

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

DWG: F:\2019\2001-2500\019-2339-c\40-design\AutoCAD\final plans\Sheets\GNVC\STREET & STORM\C_TTL01_C192339.dwg
DATE: Nov 03, 2020 4:14pm XREFS: C_PBN DY_C192339 C_PTBLK_A192339 C_PTBLK_C192339
USER: aabdgaliev

USER: oadbigaliyev

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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

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 DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES 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 SANITARY 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 ½ 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

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
STREET				
1	6" ASPHALT PAVEMENT	S.Y.	4764	
2	6" MODOT TYPE 5 ROCK SUBGRADE	S.Y.	4764	
3	SUBGRADE STABILIZATION (6" FLYASH TREATMENT)	S.Y.	5877	
4	CONCRETE CURB & GUTTER (CG-2)	L.F.	3334	
5	5' CONCRETE SIDEWALK	L.F.	58	
6	ADA RAMP	EA.	9	
7	STOP SIGNS	EA.	3	
8	STREET NAME SIGNS	EA.	6	
STORM				
9	STD. CURB INLET (5'x3' INSIDE)	EA.	14	
10	STD. FIELD INLET (4'x4' INSIDE)	EA.	6	
11	STD. MANHOLE (4' DIA. INSIDE)	EA.	1	
12	15" HDPE	L.F.	1996	
13	18" HDPE	L.F.	328	
14	24" HDPE	L.F.	203	
15	CONNECTION TO EXISTING	EA.	5	

CONTROL POINT TABLE

POINT NUMBER	NORTHING	EASTING	POINT ELEVATION	DESCRIPTION
11	978424.224	2811650.442	1030.85	8" IB/CAP SET IN THE CENTER MEDIAN OF ROUTE 150. IT IS DUE NORTH OF THE CENTER LINE OF THE DRIVEWAY TO PROPERTY ADDRESS 2025 ROUTE 150. IT IS 12.15 FT WEST OF A LIGHT POLE, 8.5 FT SOUTH OF THE BACK OF CURB, AND 8.1 FT NORTH OF THE BACK OF CURB.
12	978340.573	2812332.280	1036.11	8" IB/CAP SET ON THE EAST SIDE OF SW PRYOR RD AT THE SOUTHEAST CORNER OF THE INTERSECTION OF ROUTE 150 AND SW PRYOR RD. IT IS 2.15 FT EAST OF THE BACK OF CURB, 19 FT WEST OF THE TRAFFIC SIGNAL POLE, AND 9.6 FT WEST OF A VAULT.
13	977064.448	2812265.992	1012.10	8" IB/CAP SET ON THE NORTHEAST CORNER OF THE INTERSECTION OF SW PRYOR RD AND SW NAPA VALLEY DR. IT IS 6 FT EAST OF THE BACK OF CURB, 10.2 FT NORTH OF THE CORNER OF THE SIDEWALK, AND 7.25 FT WEST OF ROCK LANDSCAPE BORDER.
14	977092.478	2810924.856	1040.93	8" IB/CAP SET IN THE NORTHWEST CORNER OF THE SOUTH ADJOINING PROPERTY. IT IS 7.5 FT EAST OF THE FENCE LINE, AND 45 FT SOUTH OF OF THE TREE LINE.
18	978446.811	2810956.695	1050.47	8" IB/CAP SET IN THE CENTER MEDIAN OF ROUTE 150. THE POINT IS DIRECTLY SOUTH OF A WHITE MAILBOX ON AN ORANGE POST FOR HOUSE ADDRESS 2144 ROUTE 150. IT IS 6.8 FT SOUTH OF THE BACK OF CURB, 5.8 FT NORTH OF THE BACK OF CURB, AND 31 FT EAST OF A LIGHT POLE.
BENCHMARK				
BMK1	977045.350	2812211.924	1014.83	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.
BMK2	978357.416	2811627.737	1031.31	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.

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/27/2021

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Olsson - Civil Engineering
Missouri Certificate of Authority #: 001592
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STATE OF MISSOURI
JULIE ELAINE
SELLERS
NUMBER
PE-2017000367
11/3/20
PROFESSIONAL

REVISIONS DESCRIPTION

DATE

REV. NO.

2020

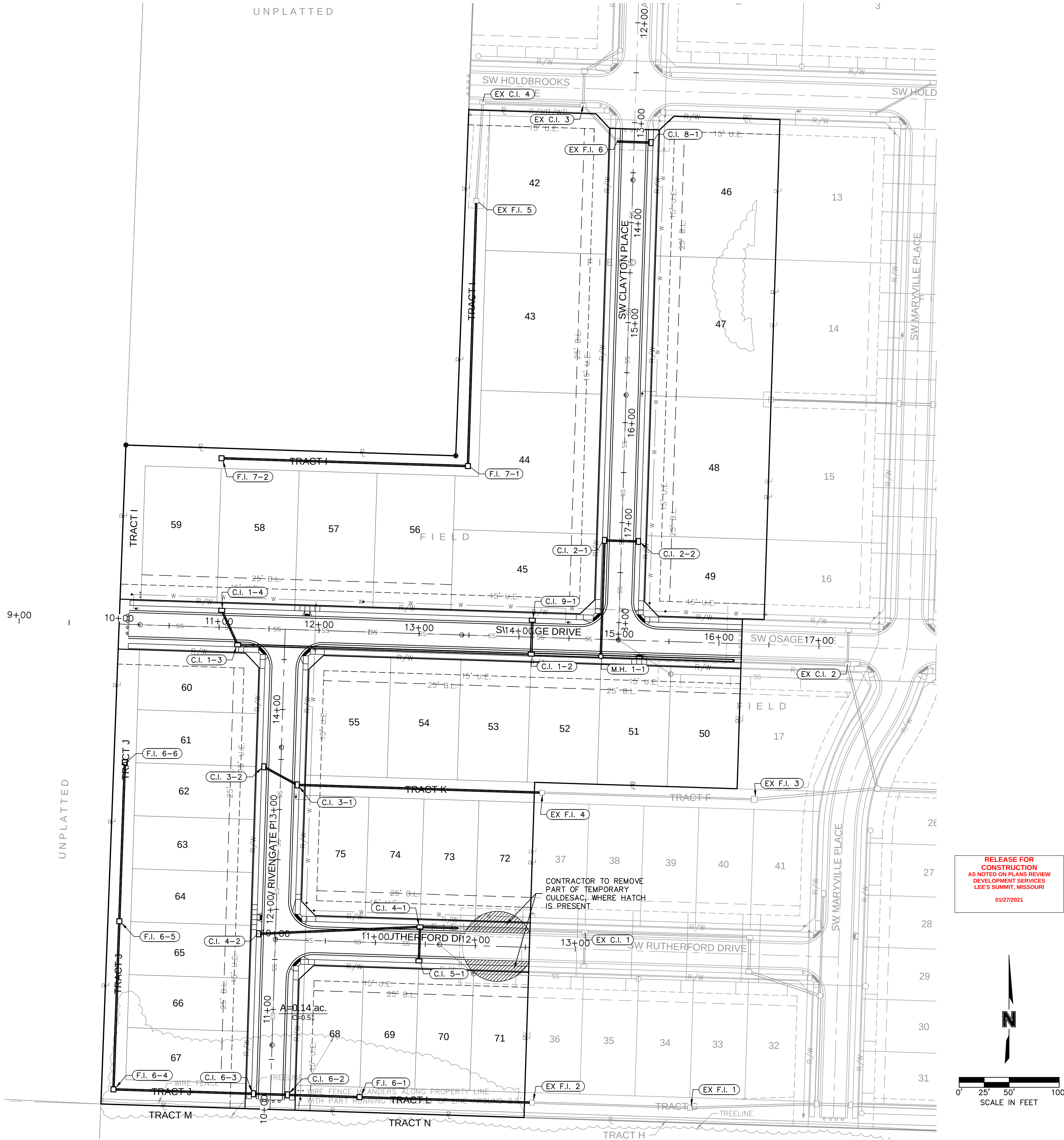
GENERAL NOTES
STREET & STORM SEWER PLANS
OSAGE
SECOND PLAT

SHEET
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USER: cbbdiplivey

Structure Table		
STRUCTURE ID	NORTHING	EASTING
C.I. 1-2	977598.7777	2811350.3990
C.I. 1-3	977608.0764	2811056.9286
C.I. 1-4	977642.5988	2811040.9780
C.I. 2-1	977712.5148	2811423.6554
C.I. 2-2	977711.4380	2811457.6384
C.I. 3-1	977468.0529	2811116.5240
C.I. 3-2	977486.1870	2811083.0816
C.I. 4-1	977326.0305	2811239.2055
C.I. 4-2	977319.1371	2811077.7885
C.I. 5-1	977292.0475	2811238.1288
C.I. 6-2	977158.1391	2811106.7044
C.I. 6-3	977159.2158	2811072.7214
C.I. 8-1	978110.2379	2811470.2744
C.I. 9-1	977632.7606	2811351.4758
EX C.I. 1	977320.8051	2811404.1227
EX C.I. 2	977588.7590	2811666.5942
EX C.I. 3	978147.4055	2811402.4174
EX C.I. 4	978150.5883	2811301.9679
EX F.I. 1	977145.2863	2811509.1437
EX F.I. 2	977150.3910	2811351.1993
EX F.I. 3	977453.5763	2811573.4124
EX F.I. 4	977460.3060	2811361.0190
EX F.I. 5	978052.0411	2811295.4838
EX F.I. 6	978111.3146	2811436.2915
F.I. 6-1	977155.8549	2811178.7819

Structure Table		
STRUCTURE ID	NORTHING	EASTING
F.I. 6-4	977163.6498	2810932.7838
F.I. 6-5	977331.7198	2810938.6323
F.I. 6-6	977490.5887	2810944.1607
F.I. 7-1	977786.8342	2811287.1599
F.I. 7-2	977794.6401	2811040.8007
M.H. 1-1	977596.5729	2811419.9818



GENERAL LAYOUT
STREET & STORM SEWER PLANS

OSAGE
SECOND PLAT

2020

drawn by: D.F./M.O./A.A.
checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.:
date: 2020.11.03

SHEET
C103

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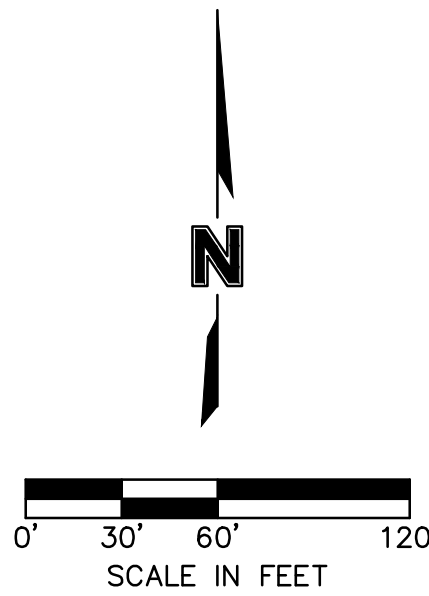
STATE OF MISSOURI
JULIE ELAINE
SELLERS
Professional Engineer
NUMBER
PE-2017000367
11/3/20

REVISIONS

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GENERAL NOTES:

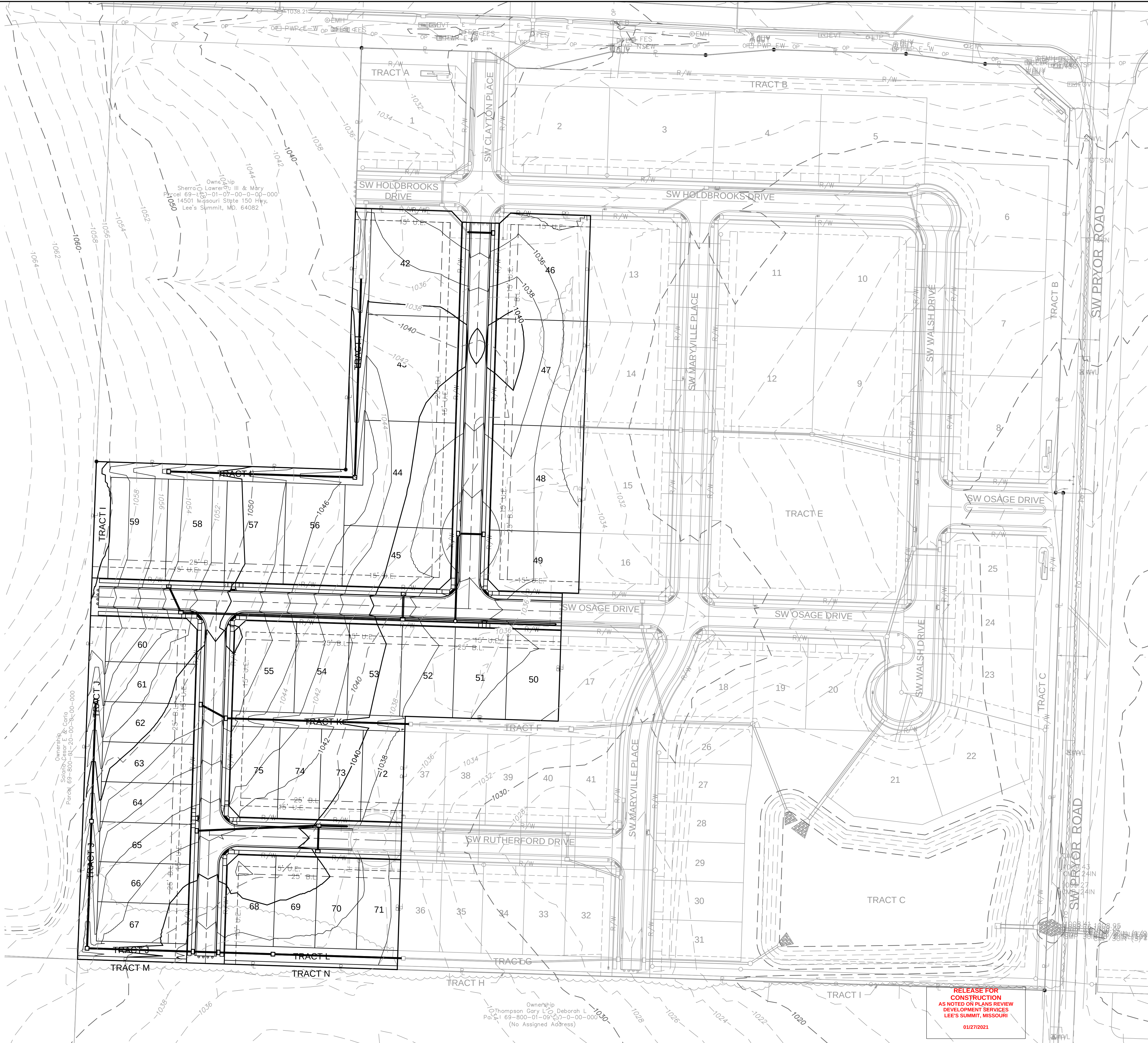
1. CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.
2. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH 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.
3. 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.



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

EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	2,438	827
SITE	7,812	5,520
TOTAL	10,250	6,347

- EARTHWORK QUANTITIES NOTES:
1. EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
2. 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.



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LEE'S SUMMIT, MISSOURI
01/27/2021

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

OSAGE
SECOND PLAT

drawn by: D.F./M.O./A.A.
checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.:
date: 2020.11.03

SHEET
C105

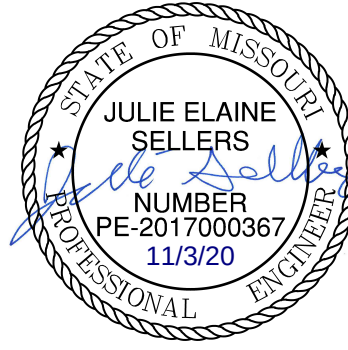
REVISIONS DESCRIPTION

DATE

REV. NO.

REVISIONS

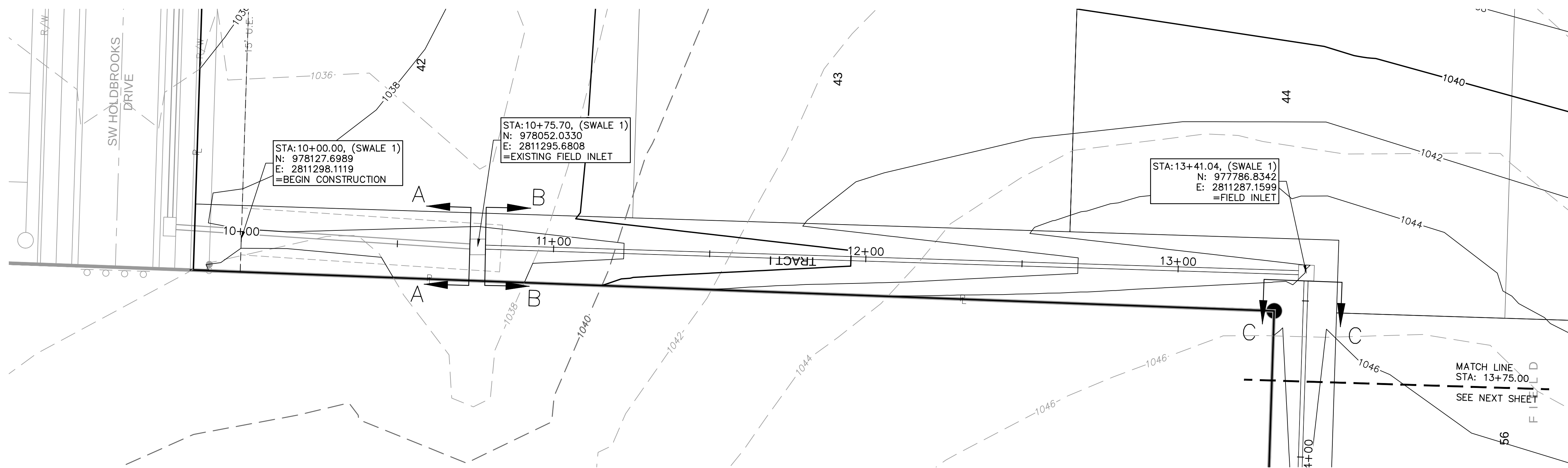
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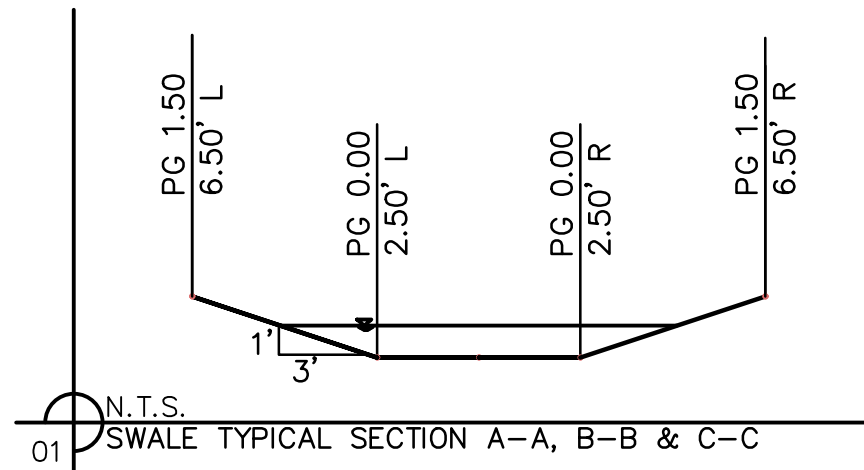
DWG: F:\2019\2001-2500\019-2339-c\40-design\AutoCAD\final plans\Sheets\GNVC\STREET & STORM\C_SWL01_C192339.dwg
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SWALE GRADING NOTES:

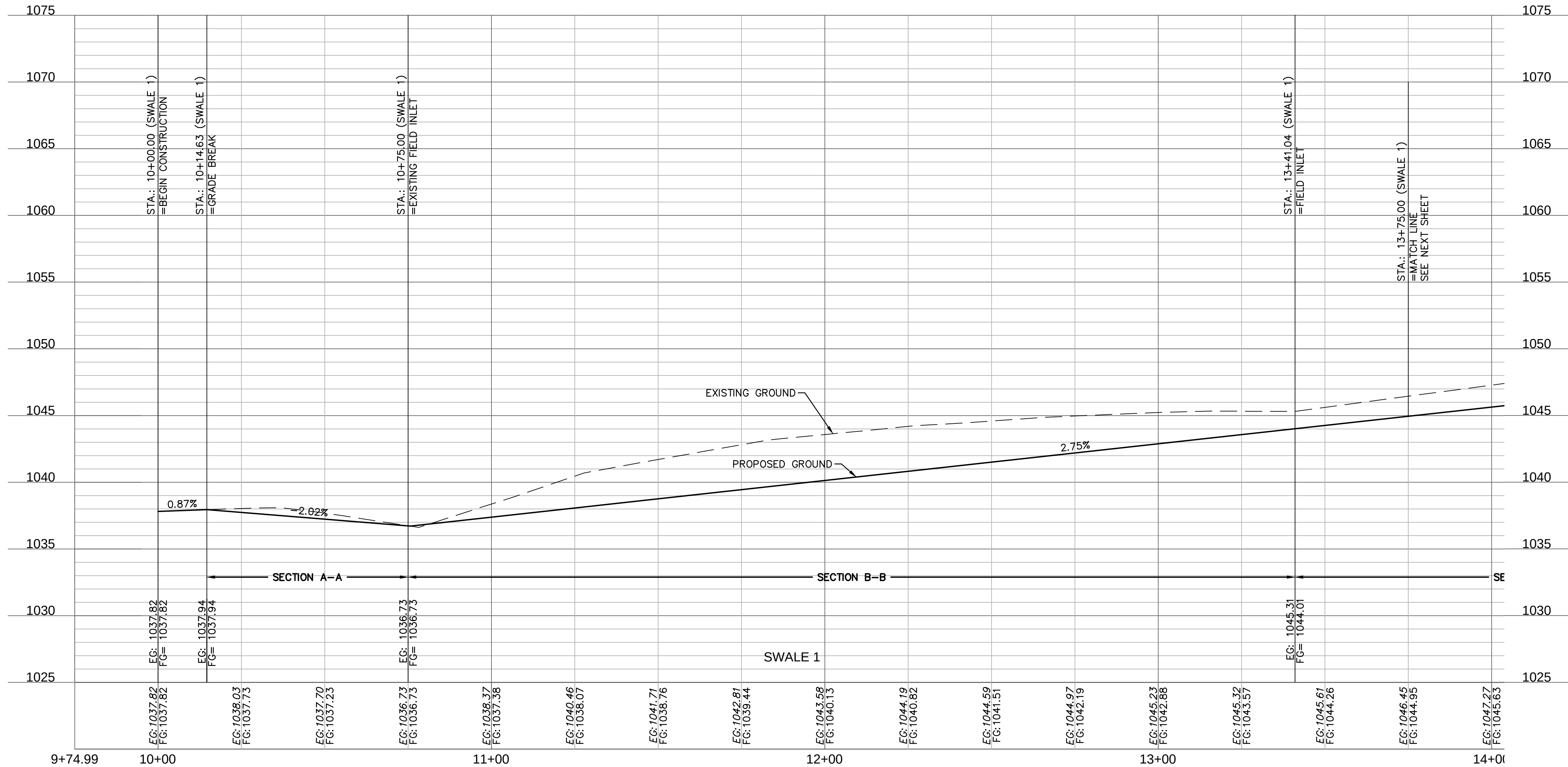
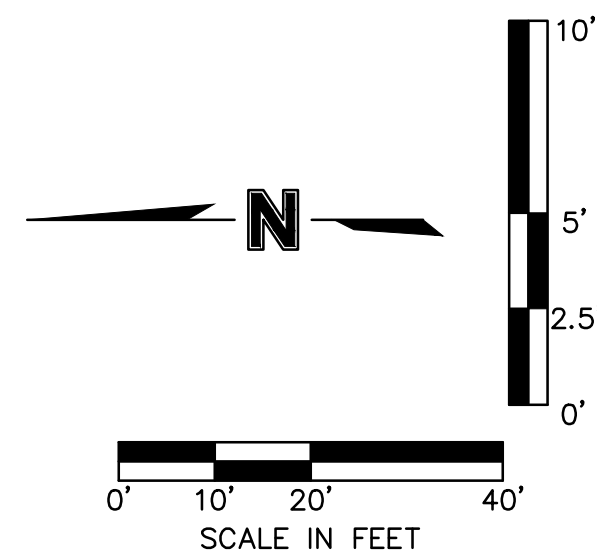
1. CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.

2. 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.



