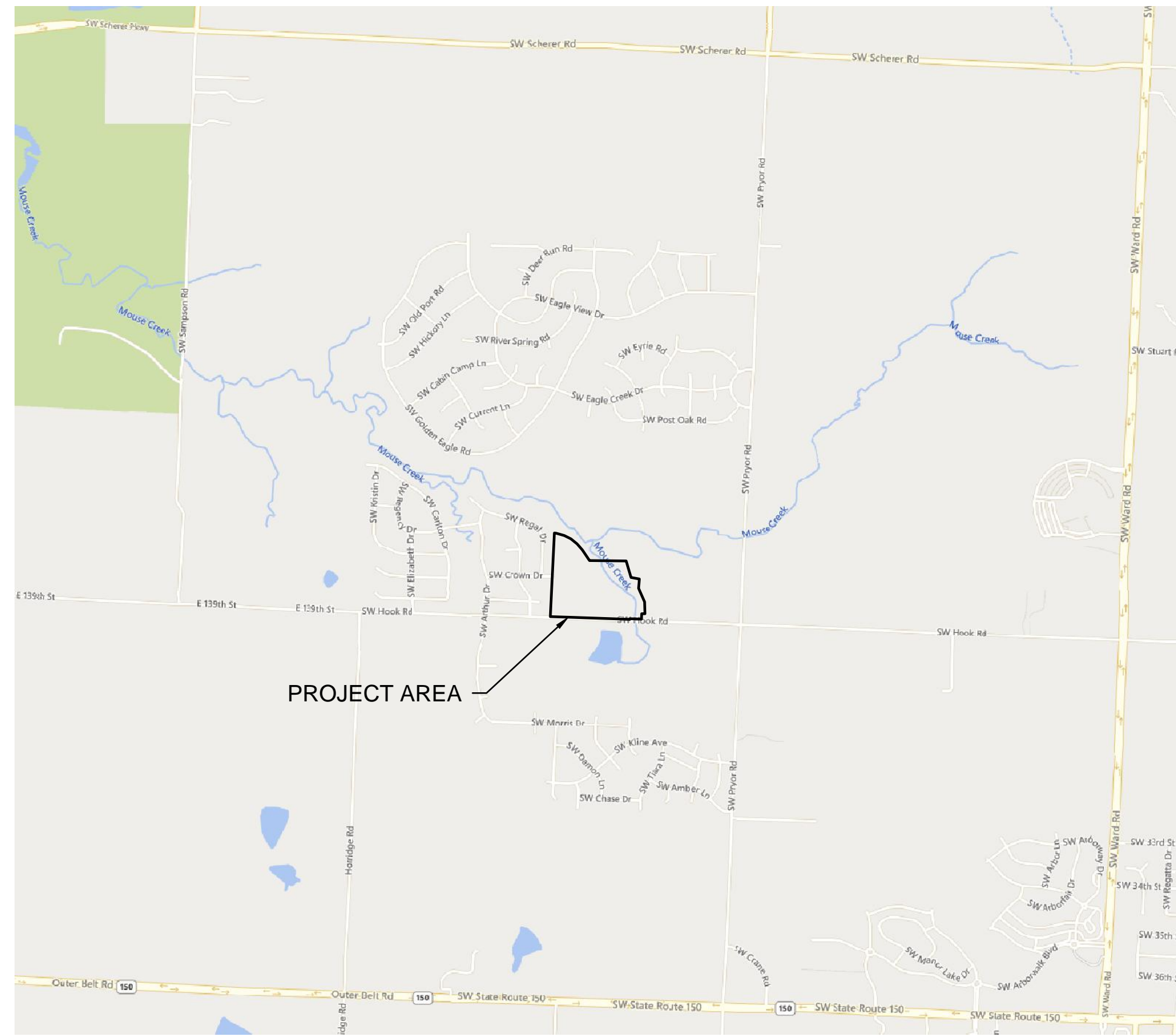
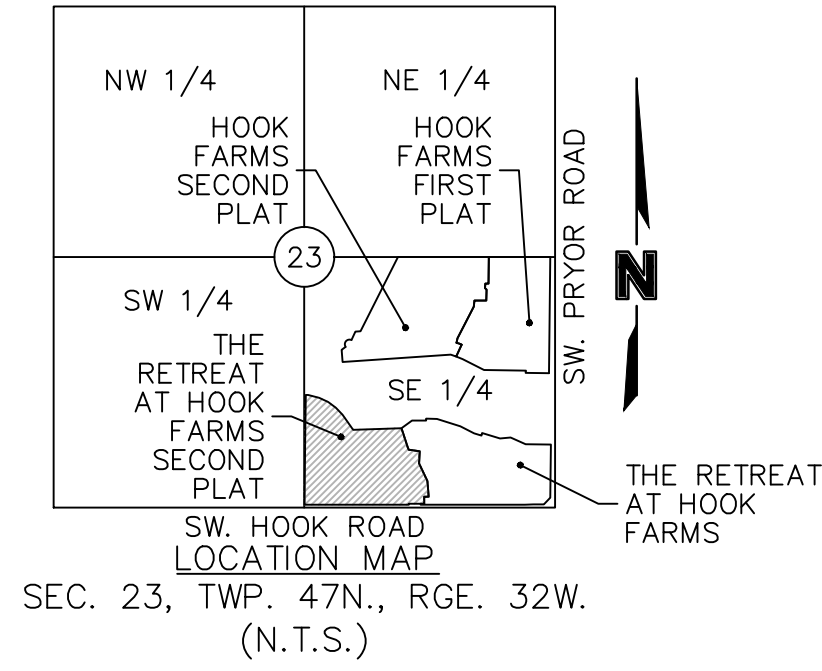


THE RETREAT AT HOOK FARMS SECOND PLAT STREET & STORM SEWER PLANS

SECTION 23, TOWNSHIP 47 N, RANGE 32 W
IN LEE'S SUMMIT, JACKSON COUNTY, MO



PROPERTY DESCRIPTION

A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 23, 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 SOUTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 87°58'53" WEST, ON THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 2,651.35 FEET TO THE SOUTHEAST CORNER OF MONARCH VIEW 1ST PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT RECORDED AS INSTRUMENT NUMBER 98169637 IN BOOK 163 AT PAGE 62 IN JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 02°43'00" EAST, ON THE WEST LINE OF SAID SOUTHEAST QUARTER, ALSO BEING THE EAST LINE OF SAID MONARCH VIEW 1ST PLAT, 30.00 FEET TO THE NORTHWEST CORNER OF SW HOOK ROAD AS ESTABLISHED BY RIGHT-OF-WAY DEED RECORDED AS INSTRUMENT NUMBER 199910077639 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE NORTH 02°43'00" EAST, ON SAID WEST AND EAST LINES, AND ALSO BEING EAST LINE OF MONARCH VIEW 2ND PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT, RECORDED AS INSTRUMENT NUMBER 200010047892 IN BOOK 167 AT PAGE 87 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE, 1,163.24 FEET; THENCE LEAVING SAID WEST AND EAST LINES, SOUTH 87°16'25" EAST, 25.54 FEET; THENCE SOUTH 73°15'30" EAST, 121.46 FEET; THENCE SOUTH 62°39'56" EAST, 102.90 FEET; THENCE SOUTH 52°04'22" EAST, 102.90 FEET; THENCE SOUTH 41°28'48" EAST, 102.90 FEET; THENCE SOUTH 33°05'07" EAST, 195.12 FEET; THENCE NORTH 90°00'00" EAST, 510.19 FEET TO A POINT ON THE WESTERLY LINE OF PROPOSED THE RETREAT AT HOOK FARMS; THENCE SOUTH 16°31'39" EAST, ALONG SAID WESTERLY LINE, 238.84 FEET; THENCE SOUTH 78°36'20" EAST, ALONG SAID WESTERLY LINE, 118.51 FEET; THENCE SOUTH 04°39'35" WEST, ALONG SAID WESTERLY LINE, 128.06 FEET; THENCE SOUTH 23°04'06" EAST, ALONG SAID WESTERLY LINE, 206.79 FEET; THENCE SOUTH 02°38'45" EAST, ALONG SAID WESTERLY LINE, 164.78 FEET; THENCE NORTH 87°58'48" WEST, ALONG SAID WESTERLY LINE, 45.85 FEET; THENCE SOUTH 01°54'56" WEST, ALONG SAID WESTERLY LINE, 76.13 FEET; THENCE NORTH 87°58'53" WEST, ALONG SAID WESTERLY LINE, 38.61 FEET TO A POINT ON THE EXISTING NORTHERLY RIGHT-OF-WAY LINE OF SW HOOK ROAD, AS ESTABLISHED BY RIGHT OF WAY DEED RECORDED AS INSTRUMENT NUMBER 2007E0016663 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE LEAVING SAID WESTERLY LINE, CONTINUING NORTH 87°58'53" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 125.00 FEET; THENCE SOUTH 02°01'07" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 10.00 FEET; THENCE NORTH 87°58'53" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 853.20 FEET TO THE NORTHWEST CORNER OF SAID RIGHT-OF-WAY DEED, ALSO BEING THE NORTHEAST CORNER OF SW HOOK ROAD, AS ESTABLISHED BY SAID RIGHT-OF-WAY DEED INSTRUMENT NUMBER 199910077639; THENCE CONTINUING NORTH 87°58'53" WEST ALONG THE EXISTING NORTHERLY RIGHT-OF-WAY LINE OF SAID SW HOOK ROAD, 252.00 FEET TO THE POINT OF BEGINNING. CONTAINING 1,085,519 SQUARE FEET OR 24.92 ACRES, MORE OR LESS.

BENCHMARK

JA-74
ELEVATION: 1058.10
N: 978461.2779
E: 2809447.9650
DESCRIPTION: KC METRO ALUMINUM GRS DISK SET IN CONCRETE. THE STATION IS STAMPED JA-74, 1988, AND PROJECTS ABOUT 1 INCH

SHEET LIST	
NUMBER	TITLE
C101	TITLE SHEET
C102	GENERAL NOTES
C103	GENERAL LAYOUT
C104	TYPICAL SECTIONS
C105	GRADING PLAN
C106	GRADING PLAN (FOR REFERENCE)
C107	SWALE 1 PLAN & PROFILE
C108	SWALE 2 PLAN & PROFILE
C109	SW HEARTLAND ROAD PLAN & PROFILE
C110	SW HEARTLAND ROAD PLAN & PROFILE
C111	SW HEARTLAND ROAD PLAN & PROFILE
C112	SW CROWN DRIVE PLAN & PROFILE
C113	SW HEARTLAND COURT PLAN & PROFILE
C114	TRAFFIC CONTROL PLAN
C115	SW HOOK ROAD & SW HEARTLAND ROAD DETAILS
C116	SW HEARTLAND ROAD & SW CROWN DRIVE DETAILS
C117	SW HEARTLAND ROAD & SW HEARTLAND COURT DETAILS
C118	SW HEARTLAND ROAD CUL-DE-SAC DETAILS
C119	SW HEARTLAND COURT CUL-DE-SAC DETAILS
C120	STORM SEWER PLAN & PROFILE (LINE 1)
C121	STORM SEWER PLAN & PROFILE (LINE 1)
C122	STORM SEWER PLAN & PROFILE (LINE 2)
C123	STORM SEWER PLAN & PROFILE (LINE 3)
C124	STORM SEWER PLAN & PROFILE (LINE 4)
C125	STORM SEWER PLAN & PROFILE (LINE 5)
C126	STORM SEWER PLAN & PROFILE (LINE 6)
C127	STORM SEWER PLAN & PROFILE (LINE 6)
C128	WATER QUALITY BASIN PLAN
C129	MASTER DRAINAGE PLAN
C130	DRAINAGE PLAN
C131	DRAINAGE TABLES
C132	DETAIL SHEET
C133	DETAIL SHEET
C134	DETAIL SHEET

PROJECT TEAM & UTILITY CONTACT LIST	
OWNER / DEVELOPER HUNT MIDWEST REAL ESTATE DEVELOPMENT, INC. 8300 NE UNDERGROUND DRIVE KANSAS CITY, MO 64161 CONTACT: AARON SCHMIDT PHONE: 816.455.2500	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 OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JULIE E. SELLERS, P.E. PHONE: 816.361.1177 EMAIL: JSSELLERS@OLSSON.COM	
SURVEYOR OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH, P.L.S. PHONE: 816.361.1177 EMAIL: JROUDEBOUSH@OLSSON.COM	

NOT FOR CONSTRUCTION
 REVIEWED FOR CONSTRUCTION

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

JULIE E. SELLERS, P.E.
 CIVIL ENGINEER
 MO # PE-2017000367

9/24/21
DATE

PL2021165
PRSUBD20214053

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 Development Services Department
 Lee's Summit, Missouri
 03/08/2022

Olsson - Civil Engineering
 Missouri Certificate of Authority #001592
 1301 Burlington Street
 North Kansas City, MO 64116
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1	08-26-2021	REVISED PER CITY COMMENTS	

TITLE SHEET
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET C101

DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final_plans\Sheets\GNCV\Street & Storm Sewer Plans\C_TTL01_A194059.dwg
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 USER: cabdigaliyev
 XREFS: C_PTBK_A194059 C_PBNDY_A194059



DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans\Storm Sewer Plans\C_TTL01_A194059.dwg
 DATE: Sep 21, 2021 2:26pm
 USER: cabbigaliyev
 C:\PBDY_A194059

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

ESTIMATE OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
STREET				
	EXCAVATION	C.Y.	4389	
	EMBANKMENT	C.Y.	9192	
	SUBGRADE STABILIZATION (6" FLYASH TREATMENT)	S.Y.	8579	
	6" ASPHALT PAVEMENT	S.Y.	6895	
	CONCRETE CURB & GUTTER (CG-2)	L.F.	4467	
	CONCRETE CURB & GUTTER (CG-1 DRY)	L.F.	153	
	MILL & OVERLAY	S.Y.	68	
	CONCRETE SIDEWALK	L.F.	88	⚠
	ADA RAMP	EA.	8	
	STOP SIGNS	EA.	3	
	STREET NAME SIGNS	EA.	6	⚠
STORM				
	STD. CURB INLET (5'x3' INSIDE)	EA.	14	
	STD. CURB INLET (5'x4' INSIDE)	EA.	1	
	STD. STORM MANHOLE (4' DIA. INSIDE)	EA.	1	
	STD. FIELD INLET (4'x4' INSIDE)	EA.	6	
	WATER QUALITY BASIN OUTLET STRUCTURE	EA.	1	
	12" PVC	L.F.	82.41	
	15" HDPE	L.F.	1,460.89	
	18" HDPE	L.F.	436.92	
	24" HDPE	L.F.	422.15	
	30" HDPE	L.F.	200.93	
	12" HDPE END SECTION	EA.	1	
	24" HDPE END SECTION	EA.	1	
	30" HDPE END SECTION	EA.	1	
	RIPRAP	S.Y.	44.45	
	TURF REINFORCEMENT MAT	S.Y.	91	

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.

olsson

Olsson - Civil Engineering
 Missouri Certificate of Authority #001592
 1301 Burlington Street
 North Kansas City, MO 64116
 TEL 816.361.1177
 FAX 816.361.1888
 www.olsson.com



REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	

GENERAL NOTES
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021
 REVISIONS

drawn by: B.M.W./A.A.
 checked by: B.M.W.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

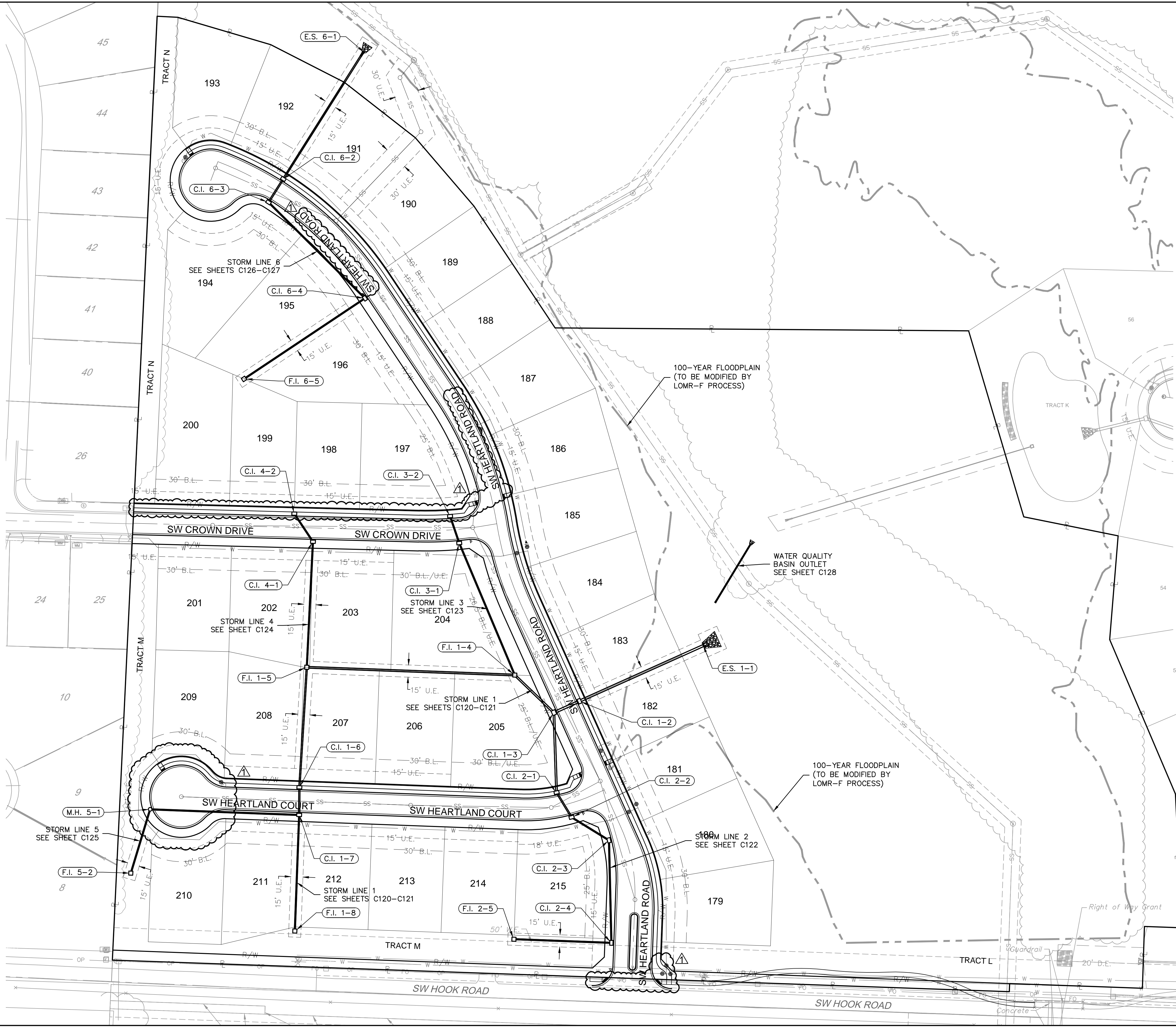
RELEASED FOR CONSTRUCTION
 As Noted on Plans Review

Development Services Department
 Lee's Summit, Missouri
 03/08/2022

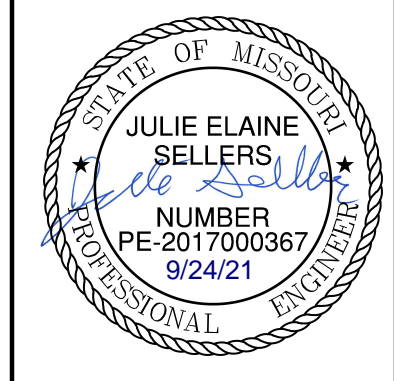
**SHEET
 C102**

DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans\Sheets\GNCV\Street & Storm Sewer Plans\C_GEN01_A194059.dwg USER: aabdgaliyev
 DATE: Sep 21, 2021 2:27pm XREFS: C_PTBK_A194059 C_PBASE_A194059 C_PENDY_A194059 C_PUTIL_A194059 C_XBASE_A194059

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GENERAL LAYOUT
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
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 QA/QC by: J.E.S.
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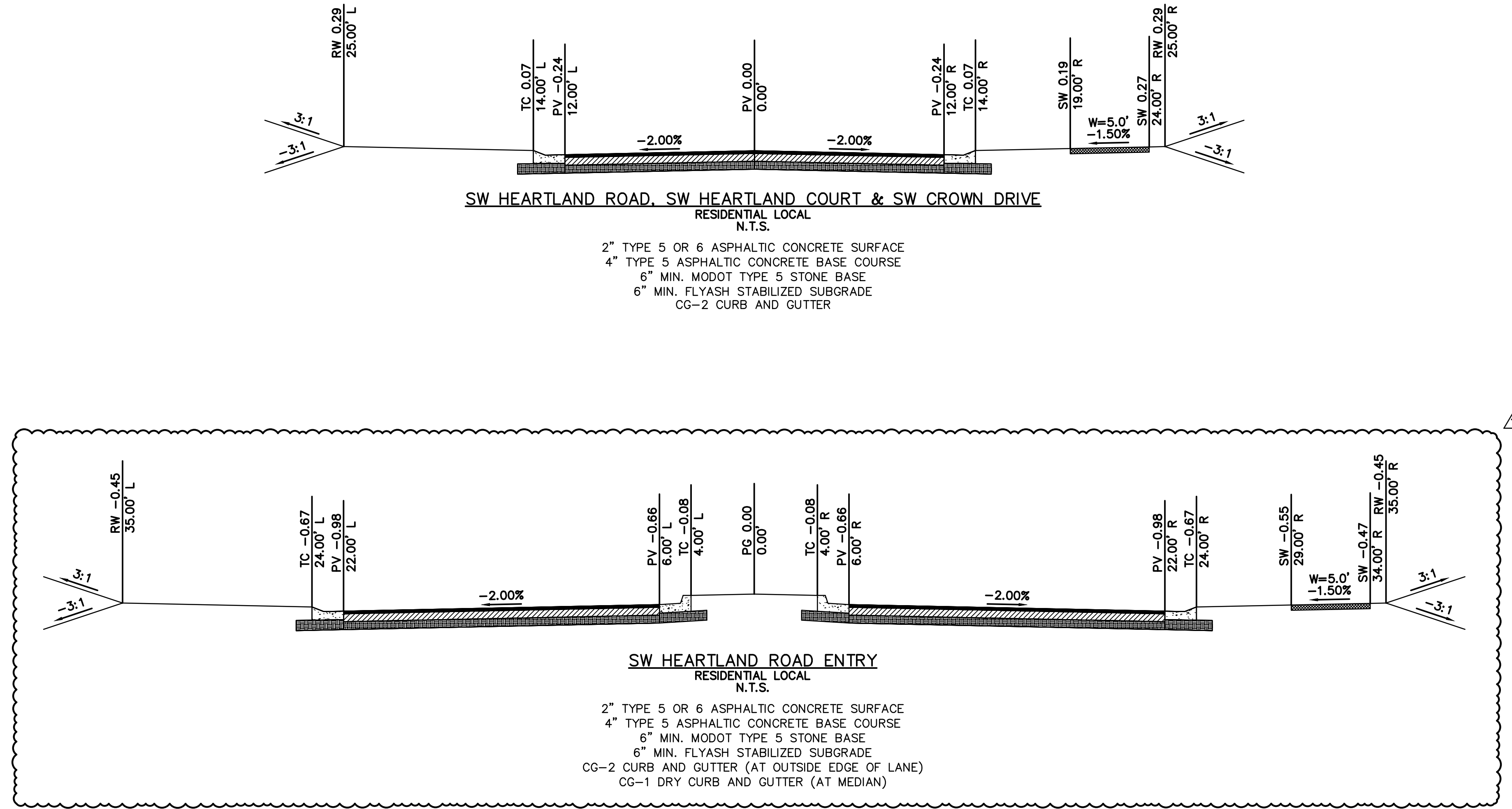
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 C103

USER: abaidgaliev

DATE: 08/26/2021 2:27pm

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DATE: Sep 21, 2021 2:27pm



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Development Services Department
Lee's Summit, Missouri
03/08/2022

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TYPICAL SECTIONS STREET & STORM SEWER PLANS	2021
THE RETREAT AT HOOK FARMS SECOND PLAT	
LEE'S SUMMIT, MO	

drawn by: B.M.W./A.A.
checked by: B.M.W.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: A19-4059
date: 05-05-2021

SHEET C104

REVISIONS

GENERAL NOTES:

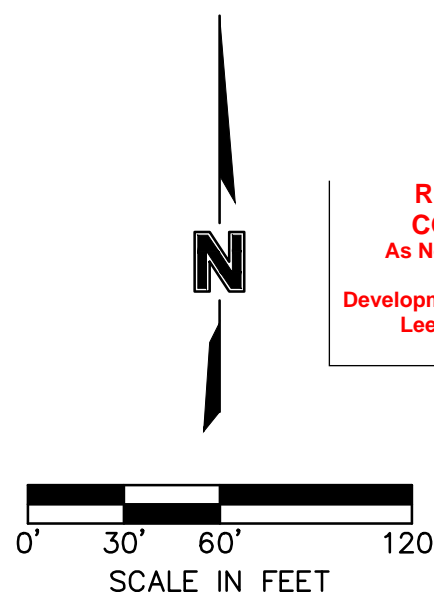
- CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.
- AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH 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	4,389	9,192
SITE	45,873	31,198
TOTAL	50,262	40,390

EARTHWORK QUANTITIES NOTES:

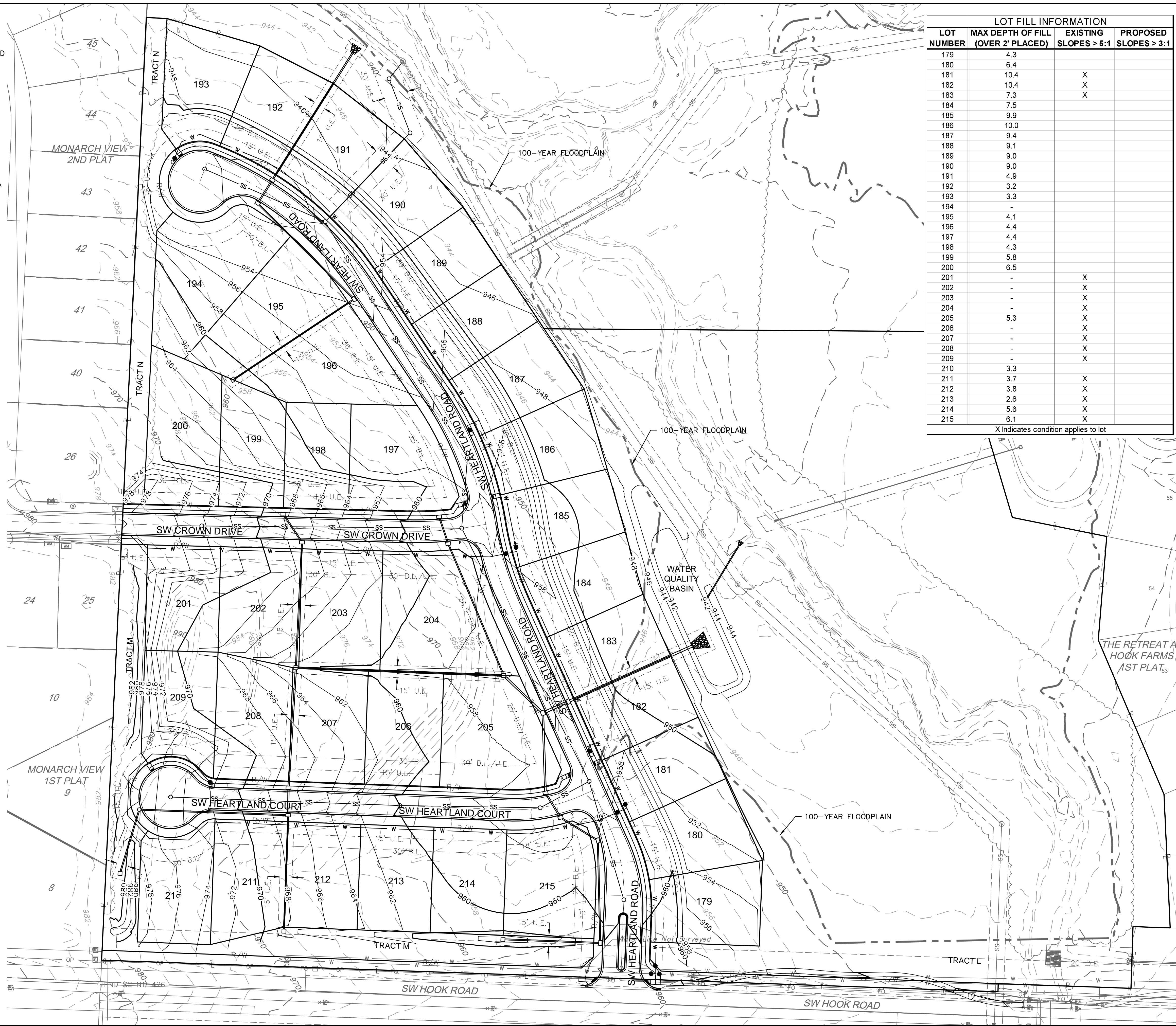
- EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
- EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR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

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 USER: aabidigaliyev



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 Lee's Summit, Missouri
 03/08/2022

LEGEND	
	EXISTING INDEX CONTOURS
	EXISTING INTERMEDIATE CONTOURS
	PROPOSED INDEX CONTOURS
	PROPOSED INTERMEDIATE CONTOURS



LOT FILL INFORMATION			
LOT NUMBER	MAX DEPTH OF FILL (OVER 2' PLACED)	EXISTING SLOPES > 5:1	PROPOSED SLOPES > 3:1
179	4.3		
180	6.4		
181	10.4	X	
182	10.4	X	
183	7.3	X	
184	7.5		
185	9.9		
186	10.0		
187	9.4		
188	9.1		
189	9.0		
190	9.0		
191	4.9		
192	3.2		
193	3.3		
194	-		
195	4.1		
196	4.4		
197	4.4		
198	4.3		
199	5.8		
200	6.5		
201	-	X	
202	-	X	
203	-	X	
204	-	X	
205	5.3	X	
206	-	X	
207	-	X	
208	-	X	
209	-	X	
210	3.3		
211	3.7	X	
212	3.8	X	
213	2.6	X	
214	5.6	X	
215	6.1	X	

X Indicates condition applies to lot

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 JULIE ELAINE SELLERS
 PE-2017000367
 9/24/21
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	

GRADING PLAN
STREET & STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
SECOND PLAT

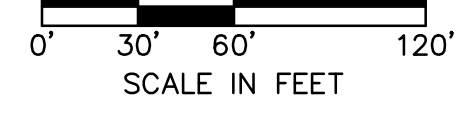
LEE'S SUMMIT, MO
 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

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.
4. REFER TO HOOK FARMS 2ND PLAT PLANS FOR MORE DETAILS ABOUT EARTHWORK SHOWN ON THIS SHEET.

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Development Services Department
Lee's Summit, Missouri
03/08/2022

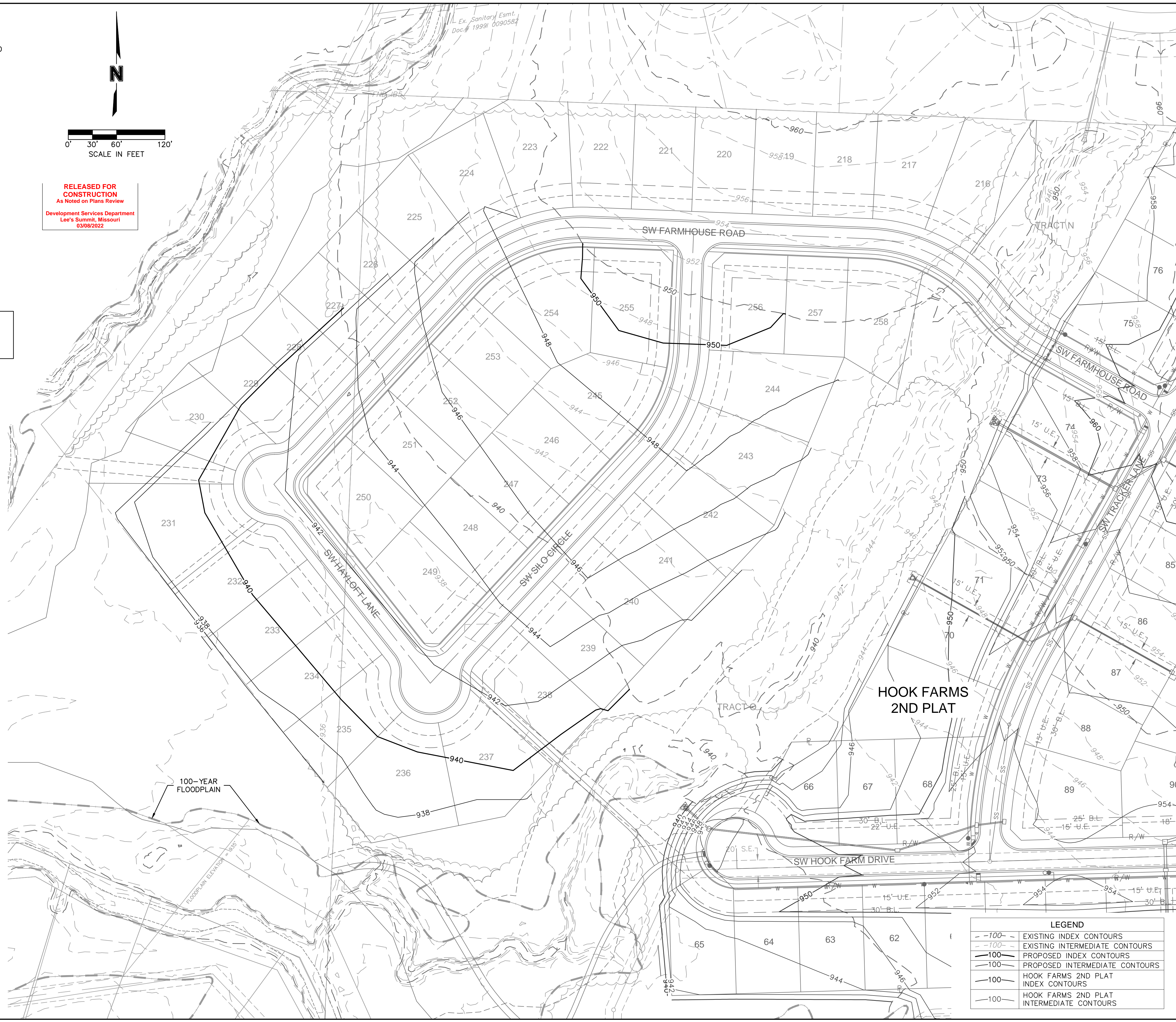


EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
FUTURE PHASE	0	54,547

FUTURE PHASE EARTHWORK CONTRIBUTIONS	
LOCATION	FILL (C.Y.)
HOOK FARMS 2ND PLAT	42,194
RETREAT AT HOOK FARMS 2ND PLAT	9,872
EXCESS	2,481

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.

