5.03
C.I. 3-1	0.68	0.51	5.00	10.32	1.25	4.47
C.I. 4-1	0.25	0.35	5.00	10.32	1.25	1.13

APPROVED RECORD DRAWING
 These plans have been reviewed for accuracy by the Development Services Staff

Inlet Design Table													
10 Year Return Frequency													
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 2-2	GRADE	0.94	0.10	1.04	1.00	0.89	0.89	0.89	0.15	85.63%	0.11	5.30	...
C.I. 2-3	GRADE	0.23	0.10	0.33	1.00	0.31	0.31	0.31	0.01	95.94%	0.07	3.44	...
C.I. 2-4(L)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 2-4(R)	SAG	1.28	...	...	...	...	...	...	...	...	0.11	5.74	...
C.I. 2-4(B)	SAG	0.38	...	...	...	...	...	...	...	...	...	...	...
C.I. 2-4	SAG	1.65	0.00	1.65	0.80	19.40	15.52	1.65	0.00	100.00%	...	...	...
C.I. 2-5(L)	SAG	0.94	...	...	...	...	...	...	...	...	0.14	7.03	...
C.I. 2-5(R)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 2-5(B)	SAG	1.73	...	...	...	...	...	...	...	...	...	...	...
C.I. 2-5	SAG	2.66	0.00	2.66	0.80	19.40	15.52	2.66	0.00	100.00%	...	...	...
C.I. 2-6	GRADE	0.38	0.37	0.74	1.00	0.64	0.64	0.64	0.10	86.35%	0.09	4.34	...
C.I. 2-7	GRADE	1.29	0.00	1.29	1.00	0.92	0.92	0.92	0.37	71.44%	0.10	4.96	...
F.I. 2-8	SAG	2.87	0.00	2.87	0.80	14.00	11.20	2.87	0.00	100.00%	...	...	0.17
F.I. 2-9	SAG	2.87	0.00	2.87	0.80	14.00	11.20	2.87	0.00	100.00%	...	...	0.17
C.I. 3-1	GRADE	2.55	0.00	2.55	1.00	1.86	1.86	1.86	0.69	72.90%	0.16	7.83	...
C.I. 4-1	GRADE	0.64	0.00	0.64	1.00	0.54	0.54	0.54	0.10	84.59%	0.08	3.83	...

Notes:
 1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600. Both theoretical capacity and reduced capacity are shown.
 2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

Inlet Design Table													
100 Year Return Frequency													
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 2-2	GRADE	1.65	0.29	1.93	1.00	1.44	1.44	1.44	0.49	74.62%	0.13	6.70	...
C.I. 2-3	GRADE	0.39	0.46	0.85	1.00	0.75	0.75	0.75	0.10	88.15%	0.10	4.93	...
C.I. 2-4(L)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 2-4(R)	SAG	2.24	...	...	...	...	...	...	...	...	0.14	7.09	...
C.I. 2-4(B)	SAG	0.66	...	...	...	...	...	...	...	...	...	...	...
C.I. 2-4	SAG	2.90	0.00	2.90	0.80	19.40	15.52	2.90	0.00	100.00%	...	...	...
C.I. 2-5(L)	SAG	1.65	...	...	...	...	...	...	...	...	0.19	9.37	...
C.I. 2-5(R)	SAG	0.00	...	...	...	...	...	...	...	...	0.00	0.00	...
C.I. 2-5(B)	SAG	3.03	...	...	...	...	...	...	...	...	...	...	...
C.I. 2-5	SAG	4.67	0.00	4.67	0.80	19.40	15.52	4.67	0.00	100.00%	...	...	...
C.I. 2-6	GRADE	0.66	0.98	1.64	1.00	1.18	1.18	1.18	0.46	72.05%	0.12	5.84	...
C.I. 2-7	GRADE	2.26	0.00	2.26	1.00	1.28	1.28	1.28	0.98	56.53%	0.12	6.13	...
F.I. 2-8	SAG	5.03	0.00	5.03	0.80	14.00	11.20	5.03	0.00	100.00%	...	...	0.25
F.I. 2-9	SAG	5.03	0.00	5.03	0.80	14.00	11.20	5.03	0.00	100.00%	...	...	0.25
C.I. 3-1	GRADE	4.47	0.00	4.47	1.00	2.61	2.61	2.61	1.86	58.37%	0.19	9.67	...
C.I. 4-1	GRADE	1.13	0.00	1.13	1.00	0.84	0.84	0.84	0.29	74.38%	0.09	4.72	...

Notes:
 1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600. Both theoretical capacity and reduced capacity are shown.
 2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

Storm Sewer Design Calculation Table													
10 Year Return Frequency													
Upstream Structure	Downstream Structure	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (%)	Diameter (in)	Manning's n	Total Flow (cfs)	Velocity (ft/s)	Capacity (cfs)	Flow Depth (ft)	Upstream Struct. HGL (ft)	Upstream Top Elev. (ft)
1-2	EX. 1-1	152.90	1026.89	1024.76	1.39	18	0.012	16.66	9.43	13.43	1.50	1030.34	1033.41
1-3	1-2	73.91	1028.42	1027.39	1.39	18	0.012	16.66	9.43	13.43	1.50	1032.48	1033.50
2-2	2-1	57.00	1030.75	1030.00	1.32	24	0.012	16.08	6.10	28.11	1.72	1032.20	1039.93
2-3	2-2	34.00	1031.69	1031.25	1.29	24	0.012	15.14	7.75	27.87	1.05	1033.09	1039.93
2-4	2-3	61.06	1033.41	1032.19	2.00	24	0.012	14.91	8.50	34.64	0.92	1034.80	1041.90
2-5	2-4	34.00	1034.59	1033.91	2.00	24	0.012	13.26	7.94	34.65	0.89	1035.90	1041.90
2-6	2-5	45.26	1036.00	1035.10	1.99	18	0.012	8.05	7.11	16.04	0.80	1037.10	1044.71
2-7	2-6	123.87	1045.33	1039.01	5.10	15	0.012	7.67	9.75	15.80	0.61	1046.43	1053.79
2-8	2-7	40.59	1046.64	1045.83	2.00	15	0.012	5.74	6.99	9.88	0.68	1047.61	1053.72
2-9	2-8	152.50	1051.70	1048.65	2.00	15	0.012	2.87	5.59	9.89	0.46	1052.38	1056.36
3-1	2-5	126.00	1040.40	1037.25	2.50	15	0.012	2.55	5.68	11.06	0.41	1041.04	1045.44
4-1	2-7	34.00	1048.50	1047.43	3.15	15	0.012	0.64	3.99	12.41	0.19	1048.81	1053.44

Storm Sewer Design Calculation Table													
100 Year Return Frequency													
Upstream Structure	Downstream Structure	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (%)	Diameter (in)	Manning's n	Total Flow (cfs)	Velocity (ft/s)	Capacity (cfs)	Flow Depth (ft)	Upstream Struct. HGL (ft)	Upstream Top Elev. (ft)
1-2	EX. 1-1	152.90	1026.89	1024.76	1.39	18	0.012	19.11	10.82	13.43	1.50	1032.44	1033.41
1-3	1-2	73.91	1028.42	1027.39	1.39	18	0.012	19.11	10.82	13.43	1.50	1035.26	1033.50
2-2	2-1	57.00	1030.75	1030.00	1.32	24	0.012	28.19	9.23	28.11	1.92	1032.58	1039.93
2-3	2-2	34.00	1031.69	1031.25	1.29	24	0.012	26.54	9.51	27.87	1.56	1033.49	1039.93
2-4	2-3	61.06	1033.41	1032.19	2.00	24	0.012	26.15	10.47	34.64	1.30	1035.20	1041.90
2-5	2-4	34.00	1034.59	1033.91	2.00	24	0.012	23.25	9.49	34.65	1.29	1036.30	1041.90
2-6	2-5	45.26	1036.00	1035.10	1.99	18	0.012	14.11	8.79	16.04	1.20	1037.38	1044.71
2-7	2-6	123.87	1045.33	1039.01	5.10	15	0.012	13.45	12.73	15.80	0.89	1046.56	1053.79
2-8	2-7	40.59	1046.64	1045.83	2.00	15	0.012	10.06	8.77	9.88	1.05	1047.83	1053.72
2-9	2-8	152.50	1051.70	1048.65	2.00	15	0.012	5.03	6.68	9.89	0.63	1052.61	1056.36
3-1	2-5	126.00	1040.40	1037.25	2.50	15	0.012	4.47	6.76	11.06	0.55	1041.26	1045.44
4-1	2-7	34.00	1048.50	1047.43	3.15	15	0.012	1.13	4.71	12.41	0.26	1048.92	1053.44