SECTION	Mannings Coefficient	Channel Slope (%)	SECTION DATA					RESULTS						
			Swale Depth (ft)	Left Side Slope	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft²)
A-A	0.03	2.02%	1.5	3:1	3:1	5	7.76	0.39	2.41	3.22	7.47	7.34	0.39	0.41
B-B	0.03	2.75%	1.5	3:1	3:1	5	22.11	0.64	4.43	4.99	9.05	8.84	0.73	0.84
C-C	0.03	2.75%	1.5	3:1	3:1	6	6.05	0.31	1.84	3.29	6.96	6.86	0.34	0.45

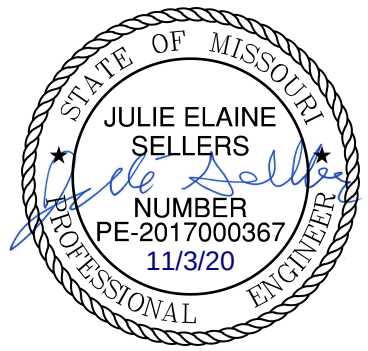
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
A-A	1.18	0.51	5	10.32	1.25	7.76
B-B	3.36	0.51	5	10.32	1.25	22.11
C-C	0.92	0.51	9.16	10.32	1.25	6.05



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CONSTRUCTION
AS NOTED ON PLANS REVIEW
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LEE'S SUMMIT, MISSOURI**

01/27/2021

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SWALE 1 PLAN & PROFILE STREET & STORM SEWER PLANS	
OSAGE SECOND PLAT	
	2020

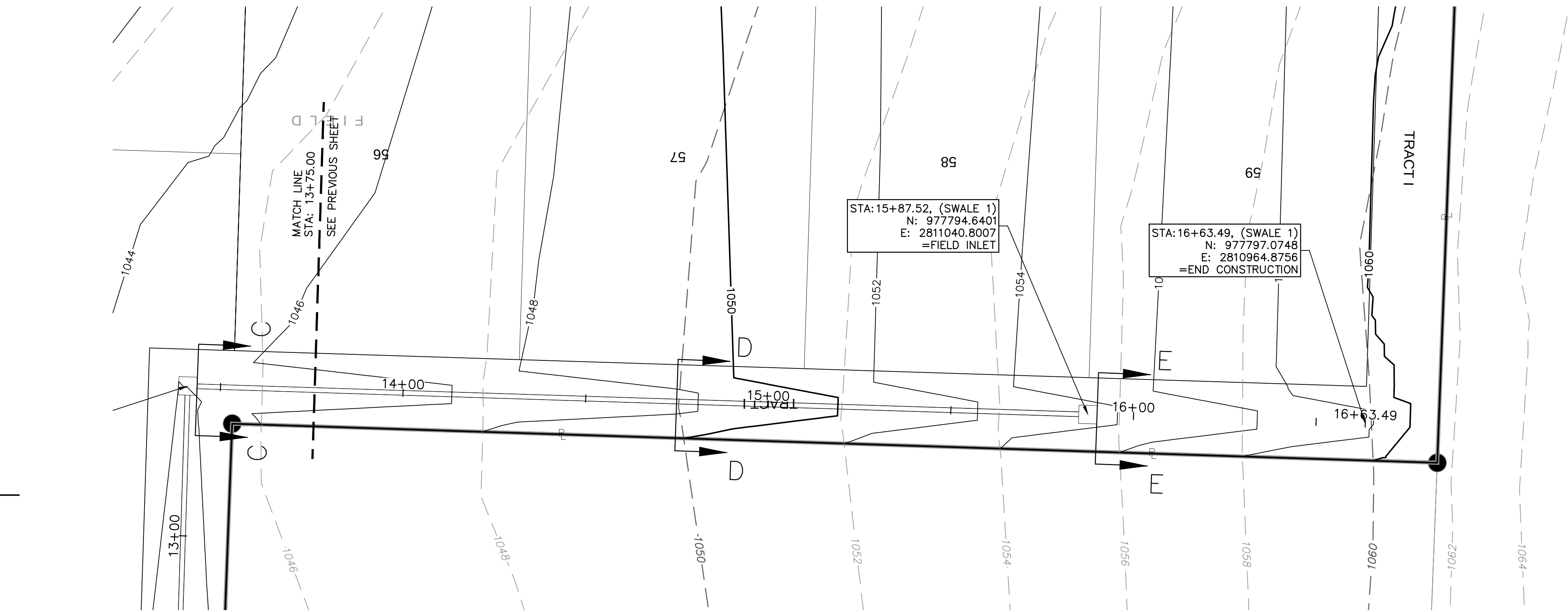
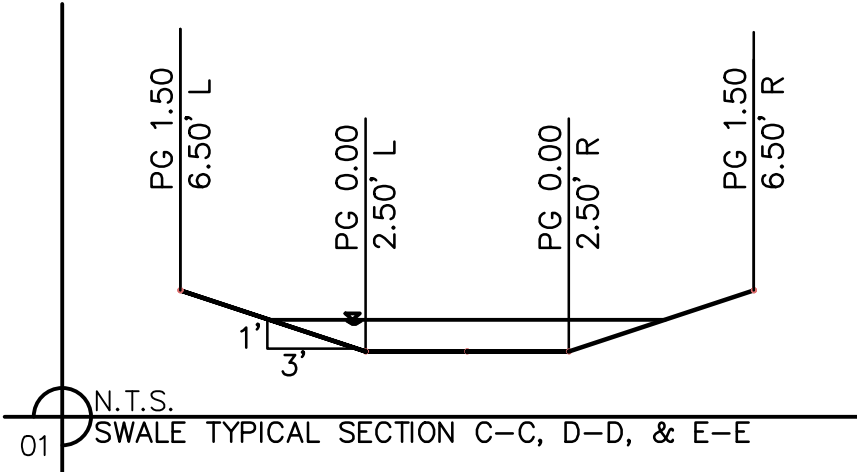
drawn by: D.F. / M.O. / A.A.
checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.: _____
date: 2020.11.03

SHEET
C106

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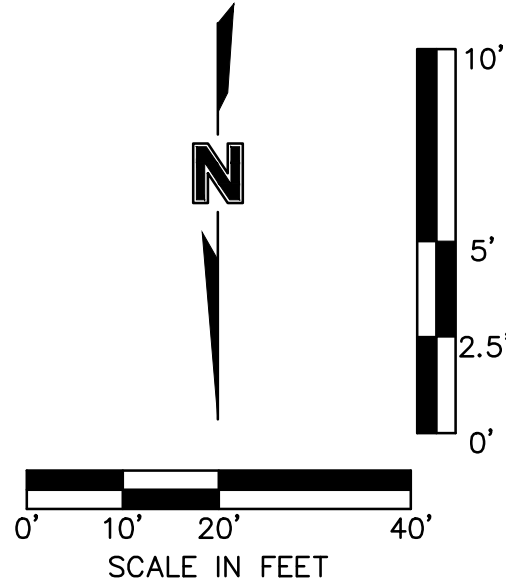
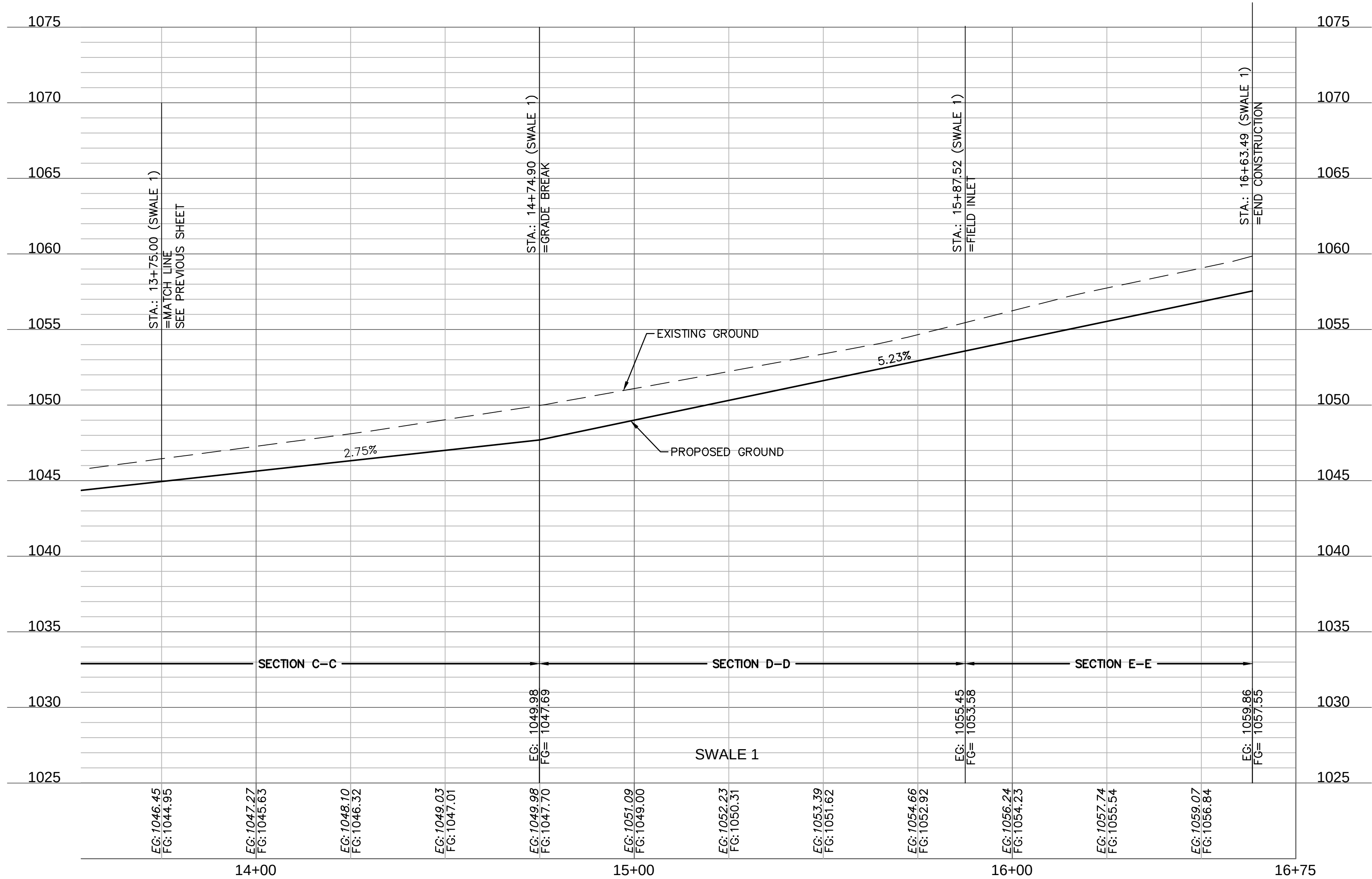
SWALE GRADING NOTES:

1. CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.
2. 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.



SWALE DESIGN TABLE (100-YEAR RETURN FREQUENCY)												
SECTION DATA							RESULTS					
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 (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)
C-C	0.03	2.75%	1.5	3:1	3:1	5	6.05	0.31	1.84	3.29	6.96	6.86
D-D	0.03	5.23%	1.5	3:1	3:1	5	1.64	0.12	0.64	2.55	5.76	5.72
E-E	0.03	5.23%	1.5	3:1	3:1	5	1.71	0.13	0.70	2.44	5.82	5.78

Swale Drainage Area Table (100 year Return Frequency)					
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K
C-C	0.92	0.51	9.16	10.32	1.25
D-D	0.25	0.51	9.16	10.32	1.25
E-E	0.26	0.51	5.00	10.32	1.25



RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
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STATE OF MISSOURI
JULIE ELAINE SELLERS
NUMBER PE-2017000367
11/3/20
PROFESSIONAL

REVISIONS

2020

SWALE 1 PLAN & PROFILE (CONT'D)
STREET & STORM SEWER PLANS

OSAGE
SECOND PLAT

SHEET
C107

drawn by: D.F./M.O./A.A.
checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.:
date: 2020.11.03

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1. CONTRACTOR SHALL
CONSTRUCT SWALES WITH
MINIMUM SLOPE, WIDTH
AND DEPTH AS SHOWN IN
THE SWALE DESIGN
TABLES.

2. 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.

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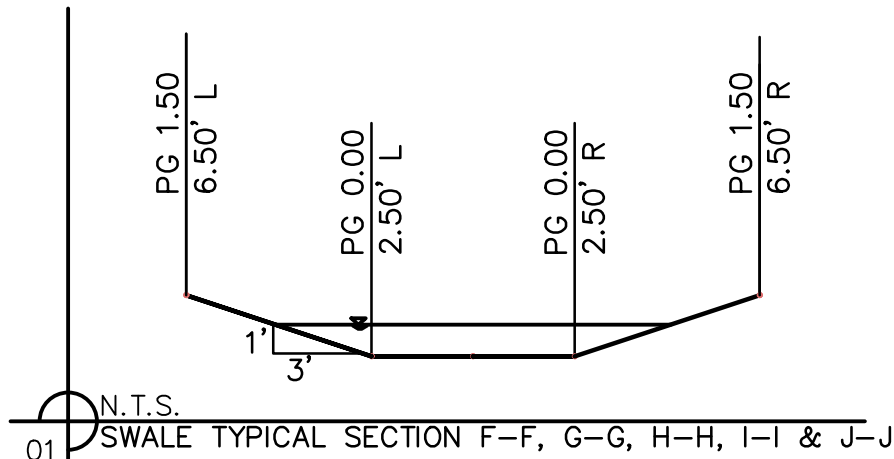
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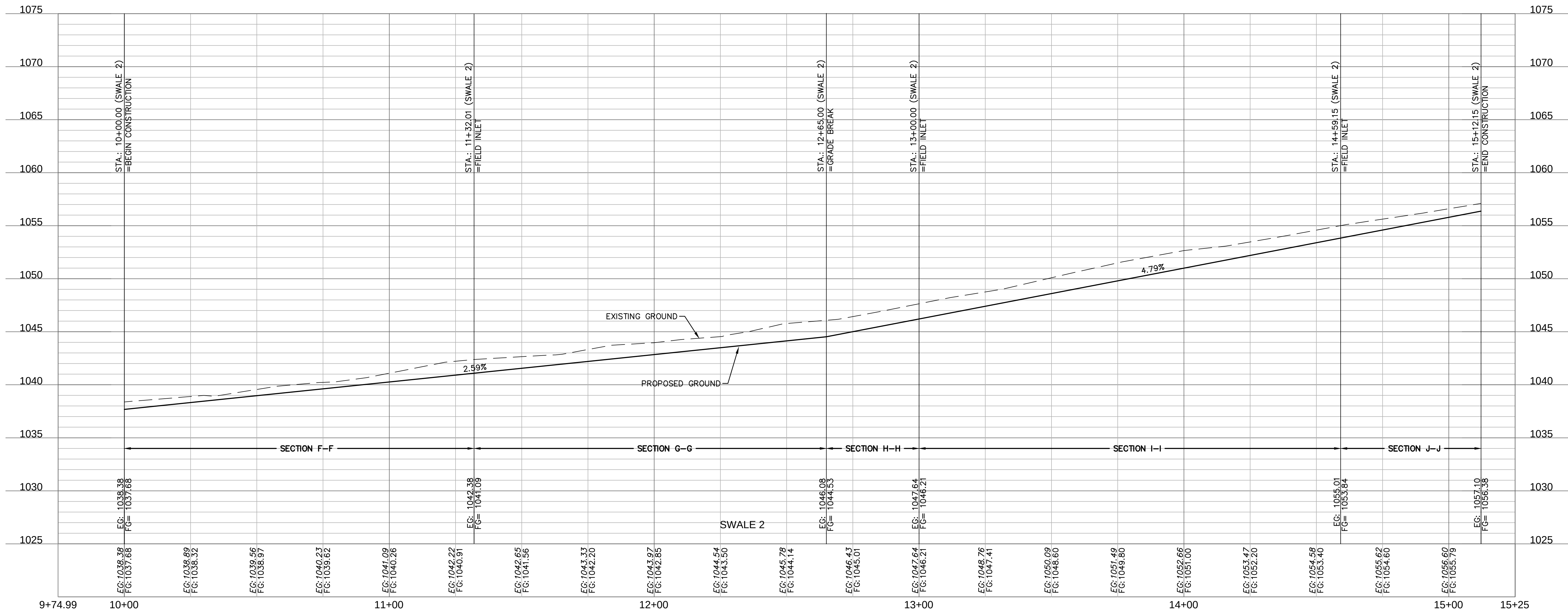
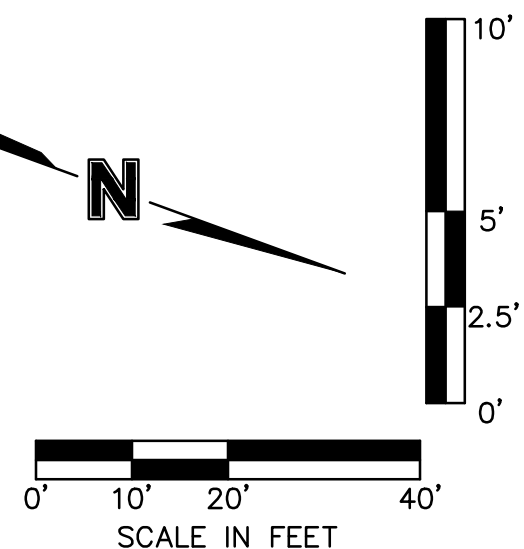
SECTION	Mannings Coefficient	SECTION DATA						RESULTS						
		Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft²)
F-F	0.03	2.59%	1.5	3:1	3:1	5	0.92	0.11	0.59	1.57	5.70	5.66	0.10	17
G-G	0.03	2.59%	1.5	3:1	3:1	5	1.64	0.15	0.82	2.01	5.95	5.90	0.15	0.22
H-H	0.03	4.79%	1.5	3:1	3:1	5	0.34	0.05	0.26	1.32	5.32	5.30	0.06	0.14
I-I	0.03	4.79%	1.5	3:1	3:1	5	1.45	0.12	0.64	2.25	5.76	5.72	0.14	0.33
J-J	0.03	4.79%	1.5	3:1	3:1	5	3.29	0.19	1.06	3.11	6.20	6.14	0.23	0.51

Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
F-F	0.14	0.51	6.49	10.32	1.25	0.92
G-G	0.25	0.51	5.00	10.32	1.25	1.64
H-H	0.05	0.51	8.31	10.32	1.25	0.34
I-I	0.22	0.51	8.31	10.32	1.25	1.45
J-J	0.50	0.51	5.00	10.32	1.25	3.29



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LEE'S SUMMIT, MISSOURI**

01/27/2021

SWALE 2 PLAN & PROFILE
STREET & STORM SEWER PLANSOSAGE
SECOND PLAT

2020

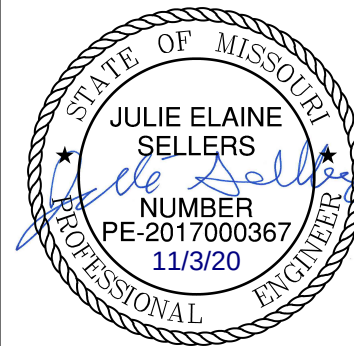
drawn by: D.F. / M.O. / A.A.
checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.: _____
date: 2020.11.03

SHEET
C108

REVISIONS DESCRIPTION

DATE _____

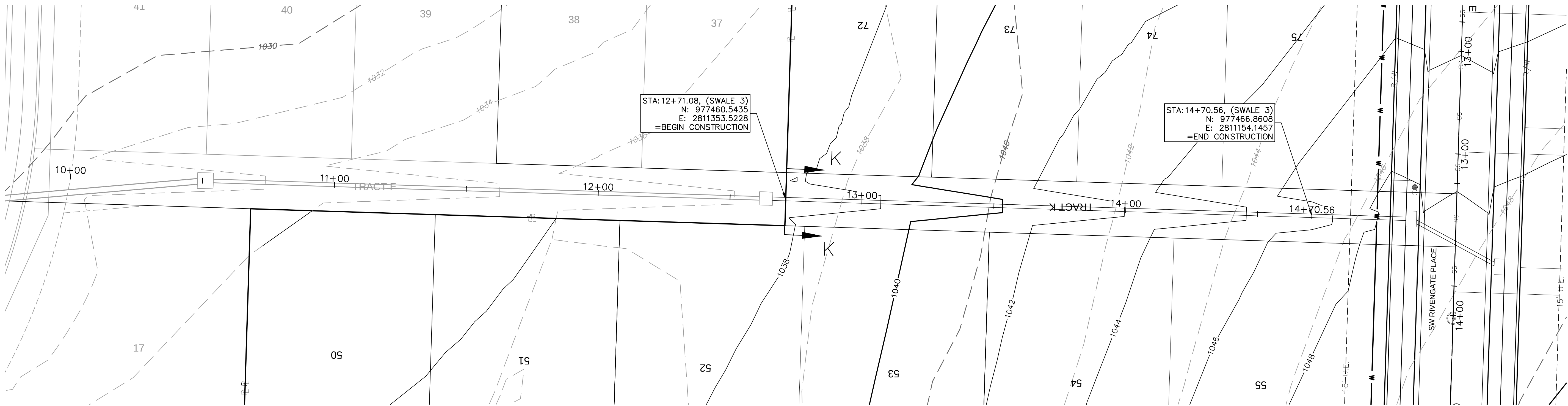
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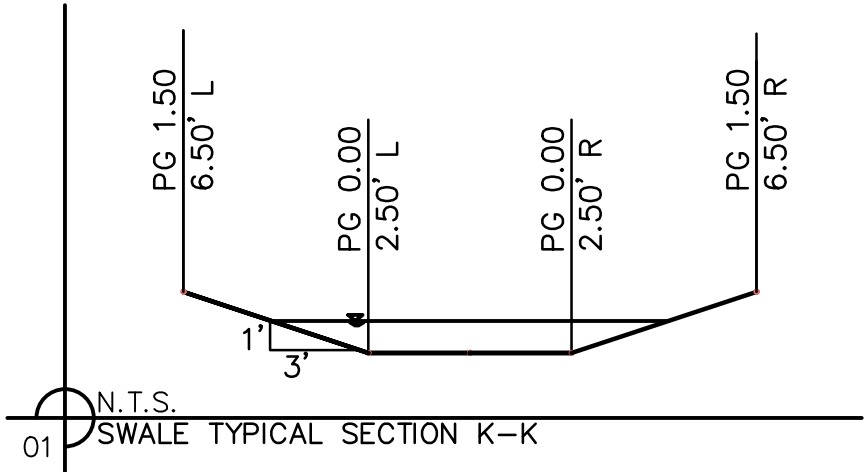
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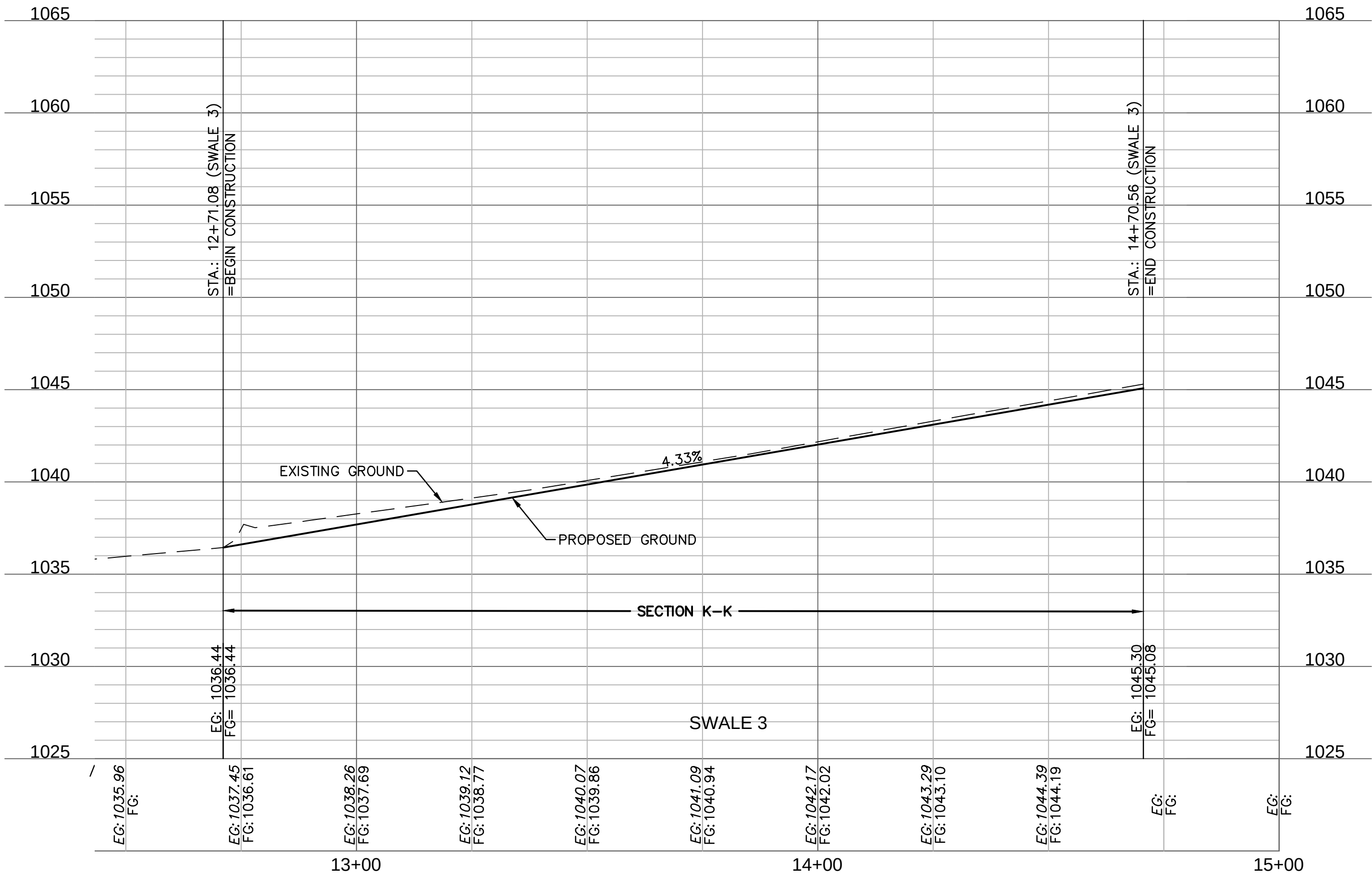
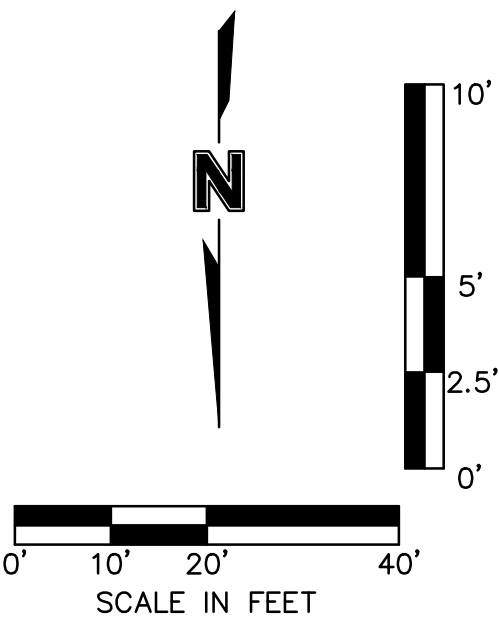
SWALE GRADING NOTES:

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SWALE DESIGN TABLE (100-YEAR RETURN FREQUENCY)														
SECTION DATA										RESULTS				
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 (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft²)
K-K	0.03	4.33%	1.5	3:1	3:1	5	1.68	0.13	0.70	2.40	5.82	5.78	0.15	0.33

Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
K-K	0.26	0.51	5	10.32	1.25	1.68



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STATE OF MISSOURI
JULIE ELAINE
SELLERS
NUMBER
PE-2017000367
11/3/20
PROFESSIONAL

REVISIONS

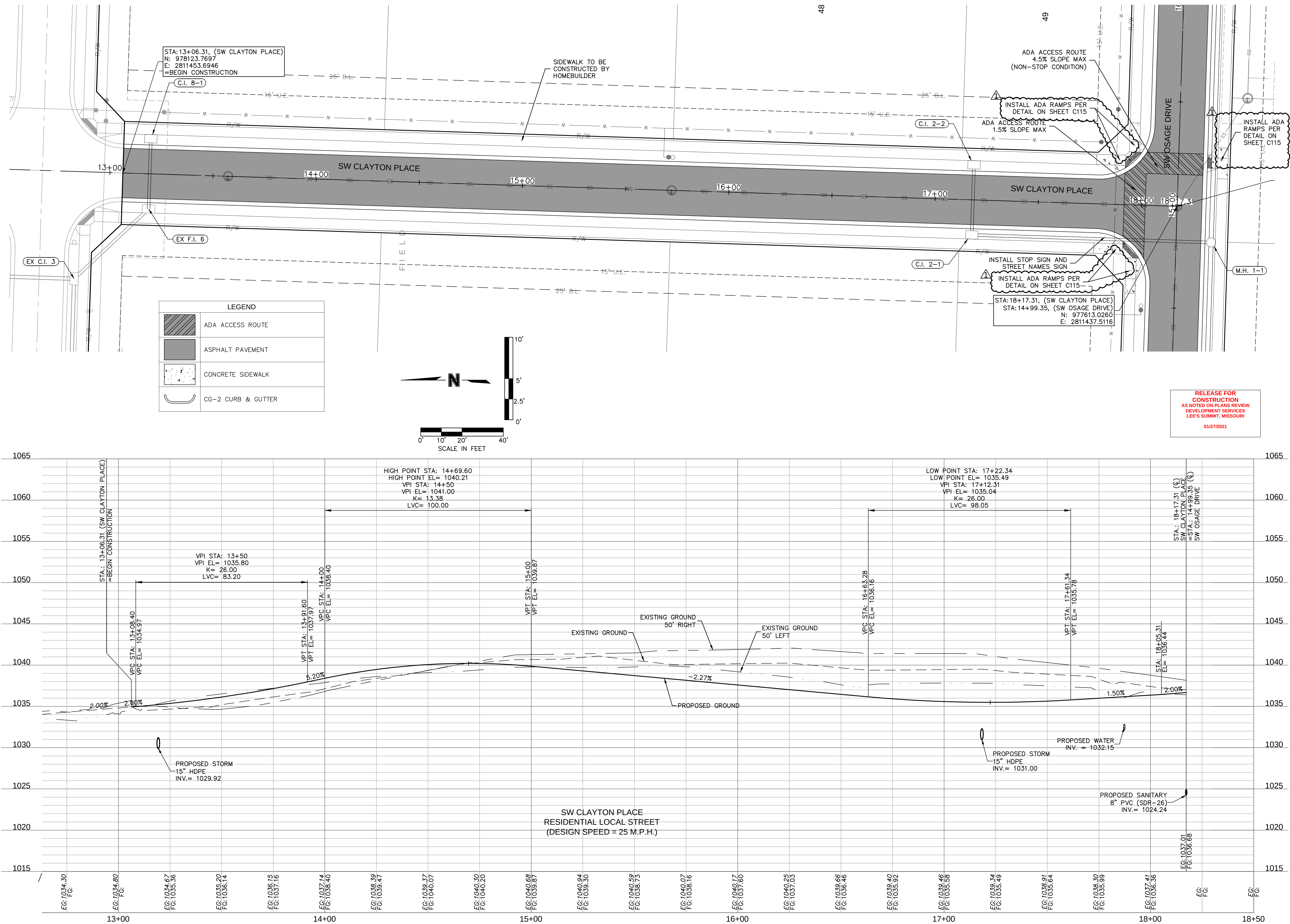
2020

SWALE 3 PLAN & PROFILE
STREET & STORM SEWER PLANS

OSAGE
SECOND PLAT

SHEET
C109

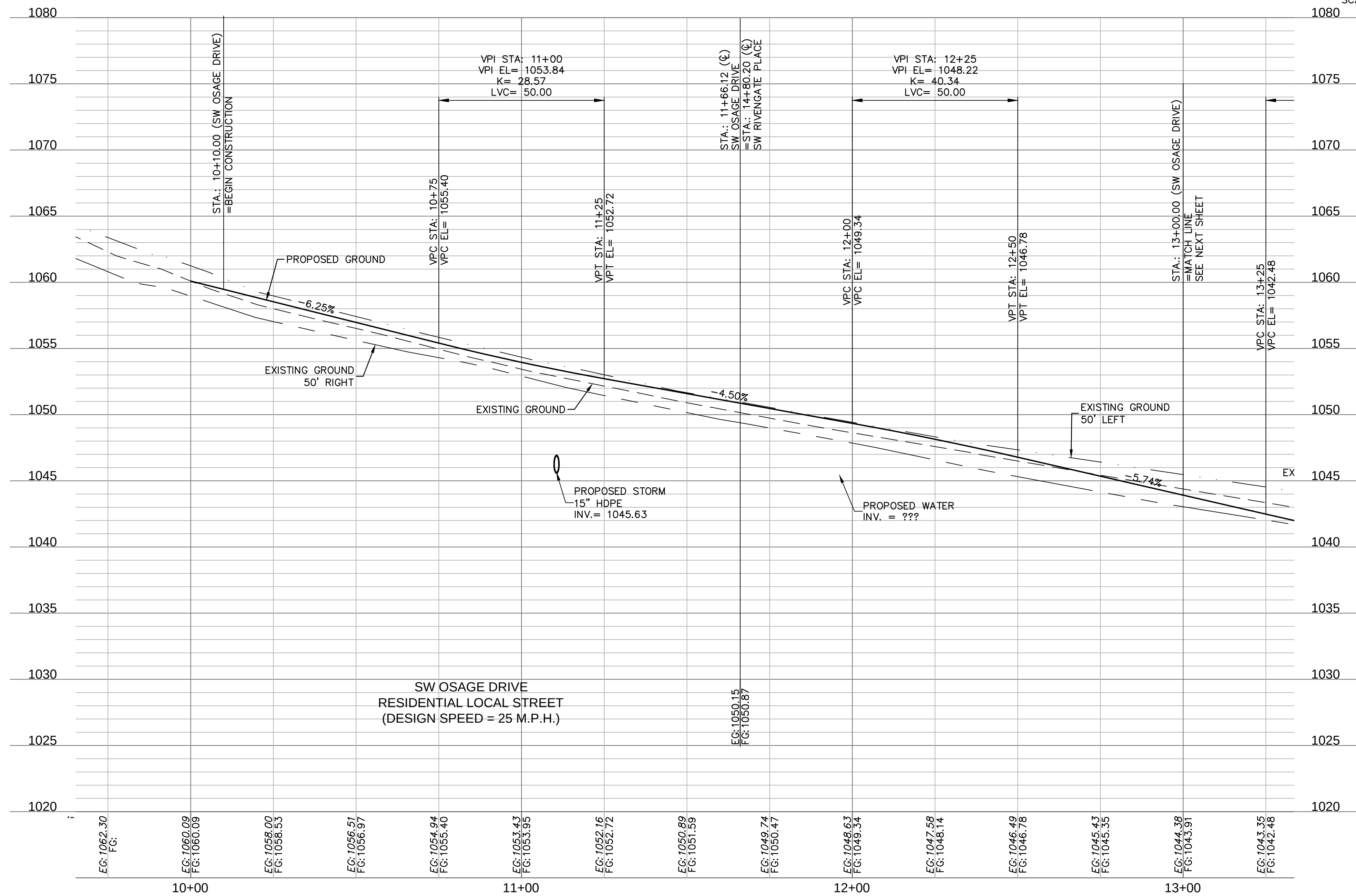
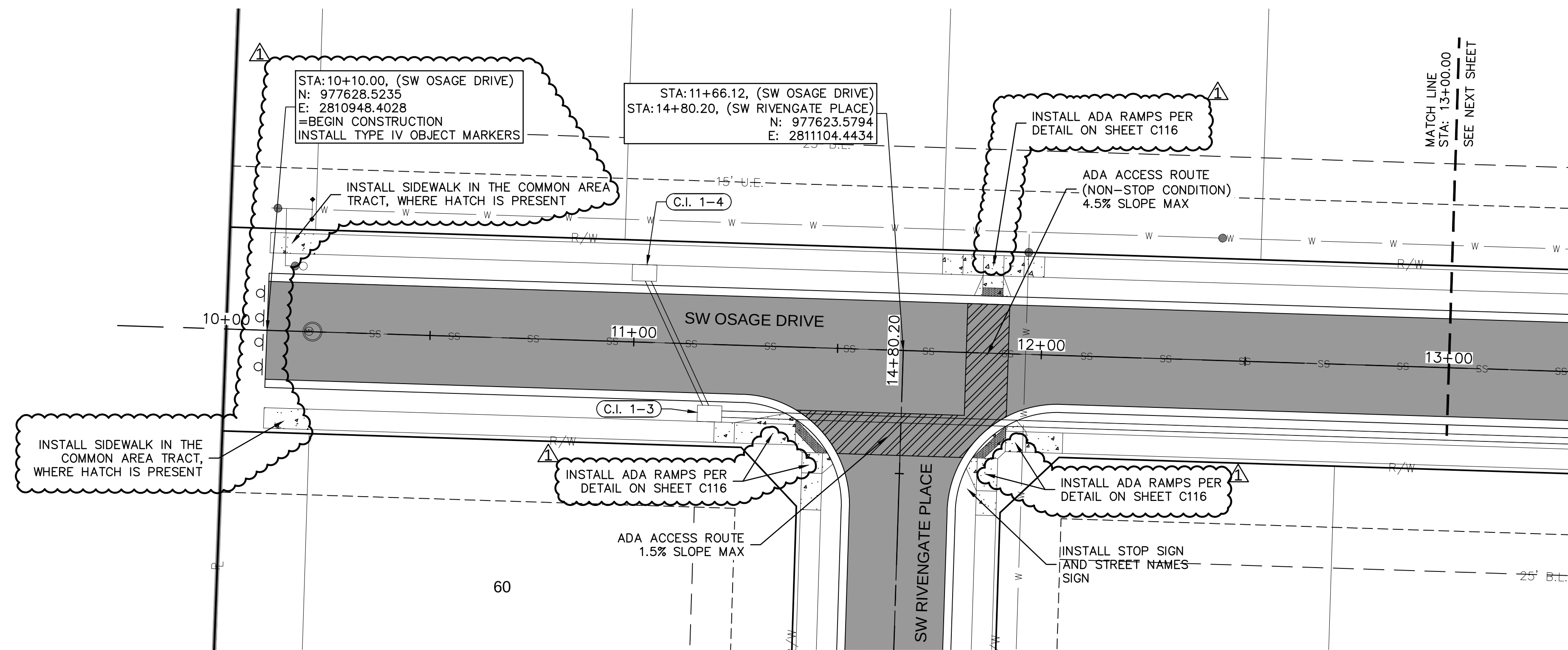
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checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.:
date: 2020.11.03



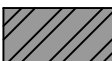
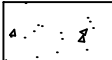
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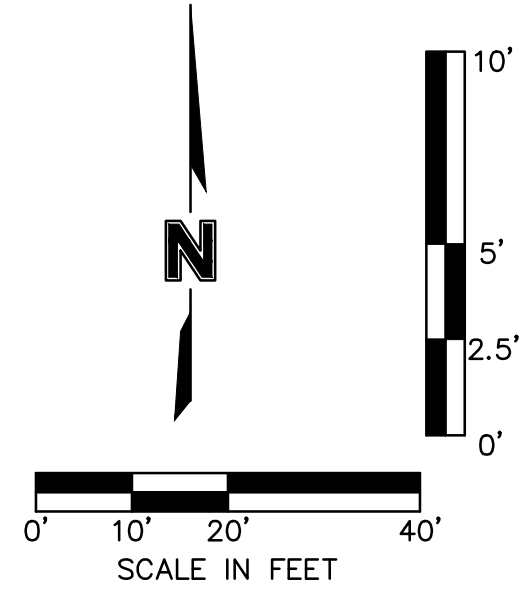
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DATE: Nov 03, 2020 4:20pm



**RELEASE FOR
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AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/27/2021**

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



STATE OF MISSOURI
JULIE ELAINE
SELLERS
NUMBER
PE-2017000367
11/3/20
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION
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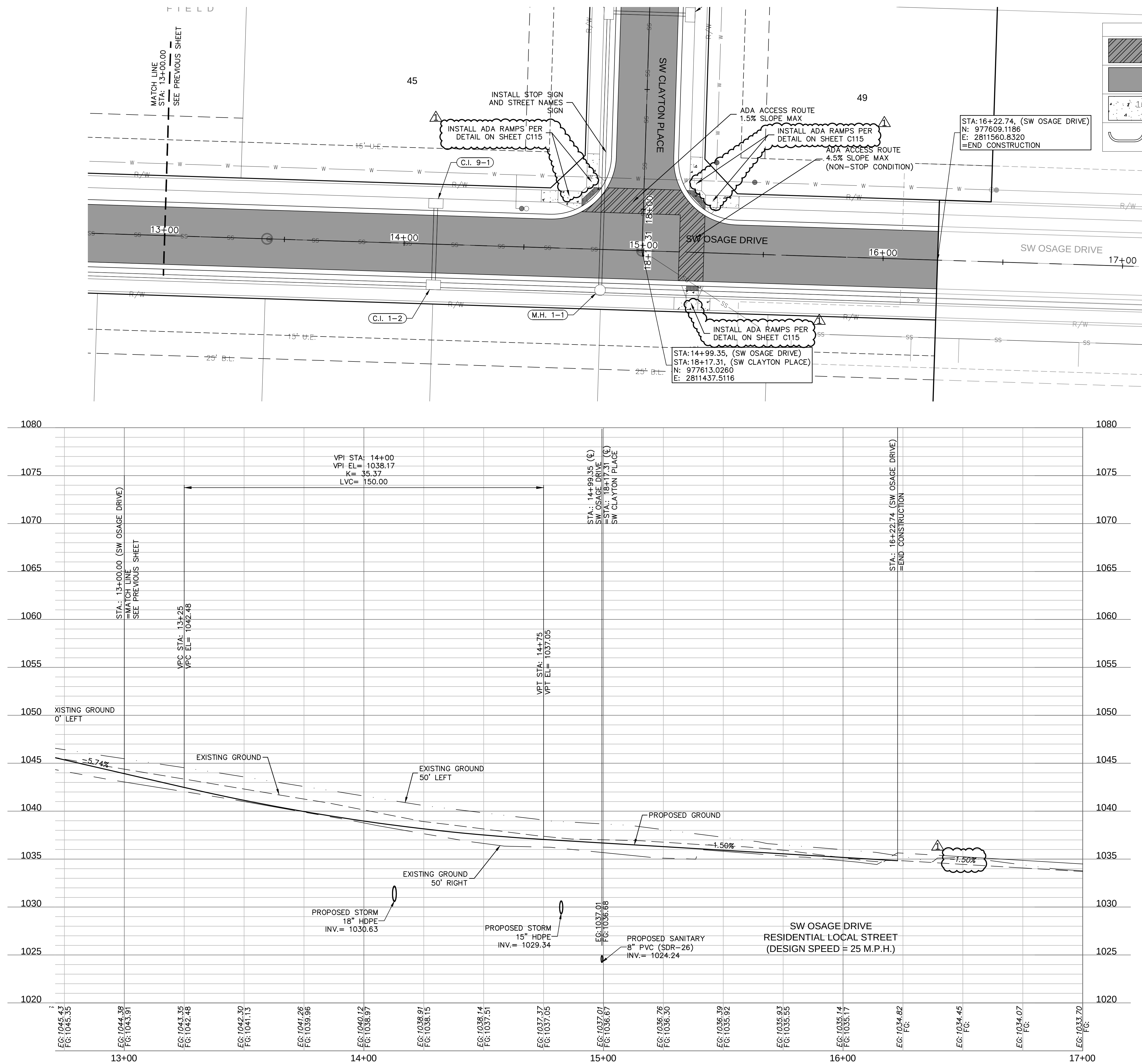
ROADWAY PLAN & PROFILE (SW OSAGE DRIVE) STREET & STORM SEWER PLANS	OSAGE SECOND PLAT	2020
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drawn by: D.F. / M.O. / A.A.
checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.: _____
date: 2020.11.03

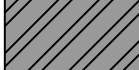
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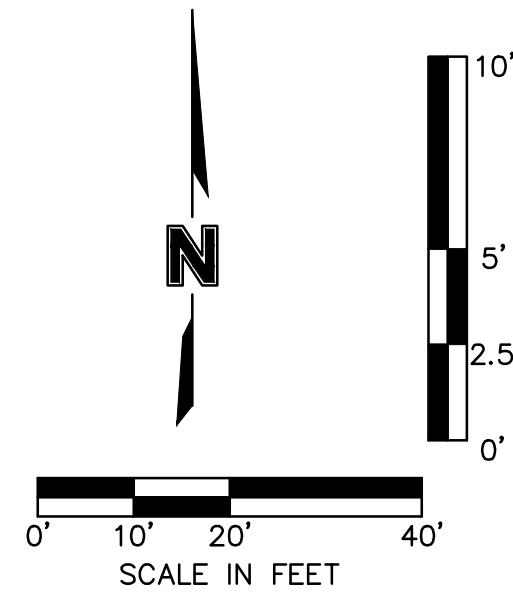
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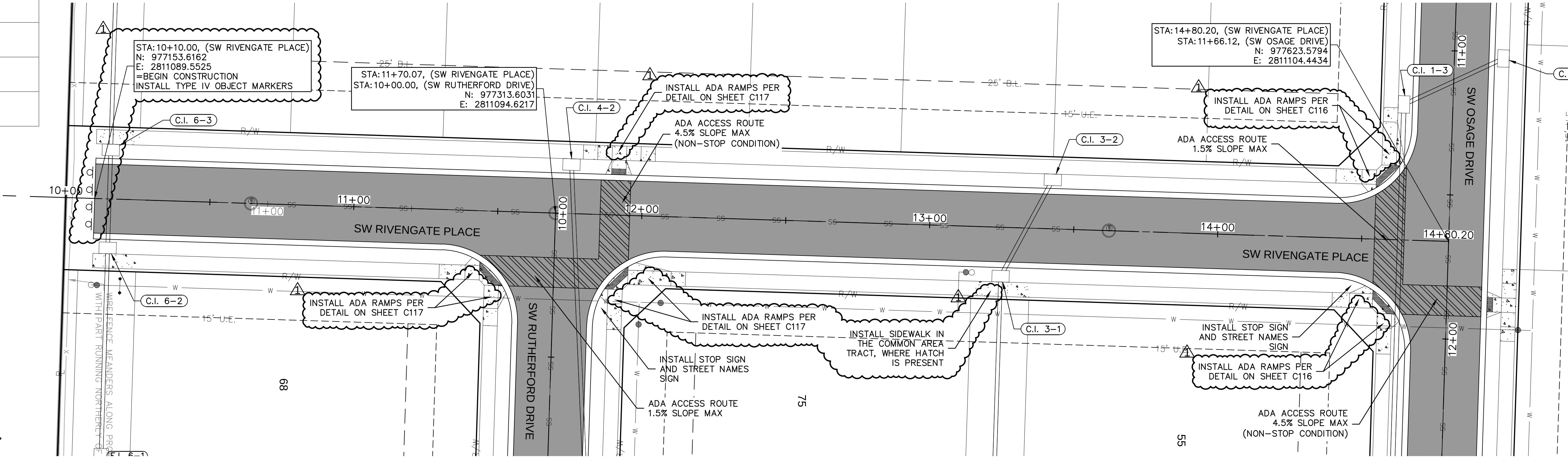
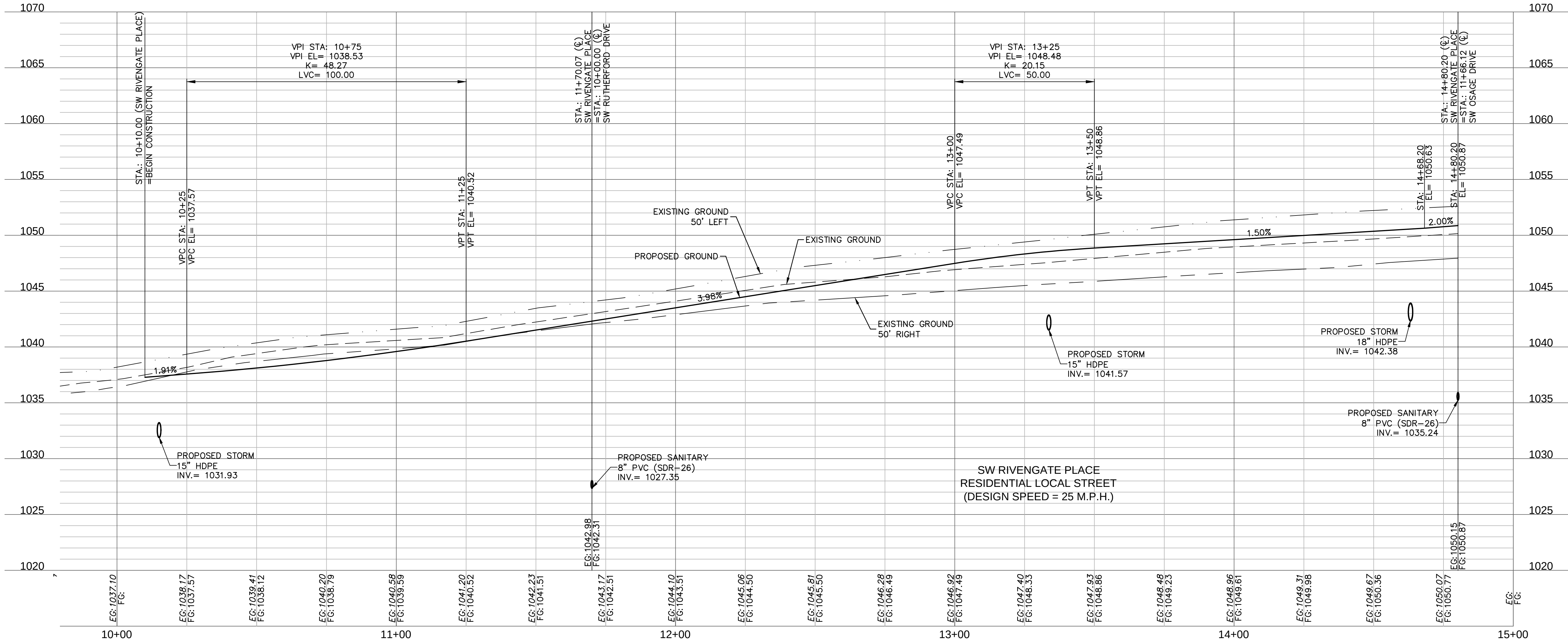
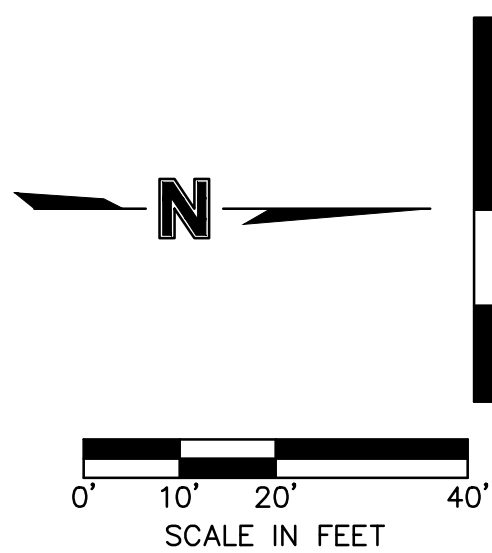
**RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/27/2021**

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



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



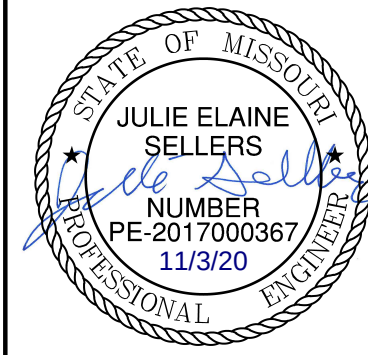
RELEASE FOR
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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/27/2021