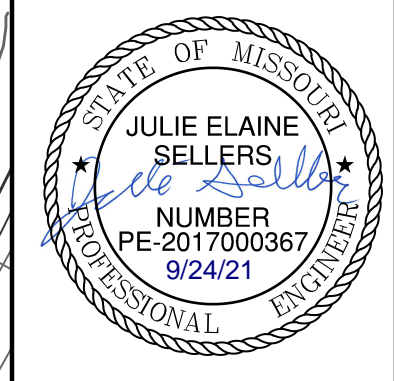


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- - - 100 - - -	EXISTING INTERMEDIATE CONTOURS
— 100 —	PROPOSED INDEX CONTOURS
— 100 —	PROPOSED INTERMEDIATE CONTOURS
- - - 100 - - -	HOOK FARMS 2ND PLAT INDEX CONTOURS
- - - 100 - - -	HOOK FARMS 2ND PLAT INTERMEDIATE CONTOURS

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1	08-26-2021	REVISED PER CITY COMMENTS	

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

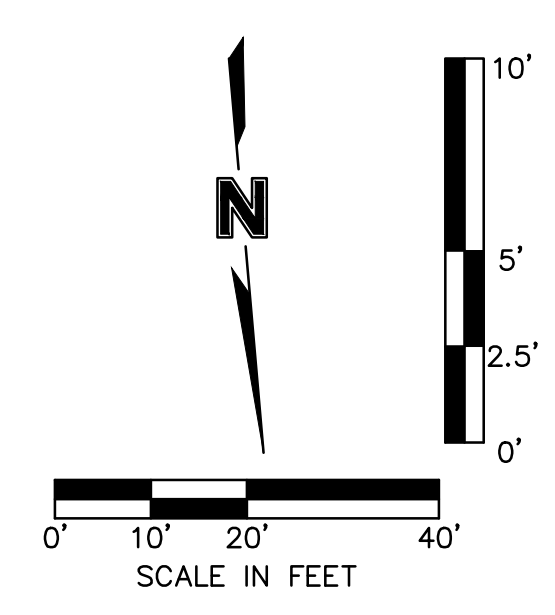
**THE RETREAT AT HOOK FARMS
SECOND PLAT**

LEE'S SUMMIT, MO

2021

drawn by: B.M.W./A.A.
checked by: B.M.W./A.A.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: A19-4059
date: 05-05-2021

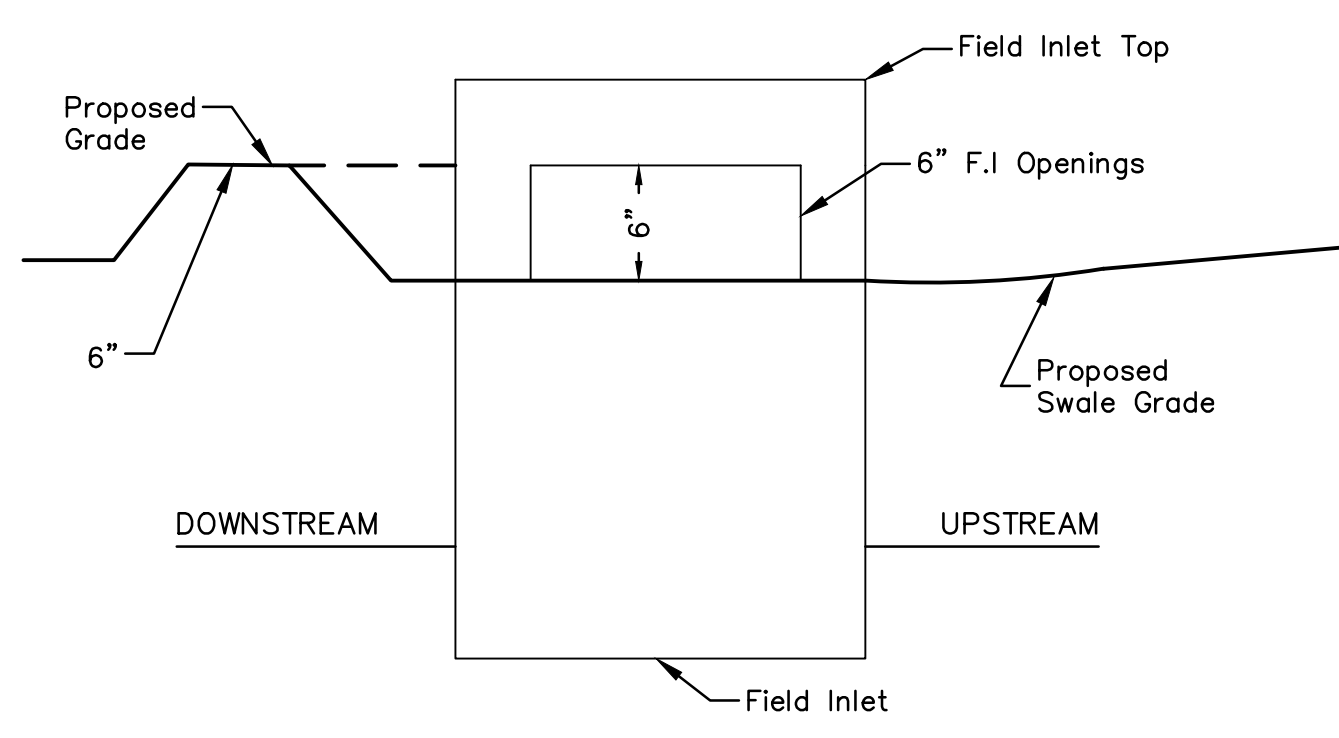
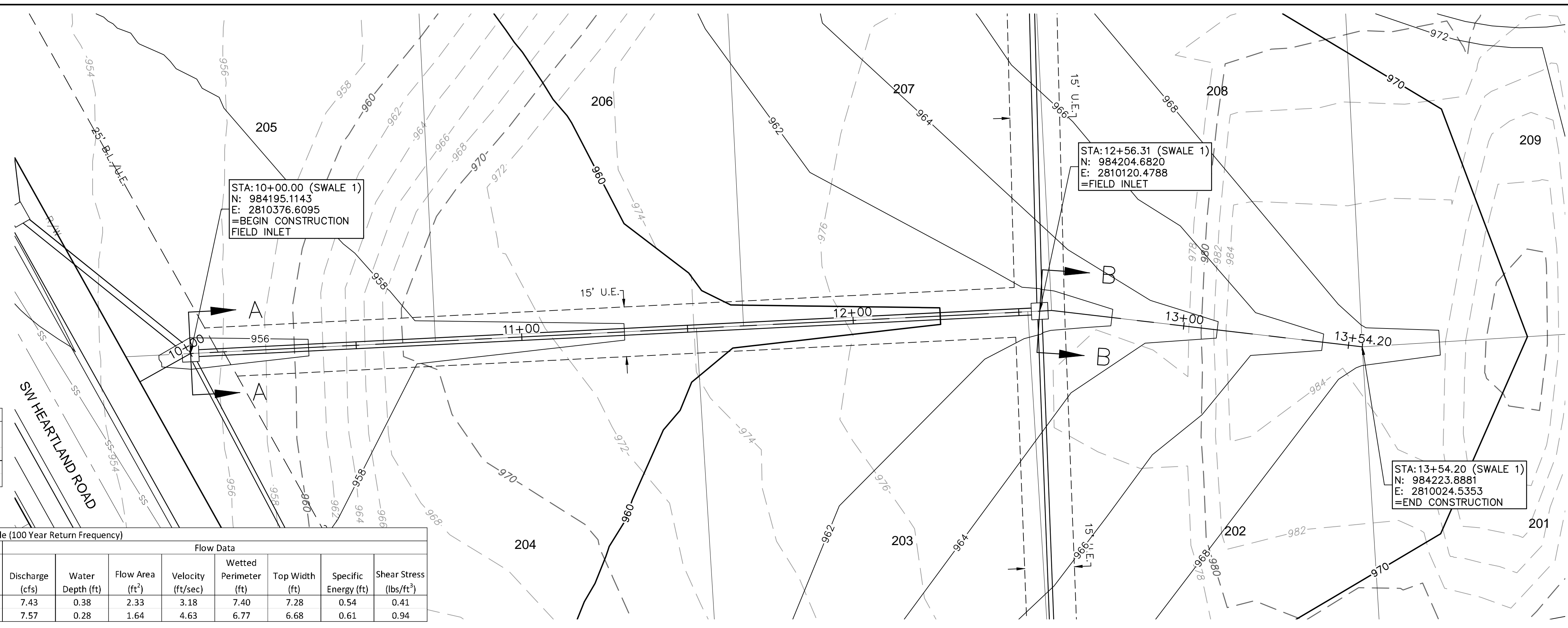
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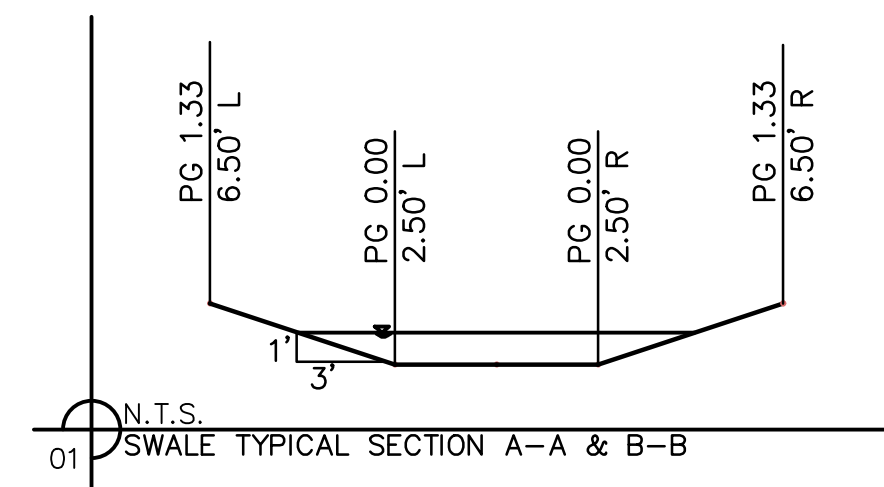
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 Lee's Summit, Missouri
 03/08/2022

Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
A-A	1.13	0.51	5	10.32	1.25	7.43
B-B	1.15	0.51	5	10.32	1.25	7.57

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	2.10%	1.38	3:1	3:1	5.00	7.43	0.38	2.33	3.18	7.40	7.28	0.54	0.41
B-B	0.03	6.25%	1.28	3:1	3:1	5.00	7.57	0.28	1.64	4.63	6.77	6.68	0.61	0.94

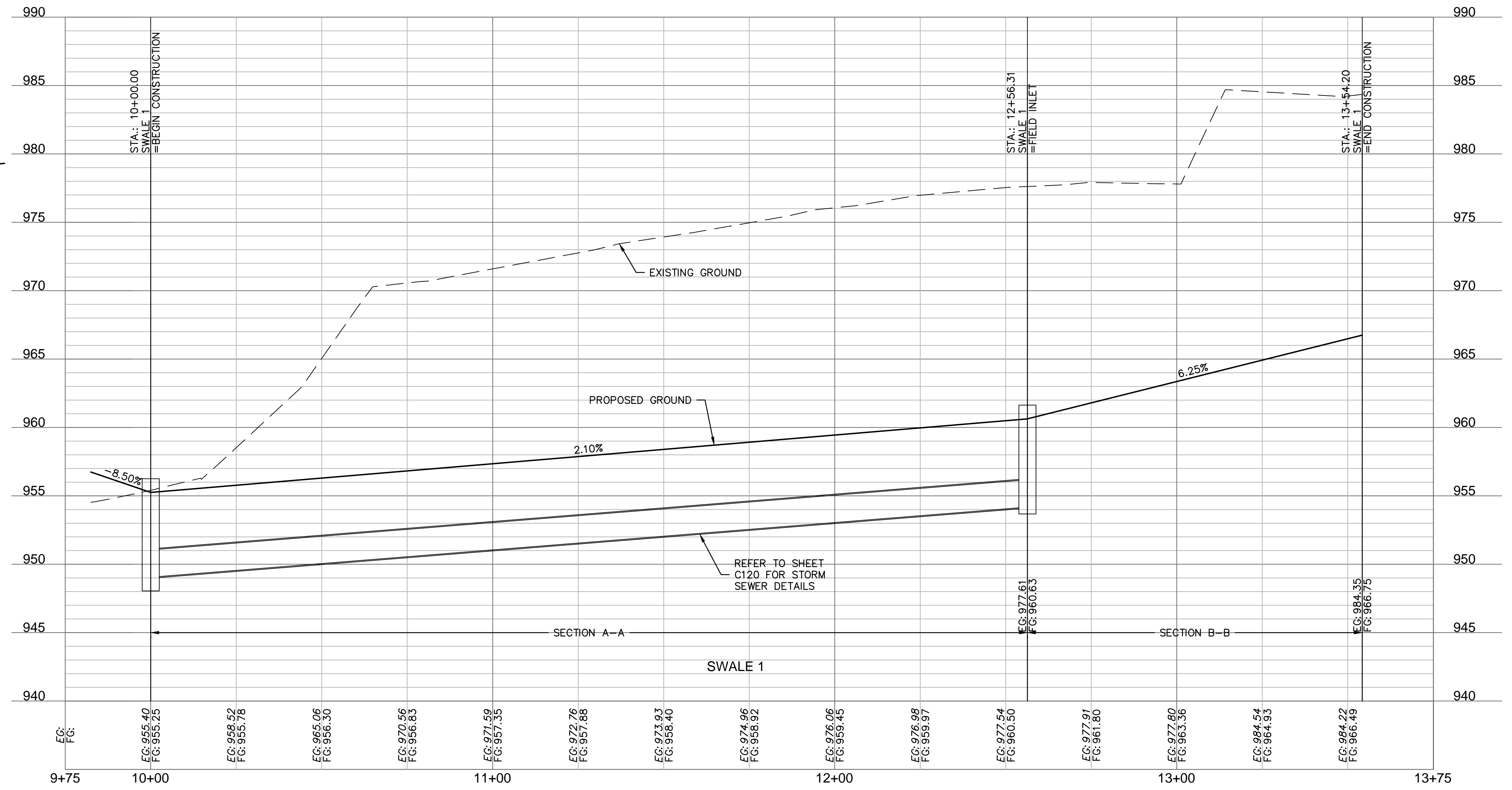


SUMP DETAIL
N.T.S.



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.



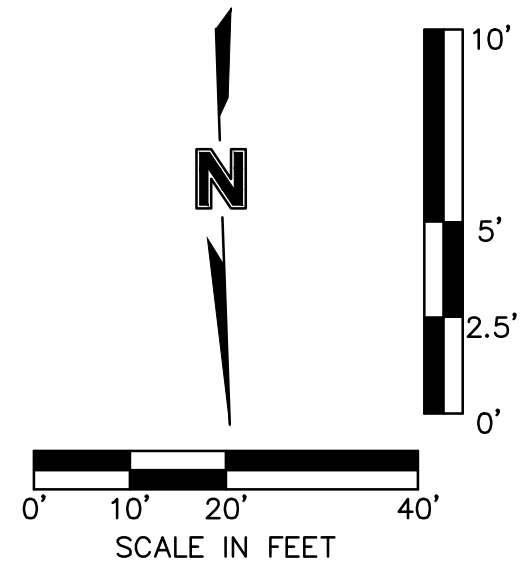
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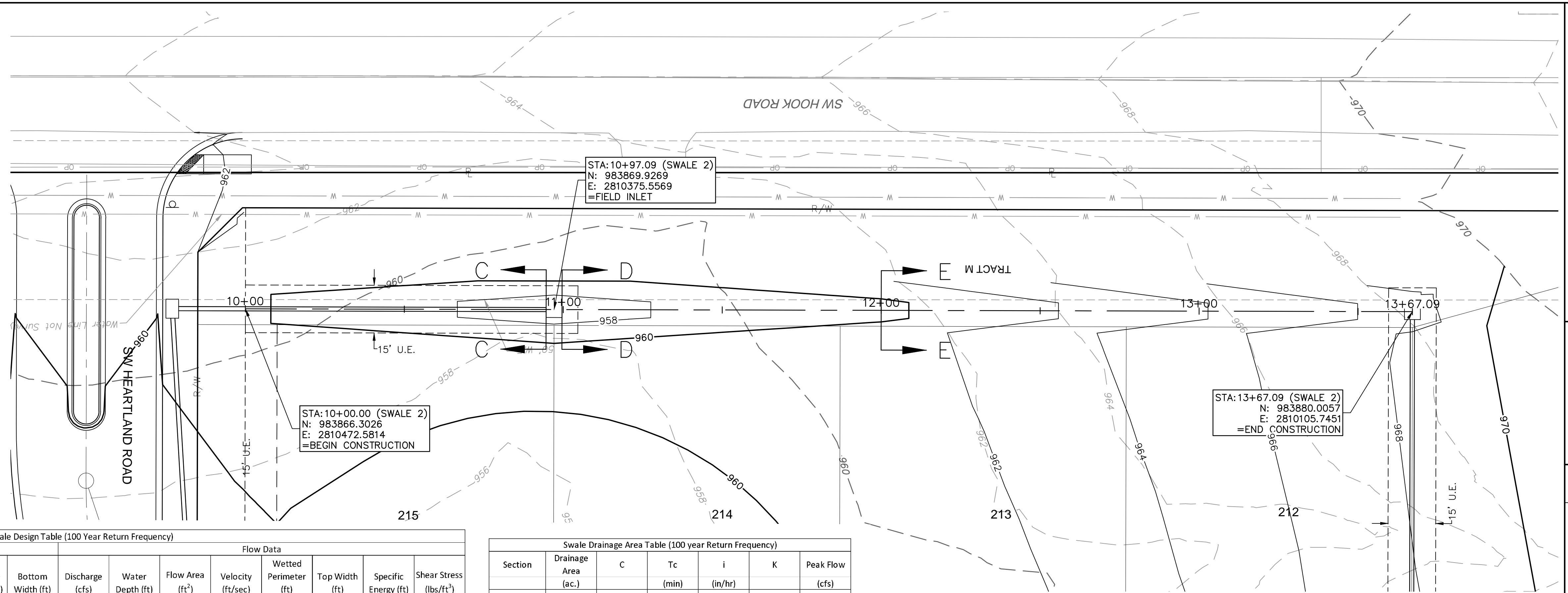
SWALE 1 PLAN & PROFILE
STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059B
 date: 05-05-2021

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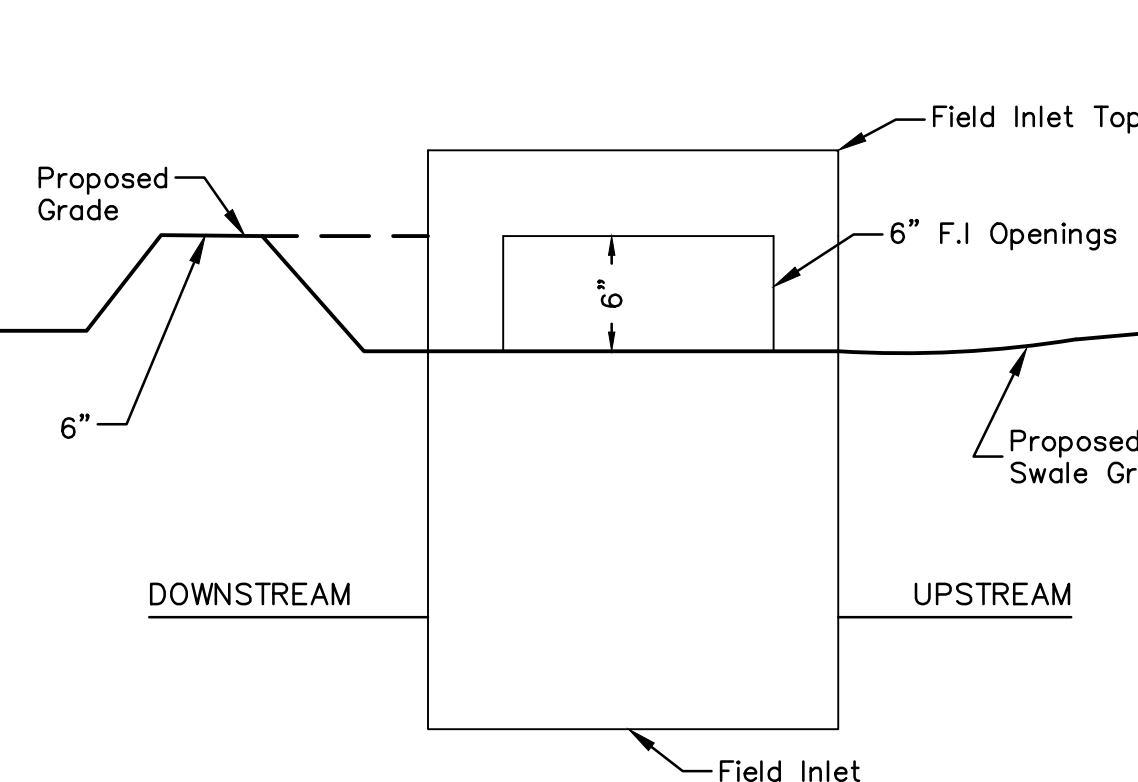


Swale Design Table (100 Year Return Frequency)

SECTION	Section Data						Flow Data							
	Manning's Coefficient	Channel Slope (%)	Channel 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	2.25%	1.14	3:1	3:1	5.00	1.38	0.14	0.76	1.82	5.89	5.84	0.19	0.18
D-D	0.03	2.25%	1.24	3:1	3:1	5.00	3.62	0.24	1.39	2.60	6.67	6.60	0.35	0.29
E-E	0.03	4.25%	1.14	3:1	3:1	5.00	1.97	0.14	0.76	2.60	5.89	5.84	0.24	0.34

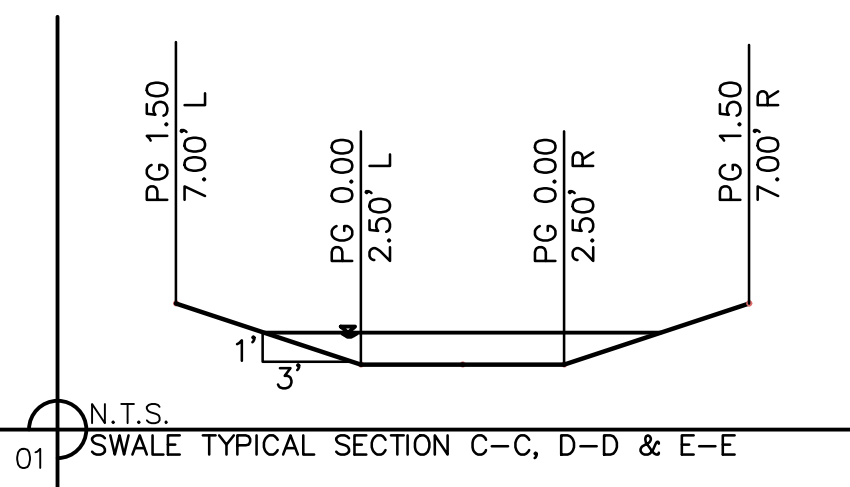
Swale Drainage Area Table (100 year Return Frequency)

Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
C-C	0.21	0.51	5	10.32	1.25	1.38
D-D	0.55	0.51	5	10.32	1.25	3.62
E-E	0.30	0.51	5	10.32	1.25	1.97



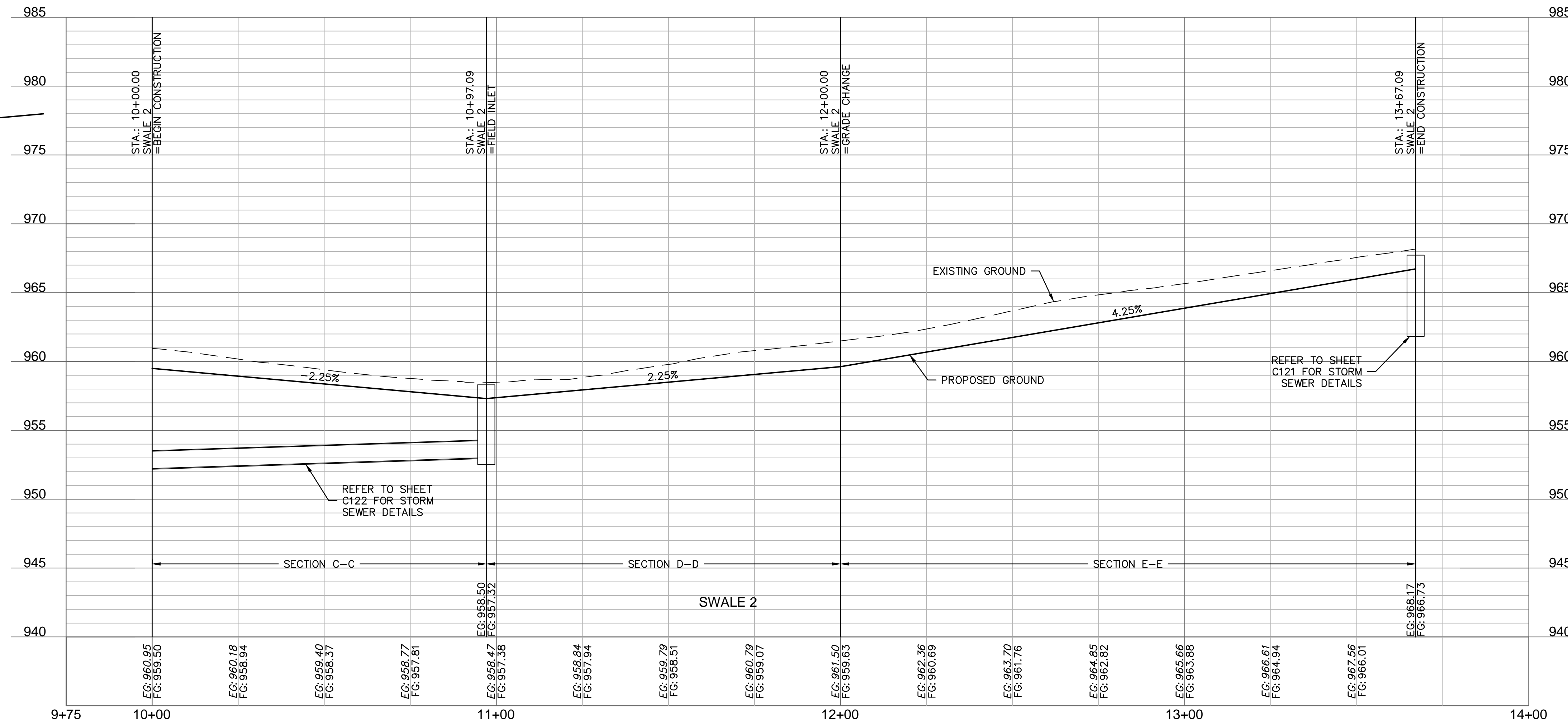
NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE FIELD INLETS ARE LOCATED WITHIN SWALES.

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.



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 JULIE ELAINE SELLERS
Julie Sellers
 NUMBER PE-2017000367
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 PROFESSIONAL ENGINEER

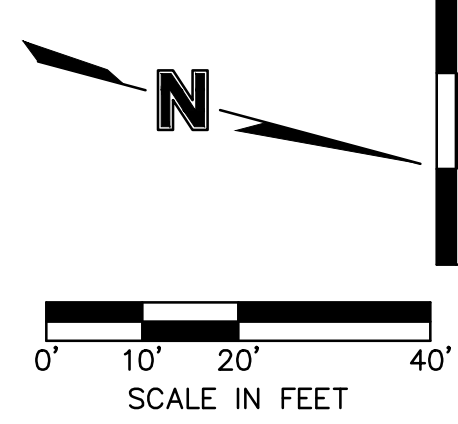
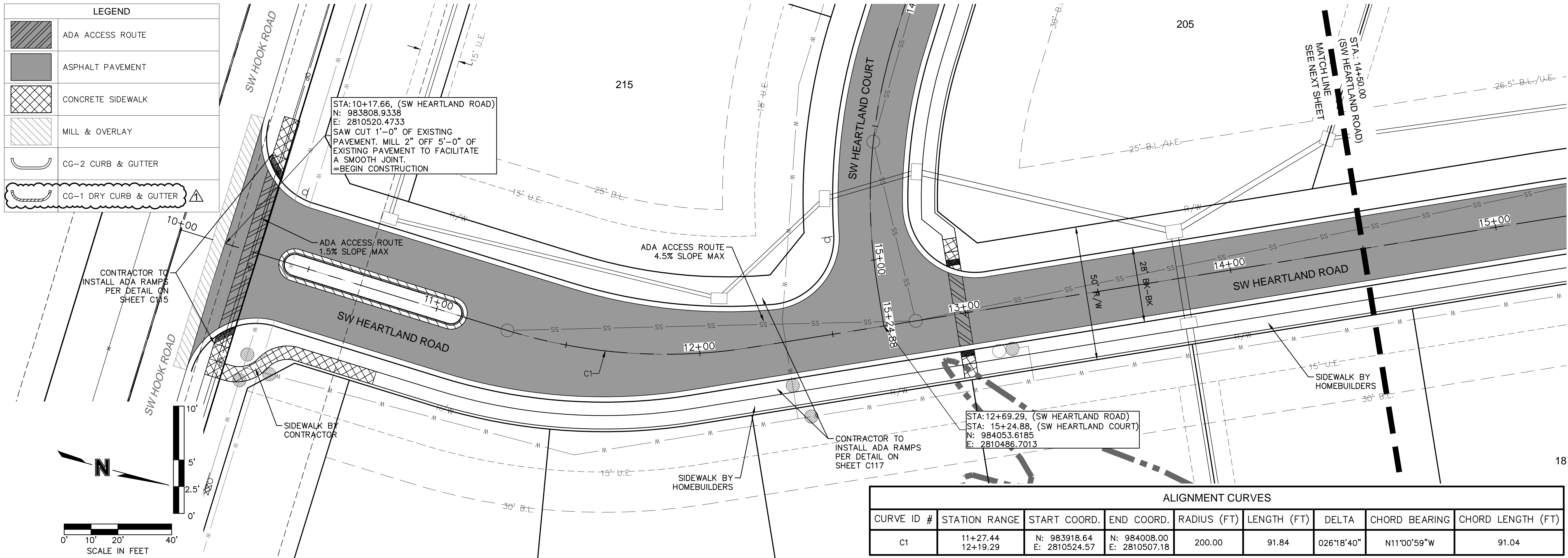
REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS

SWALE 2 PLAN & PROFILE
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

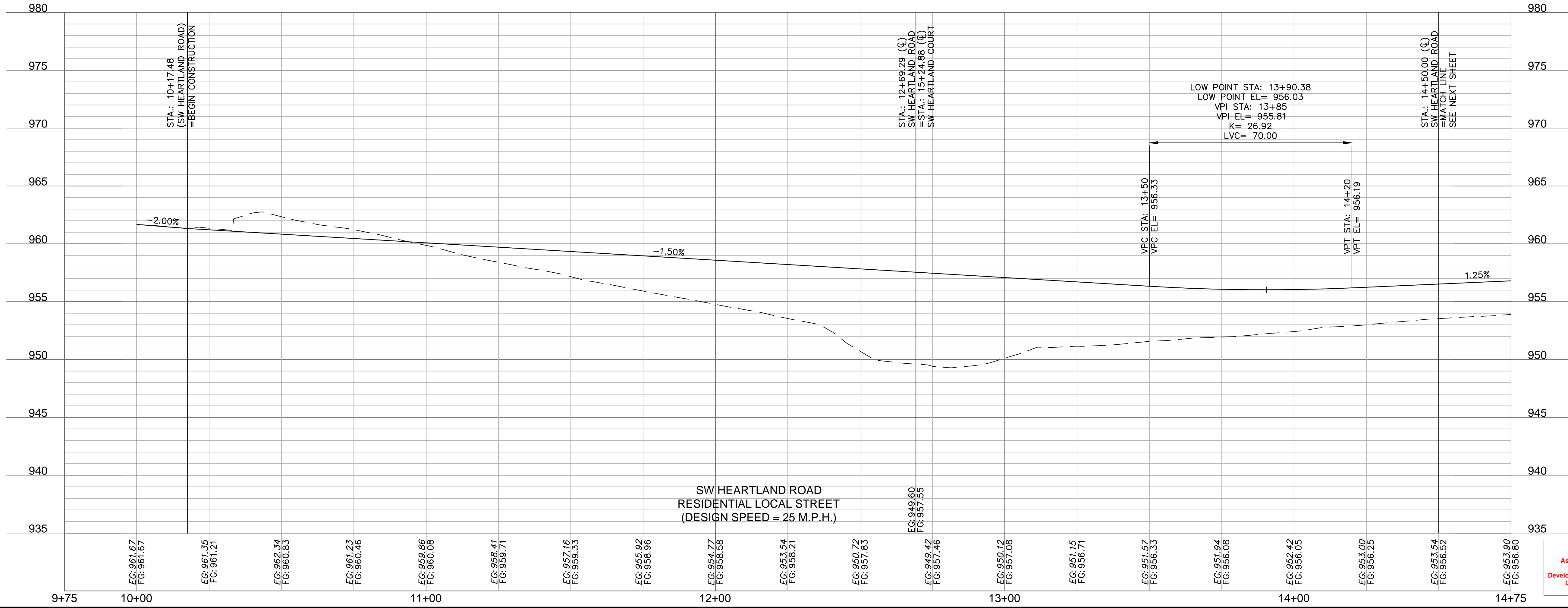
drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

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LEGEND	
	ADA ACCESS ROUTE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	MILL & OVERLAY
	CG-2 CURB & GUTTER
	CG-1 DRY CURB & GUTTER



ALIGNMENT CURVES								
CURVE ID #	STATION RANGE	START COORD.	END COORD.	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C1	11+27.44 12+19.29	N: 983918.64 E: 2810524.57	N: 984008.00 E: 2810507.18	200.00	91.84	026°18'40"	N11°00'59"W	91.04



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SW HEARTLAND ROAD PLAN & PROFILE
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO 2021