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1	08/11/2023	REVISED PER CITY COMMENTS

BY	DATE	REVISIONS DESCRIPTION

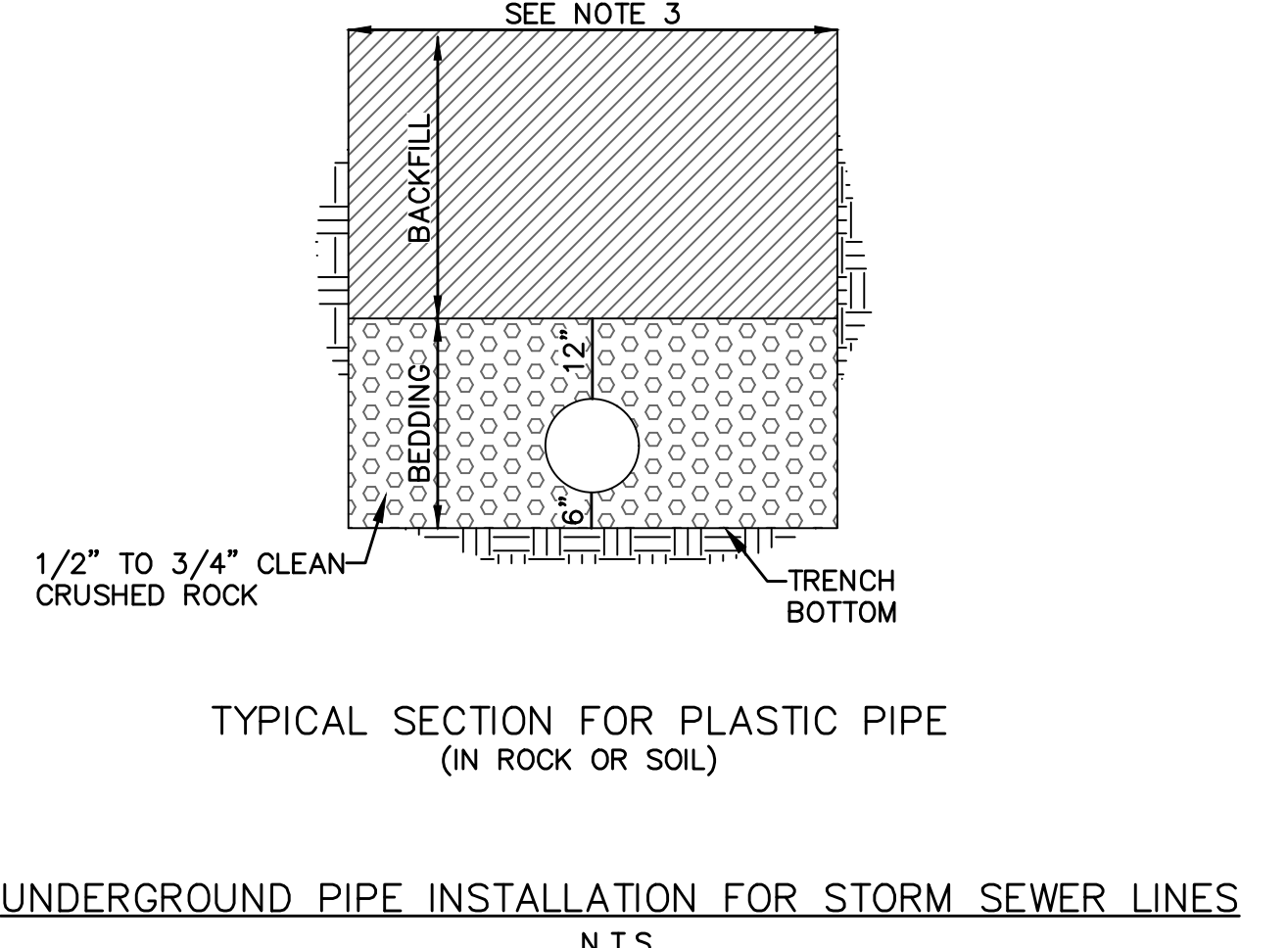
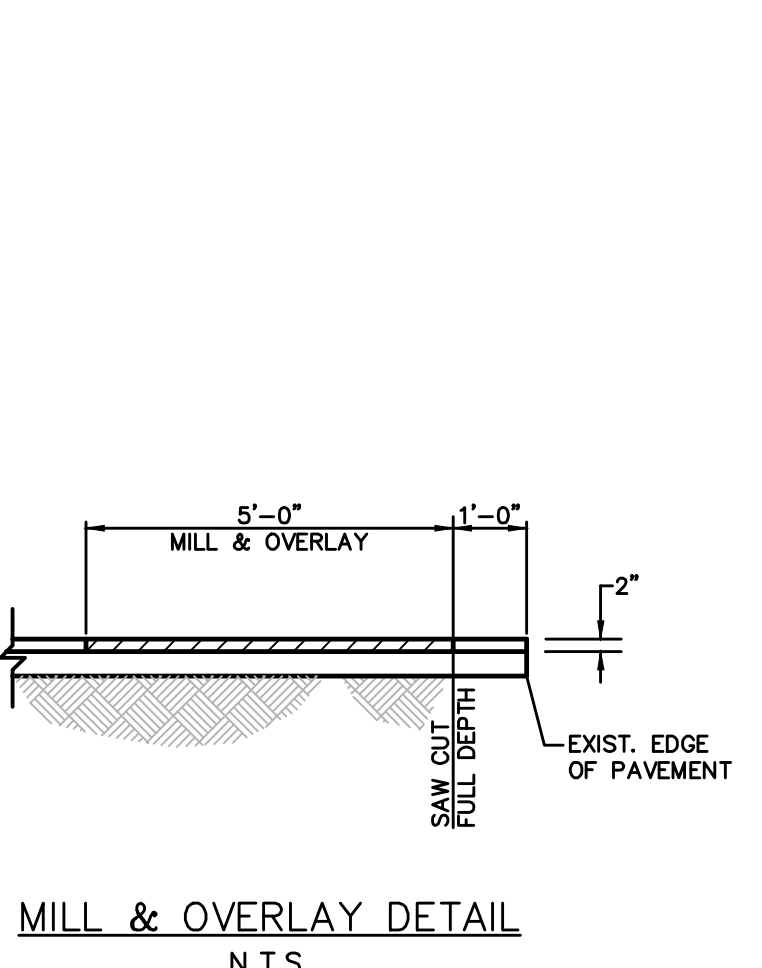
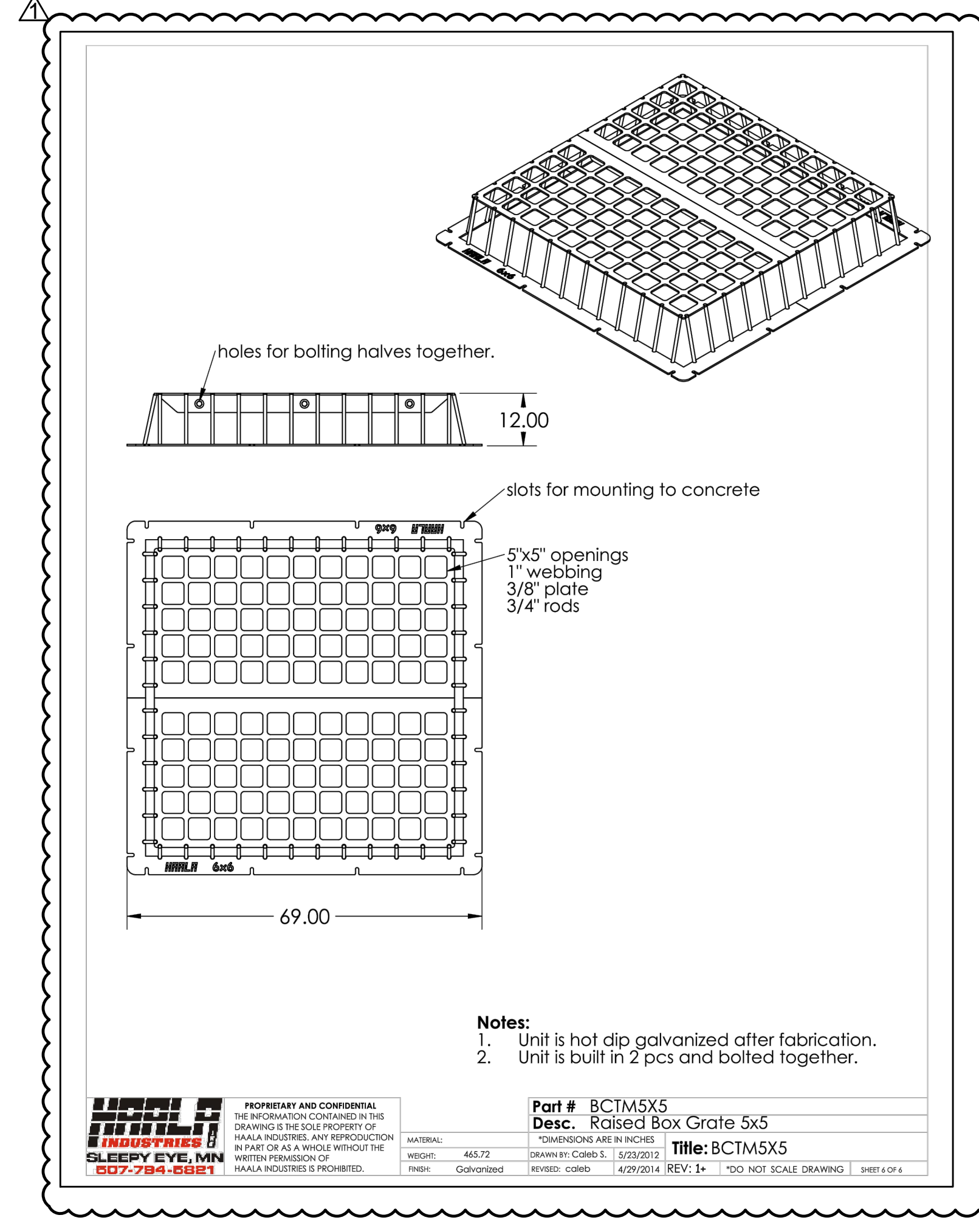
