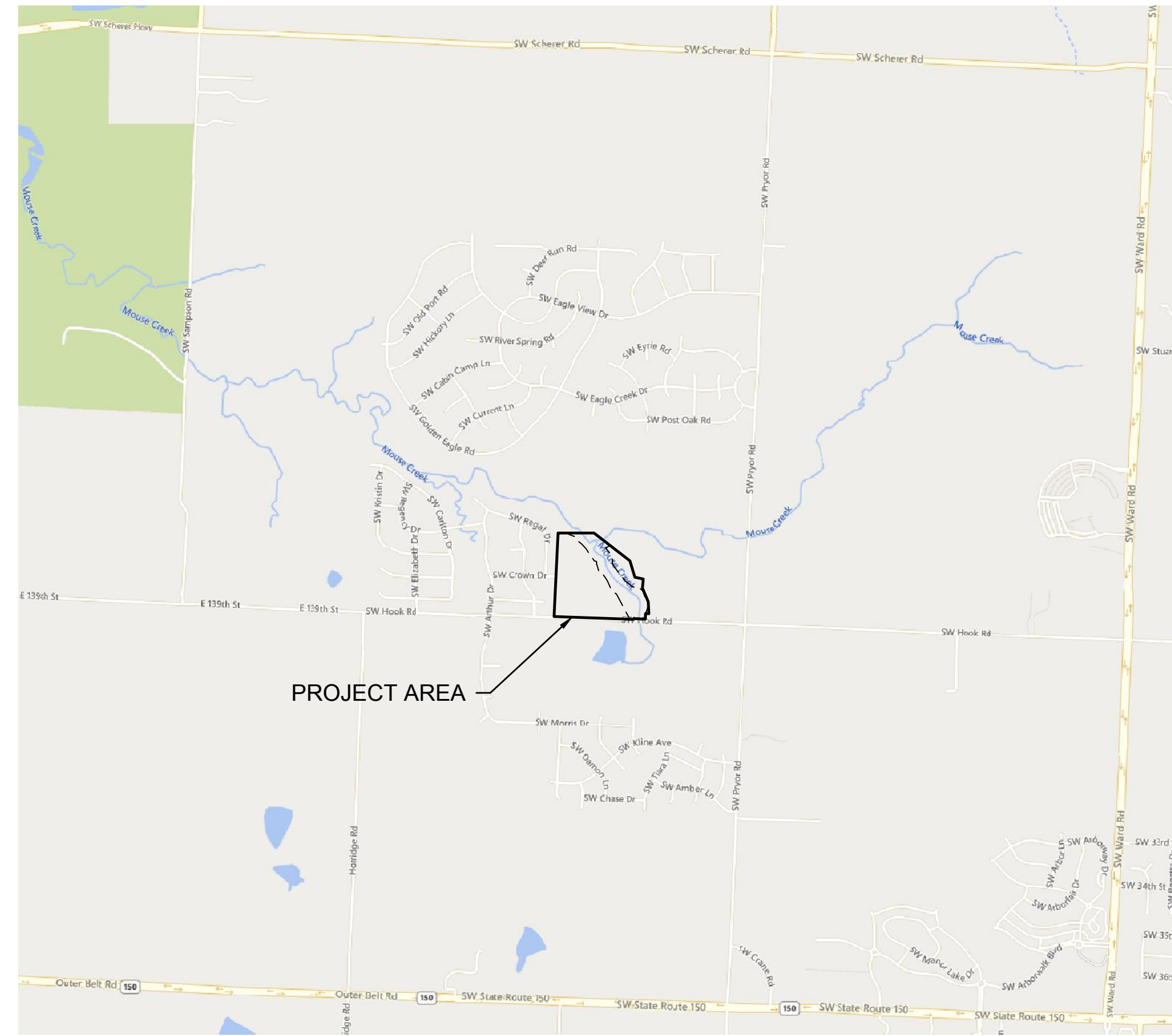
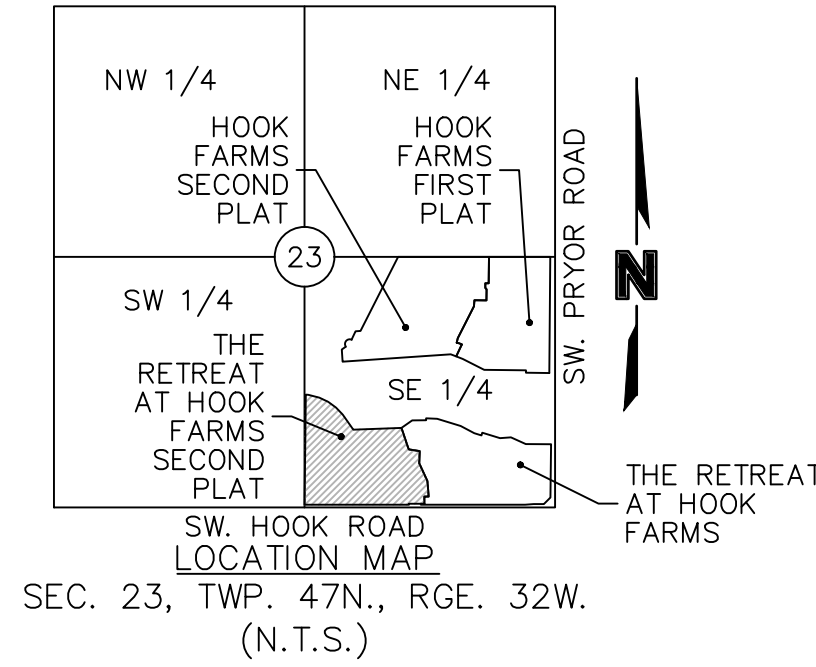


THE RETREAT AT HOOK FARMS SECOND PLAT STREET & STORM SEWER PLANS

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

10/11/22
DATE

AS BUILT

DATE SURVEYED: 2022-06-17
 I HEREBY CERTIFY THAT THE CONDITIONS SHOWN ARE CORRECT AND THE SEWER ARE ACCEPTABLY LOCATED WITHIN EXISTING EASEMENTS OR RIGHT OF WAYS.

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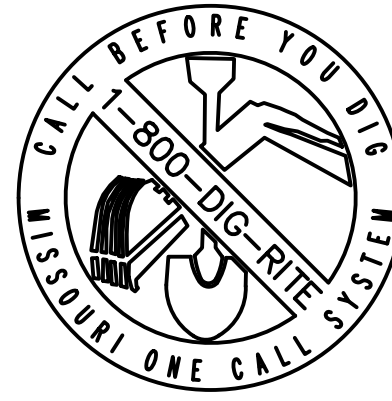


REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

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.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4056
 date: 05-05-2021

SHEET C101



DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCV\Street & Storm Sewer Plans\C_TL01_A194059.dwg
 DATE: Oct 11, 2022 3:57pm
 USER: ssoylor

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	14
	STD. CURB INLET (5'x4' INSIDE)	EA.	1	1
	STD. STORM MANHOLE (4' DIA. INSIDE)	EA.	1	1
	STD. FIELD INLET (4'x4' INSIDE)	EA.	6	6
	WATER QUALITY BASIN OUTLET STRUCTURE	EA.	1	1
	12" PVC	L.F.	82.41	80.73
	15" HDPE	L.F.	1,460.89	1461.78
	18" HDPE	L.F.	436.92	436.57
	24" HDPE	L.F.	422.15	420.84
	30" HDPE	L.F.	200.93	195.21
	12" HDPE END SECTION	EA.	1	1
	24" HDPE END SECTION	EA.	1	1
	30" HDPE END SECTION	EA.	1	1
	RIPRAP	S.Y.	44.45	316.49
	TURF REINFORCEMENT MAT	S.Y.	91	*91

*AS PROVIDED BY CONTRACTOR

SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.

olsson

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 1301 Burlington Street
 North Kansas City, MO 64116
 TEL 816.361.1177
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REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

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

AS BUILT

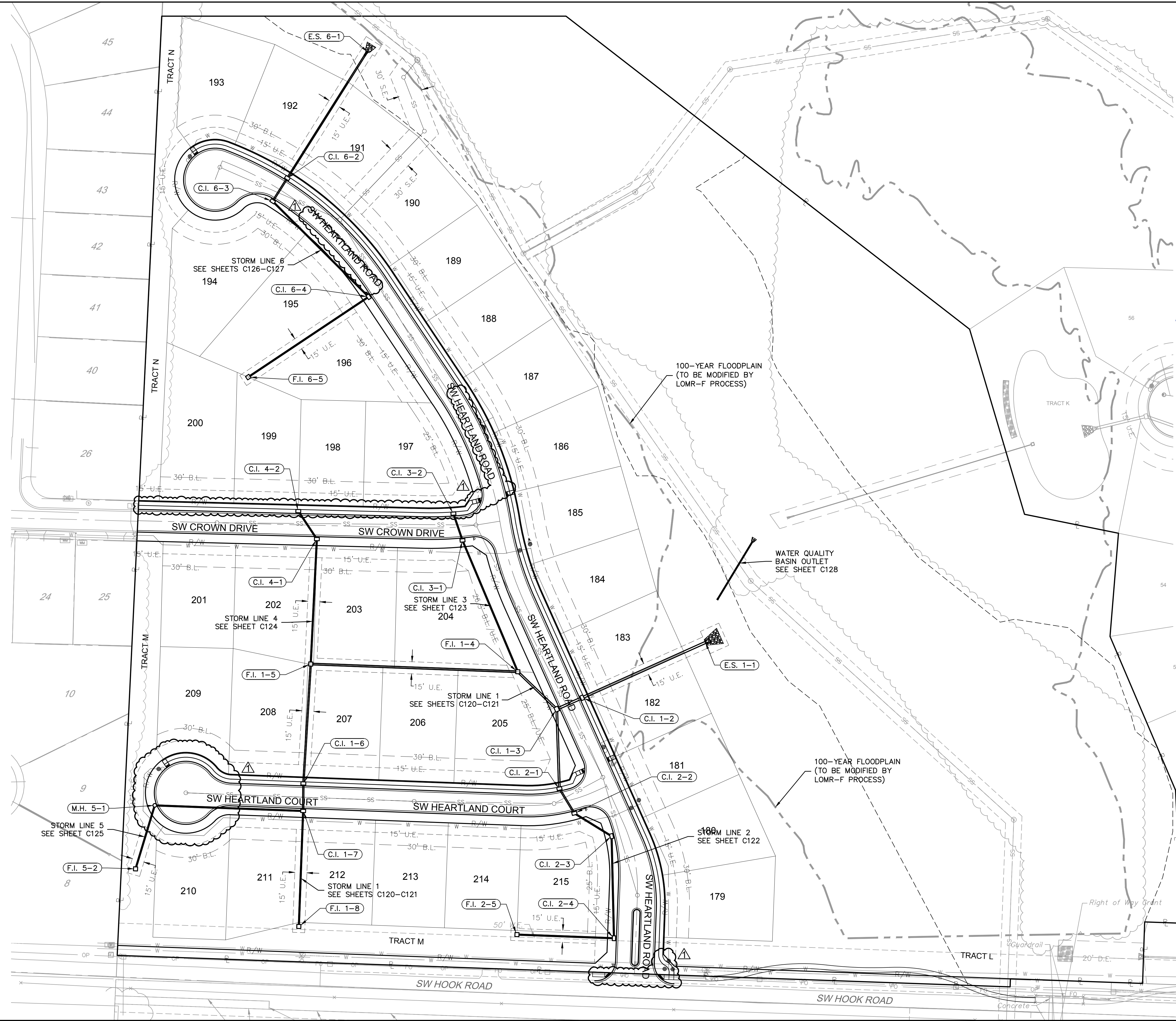
DATE SURVEYED: 2022-06-17

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 C102

DWG: F:\2019\4001-4500\019-4059-A 40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCA\Street & Storm Sewer Plans\GEN01_A194059.dwg USER: ssaylor
 DATE: Oct 04, 2022 11:39am XREFS: C_PIBLK_A194059 C_PBASE_A194059 C_PBNBY_A194059 C_PUTL_A194059 C_XBASE_A194059

NOT AS BUILT



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 TEL 816.361.1177
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STATE OF MISSOURI
 JULIE ELAINE SELLERS
 PE-2017000367
 10/11/22
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

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

2021

REVISIONS

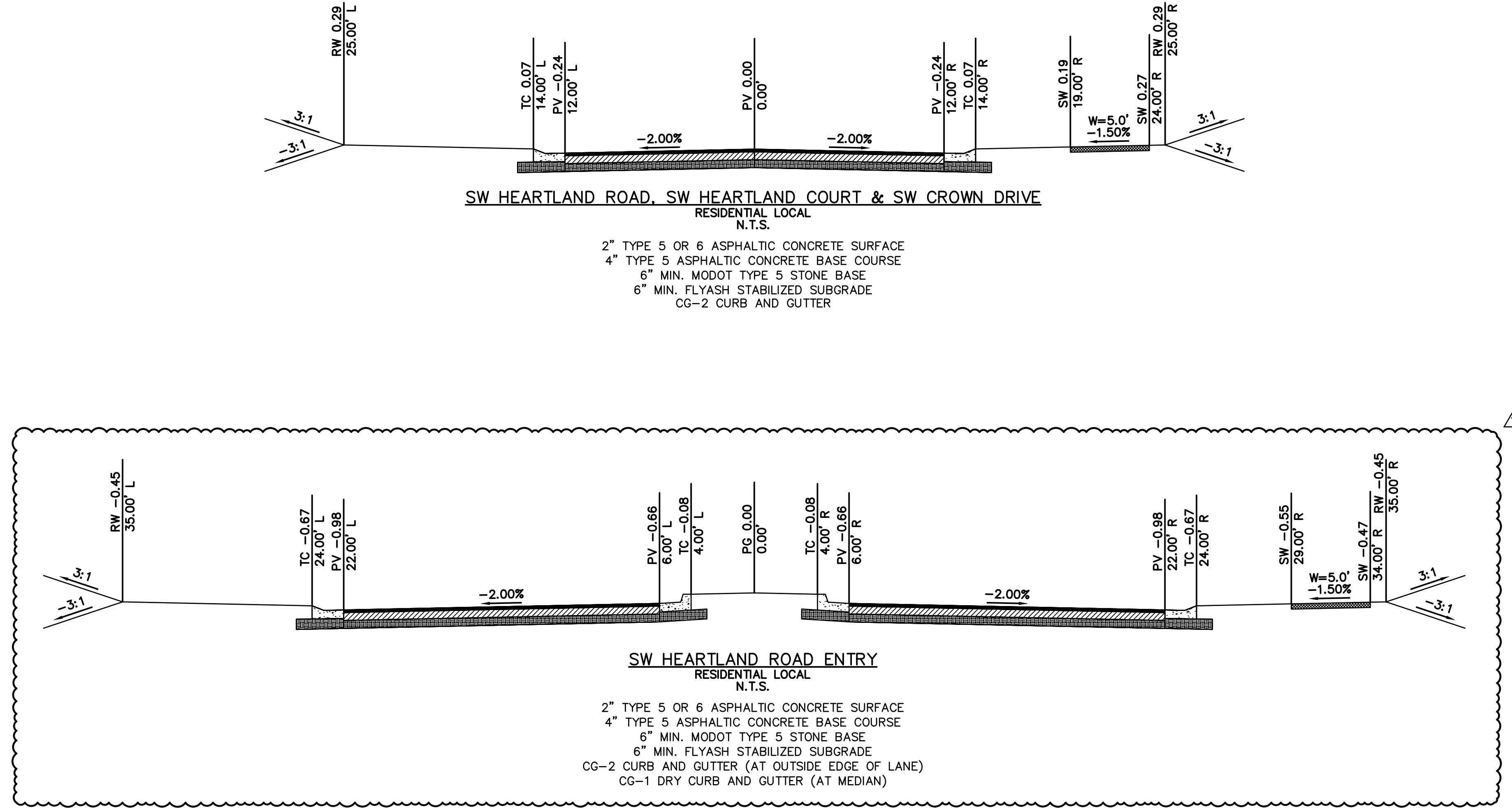
drawn by: B.M.W./A.A.
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 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

SHEET C103

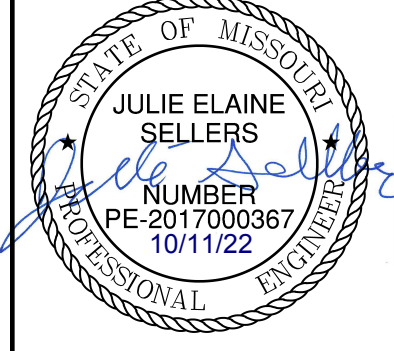
USER: ssaylor

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNVC\Street & Storm Sewer Plans\C_TYP01_A194059.dwg

DATE: Oct 04, 2022 11:39am XREFS: C_PTBK_A194059



NOT AS BUILT



REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

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

olsson

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1301 Burlington Street
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GENERAL NOTES:

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

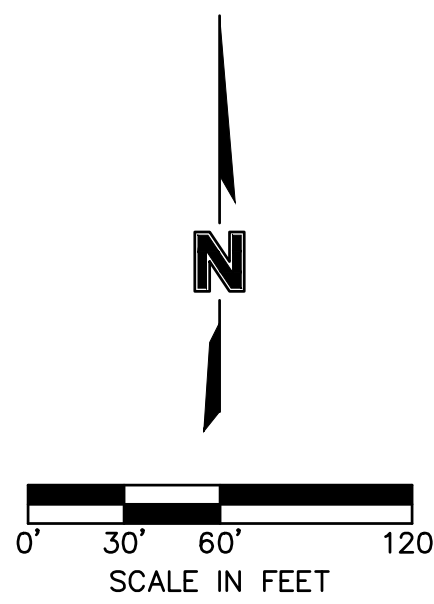
EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	4,389	9,192
SITE	45,873	31,198
TOTAL	50,262	40,390

EARTHWORK QUANTITIES NOTES:

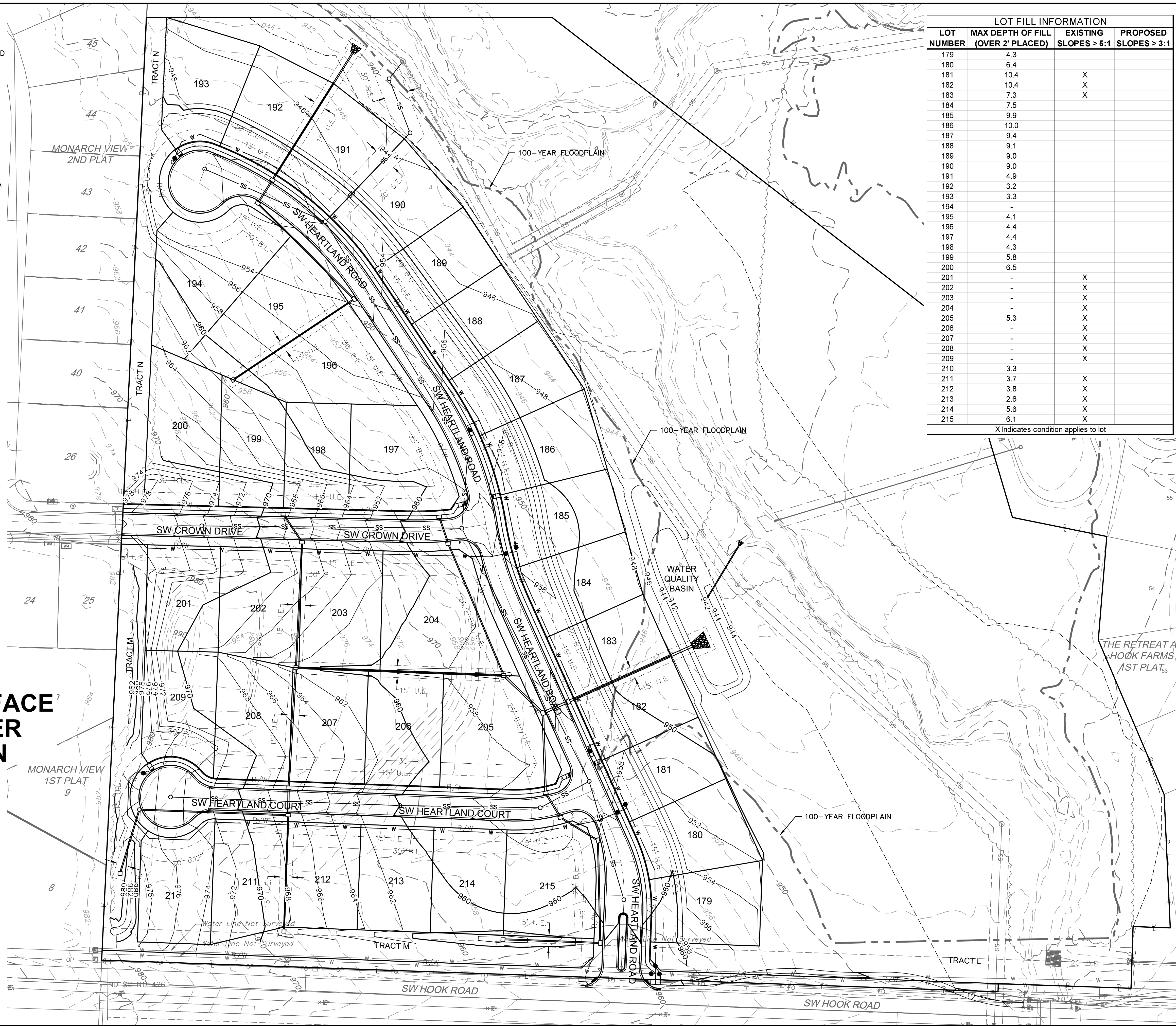
- EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
- EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR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

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 USER: ssaylor

**NOT AS-BUILT SURFACE
REFER TO MASTER
DRAINAGE PLAN**



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

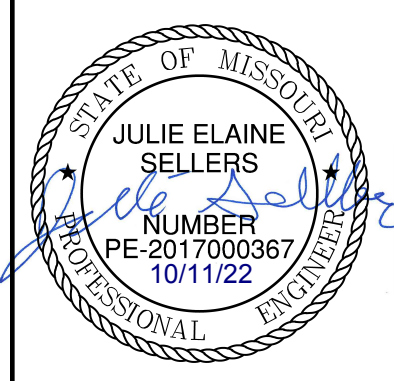


LOT FILL INFORMATION			
LOT NUMBER	MAX DEPTH OF FILL (OVER 2' PLACED)	EXISTING SLOPES > 5:1	PROPOSED SLOPES > 3:1
179	4.3		
180	6.4		
181	10.4	X	
182	10.4	X	
183	7.3	X	
184	7.5		
185	9.9		
186	10.0		
187	9.4		
188	9.1		
189	9.0		
190	9.0		
191	4.9		
192	3.2		
193	3.3		
194	-		
195	4.1		
196	4.4		
197	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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REV. NO.	DATE	DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

BY _____

DATE _____

REVISIONS

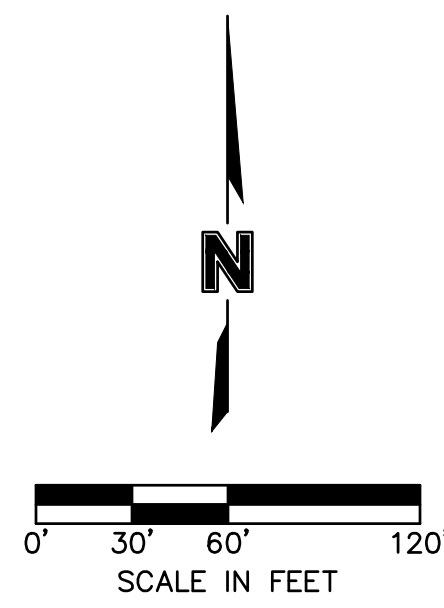
2021

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

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.



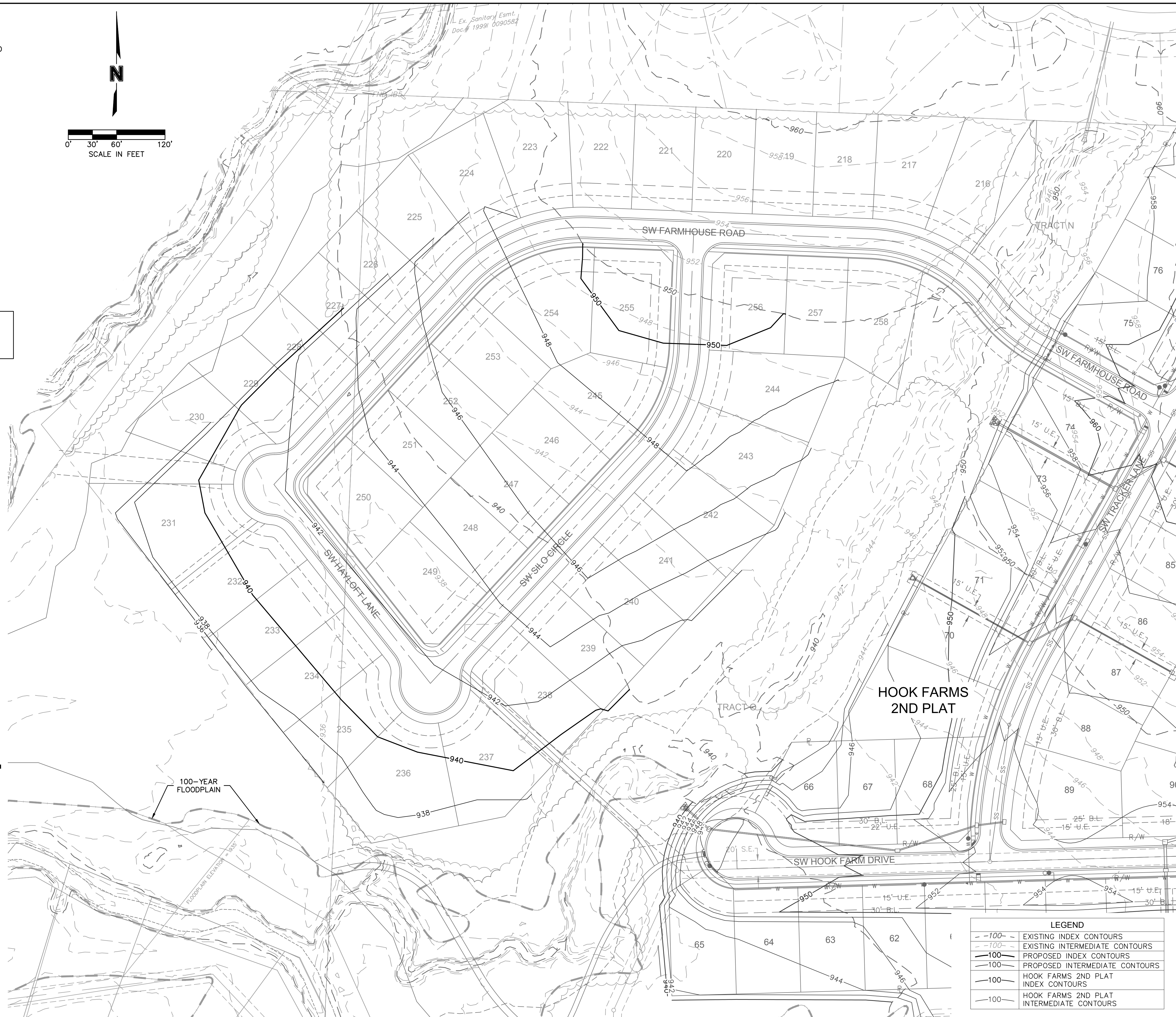
EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
FUTURE PHASE	0	54,547

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.

NOT AS BUILT SURFACE. REFER TO MASTER DRAINAGE PLAN.



LEGEND	
---100---	EXISTING INDEX CONTOURS
- - -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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STATE OF MISSOURI

JULIE ELAINE SELLERS

REGISTERED PROFESSIONAL ENGINEER

NUMBER PE-2017000367

10/11/22

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

GRADING PLAN (FOR REFERENCE)
STREET & STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
SECOND PLAT

2021

drawn by: B.M.W./A.A.

checked by: B.M.W./A.A.

designed by: B.M.W./A.A.