ROADWAY PLAN & PROFILE (SW RIVENGATE PLACE)
STREET & STORM SEWER PLANS

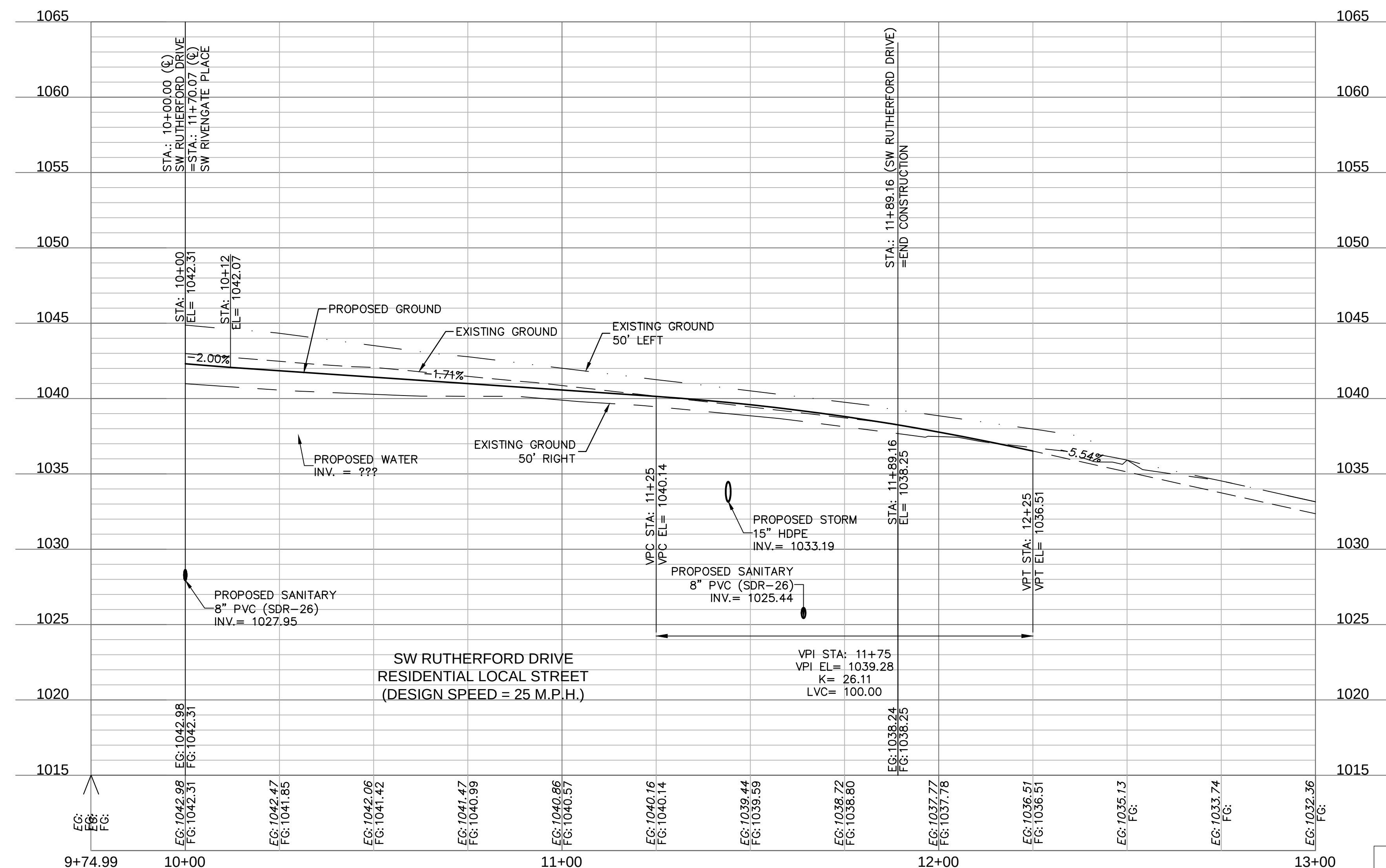
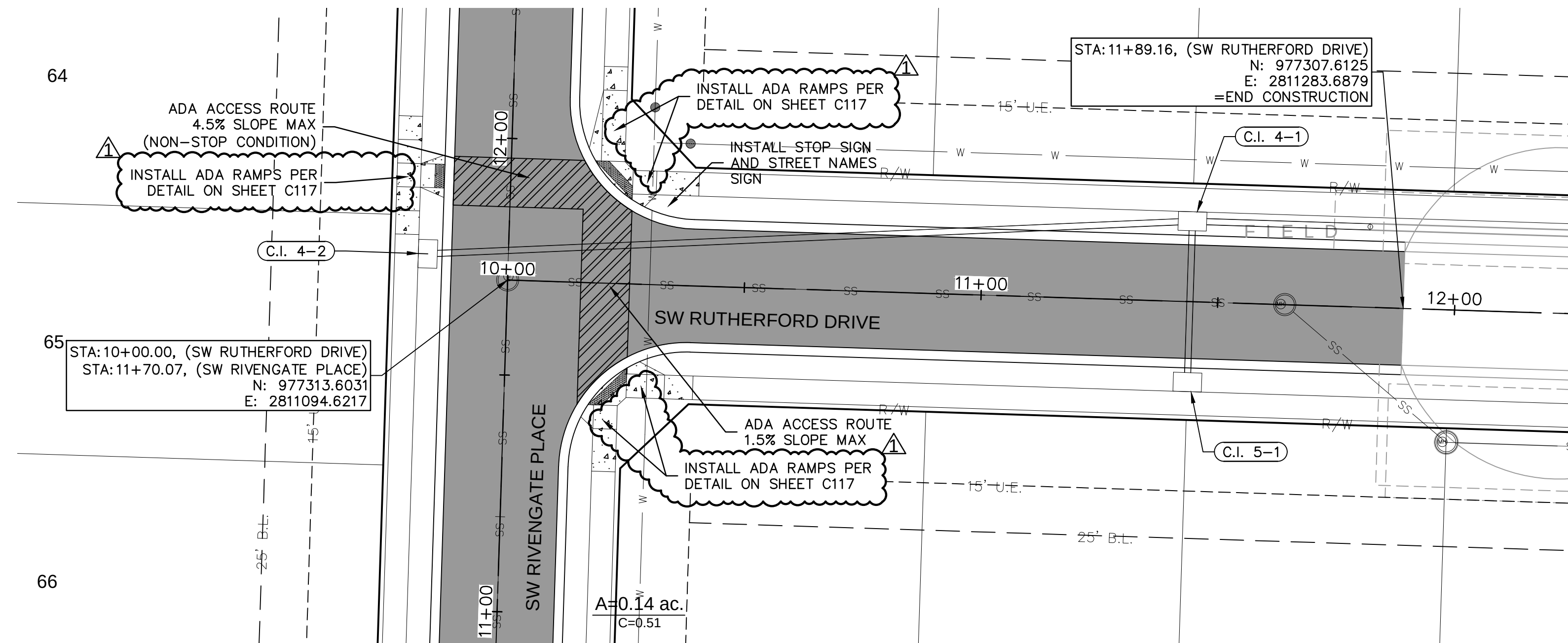
OSAGE
SECOND PLAT

2020

REV. NO.	DATE	REVISIONS DESCRIPTION
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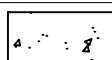


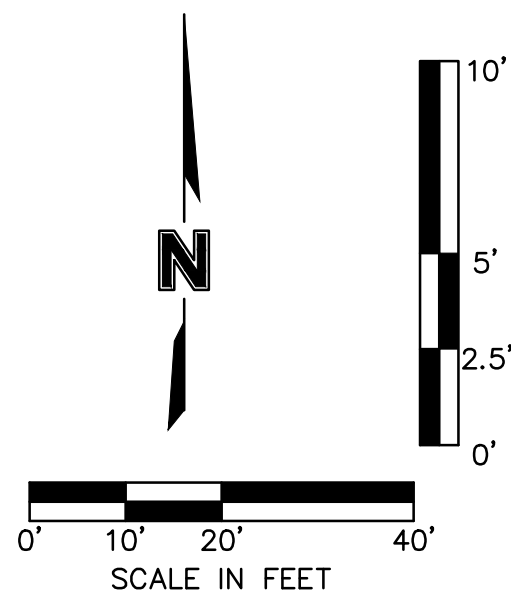
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**RELEASE FOR
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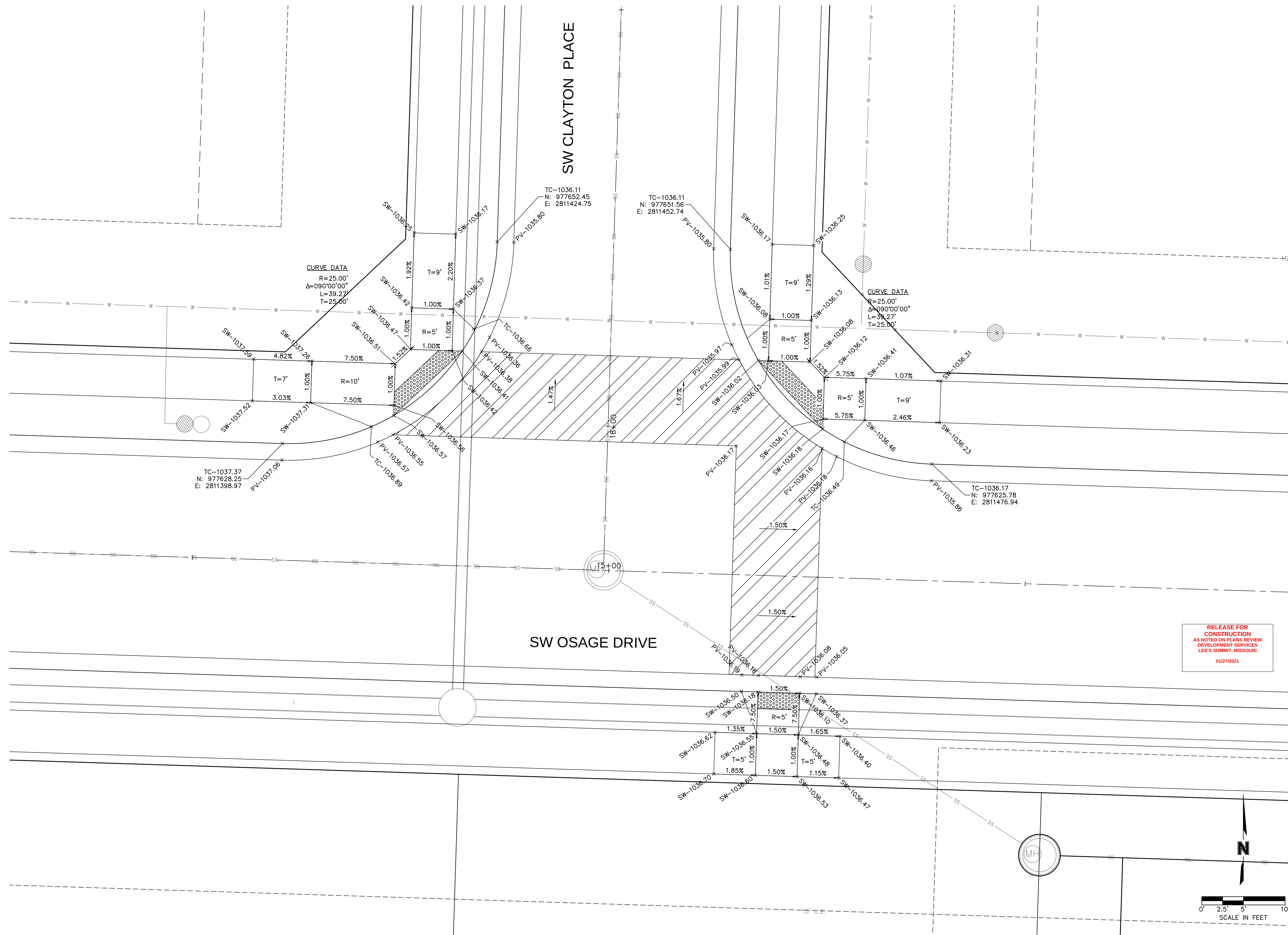
01/27/2021

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	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER



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	checked by: <u>C.G.W.</u>	
OSAGE SECOND PLAT	designed by: <u>A.A.</u>	
	CADC by: <u>J.E.S.</u>	
2020	drawing no.: <u>C19-2339</u>	
	date: <u>2020.11.03</u>	
SHEET C114		

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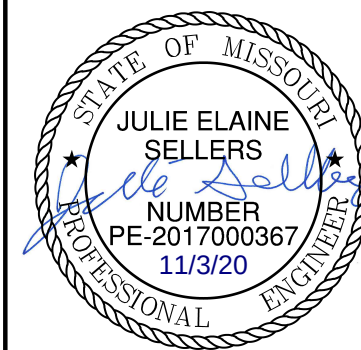
SW OSAGE DRIVE AND SW CLAYTON PLACE INTERSECTION STREET & STORM SEWER PLANS

OSAGE
SECOND PLAT

2020

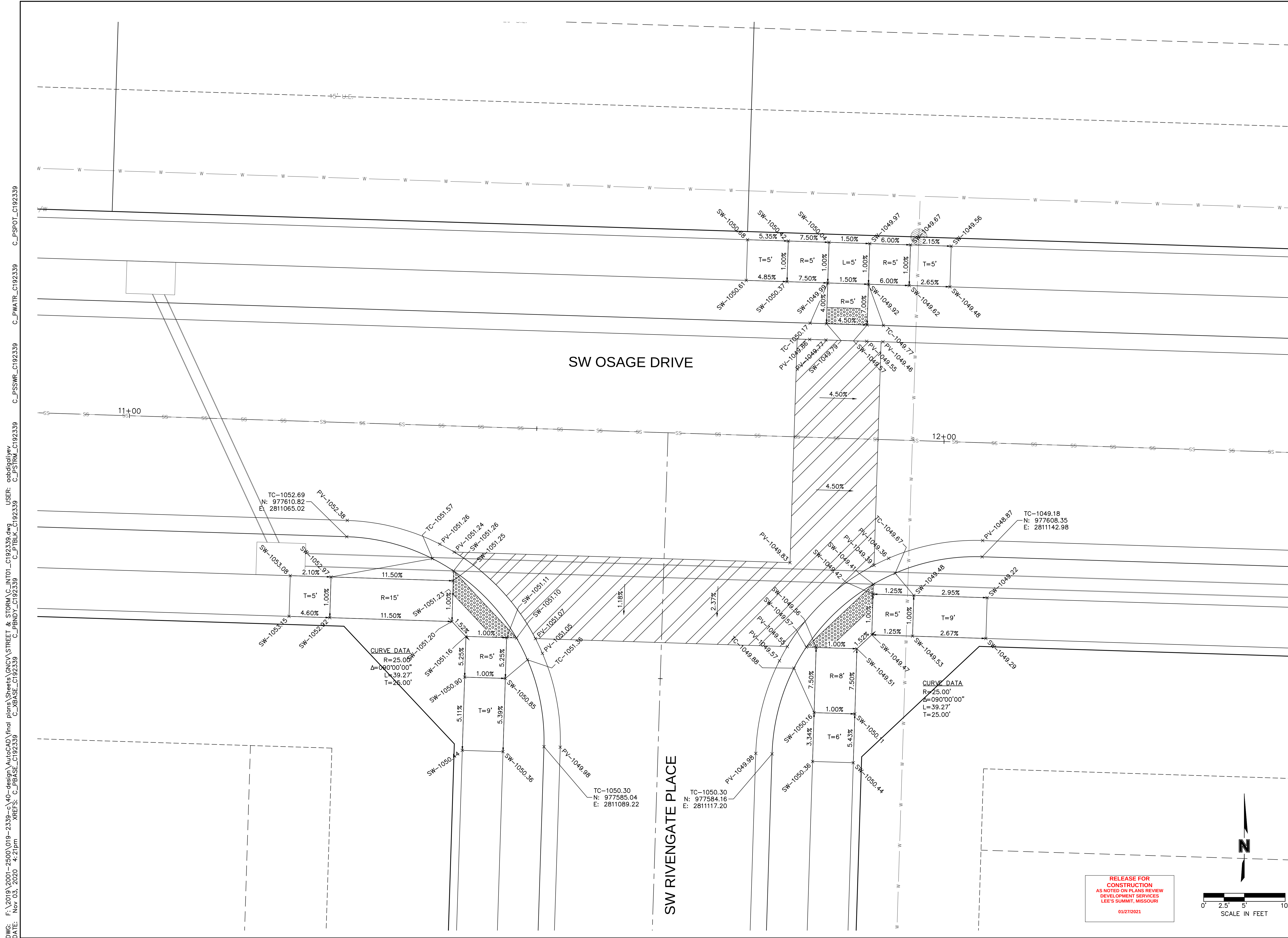
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REVISIONS

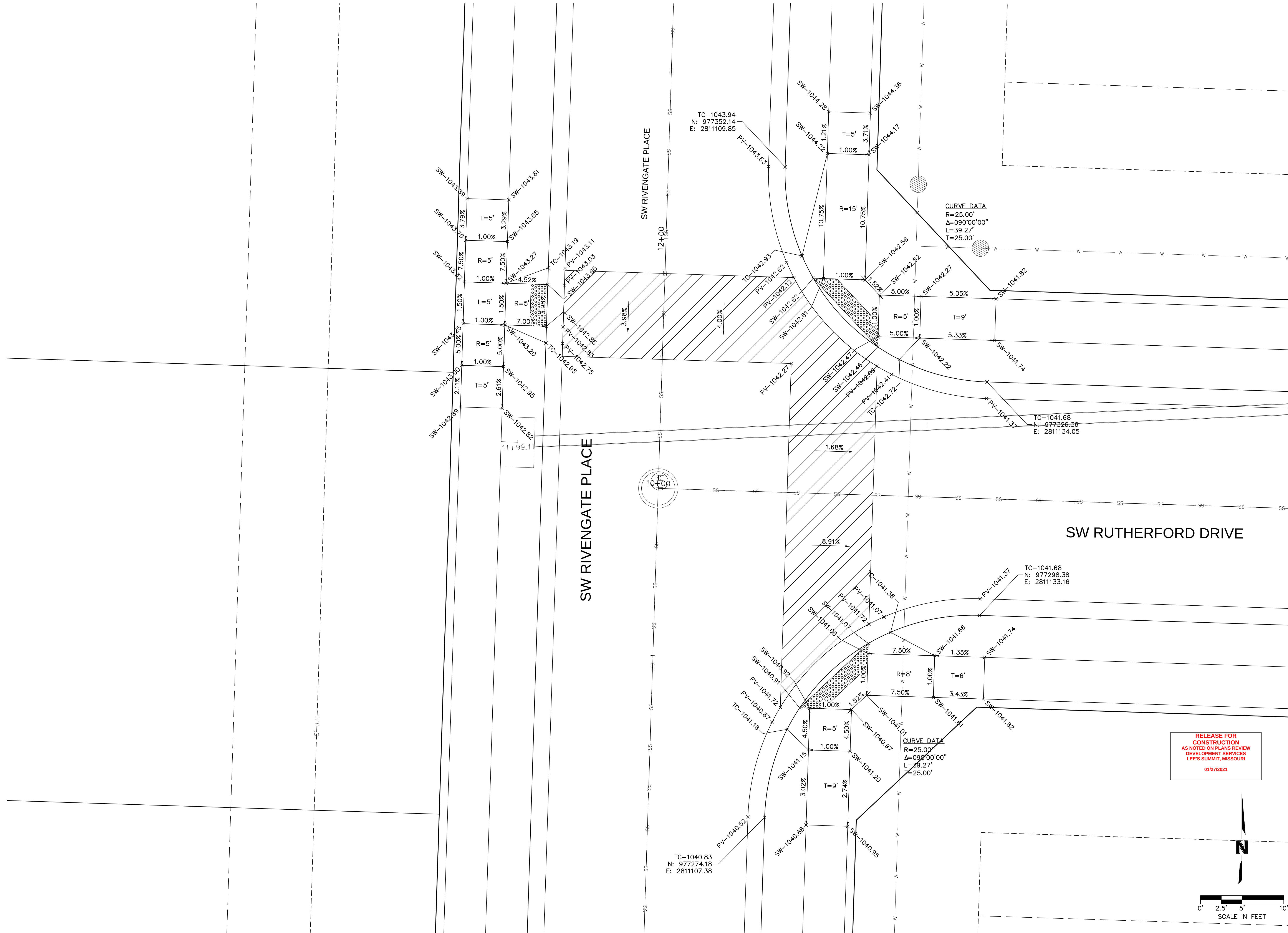


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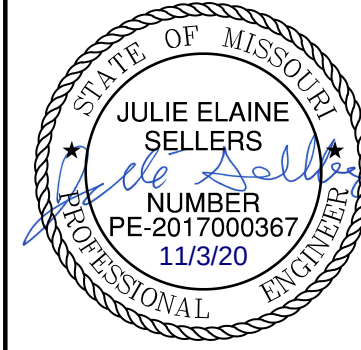