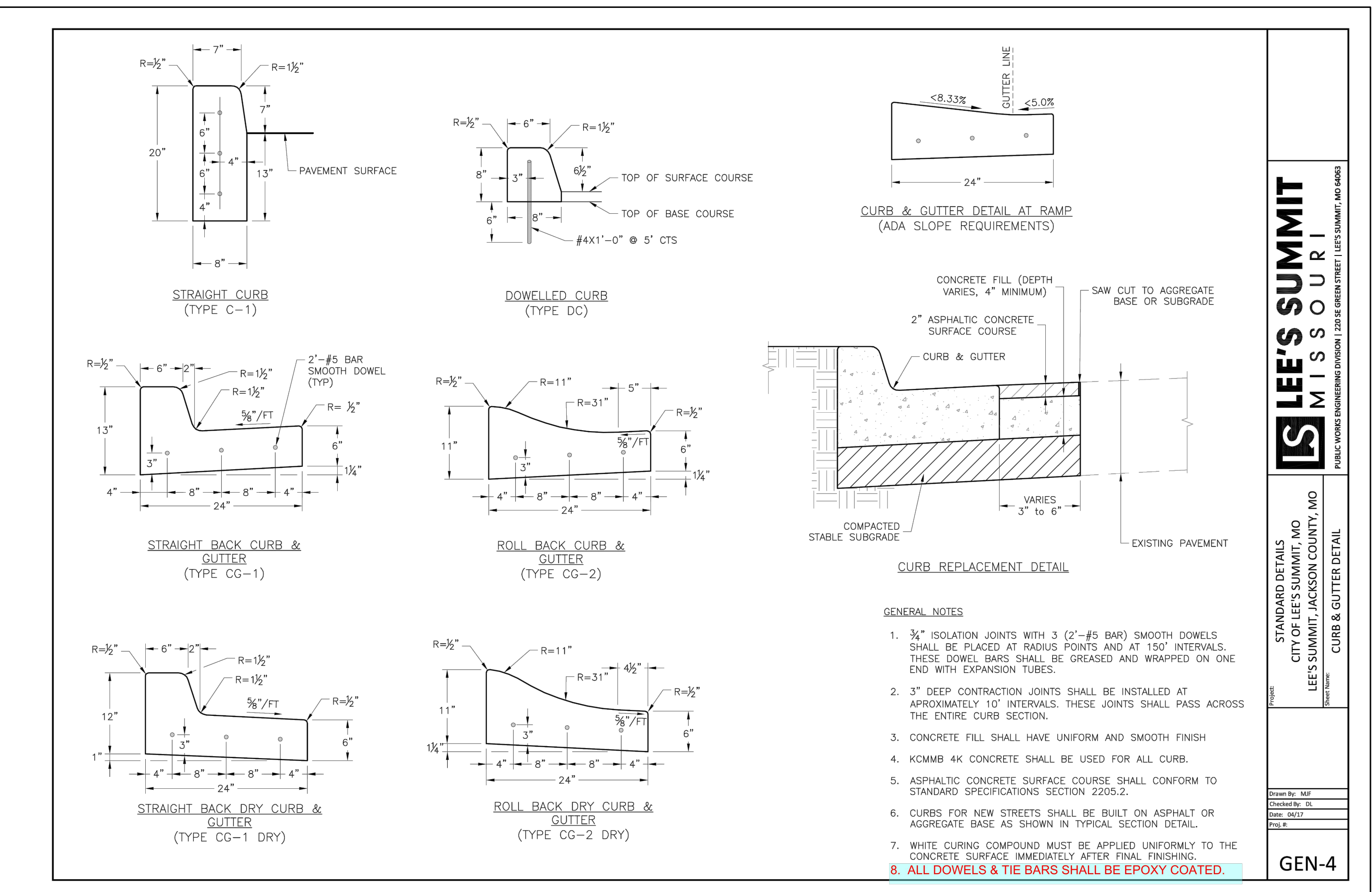
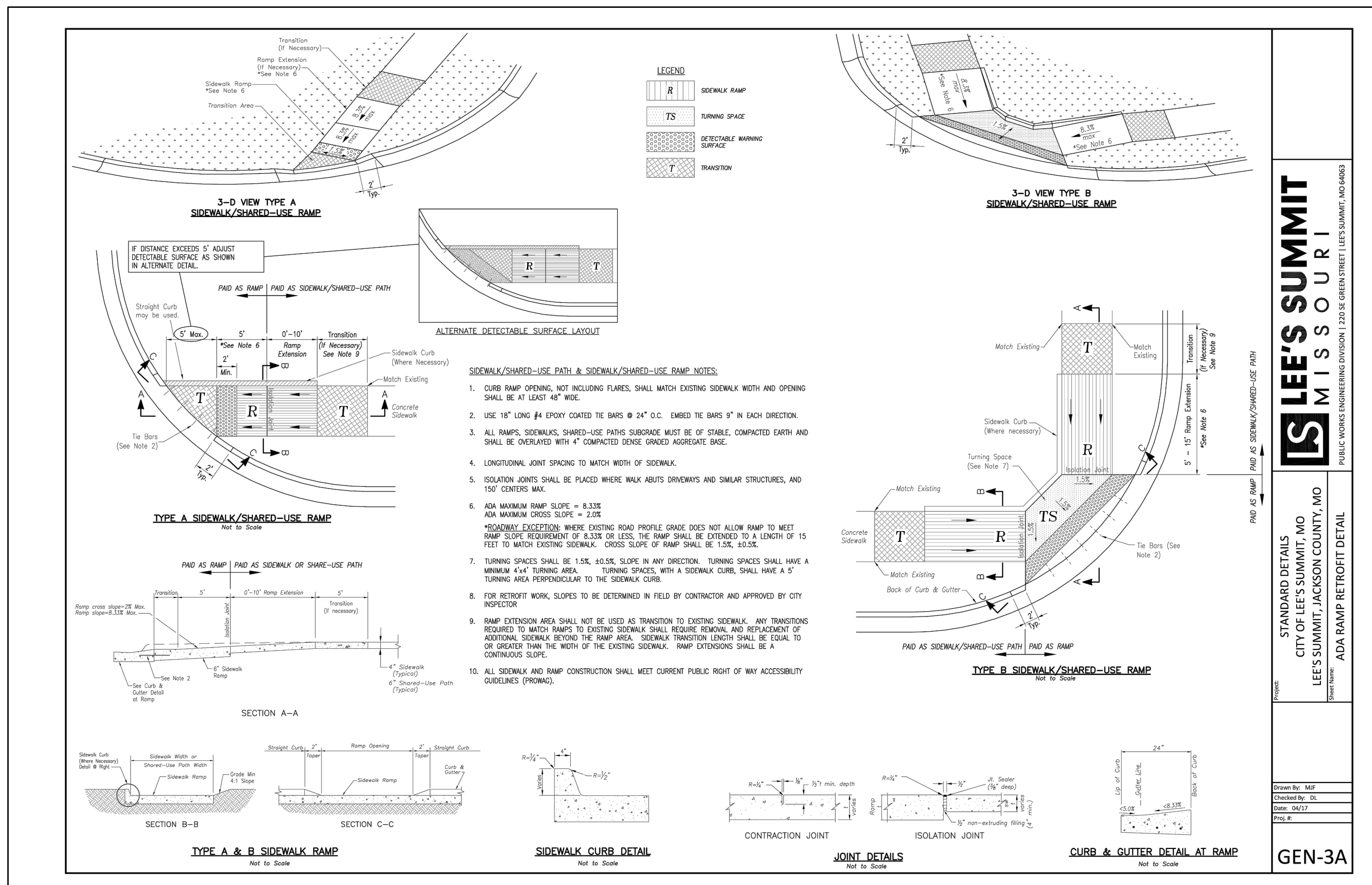
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 checked by: JES
 designed by: MJD
 QA/QC by: JES
 project no.: D19-2339
 drawing no.: C_DRN02_D192339
 date: 3/14/2023