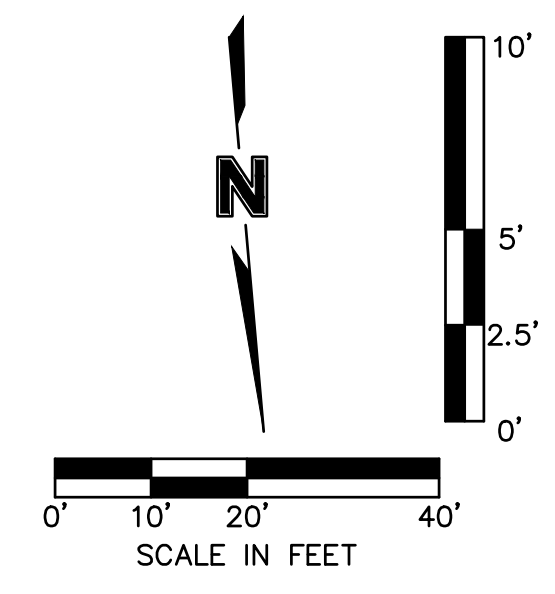
QA/QC by: J.E.S.

project no.: A19-4059

date: 05-05-2021

LEE'S SUMMIT, MO

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 USER: ssaylor

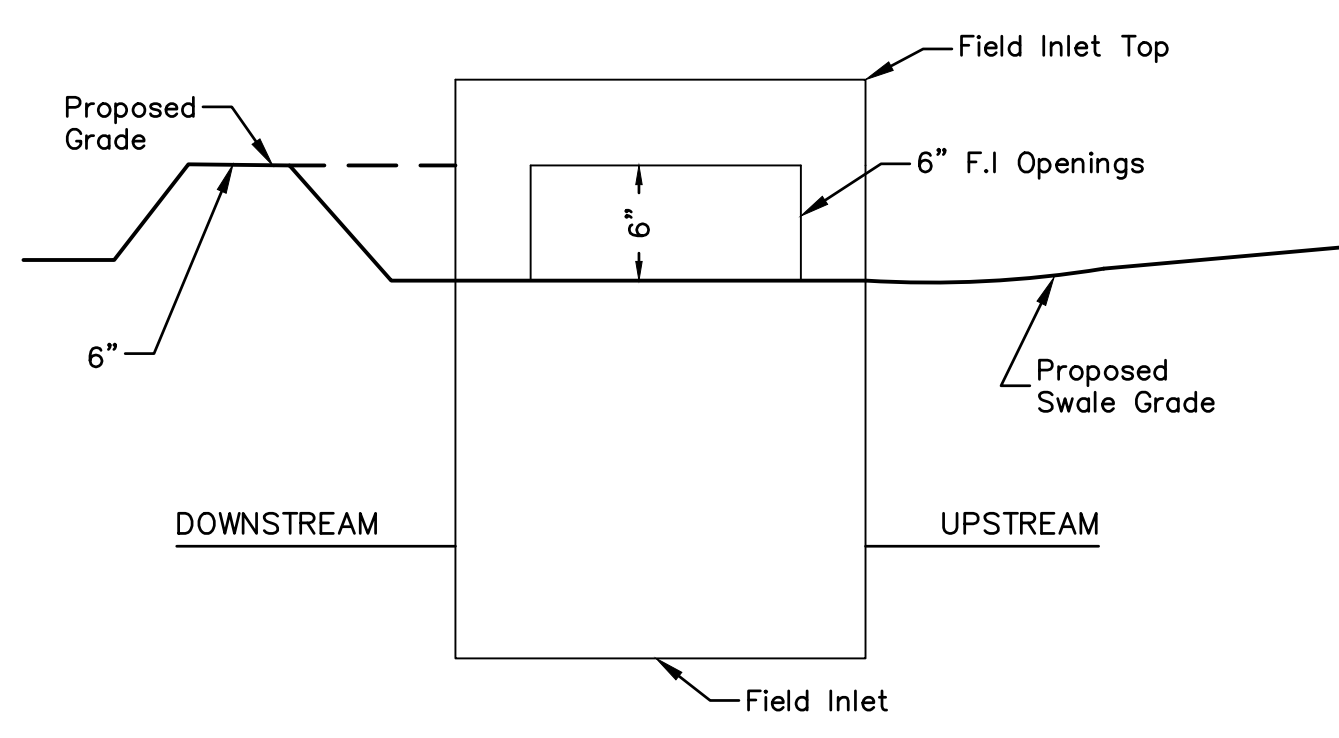
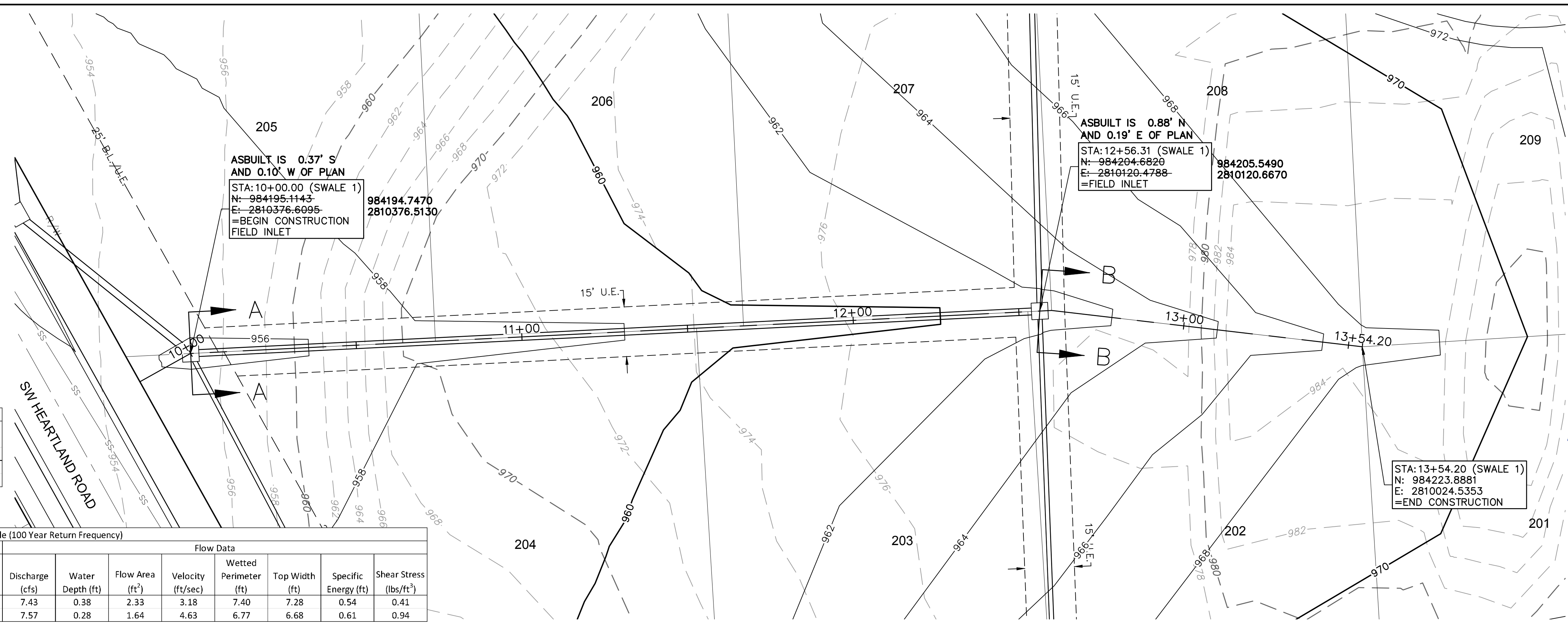


AS BUILT

DATE SURVEYED: 2022-06-17

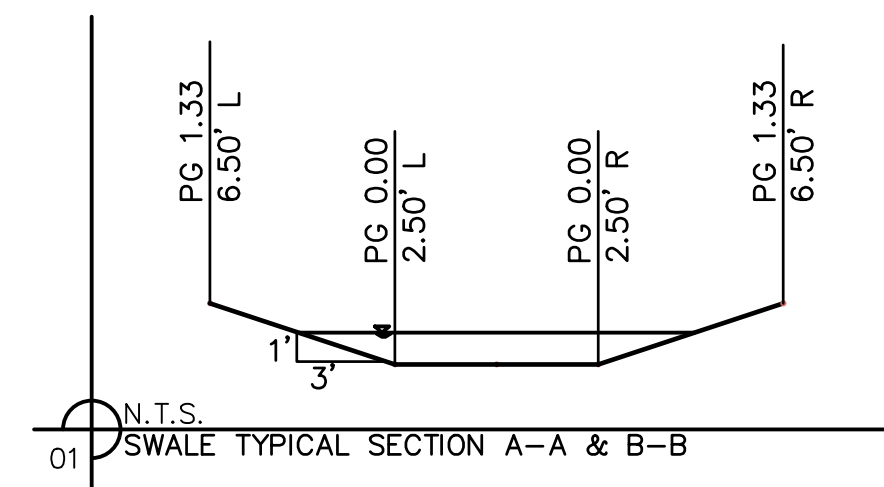
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
A-A	1.13	0.51	5	10.32	1.25	7.43
B-B	1.15	0.51	5	10.32	1.25	7.57

SECTION	Section Data						Flow Data							
	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



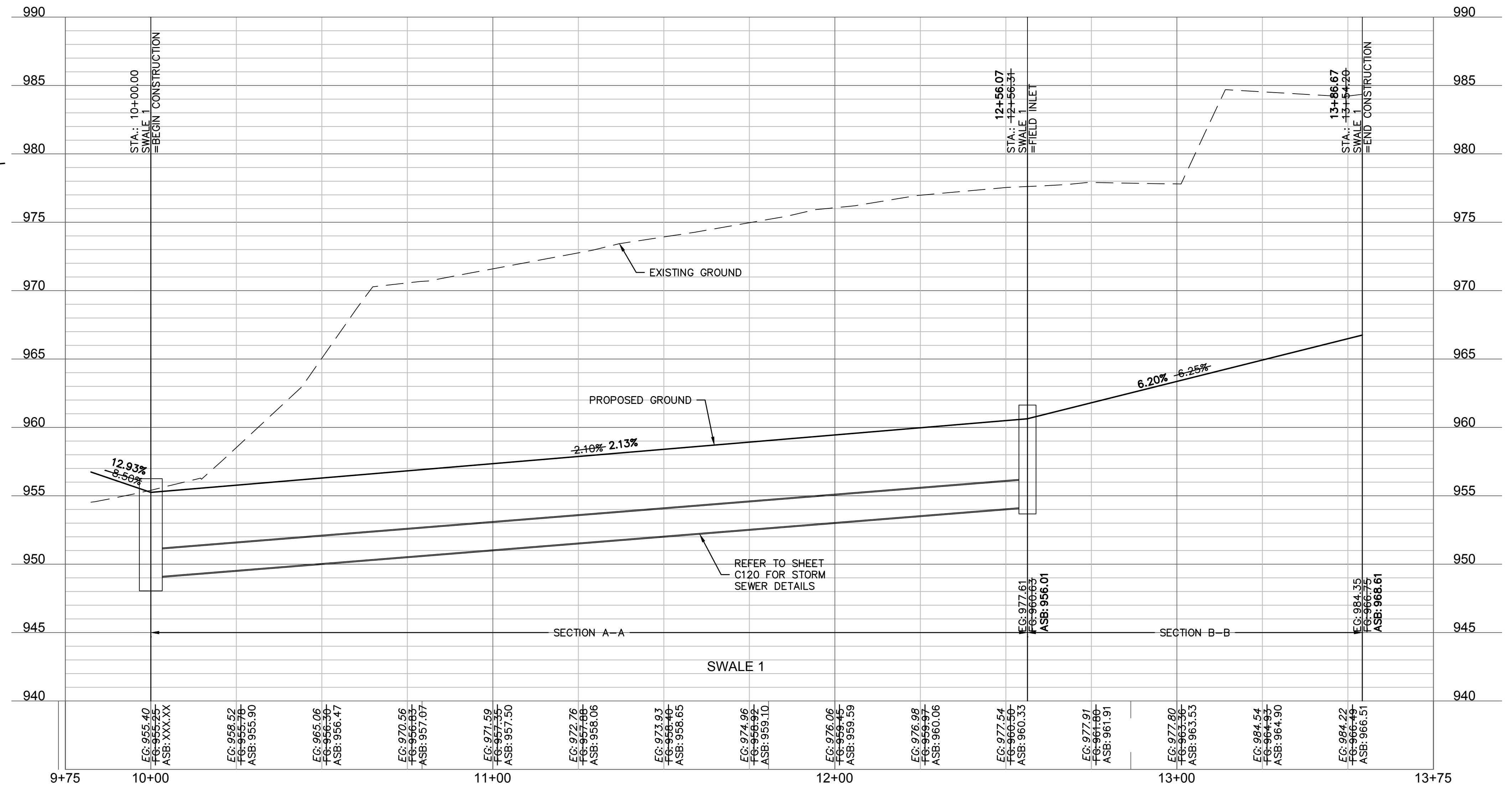
NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE FIELD INLETS ARE LOCATED WITHIN SWALES.

SUMP DETAIL
N.T.S.

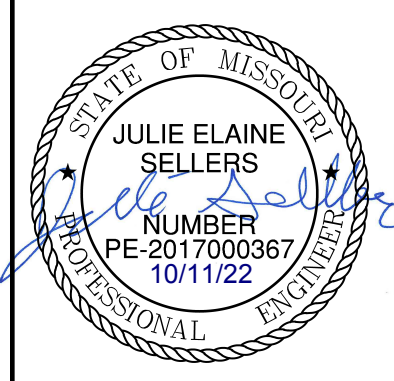


SWALE GRADING NOTES:

- 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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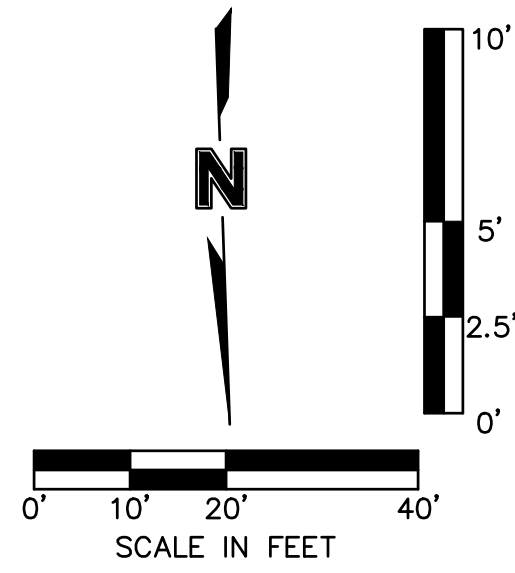


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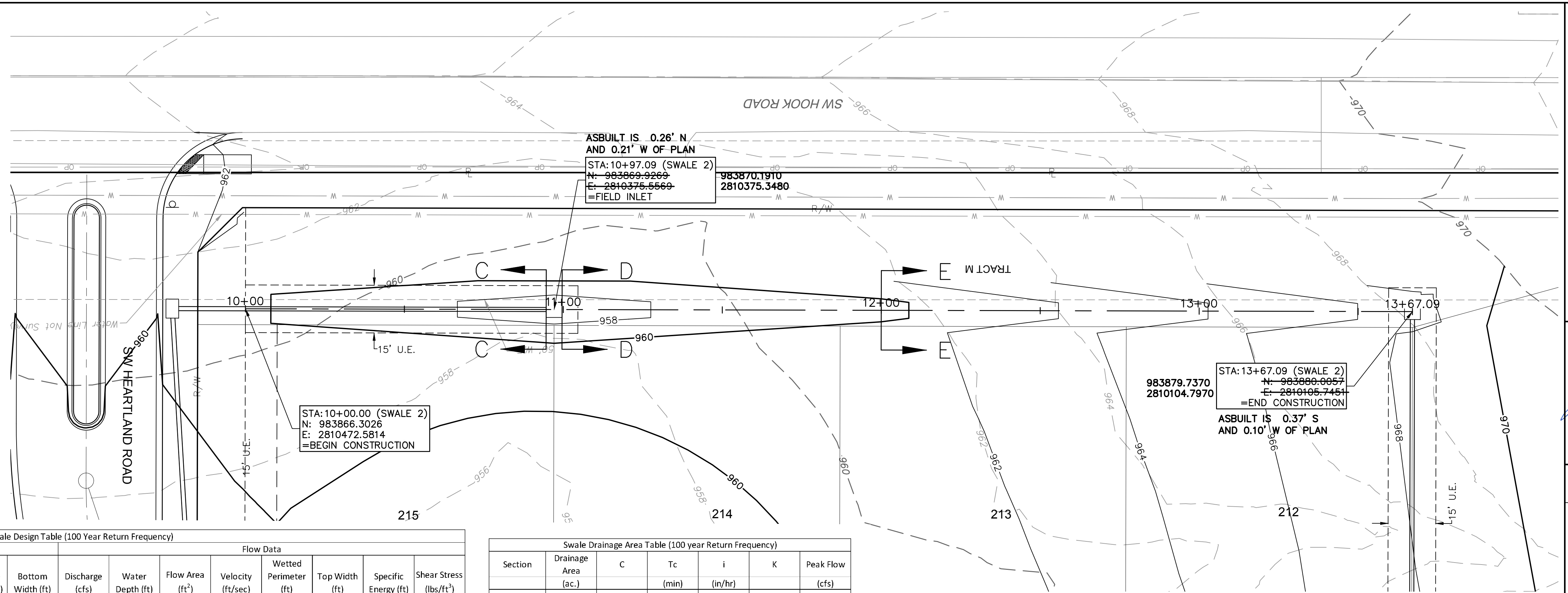
SWALE 1 PLAN & PROFILE
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

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

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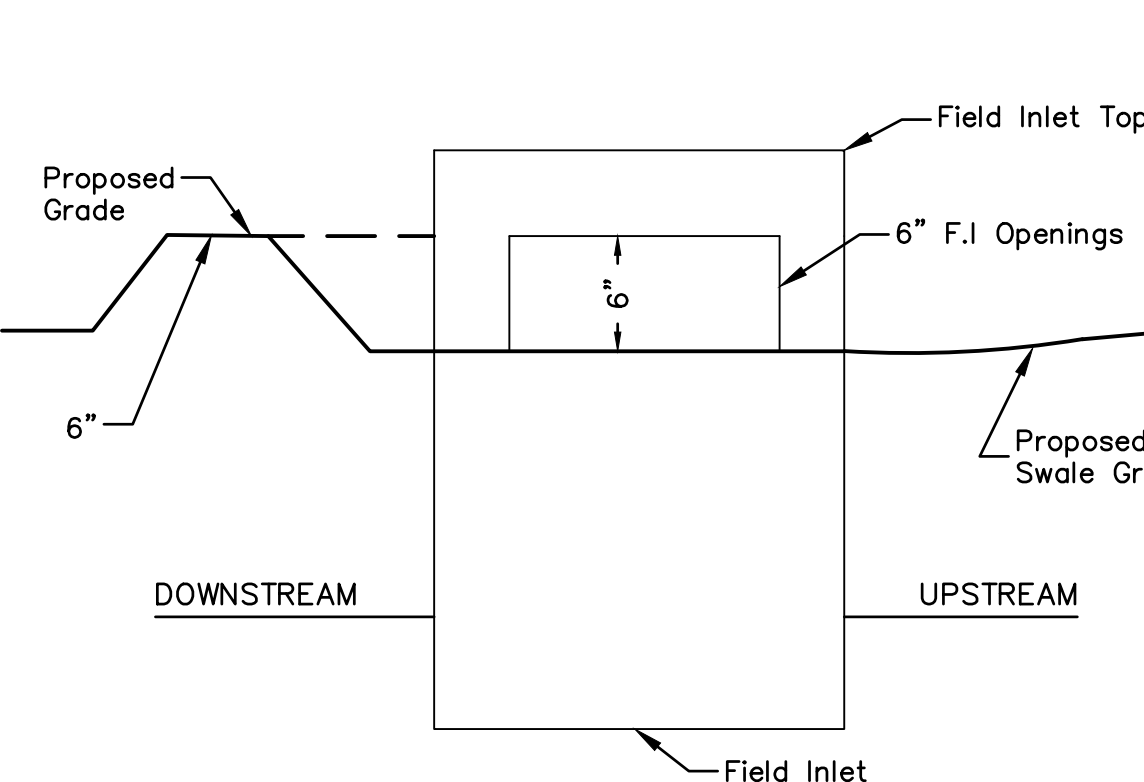


AS BUILT
 DATE SURVEYED: 2022-06-17



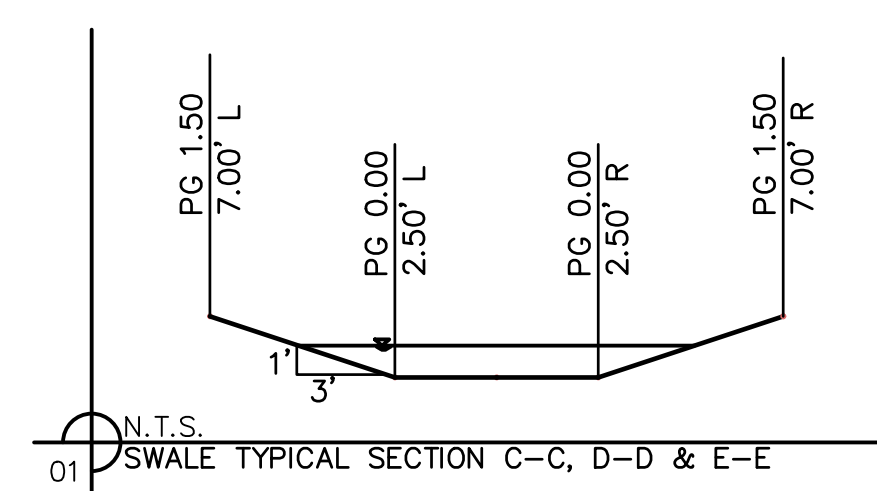
Section Data							Flow Data							
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft ²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft ²)
C-C	0.03	2.25%	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



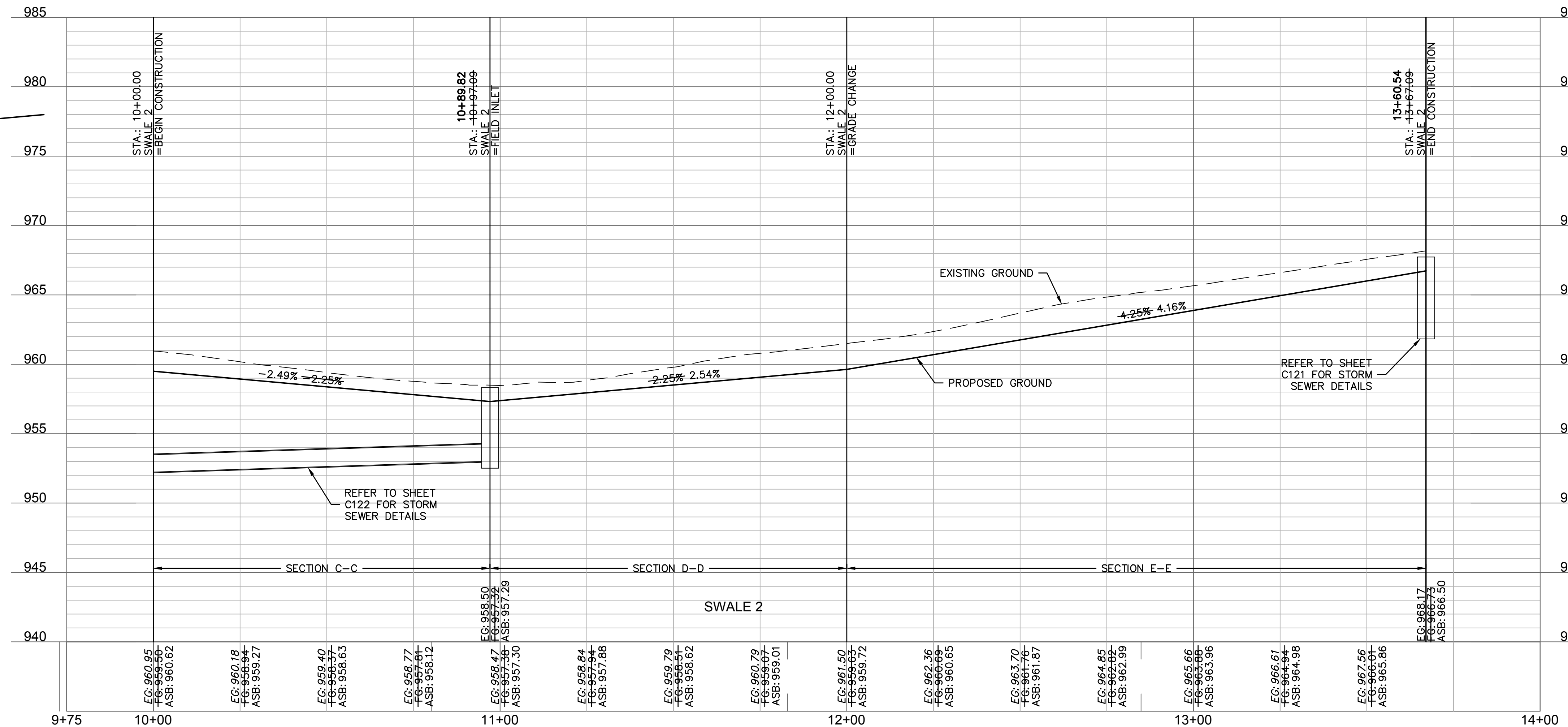
NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE FIELD INLETS ARE LOCATED WITHIN SWALES.

SUMP DETAIL
 N.T.S.