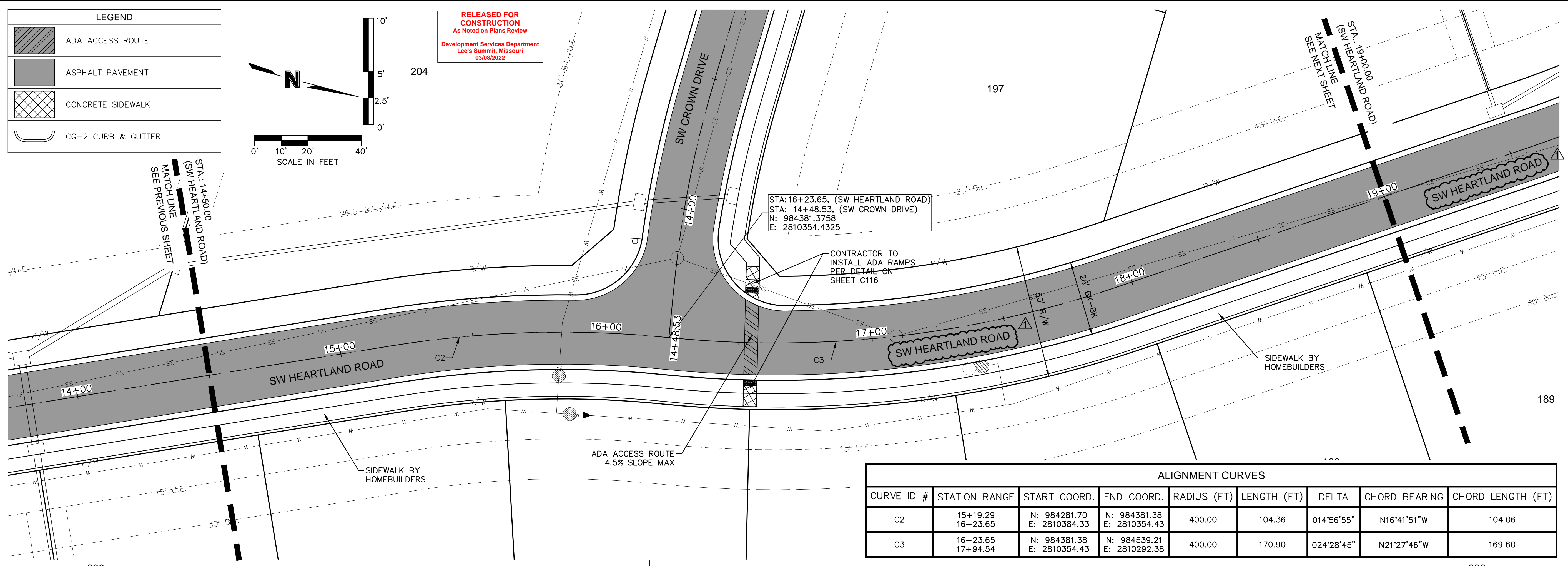
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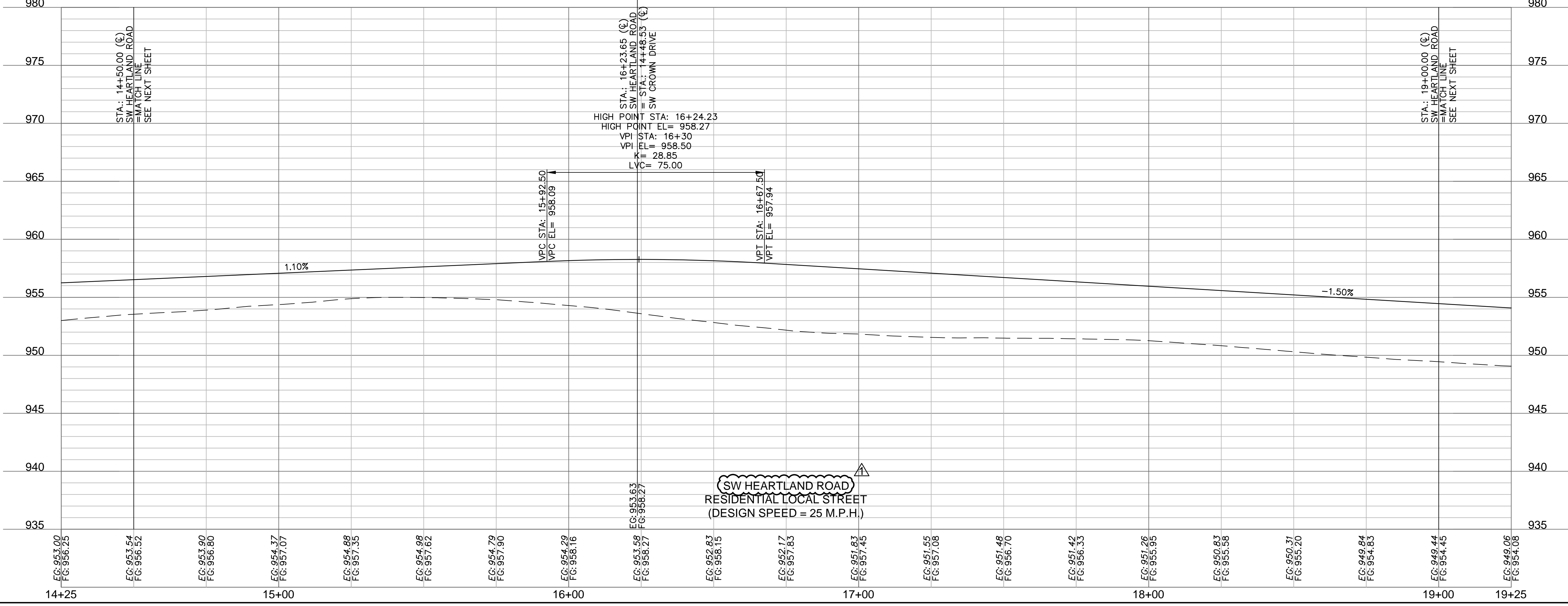
REVISIONS

SHEET C109

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 USER: abbdigaliyev



ALIGNMENT CURVES								
CURVE ID #	STATION RANGE	START COORD.	END COORD.	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C2	15+19.29 16+23.65	N: 984281.70 E: 2810384.33	N: 984381.38 E: 2810354.43	400.00	104.36	014°56'55"	N16°41'51"W	104.06
C3	16+23.65 17+94.54	N: 984381.38 E: 2810354.43	N: 984539.21 E: 2810292.38	400.00	170.90	024°28'45"	N21°27'46"W	169.60



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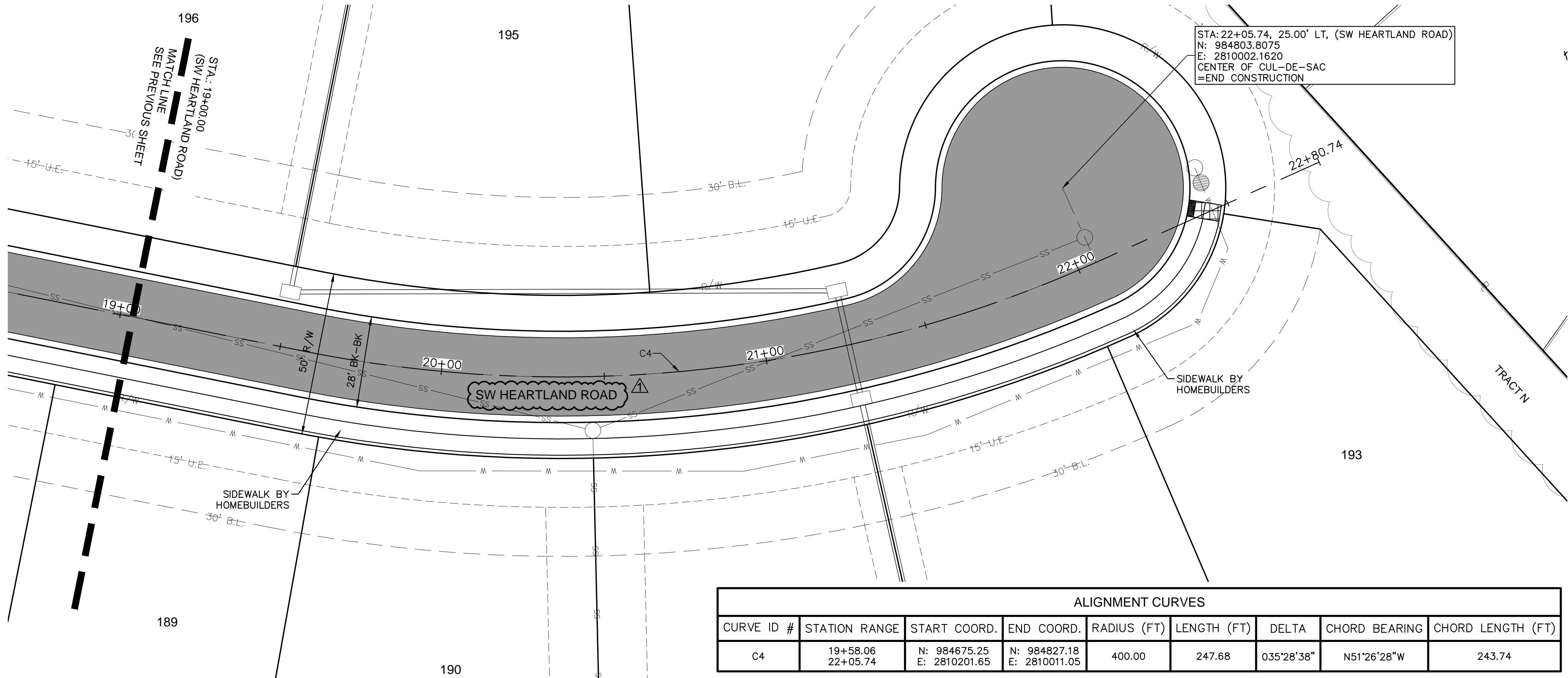
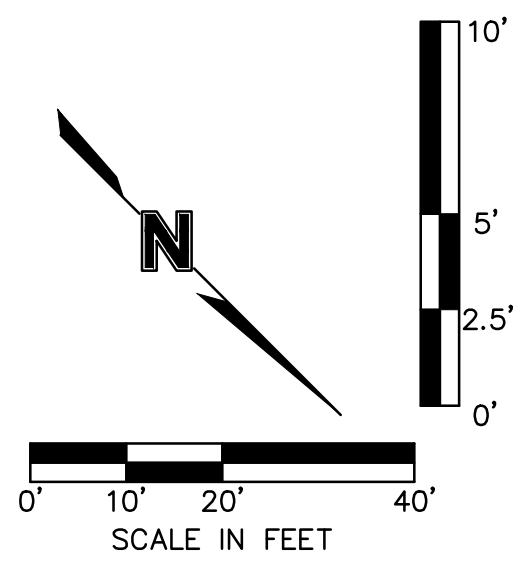
BY	REVISIONS

SW HEARTLAND ROAD PLAN & PROFILE STREET & STORM SEWER PLANS THE RETREAT AT HOOK FARMS SECOND PLAT	2021 LEE'S SUMMIT, MO
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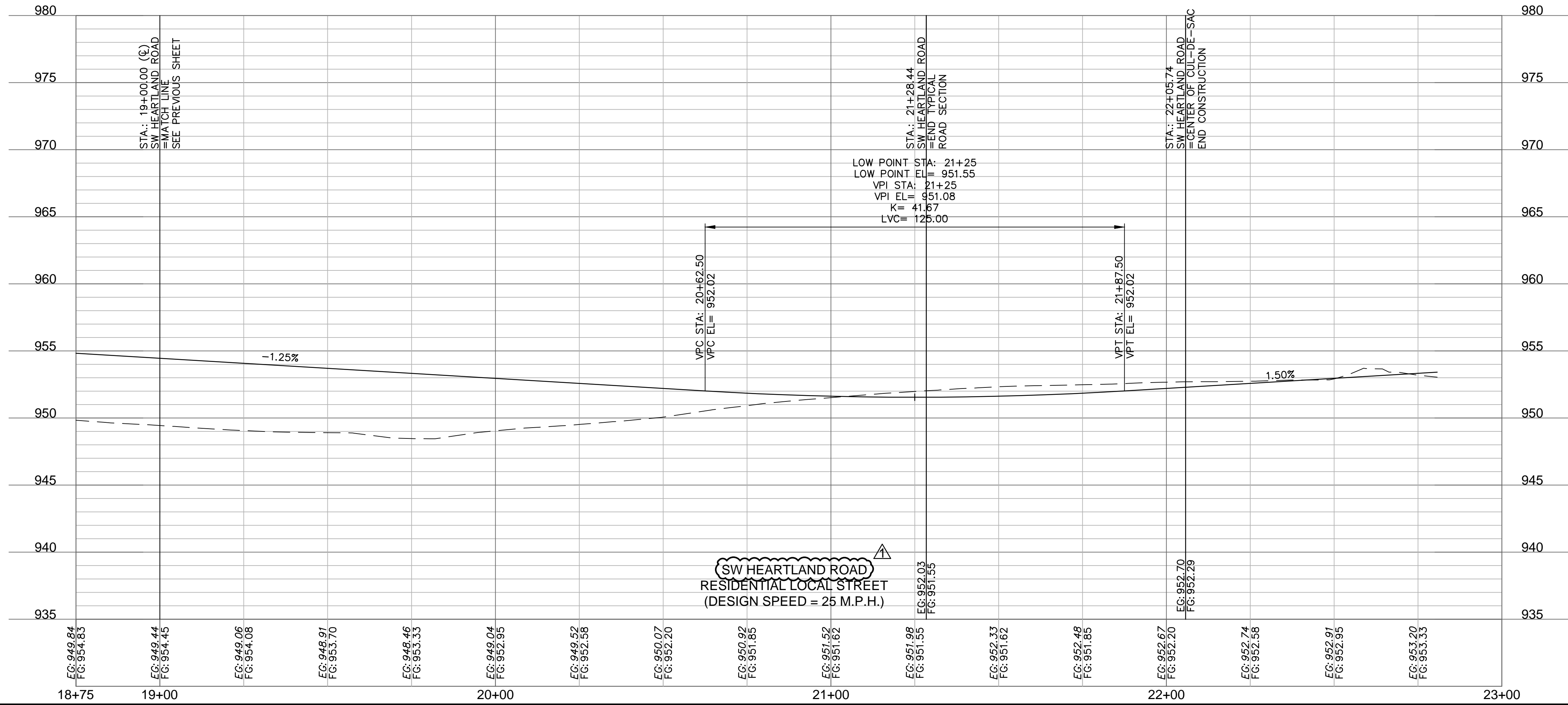
drawn by:	B.M.W./A.A.
checked by:	B.M.W./A.A.
QA/QC by:	B.M.W./A.A.
project no.:	A19-4059B
date:	05-05-2021

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 USER: aabidgaliyev

LEGEND	
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER



ALIGNMENT CURVES								
CURVE ID #	STATION RANGE	START COORD.	END COORD.	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C4	19+58.06 22+05.74	N: 984675.25 E: 2810201.65	N: 984827.18 E: 2810011.05	400.00	247.68	035°28'38"	N51°26'28"W	243.74



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 Lee's Summit, Missouri
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	

SW HEARTLAND ROAD PLAN & PROFILE
 STREET & STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
 SECOND PLAT

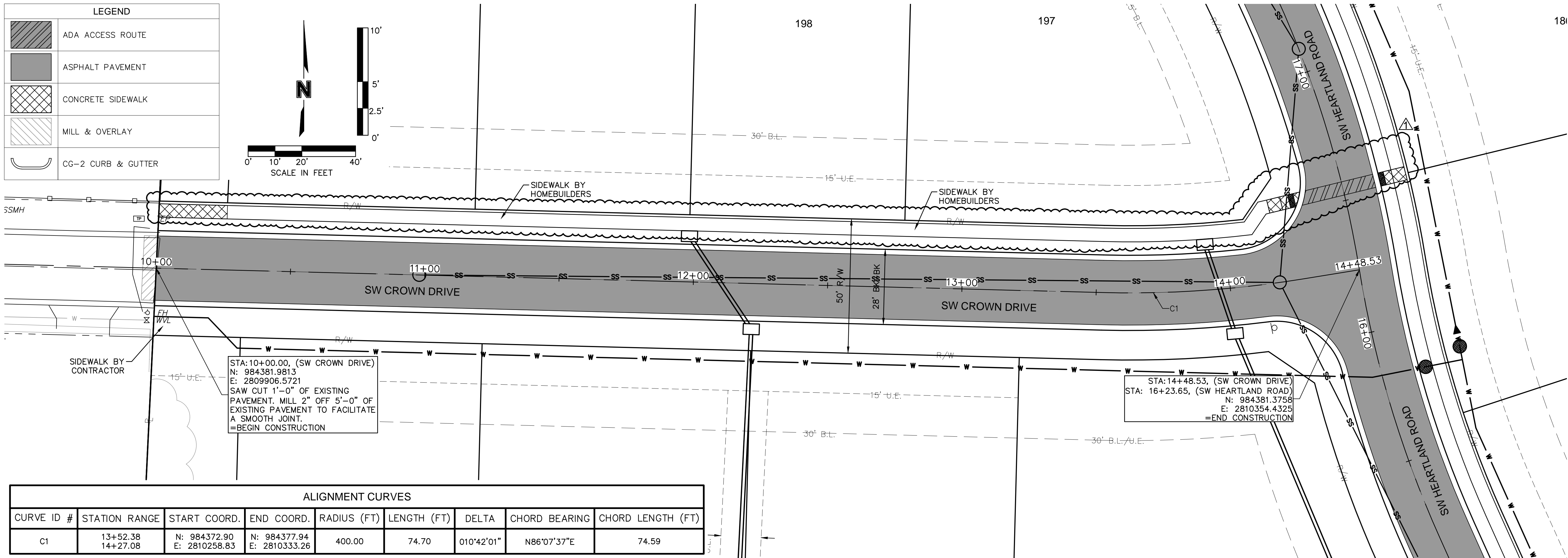
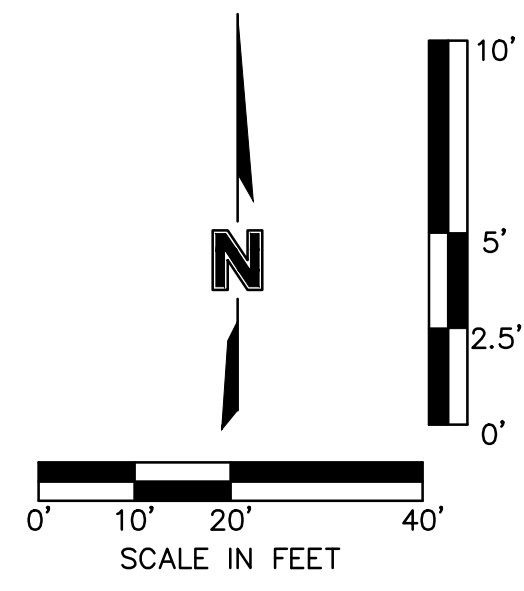
LEE'S SUMMIT, MO

2021

SHEET
C111

DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans\Storm Sewer Plans\C_PPP02_A194059.dwg
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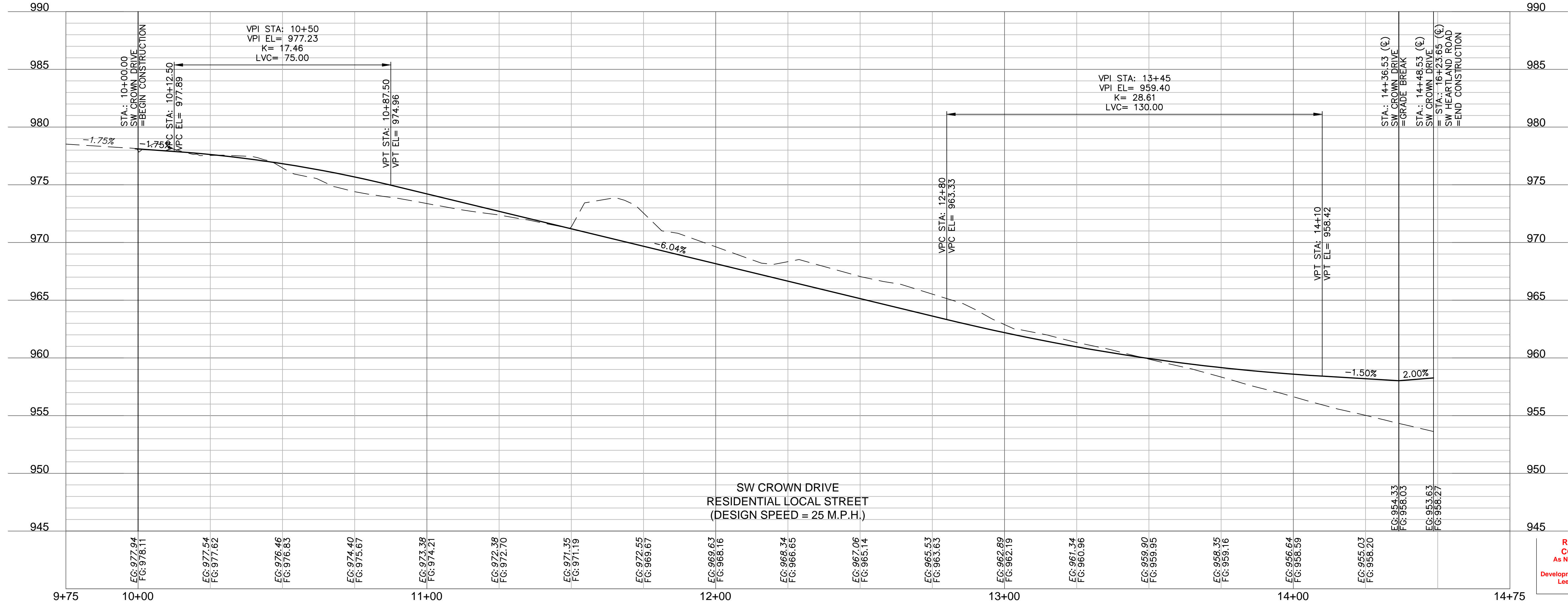
LEGEND	
	ADA ACCESS ROUTE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	MILL & OVERLAY
	CG-2 CURB & GUTTER



STA: 10+00.00, (SW CROWN DRIVE)
 N: 984381.9813
 E: 2809906.5721
 SAW CUT 1'-0" OF EXISTING PAVEMENT. MILL 2" OFF 5'-0" OF EXISTING PAVEMENT TO FACILITATE A SMOOTH JOINT.
 =BEGIN CONSTRUCTION

STA: 14+48.53, (SW CROWN DRIVE)
 N: 984381.3758
 E: 2810354.4325
 =END CONSTRUCTION

ALIGNMENT CURVES								
CURVE ID #	STATION RANGE	START COORD.	END COORD.	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C1	13+52.38 14+27.08	N: 984372.90 E: 2810258.83	N: 984377.94 E: 2810333.26	400.00	74.70	010°42'01"	N86°07'37"E	74.59



SW CROWN DRIVE
 RESIDENTIAL LOCAL STREET
 (DESIGN SPEED = 25 M.P.H.)

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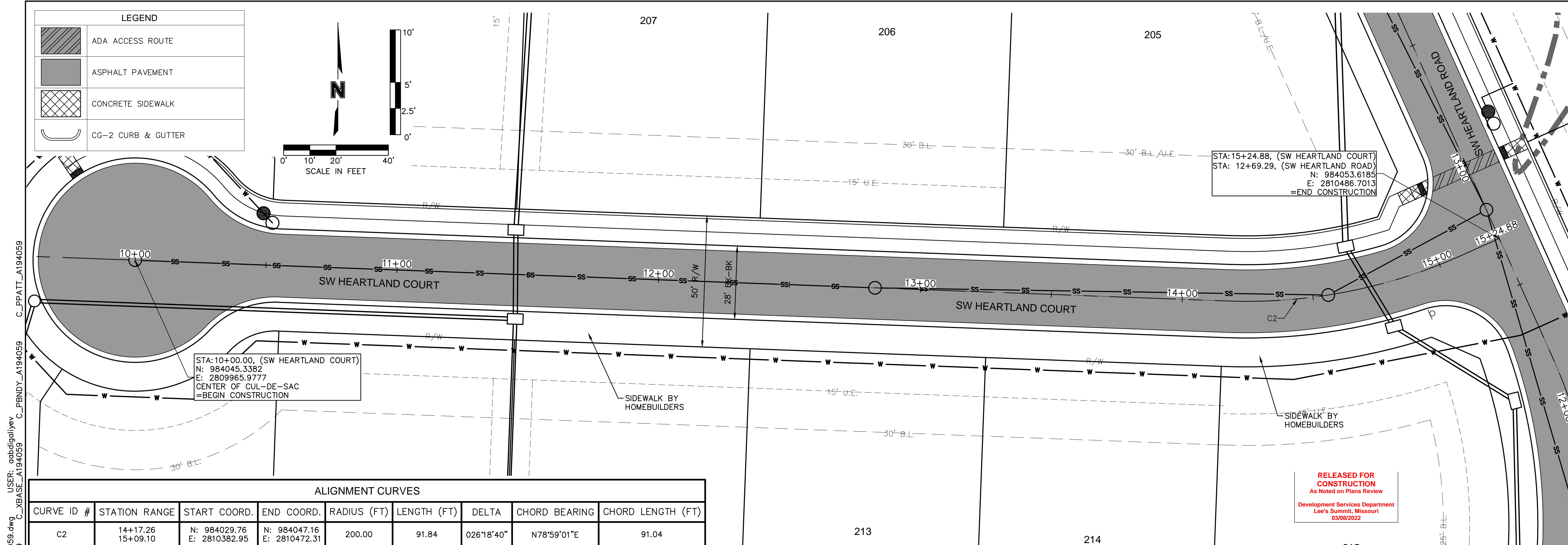
STATE OF MISSOURI
 JULIE ELAINE SELLERS
Julie Sellers
 NUMBER PE-2017000367
 9/24/21
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISIONS PER CITY COMMENTS

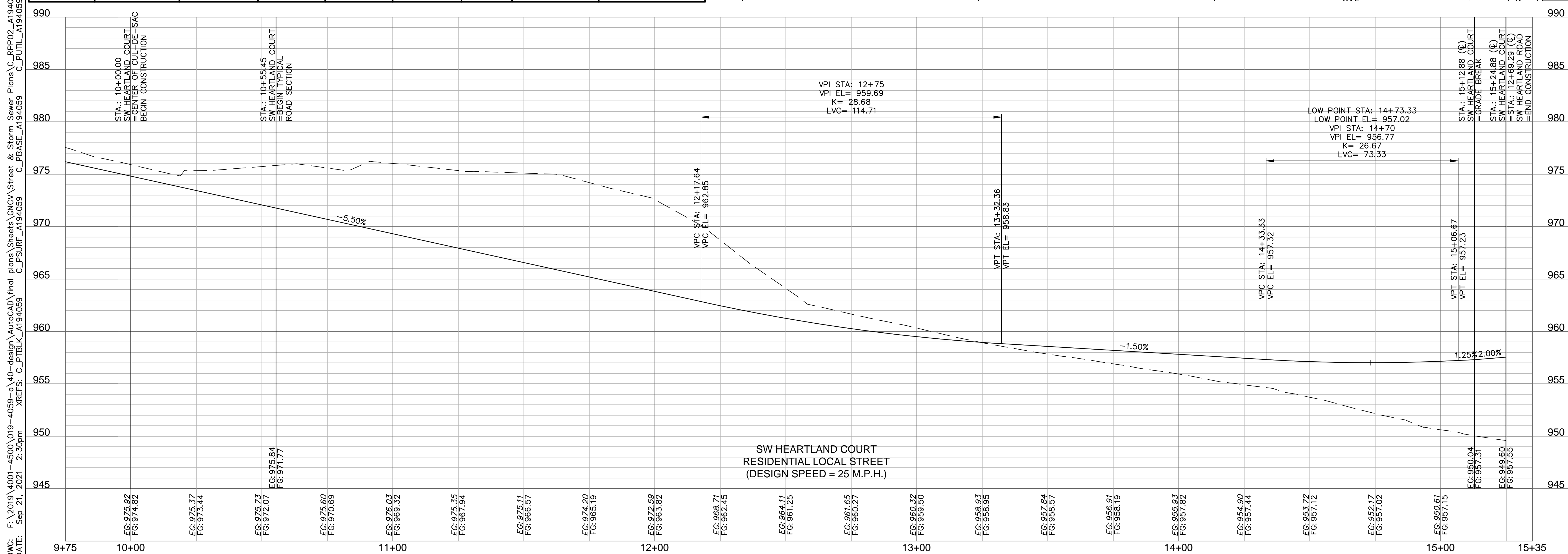
SW CROWN DRIVE PLAN & PROFILE
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059B
 date: 05-05-2021

RELEASED FOR CONSTRUCTION
 As Noted on Plans Review
 Development Services Department
 Lee's Summit, Missouri
 03/08/2022



ALIGNMENT CURVES								
CURVE ID #	STATION RANGE	START COORD.	END COORD.	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C2	14+17.26 15+09.10	N: 984029.76 E: 2810382.95	N: 984047.16 E: 2810472.31	200.00	91.84	026°18'40"	N78°59'01"E	91.04



DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans\Sheets\GNCV\Street & Storm Sewer Plans\C_PPP02_A194059.dwg
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 USER: abbdigaliyev

LEGEND

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

SCALE IN FEET

0' 10' 20' 40'

0' 5' 10'

N

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STATE OF MISSOURI
 JULIE ELAINE SELLERS
Julie Sellers
 PROFESSIONAL ENGINEER
 NUMBER PE-2017000367
 9/24/21

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS

**SW HEARTLAND COURT PLAN & PROFILE
 STREET & STORM SEWER PLANS**

THE RETREAT AT HOOK FARMS
 SECOND PLAT

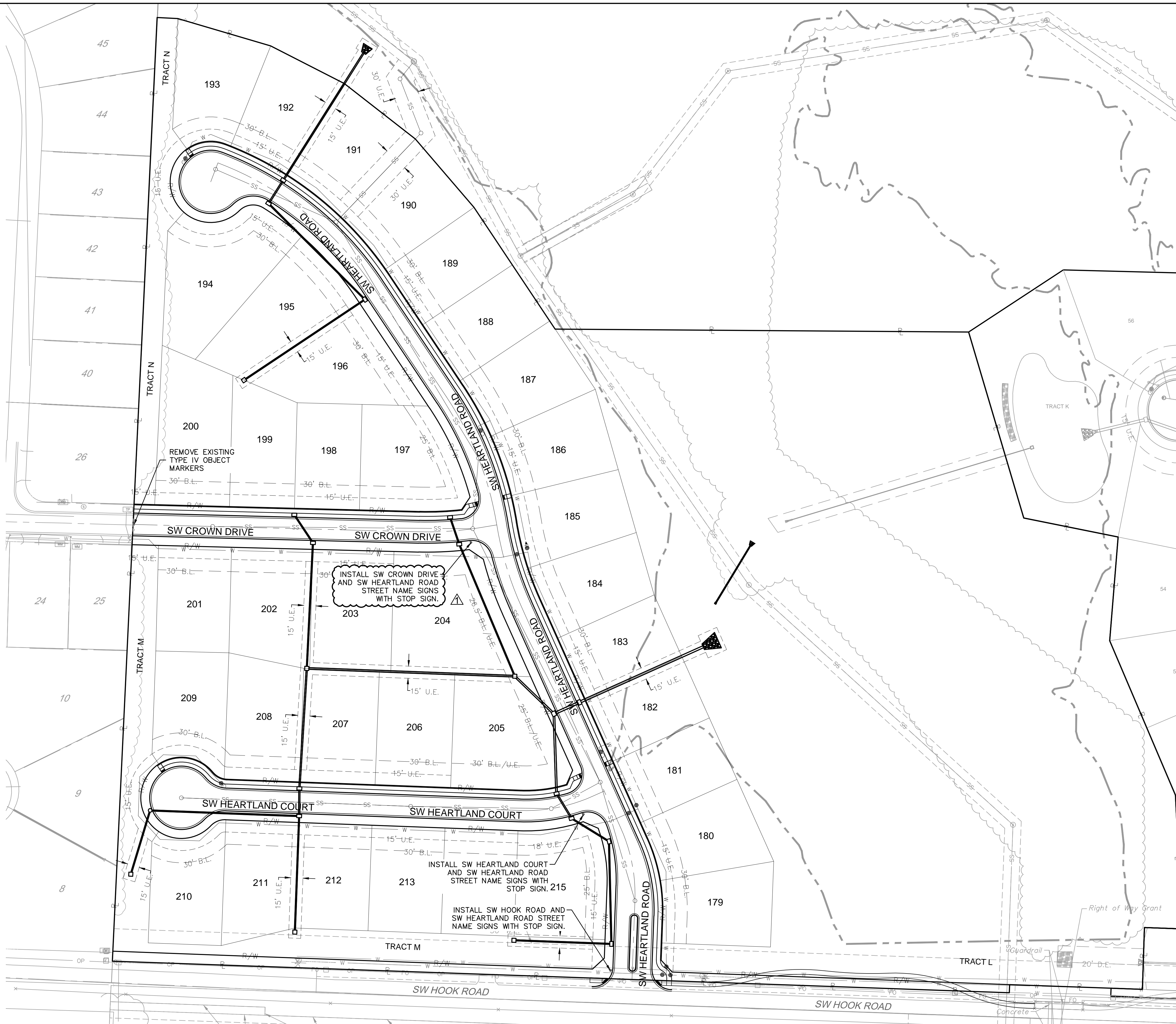
LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET C113

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 PROFESSIONAL ENGINEER

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1	08-26-2021	REVISED PER CITY COMMENTS	