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DRAINAGE TABLES
 STREET & STORM SEWER PLANS
 OSAGE 3RD PLAT

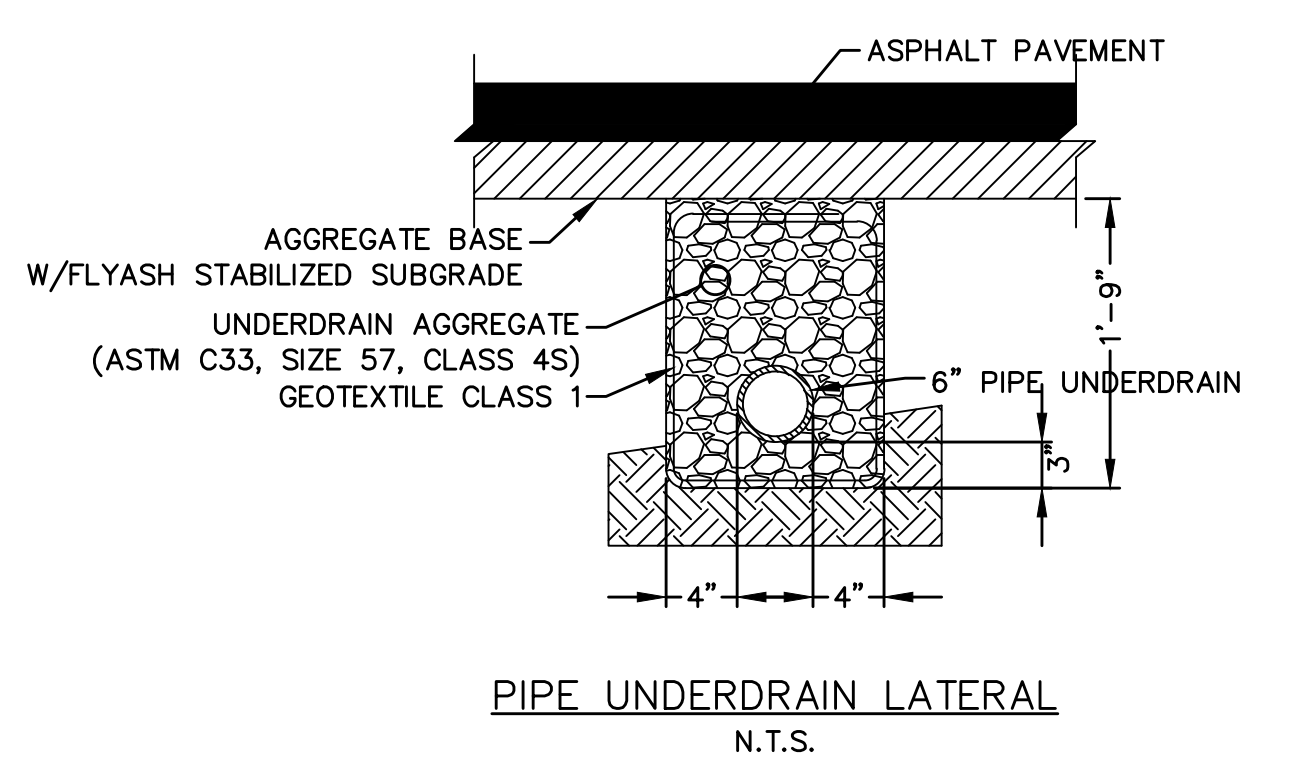
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These plans have been reviewed for
accuracy by the Development
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UNDERGROUND PIPE INSTALLATION FOR STORM SEWER LINES
N.T.S.

- BACKFILL SHALL BE JOB EXCAVATED MATERIAL FREE FROM DEBRIS AND STONES COMPACTED TO 90% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698. BACKFILL UNDER PAVEMENT (EXISTING OR PROPOSED), SHALL BE FLOWABLE FILL.
- TRENCH BANKS MAY BE CUT BACK ON SLOPES IN ACCORDANCE WITH CURRENT OSHA REGULATIONS, BUT ONLY IN AREAS WHERE THE INCREASED TRENCH WIDTH WILL NOT INTERFERE WITH SURFACE FEATURES. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.
- MINIMUM AND MAXIMUM WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.



NOTES:

- Where Pipe Underdrains are used, all Underdrain Outlet Pipes shall be solid wall with watertight joints. All Outlet Pipes shall be tied into the nearest storm sewer inlets at roadway sag locations as indicated in the street profile.
- All Underdrain Pipes shall be installed at a minimum slope of 1%.
- Underdrain Pipe shall be installed with the perforations placed down.
- Blanket Underdrain Aggregate, Pipe Underdrain Aggregate, Pipe Underdrain, Edge Underdrain and Outlet Pipe shall conform to City of Lee's Summit Specifications.
- Overlap geotextile at top of trench a minimum of 12".

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DETAIL SHEET
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