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STREET & STORM SEWER PLANSOSAGE
SECOND PLAT

2020

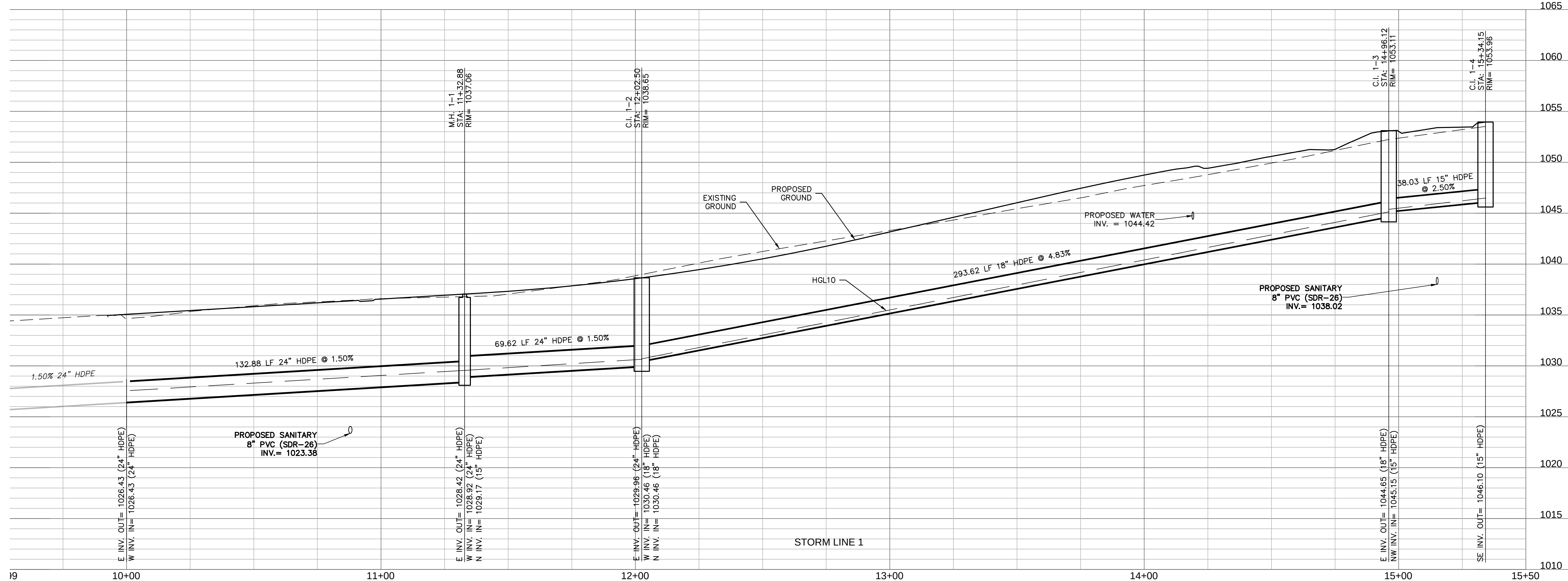
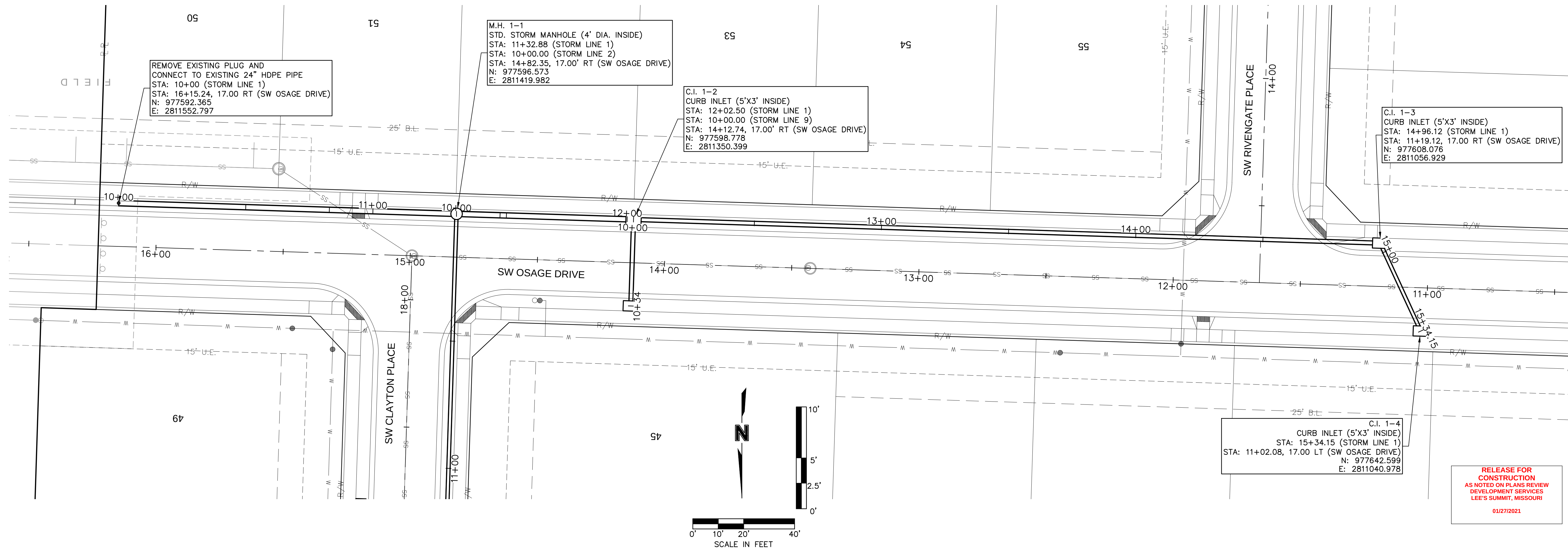
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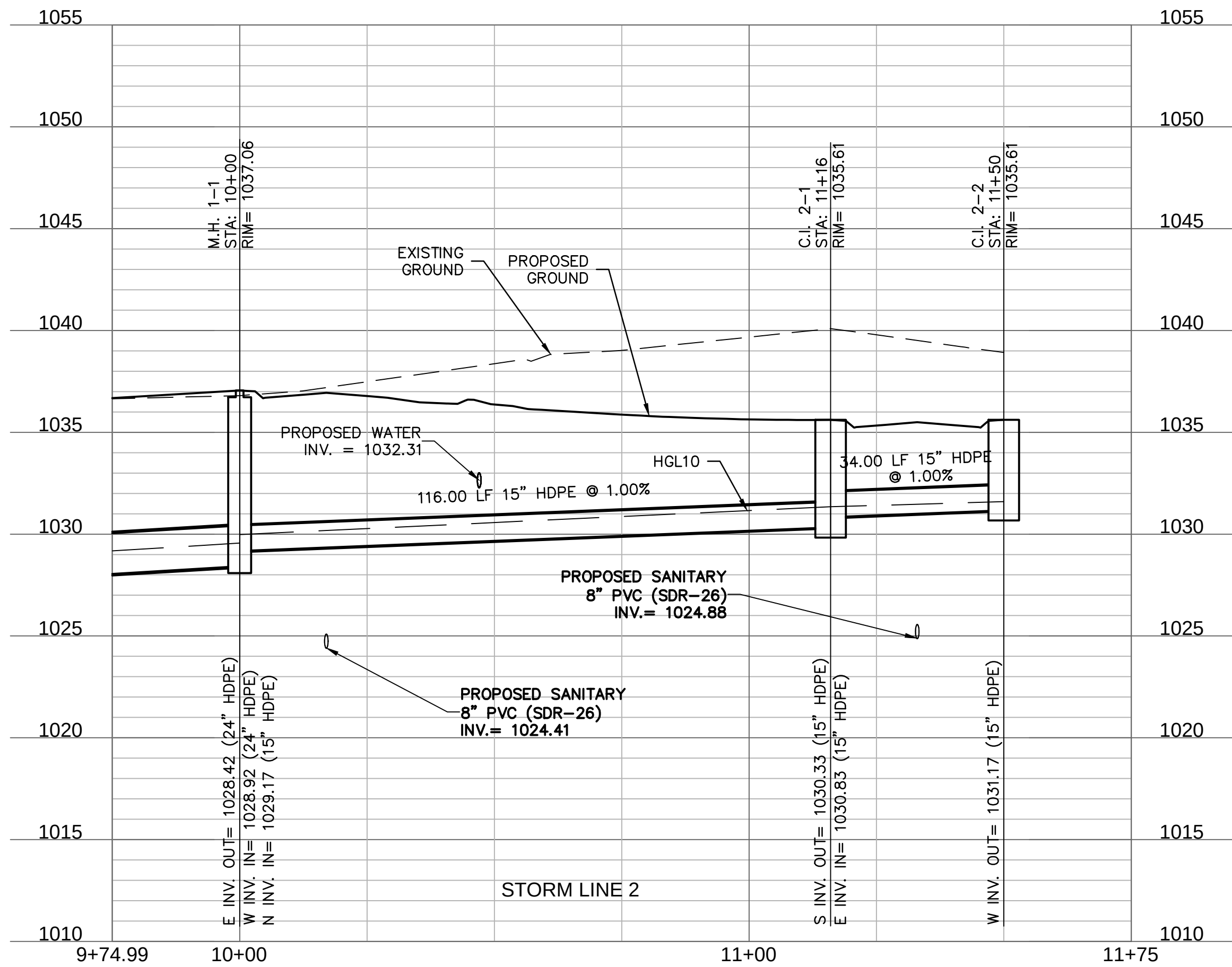
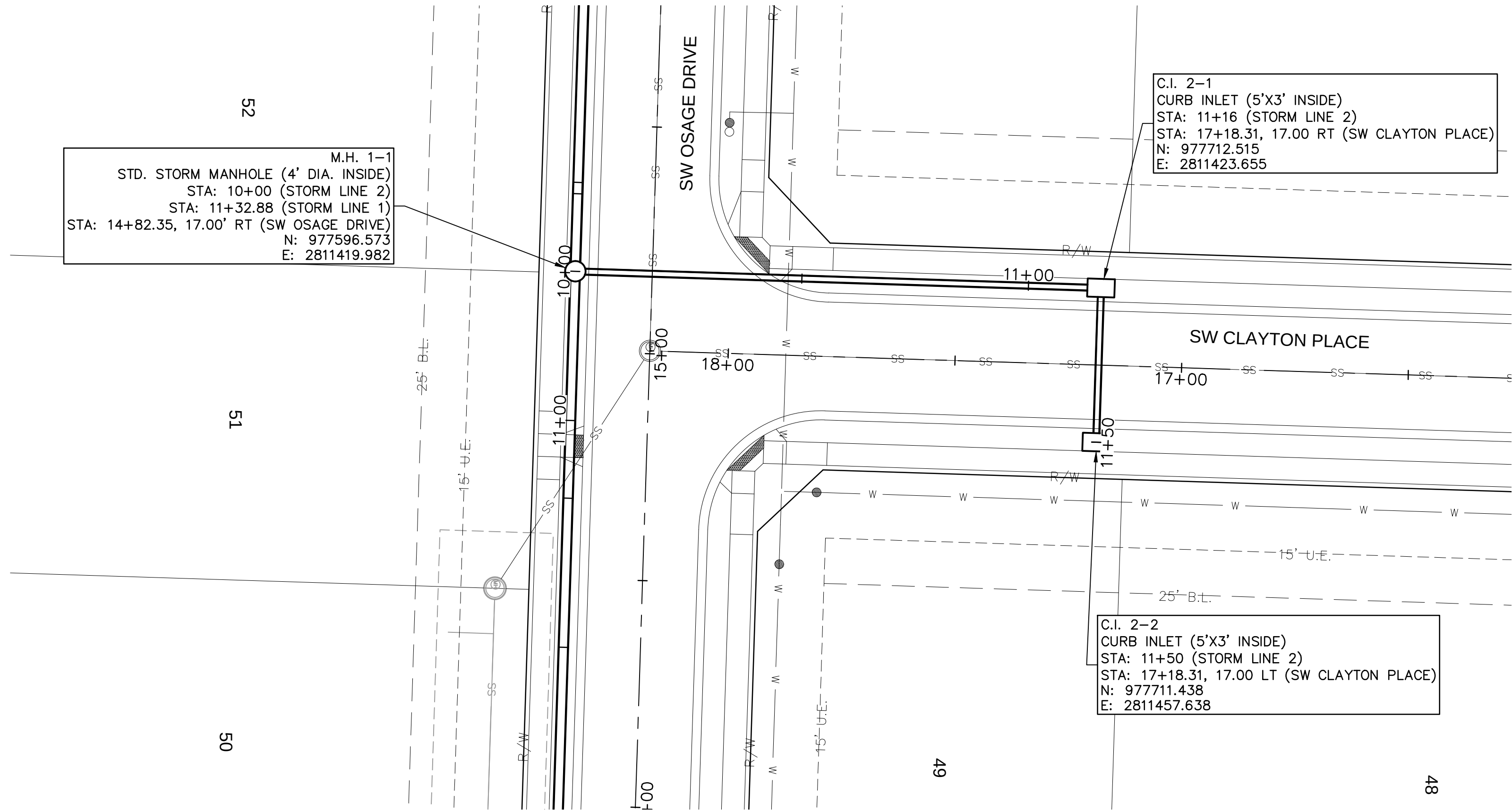
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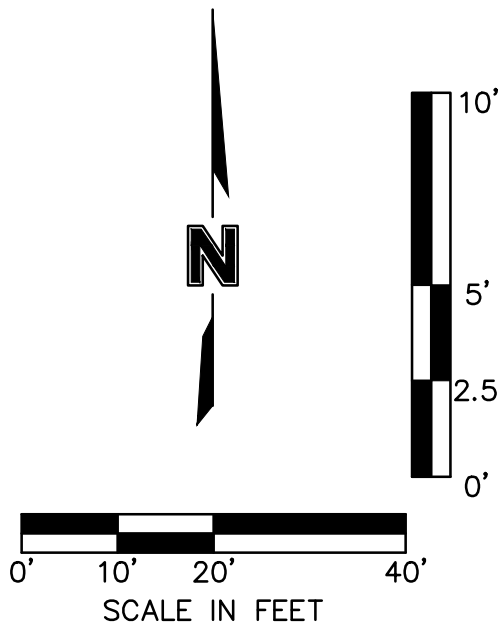


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STORM SEWER PLAN & PROFILE (LINE 1) STREET & STORM SEWER PLANS		REV. NO.	DATE	REVISIONS DESCRIPTION
		REVISIONS		
OSAGE SECOND PLAT				
2020				
drawn by: _____ D.F. / M.O. / A.A. checked by: _____ C.G.W. designed by: _____ A.A. QA/QC by: _____ J.E.S. project no.: _____ C19-2339 drawing no.: _____ date: _____ 2020.11.03				
SHEET C118				

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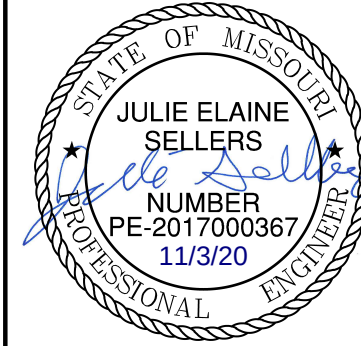


STORM SEWER PLAN & PROFILE (LINE 2)
STREET & STORM SEWER PLANS

OSAGE
SECOND PLAT

2020

REVISIONS



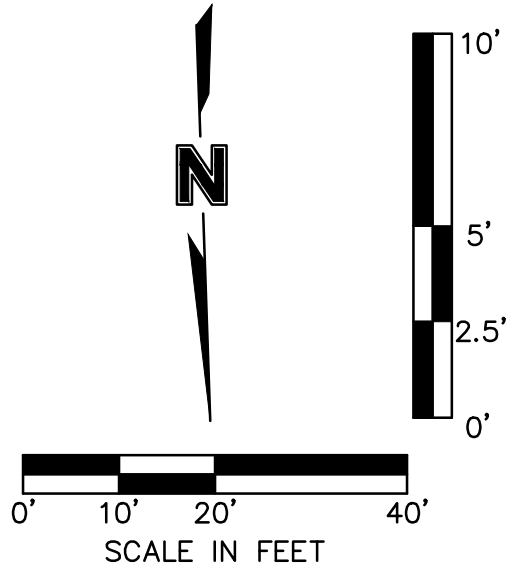
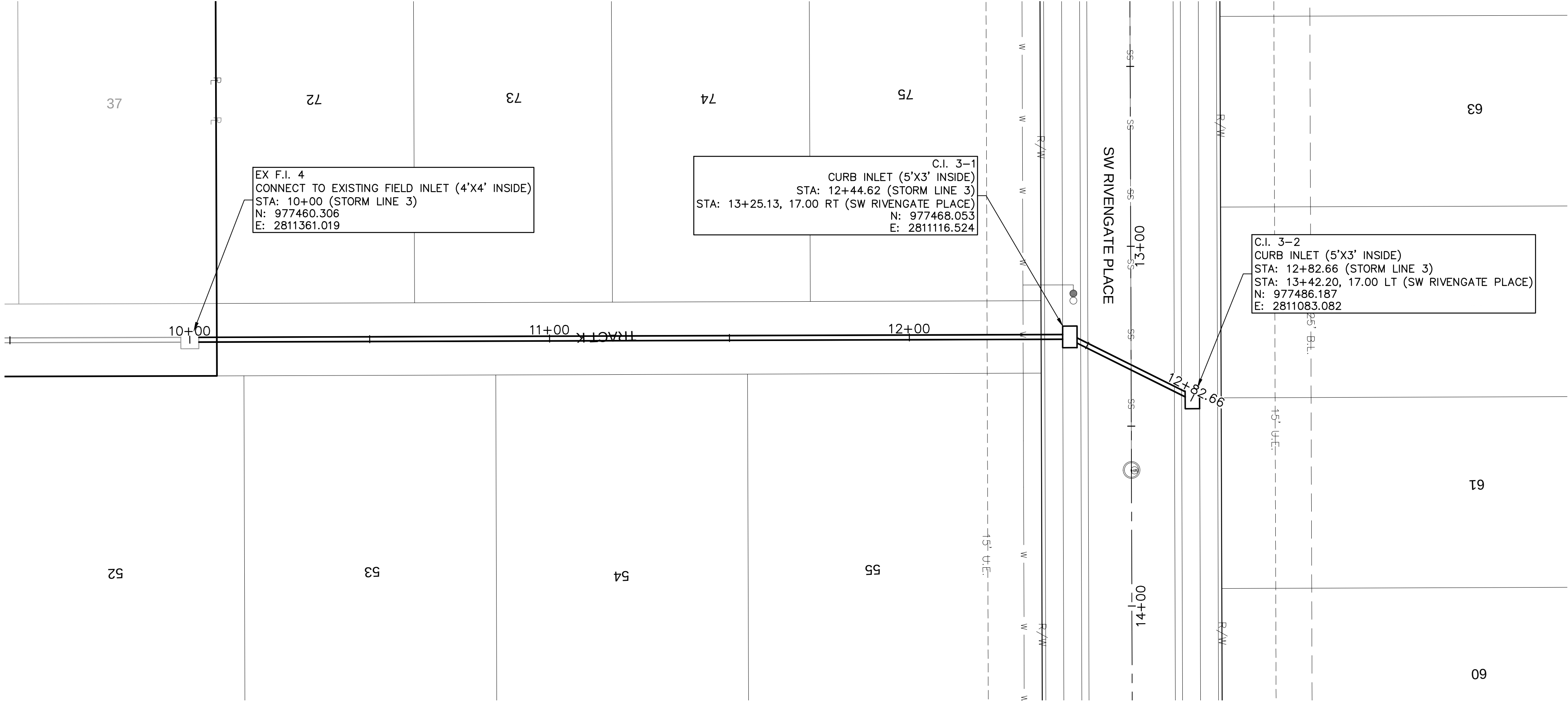
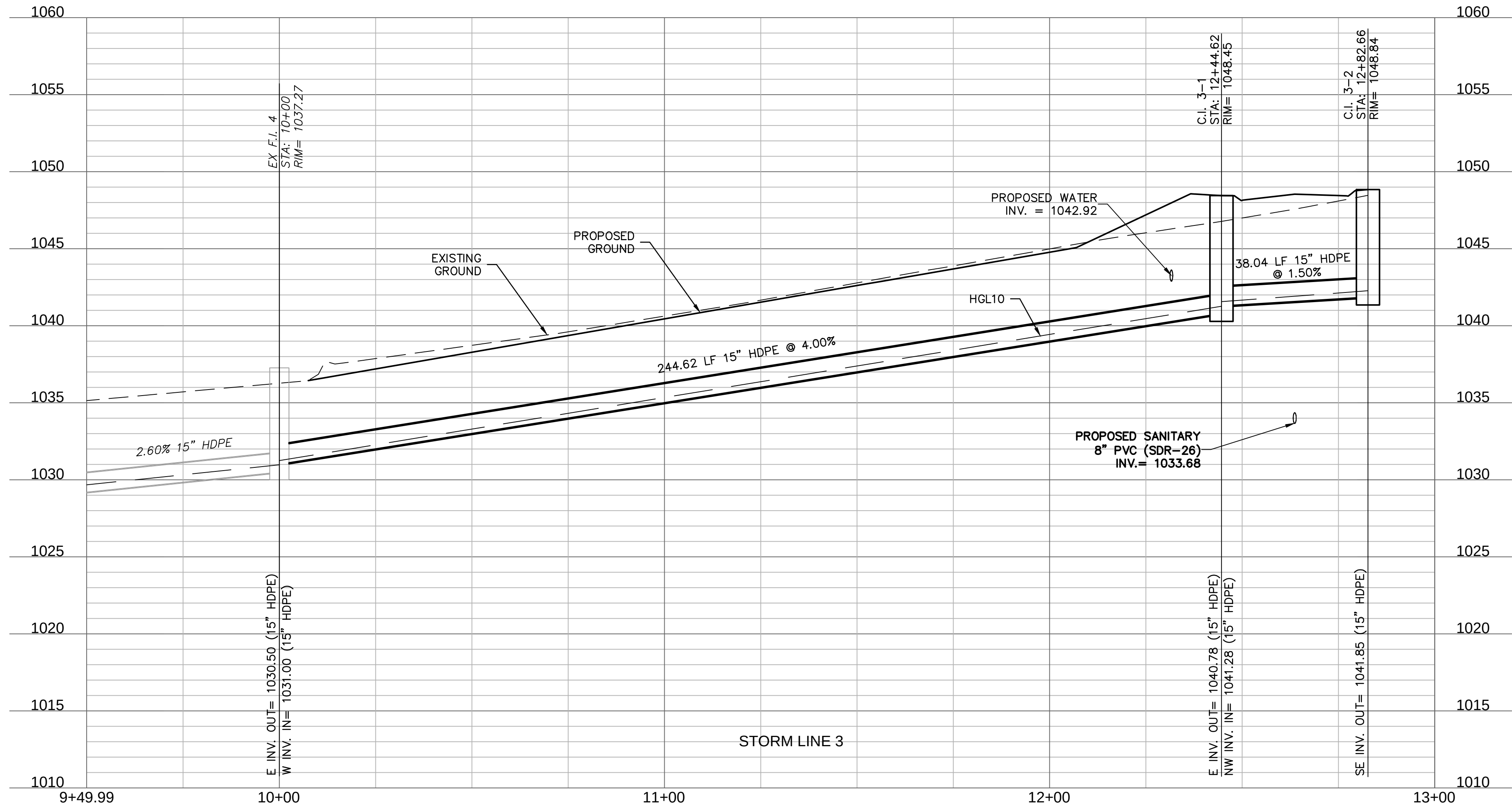
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checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.:
date: 2020.11.03

SHEET
C119

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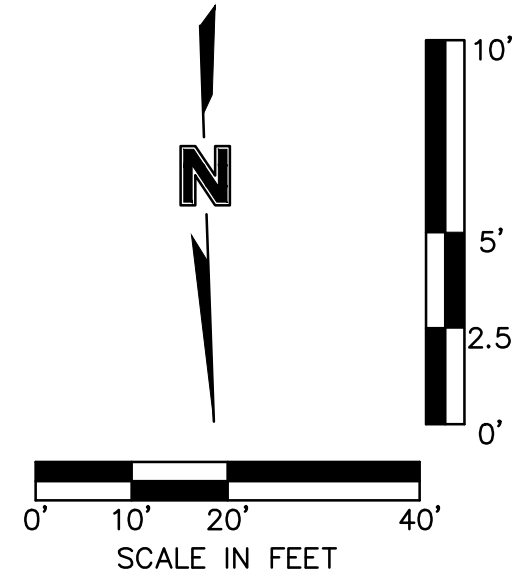
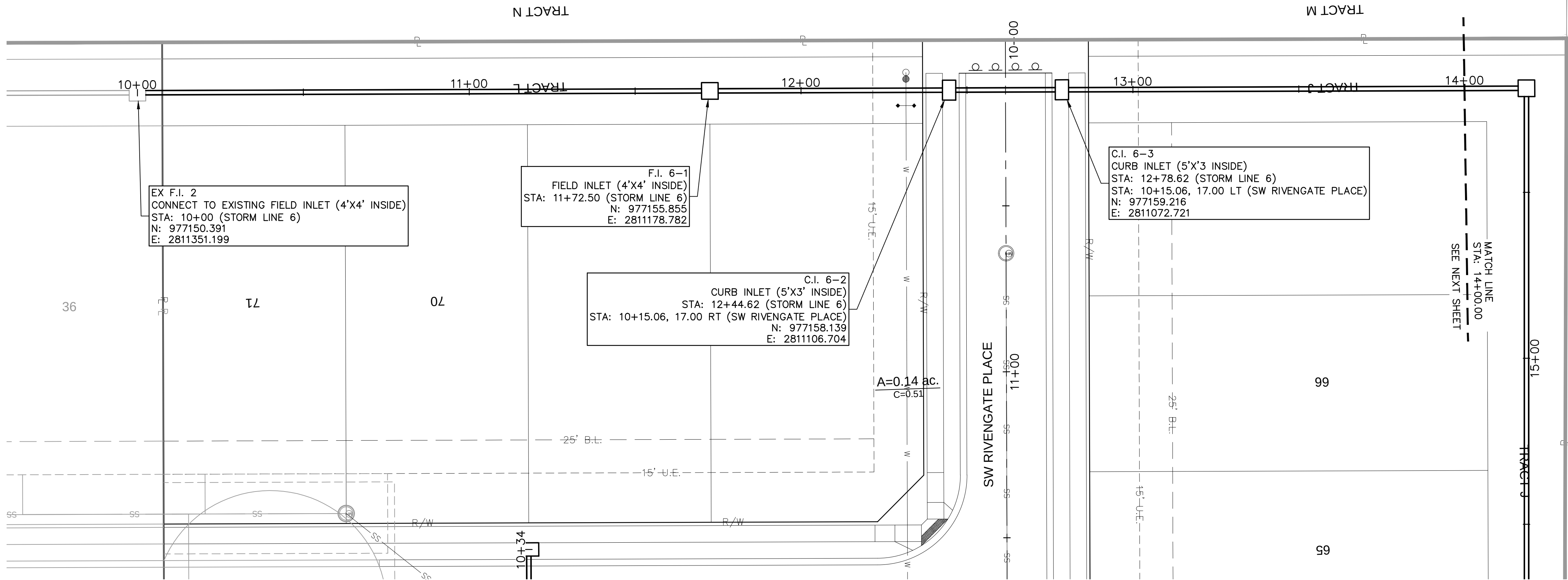
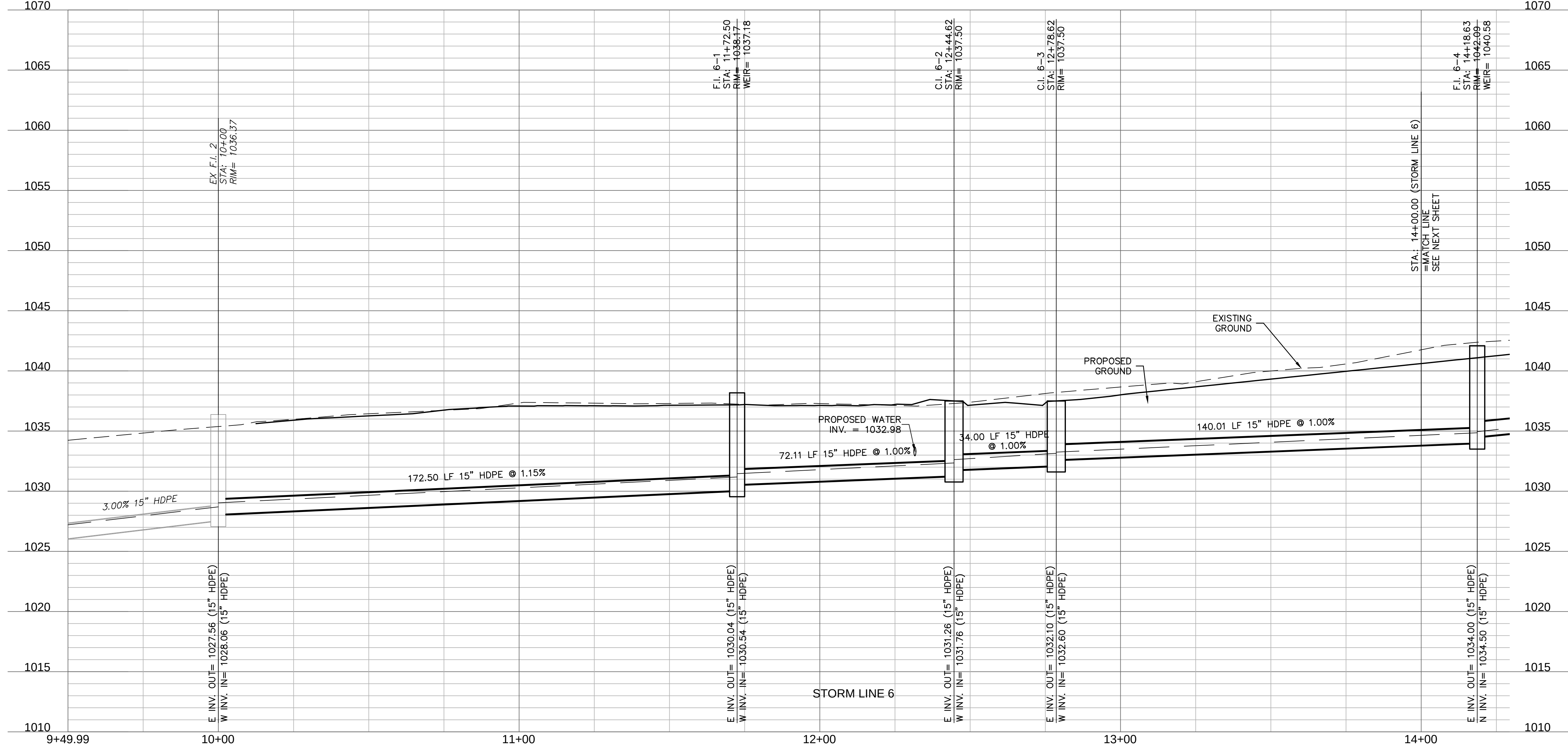
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STORM SEWER PLAN & PROFILE (LINE 3) STREET & STORM SEWER PLANS		OSAGE SECOND PLAT		2020
drawn by:	D.F./M.O./A.A.	checked by:	C.G.W.	
designed by:	A.A.	QA/QC by:	J.E.S.	
project no.:	C19-2339	drawing no.:		
date:	2020.11.03			
SHEET C120				