TRAFFIC CONTROL PLAN
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT

2021

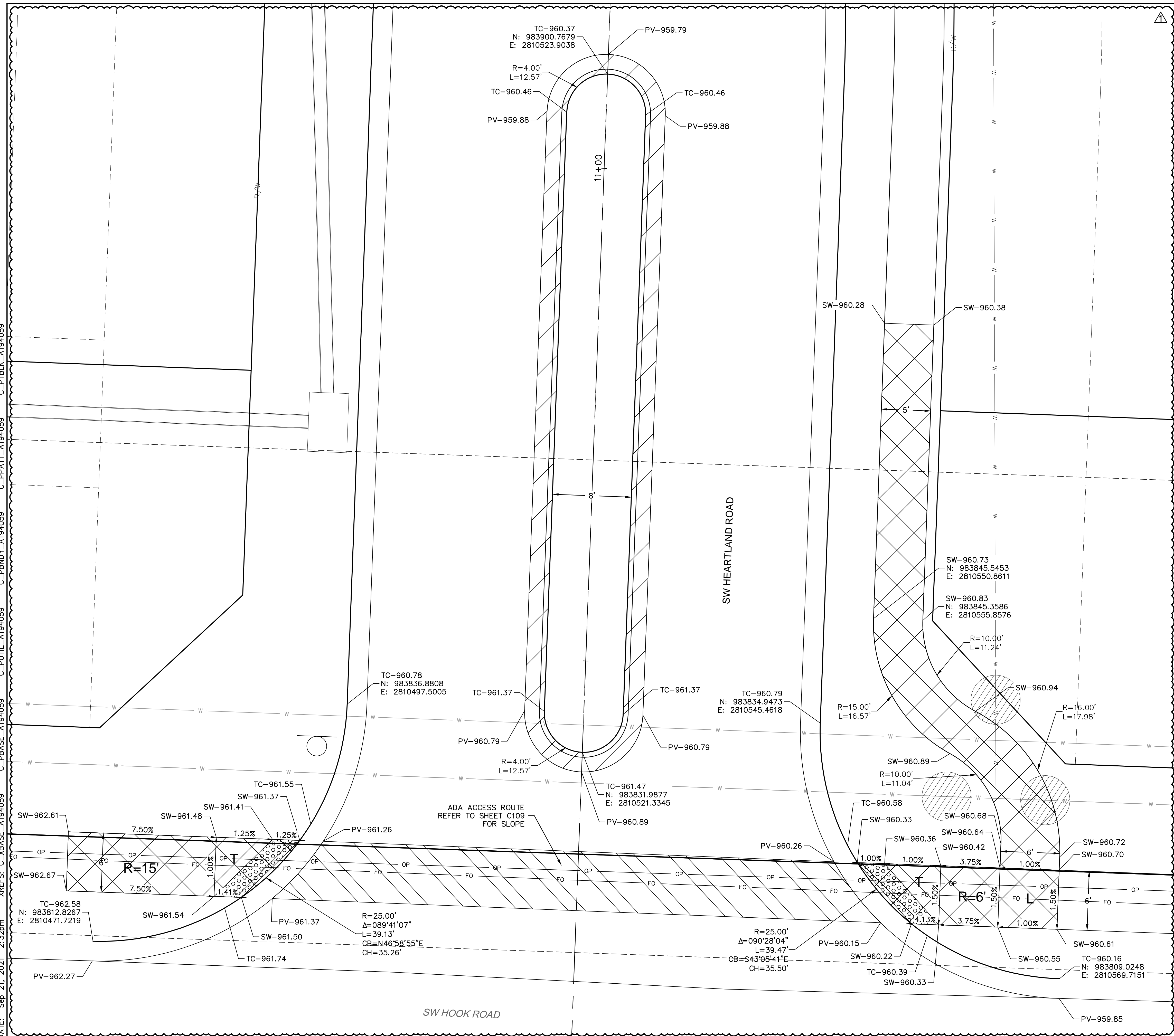
REVISIONS

drawn by:	B.M.W./A.A.	checked by:	B.M.W./A.A.
designed by:	B.M.W./A.A.	QA/QC by:	J.E.S.
project no.:	A19-4059	date:	05-05-2021

LEE'S SUMMIT, MO

SHEET C114

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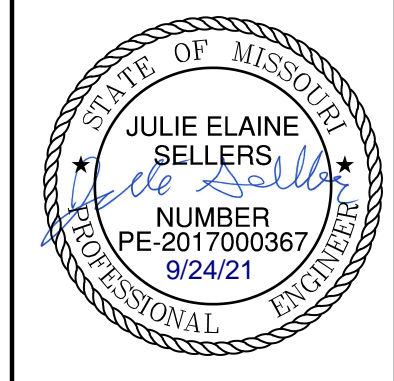


- INTERSECTION AND ADA DETAIL NOTES:**
1. ALL ADA CURB RAMP SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
 2. CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10 MAX SLOPES.
 3. LANDING SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR BY PROWAG STANDARDS. LANDING SHALL BE 4'X4' MINIMUM. 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.
 4. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
 5. CROSS SLOPE FOR RAMPS AND SIDEWALK SHALL NOT EXCEED 2%.
 6. 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 RAMPS AND LANDINGS WILL MEET ADA REQUIREMENTS.
 7. ADA RAMP CONSTRUCTION WILL BE INSPECTED THOROUGHLY BY THE CITY INSPECTOR. CONTRACTOR SHALL BE REQUIRED TO RECONSTRUCT RAMPS, CURBS AND/OR PAVEMENT AT CONTRACTOR'S EXPENSE IF ADA RAMPS AND LANDINGS CANNOT MEET THE ADA REQUIREMENTS, PER APPROVED PLAN OR APPROVED ALTERNATIVE.
 8. 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
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER
	CG-1 DRY CURB & GUTTER

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SW HOOK ROAD & SW HEARTLAND ROAD DETAILS
 STREET & STORM SEWER PLANS

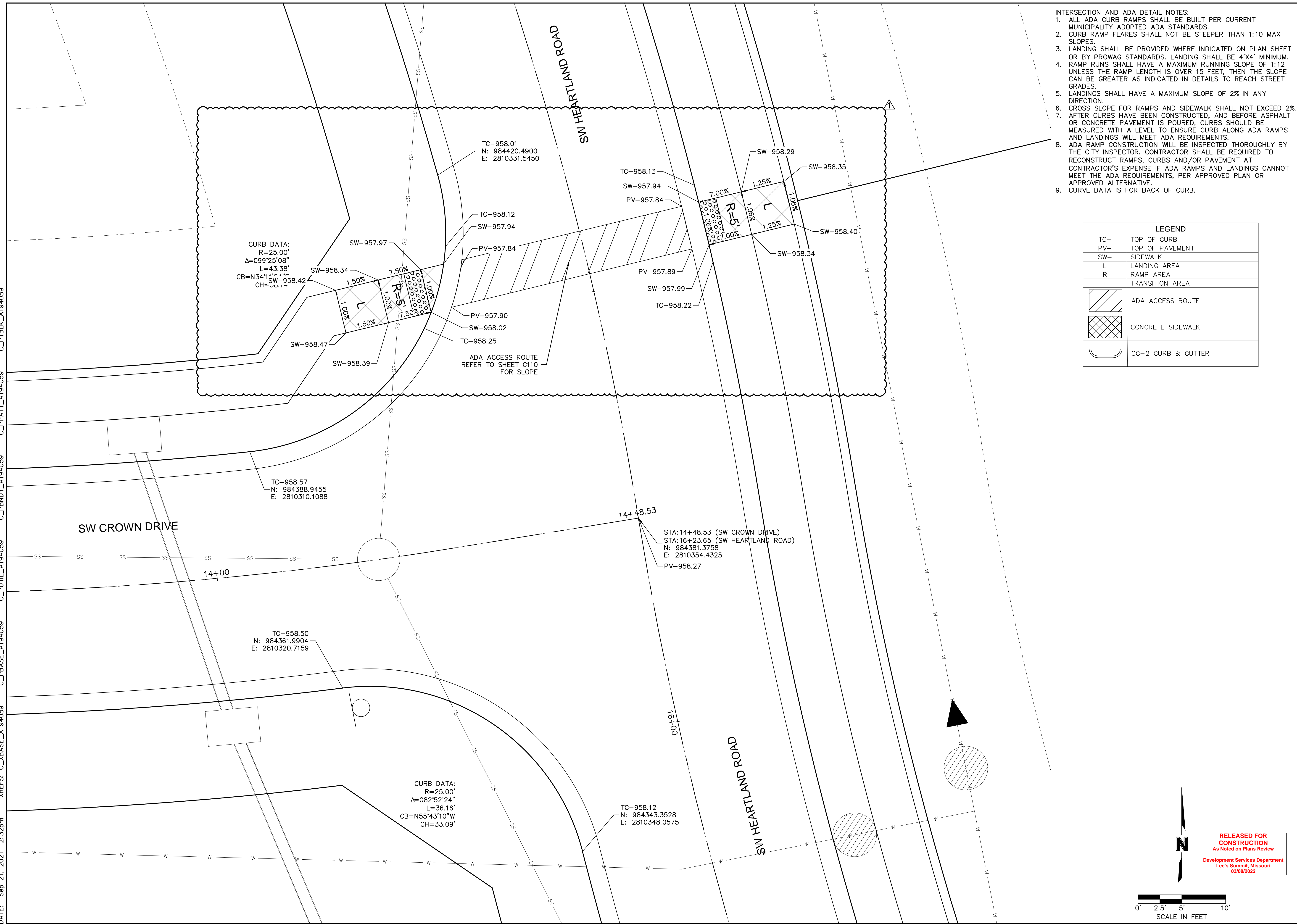
THE RETREAT AT HOOK FARMS
 SECOND PLAT

LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: J.E.S.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

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 Development Services Department
 Lee's Summit, Missouri
 03/08/2022

DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans\Storm Sewer Plans\C_INT01_A194059.dwg
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 USER: aabdjaliliev



- INTERSECTION AND ADA DETAIL NOTES:
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 3. LANDING SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR BY PROWAG STANDARDS. LANDING SHALL BE 4'X4' MINIMUM.
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 5. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
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 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
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

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N
 SCALE IN FEET
 0' 2.5' 5' 10'

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STATE OF MISSOURI
JULIE ELAINE SELLERS
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 NUMBER PE-2017000367
 9/24/21
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	

SW HEARTLAND ROAD & SW CROWN DRIVE DETAILS
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET C116

DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans\Sheets\GNCV\Street & Storm Sewer Plans\C_INT01_A194059.dwg
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 USER: aabdjaliliev

CURB DATA:
 R=25.00'
 $\Delta=098^{\circ}17'38''$
 L=42.89'
 CB=N24°58'30"E
 CH=37.88'

TC-957.10
 N: 984050.7196
 E: 2810441.3014

TC-957.32
 N: 984026.6597
 E: 2810458.2509

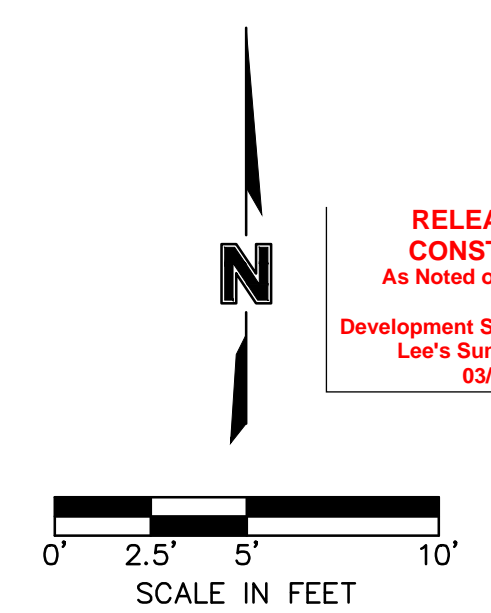
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 $\Delta=088^{\circ}34'32''$
 L=38.65'
 CB=N64°11'37"W
 CH=34.91'

TC-958.20
 N: 984011.4609
 E: 2810489.6821

STA: 12+69.29 (SW HEARTLAND ROAD)
 STA: 15+24.88 (SW HEARTLAND COURT)
 N: 984053.6185
 E: 2810486.7013
 PV-957.55

- INTERSECTION AND ADA DETAIL NOTES:
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LEGEND	
TC-	TOP OF CURB
PV-	TOP OF PAVEMENT
SW-	SIDEWALK
L	LANDING AREA
R	RAMP AREA
T	TRANSITION AREA
	ADA ACCESS ROUTE
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER



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STATE OF MISSOURI
 JULIE ELAINE SELLERS
 Lee's Summit
 NUMBER PE-2017000367
 9/24/21
 PROFESSIONAL ENGINEER

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SW HEARTLAND ROAD & SW HEARTLAND COURT DETAILS
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET C117

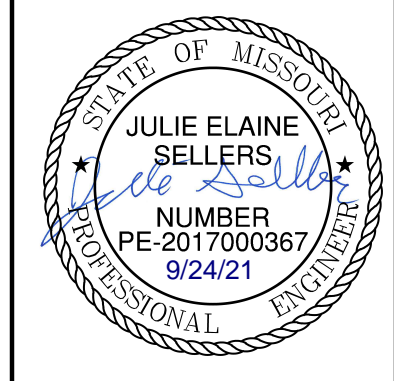
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- INTERSECTION AND ADA DETAIL NOTES:
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 9. CURVE DATA IS FOR BACK OF CURB.

LEGEND	
TC-	TOP OF CURB
PV-	TOP OF PAVEMENT
SW-	SIDEWALK
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

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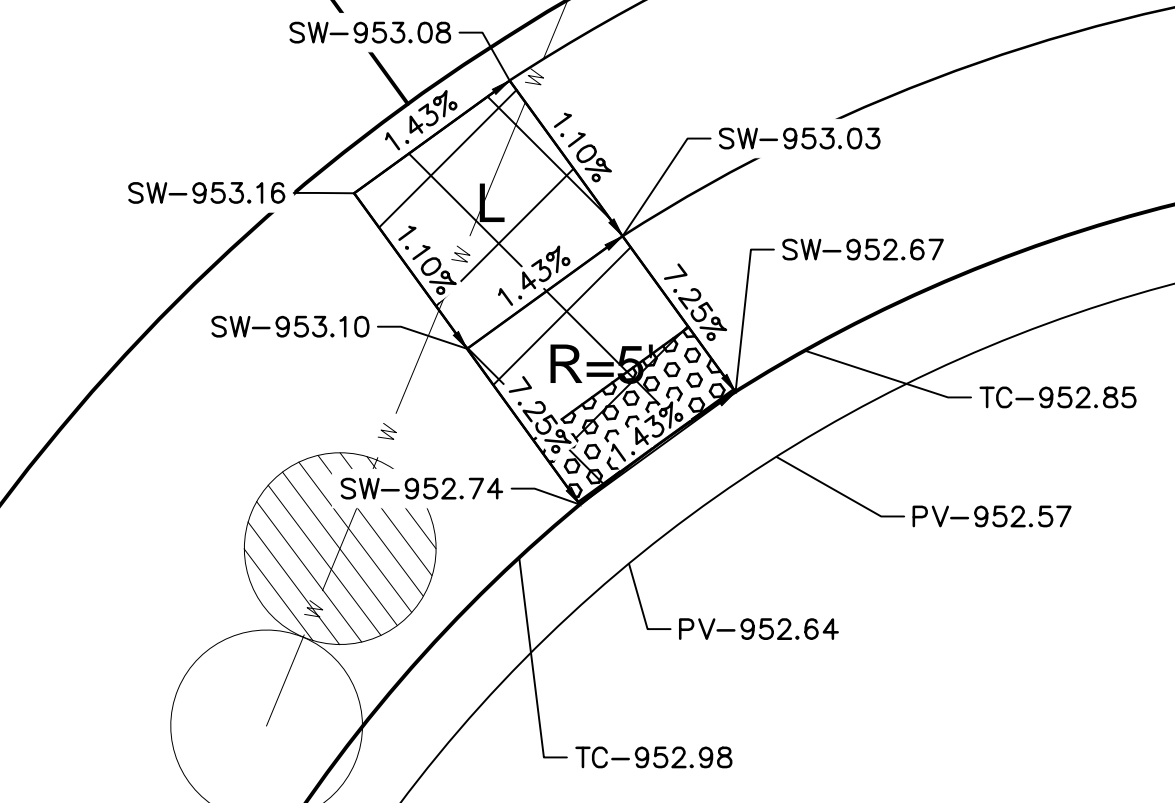
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SW HEARTLAND ROAD CUL-DE-SAC DETAILS STREET & STORM SEWER PLANS	2021
THE RETREAT AT HOOK FARMS SECOND PLAT	
LEE'S SUMMIT, MO	

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: J.E.S.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021



TC-953.55
 HIGH POINT
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 E: 2809964.0135

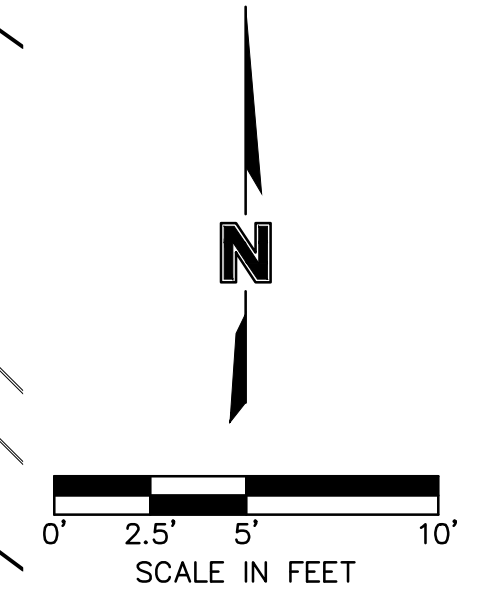
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TC-951.62
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 E: 2810072.8061

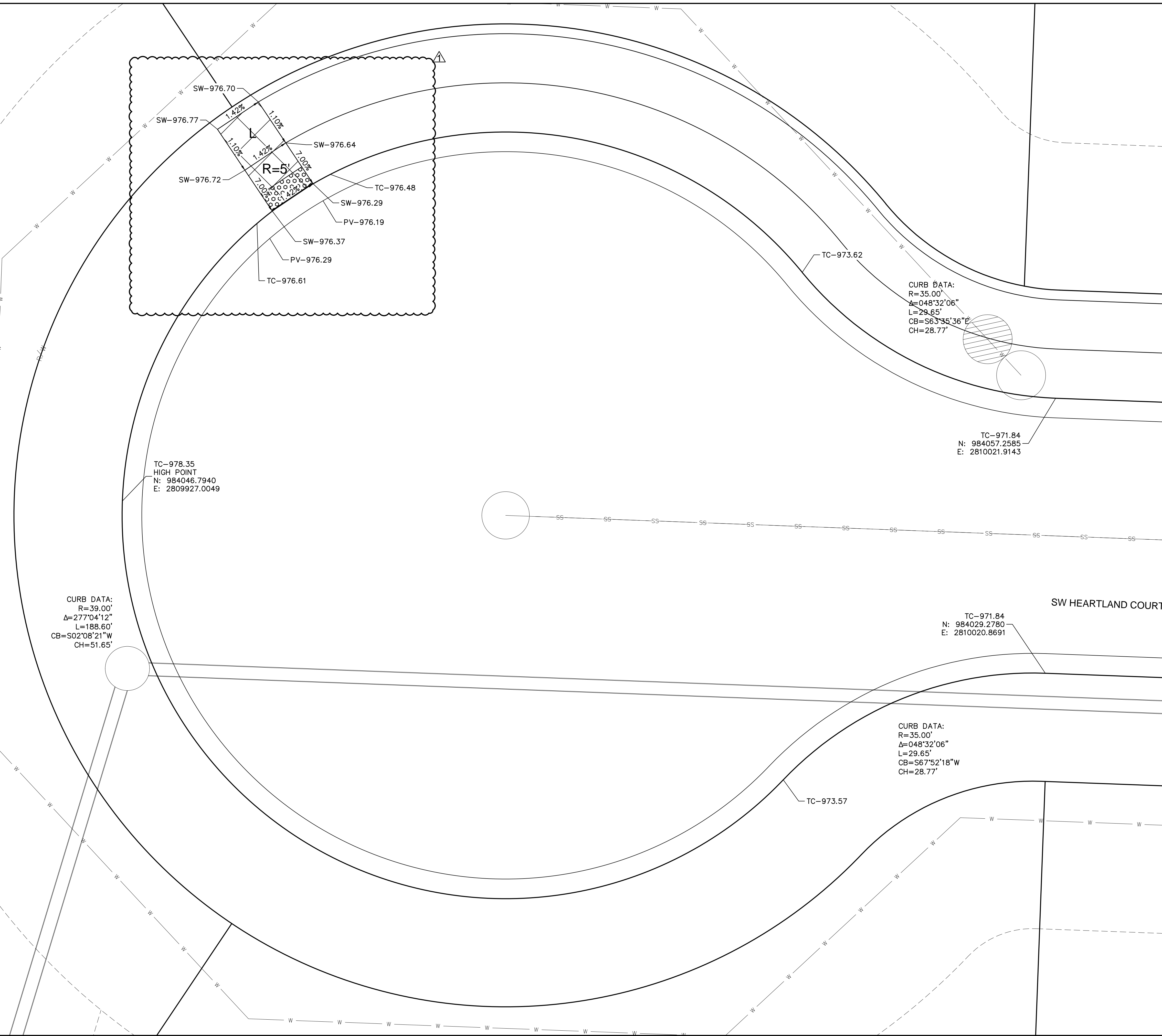
CURB DATA:
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 $\Delta=245^{\circ}37'51''$
 L=167.20'
 CB=S11^{\circ}59'43"E
 CH=65.55'

CURB DATA:
 R=35.00'
 $\Delta=076^{\circ}42'11''$
 L=46.86'
 CB=S83^{\circ}32'27"W
 CH=43.43'

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 Development Services Department
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 03/08/2022



DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans\Storm Sewer Plans\C_INT02_A194059.dwg USER: cabdigaliyev
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- INTERSECTION AND ADA DETAIL NOTES:
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 8. CURVE DATA IS FOR BACK OF CURB.

LEGEND	
TC-	TOP OF CURB
PV-	TOP OF PAVEMENT
SW-	SIDEWALK
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

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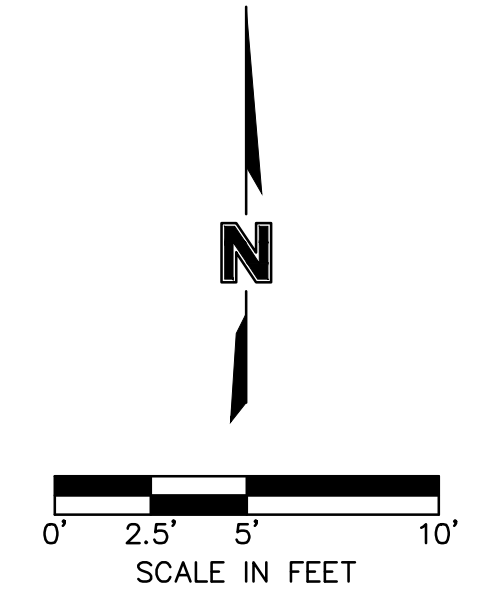
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 9/24/21
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08/26/2021	REVISIONS PER CITY COMMENTS	

SW HEARTLAND COURT CUL-DE-SAC DETAILS
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO 2021

SHEET C119

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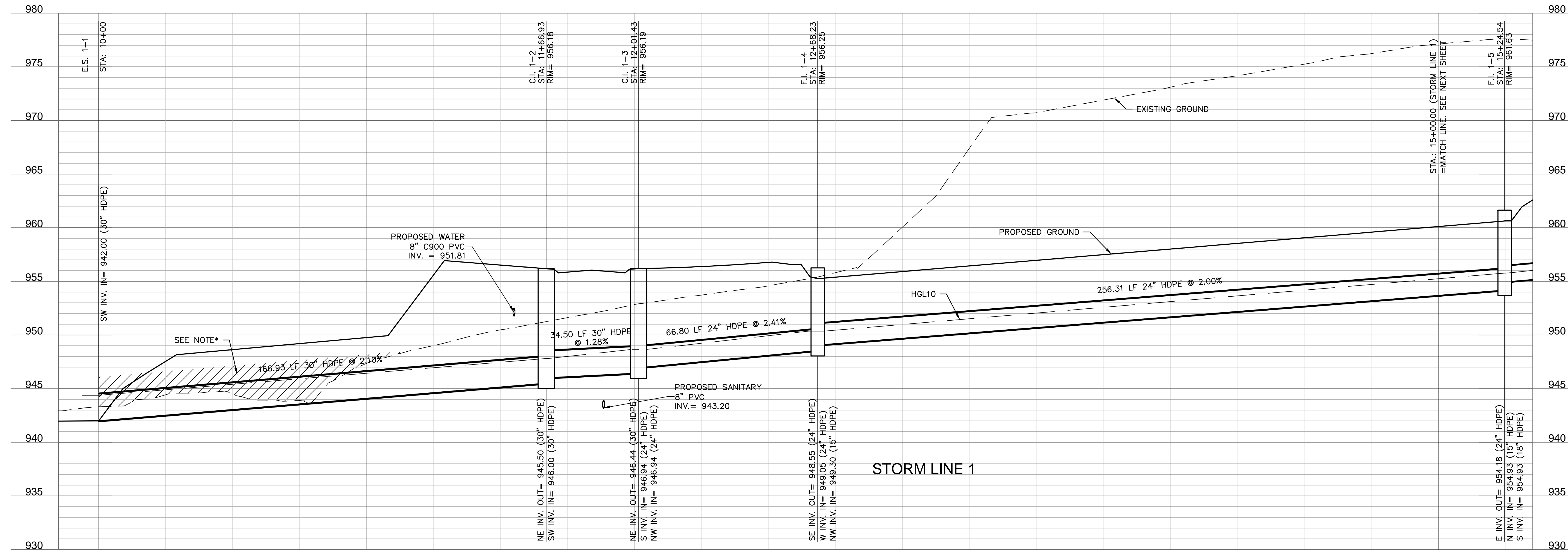
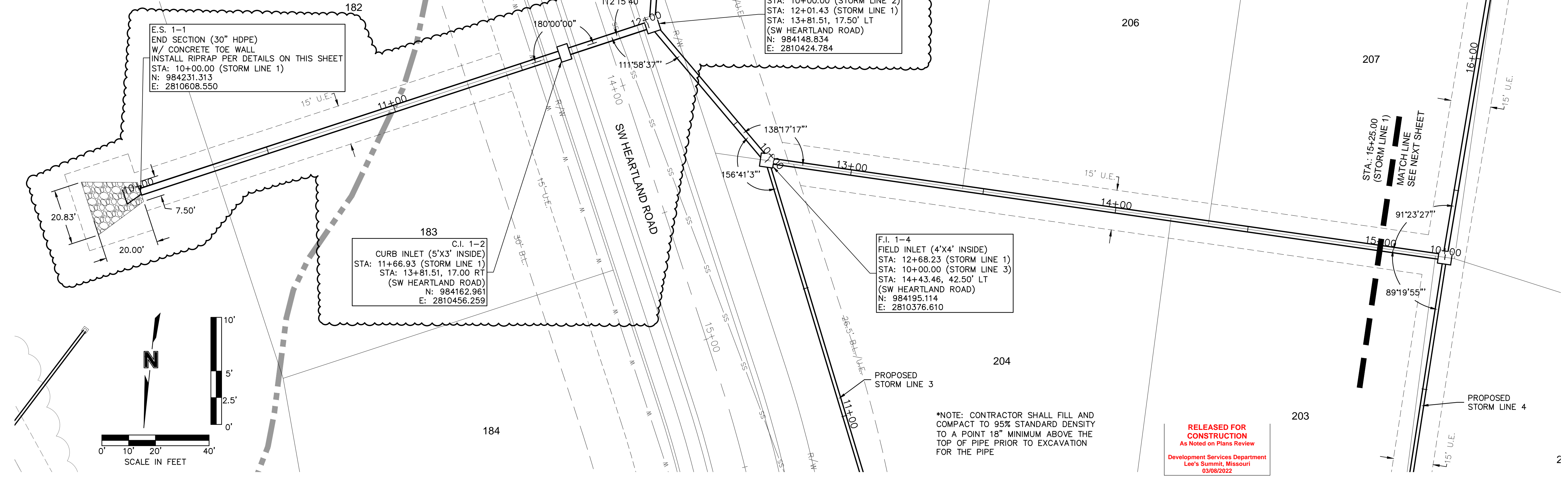


drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: J.E.S.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final_plans\Storm Sewer Plans\C_STM01_A194059.dwg
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 C_PBLK_A194059

Riprap Calculations							
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 1-1	83.68	2.5	6	22	20	3.67	31.5

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



*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE

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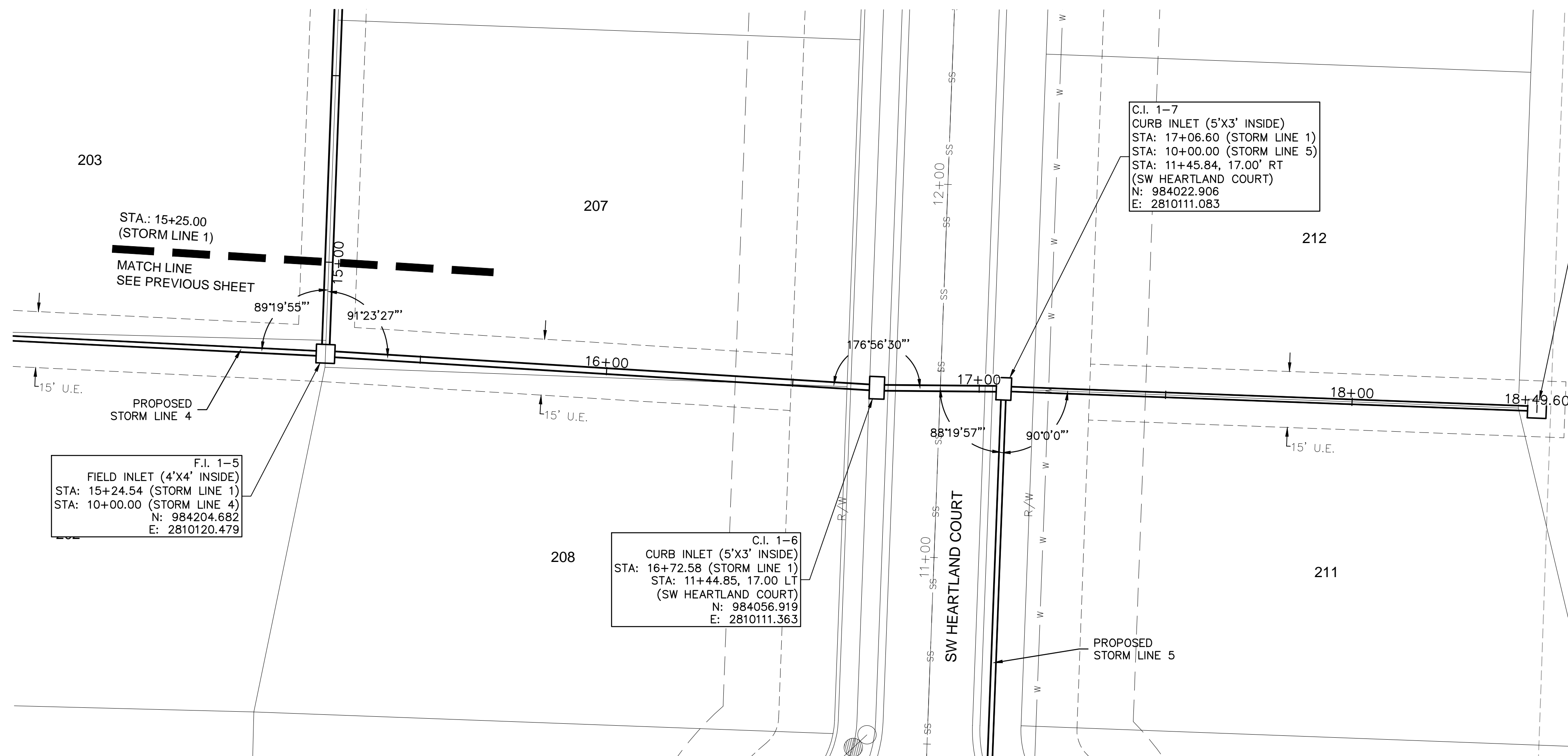
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 License No. PE-2017000367
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	

**STORM SEWER PLAN & PROFILE (LINE 1)
 STREET & STORM SEWER PLANS**
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

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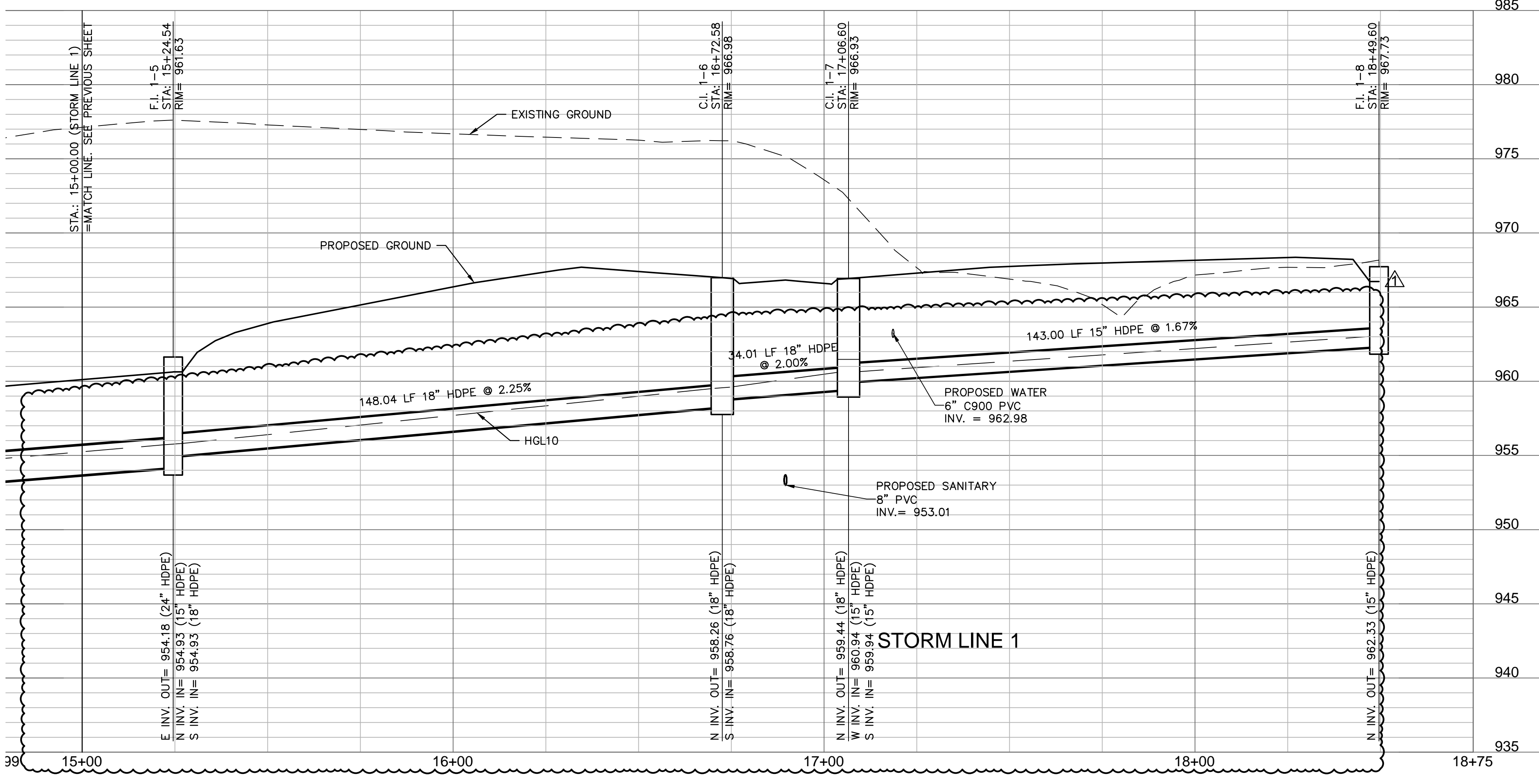
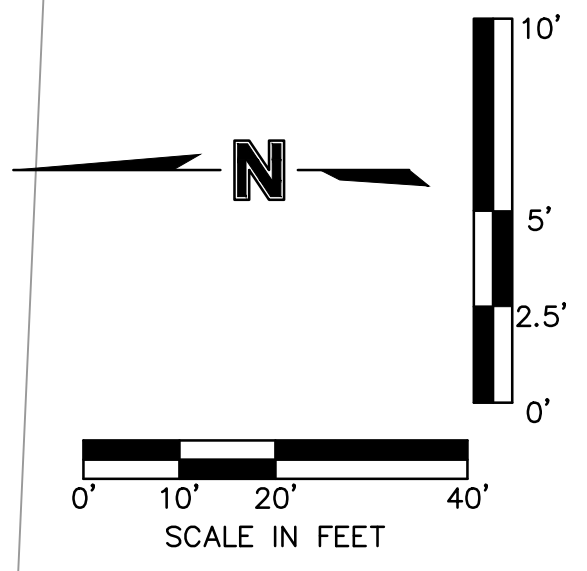