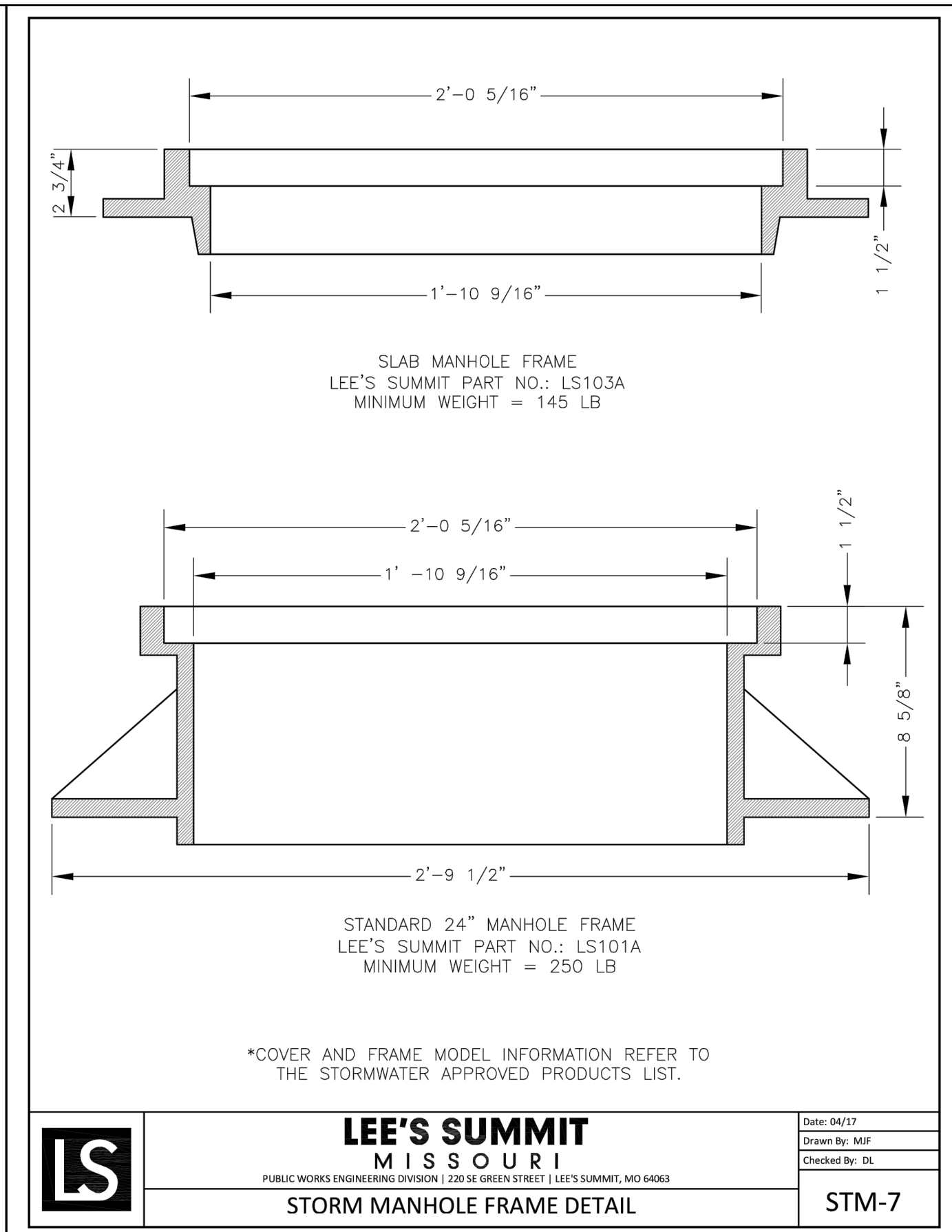
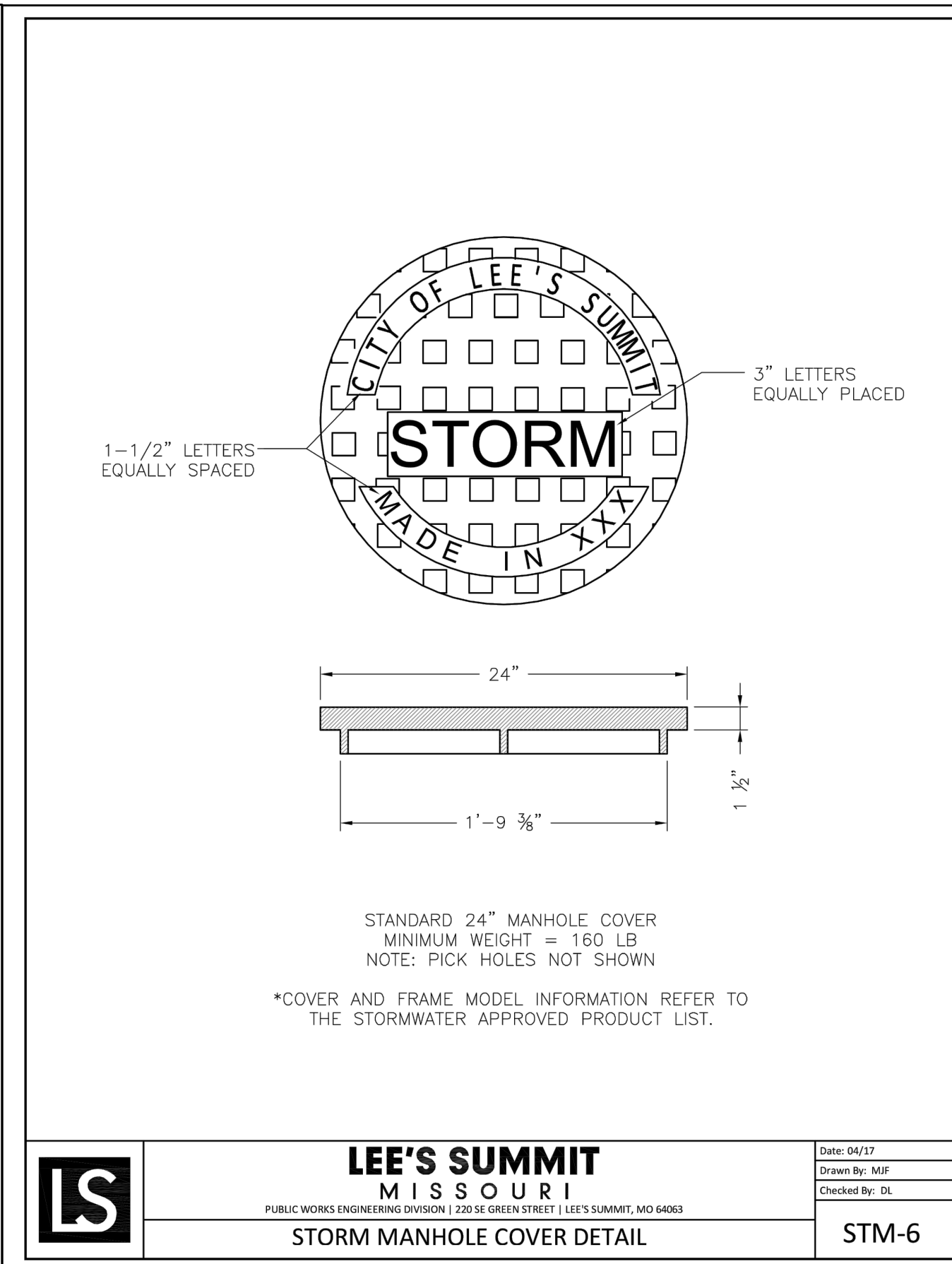
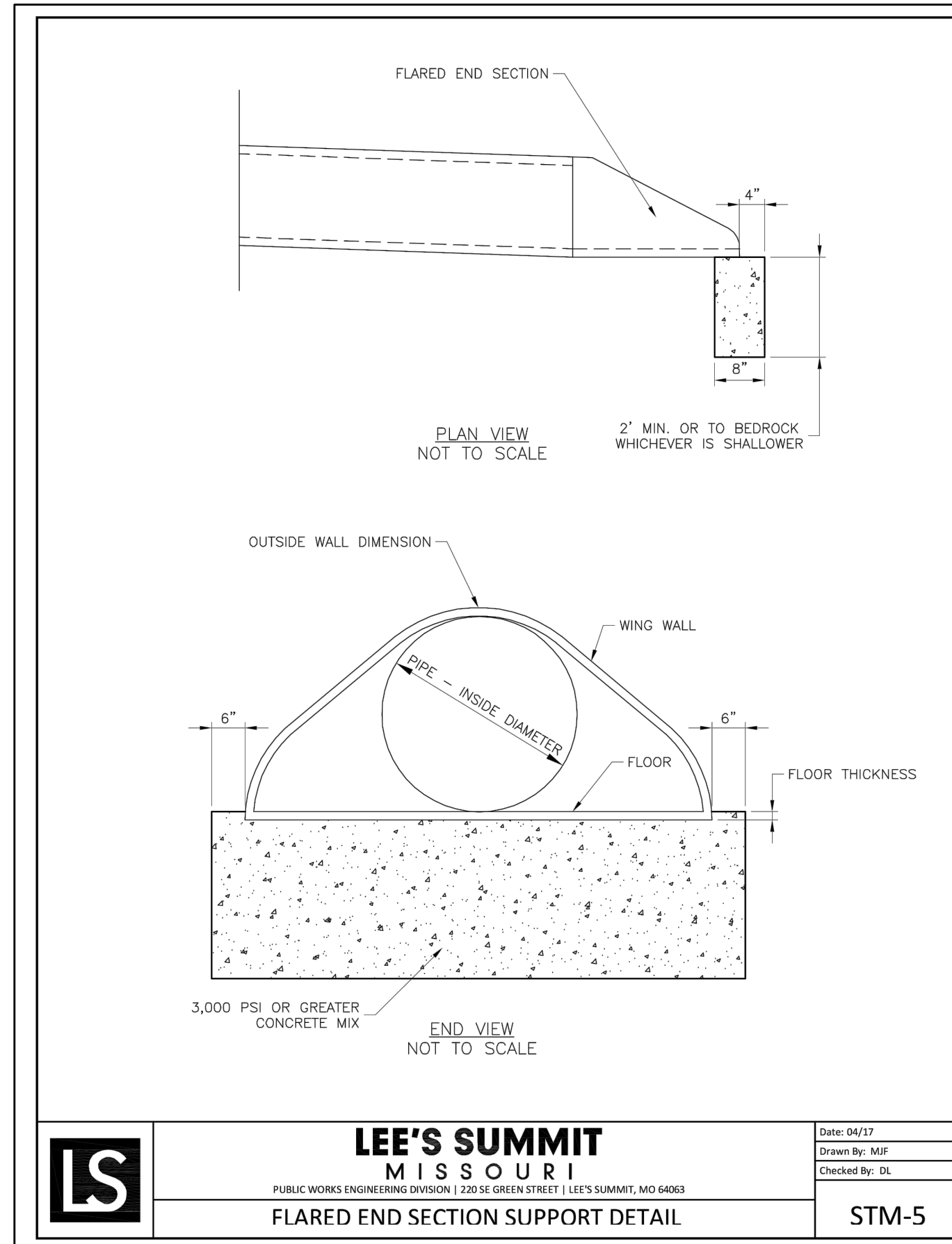
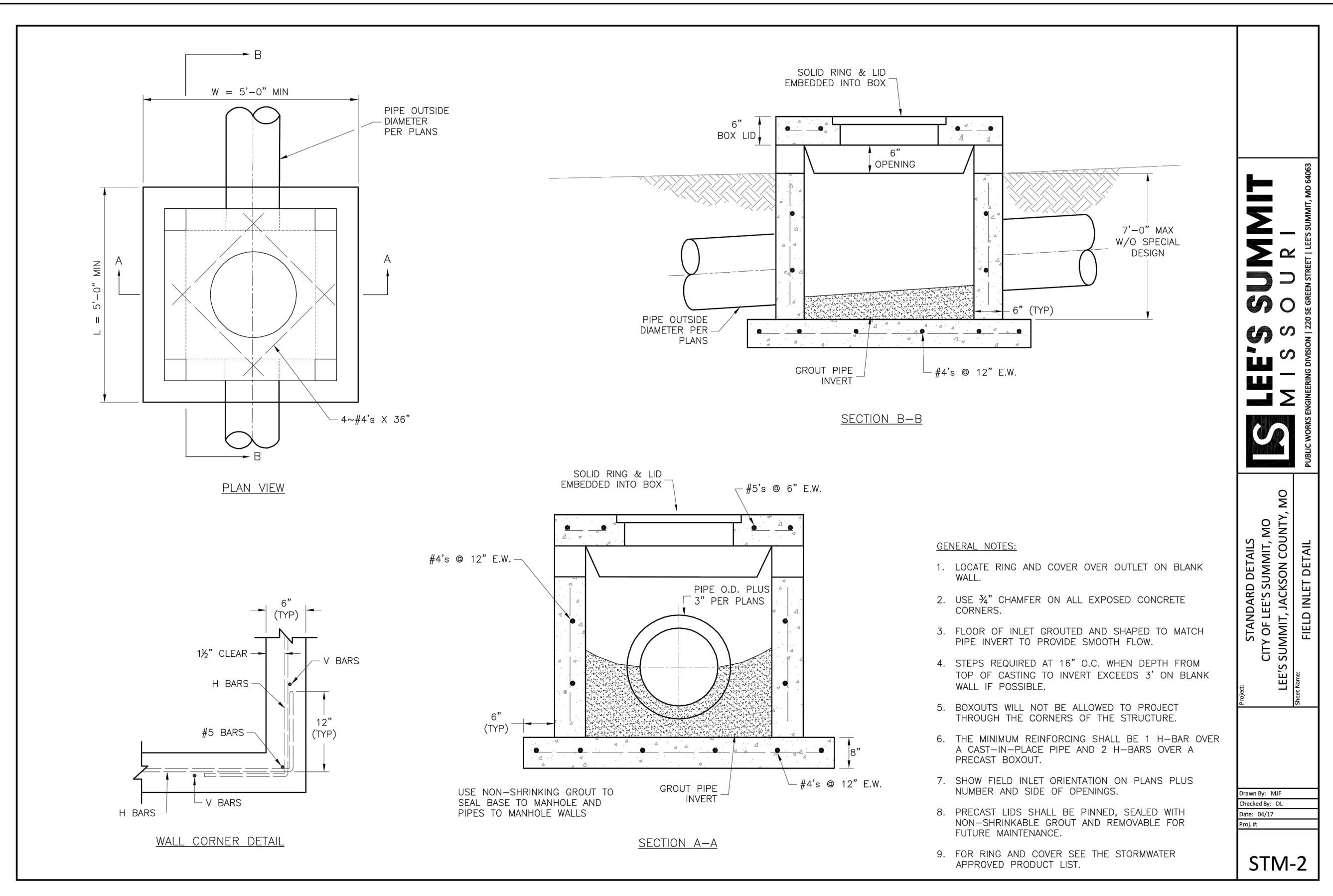