SWALE GRADING NOTES:

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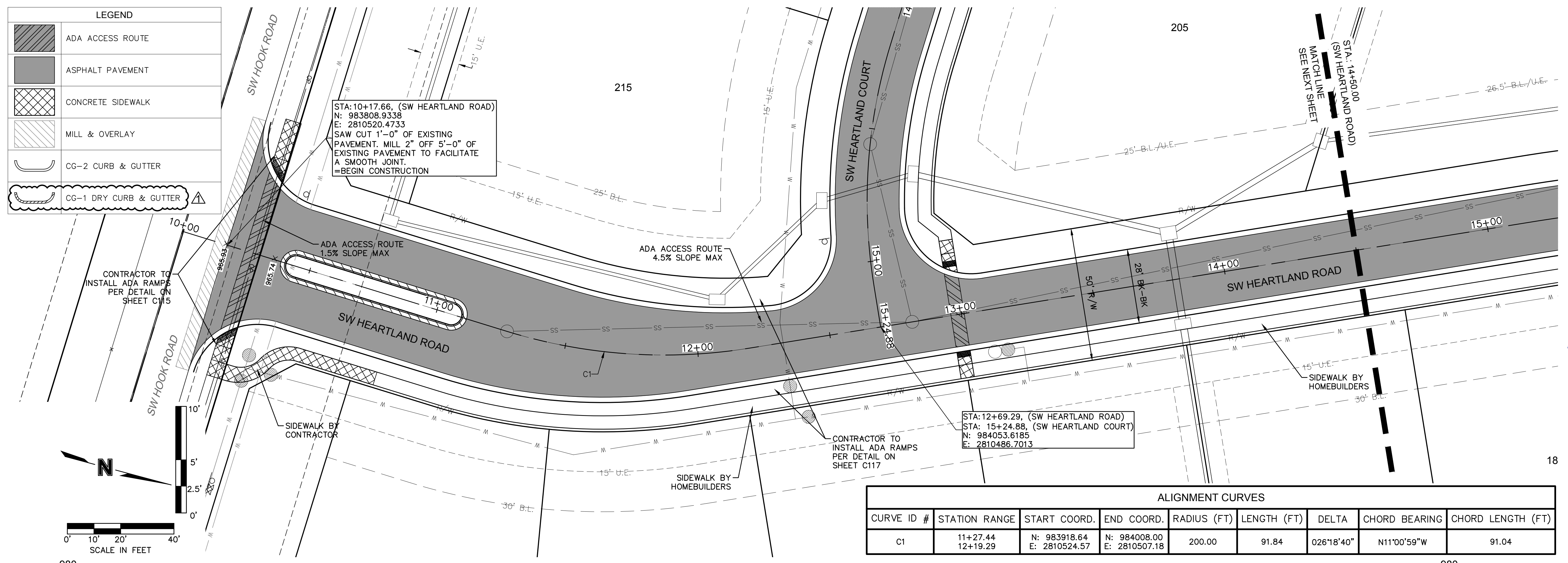
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STATE OF MISSOURI
 JULIE ELAINE SELLERS
 REGISTERED PROFESSIONAL ENGINEER
 NUMBER PE-2017000367
 10/11/22

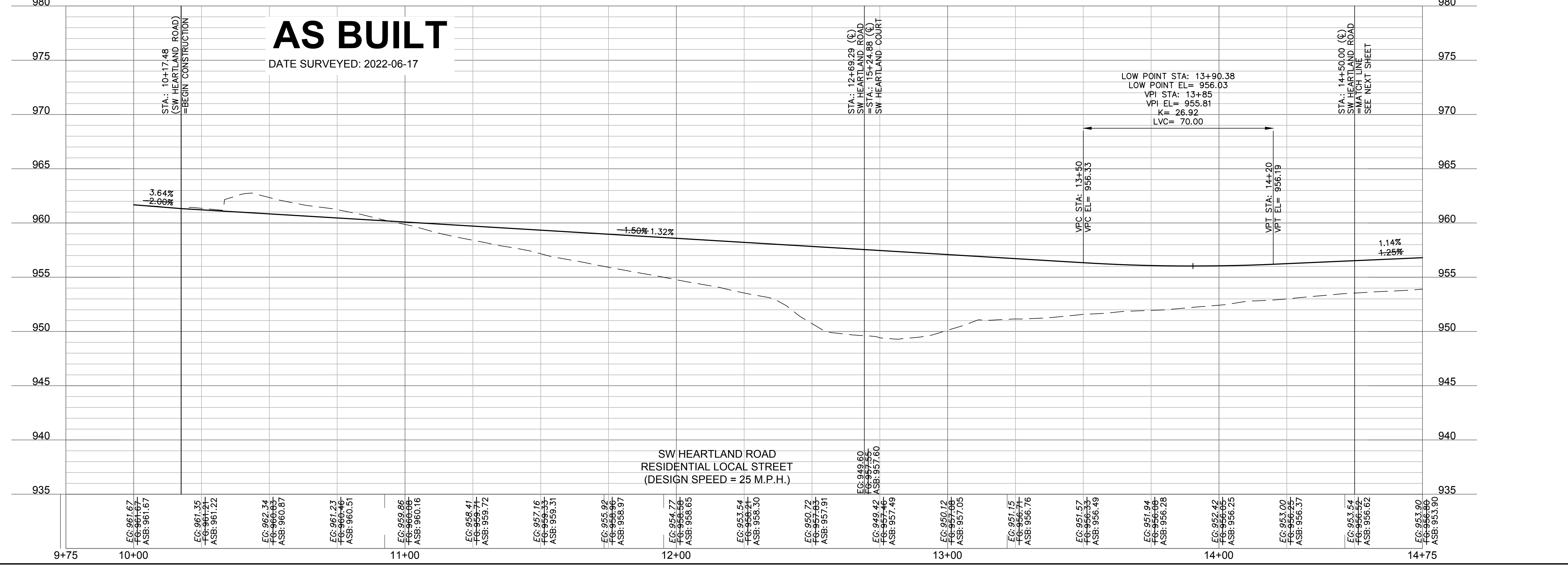
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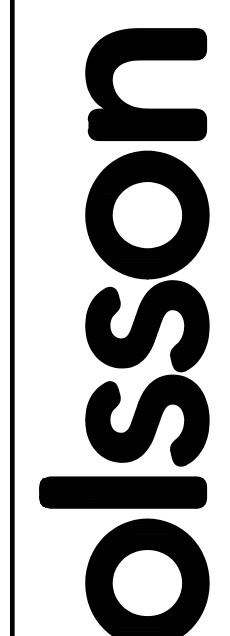
SWALE 2 PLAN & PROFILE
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO
 2021

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCA\Street & Storm Sewer Plans\C_RPP01_A194059.dwg
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 USER: ssa\yor C_PPPATT_A194059




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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 10/11/22

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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

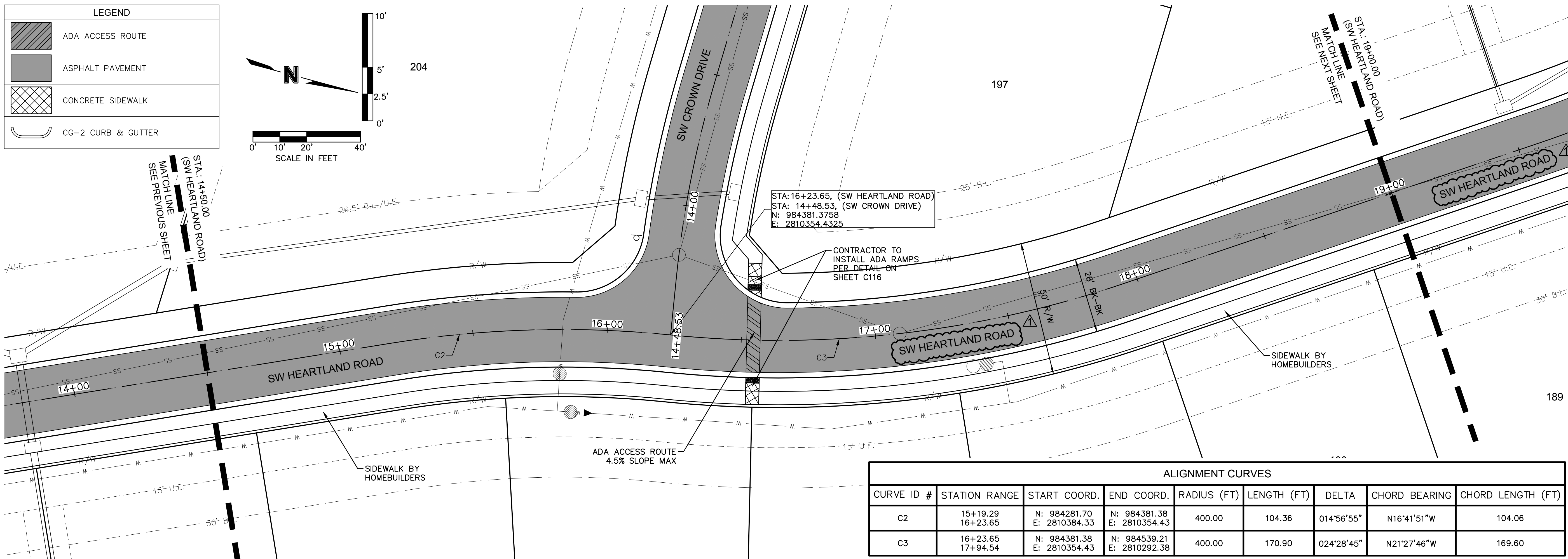
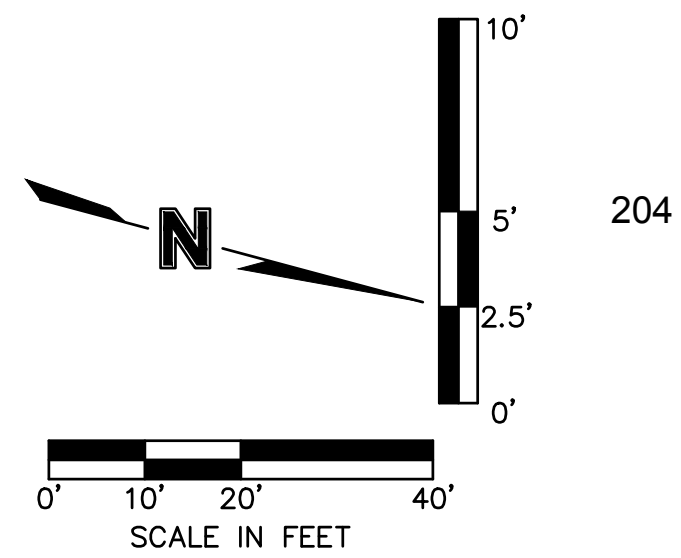
REVISIONS

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.: A19-4059B
 date: 05-05-2021

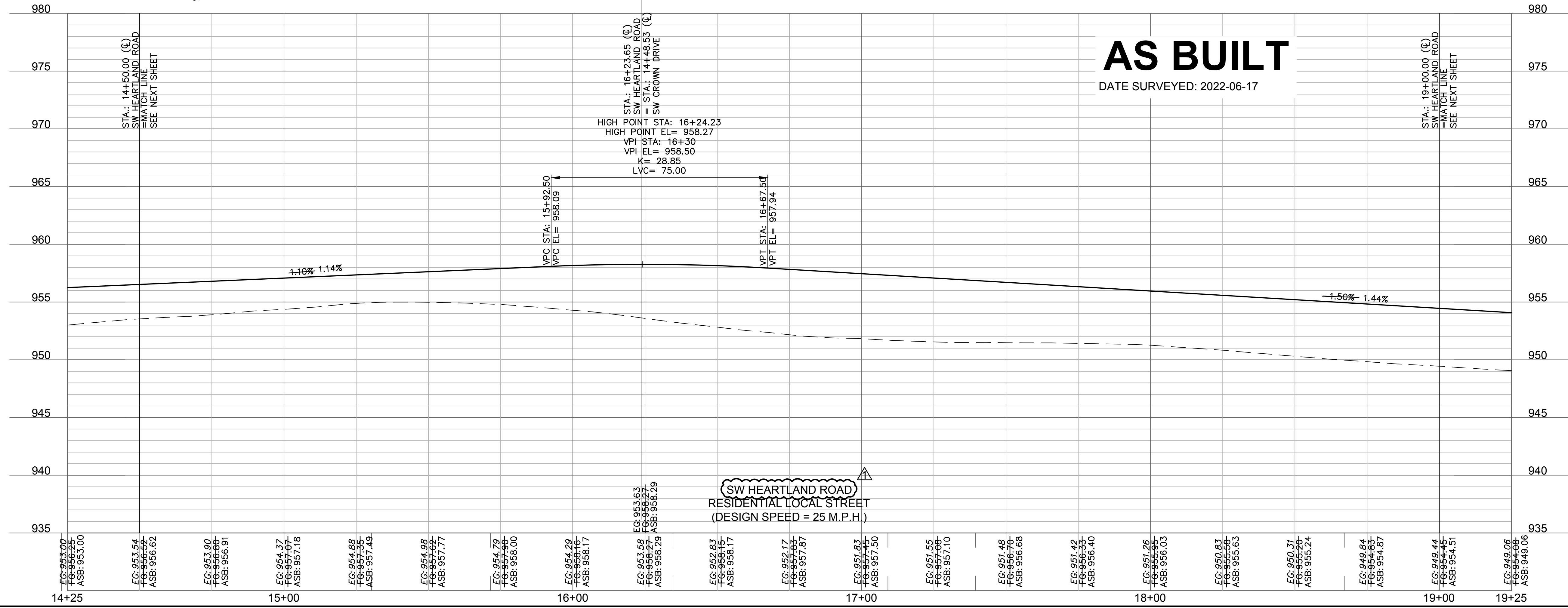
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LEGEND	
	ADA ACCESS ROUTE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

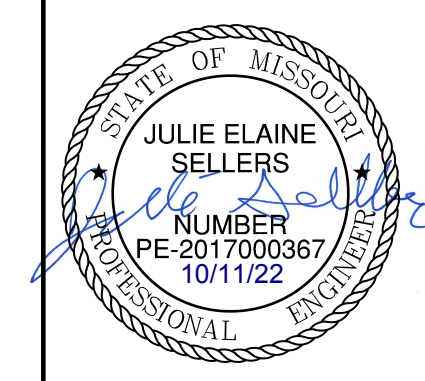


ALIGNMENT CURVES								
CURVE ID #	STATION RANGE	START COORD.	END COORD.	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C2	15+19.29 16+23.65	N: 984281.70 E: 2810384.33	N: 984381.38 E: 2810354.43	400.00	104.36	014°56'55"	N16°41'51"W	104.06
C3	16+23.65 17+94.54	N: 984381.38 E: 2810354.43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



AS BUILT
 DATE SURVEYED: 2022-06-17

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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

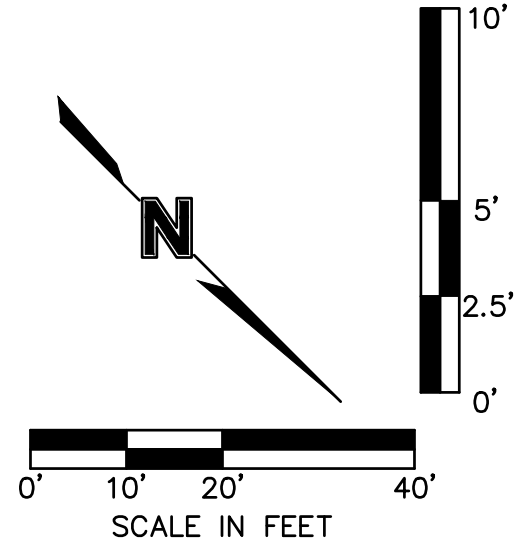
drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059B
 date: 05-05-2021

SHEET
 C110

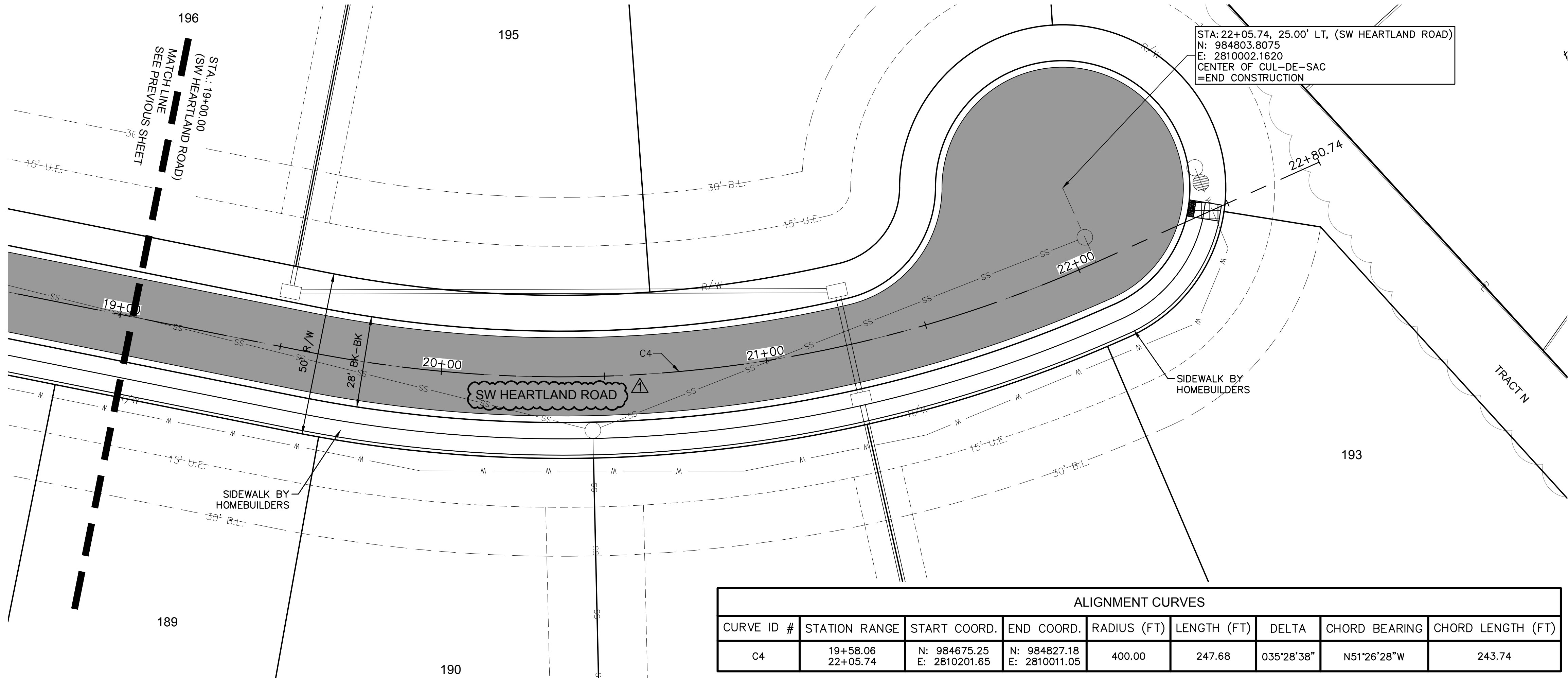
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LEGEND

	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

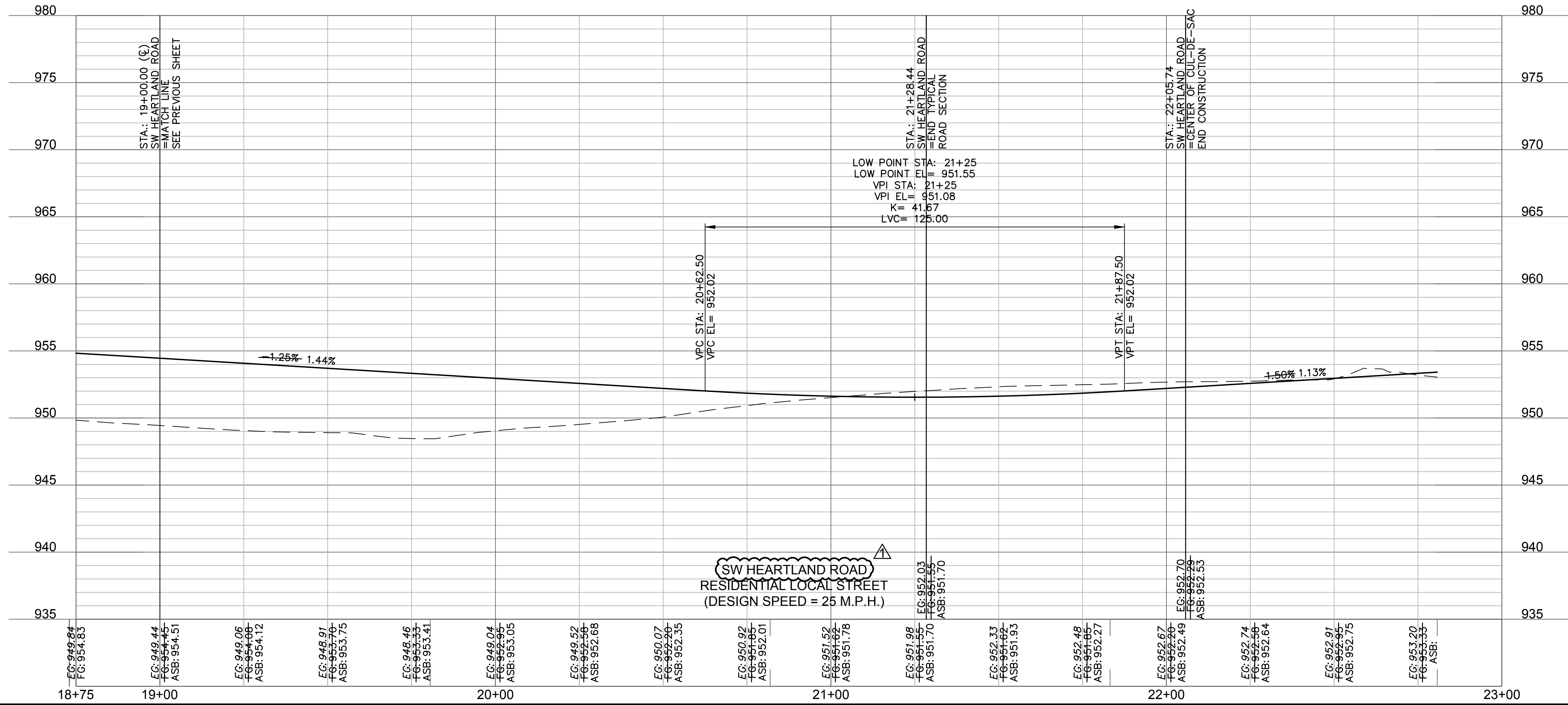


AS BUILT
 DATE SURVEYED: 2022-06-17



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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JULIE ELAINE SELLERS
 PROFESSIONAL ENGINEER
 NUMBER PE-2017000367
 10/11/22

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

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

BY: _____

SHEET C111

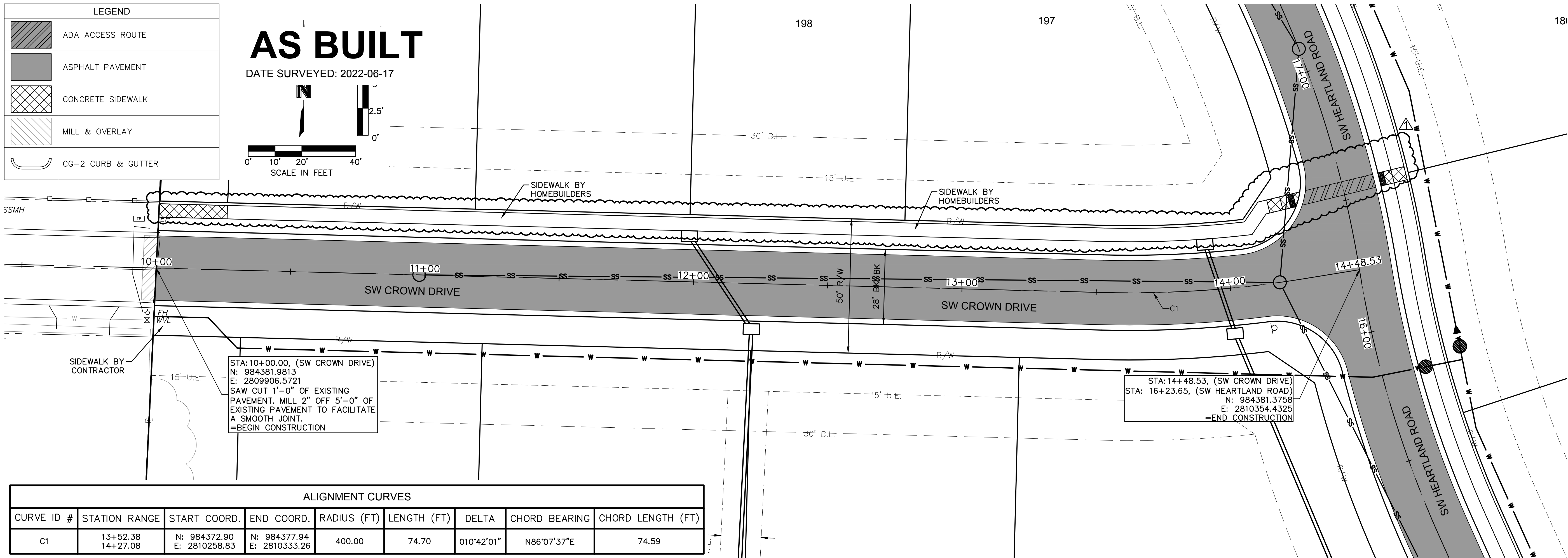
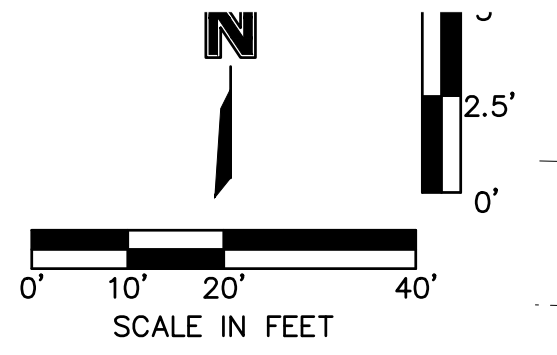
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LEGEND

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

AS BUILT

DATE SURVEYED: 2022-06-17

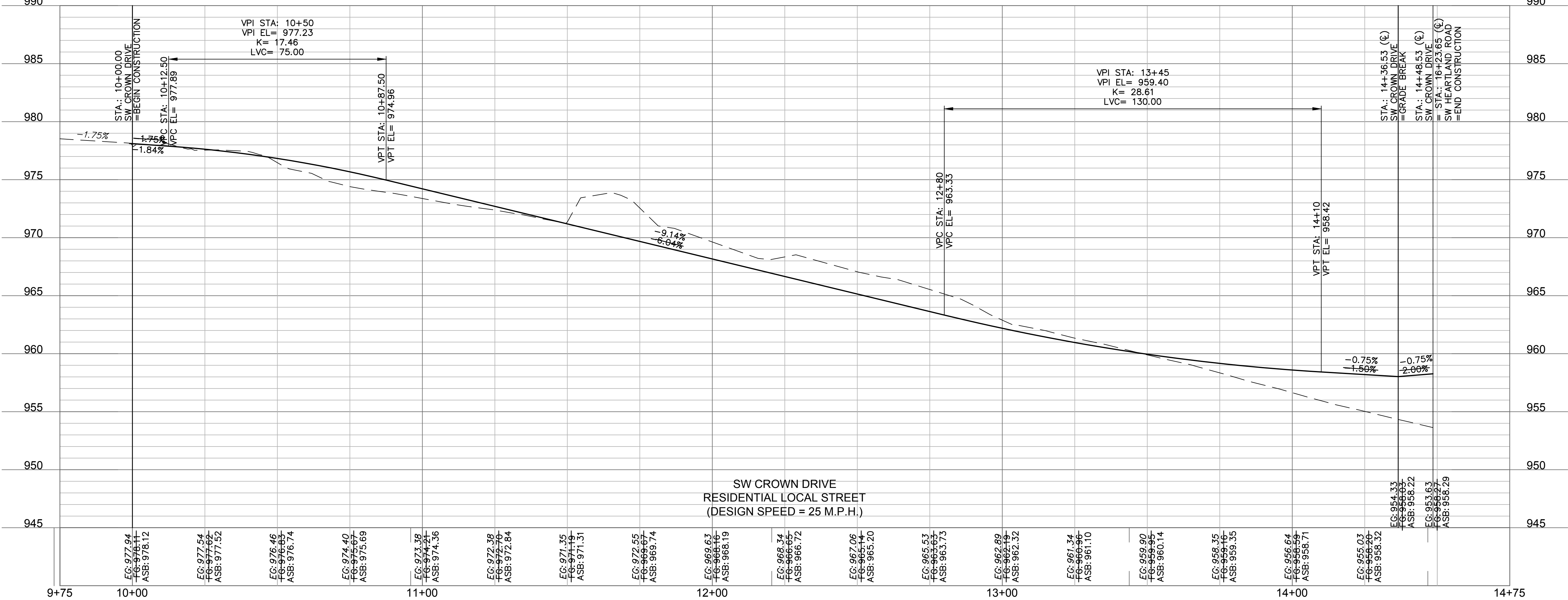


STA: 10+00.00, (SW CROWN DRIVE)
 N: 984381.9813
 E: 2809906.5721
 SAW CUT 1'-0" OF EXISTING PAVEMENT, MILL 2" OFF 5'-0" OF EXISTING PAVEMENT TO FACILITATE A SMOOTH JOINT.
 =BEGIN CONSTRUCTION

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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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