F.I. 1-8
 FIELD INLET (4'x4' INSIDE)
 STA: 18+49.60 (STORM LINE 1)
 STA: 11+45.84, 160.00 RT
 (SW HEARTLAND COURT)
 N: 983880.006
 E: 2810105.745

C.I. 1-7
 CURB INLET (5'x3' INSIDE)
 STA: 17+06.60 (STORM LINE 1)
 STA: 10+00.00 (STORM LINE 5)
 STA: 11+45.84, 17.00' RT
 (SW HEARTLAND COURT)
 N: 984022.906
 E: 2810111.083

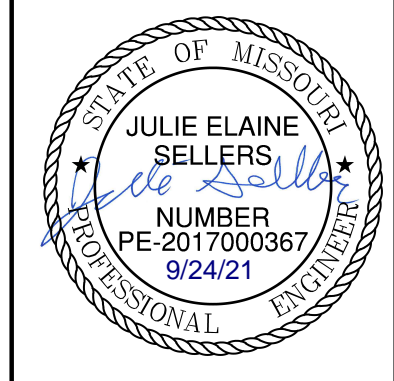
C.I. 1-6
 CURB INLET (5'x3' INSIDE)
 STA: 16+72.58 (STORM LINE 1)
 STA: 11+44.85, 17.00 LT
 (SW HEARTLAND COURT)
 N: 984056.919
 E: 2810111.363

F.I. 1-5
 FIELD INLET (4'x4' INSIDE)
 STA: 15+24.54 (STORM LINE 1)
 STA: 10+00.00 (STORM LINE 4)
 N: 984204.682
 E: 2810120.479



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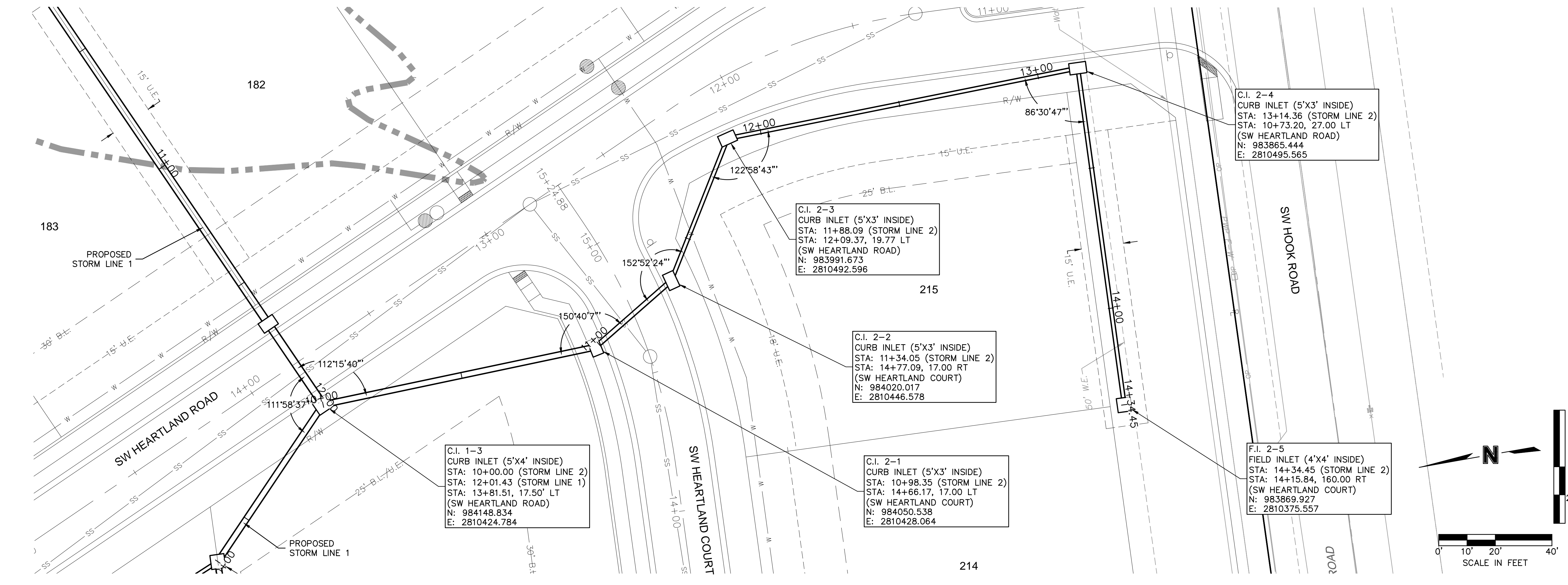
REV. NO.	DATE	REVISIONS DESCRIPTION
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STORM SEWER PLAN & PROFILE (LINE 1)
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET
 C121

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 C_PSTRM_A194059
 C_PBLK_A194059



C.I. 2-4
 CURB INLET (5'X3' INSIDE)
 STA: 13+14.36 (STORM LINE 2)
 STA: 10+73.20, 27.00 LT
 (SW HEARTLAND ROAD)
 N: 983865.444
 E: 2810495.565

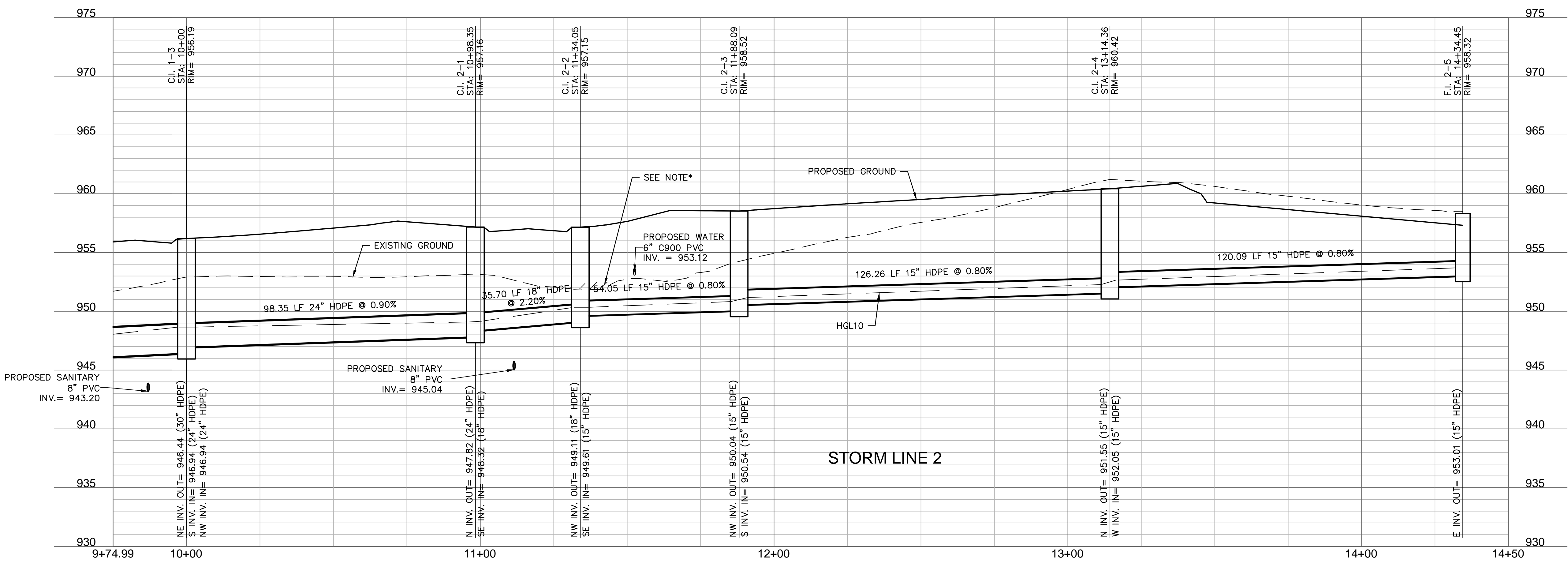
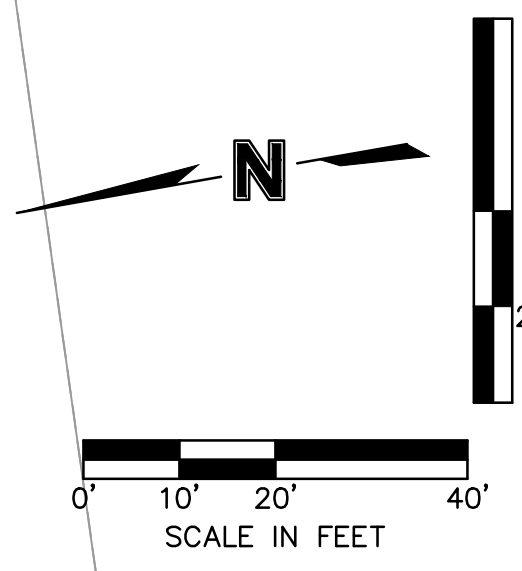
C.I. 2-3
 CURB INLET (5'X3' INSIDE)
 STA: 11+88.09 (STORM LINE 2)
 STA: 12+09.37, 19.77 LT
 (SW HEARTLAND ROAD)
 N: 983991.673
 E: 2810492.596

C.I. 2-2
 CURB INLET (5'X3' INSIDE)
 STA: 11+34.05 (STORM LINE 2)
 STA: 14+77.09, 17.00 RT
 (SW HEARTLAND COURT)
 N: 984020.017
 E: 2810446.578

C.I. 2-1
 CURB INLET (5'X3' INSIDE)
 STA: 10+98.35 (STORM LINE 2)
 STA: 14+66.17, 17.00 LT
 (SW HEARTLAND COURT)
 N: 984050.538
 E: 2810428.064

C.I. 1-3
 CURB INLET (5'X4' INSIDE)
 STA: 10+00.00 (STORM LINE 2)
 STA: 12+01.43 (STORM LINE 1)
 STA: 13+81.51, 17.50' LT
 (SW HEARTLAND ROAD)
 N: 984148.834
 E: 2810424.784

F.I. 2-5
 FIELD INLET (4'X4' INSIDE)
 STA: 14+34.45 (STORM LINE 2)
 STA: 14+15.84, 160.00 RT
 (SW HEARTLAND COURT)
 N: 983869.927
 E: 2810375.557



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

THE RETREAT AT HOOK FARMS
 SECOND PLAT

LEE'S SUMMIT, MO

2021

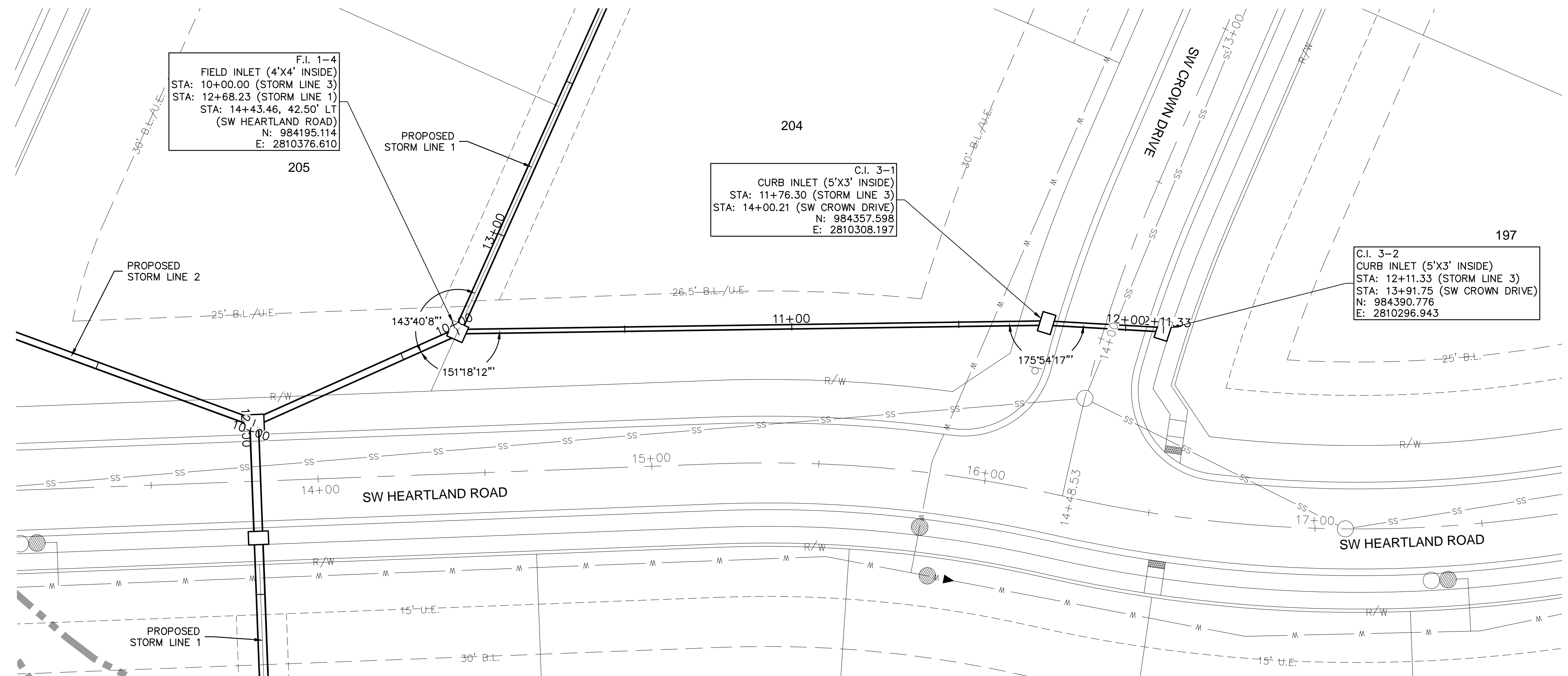
REVISIONS

drawn by: B.M.W./A.A.
 checked by: B.M.W.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

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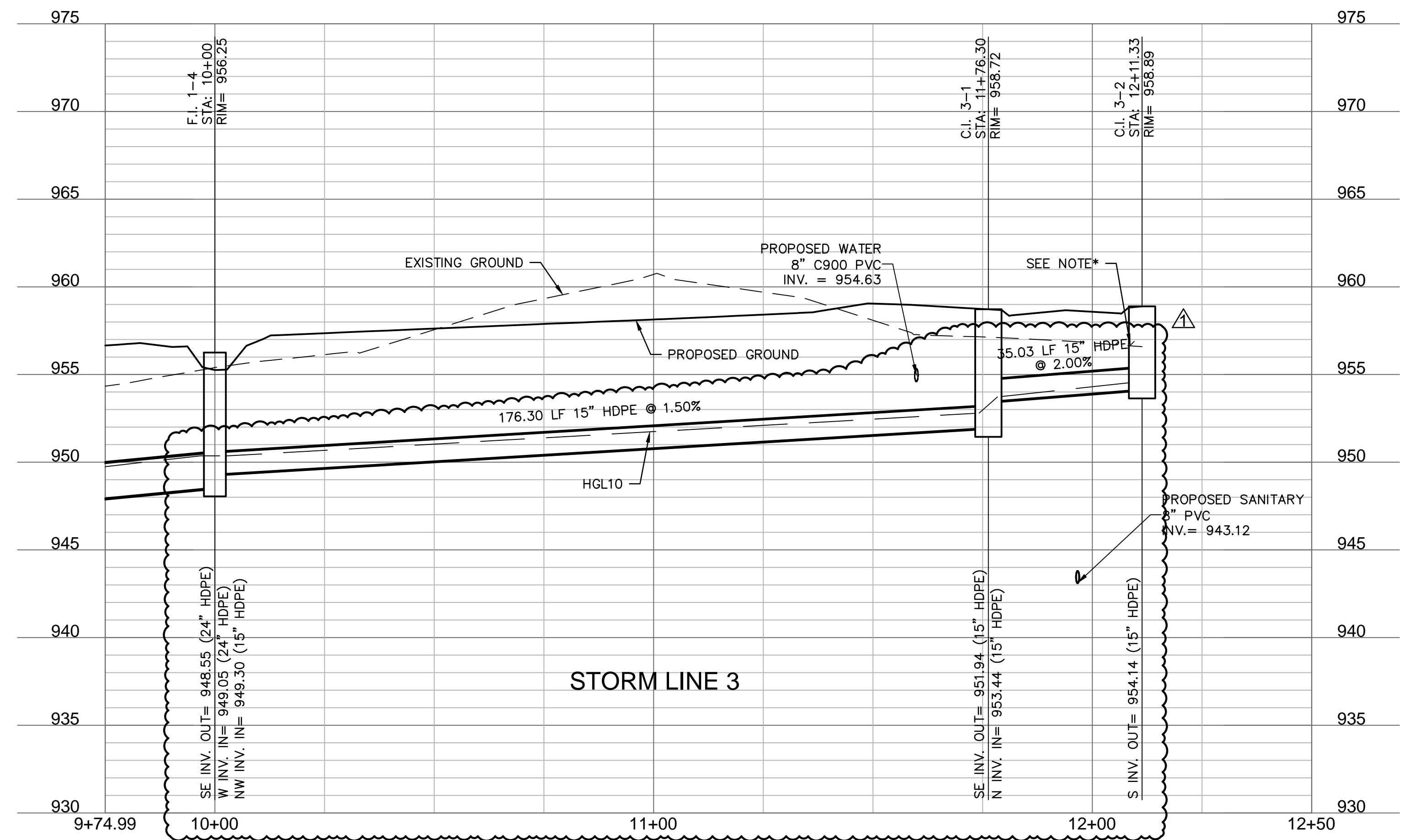
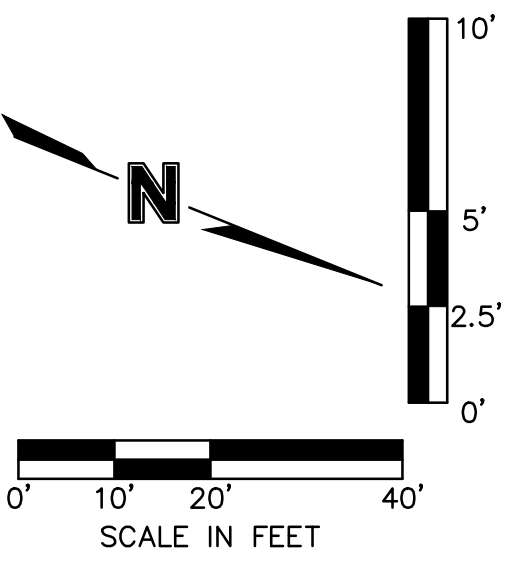
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F.I. 1-4
 FIELD INLET (4'X4' INSIDE)
 STA: 10+00.00 (STORM LINE 3)
 STA: 12+68.23 (STORM LINE 1)
 STA: 14+43.46, 42.50' LT
 (SW HEARTLAND ROAD)
 N: 984195.114
 E: 2810376.610

C.I. 3-1
 CURB INLET (5'X3' INSIDE)
 STA: 11+76.30 (STORM LINE 3)
 STA: 14+00.21 (SW CROWN DRIVE)
 N: 984357.598
 E: 2810308.197

C.I. 3-2
 CURB INLET (5'X3' INSIDE)
 STA: 12+11.33 (STORM LINE 3)
 STA: 13+91.75 (SW CROWN DRIVE)
 N: 984390.776
 E: 2810296.943



*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE

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STORM SEWER PLAN & PROFILE (LINE 3)
STREET & STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
 SECOND PLAT

LEE'S SUMMIT, MO

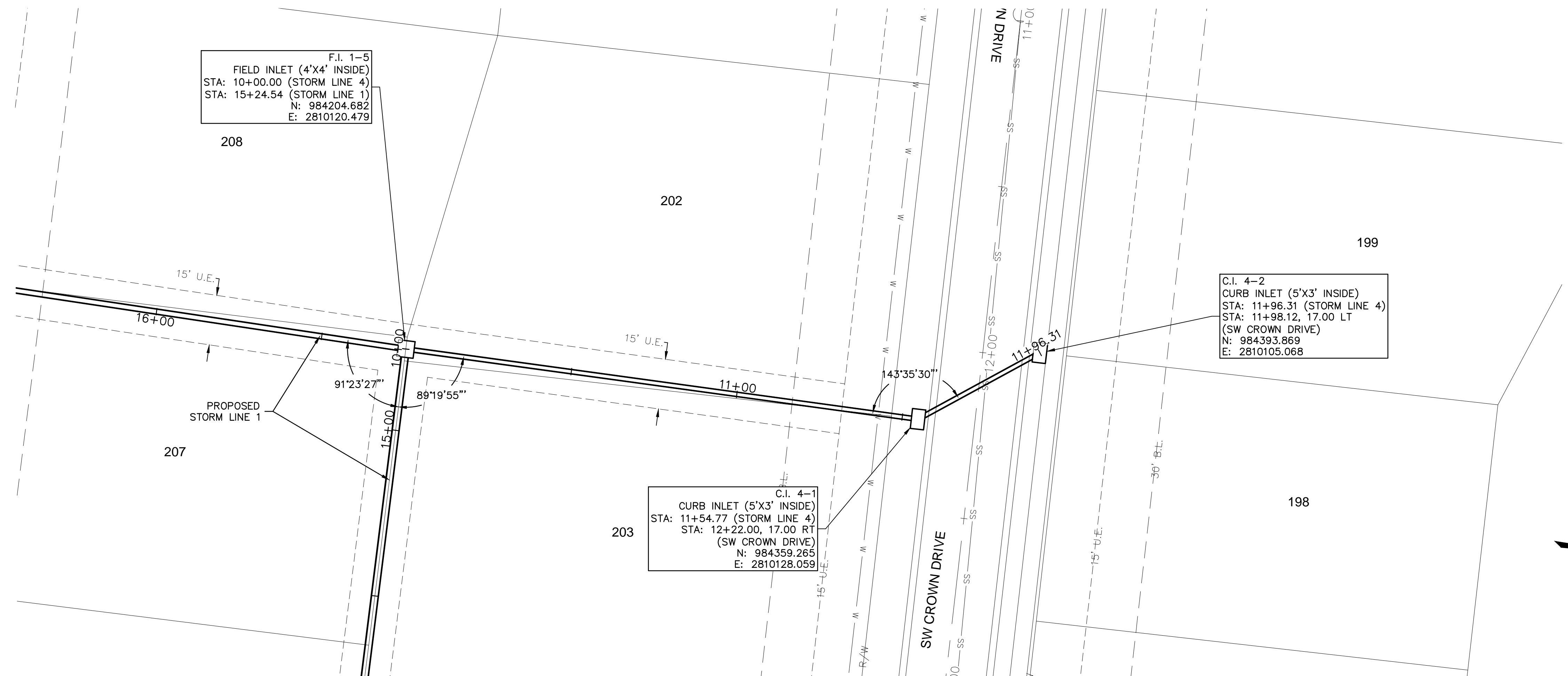
2021

REVISIONS

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 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET
C123

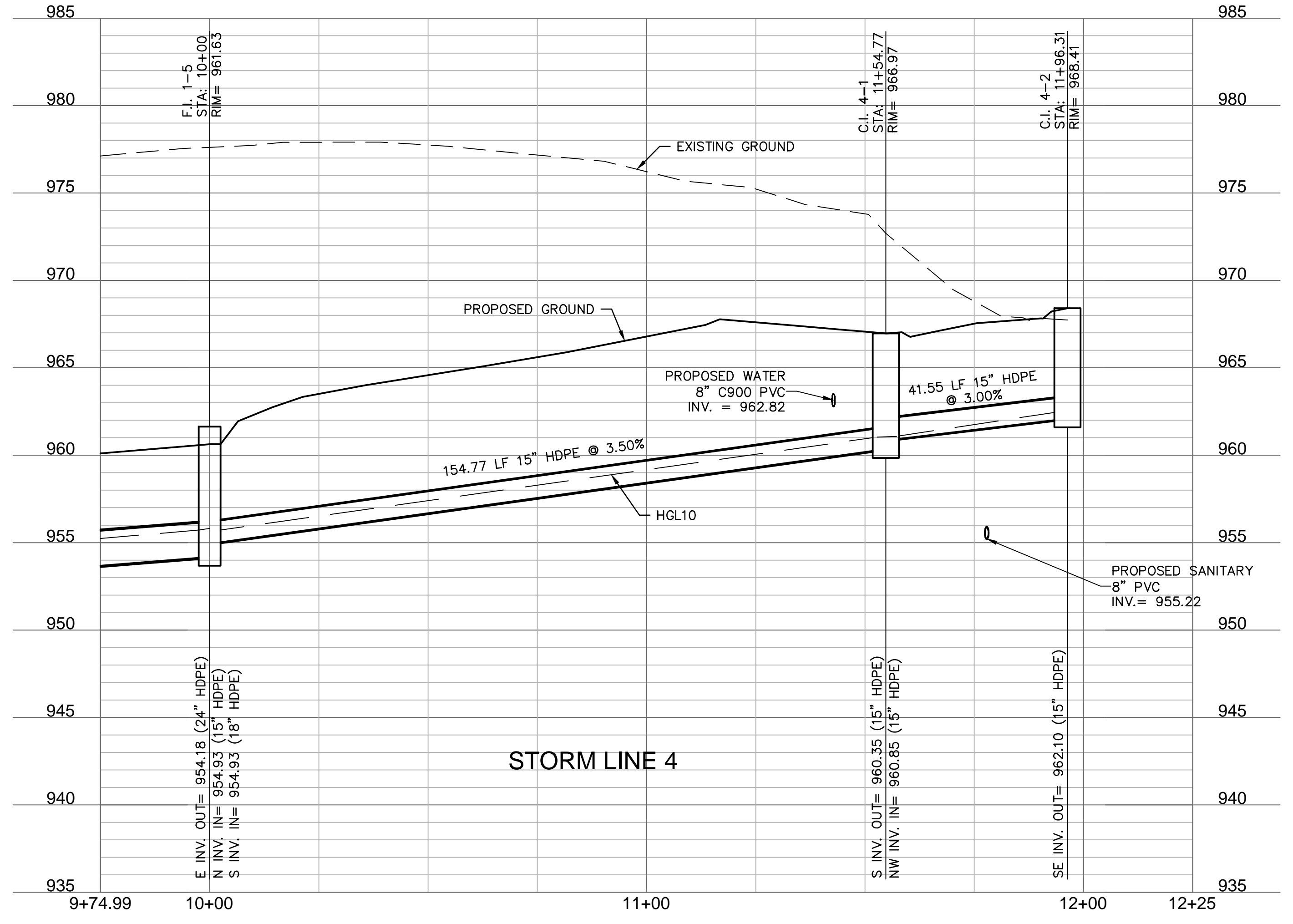
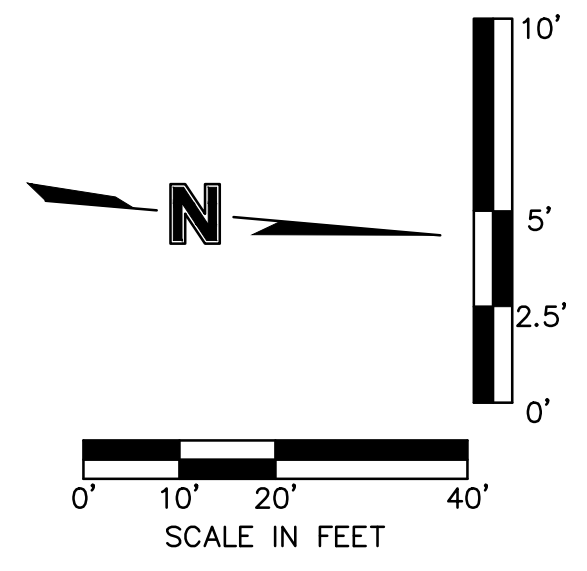
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 USER: abbdilijev



F.I. 1-5
 FIELD INLET (4'X4' INSIDE)
 STA: 10+00.00 (STORM LINE 4)
 STA: 15+24.54 (STORM LINE 1)
 N: 984204.682
 E: 2810120.479

C.I. 4-2
 CURB INLET (5'X3' INSIDE)
 STA: 11+96.31 (STORM LINE 4)
 STA: 11+98.12, 17.00 LT
 (SW CROWN DRIVE)
 N: 984393.869
 E: 2810105.068

C.I. 4-1
 CURB INLET (5'X3' INSIDE)
 STA: 11+54.77 (STORM LINE 4)
 STA: 12+22.00, 17.00 RT
 (SW CROWN DRIVE)
 N: 984359.265
 E: 2810128.059



STORM LINE 4

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STORM SEWER PLAN & PROFILE (LINE 4)
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT

2021

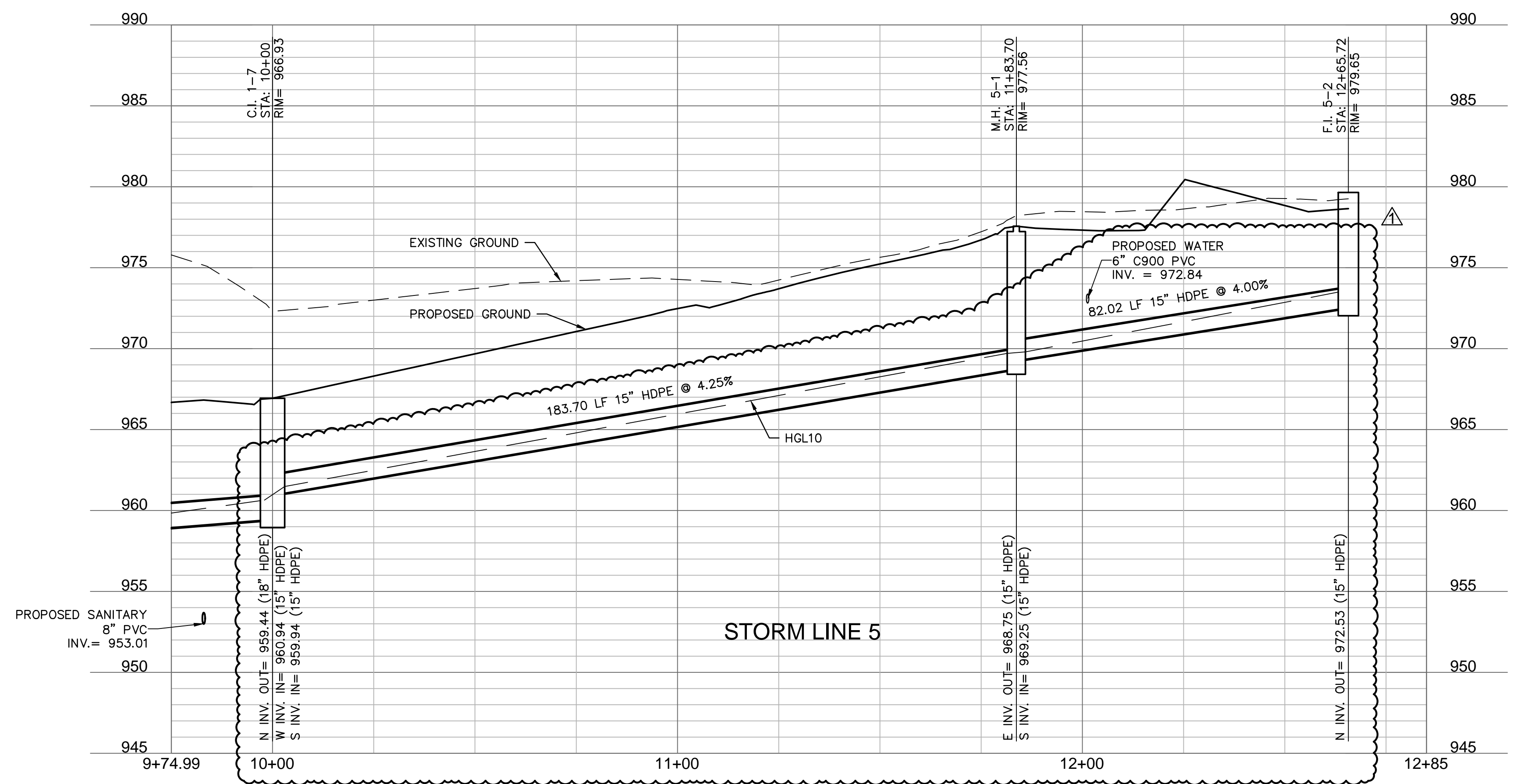
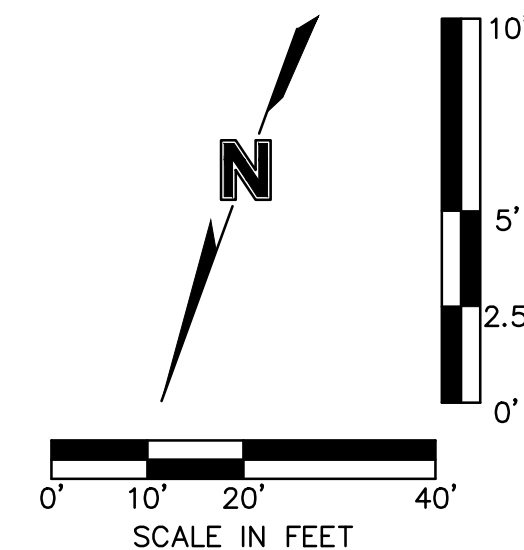
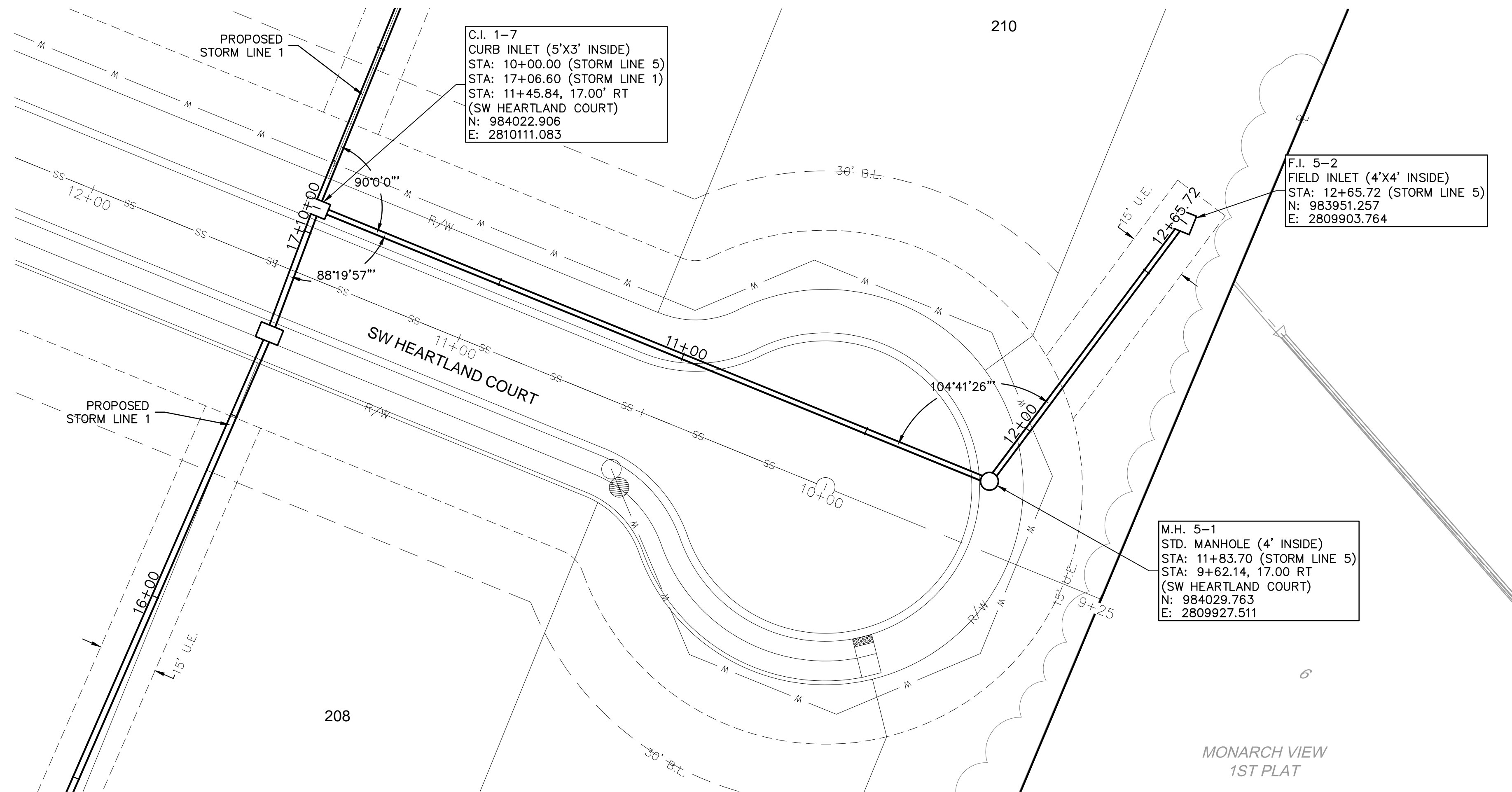
REVISIONS

drawn by: B.M.W./A.A.
 checked by: B.M.W.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