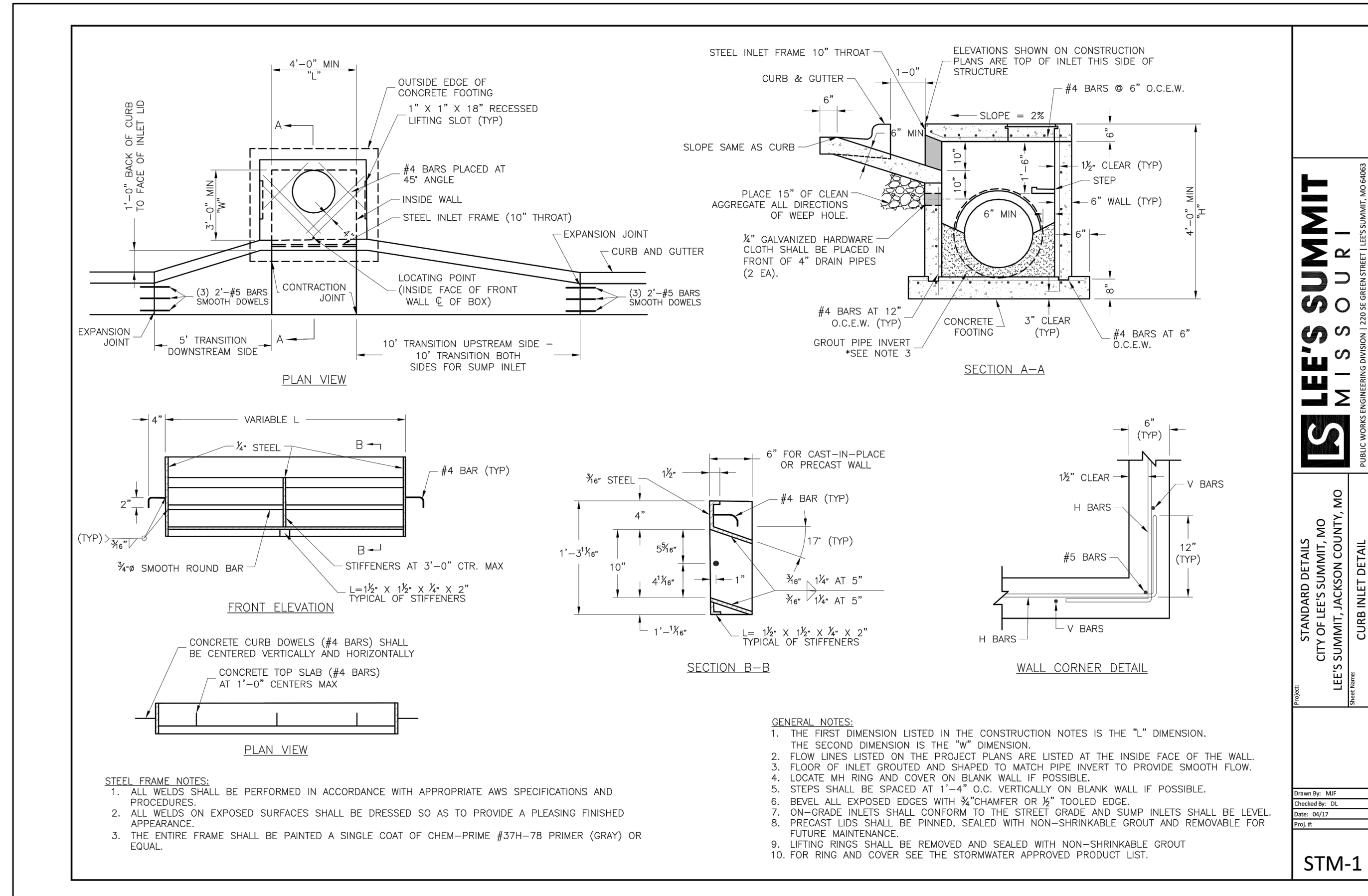
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checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C-DTL01-D192339
date: 3/14/2023