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SELLERS
NUMBER
PE-2017000367
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STORM SEWER PLAN & PROFILE (LINE 6)
STREET & STORM SEWER PLANS

OSAGE
SECOND PLAT

2020

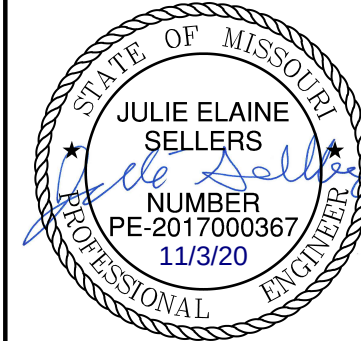
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drawing no.:
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SHEET
C122

REVISIONS DESCRIPTION

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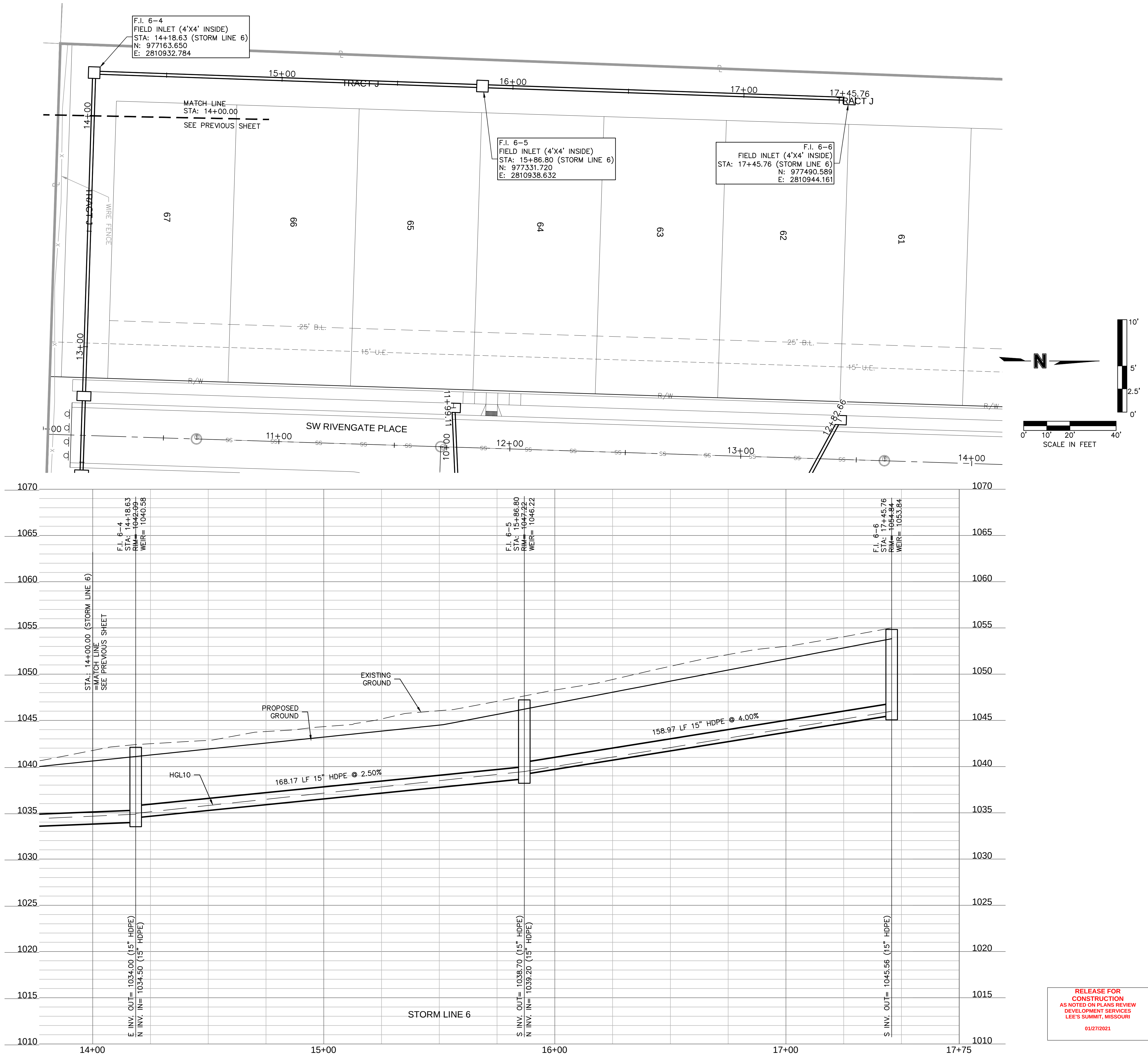
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STORM SEWER PLAN & PROFILE (LINE 6 CONT'D)
STREET & STORM SEWER PLANS

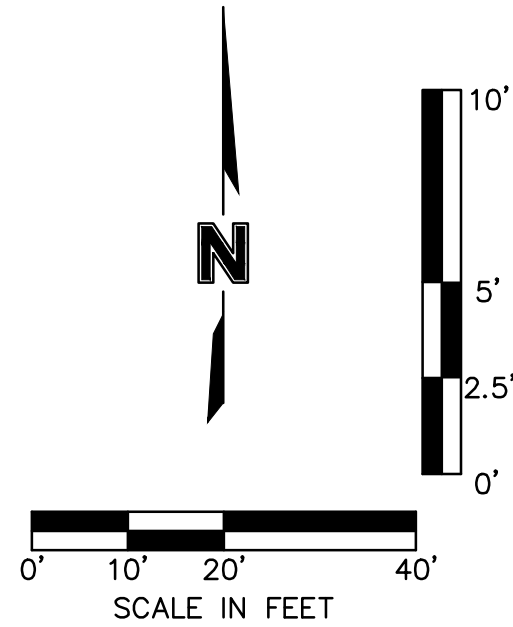
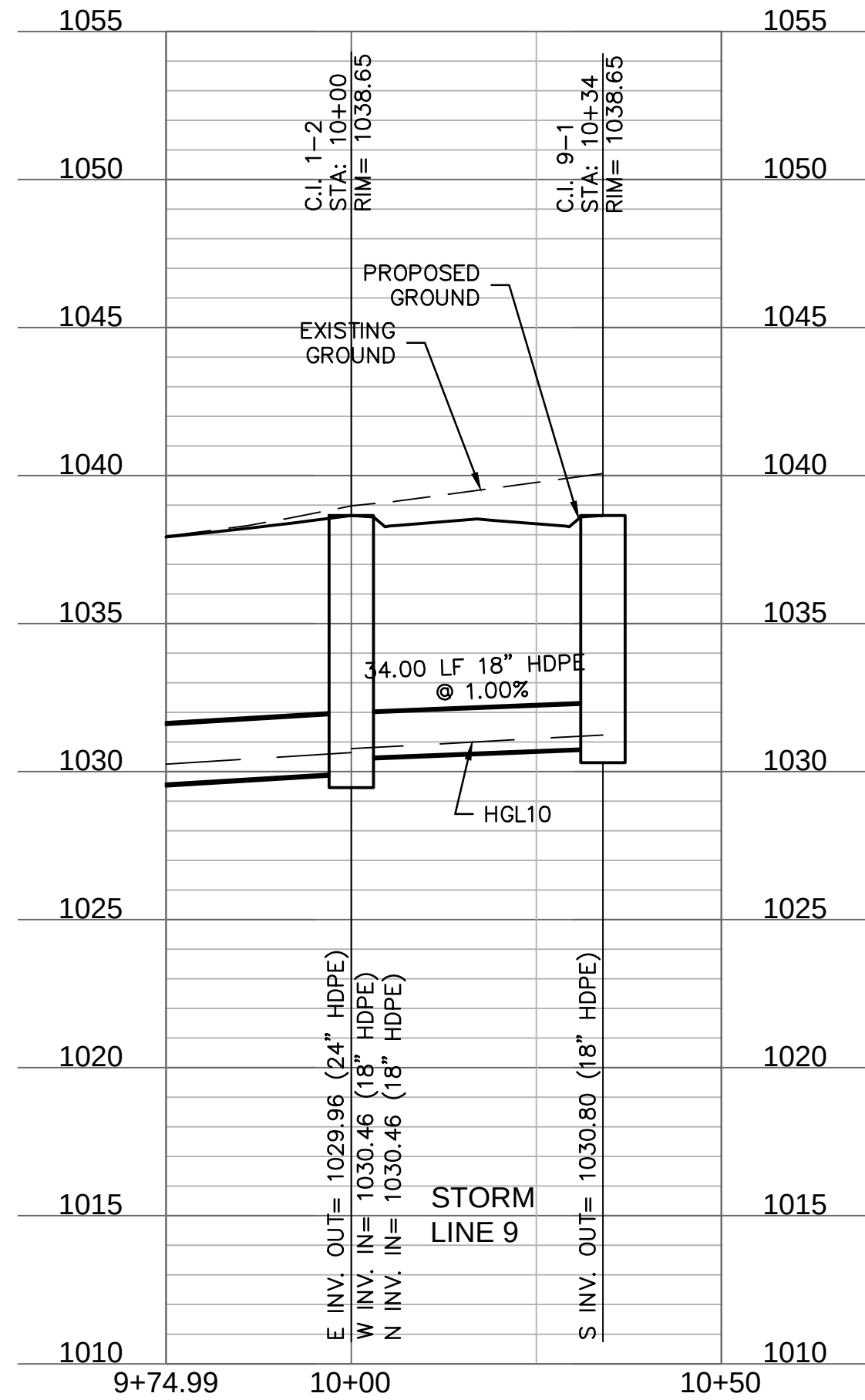
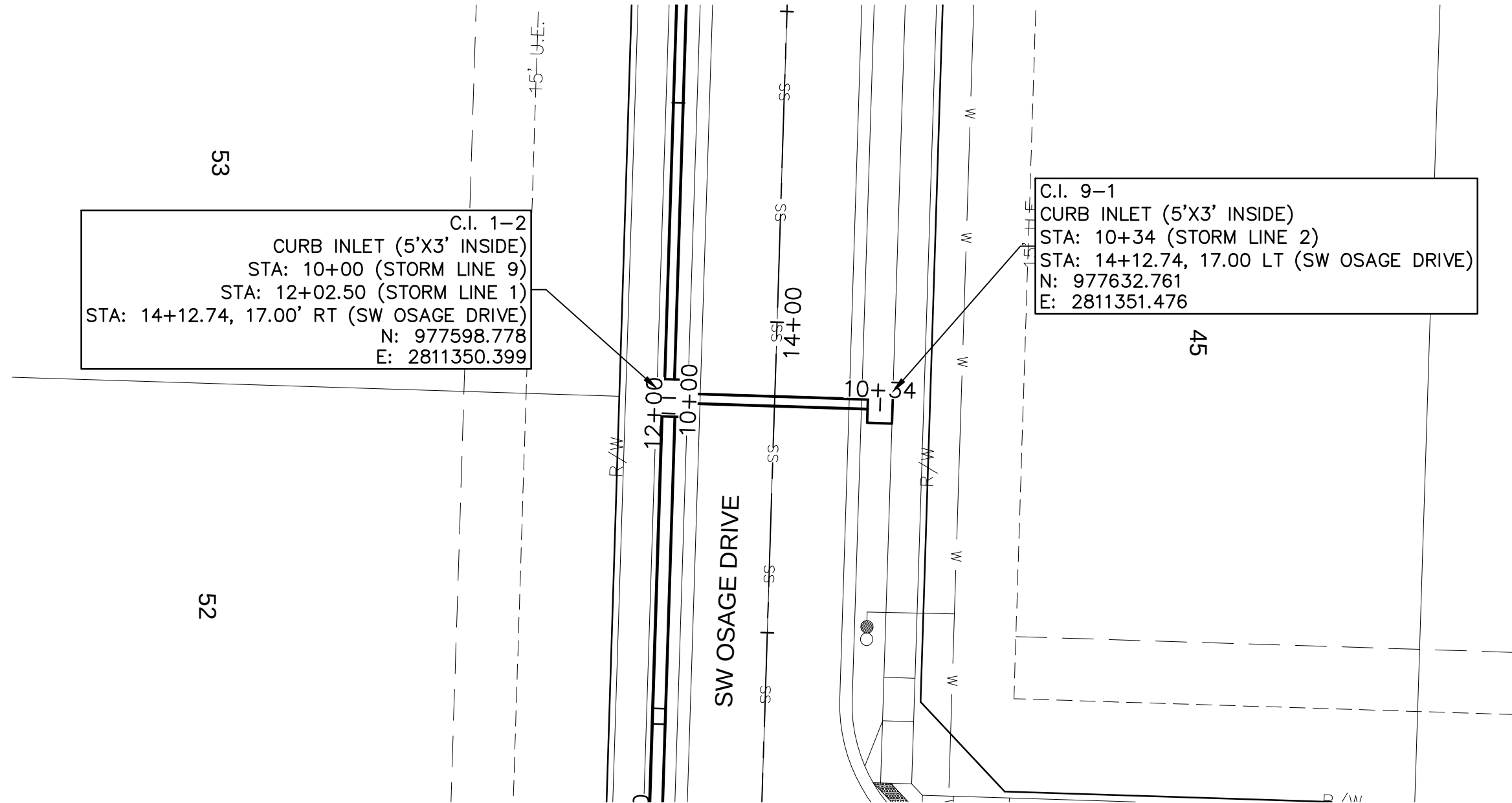
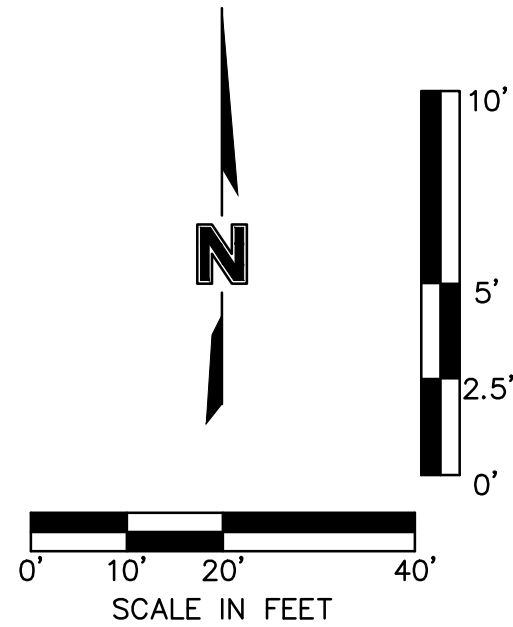
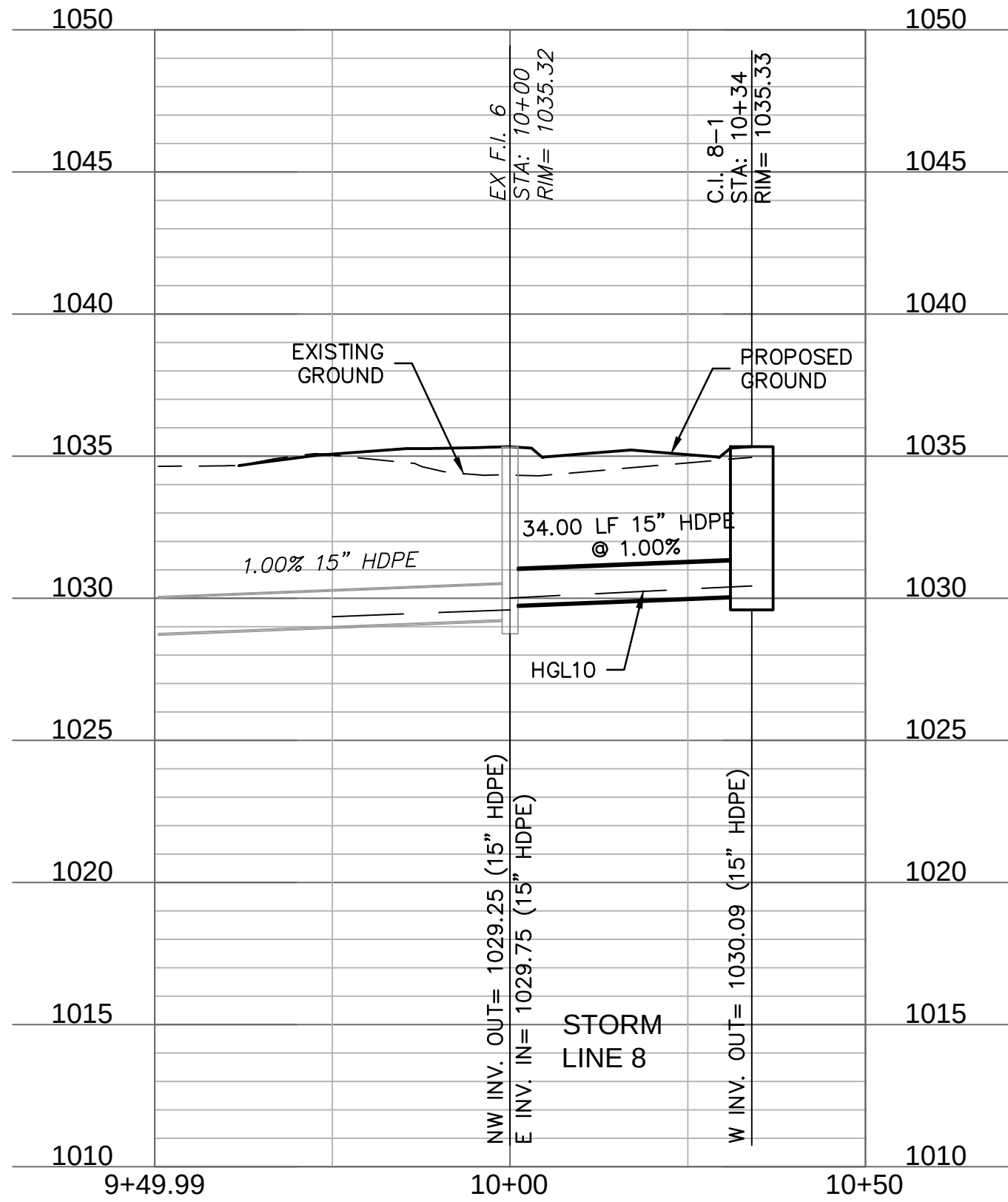
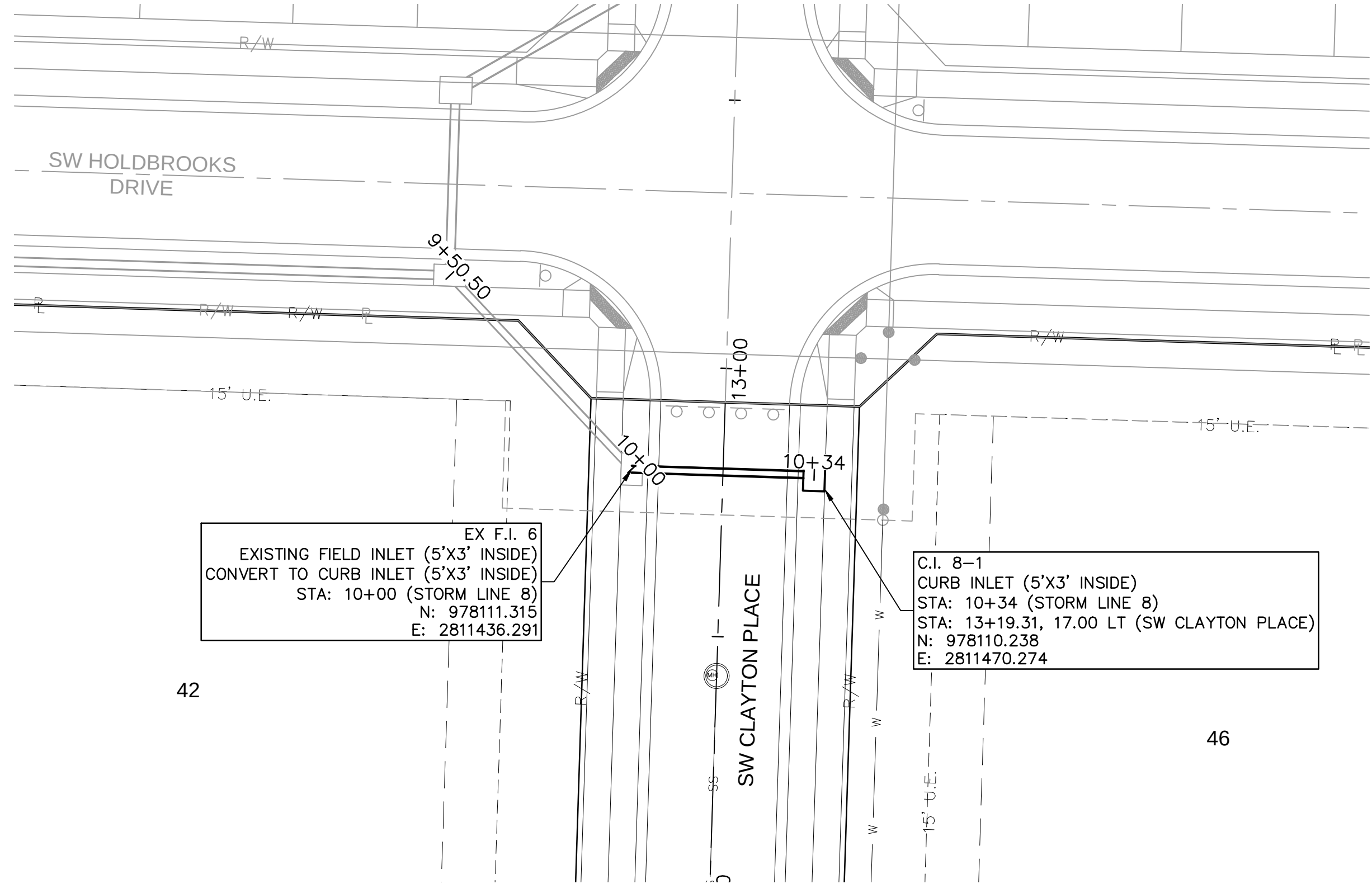
OSAGE
SECOND PLAT

2020

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designed by: A.A.
QA/QC by: J.E.S.
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drawing no.:
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SHEET
C123

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STORM SEWER PLAN & PROFILE (LINES 8 & 9)
STREET & STORM SEWER PLANS

OSAGE
SECOND PLAT

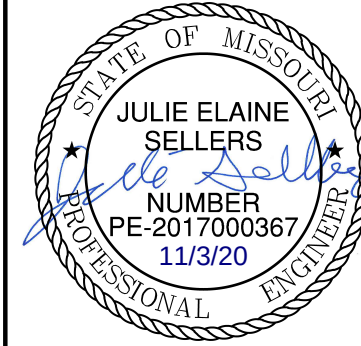
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SHEET
C125

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designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.:
date: 2020.11.03

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LEGEND	
	FINISHED INDEX CONTOURS
	FINISHED INTERMEDIATE CONTOURS

BASEMENT TYPES

- (S) STANDARD
(W) WALKOUT
(D) DAYLIGHT

NOTES:

MBOE – MINIMUM BUILDING OPENING ELEVATION

NOTES:

1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MATER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.

2. 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"

3. PLAT IS LOCATED OUTSIDE OF ANY REQUIRED BUFFER ZONES FOR NATURAL STREAMS.

4. 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.

5. REFER TO SHEET C106--C109 FOR SWALE GRADING DETAILS.

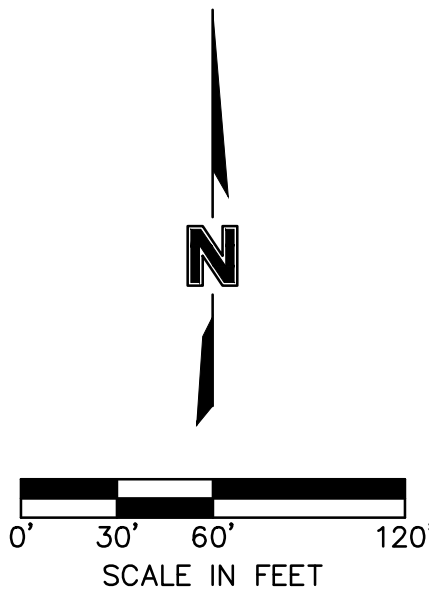
6. DRAINAGE PATHS TO BE CONSTRUCTED BETWEEN EACH OF THE LOTS LABELED AS STANDARD LOTS TO DRAIN WEST.

7. NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.

Osage 2nd Plat Minimum Building Opening Elevation					
Lot	Rear Left MBOE	Rear Right MBOE	Front Left MBOE	Front Right MBOE	As-Built Grading Plan Required
42	1042.46	1037.70	1040.48	1035.72	X
43	1041.00	1042.46	1039.02	1040.48	X
44	1038.28	1041.00	1036.30	1039.02	X
45	1039.11	1038.58	1036.83	1036.30	X
46	1037.70	1042.46	1035.72	1040.48	X
47	1042.46	1041.00	1040.48	1039.02	X
48	1041.00	1038.28	1039.02	1036.30	X
49	1038.58	1039.11	1036.30	1036.83	X
50	1034.57	1035.86	-	-	X
51	1035.86	1037.26	-	-	X
52	1040.00	1041.60	1037.72	1039.32	X
53	1041.60	1044.58	1039.32	1042.30	X
54	1044.58	1048.55	1042.30	1046.27	X
55	1048.55	1052.18	1046.27	1049.90	X
56	1049.71	1045.40	1047.43	1042.92	X
57	1053.54	1049.71	1051.26	1047.43	X
58	1057.19	1053.54	1054.91	1051.26	X
59	1061.86	1057.19	1059.58	1054.91	X
60	1052.61	1053.30	1050.33	1051.02	X
61	1051.79	1052.61	1049.51	1050.33	X
62	1050.13	1051.79	1047.85	1049.51	X
63	1048.00	1050.13	1045.72	1047.85	X
64	1045.85	1048.00	1043.57	1045.72	X
65	1043.79	1045.85	1041.51	1043.57	X
66	1041.91	1043.79	1039.63	1041.51	X
67	1040.65	1041.91	1038.37	1039.63	X
68	1038.92	1038.63	-	-	X
69	1038.62	1038.92	-	-	X
70	1037.58	1038.62	-	-	X
71	1037.97	1040.89	1035.69	1038.61	X
72	1040.88	1037.97	1038.60	1035.69	X
73	1042.80	1040.88	1040.52	1038.60	X
74	1043.82	1042.80	1041.54	1040.52	X
75	1044.68	1043.82	1042.40	1041.54	X

X indicates condition applies to the lot.