LEE'S SUMMIT, MO

SHEET
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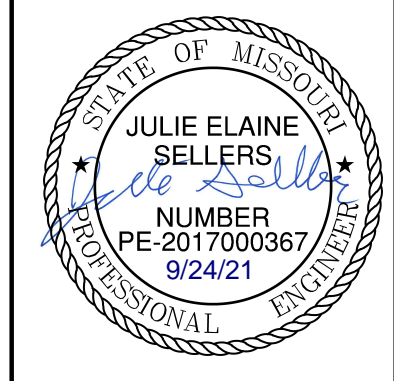


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STORM SEWER PLAN & PROFILE (LINE 5)
 STREET & STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
 SECOND PLAT

LEE'S SUMMIT, MO

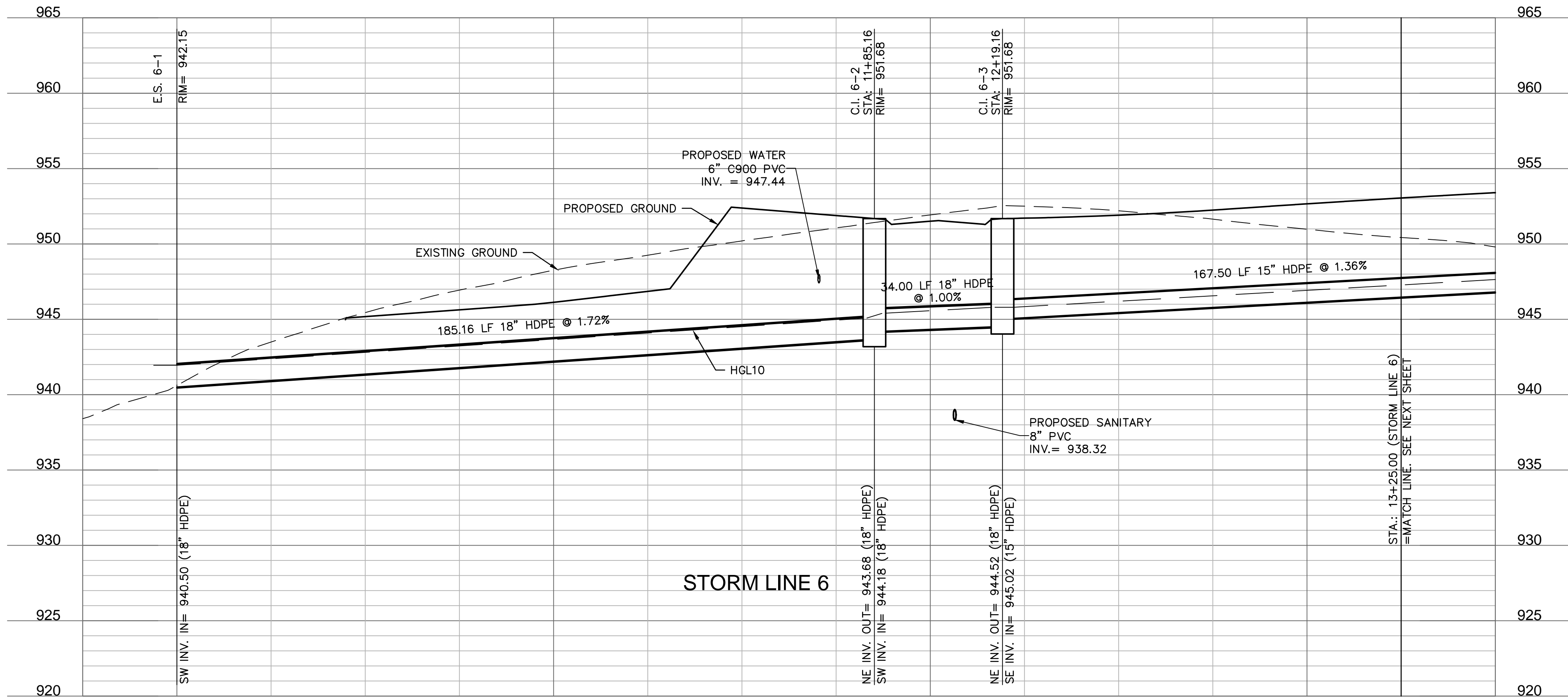
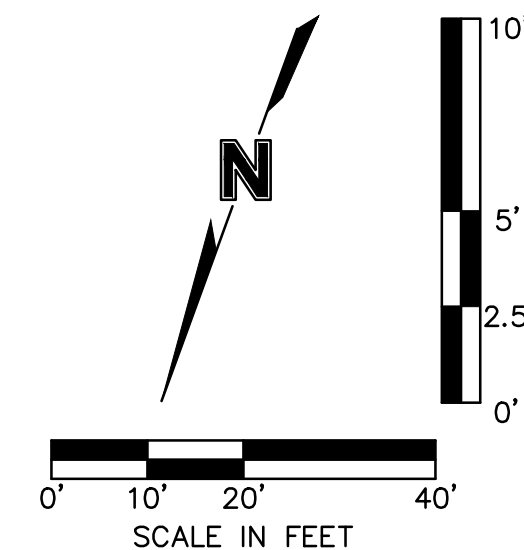
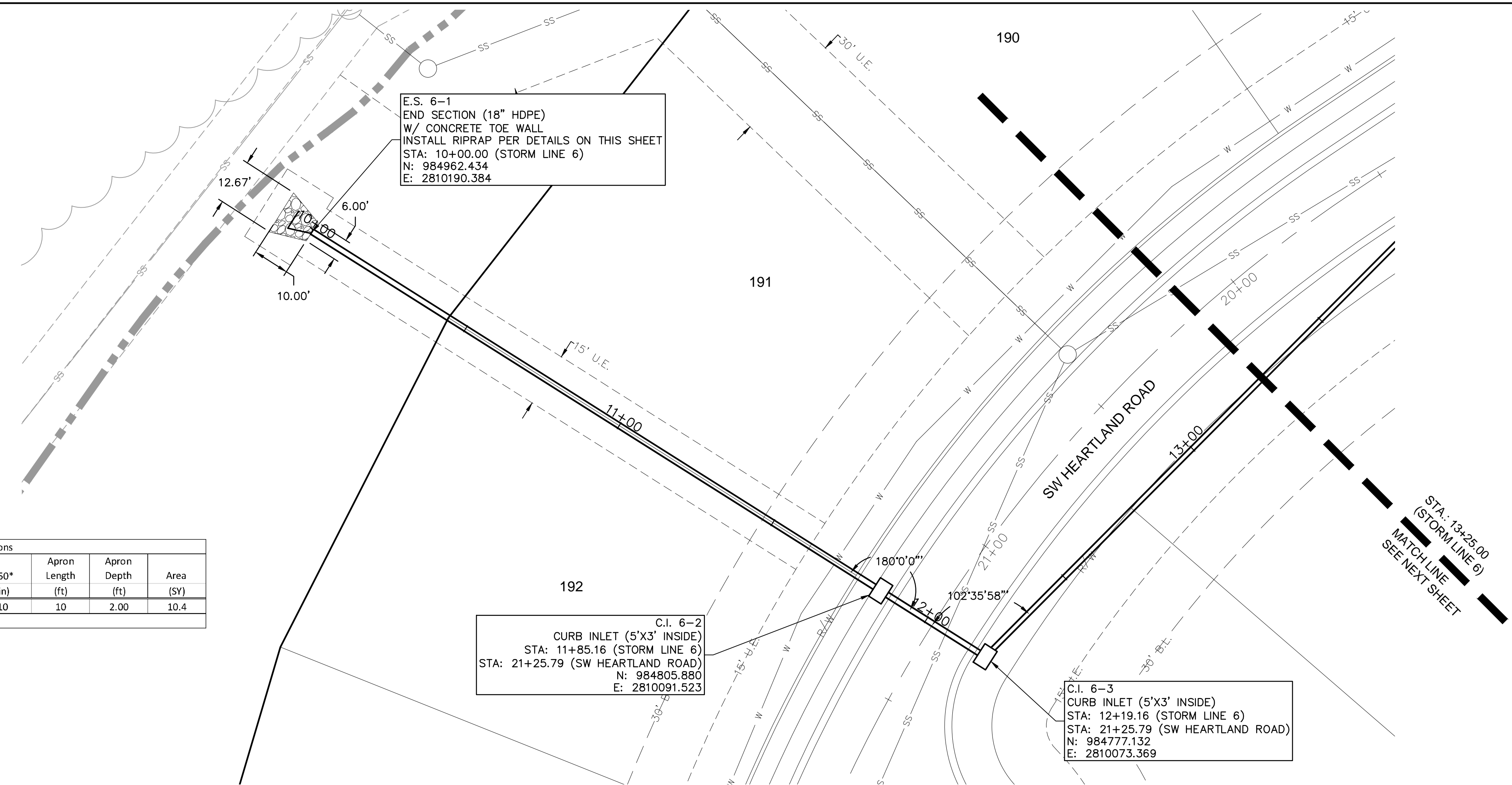
2021

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 designed by: B.M.W./A.A.
 J.E.S.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

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Riprap Calculations							
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 6-1	25.96	2	3	10	10	2.00	10.4

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



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STORM SEWER PLAN & PROFILE (LINE 6)
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT

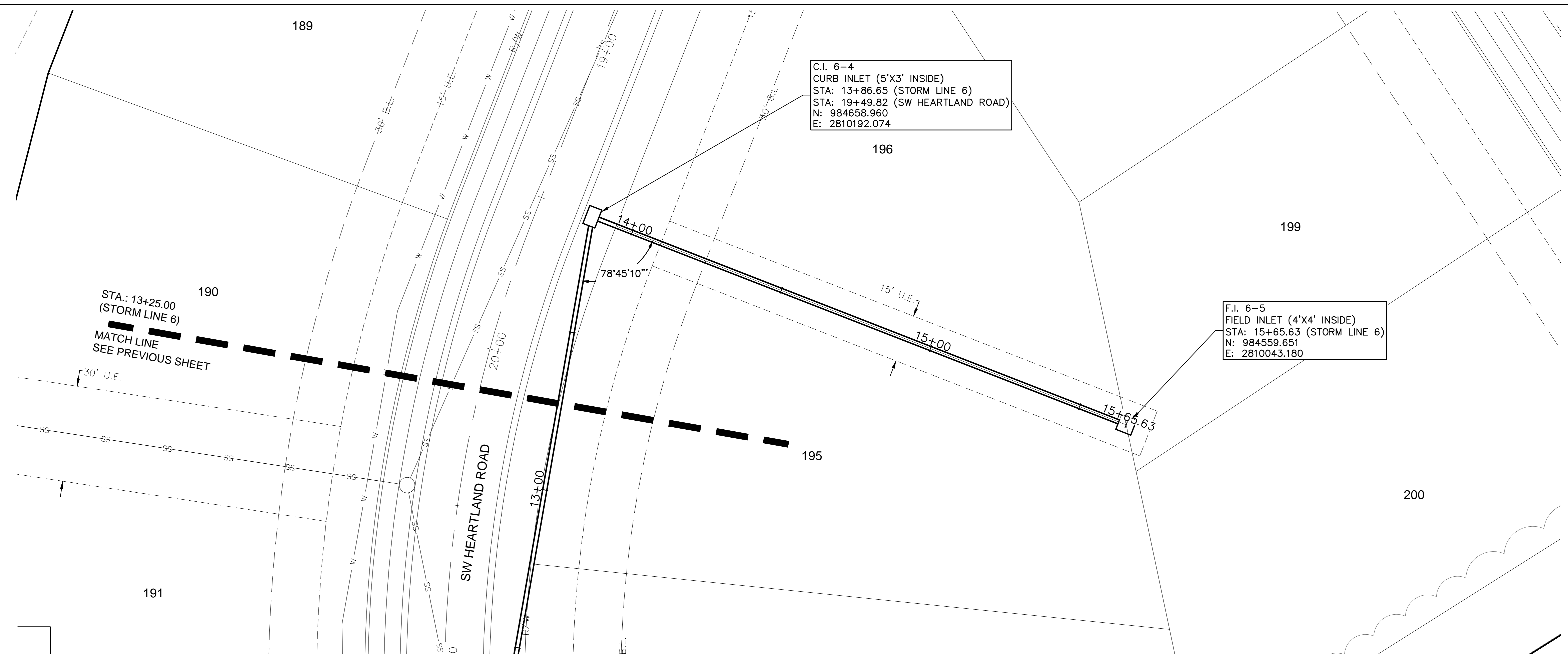
2021

LEE'S SUMMIT, MO

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 checked by: B.M.W.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
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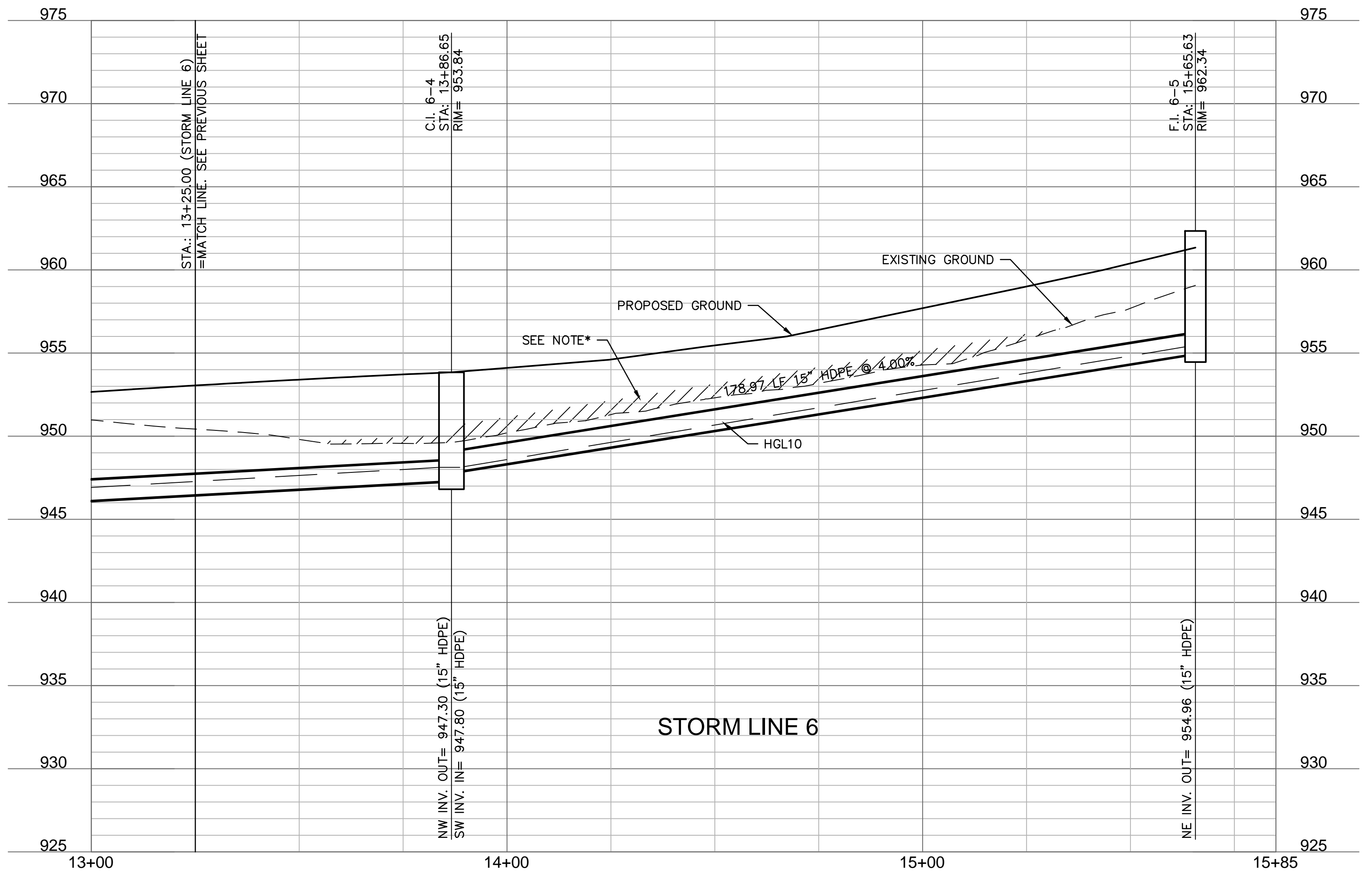
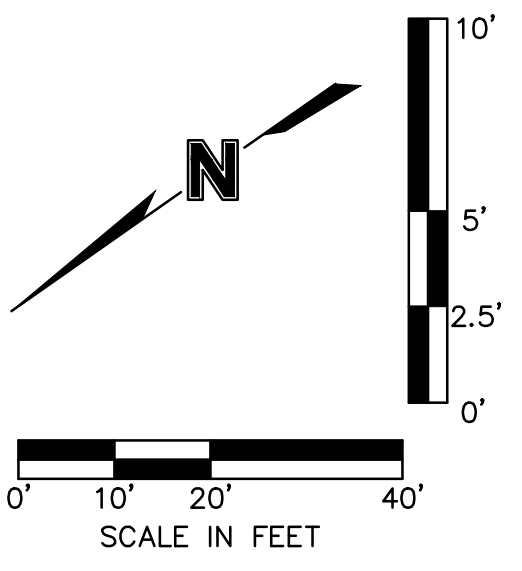
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C.I. 6-4
 CURB INLET (5'X3' INSIDE)
 STA: 13+86.65 (STORM LINE 6)
 STA: 19+49.82 (SW HEARTLAND ROAD)
 N: 984658.960
 E: 2810192.074

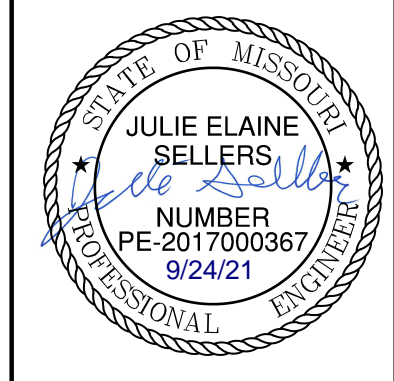
F.I. 6-5
 FIELD INLET (4'X4' INSIDE)
 STA: 15+65.63 (STORM LINE 6)
 N: 984559.651
 E: 2810043.180



*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE

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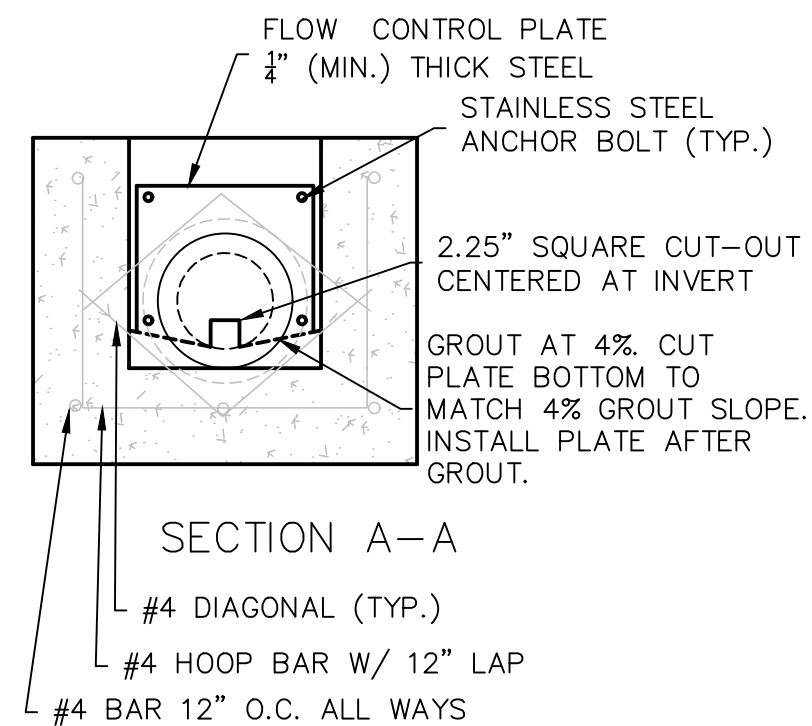
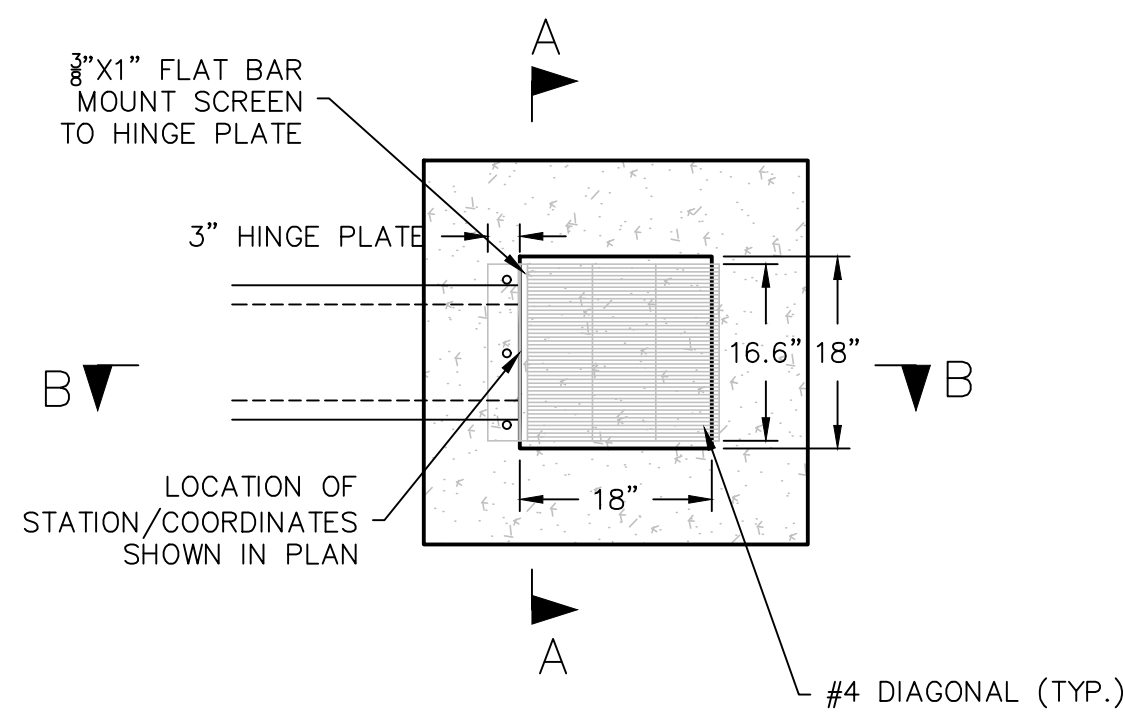
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STORM SEWER PLAN & PROFILE (LINE 6)
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
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 LEE'S SUMMIT, MO
 2021

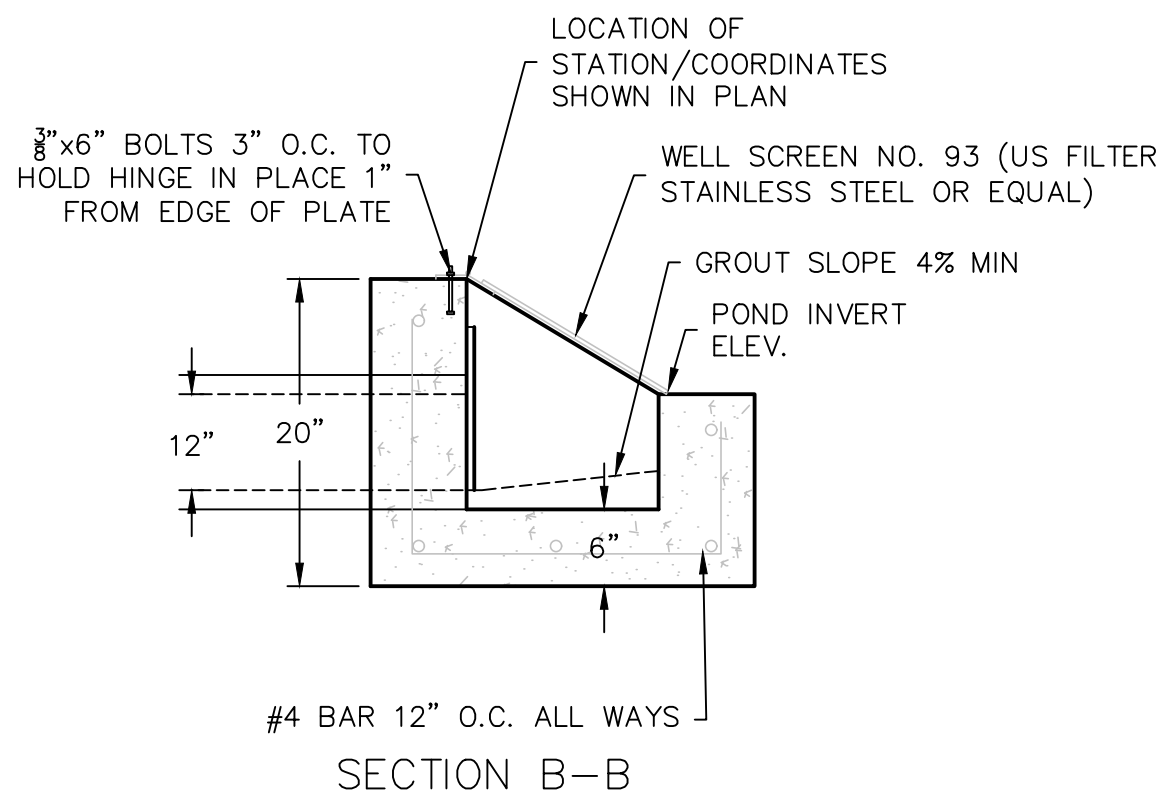
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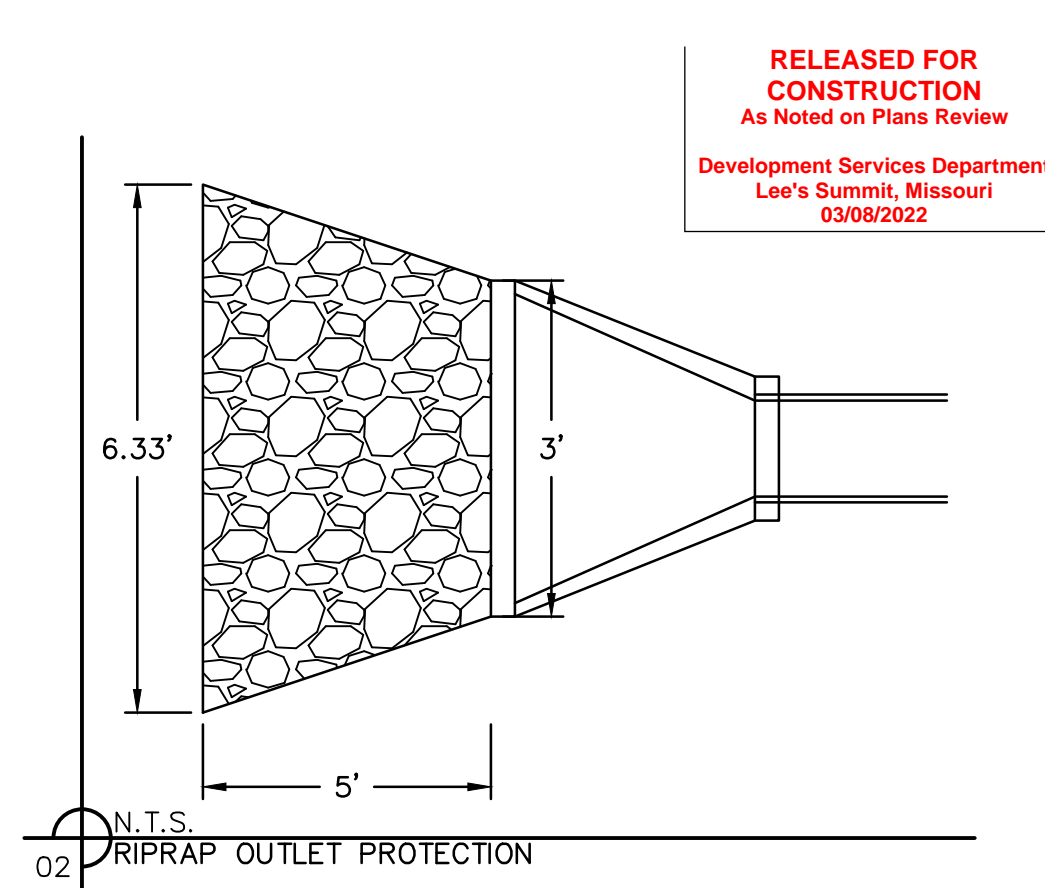
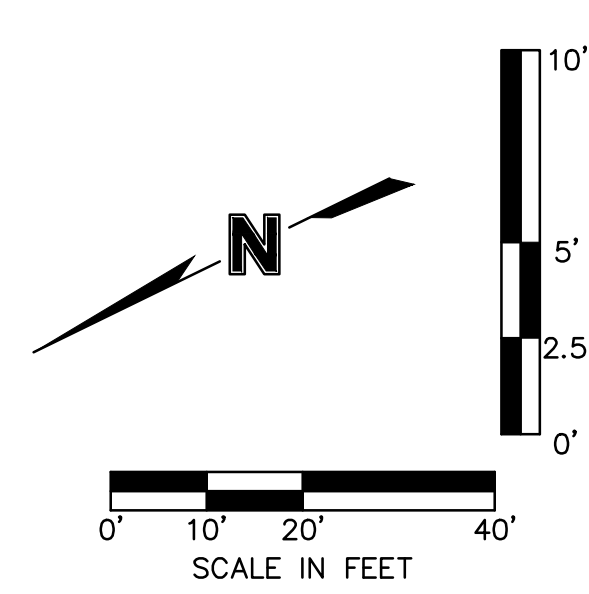
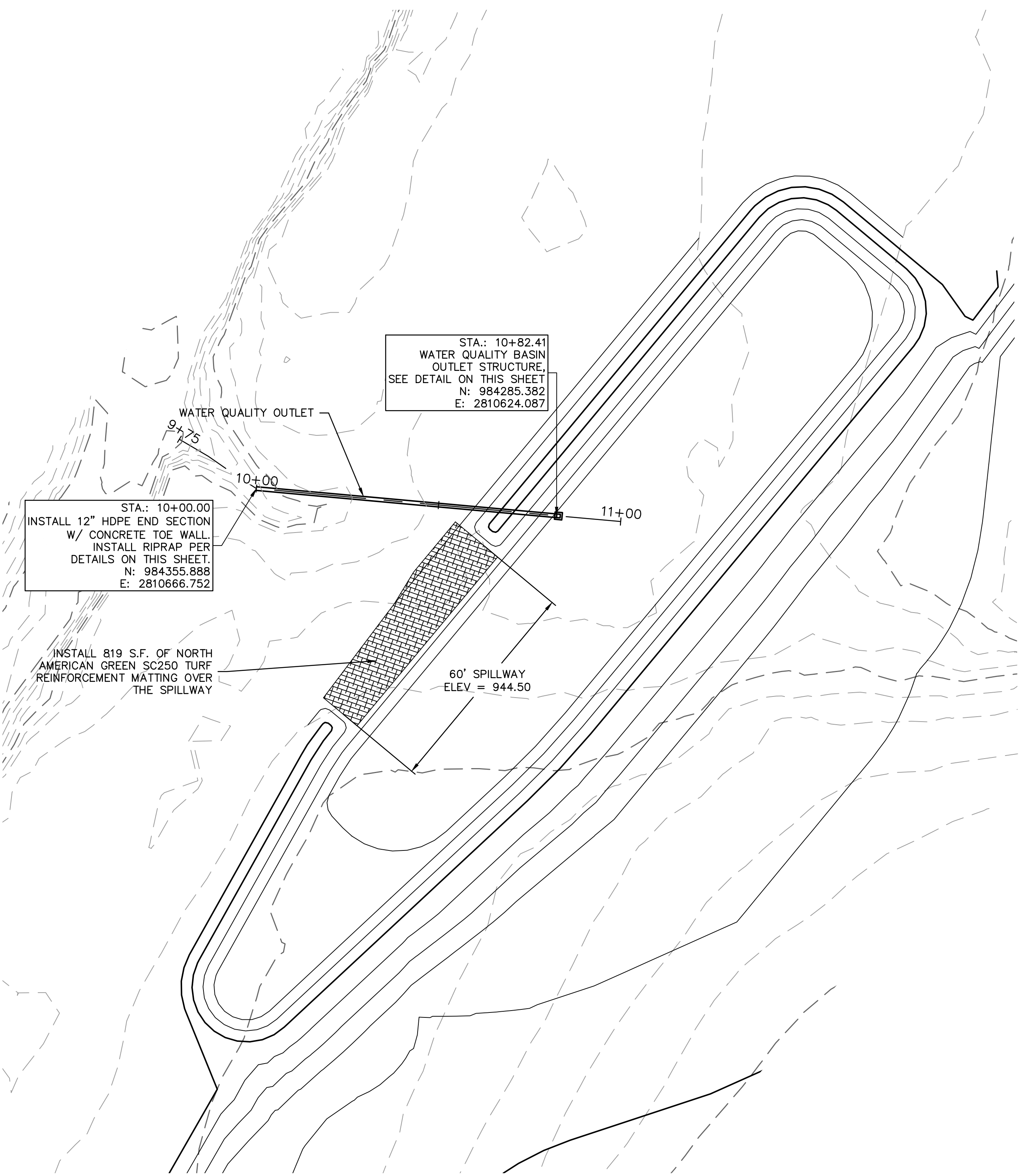
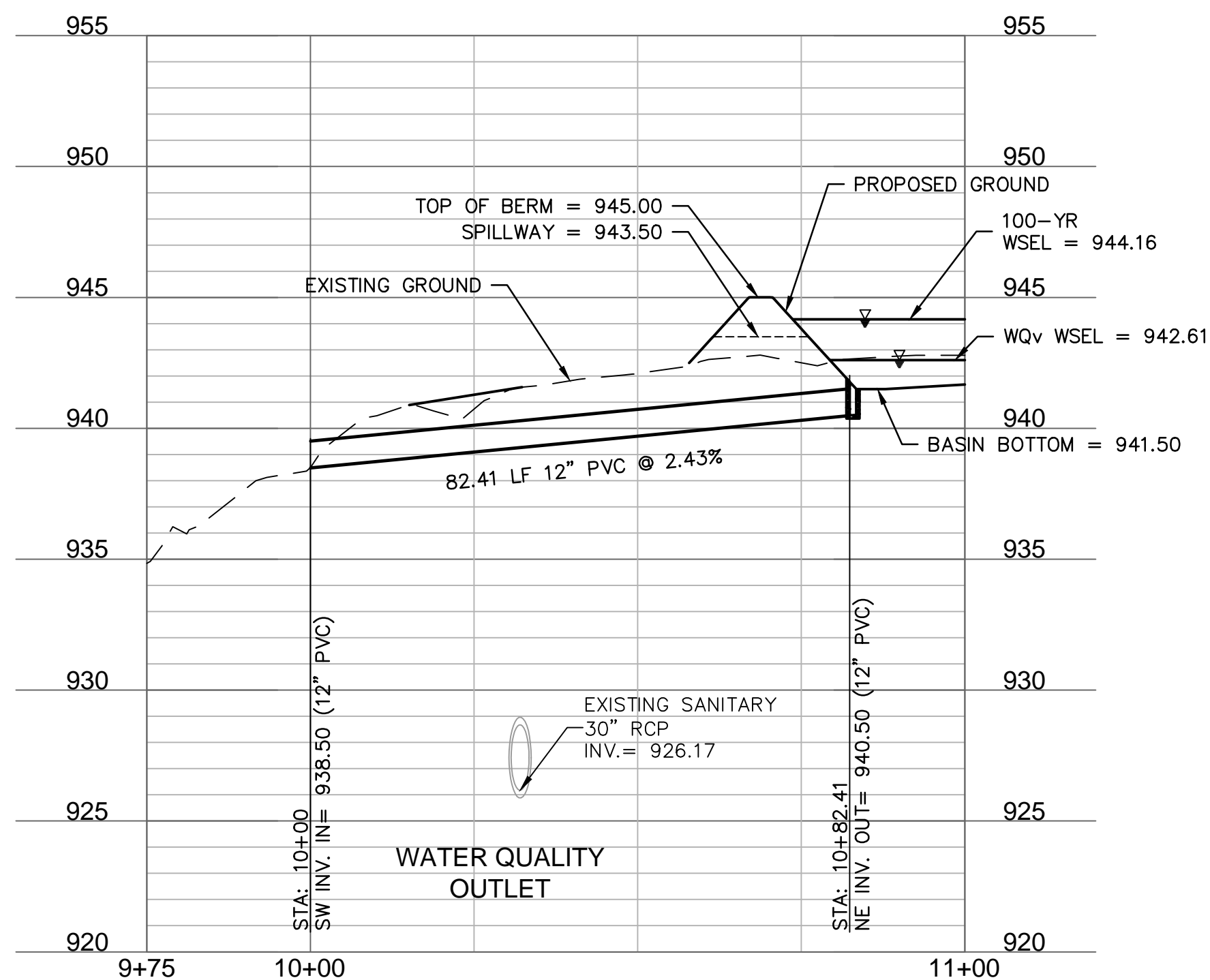
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 USER: aabidgaliyev