SHEET
C112

REVISIONS

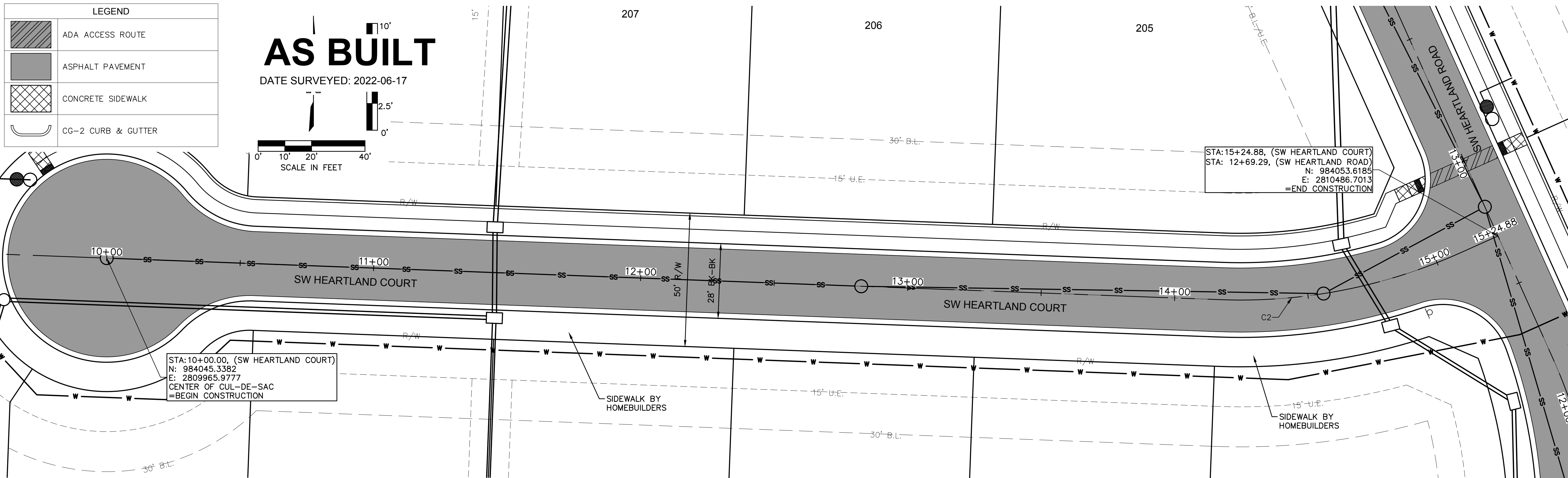
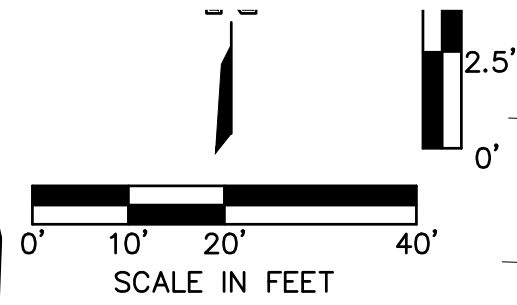
REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

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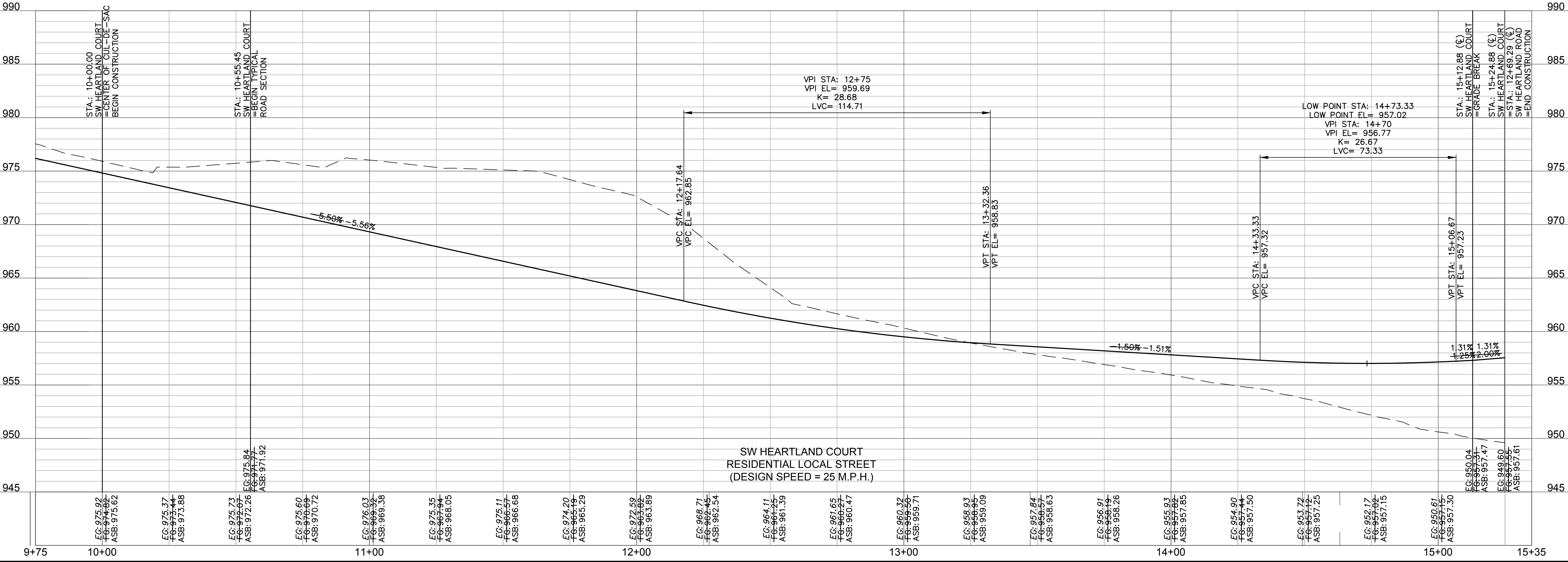
LEGEND	
	ADA ACCESS ROUTE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

AS BUILT

DATE SURVEYED: 2022-06-17



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



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REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	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.: A19-4059B
 date: 05-05-2021

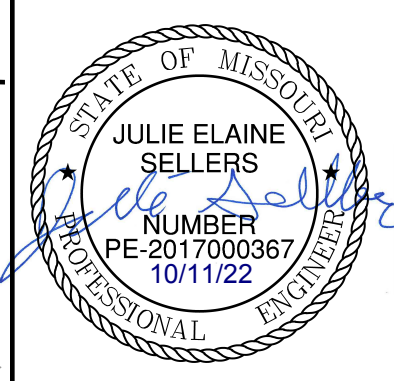
SHEET C113

NOT AS BUILT

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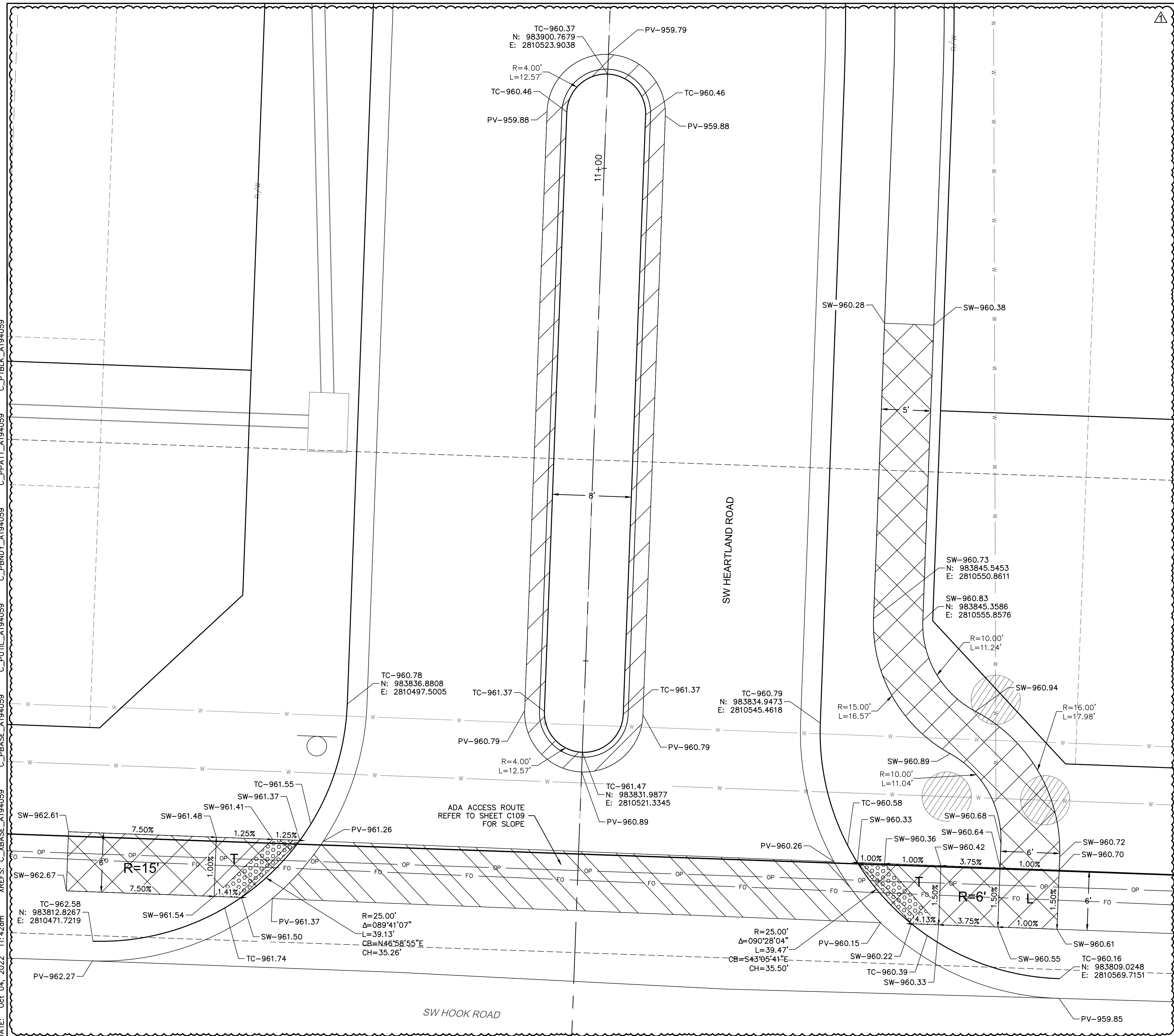
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

TRAFFIC CONTROL 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

SHEET
 C114

DWG: F:\2019\4001-4500\019-4059-A-40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCA\Street & Storm Sewer Plans\C_INT01_A194059.dwg
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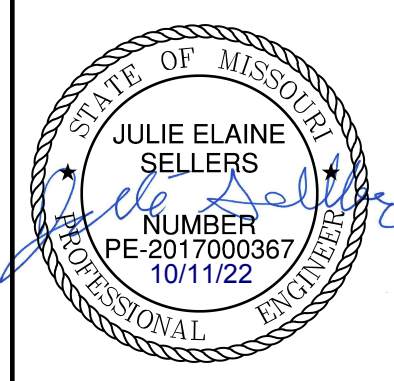
- INTERSECTION AND ADA DETAIL NOTES:
1. ALL ADA CURB RAMP SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
 2. CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10 MAX SLOPES.
 3. LANDING SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR BY PROWAG STANDARDS. LANDING SHALL BE 4'X4' MINIMUM. 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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REV. NO.	DATE	DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

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

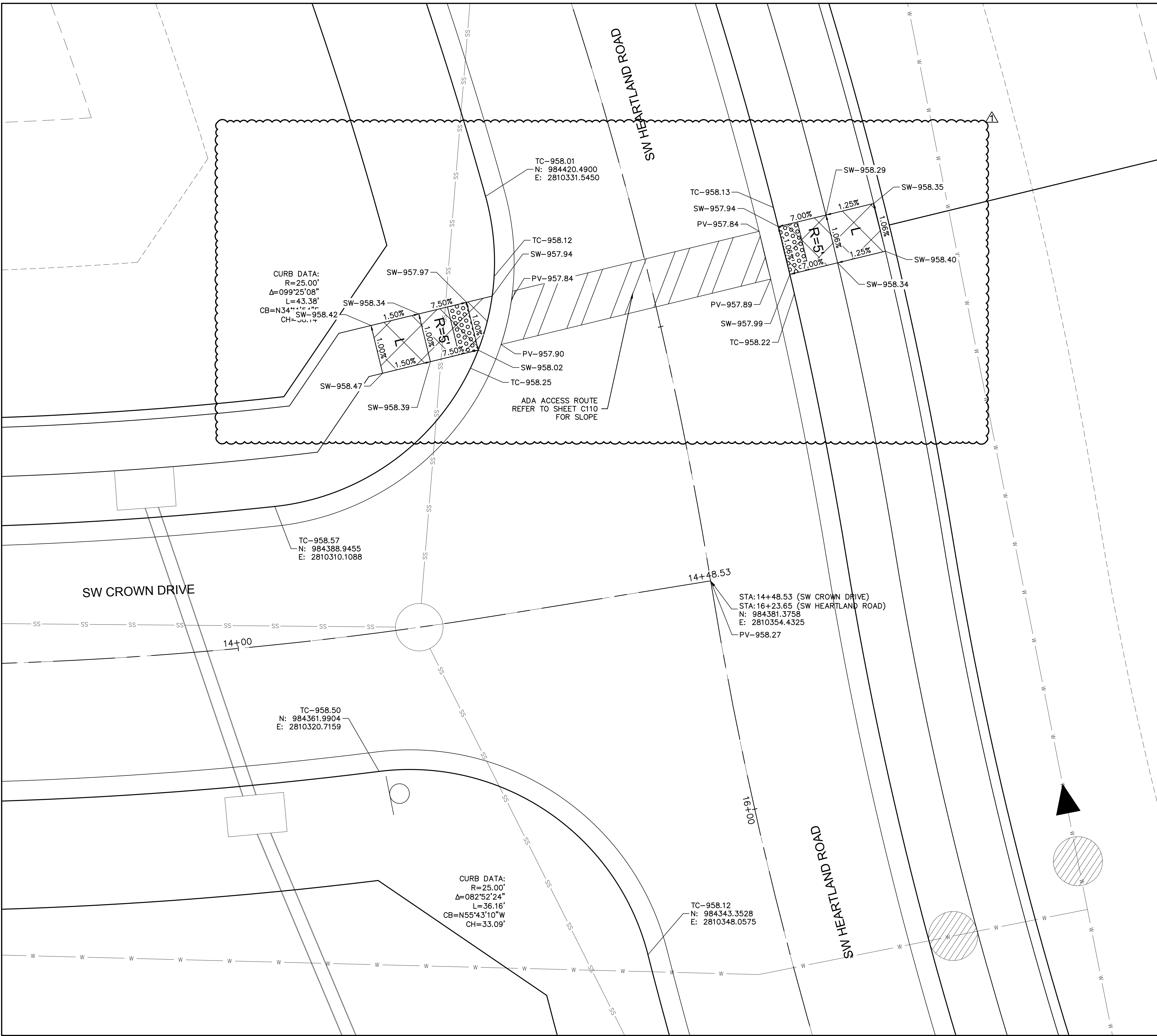
THE RETREAT AT HOOK FARMS
 SECOND PLAT

LEE'S SUMMIT, MO

2021

SHEET C115

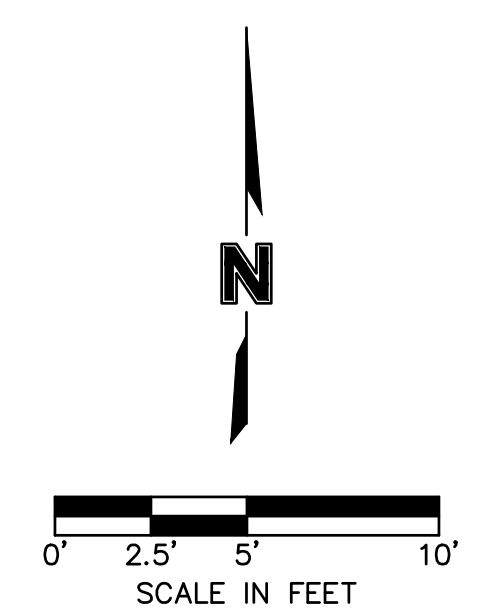
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- INTERSECTION AND ADA DETAIL NOTES:
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 8. CURVE DATA IS FOR BACK OF CURB.

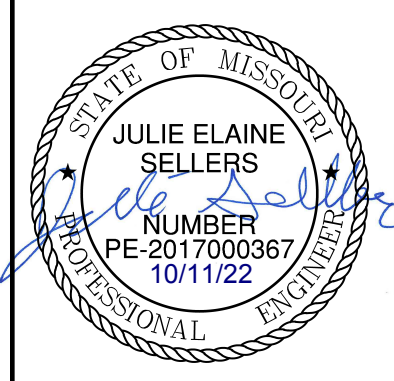
LEGEND	
TC-	TOP OF CURB
PV-	TOP OF PAVEMENT
SW-	SIDEWALK
L	LANDING AREA
R	RAMP AREA
T	TRANSITION AREA
	ADA ACCESS ROUTE
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

NOT AS BUILT



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1	08-26-2021	REVISED PER CITY COMMENTS	
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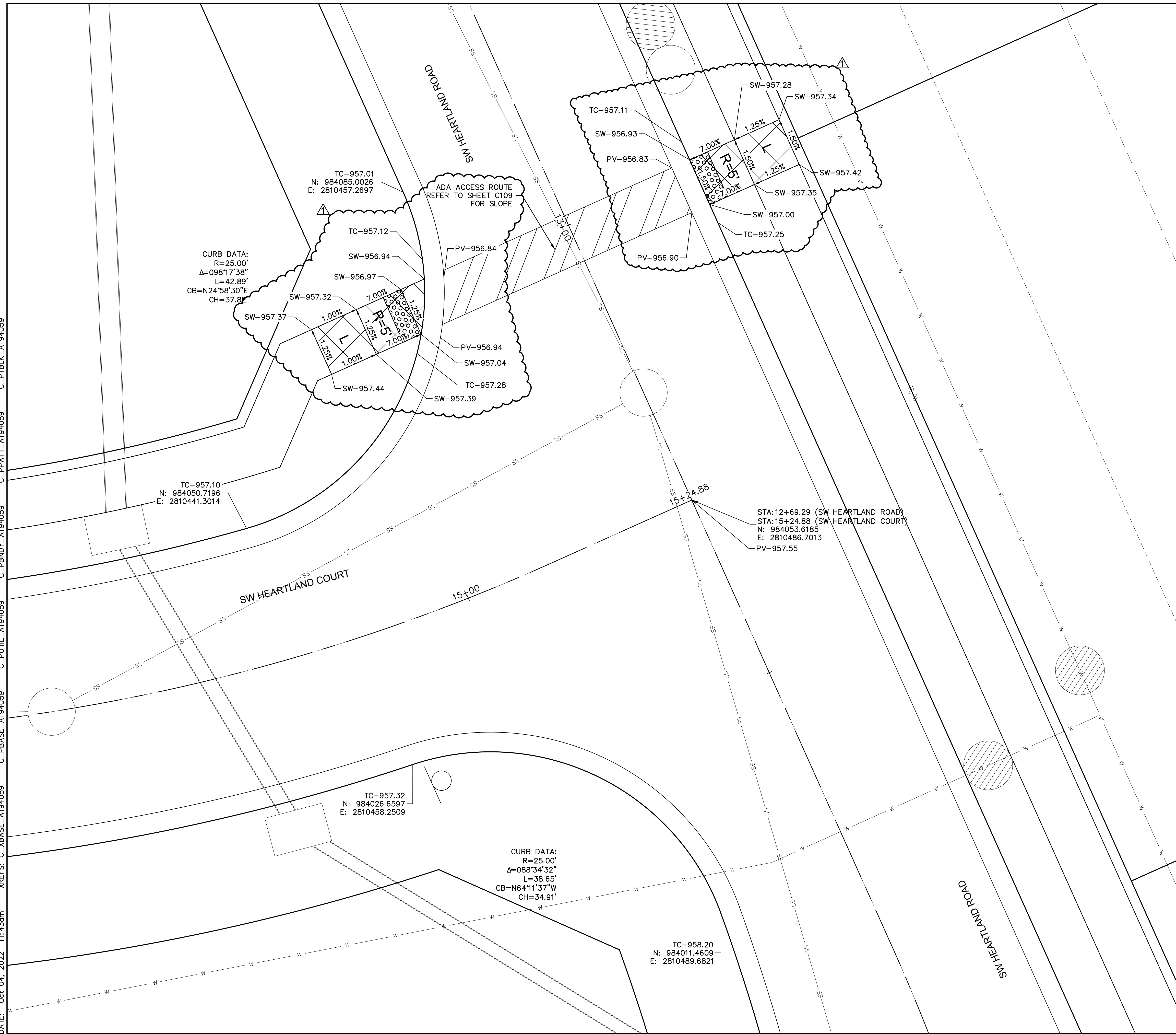
SW HEARTLAND ROAD & SW CROWN DRIVE DETAILS
 STREET & STORM SEWER PLANS

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

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 USER: sso\jor C_PATT_A194059



CURB DATA:
 R=25.00'
 $\Delta=098^{\circ}17'38''$
 L=42.89'
 CB=N24°58'30"E
 CH=37.86'

TC-957.10
 N: 984050.7196
 E: 2810441.3014

TC-957.01
 N: 984085.0026
 E: 2810457.2697

TC-957.32
 N: 984026.6597
 E: 2810458.2509

CURB DATA:
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 CB=N64°11'37"W
 CH=34.91'

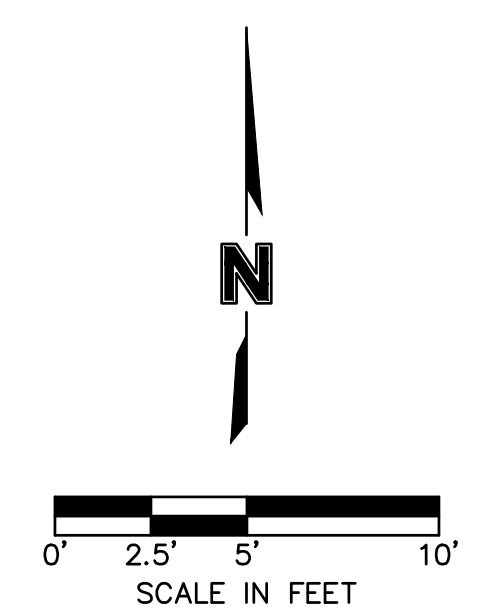
TC-958.20
 N: 984011.4609
 E: 2810489.6821

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

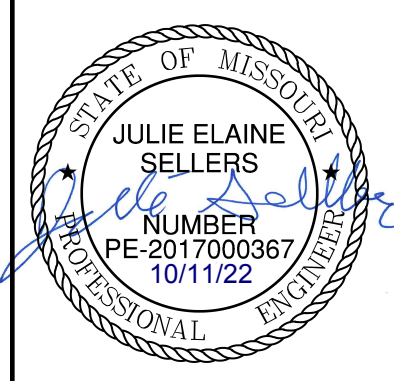
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PV-	TOP OF PAVEMENT
SW-	SIDEWALK
L	LANDING AREA
R	RAMP AREA
T	TRANSITION AREA
	ADA ACCESS ROUTE
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

NOT AS BUILT



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

SW HEARTLAND ROAD & SW HEARTLAND COURT DETAIL
 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
 C117

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCA\Street & Storm Sewer Plans\C_INT02_A194059.dwg USER: ssoylor
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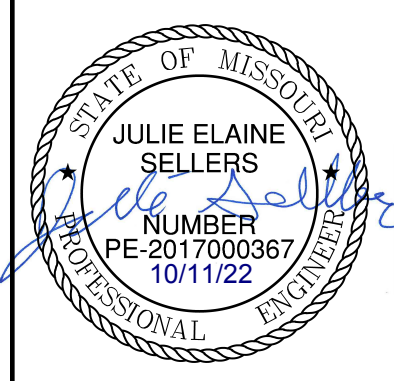
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 9. CURVE DATA IS FOR BACK OF CURB.