MBOE's 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.



MASTER DRAINAGE PLAN
STREET & STORM SEWER PLANS

OSAGE
SECOND PLAT

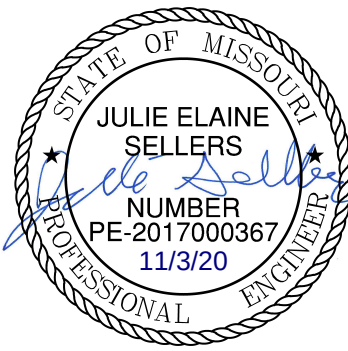
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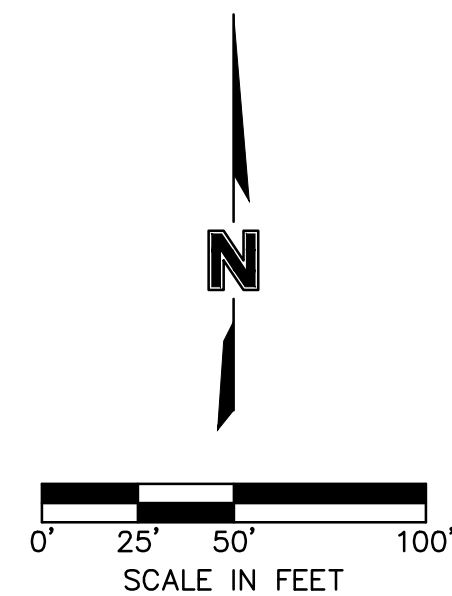
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QA/QC by: J.E.S.
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SHEET
C126

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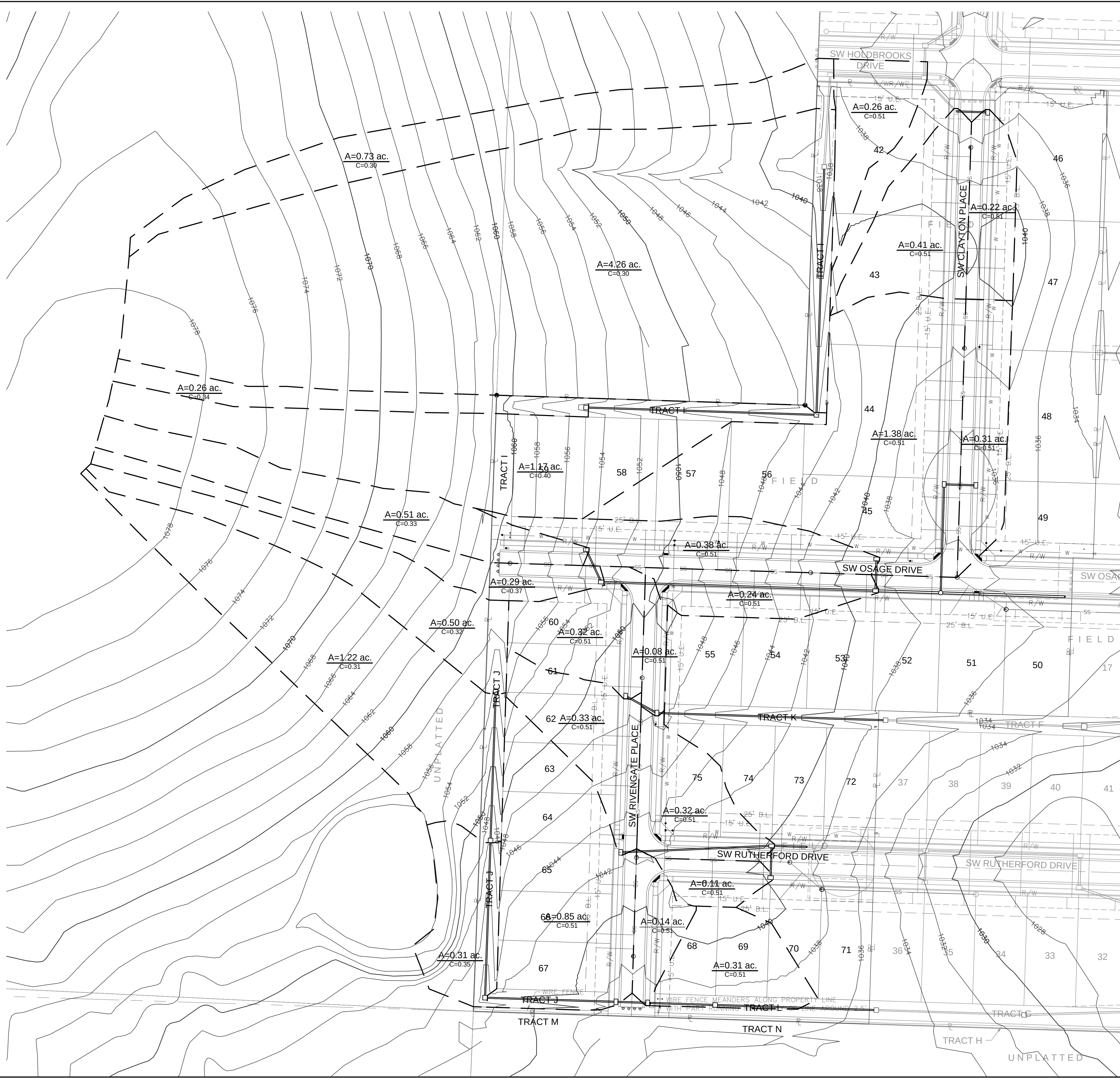
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DRAINAGE PLAN
STREET & STORM SEWER PLANS

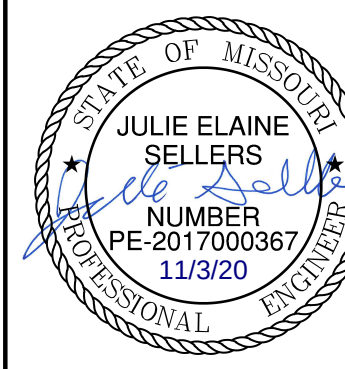
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Inlet Design Table						
10 Year Return Frequency						
Inlet ID	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 1-2	0.80	0.10	88.43%	0.10	5.13	...
C.I. 1-3	0.69	0.10	86.80%	0.09	4.57	...
C.I. 1-4	0.98	0.27	78.25%	0.11	5.30	...
C.I. 2-1(L)	...	...	...	0.11	5.50	...
C.I. 2-1(R)	...	...	...	0.14	7.10	...
C.I. 2-1	5.18	0.00	100.00%	...	...	...
C.I. 2-2(L)	...	...	...	0.05	2.34	...
C.I. 2-2(R)	...	...	...	0.09	4.71	...
C.I. 2-2	1.16	0.00	100.00%	...	...	...
C.I. 3-1	0.29	0.01	97.21%	0.07	3.52	...
C.I. 3-2	1.15	0.15	88.48%	0.13	6.52	...
C.I. 4-1	1.05	0.15	87.26%	0.12	6.05	...
C.I. 4-2	1.11	0.28	80.00%	0.12	5.82	...
C.I. 5-1	0.40	0.02	96.15%	0.08	4.04	...
F.I. 6-1	1.16	0.00	100.00%	...	...	0.08
C.I. 6-2	0.54	0.03	95.46%	0.10	4.76	...
C.I. 6-3	2.41	0.90	72.75%	0.19	9.25	...
F.I. 6-4	0.81	0.00	100.00%	...	...	0.06
F.I. 6-5	2.47	0.00	100.00%	...	...	0.13
F.I. 6-6	1.18	0.00	100.00%	...	...	0.08
F.I. 7-1	2.92	0.00	100.00%	...	...	0.15
F.I. 7-2	0.65	0.00	100.00%	...	...	0.05
C.I. 8-1	0.78	0.05	94.15%	0.11	5.75	...
C.I. 9-1	1.34	0.36	78.82%	0.13	6.51	...

Notes:

1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing Both theoretical capacity and reduced capacity are shown.
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual

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. 1-2	0.24	0.51	5.00	7.35	1.00	0.90
C.I. 1-3	0.29	0.51	5.00	7.35	1.00	0.79
C.I. 1-4	0.51	0.37	5.00	7.35	1.00	1.25
C.I. 2-1(L)	0.10	0.33	5.00	7.35	1.00	0.38
C.I. 2-1(R)	0.45	0.51	5.00	7.35	1.00	1.69
C.I. 2-1(B)	0.83	0.51	5.00	7.35	1.00	3.11
C.I. 2-1	1.38	0.51	5.00	7.35	1.00	5.18
C.I. 2-2(L)	0.02	0.51	5.00	7.35	1.00	0.08
C.I. 2-2(R)	0.15	0.51	5.00	7.35	1.00	0.56
C.I. 2-2(B)	0.14	0.51	5.00	7.35	1.00	0.53
C.I. 2-2	0.31	0.51	5.00	7.35	1.00	1.16
C.I. 3-1	0.08	0.51	5.00	7.35	1.00	0.30
C.I. 3-2	0.32	0.51	5.00	7.35	1.00	1.20
C.I. 4-1	0.32	0.51	5.00	7.35	1.00	1.20
C.I. 4-2	0.33	0.51	5.00	7.35	1.00	1.24
C.I. 5-1	0.11	0.51	5.00	7.35	1.00	0.41
F.I. 6-1	0.31	0.51	5.00	7.35	1.00	1.16
C.I. 6-2	0.15	0.51	5.00	7.35	1.00	0.56
C.I. 6-3	0.86	0.51	6.49	6.92	1.00	3.03
F.I. 6-4	0.31	0.51	5.00	7.35	1.00	0.81
F.I. 6-5	1.22	0.35	8.31	6.46	1.00	2.47
F.I. 6-6	0.50	0.31	5.00	7.35	1.00	1.18
F.I. 7-1	1.17	0.32	9.16	6.26	1.00	2.92
F.I. 7-2	0.26	0.40	5.00	7.35	1.00	0.65
C.I. 8-1	0.22	0.34	5.00	7.35	1.00	0.83
C.I. 9-1	0.38	0.51	5.00	7.35	1.00	1.43

100 Year Return Frequency						
Inlet ID	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 1-2	1.27	0.31	80.14%	0.13	6.34	...
C.I. 1-3	1.08	0.31	77.66%	0.11	5.64	...
C.I. 1-4	1.43	0.76	65.42%	0.13	6.55	...
C.I. 2-1(L)	...	...	...	0.16	7.76	...
C.I. 2-1(R)	...	...	...	0.18	8.77	...
C.I. 2-1	9.08	0.00	100.00%	...	...	...
C.I. 2-2(L)	...	...	...	0.06	2.89	...
C.I. 2-2(R)	...	...	...	0.12	5.81	...
C.I. 2-2	2.04	0.00	100.00%	...	...	...
C.I. 3-1	0.50	0.03	94.35%	0.09	4.34	...
C.I. 3-2	1.92	0.50	79.24%	0.16	8.22	...
C.I. 4-1	1.67	0.46	78.23%	0.15	7.49	...
C.I. 4-2	1.75	0.92	65.42%	0.15	7.44	...
C.I. 5-1	0.67	0.05	92.55%	0.10	4.99	...
F.I. 6-1	2.04	0.00	100.00%	...	...	0.11
C.I. 6-2	0.90	0.08	91.39%	0.12	5.88	...
C.I. 6-3	3.51	2.75	56.02%	0.24	11.75	...
F.I. 6-4	1.42	0.00	100.00%	...	...	0.09
F.I. 6-5	4.36	0.00	100.00%	...	...	0.19
F.I. 6-6	2.07	0.00	100.00%	...	...	0.12
F.I. 7-1	5.16	0.00	100.00%	...	...	0.21
F.I. 7-2	1.14	0.00	100.00%	...	...	0.08
C.I. 8-1	1.29	0.16	89.23%	0.14	7.10	...
C.I. 9-1	2.08	1.18	63.82%	0.17	8.31	...

Notes:

1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing Both theoretical capacity and reduced capacity are shown.
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual

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. 1-2	0.24	0.51	5.00	10.32	1.25	1.58
C.I. 1-3	0.29	0.51	5.00	10.32	1.25	1.39
C.I. 1-4	0.51	0.37	5.00	10.32	1.25	2.19
C.I. 2-1(L)	0.10	0.33	5.00	10.32	1.25	0.66
C.I. 2-1(R)	0.45	0.51	5.00	10.32	1.25	2.96
C.I. 2-1(B)	0.83	0.51	5.00	10.32	1.25	5.46
C.I. 2-1	1.38	0.51	5.00	10.32	1.25	9.08
C.I. 2-2(L)	0.02	0.51	5.00	10.32	1.25	0.13
C.I. 2-2(R)	0.15	0.51	5.00	10.32	1.25	0.99
C.I. 2-2(B)	0.14	0.51	5.00	10.32	1.25	0.92
C.I. 2-2	0.31	0.51	5.00	10.32	1.25	2.04
C.I. 3-1	0.08	0.51	5.00	10.32	1.25	0.53
C.I. 3-2	0.32	0.51	5.00	10.32	1.25	2.11
C.I. 4-1	0.32	0.51	5.00	10.32	1.25	2.11
C.I. 4-2	0.33	0.51	5.00	10.32	1.25	2.17
C.I. 5-1	0.11	0.51	5.00	10.32	1.25	0.72
F.I. 6-1	0.31	0.51	5.00	10.32	1.25	2.04
C.I. 6-2	0.15	0.51	5.00	10.32	1.25	0.99
C.I. 6-3	0.86	0.51	6.49	9.74	1.25	5.34
F.I. 6-4	0.31	0.51	5.00	10.32	1.25	1.42
F.I. 6-5	1.22	0.35	8.31	9.11	1.25	4.36
F.I. 6-6	0.50	0.31	5.00	10.32	1.25	2.07
F.I. 7-1	1.17	0.32	9.16	8.84	1.25	5.16
F.I. 7-2	0.26	0.40	5.00	10.32	1.25	1.14
C.I. 8-1	0.22	0.34	5.00	10.32	1.25	1.45
C.I. 9-1	0.38	0.51	5.00	10.32	1.25	2.50

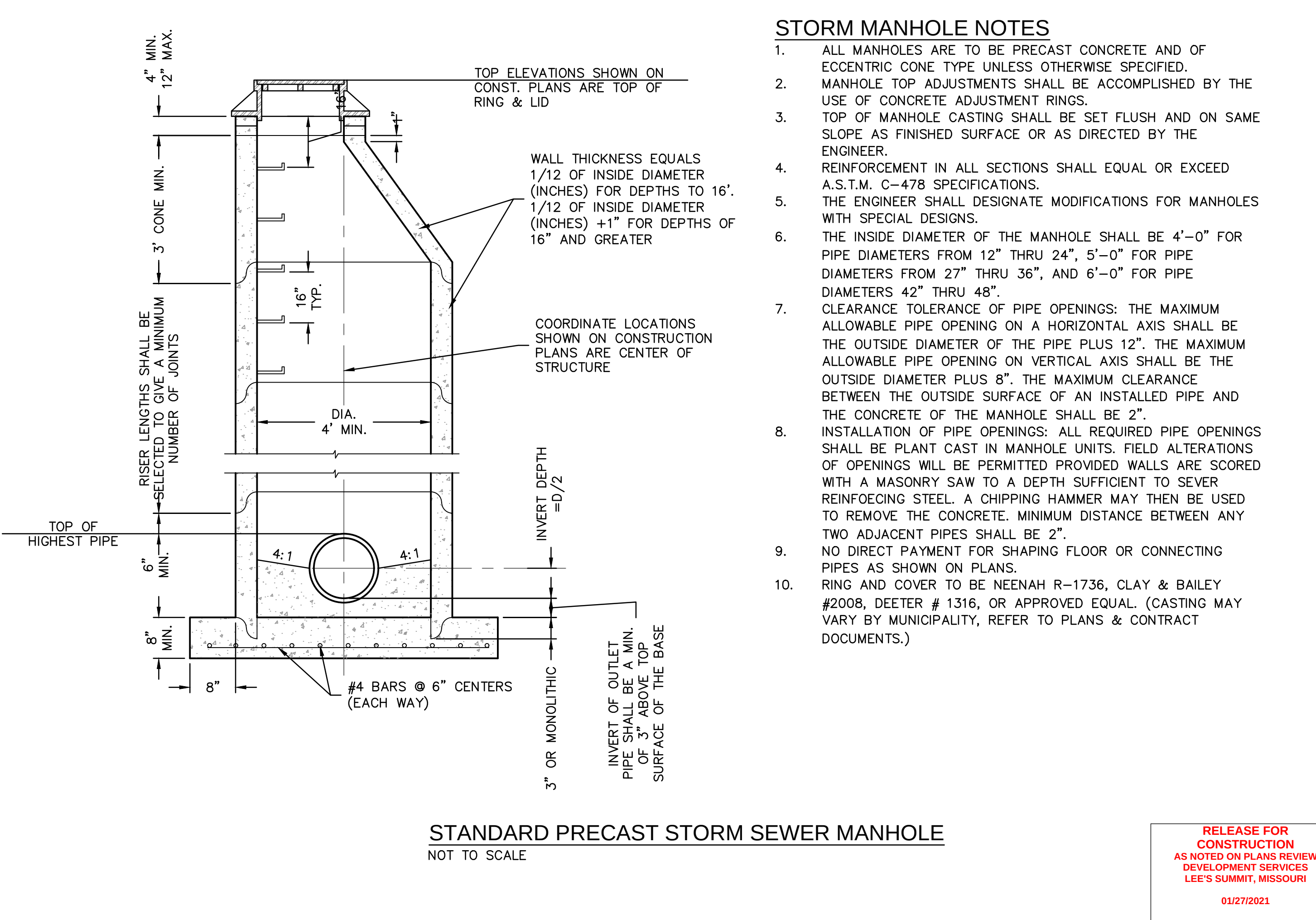
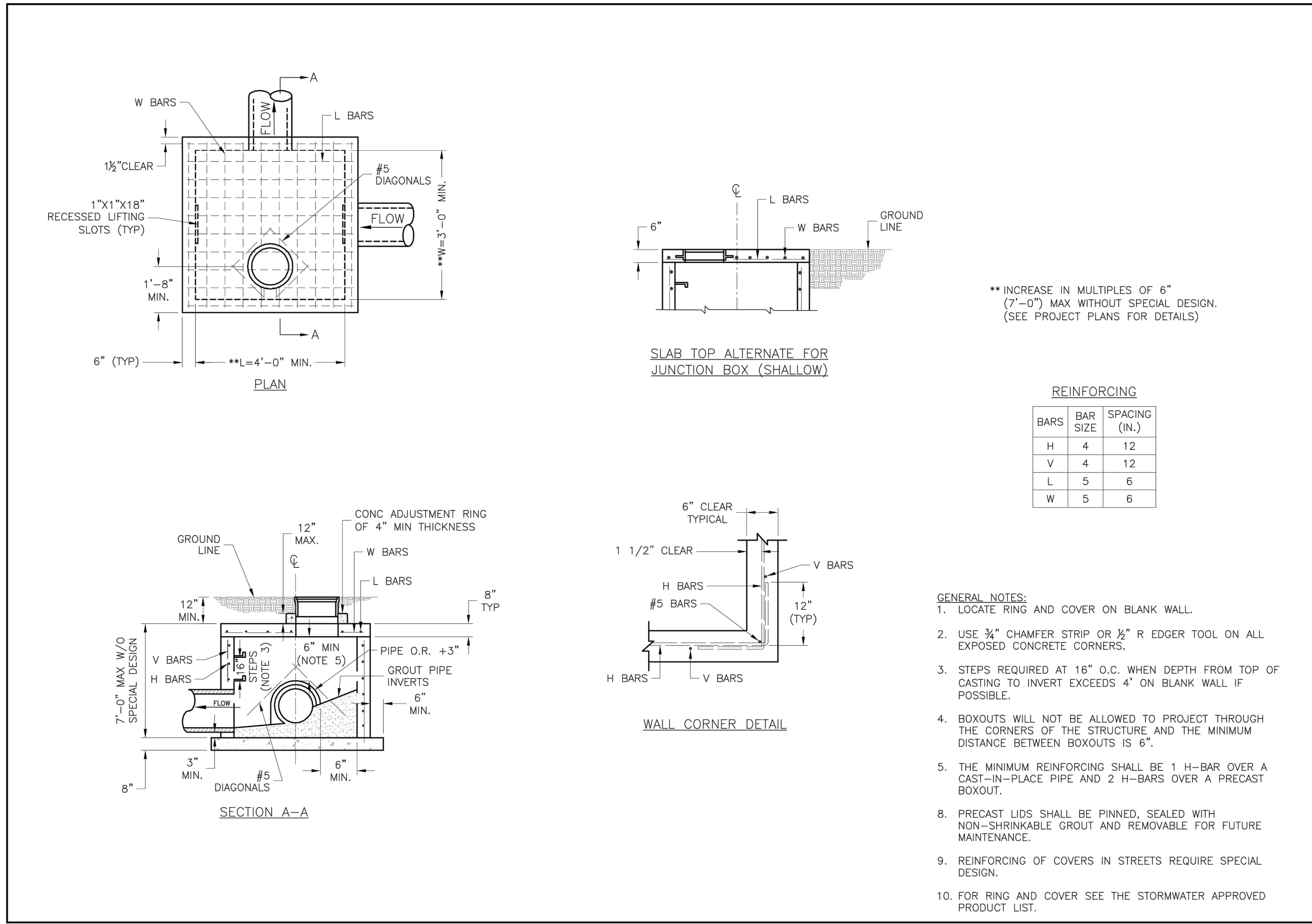
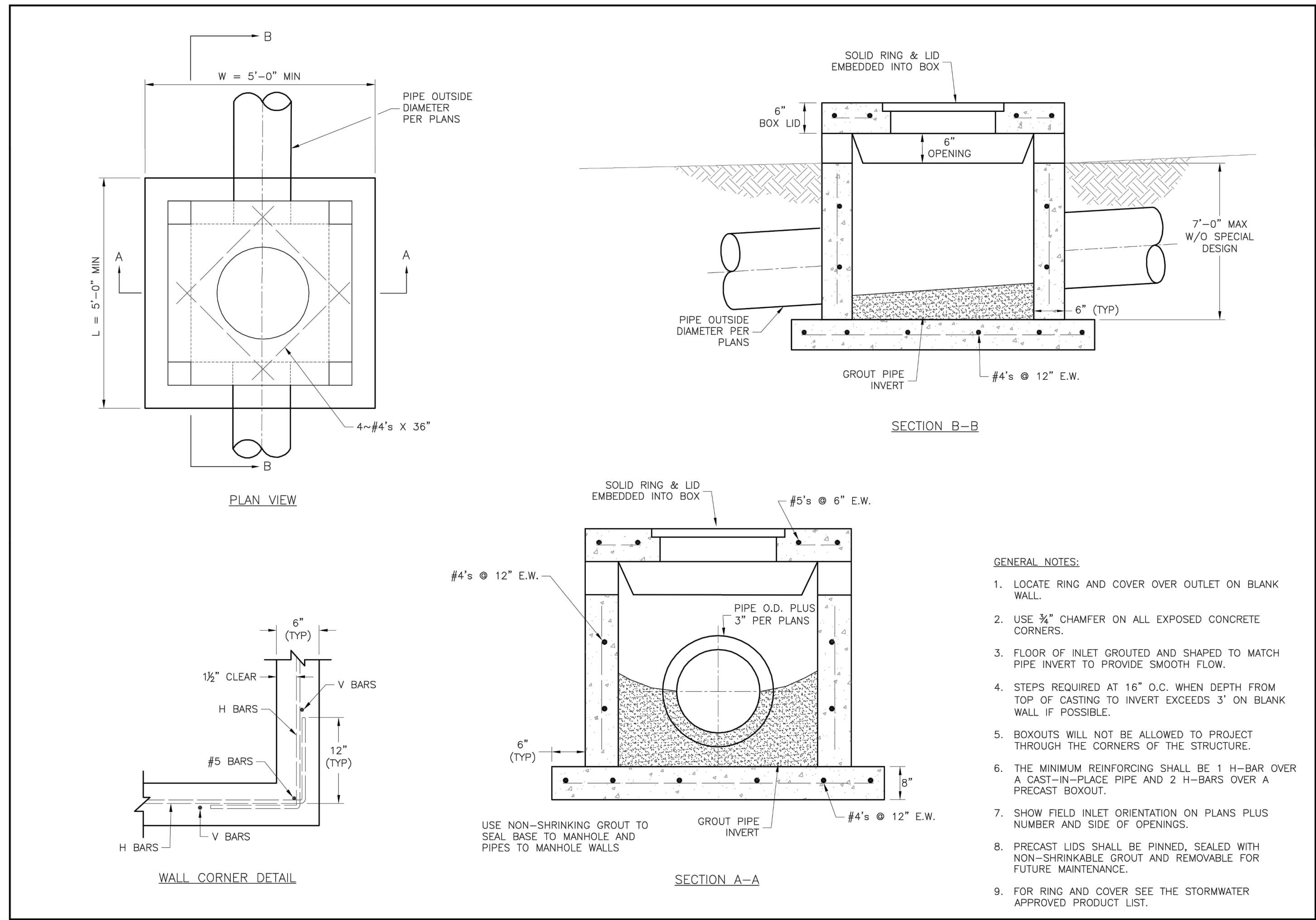
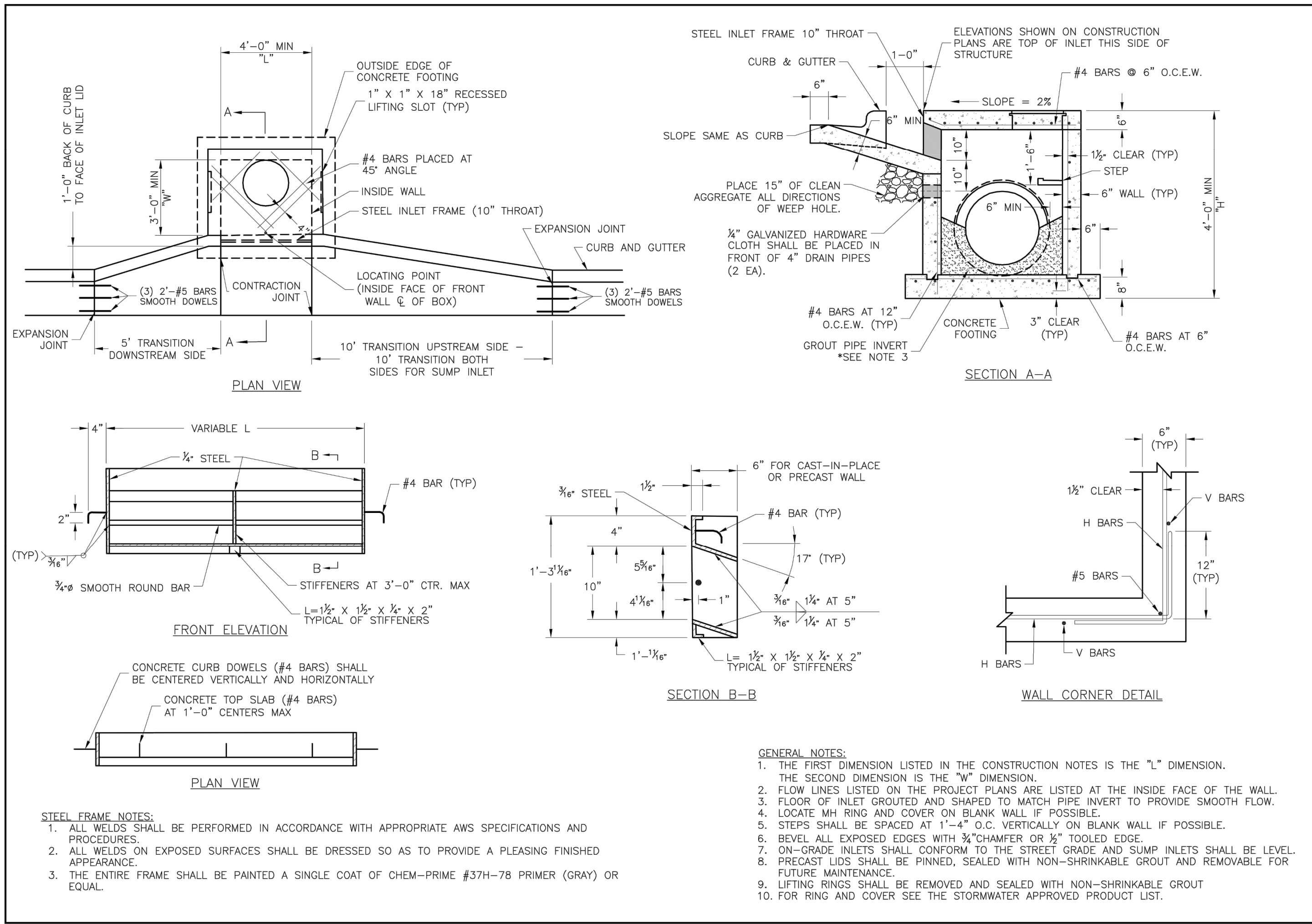
Storm Sewer Design Calculation Table													
10 Year Return Frequency													
Upstream Structure	Downstream Structure	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (%)	Diameter (in)	Manning's n	Total Flow (cfs)	Velocity (ft/s)	Capacity (cfs)	Flow Depth (ft)	Upstream Struct. HGL (ft)	Upstream Top Elev. (ft)
CONNECT TO EX. 1	EX C.I. 2	113.85	1026.43	1024.72	1.50	24	0.010	10.15	9.85	36.04	1.14	1027.57	1028.70
M.H. 1-1	CONNECT TO EX. 1	132.88	1028.42	1026.43	1.50	24	0.010	10.15	5.49	36.01	1.14	1029.56	1037.06
C.I. 1-2	M.H. 1-1	69.62	1029.96	1028.92	1.49	24	0.010	3.81	4.38	35.94	0.68	1030.64	1038.65
C.I. 1-3	C.I. 1-2	293.62	1044.65	1030.46	4.83	18	0.010	1.67	9.12	30.01	0.49	1045.14	1053.11
C.I. 1-4	C.I. 1-3	38.03	1046.10	1045.15	2.50	15	0.010	0.98	6.31	13.27	0.39	1046.49	1053.96
C.I. 1-2	M.H. 1-1	116.00	1030.33	1029.17	1.00	15	0.010	6.34	7.51	8.39	1.01	1031.35	1035.61
C.I. 2-2	C.I. 2-1	34.00	1031.17	1030.83	1.00	15	0.010	1.16	2.43	8.40	0.42	1031.59	1035.61
C.I. 9-1	C.I. 1-2	34.00	1030.80	1030.46	1.00	18	0.010	1.34	4.91	13.65	0.43	1031.23	1038.65
EX F.I. 4	EX F.I. 3	212.50	1030.50	1024.98	2.60	15	0.010	1.45	7.18	13.53	0.48	1030.98	1037.27
C.I. 3-1	EX F.I. 4	244.62	1040.79	1031.00	4.00	15	0.010	1.45	8.37	16.79	0.48	1041.27	1048.45
C.I. 3-2	C.I. 3-1	38.04	1041.85	1041.28	1.50	15	0.010	1.15	5.53	10.28	0.42	1042.27	1048.84
EX F.I. 2	EX F.I. 1	158.03	1027.56	1022.82	3.00	15	0.010	8.57	12.33	14.54	1.14	1028.70	1036.37
F.I. 6-1	EX F.I. 2	172.50	1030.04	1028.06	1.15	15	0.010	8.57	8.34	8.99	1.14	1031.18	1038.17
C.I. 6-2	F.I. 6-1	72.11	1031.26	1030.54	1.00	15	0.010	7.41	7.71	8.39	1.08	1032.34	1037.50
C.I. 6-3	C.I. 6-2	34.00	1032.10	1031.76	1.00	15	0.010	6.87	7.63	8.39	1.05	1033.15	1037.50
F.I. 6-4	C.I. 6-3	140.01	1034.00	1032.60	1.00	15	0.010	4.46	6.94	8.39	0.86	1034.86	1042.09
F.I. 6-5	F.I. 6-4	168.17	1038.70	1034.50	2.50	15	0.010	3.65	9.22	13.27	0.77	1039.47	1047.22
F.I. 6-6	F.I. 6-5	158.97	1045.56	1039.20	4.00	15	0.010	1.18	6.02	16.79	0.43	1045.99	1054.84
EX F.I. 5	EX C.I. 5	98.76	1031.25	1030.26	1.00	18	0.010	3.57	6.50	13.67	0.72	1031.97	1037.71
F.I. 7-1	EX F.I. 5	265.34	1037.06	1031.75	2.00	15	0.010	3.57	8.46	11.88	0.76	1037.82	1045.01
F.I. 7-2	F.I. 7-1	246.48	1045.57	1037.56	3.25	15	0.010	0.65	3.48	15.13	0.31	1045.89	1054.58
CONNECT TO EX. 2	EX C.I. 1	127.46	1030.64	1024.27	5.00	15	0.010	2.69	10.84	18.77	0.66	1031.30	1032.33
C.I. 4-1	CONNECT TO EX. 2	37.54	1032.52	1030.64	5.01	15	0.010	2.69	4.11	18.79	0.66	1033.18	1039.86
C.I. 4-2	C.I. 4-1	161.56	1034.64	1033.02	1.00	15	0.010	1.24	4.90	8.41	0.44	1035.08	1042.63
C.I. 5-1	C.I. 4-1	34.00	1033.36	1033.02	1.00	15	0.010	0.40	3.51	8.39	0.25	1033.61	1039.86
EX C.I. 4	EX C.I. 3	49.50	1029.25	1028.76	0.99	15	0.010	0.78	4.26	8.35	0.35	1029.60	1035.32
C.I. 8-1	EX C.I. 4	34.00	1030.09	1029.75	1.00	15	0.010	0.78	4.27	8.39	0.35	1030.44	1035.33