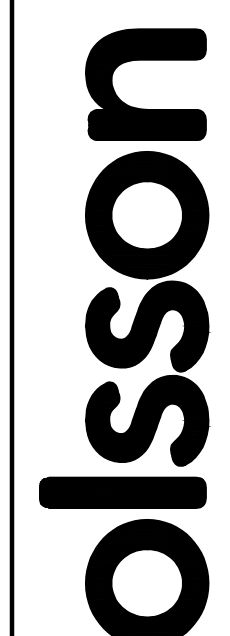


- GENERAL NOTES:
1. CONCRETE SHALL BE CLASS B
 2. REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED, AND SHALL HAVE MINIMUM 2" CLEARANCE.
 3. ALL MOUNTING HARDWARE TO BE STAINLESS STEEL AND PROVIDED WITH HINGES AND LOCKABLE OR BOLTABLE ACCESS.

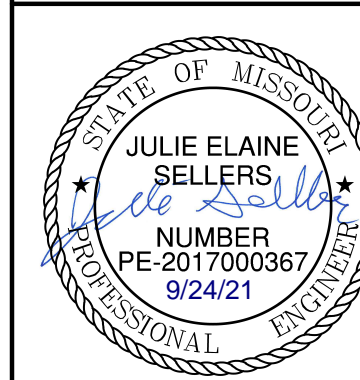


01 N.T.S. WATER QUALITY BASIN OULET STRUCTURE





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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	

WATER QUALITY BASIN PLAN
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO

2021

REVISIONS

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET
 C128

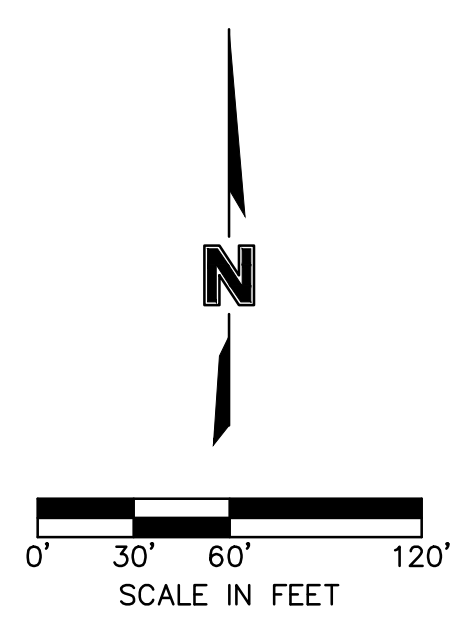
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- NOTES:
- INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.
 - PLAT IS LOCATION IN ZONE X, "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"
 - REQUIRED BUFFER ZONES FOR NATURAL STREAMS NOTED ON THIS PLAN SHEET.
 - 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 EACH OF THE LOTS LABELED AS STANDARD 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.

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

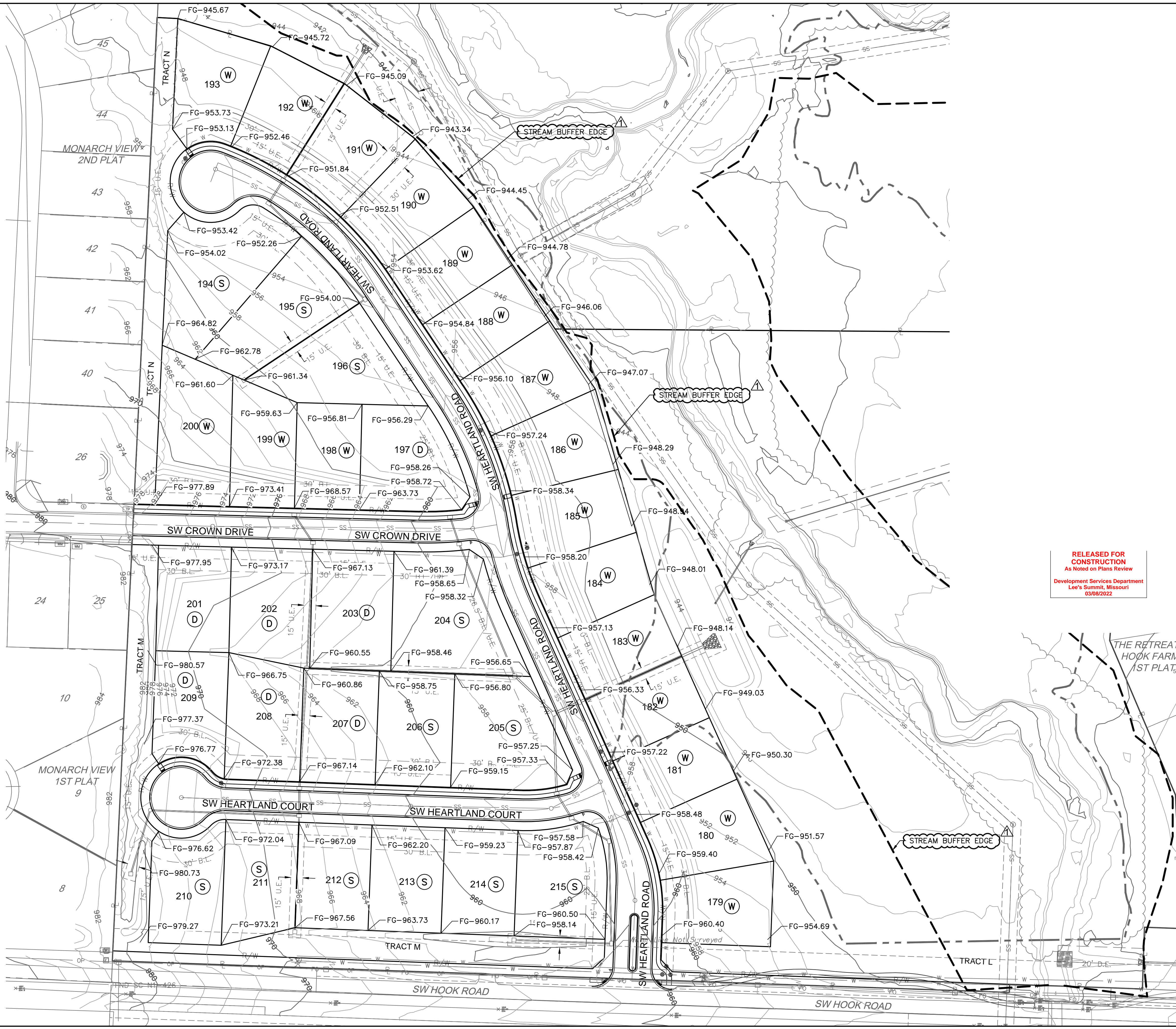
BASEMENT TYPES

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



LEGEND

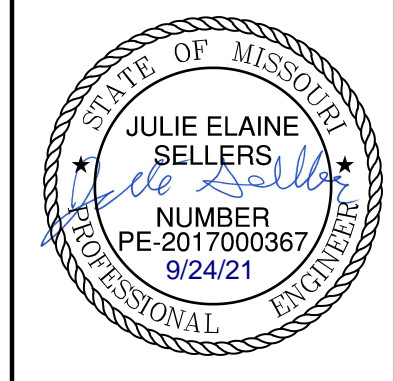
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	FINISHED INTERMEDIATE CONTOURS



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MASTER DRAINAGE PLAN
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

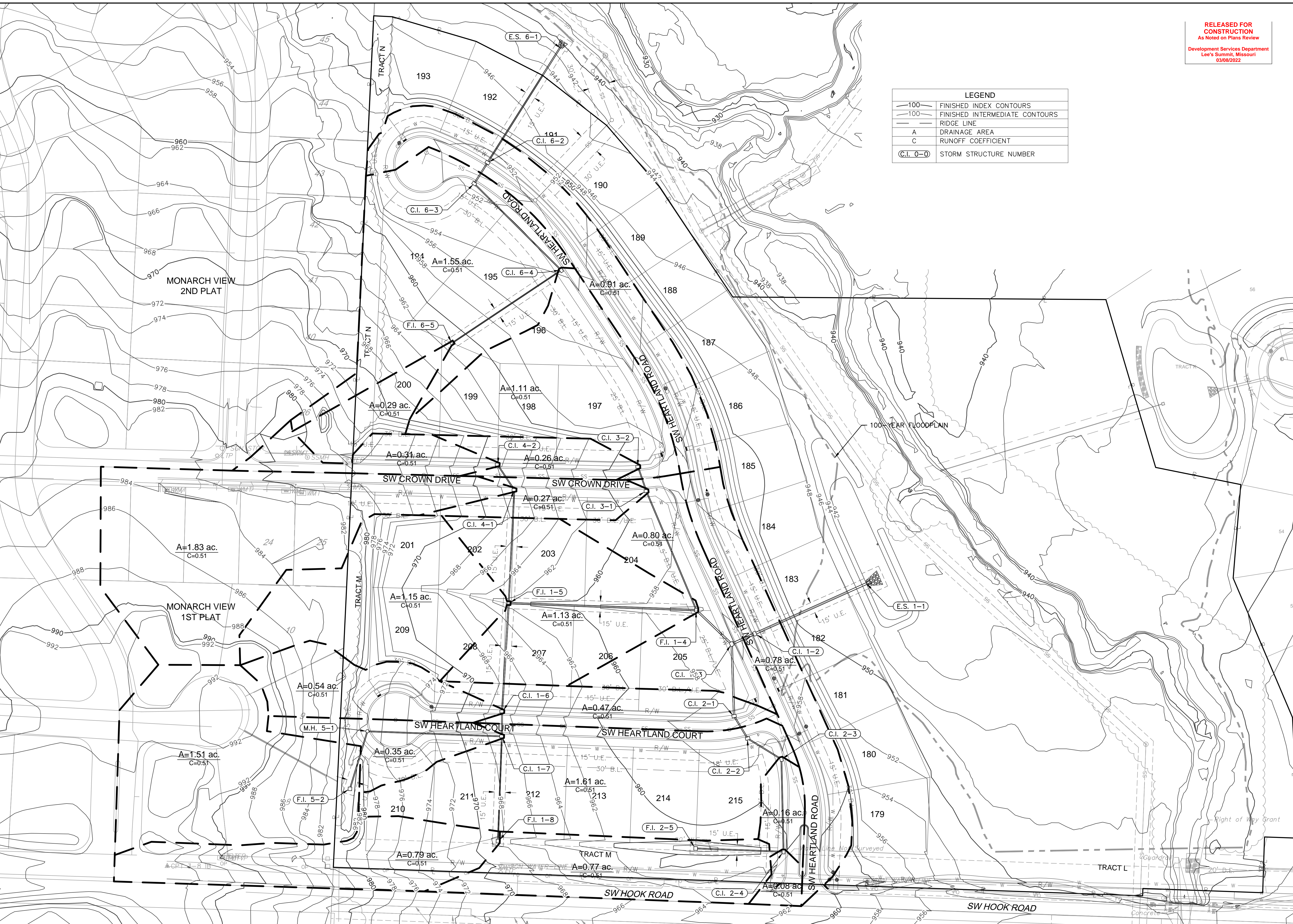
SHEET
 C129

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

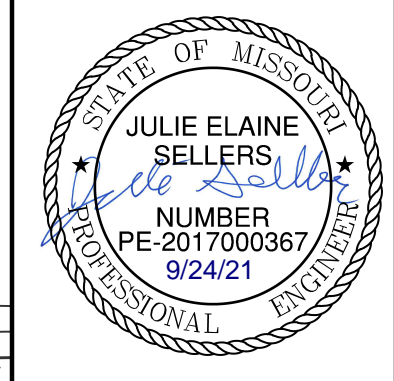
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LEGEND	
	FINISHED INDEX CONTOURS
	FINISHED INTERMEDIATE CONTOURS
	RIDGE LINE
A	DRAINAGE AREA
C	RUNOFF COEFFICIENT
C.I. 0-0	STORM STRUCTURE NUMBER



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2021

LEE'S SUMMIT, MO

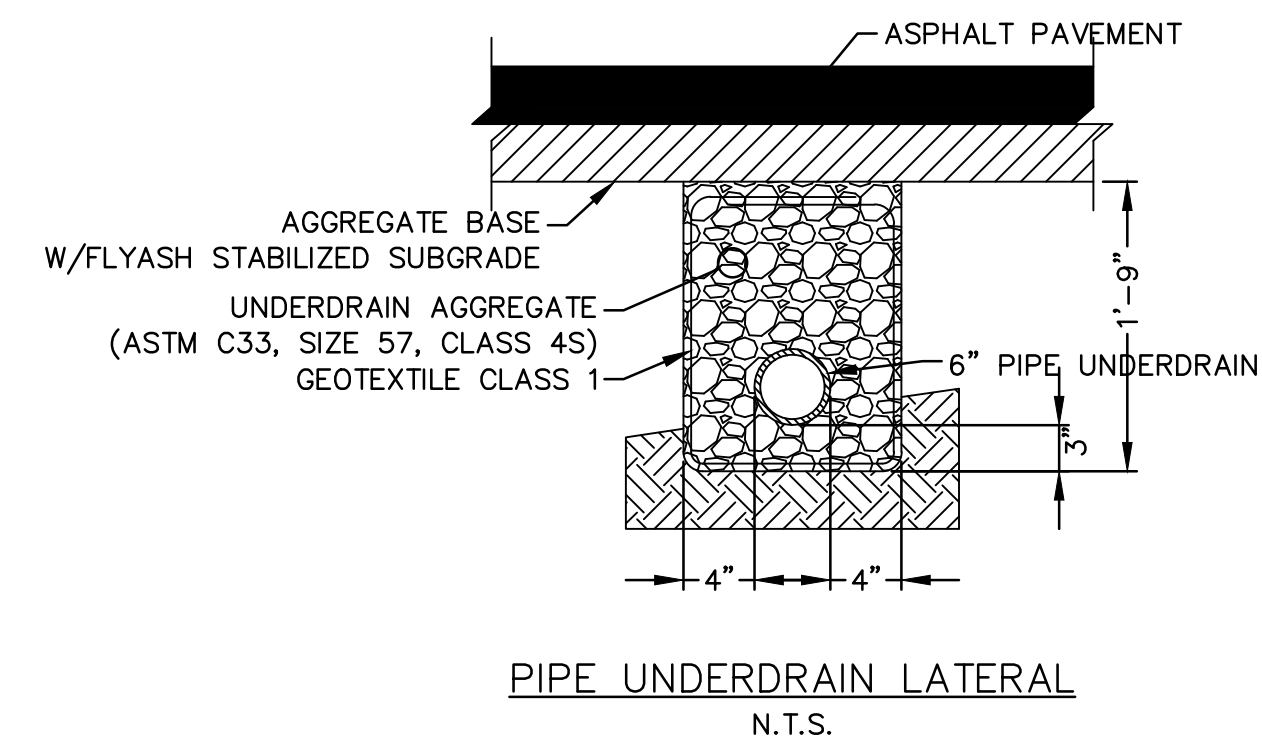
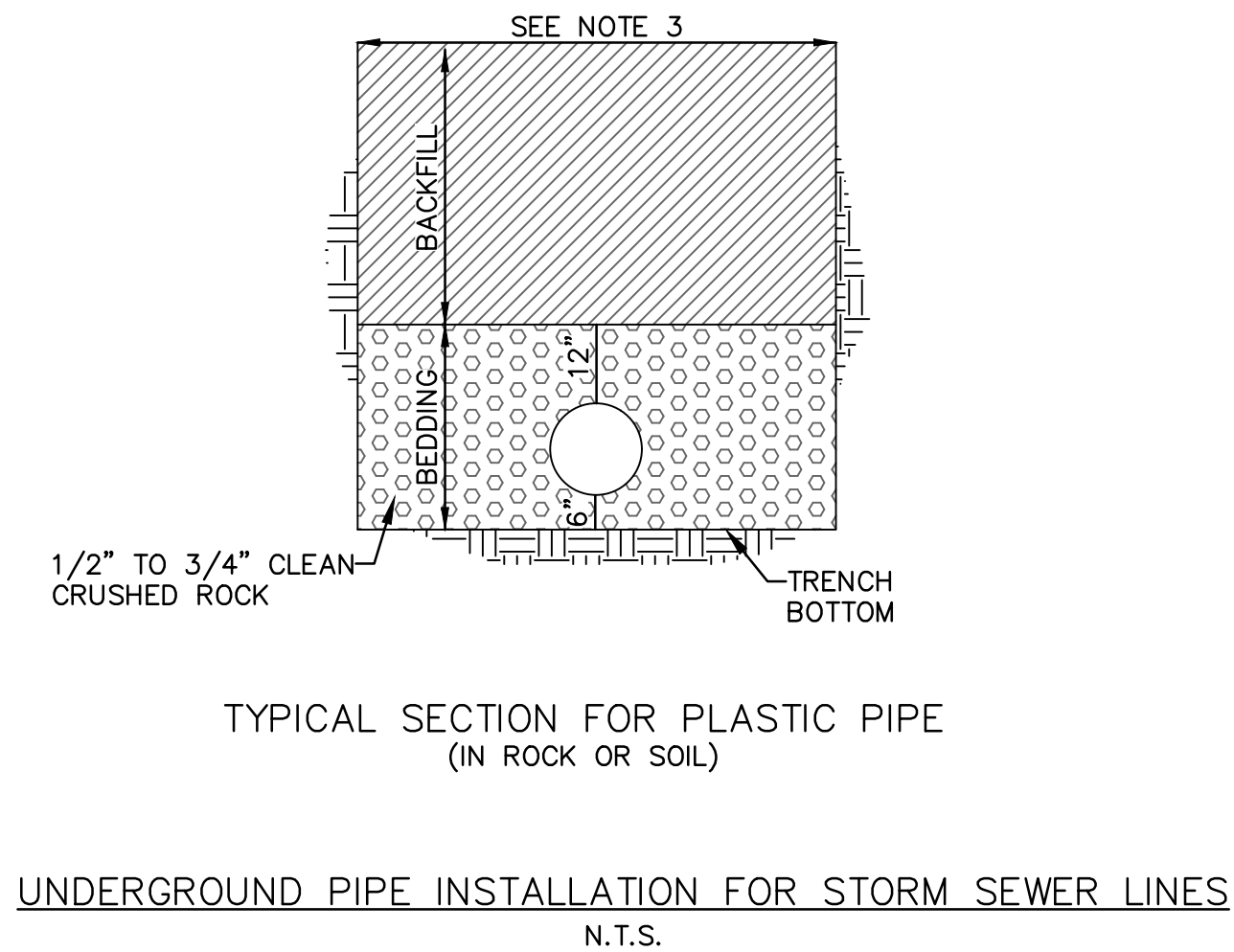
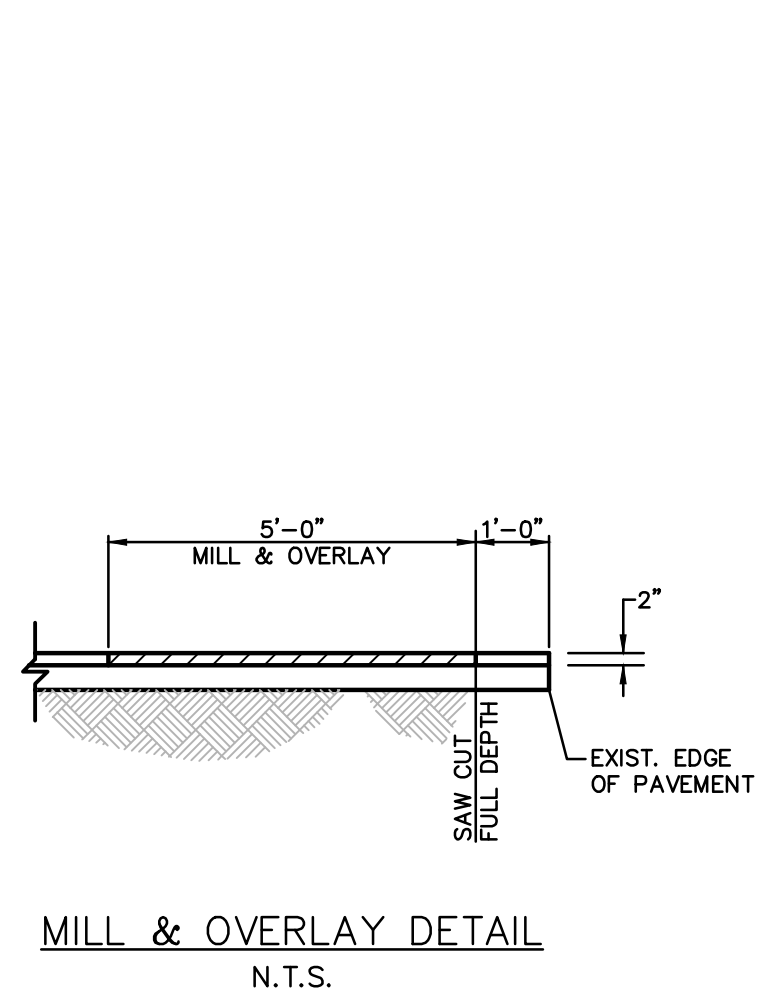
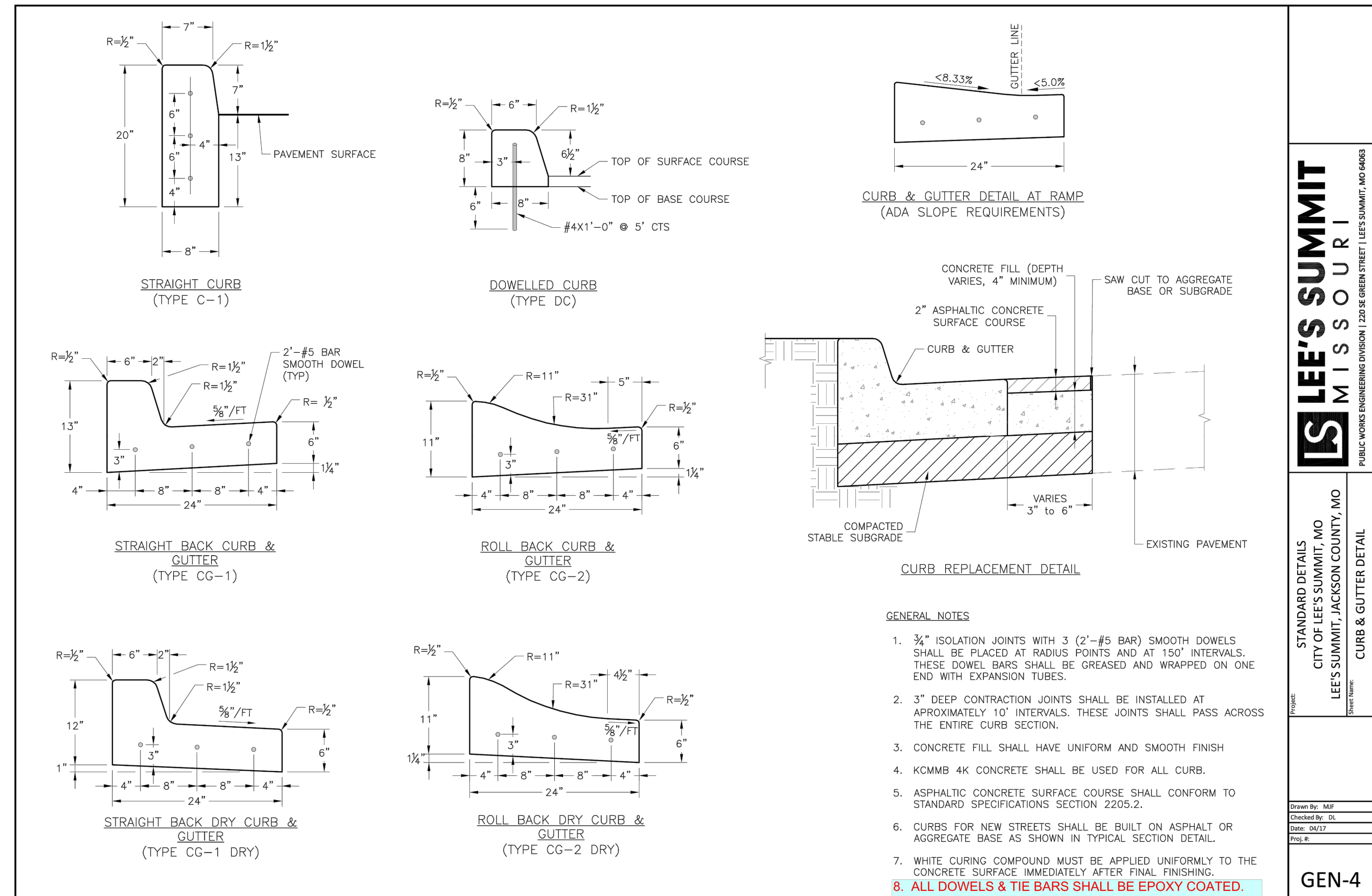
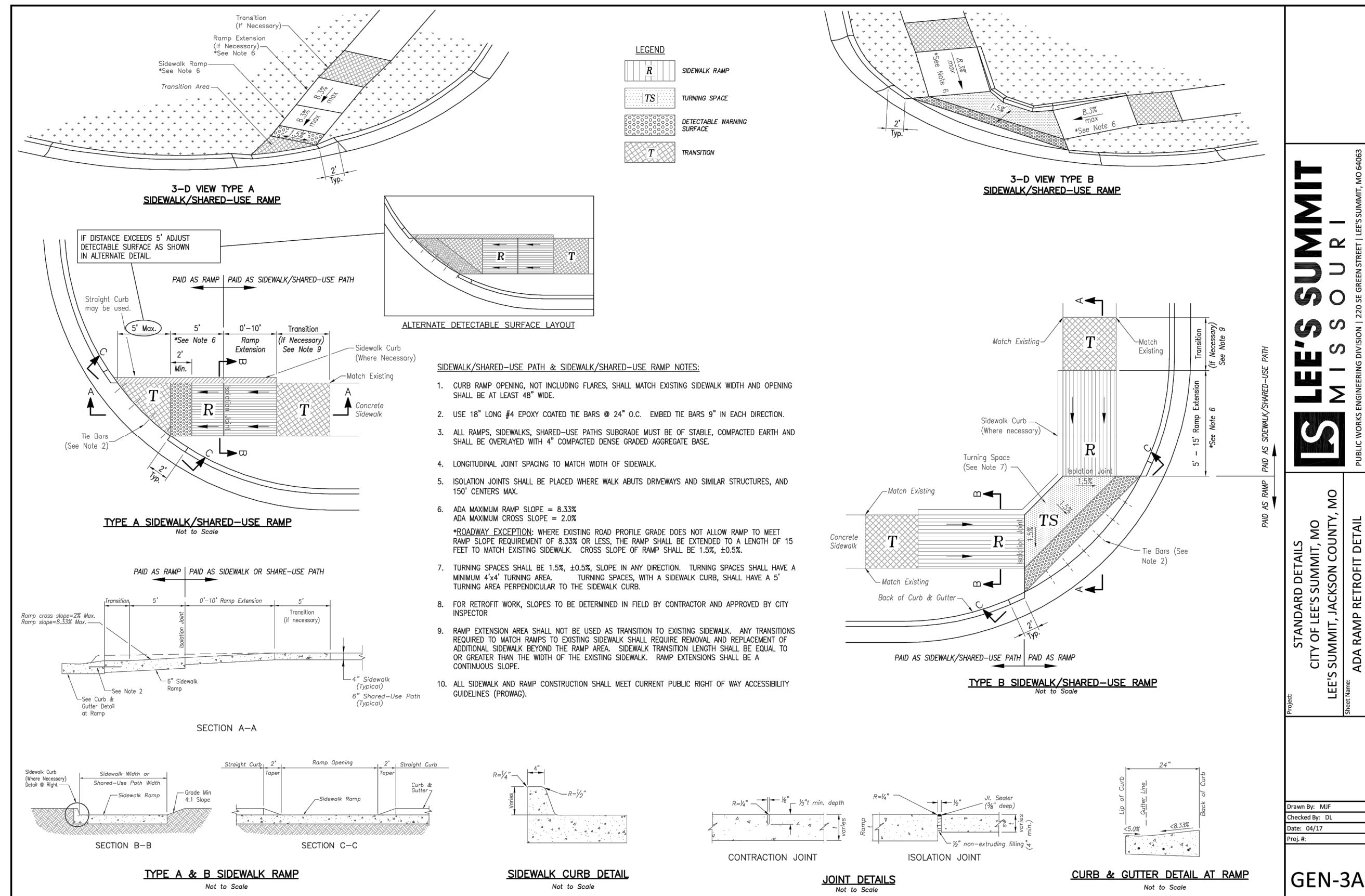
THE RETREAT AT HOOK FARMS
 SECOND PLAT