SHEET
C120

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 USER: ssaylor
 DATE: Mar 14, 2023 2:28pm
 XREFS: C_PTBK-D192339



APPROVED RECORD DRAWING
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5/9/2023

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DETAIL SHEET
STREET & STORM SEWER PLANS
OSAGE 3RD PLAT

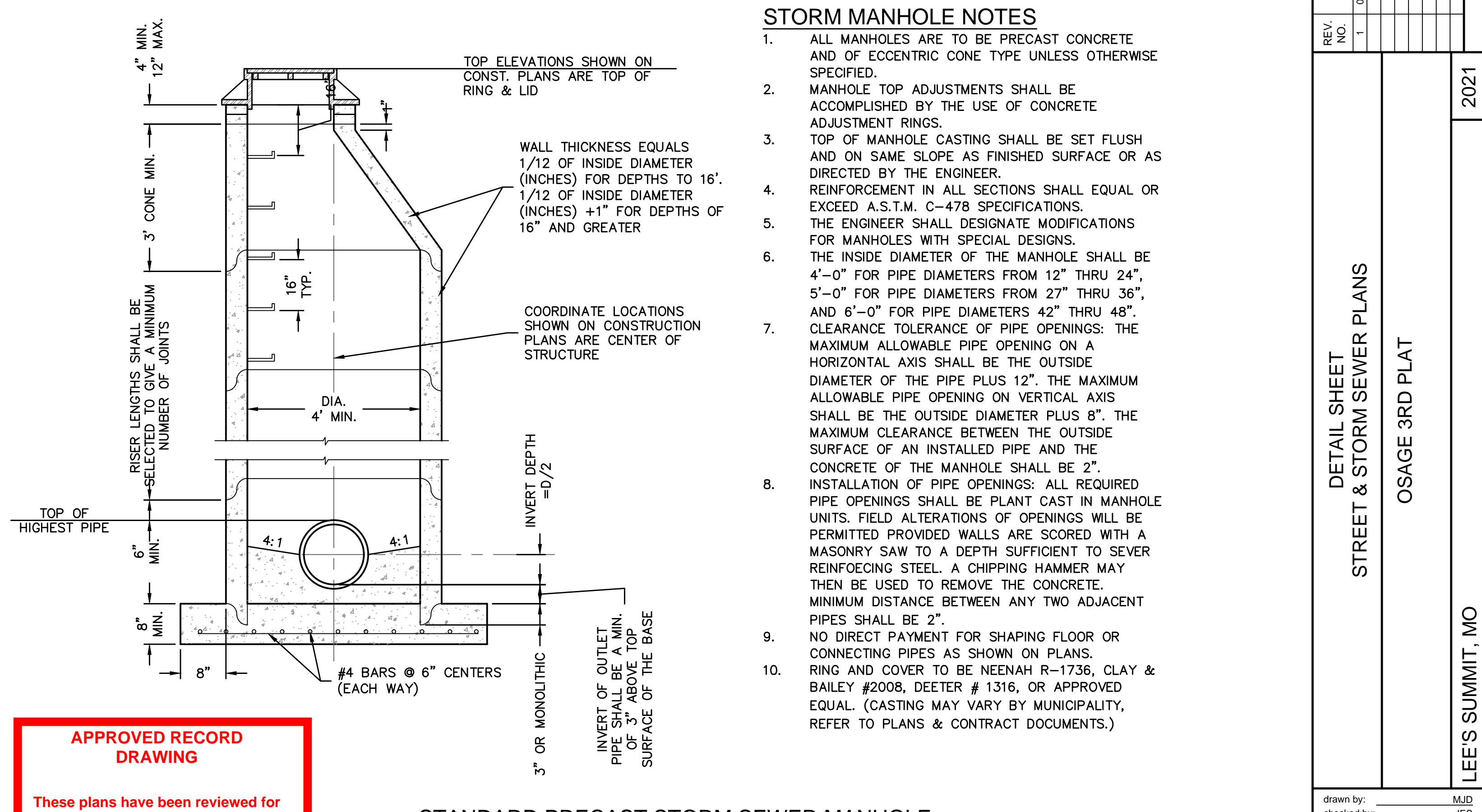