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)
CONNECT TO EX. 1	EX C.I. 2	113.85	1026.43	1024.72	1.50	24	0.010	16.98	11.30	36.04	1.48	1027.91	1028.70
M.H. 1-1	CONNECT TO EX. 1	132.88	1028.42	1026.43	1.50	24	0.010	16.98	6.79	36.01	1.48	1029.91	1037.06
C.I. 1-2	M.H. 1-1	69.62	1029.96	1028.92	1.49	24	0.010	5.86	3.79	35.94	0.85	1030.82	1038.65
C.I. 1-3	C.I. 1-2	293.62	1044.65	1030.46	4.83	18	0.010	2.51	7.86	30.01	0.60	1045.25	1053.11
C.I. 1-4	C.I. 1-3	38.03	1046.10	1045.15	2.50	15	0.010	1.43	7.06	13.27	0.47	1046.57	1053.96
C.I. 2-1	M.H. 1-1	116.00	1030.33	1029.17	1.00	15	0.010	11.12	9.06	8.39	1.25	1032.46	1035.61
C.I. 2-2	C.I. 2-1	34.00	1031.17	1030.83	1.00	15	0.010	2.04	1.66	8.40	1.25	1032.99	1035.61
C.I. 9-1	C.I. 1-2	34.00	1030.80	1030.46	1.00	18	0.010	2.08	5.58	13.65	0.54	1031.34	1038.65
EX F.I. 4	EX F.I. 3	212.50	1030.50	1024.98	2.60	15	0.010	2.42	8.34	13.53	0.62	1031.12	1037.27
C.I. 3-1	EX F.I. 4	244.62	1040.79	1031.00	4.00	15	0.010	2.42	9.72	16.79	0.62	1041.41	1048.45
C.I. 3-2	C.I. 3-1	38.04	1041.85	1041.28	1.50	15	0.010	1.92	6.41	10.28	0.55	1042.40	1048.84
EX F.I. 2	EX F.I. 1	158.03	1027.56	1022.82	3.00	15	0.010	14.30	13.50	14.54	1.23	1028.79	1036.37
F.I. 6-1	EX F.I. 2	172.50	1030.04	1028.06	1.15	15	0.010	14.30	11.65	8.99	1.25	1034.32	1038.17
C.I. 6-2	F.I. 6-1	72.11	1031.26	1030.54	1.00	15	0.010	12.26	9.99	8.39	1.25	1036.70	1037.50
C.I. 6-3	C.I. 6-2	34.00	1032.10	1031.76	1.00	15	0.010	11.86	9.26	8.39	1.25	1037.95	1037.50
F.I. 6-4	C.I. 6-3	140.01	1034.00	1032.60	1.00	15	0.010	7.85	6.40	8.39	1.25	1039.70	1042.09
F.I. 6-5	F.I. 6-4	168.17	1038.70	1034.50	2.50	15	0.010	6.43	5.24	13.27	1.25	1040.95	1047.22
F.I. 6-6	F.I. 6-5	158.97	1045.56	1039.20	4.00	15	0.010	2.07	1.69	16.79	0.57	1046.13	1054.84
EX F.I. 5	EX C.I. 5	98.76	1031.25	1030.26	1.00	18	0.010	6.30	7.58	13.67	0.97	1032.22	1037.71
F.I. 7-1	EX F.I. 5	265.34	1037.06	1031.75	2.00	15	0.010	6.30	9.82	11.88	1.01	1038.07	1045.01
F.I. 7-2	F.I. 7-1	246.48	1045.57	1037.56	3.25	15	0.010	1.14	2.41	15.13	0.42	1045.99	1054.58
CONNECT TO EX. 2	EX C.I. 1	127.46	1030.64	1024.27	5.00	15	0.010	4.09	12.23	18.77	0.82	1031.46	1032.33
C.I. 4-1	CONNECT TO EX. 2	37.54	1032.52	1030.64	5.01	15	0.010	4.09	4.81	18.79	0.82	1033.34	1039.86
C.I. 4-2	C.I. 4-1	161.56	1034.64	1033.02	1.00	15	0.010	1.75	5.41	8.41	0.52	1035.17	1042.63
C.I. 5-1	C.I. 4-1	34.00	1033.36	1033.02	1.00	15	0.010	0.67	2.73	8.39	0.32	1033.68	1039.86
EX C.I. 4	EX C.I. 3	49.50	1029.25	1028.76	0.99	15	0.010	1.29	4.93	8.35	0.45	1029.70	1035.32
C.I. 8-1	EX C.I. 4	34.00	1030.09	1029.75	1.00	15	0.010	1.29	4.95	8.39	0.45	1030.54	1035.33

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CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/27/2021**

USER: obdigiatiyev

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DATE: Nov 03, 2020 4:24pm XREFS: C_PTBK_C192339



STANDARD PRECAST STORM SEWER MANHOLE
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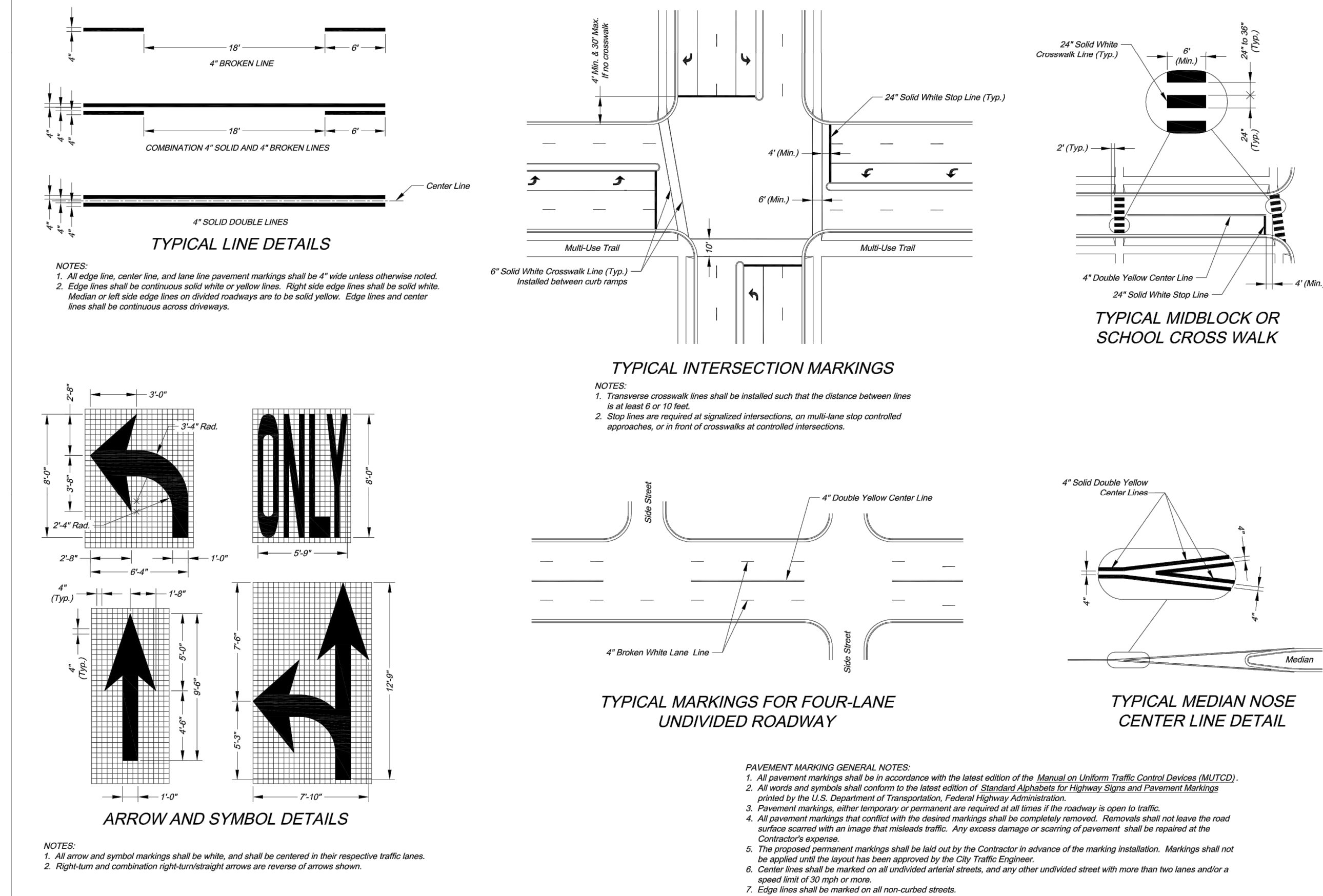
REV. NO. DATE REVISIONS DESCRIPTION

2020

DETAILS (CONT'D)
STREET & STORM SEWER PLANS
OSAGE
SECOND PLAT

drawn by: D.F./M.O./A.A.
checked by: C.G.W.
designed by: A.A.
QA/QC by: J.E.S.
project no.: C19-2339
drawing no.:
date: 2020.11.03

SHEET
C130



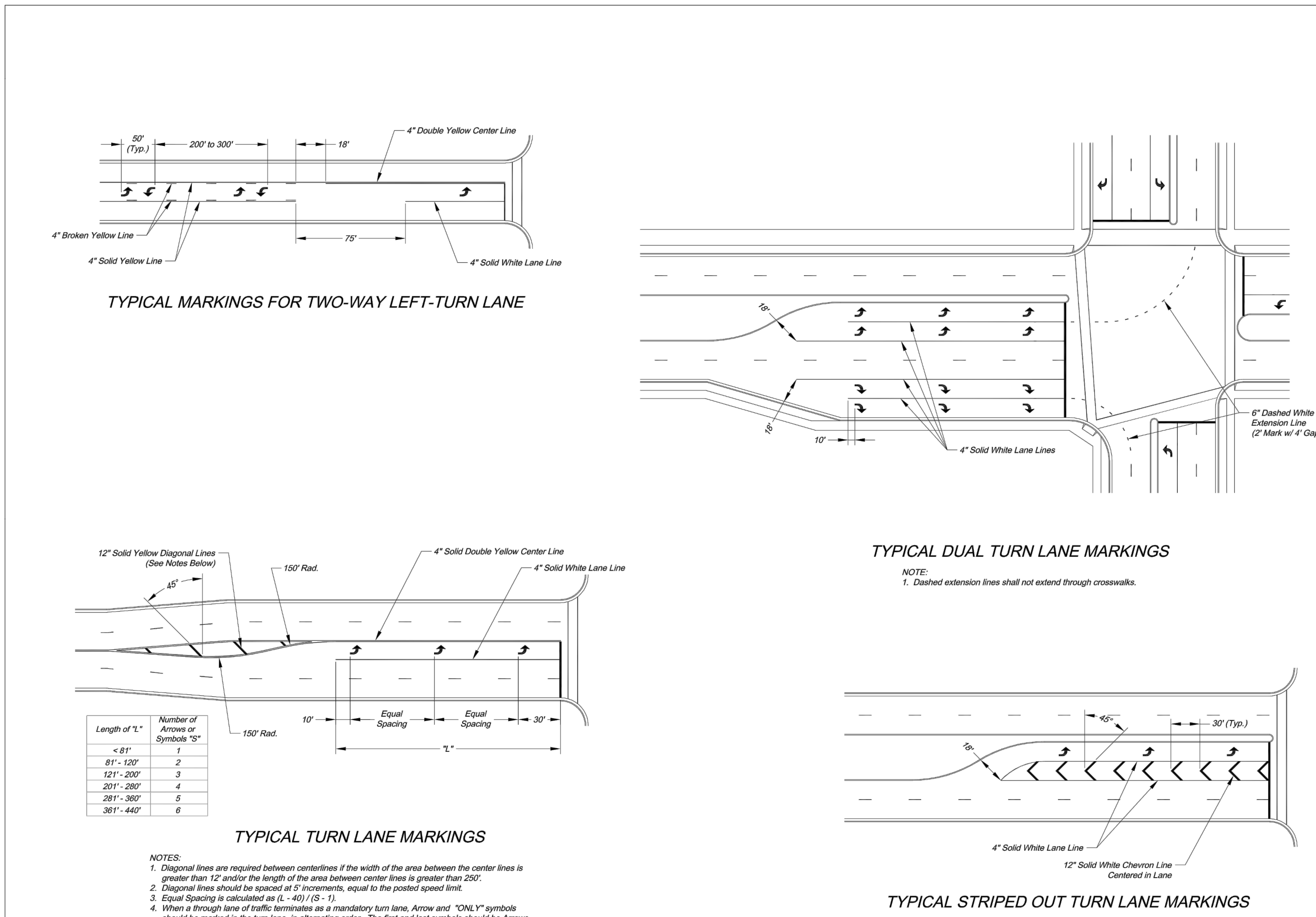
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809



Project:	
ROADWAY MARKING DETAILS	
Sheet Name:	STANDARD DRAWING PM-1

1 OF 2
1

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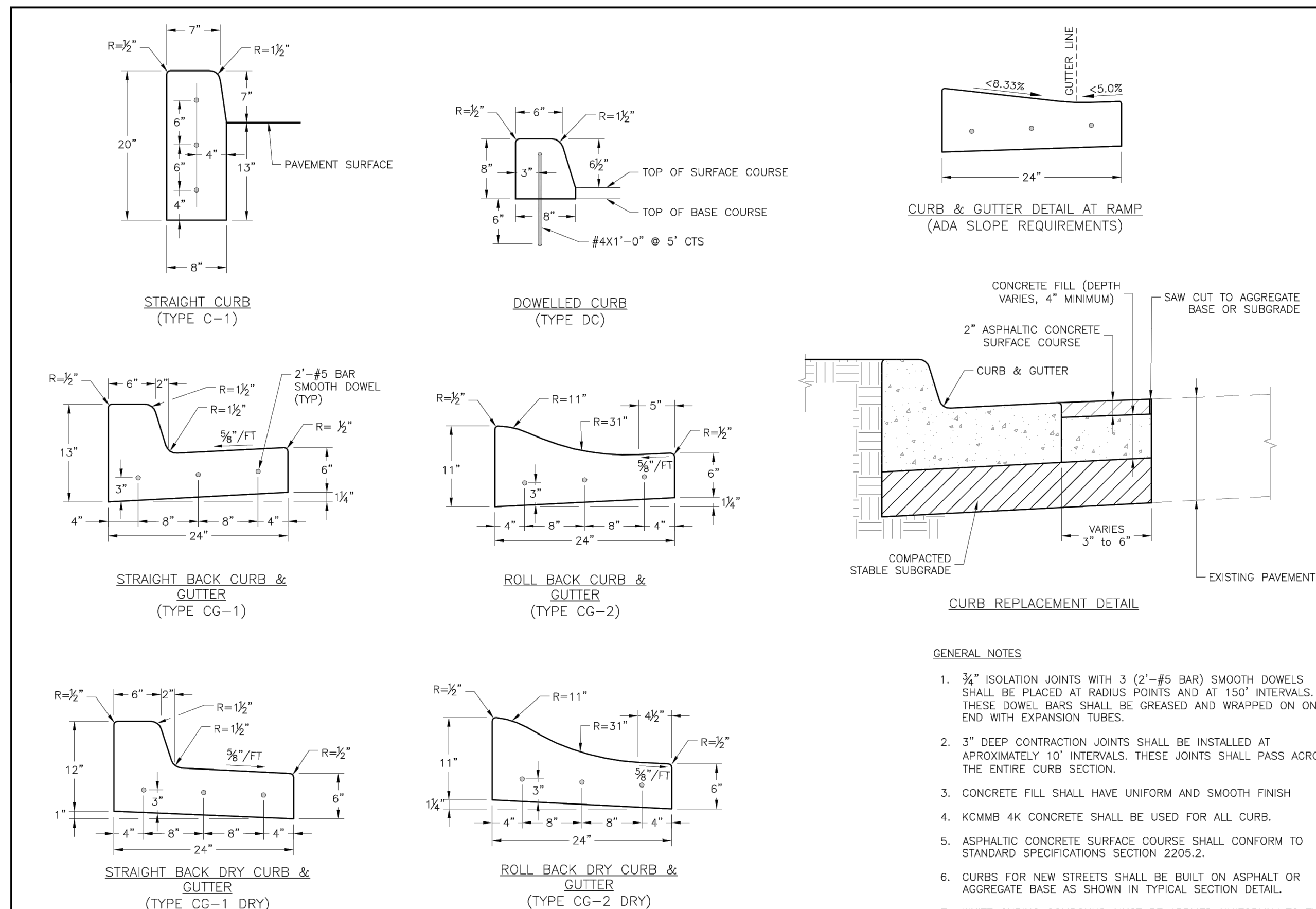
Project:

INTERSECTION MARKING DETAILS

Sheet Name:

STANDARD DRAWING PM-2

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#
2 OF 2

**LS** LEE'S SUMMIT
MISSOURI

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-

DETAILS (CONTD)

STREET & STORM SEWER PLANS

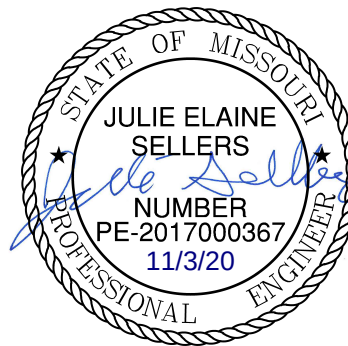
OSAGE
SECOND PLAT

2020

REVISIONS DESCRIPTION

REV.	DATE
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REVISIONS



Olsson - Civil Engineering
Missouri Certificate of Authority #: 001592
1301 Burlington Street
North Kansas City, MO 64116

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