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

NOT AS BUILT

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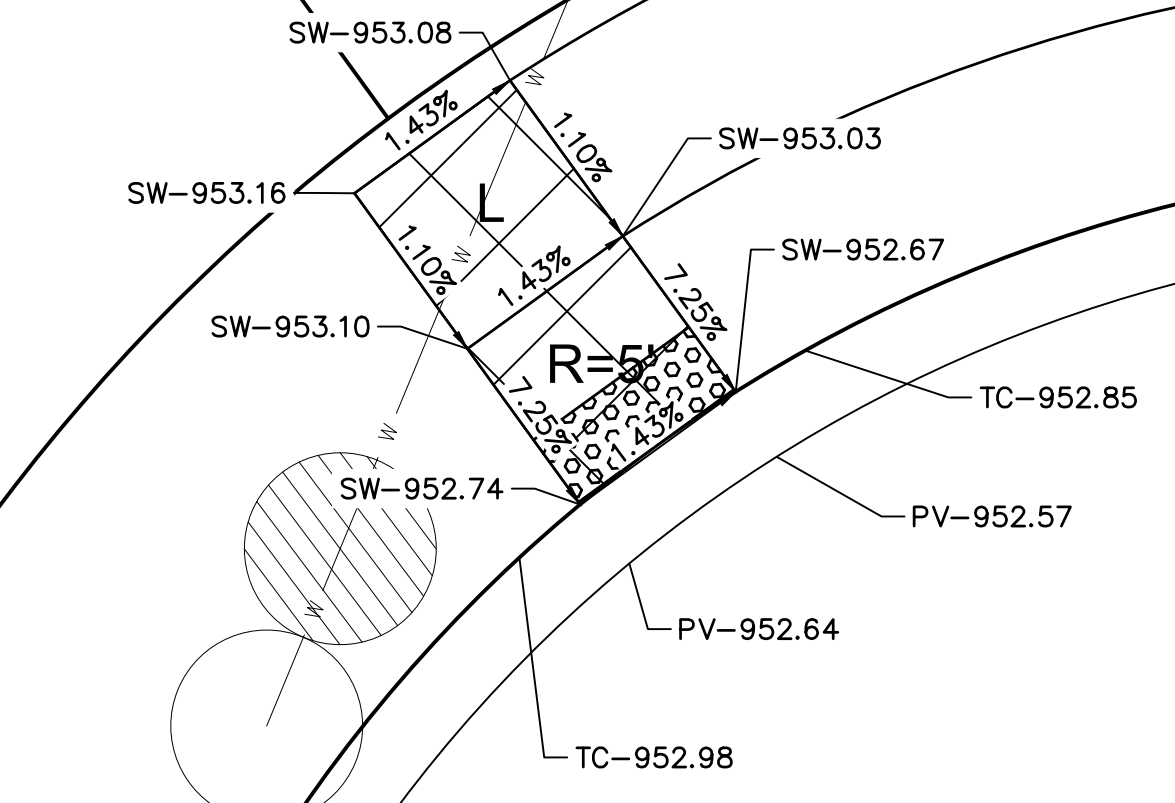
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

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



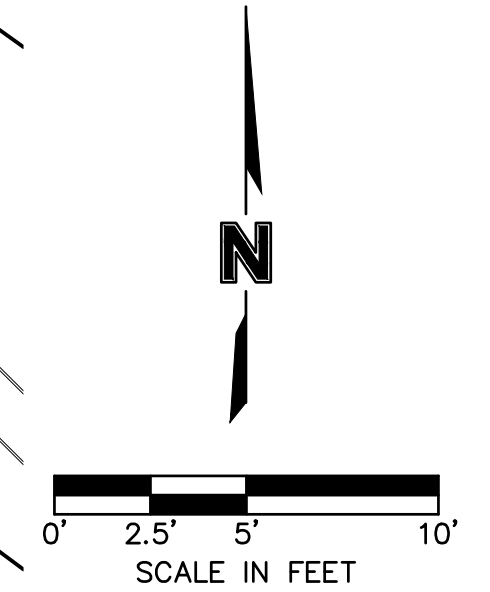
TC-953.55
 HIGH POINT
 N: 984795.7021
 E: 2809964.0135

CURB DATA:
 R=39.00'
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 L=167.20'
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 CH=65.55'

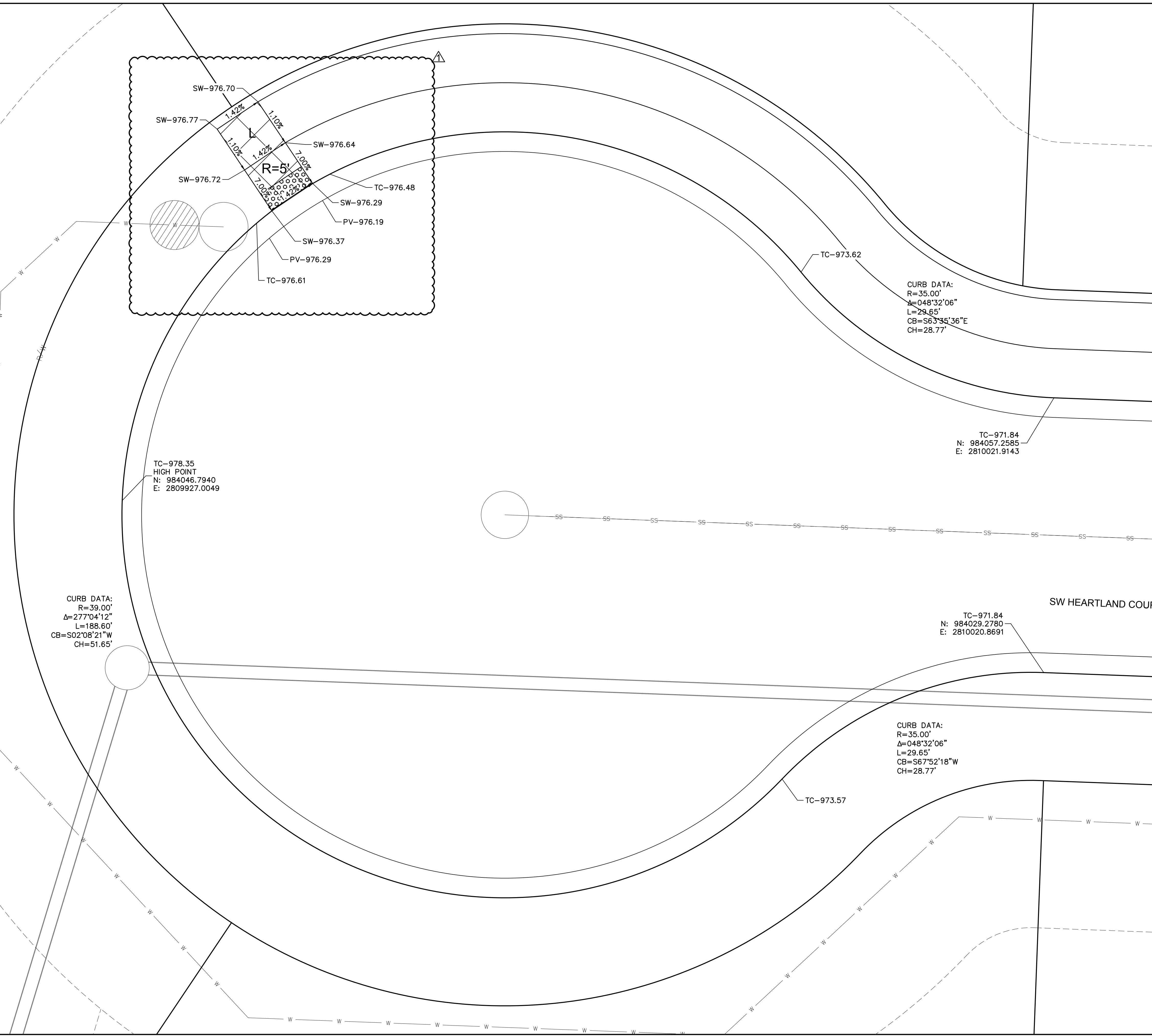
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 L=46.86'
 CB=S83^{\circ}32'27''W
 CH=43.43'

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 E: 2810072.8061

TC-951.62
 N: 984804.7988
 E: 2810087.5991



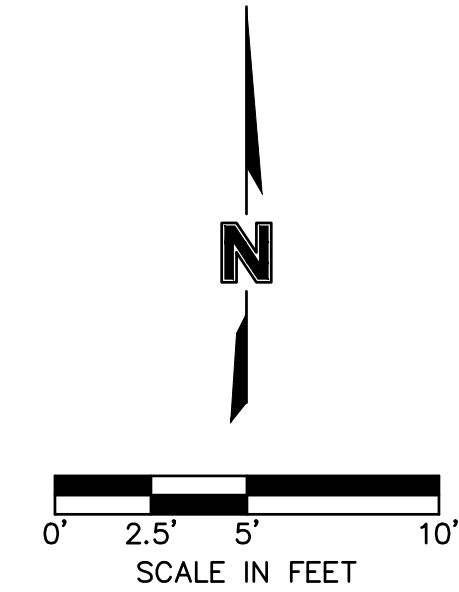
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- INTERSECTION AND ADA DETAIL NOTES:
1. ALL ADA CURB RAMPS SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
 2. CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10 MAX SLOPES.
 3. LANDING SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR 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 CURBS 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
	CONCRETE SIDEWALK
	CG-2 CURB & GUTTER

NOT AS BUILT



SW HEARTLAND COURT CUL-DE-SAC DETAILS
 STREET & STORM SEWER PLANS

THE RETREAT AT HOOK FARMS
 SECOND PLAT

LEE'S SUMMIT, MO

2021

DATE: 08-26-2021
 10-29-2021

REVISIONS DESCRIPTION

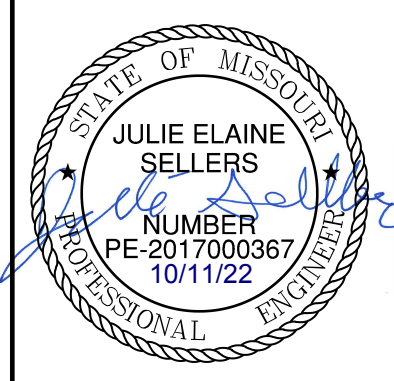
BY

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

SHEET C119

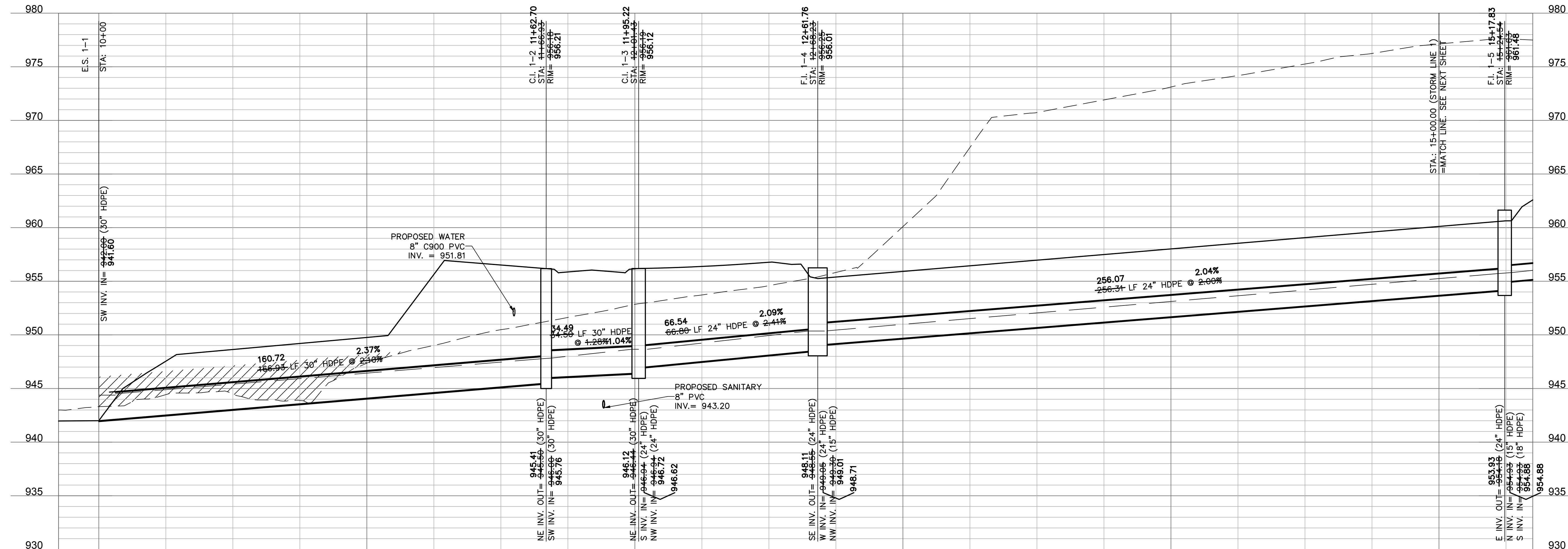
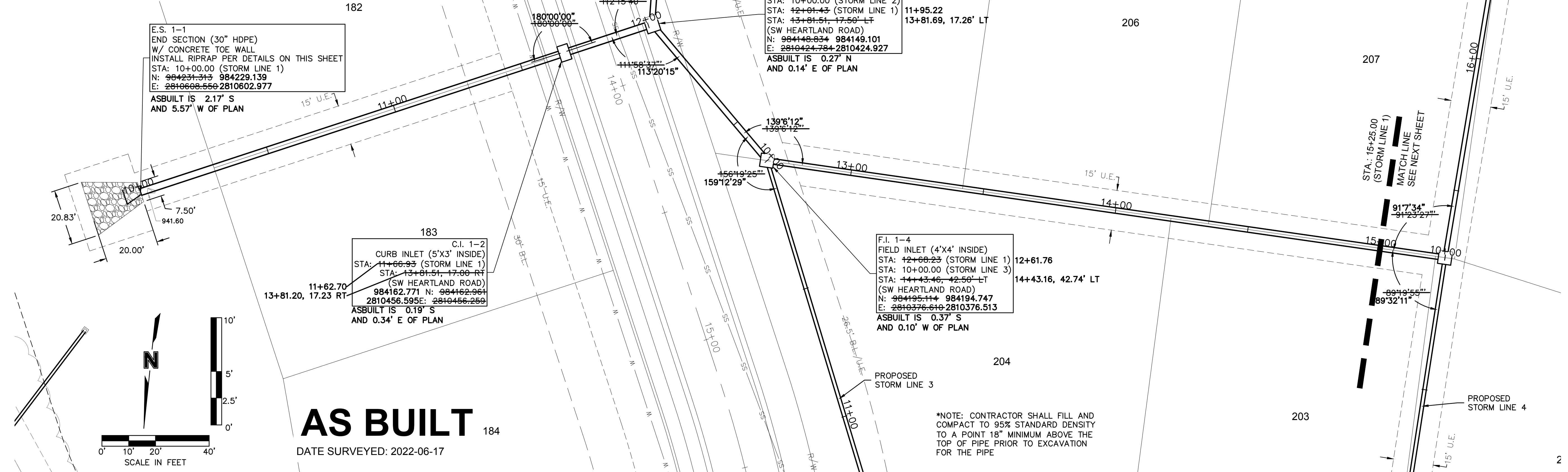
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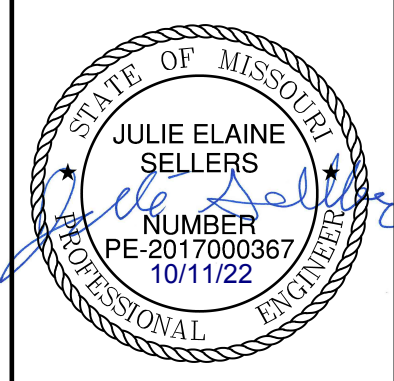
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 DATE: Oct 11, 2022 4:00pm XREFS: C:\BASE_A194059 C_PBASE_A194059 C_PSTRM_A194059 C_PUTBLK_A194059

Riprap Calculations						
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50 [†] (in)	Apron Length (ft)	Apron Depth (ft)
E.S. 1-1	83.68	2.5	6	22	20	3.67
*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18						



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STORM SEWER PLAN & PROFILE (LINE 1)
 STREET & STORM SEWER PLANS

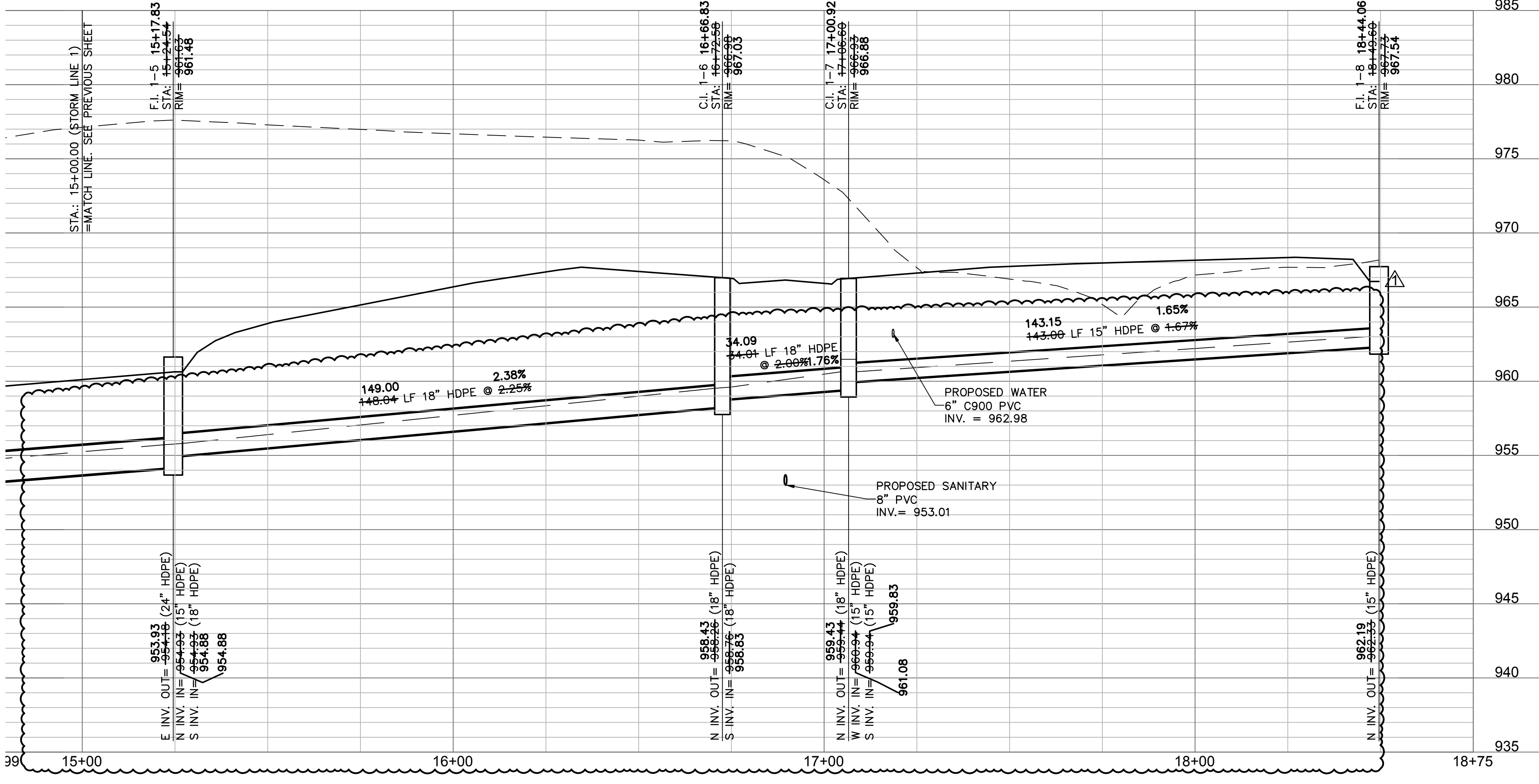
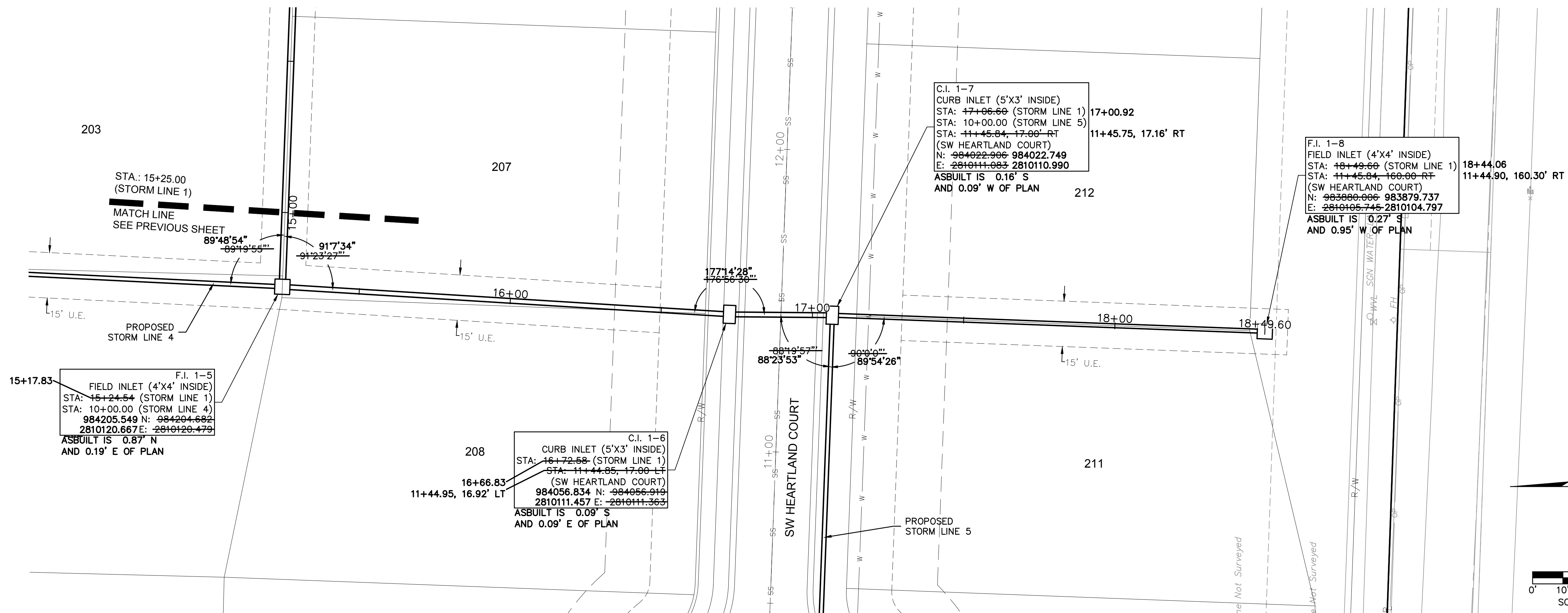
THE RETREAT AT HOOK FARMS
 SECOND PLAT

LEE'S SUMMIT, MO

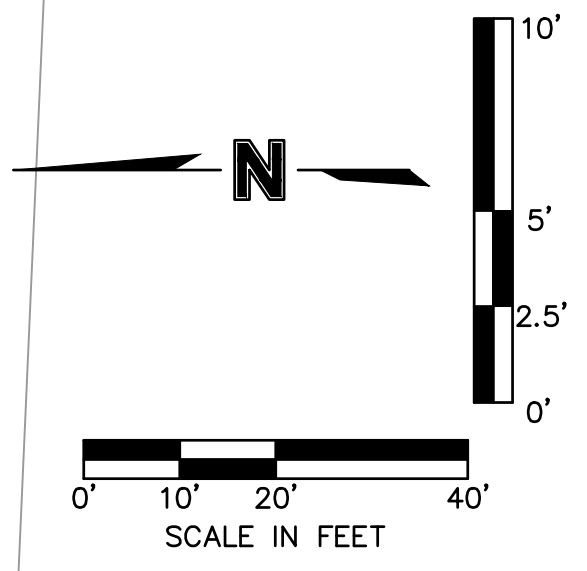
2021

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

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AS BUILT
 DATE SURVEYED: 2022-06-17



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STATE OF MISSOURI
 JULIE ELAINE SELLERS
 PE-2017000367
 10/11/22
 PROFESSIONAL ENGINEER

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

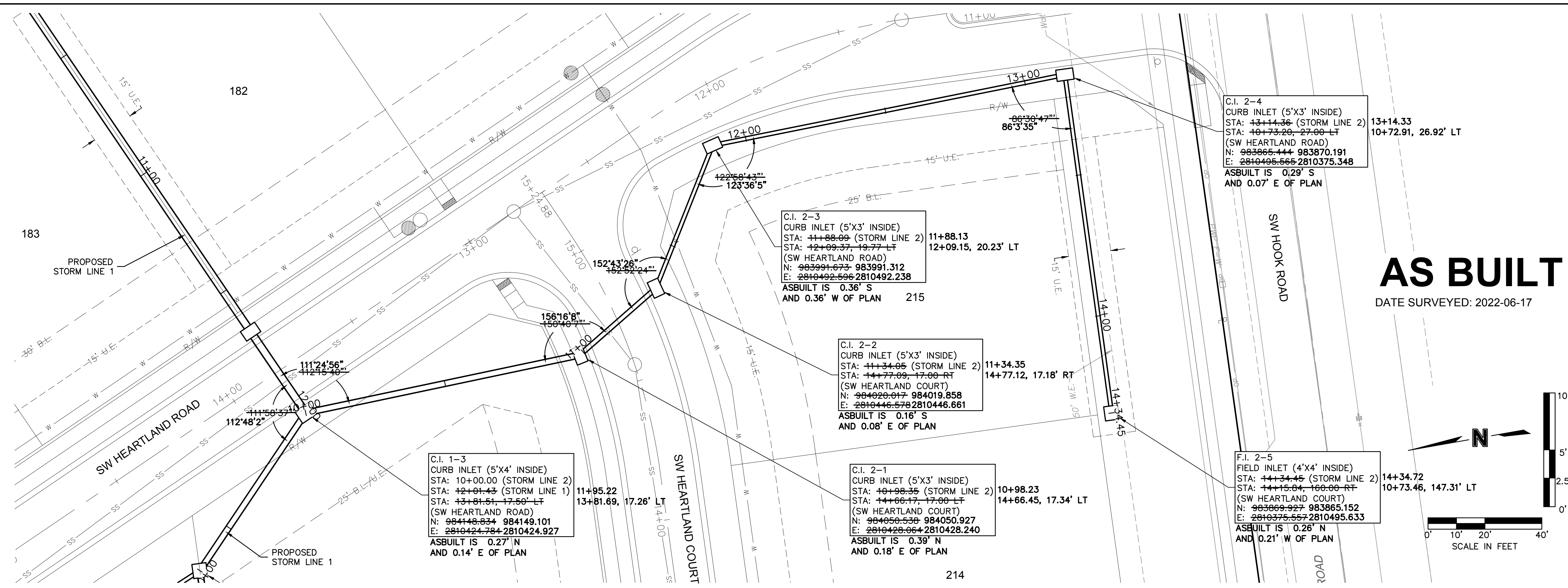
2021

REVISIONS

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 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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 USER: ssaaylor



C.I. 2-4
 CURB INLET (5'X3' INSIDE)
 STA: 43+14.36 (STORM LINE 2)
 STA: 40+73.20, 27.00 LT
 (SW HEARTLAND ROAD)
 N: 983865.444 983870.191
 E: 2810495.568 2810375.348
 ASBUILT IS 0.29' S
 AND 0.07' E OF PLAN

C.I. 2-3
 CURB INLET (5'X3' INSIDE)
 STA: 41+88.09 (STORM LINE 2)
 STA: 42+09.37, 19.77 LT
 (SW HEARTLAND ROAD)
 N: 983991.673 983991.312
 E: 2810492.596 2810492.238
 ASBUILT IS 0.36' S
 AND 0.36' W OF PLAN

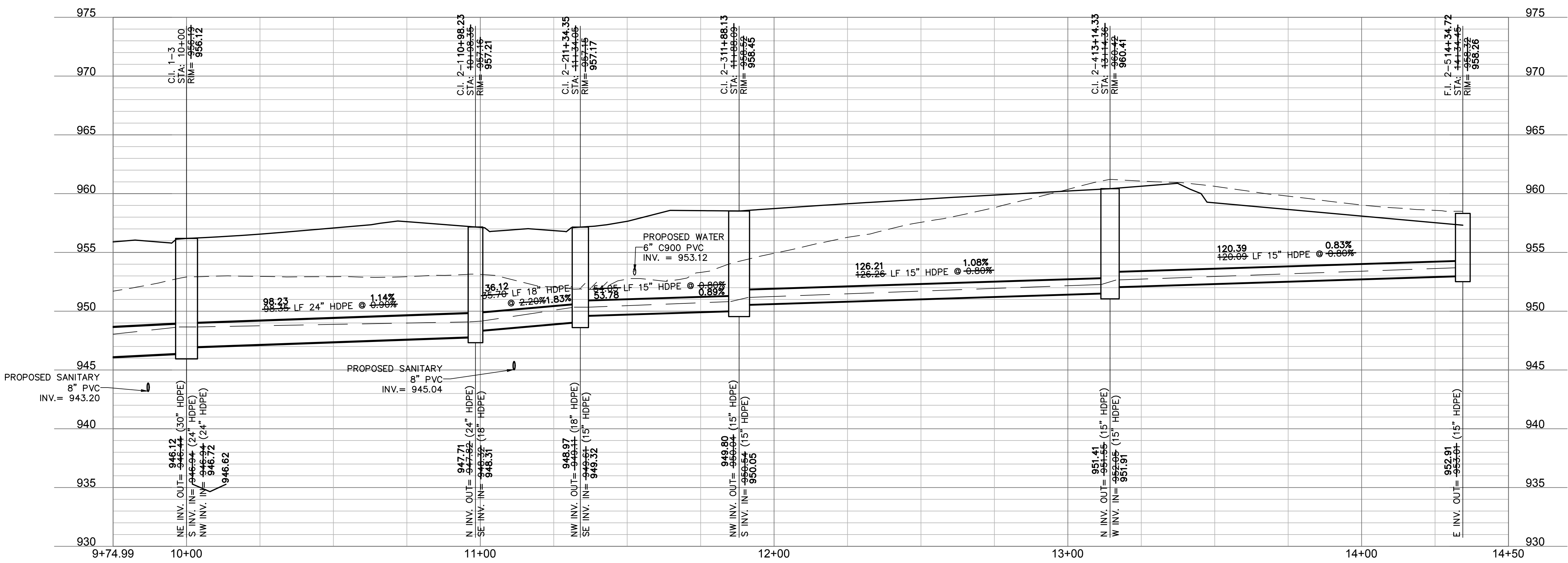
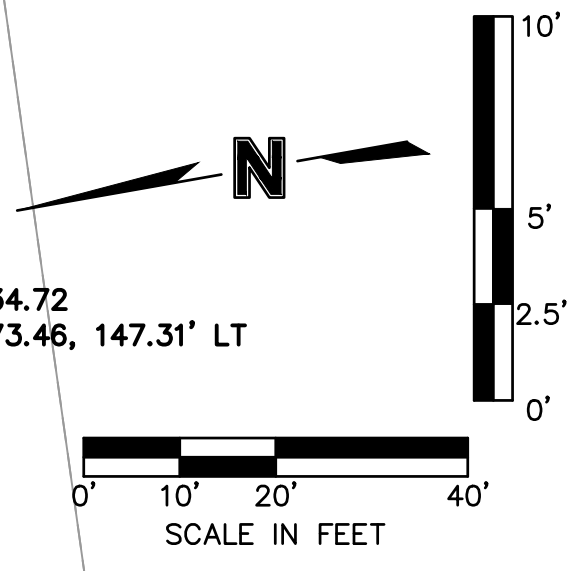
C.I. 2-2
 CURB INLET (5'X3' INSIDE)
 STA: 41+34.05 (STORM LINE 2)
 STA: 44+77.09, 17.00 RT
 (SW HEARTLAND COURT)
 N: 984020.017 984019.858
 E: 2810446.578 2810446.661
 ASBUILT IS 0.16' S
 AND 0.08' E OF PLAN