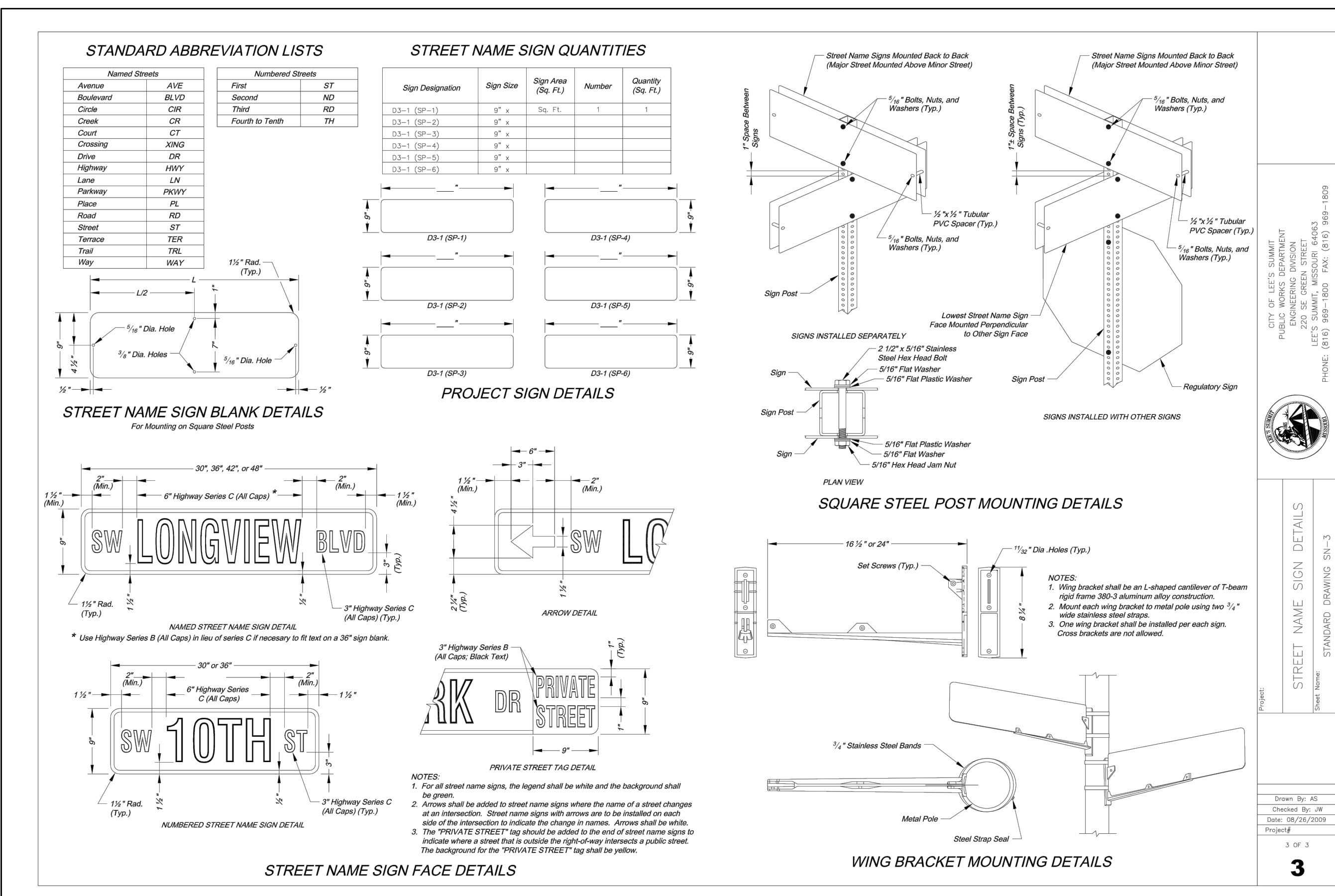
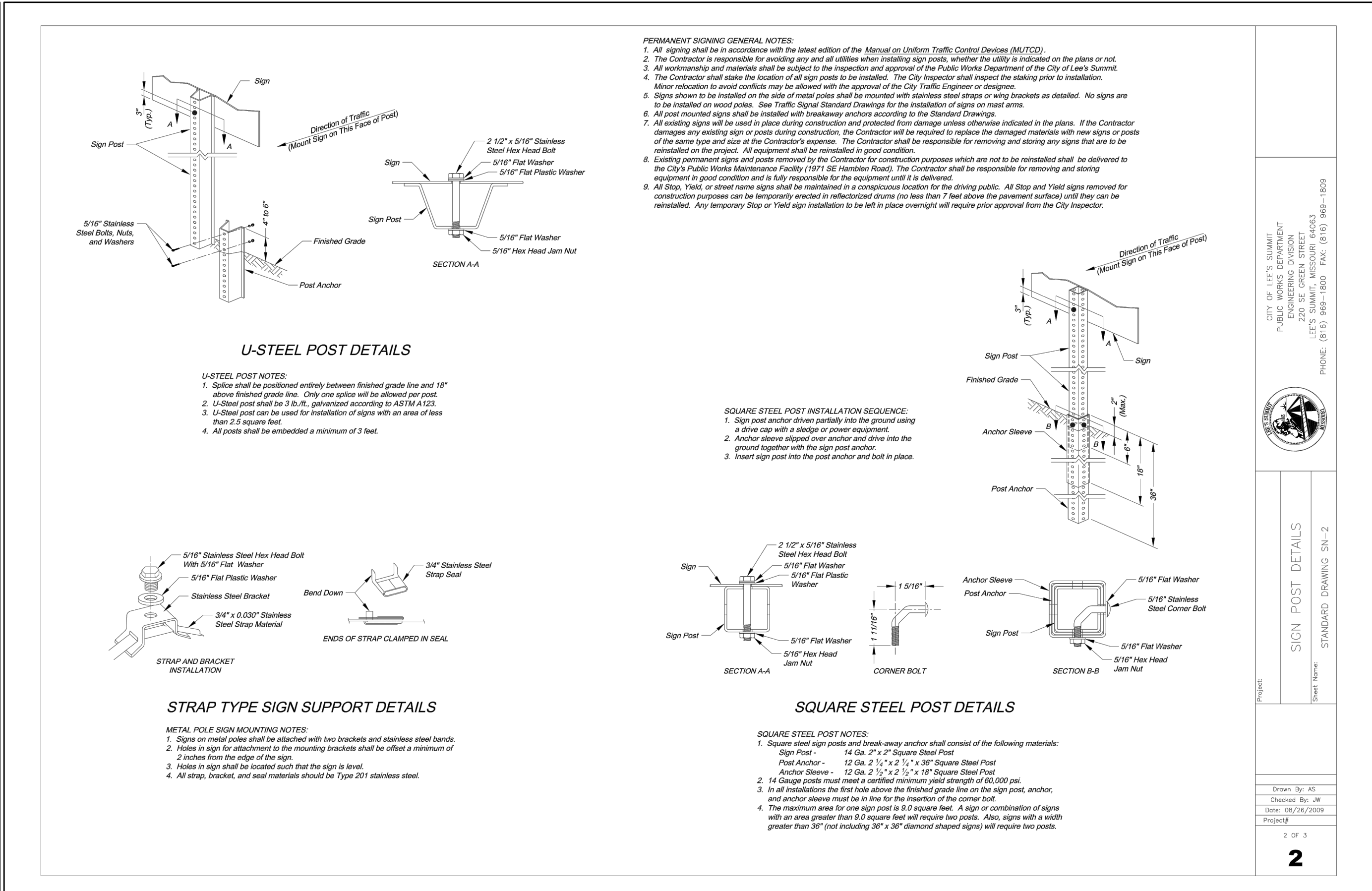
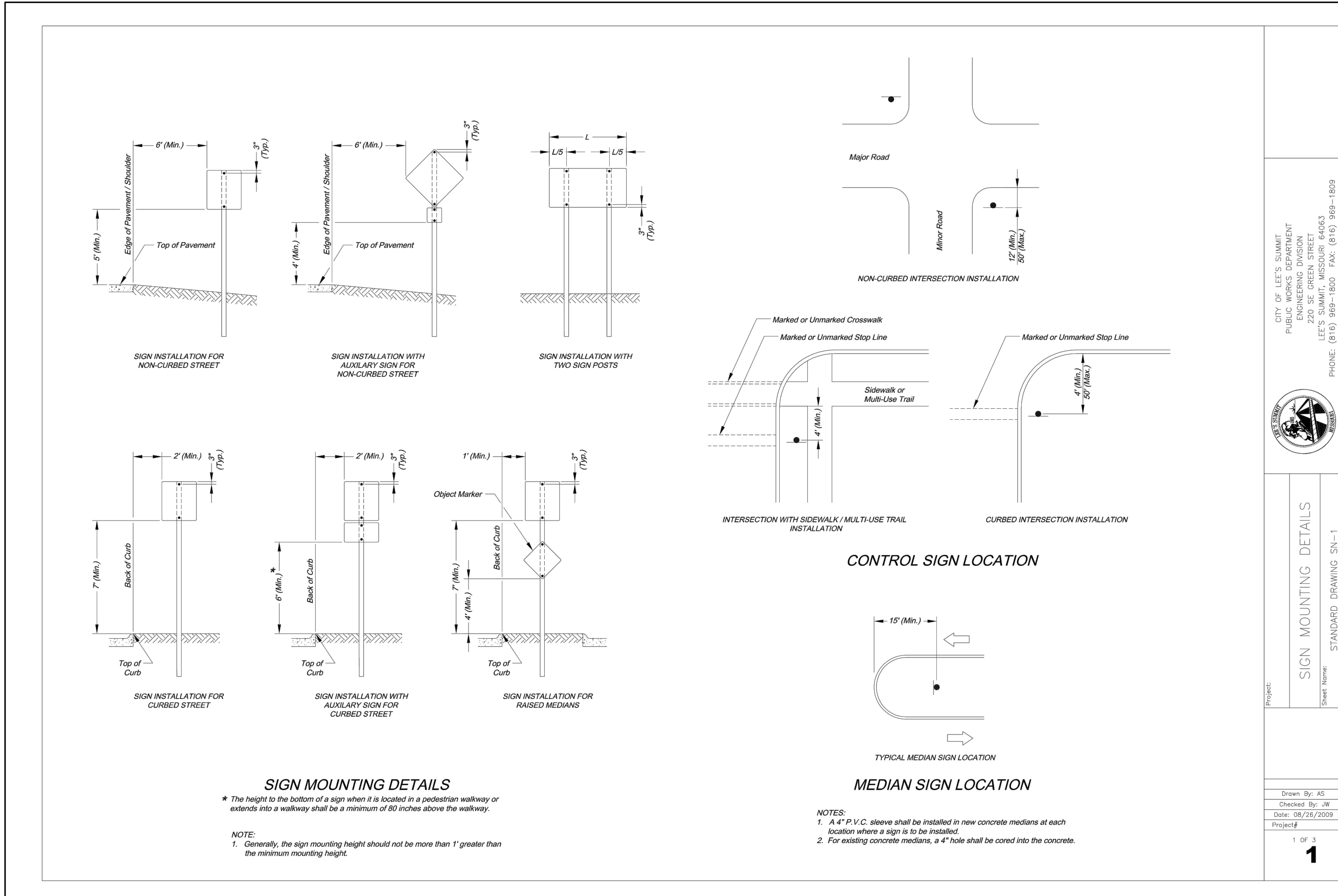
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2021

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Professional Engineer

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2021

DETAIL SHEET
STREET & STORM SEWER PLANS
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