DRAINAGE PLAN
 STREET & STORM SEWER PLANS

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET
 C130

REVISIONS



- NOTES:**
- Where Pipe Underdrains are used, all Underdrain Outlet Pipes shall be solid wall with watertight joints. All Outlets 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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STATE OF MISSOURI
 JULIE ELAINE SELLERS
 PE-2017000367
 9/24/21
 PROFESSIONAL ENGINEER

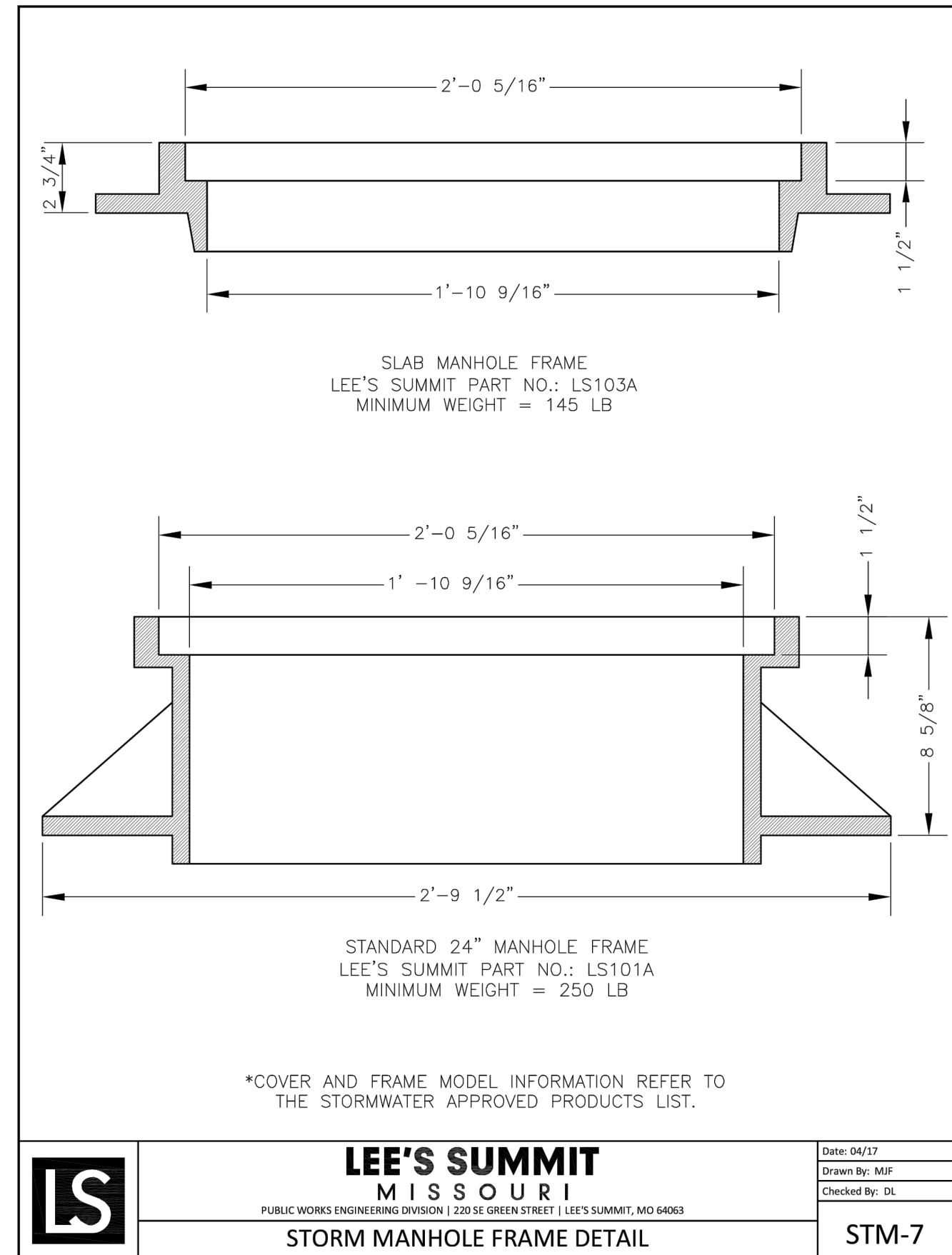
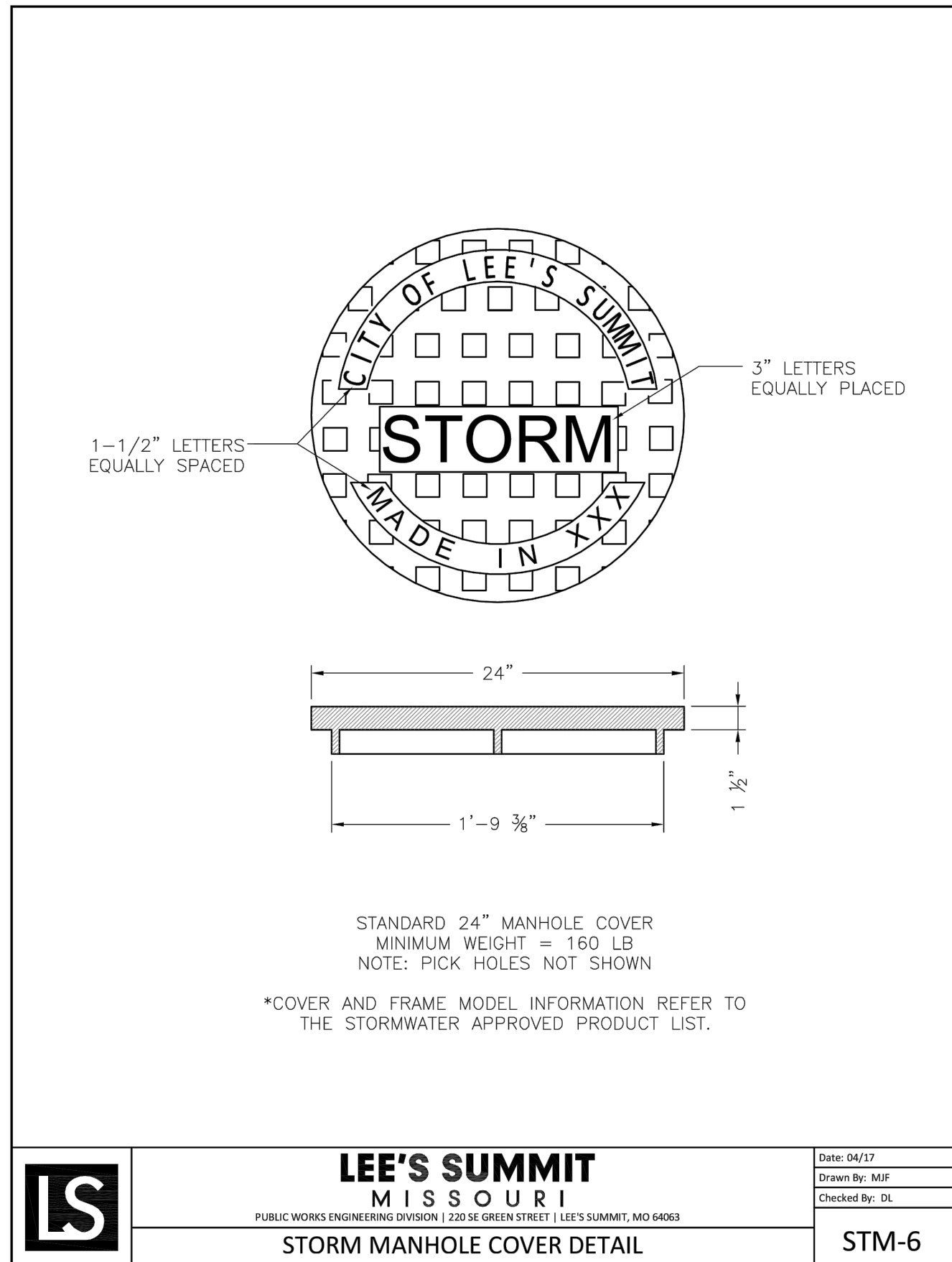
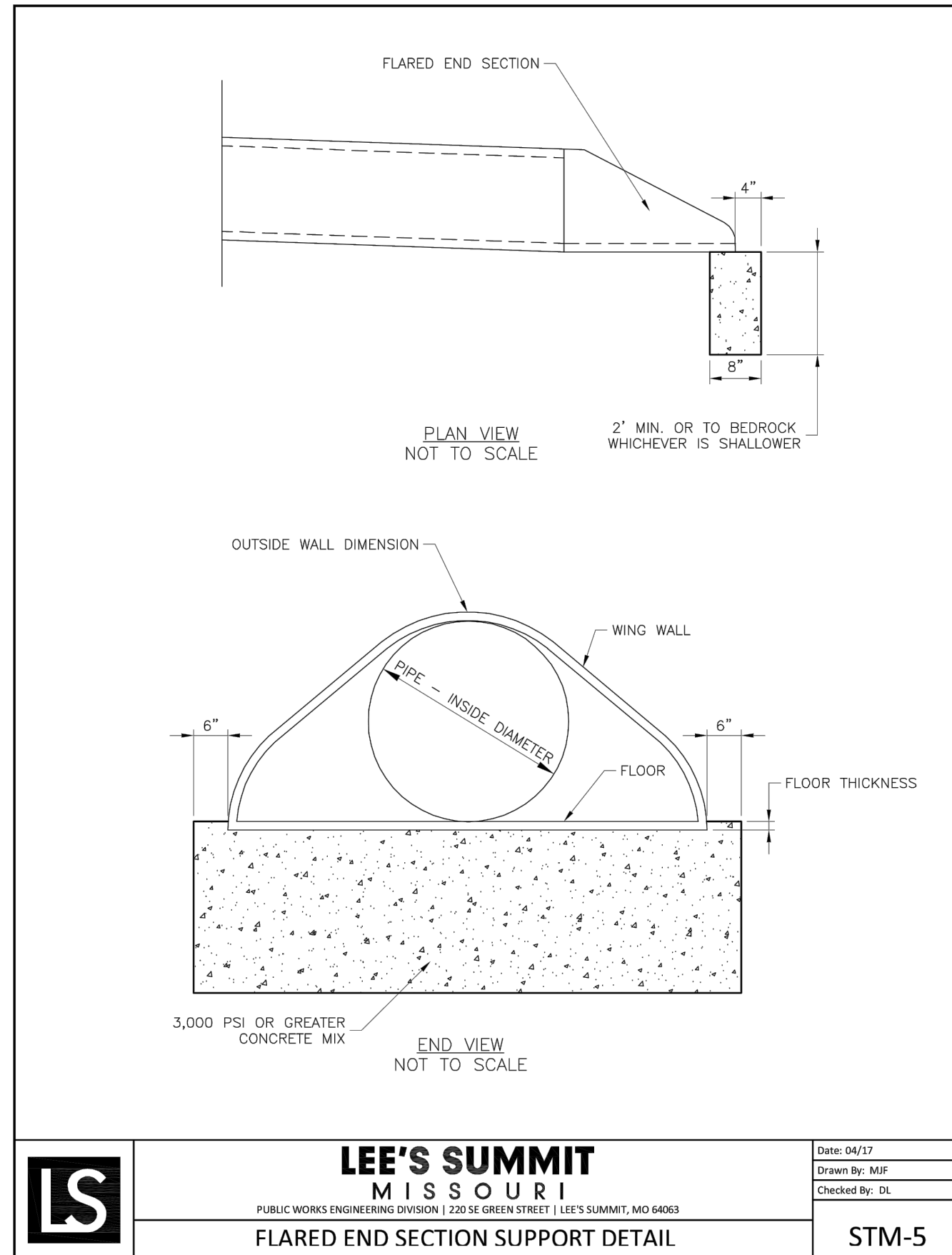
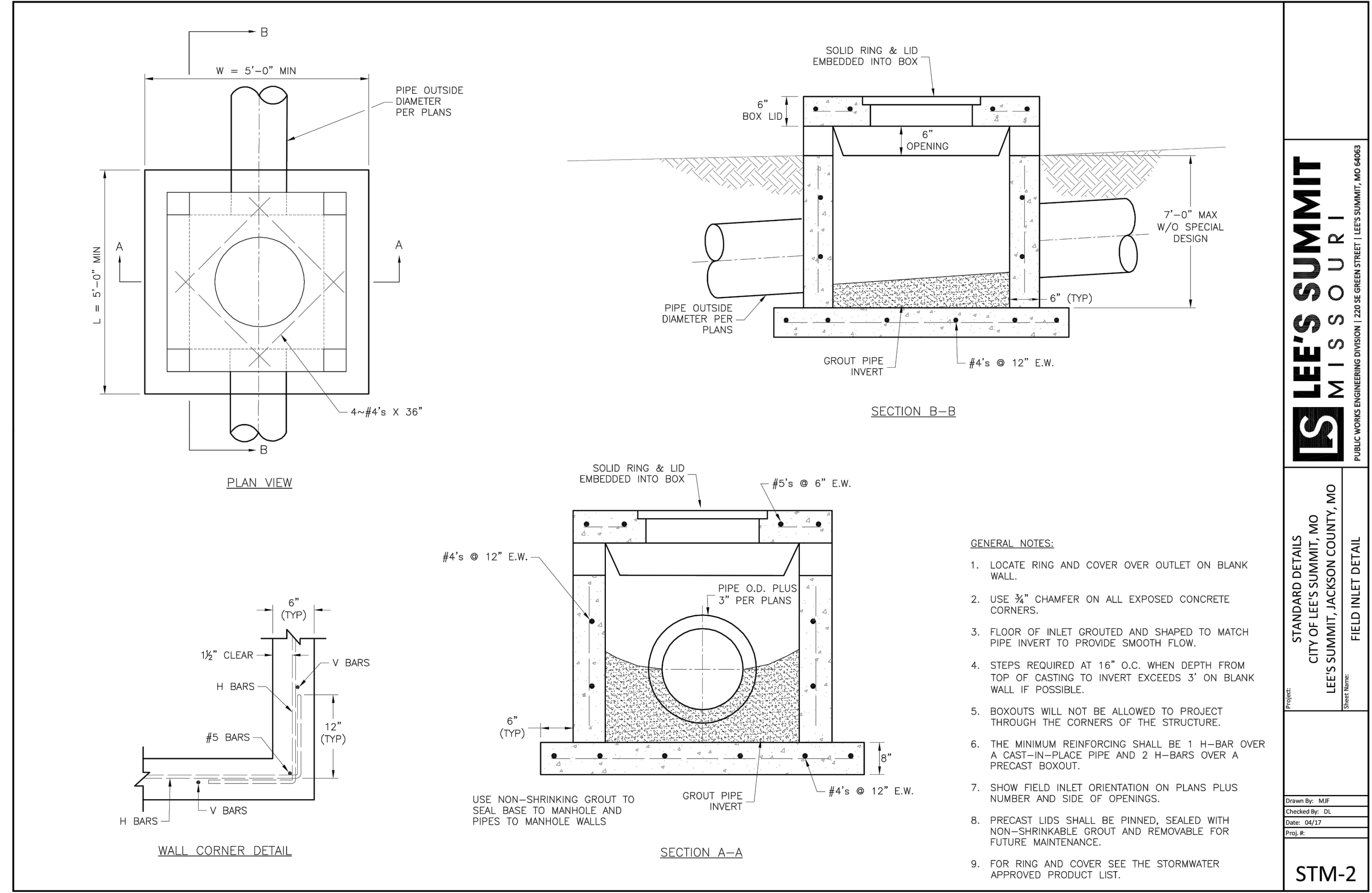
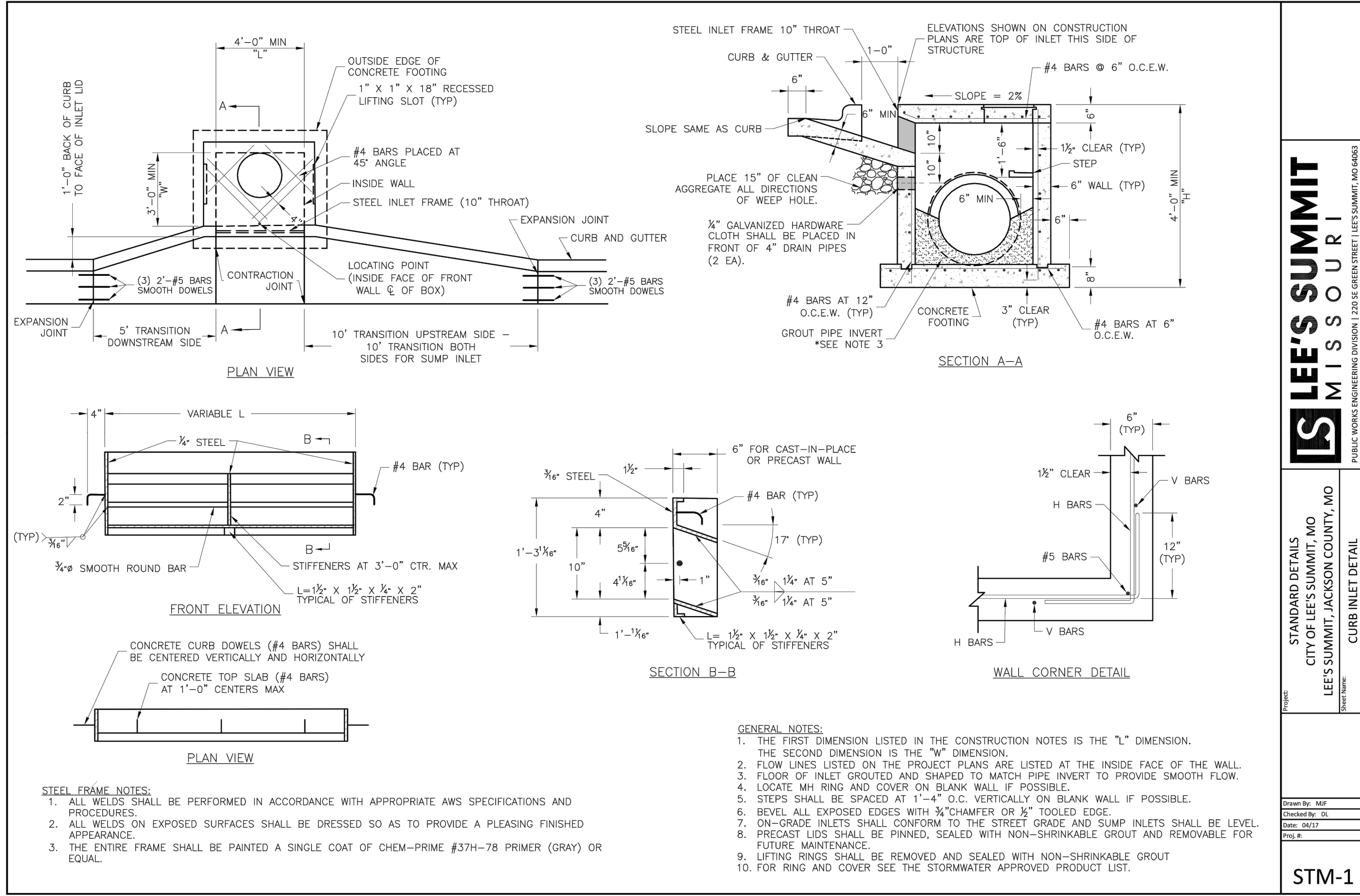
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DETAIL SHEET
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

USER: cabdigaliyev

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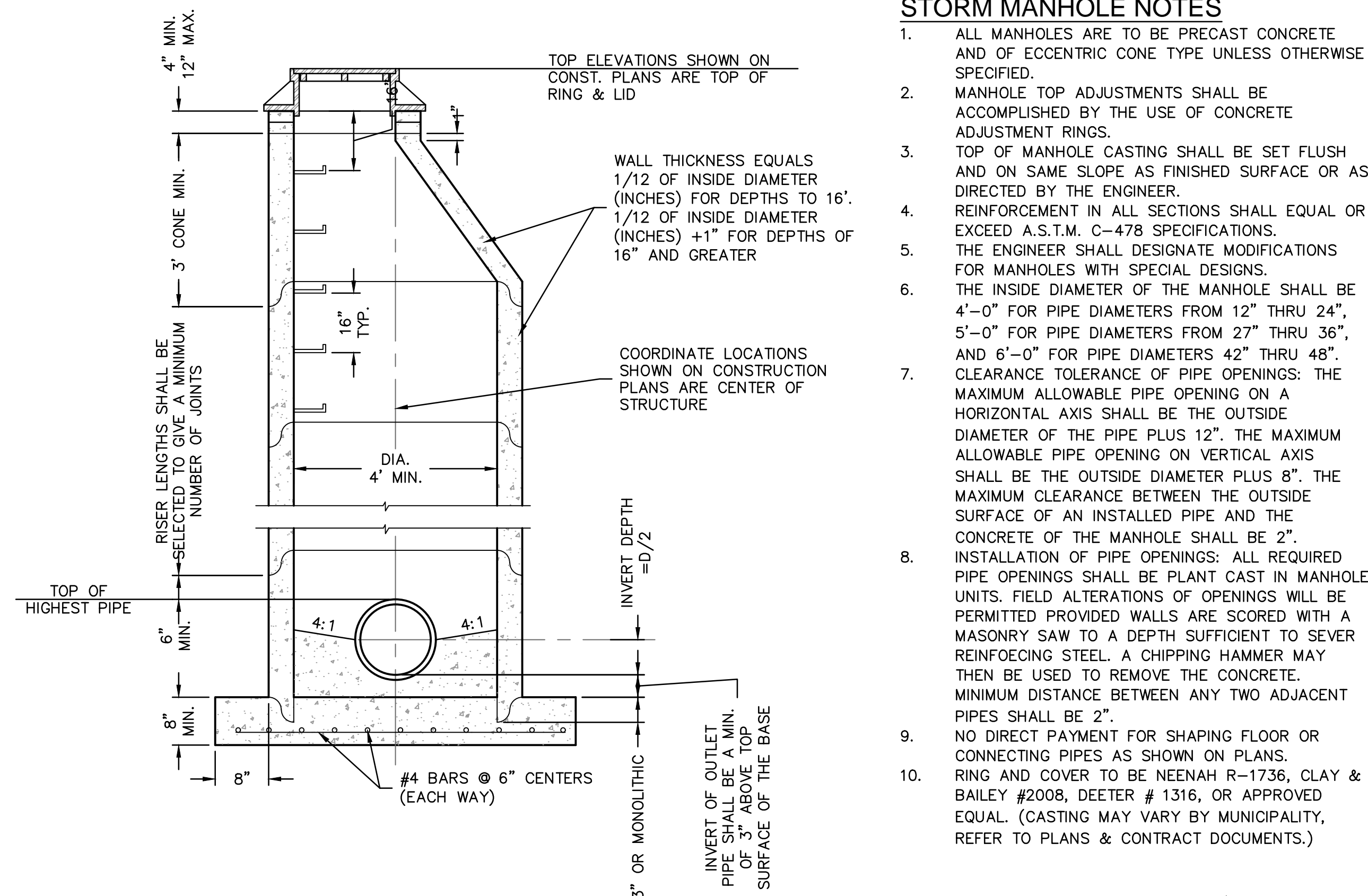
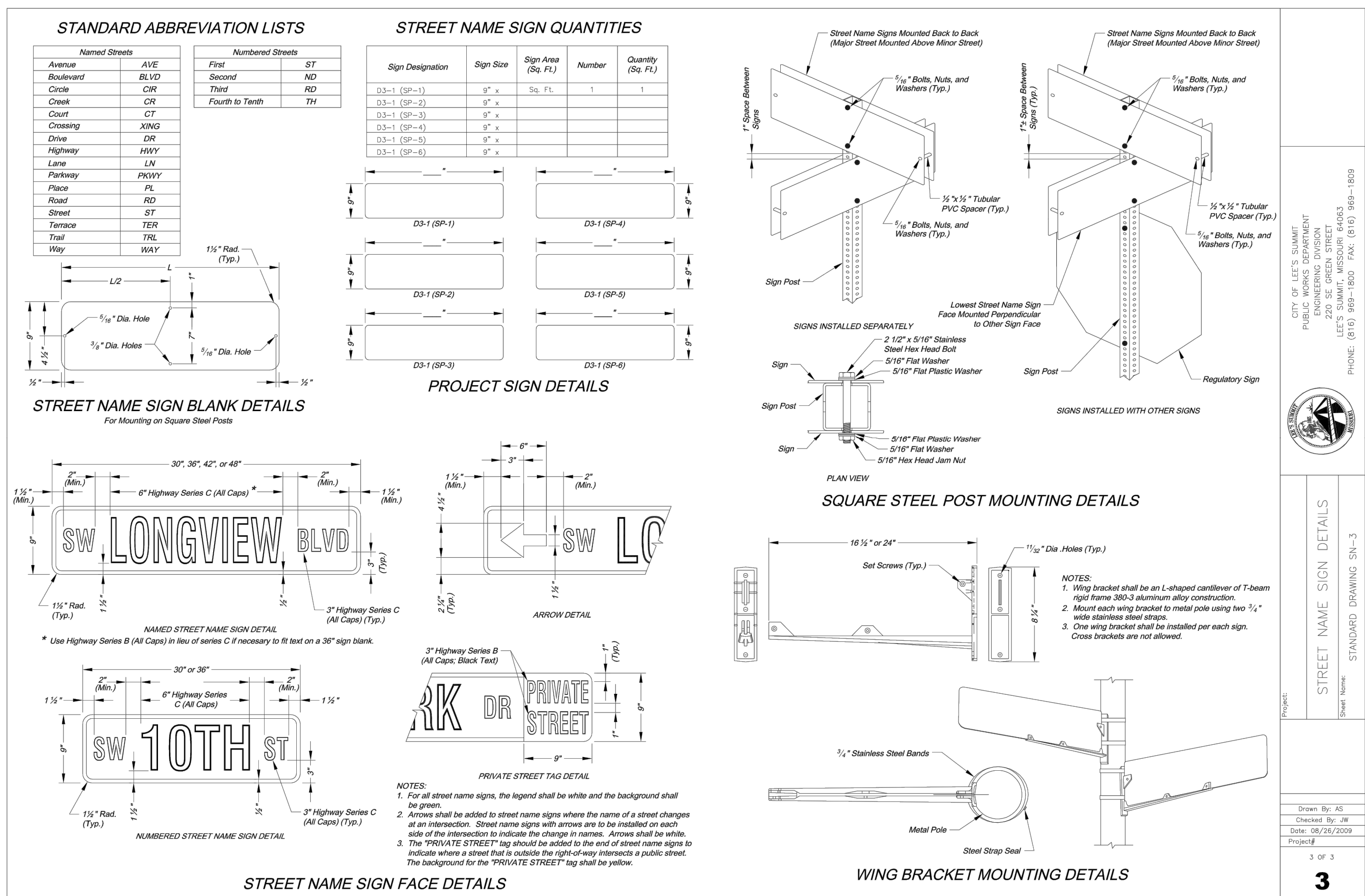
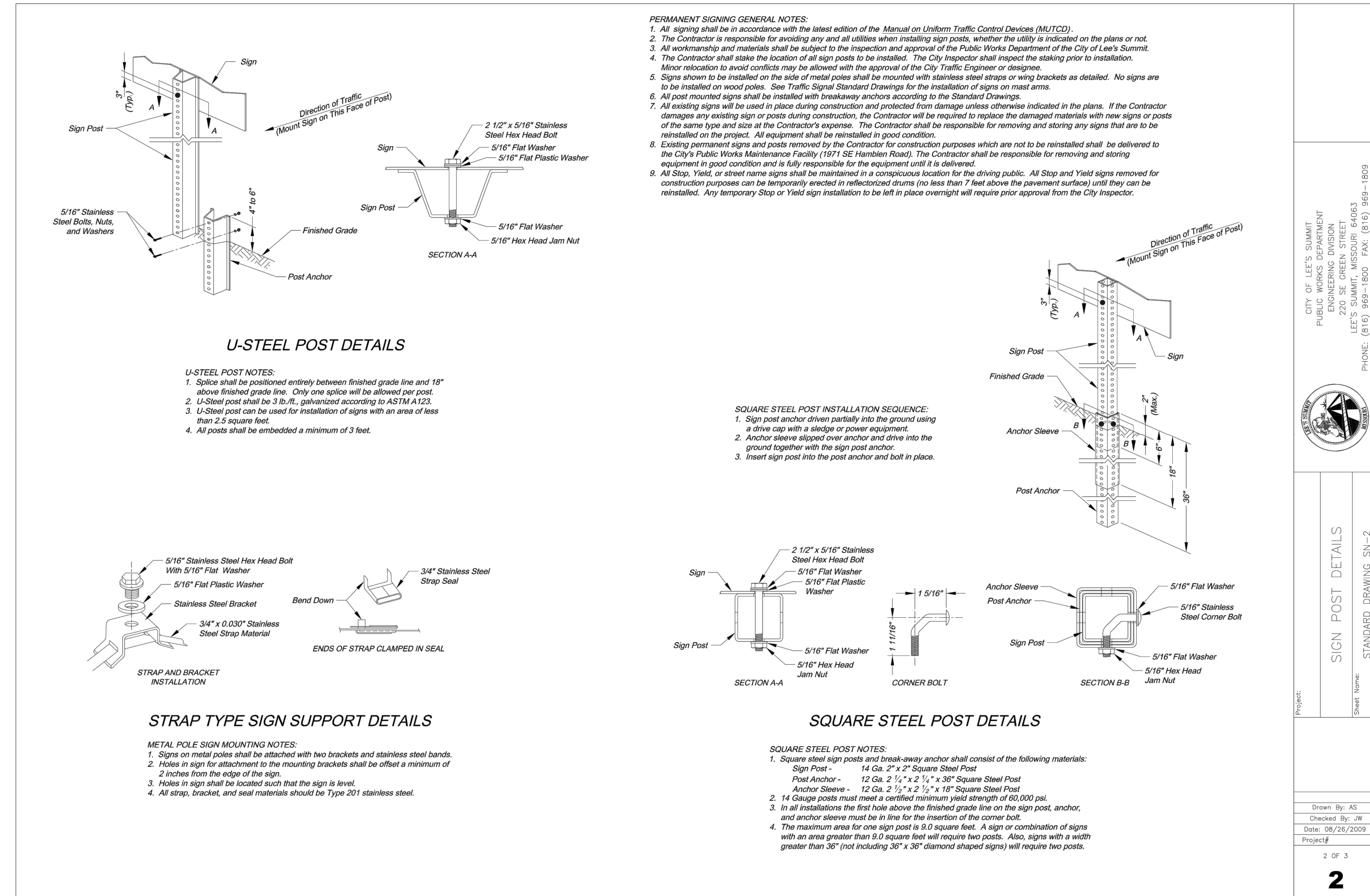
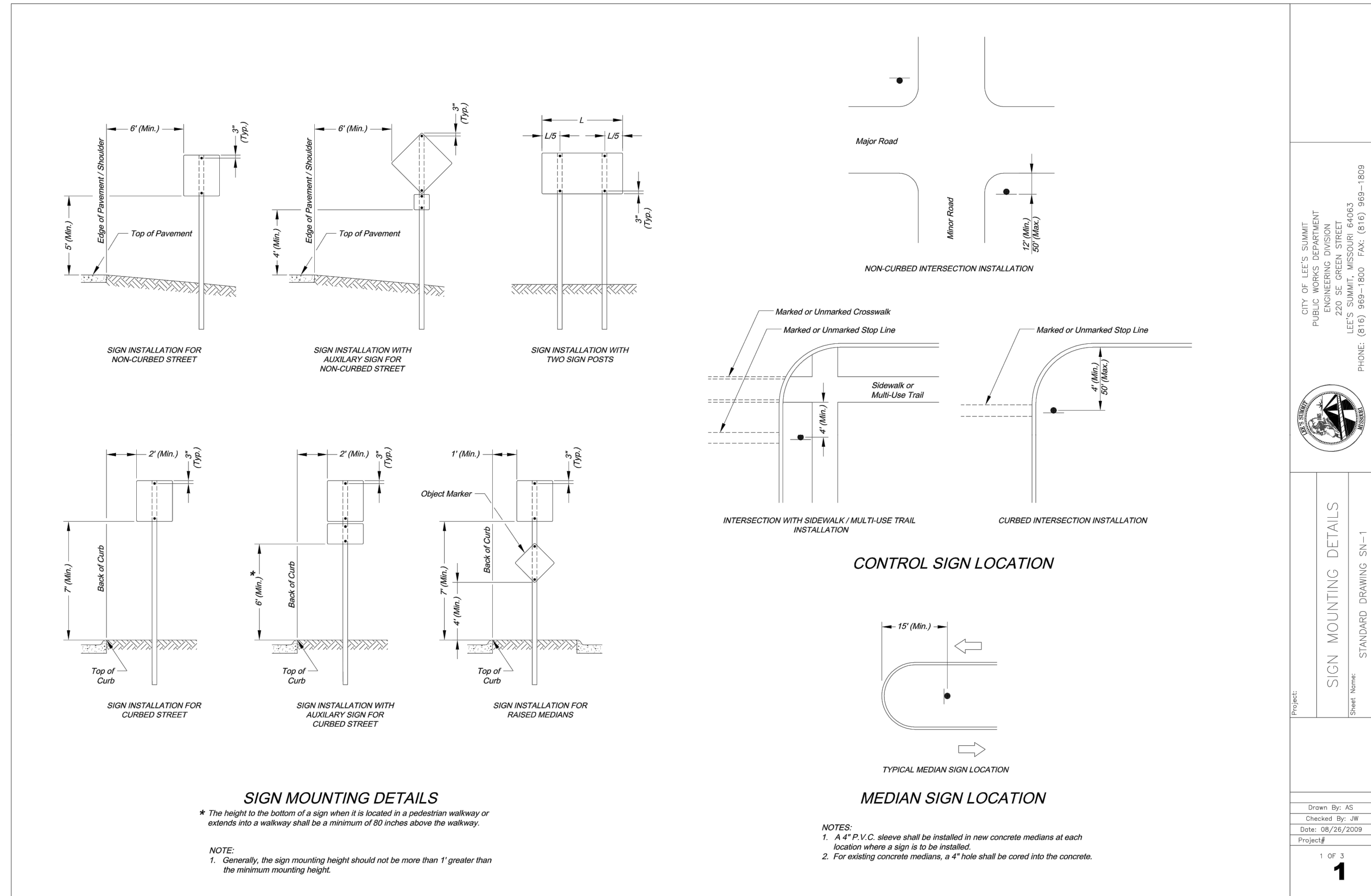
STATE OF MISSOURI
JULIE ELAINE SELLERS
Professional Engineer
NUMBER PE-2017000367
9/24/21

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DETAIL SHEET
STREET & STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
SECOND PLAT
LEE'S SUMMIT, MO
2021

drawn by: B.M.W./A.A.
checked by: B.M.W.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: A19-4059
date: 05-05-2021

SHEET C133



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DETAIL SHEET
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 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO

REVISIONS

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 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET
 C134