C.I. 1-3
 CURB INLET (5'X4' INSIDE)
 STA: 10+00.00 (STORM LINE 2)
 STA: 42+81.43 (STORM LINE 1)
 STA: 43+81.51, 17.50' LT
 (SW HEARTLAND ROAD)
 N: 984148.834 984149.101
 E: 2810424.784 2810424.927
 ASBUILT IS 0.27' N
 AND 0.14' E OF PLAN

C.I. 2-1
 CURB INLET (5'X3' INSIDE)
 STA: 49+98.35 (STORM LINE 2)
 STA: 44+66.17, 17.00 LT
 (SW HEARTLAND COURT)
 N: 984050.530 984050.927
 E: 2810428.064 2810428.240
 ASBUILT IS 0.39' N
 AND 0.18' E OF PLAN

F.I. 2-5
 FIELD INLET (4'X4' INSIDE)
 STA: 44+34.45 (STORM LINE 2)
 STA: 44+15.04, 100.00 RT
 (SW HEARTLAND COURT)
 N: 983869.927 983865.152
 E: 2810375.557 2810495.633
 ASBUILT IS 0.26' N
 AND 0.21' W OF PLAN

AS BUILT
 DATE SURVEYED: 2022-06-17



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 REGISTERED PROFESSIONAL ENGINEER
 NUMBER PE-2017000367
 10/11/22

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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

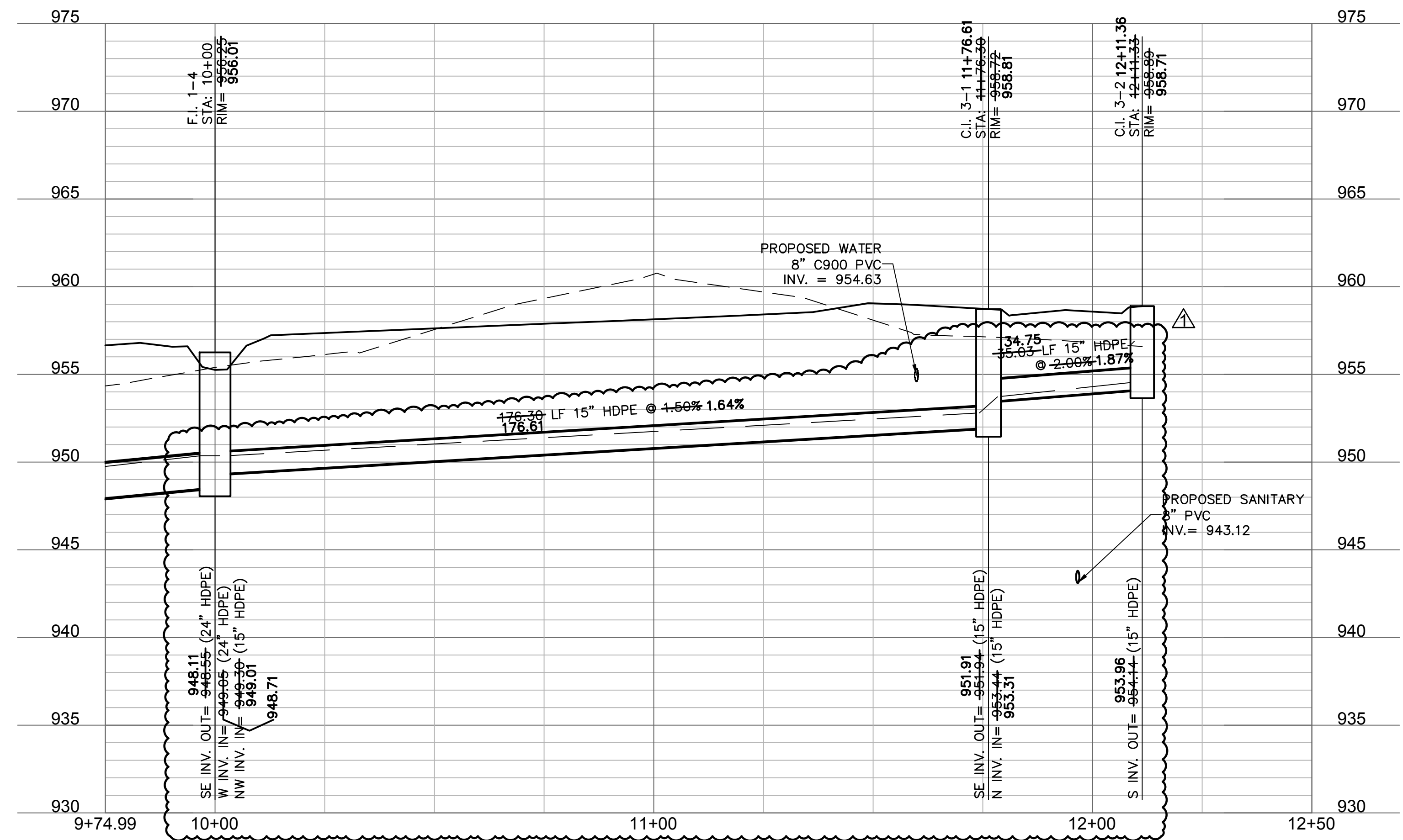
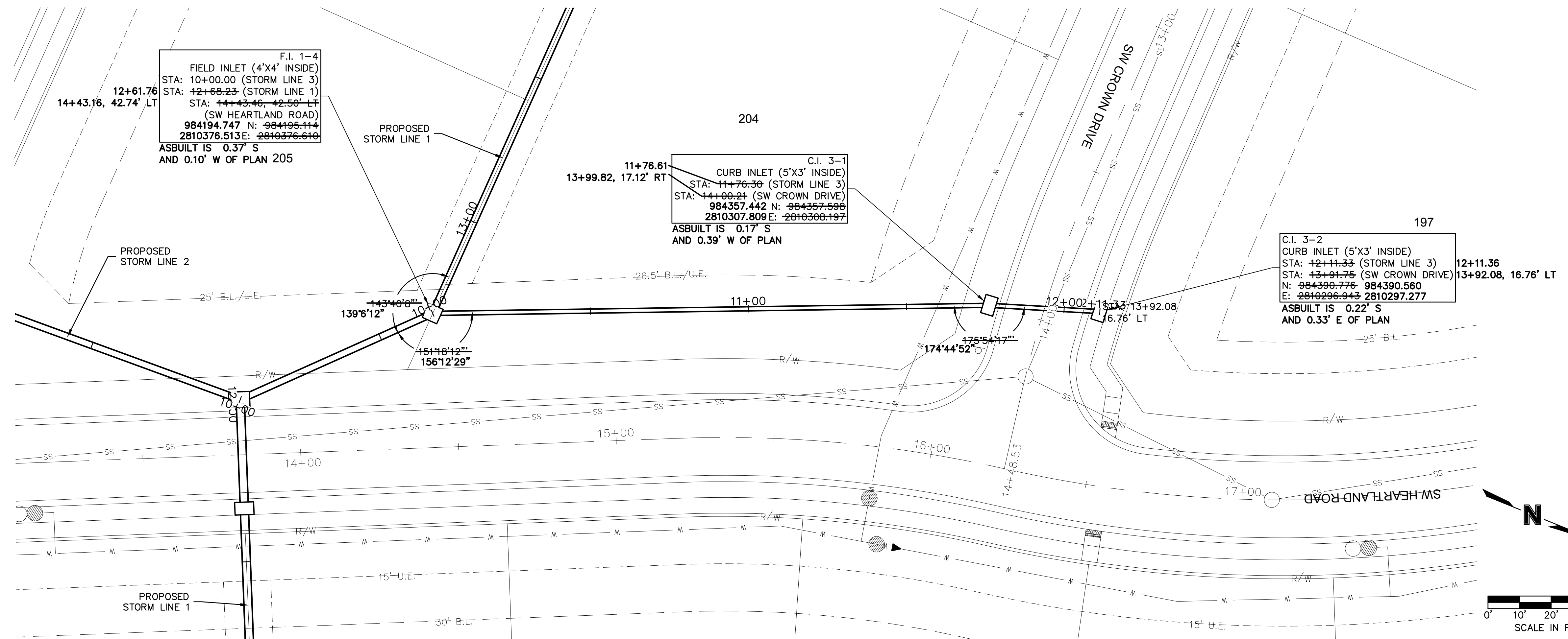
2021

REVISIONS

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 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

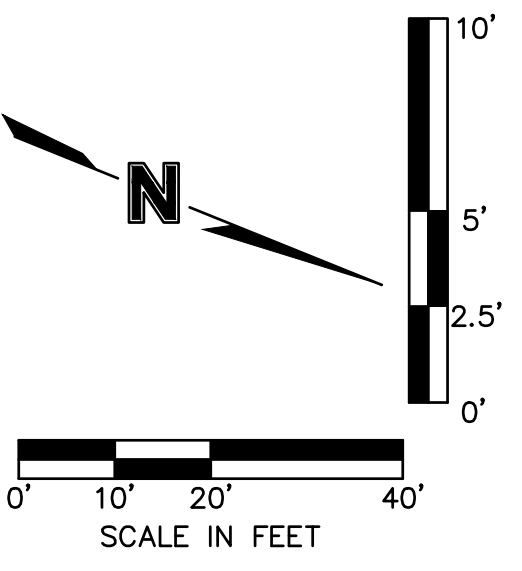
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AS BUILT
 DATE SURVEYED: 2022-06-17

*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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 10/11/22

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1	08-26-2021	REVISED PER CITY COMMENTS
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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

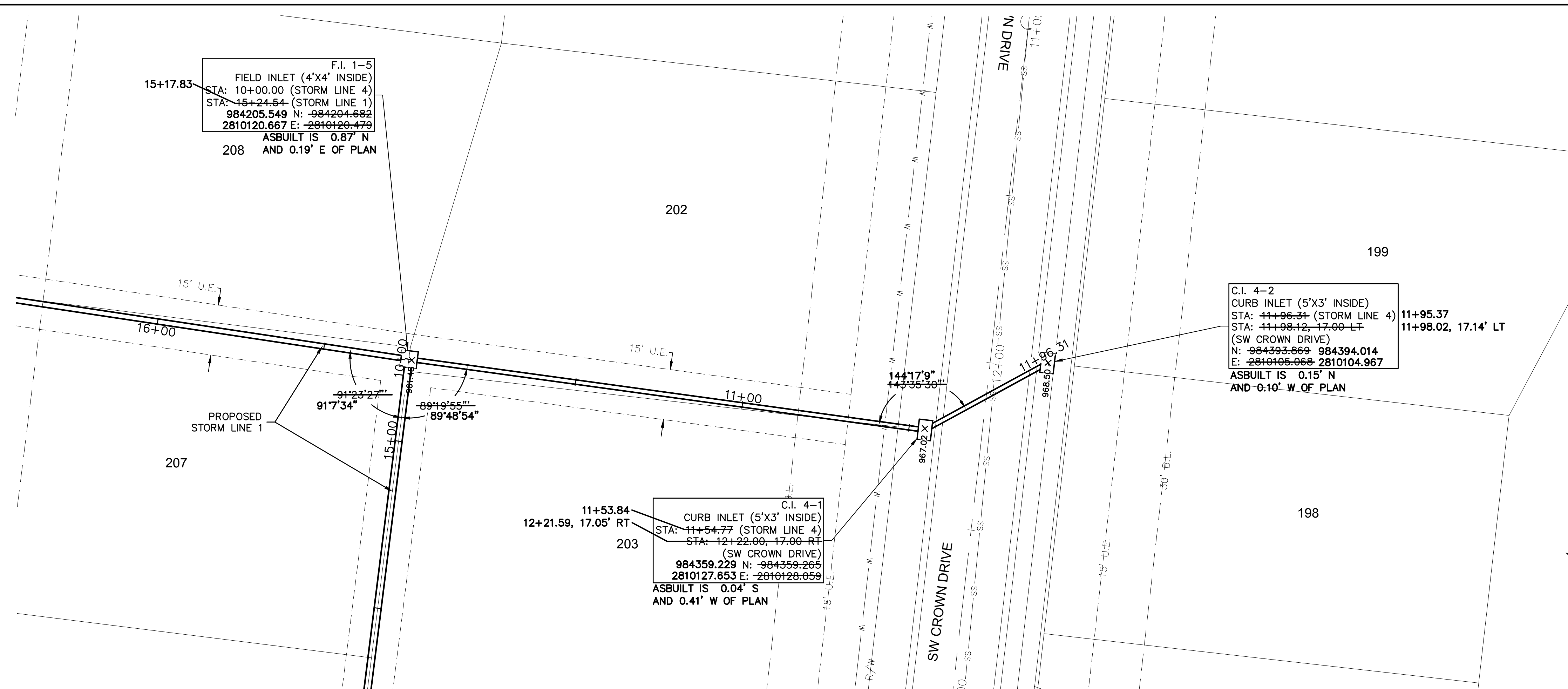
2021

REVISIONS

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

SHEET
 C123

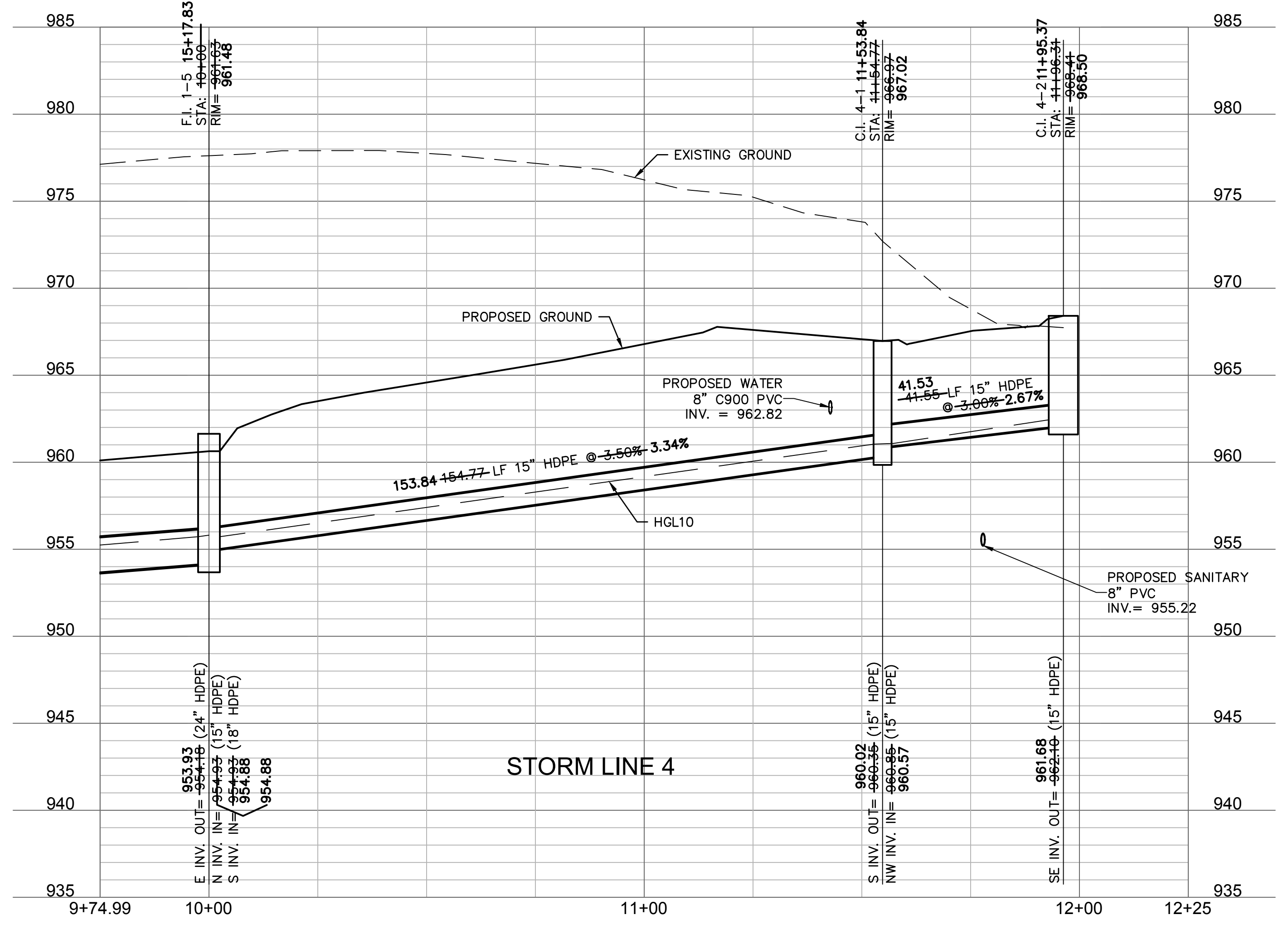
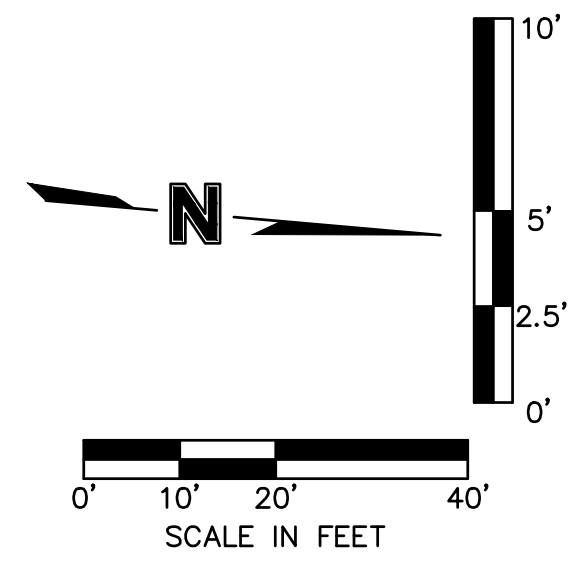
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F.I. 1-5
 FIELD INLET (4'X4' INSIDE)
 STA: 10+00.00 (STORM LINE 4)
 STA: 15+24.64 (STORM LINE 1)
 984205.549 N: 984204.682
 2810120.667 E: 2810120.479
 ASBUILT IS 0.87' N
 208 AND 0.19' E OF PLAN

C.I. 4-2
 CURB INLET (5'X3' INSIDE)
 STA: 11+96.31 (STORM LINE 4)
 STA: 11+98.12, 17.80 LF
 (SW CROWN DRIVE)
 N: 984393.869 984394.014
 E: 2810105.068 2810104.967
 ASBUILT IS 0.15' N
 AND 0.10' W OF PLAN

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)
 984359.229 N: 984359.265
 2810127.653 E: 2810128.059
 ASBUILT IS 0.04' S
 AND 0.41' W OF PLAN



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STATE OF MISSOURI
 JULIE ELAINE
 SELLERS
 PROFESSIONAL ENGINEER
 NUMBER
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 10/11/22

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
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STORM SEWER PLAN & PROFILE (LINE 4)
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT

2021

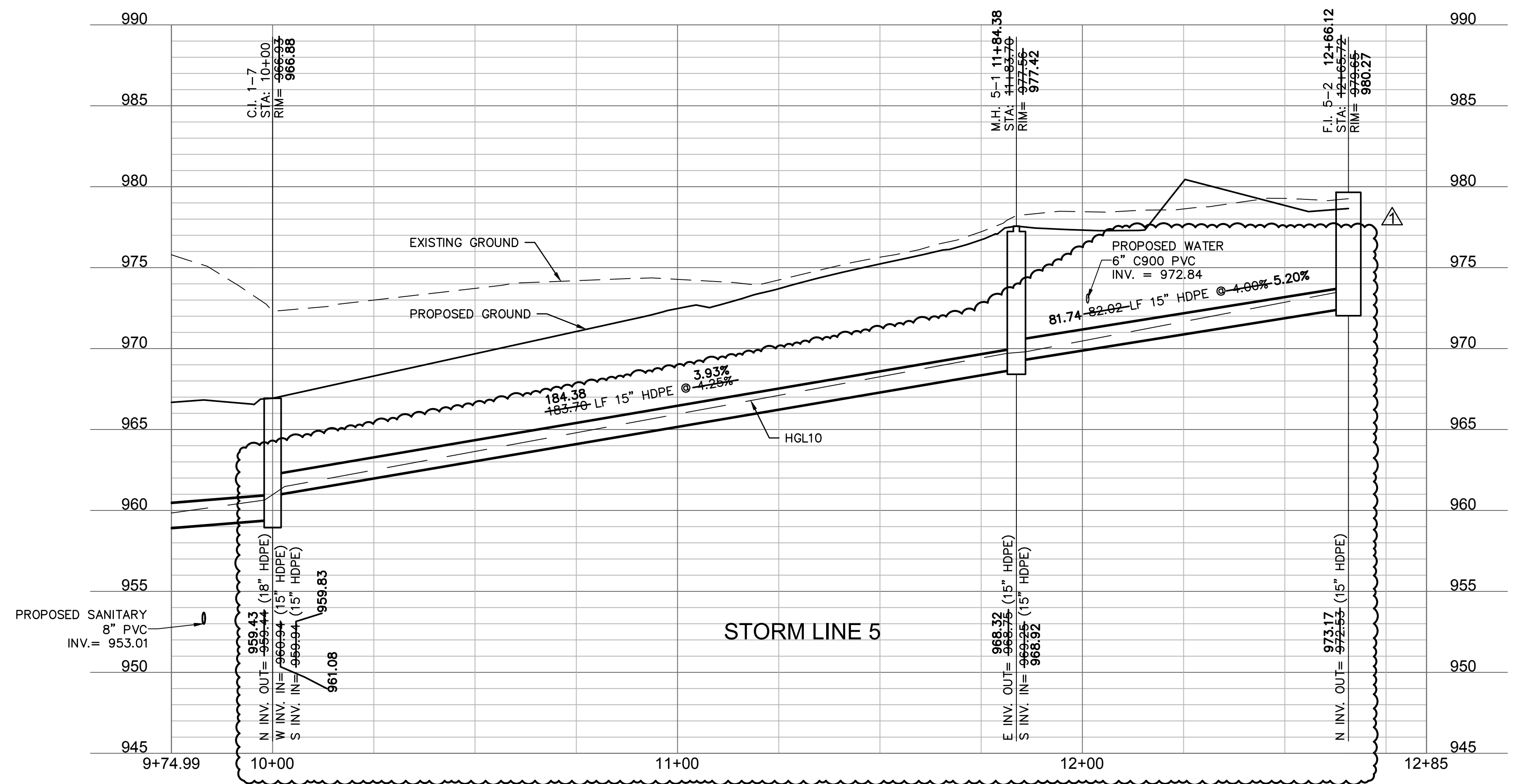
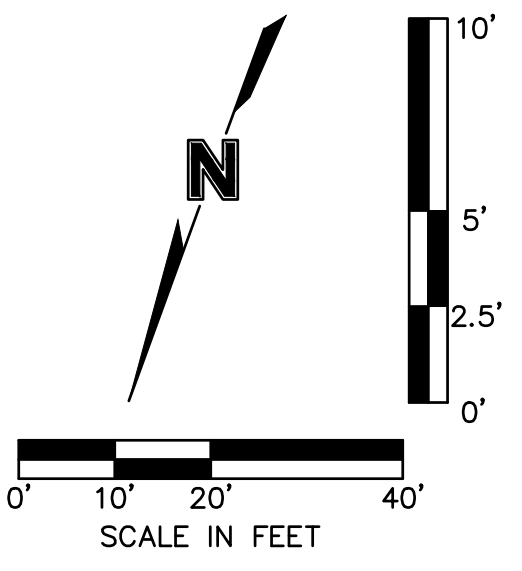
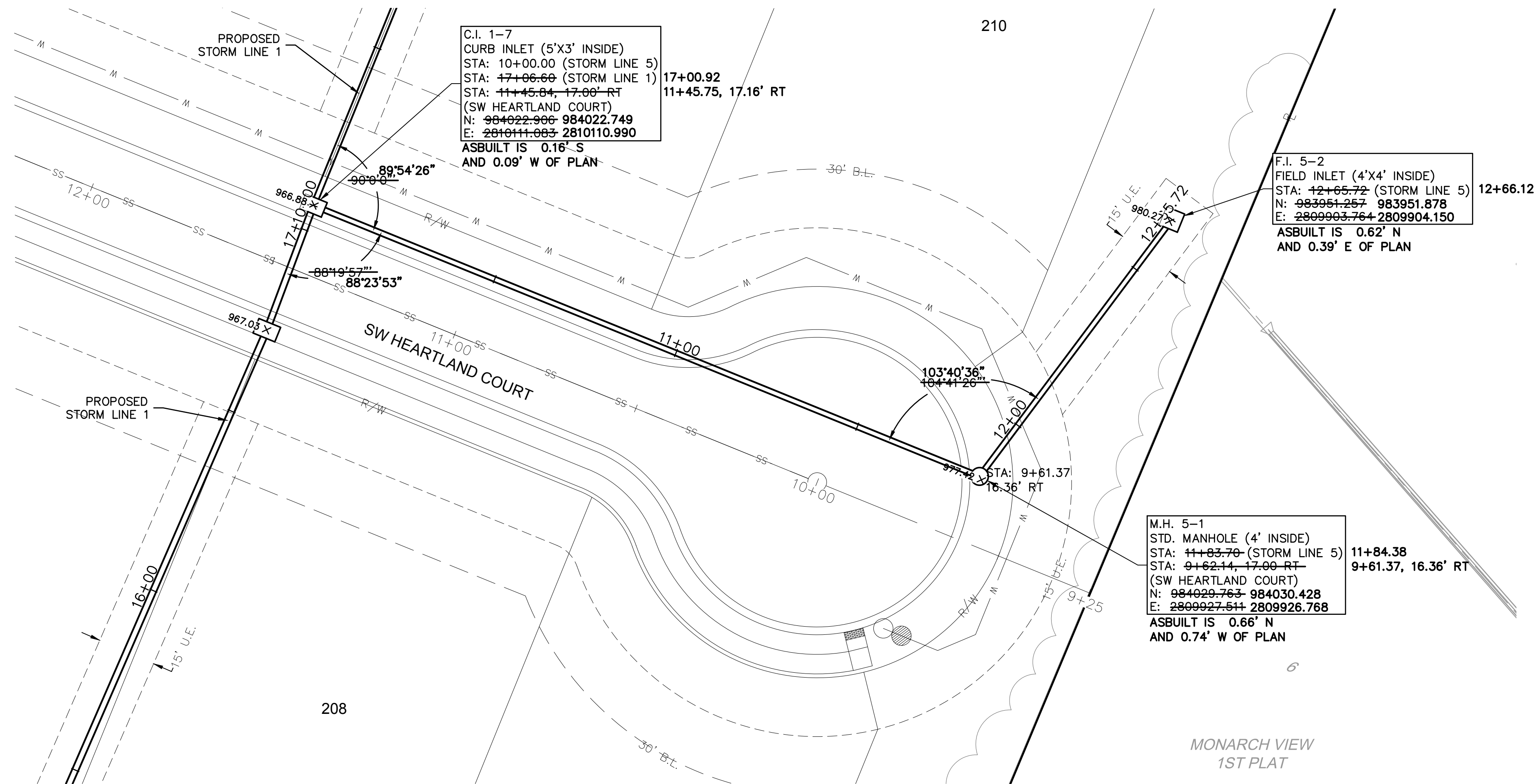
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 checked by: B.M.W./A.A.
 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

LEE'S SUMMIT, MO

SHEET
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STORM SEWER PLAN & PROFILE (LINE 5)
STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT

2021

REVISIONS

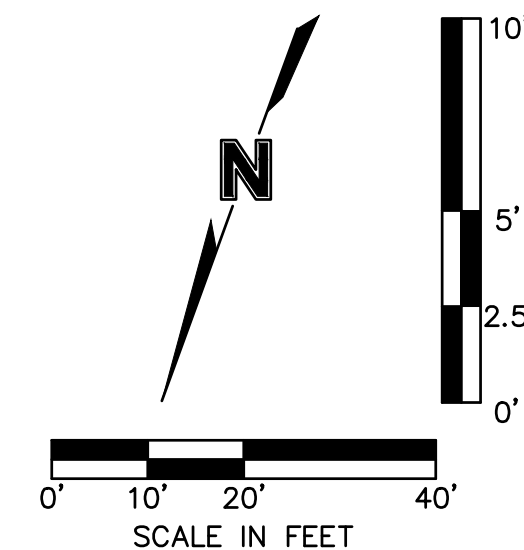
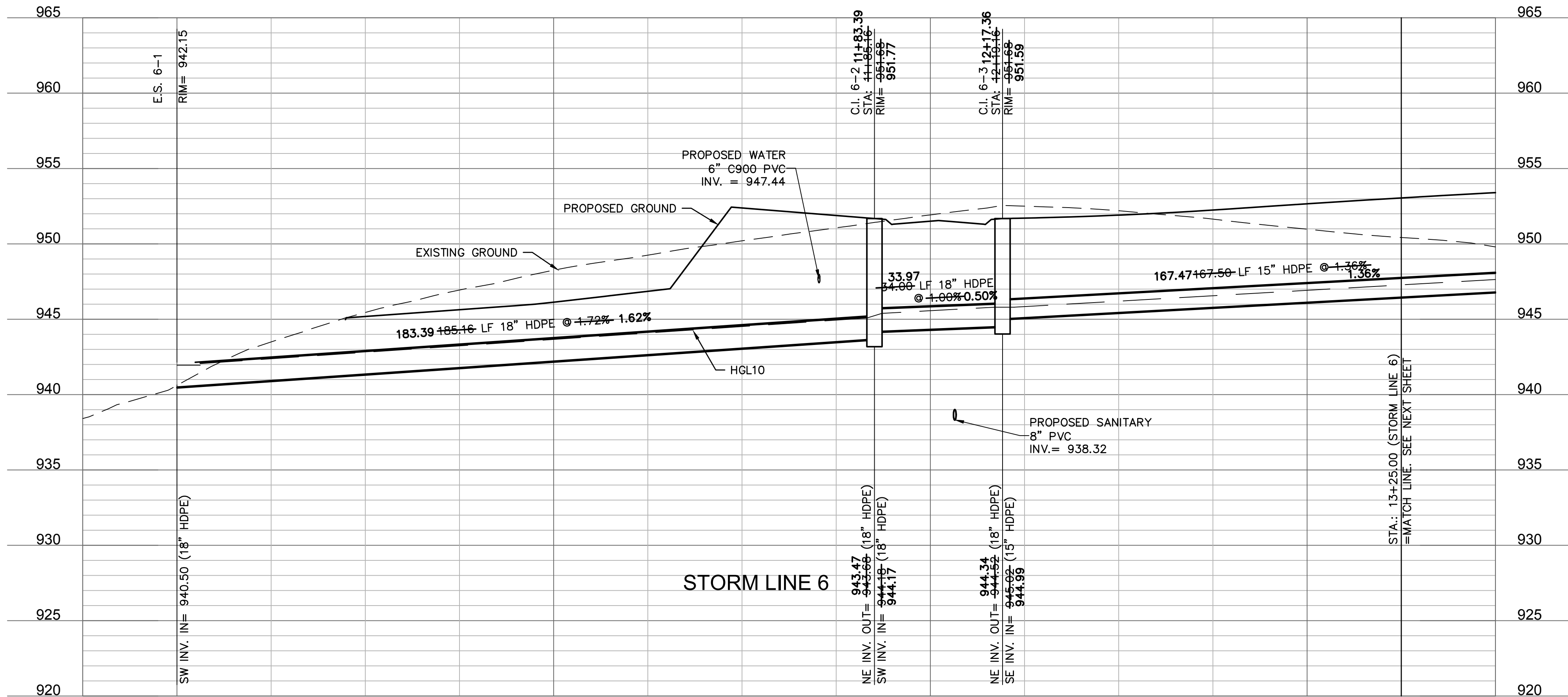
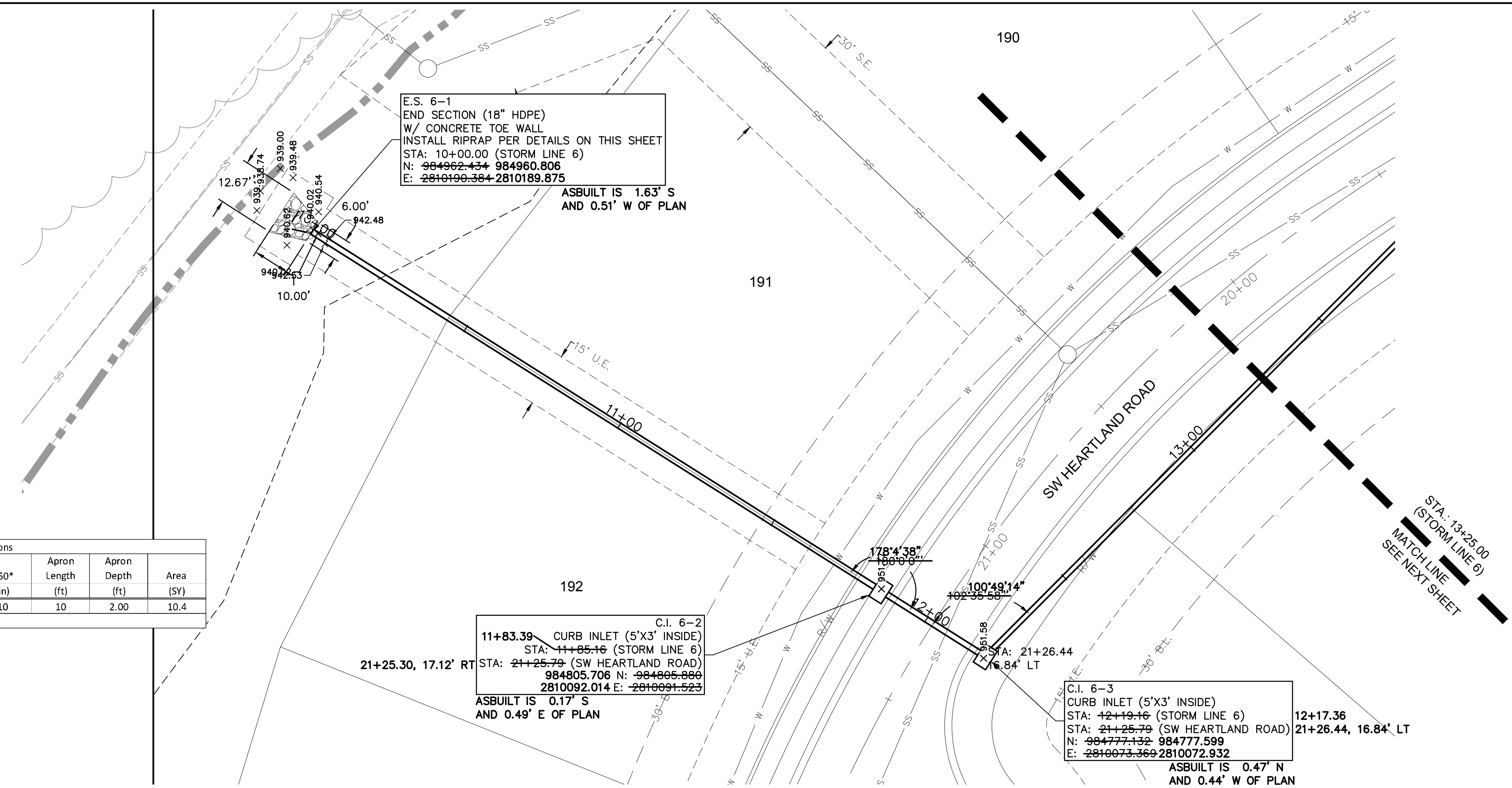
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SHEET
C125

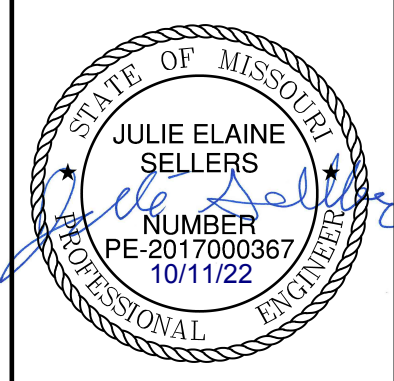
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 USER: ssaylor

Riprap Calculations							
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SqY)
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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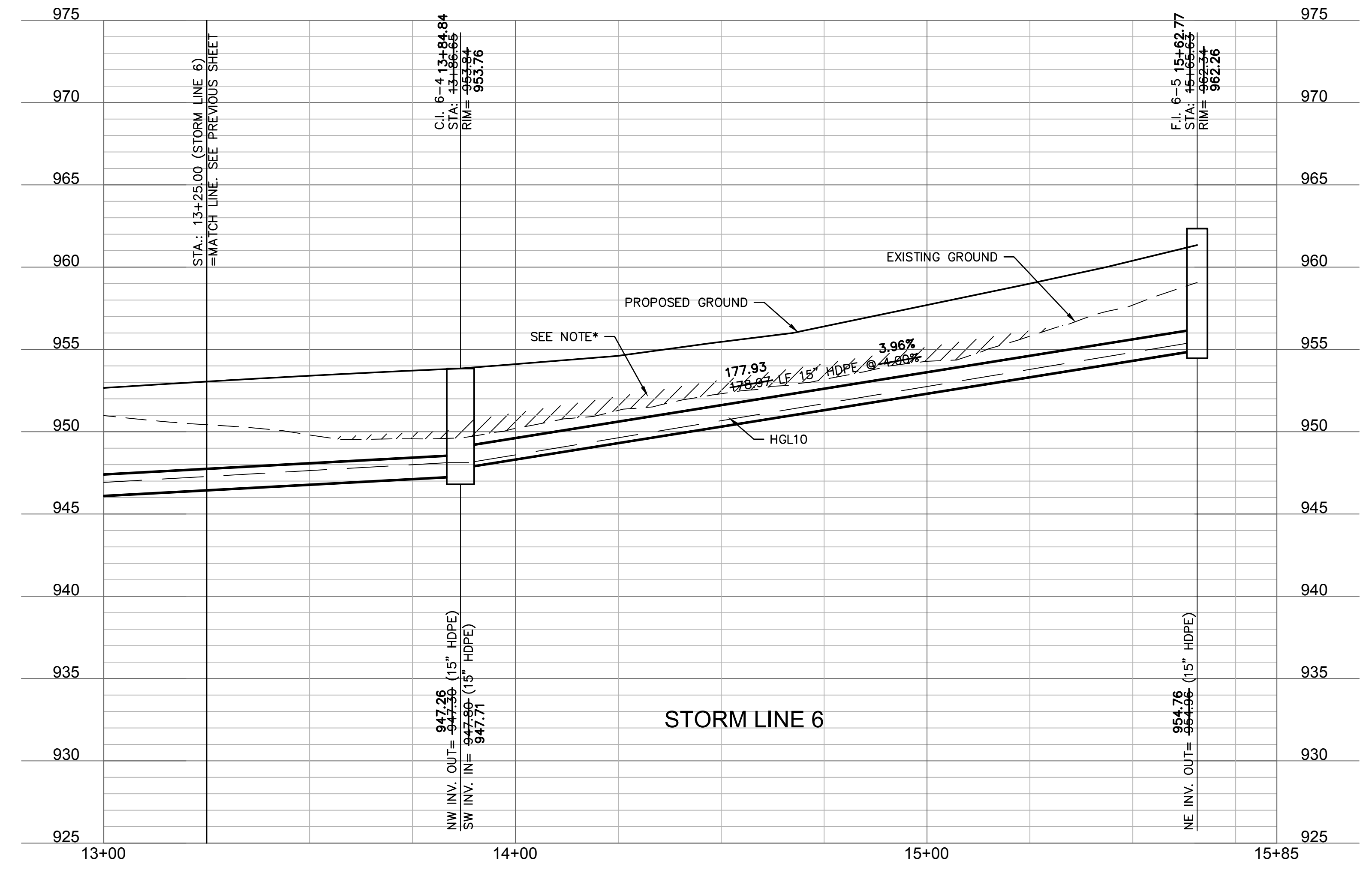
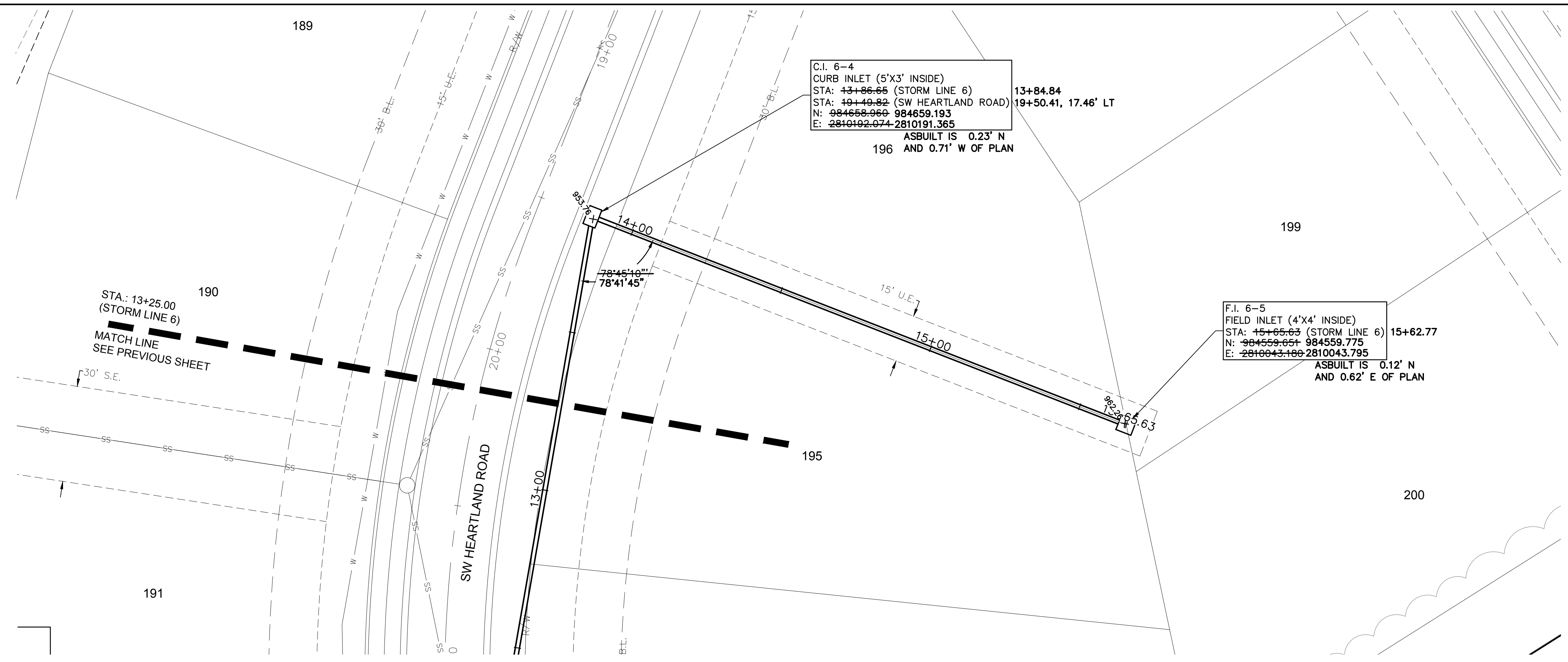


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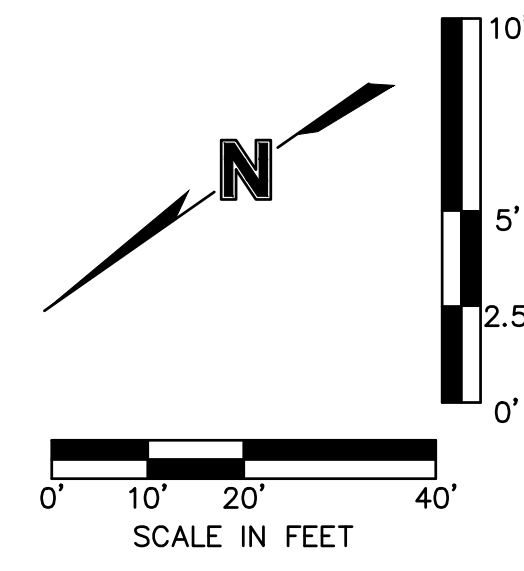
**STORM SEWER PLAN & PROFILE (LINE 6)
 STREET & STORM SEWER PLANS**
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEE'S SUMMIT, MO 2021

drawn by: B.M.W./A.A.
 checked by: B.M.W./A.A.
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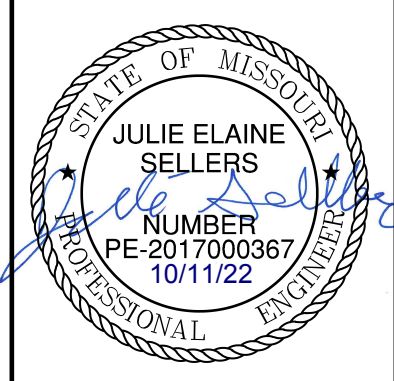
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*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE



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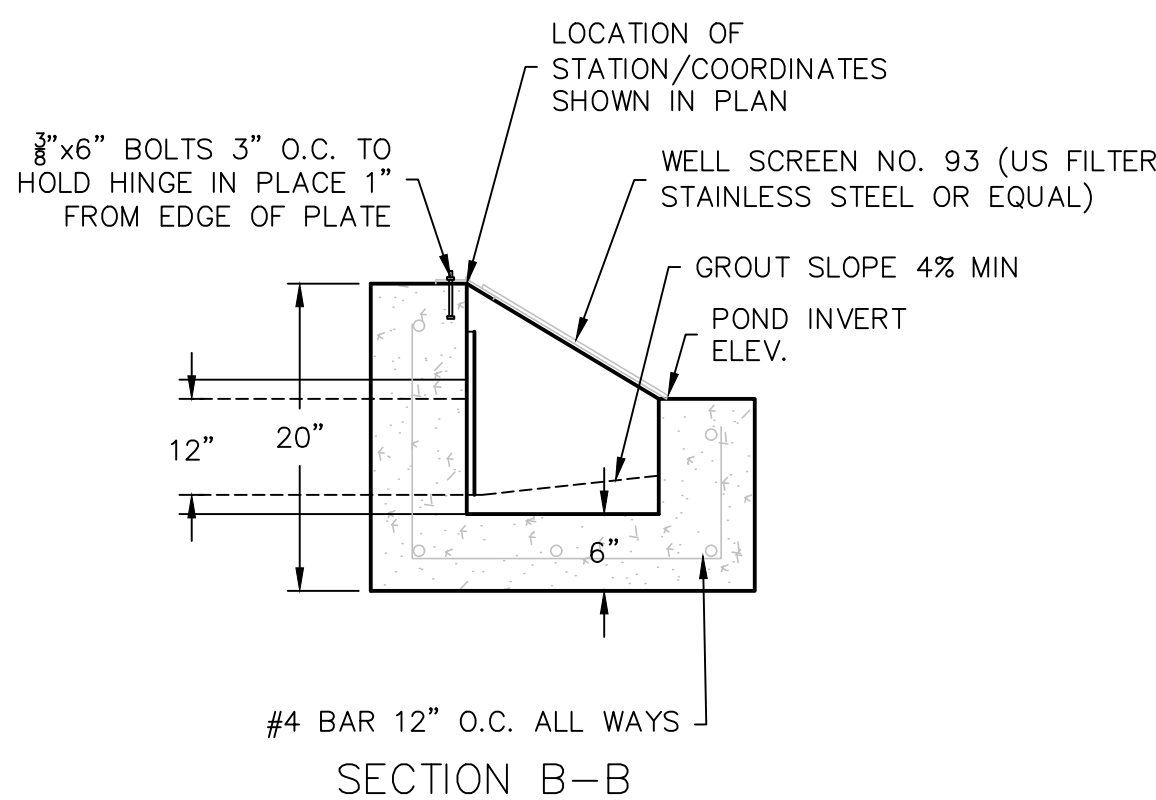
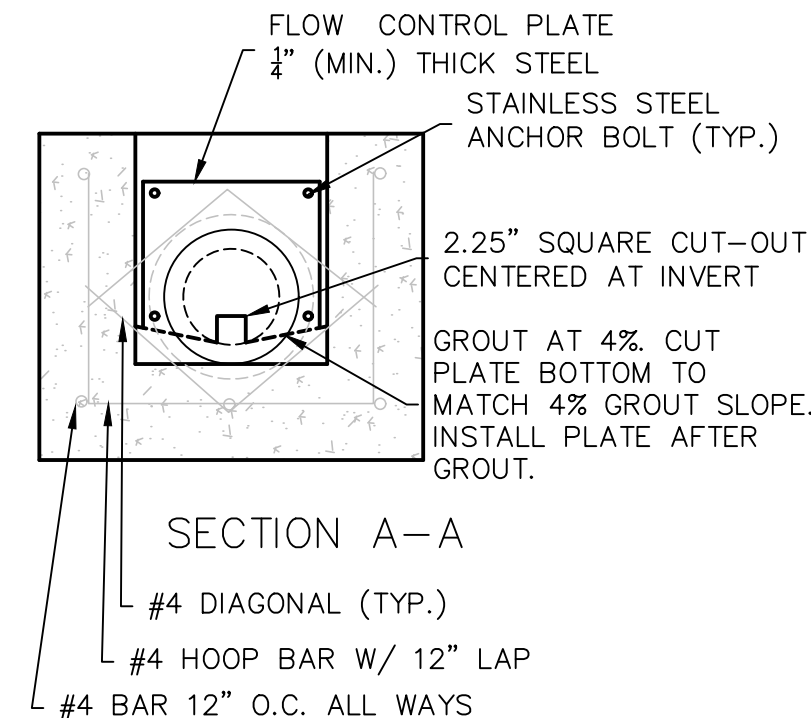
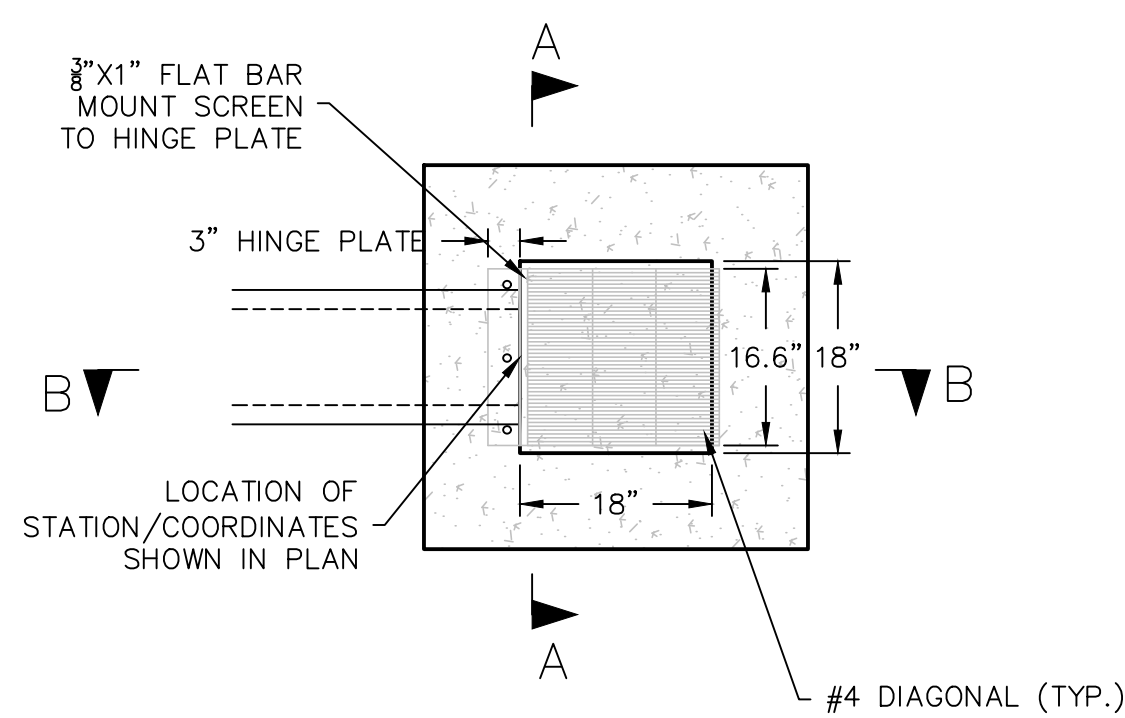


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STORM SEWER PLAN & PROFILE (LINE 6)
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT
 LEES SUMMIT, MO
 2021

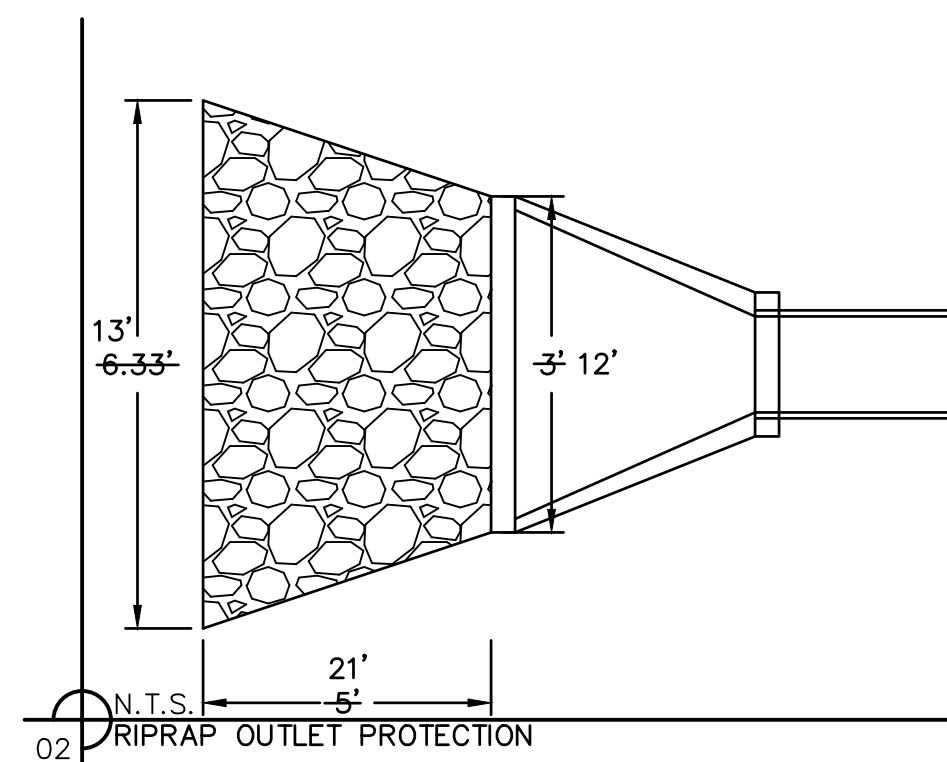
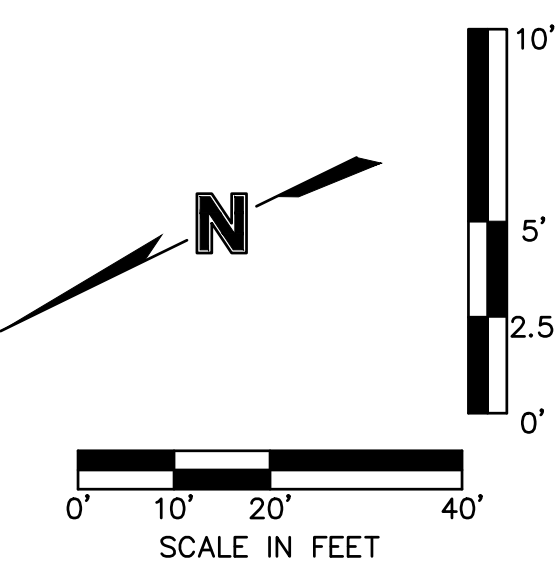
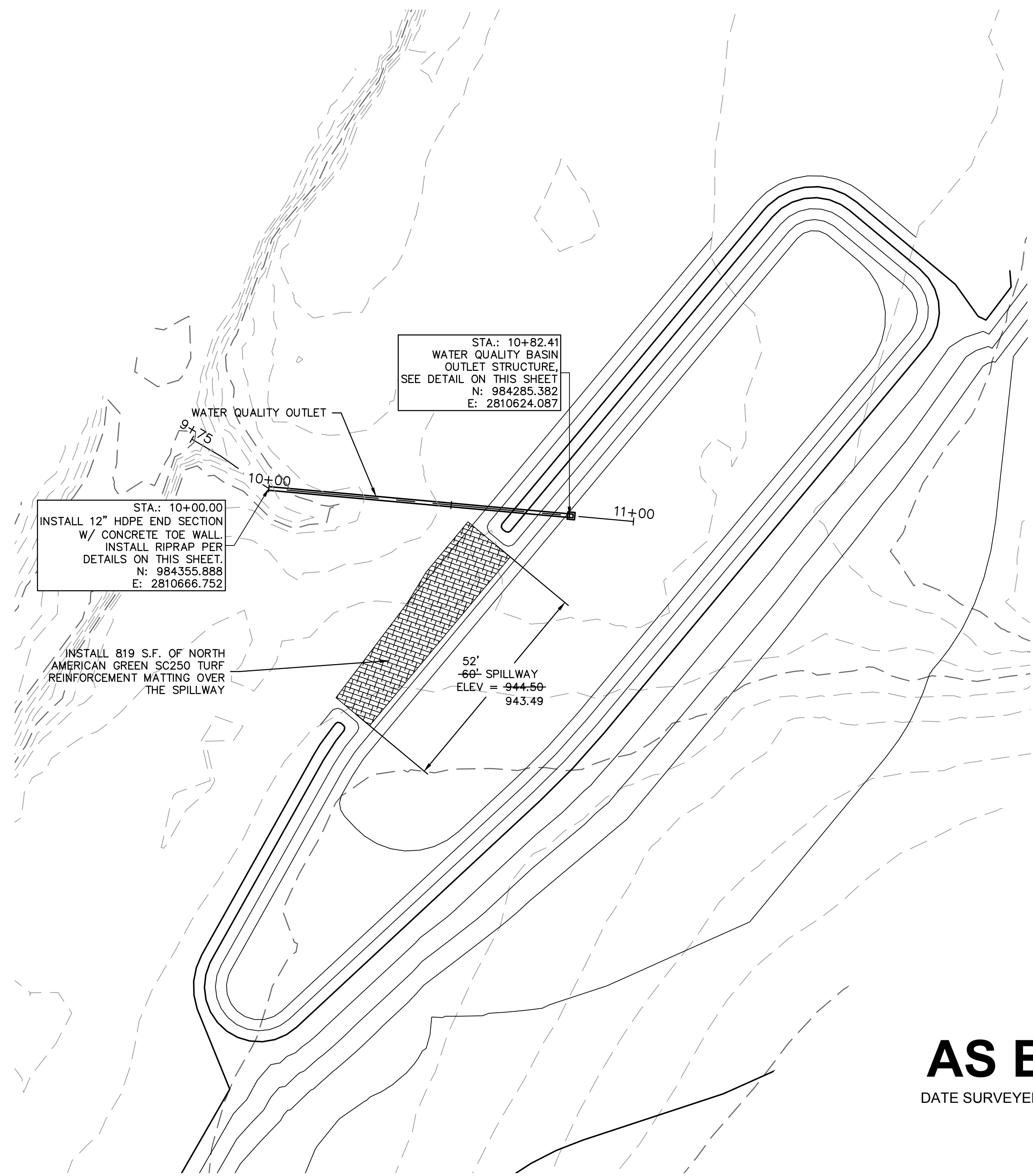
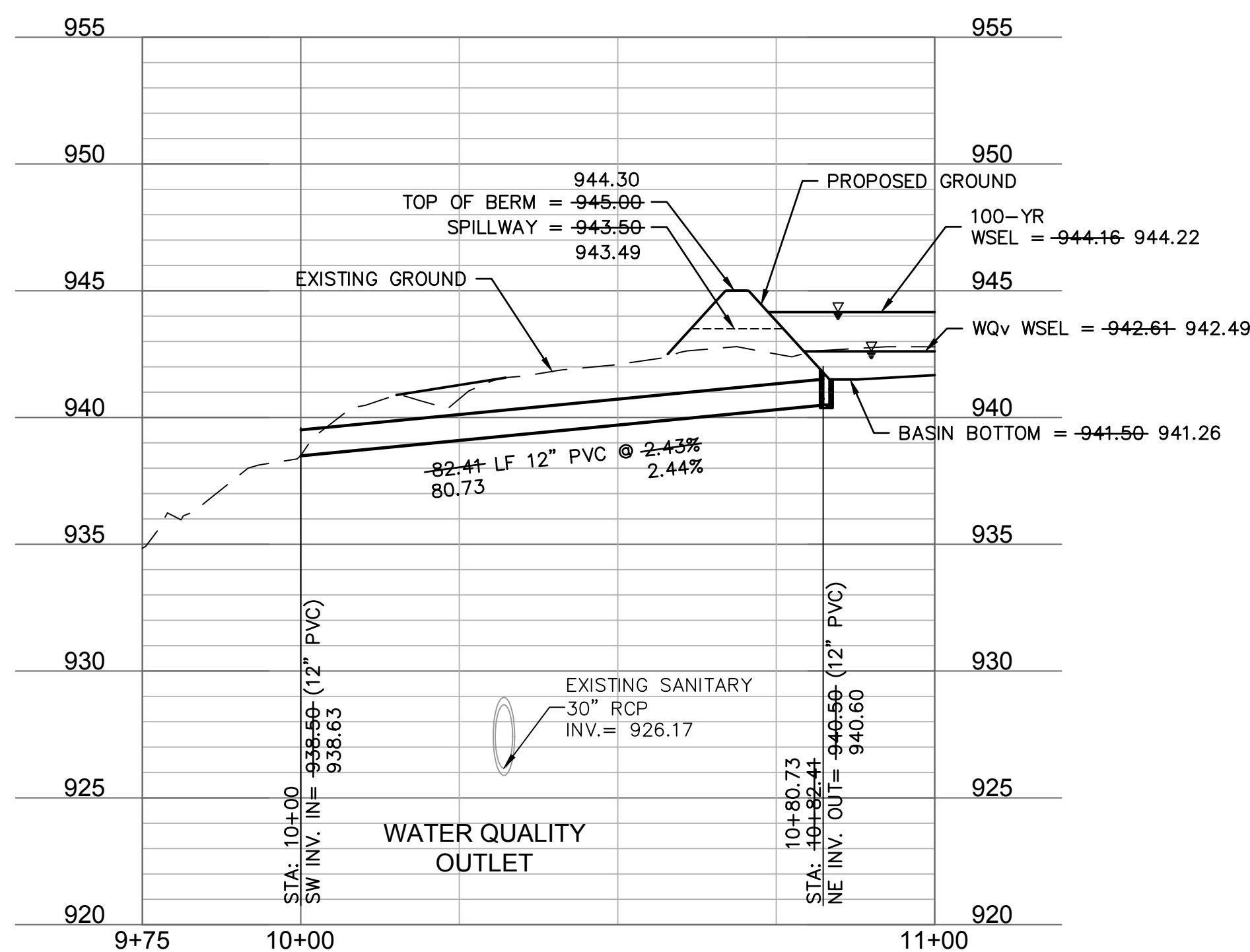
SHEET C127

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

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



AS BUILT
 DATE SURVEYED: 2022-06-17

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STATE OF MISSOURI
 JULIE ELAINE SELLERS
 PROFESSIONAL ENGINEER
 NUMBER PE-2017000367
 10/11/22

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

WATER QUALITY BASIN PLAN
 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.: A19-4059
 date: 05-05-2021

SHEET
 C128

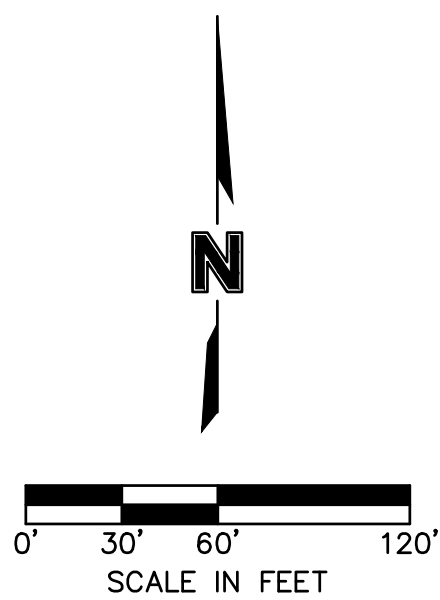
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 DATE: Oct 11, 2022 4:04pm XREFS: C_PTBK_A194059 C_PBASE_A194059 C_PBDY_A194059 USER: ssaylor

- 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.

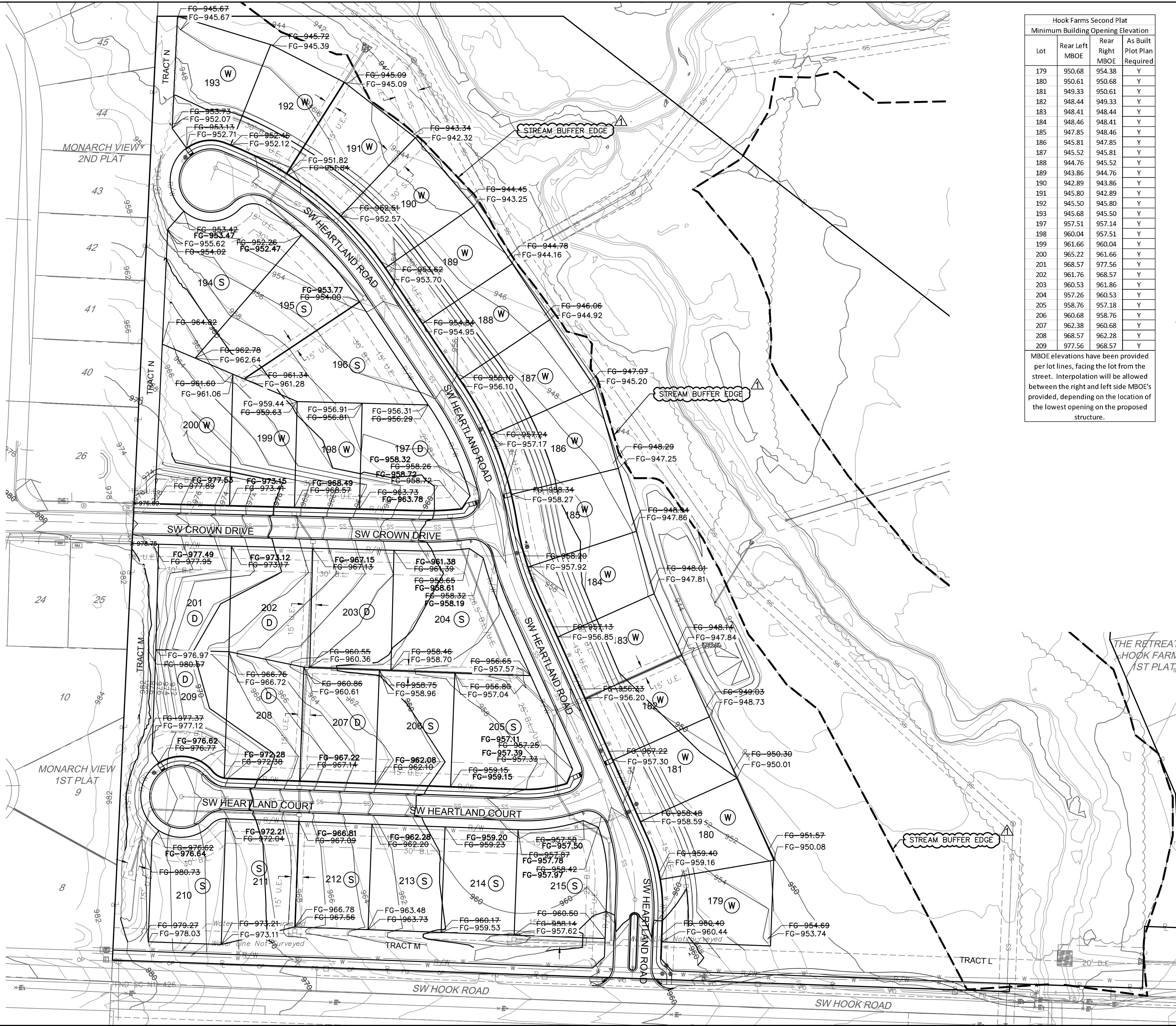
NOTES:
 MBOE - MINIMUM BUILDING OPENING ELEVATION
 FG - FINISHED GRADE

BASEMENT TYPES

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



LEGEND	
	FINISHED INDEX CONTOURS
	FINISHED INTERMEDIATE CONTOURS



Hook Farms Second Plat				
Lot	Rear Left MBOE	Rear Right MBOE	As Built Plot Plan	Elevation Required
179	950.68	954.38	Y	
180	950.61	950.68	Y	
181	949.33	950.61	Y	
182	948.44	949.33	Y	
183	948.41	948.44	Y	
184	948.46	948.41	Y	
185	947.85	948.46	Y	
186	945.81	947.85	Y	
187	945.52	945.81	Y	
188	944.76	945.52	Y	
189	943.86	944.76	Y	
190	942.89	943.86	Y	
191	945.80	942.89	Y	
192	945.50	945.80	Y	
193	945.68	945.50	Y	
197	957.51	957.14	Y	
198	960.04	957.51	Y	
199	961.66	960.04	Y	
200	965.22	961.66	Y	
201	968.57	965.22	Y	
202	961.76	968.57	Y	
203	960.53	961.76	Y	
204	957.26	960.53	Y	
205	958.76	957.26	Y	
206	960.68	958.76	Y	
207	962.38	960.68	Y	
208	968.57	962.38	Y	
209	977.56	968.57	Y	

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

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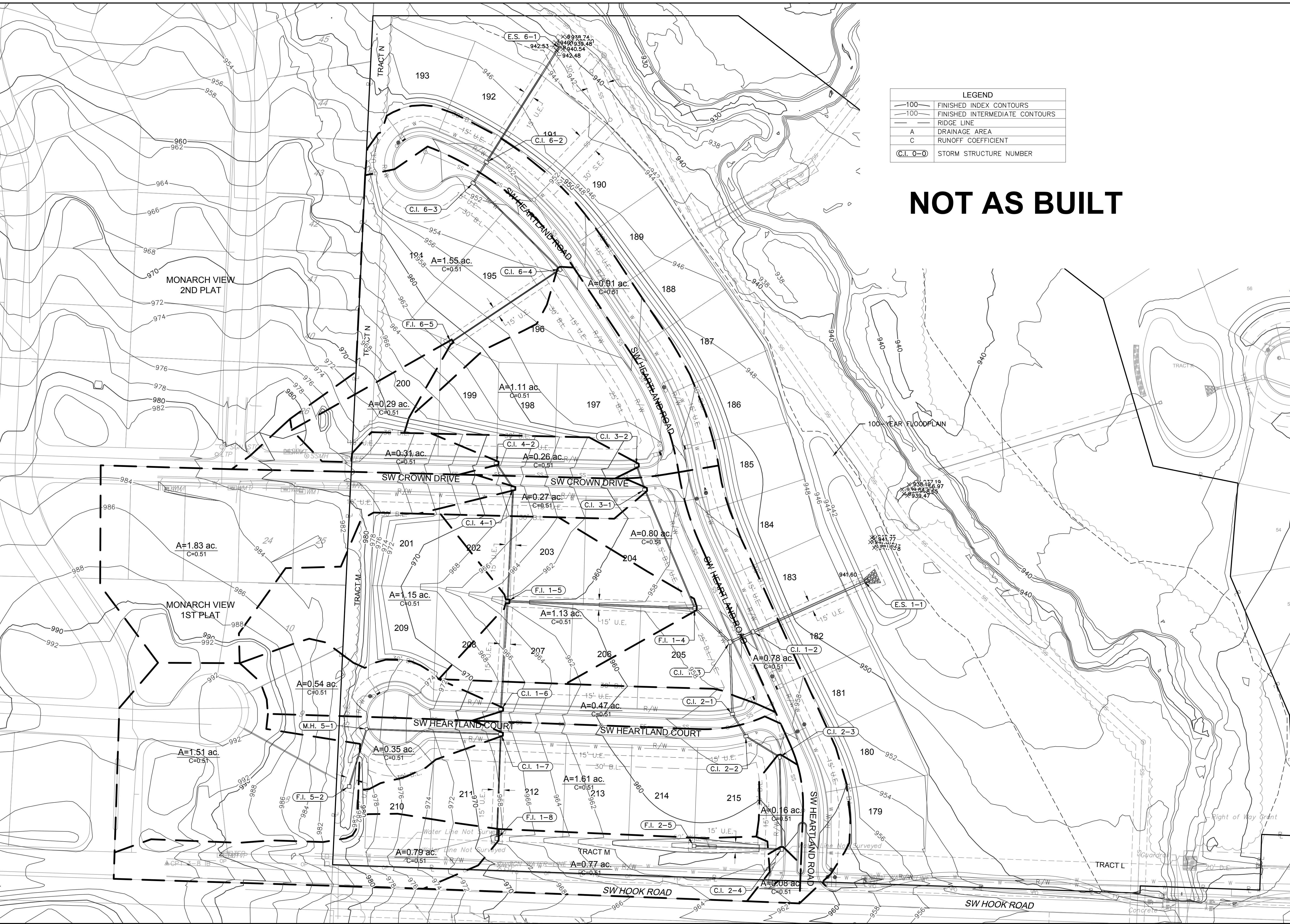
MASTER DRAINAGE PLAN
 STREET & STORM SEWER PLANS
 THE RETREAT AT HOOK FARMS
 SECOND PLAT

REVISIONS
 2021
 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
C129

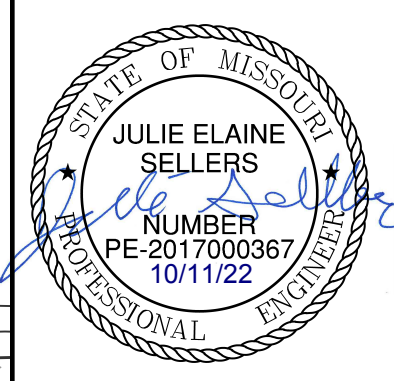
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LEGEND	
—100	FINISHED INDEX CONTOURS
- - -100	FINISHED INTERMEDIATE CONTOURS
—	RIDGE LINE
A	DRAINAGE AREA
C	RUNOFF COEFFICIENT
C.I. 0-0	STORM STRUCTURE NUMBER

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REVISIONS

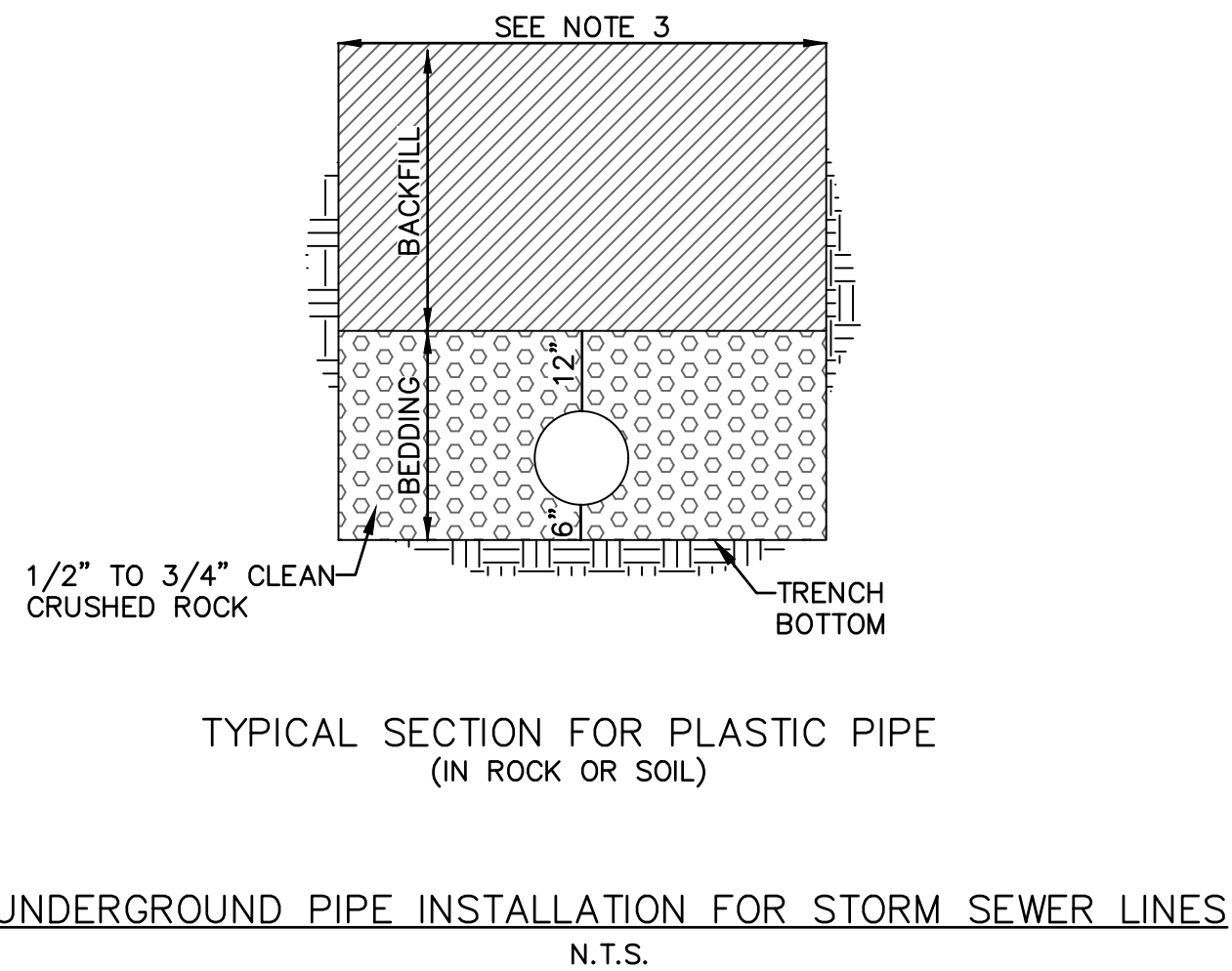
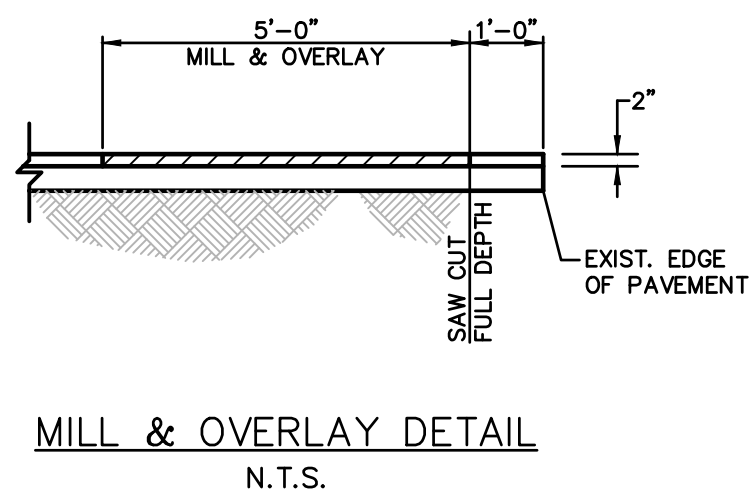
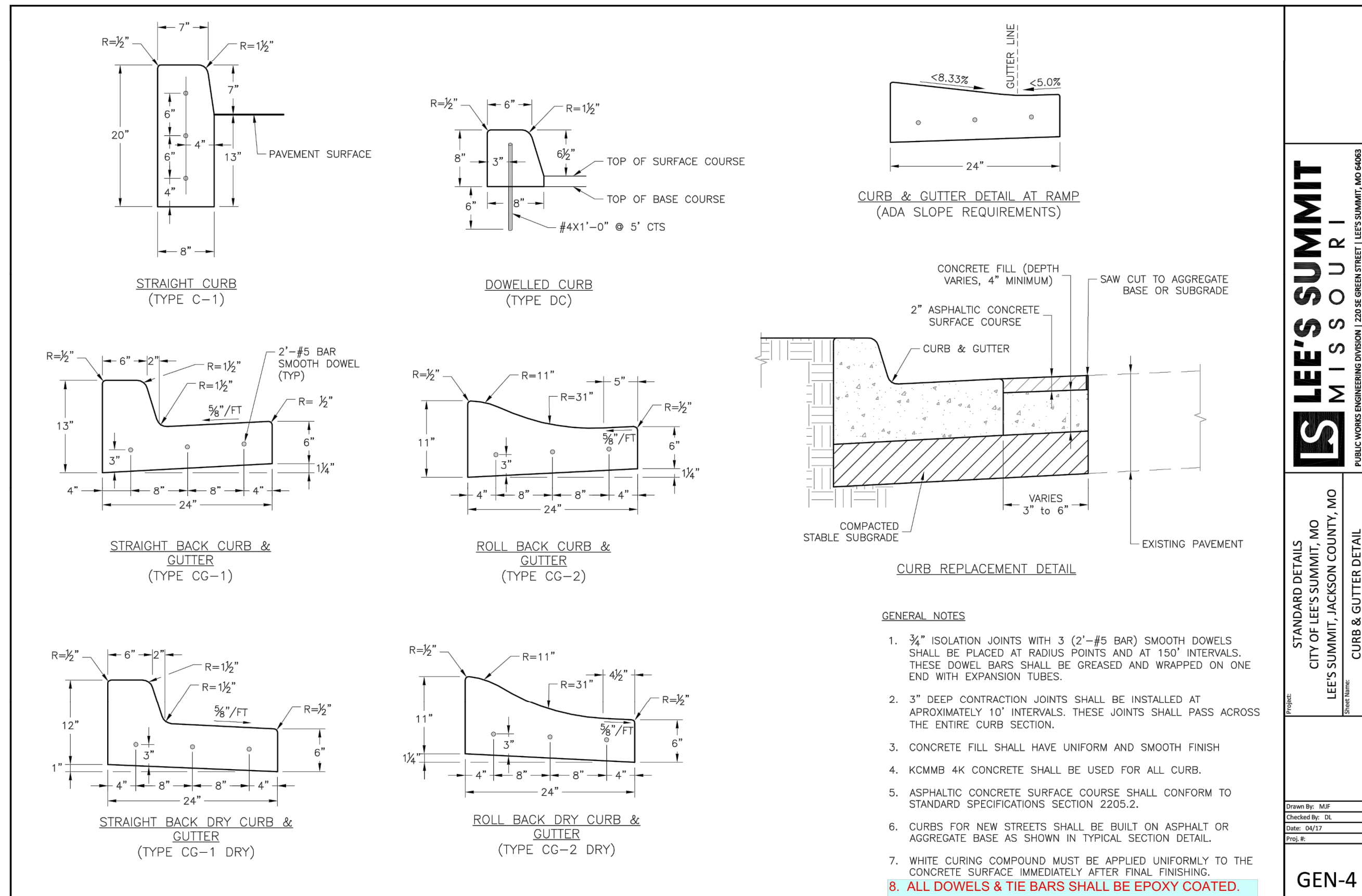
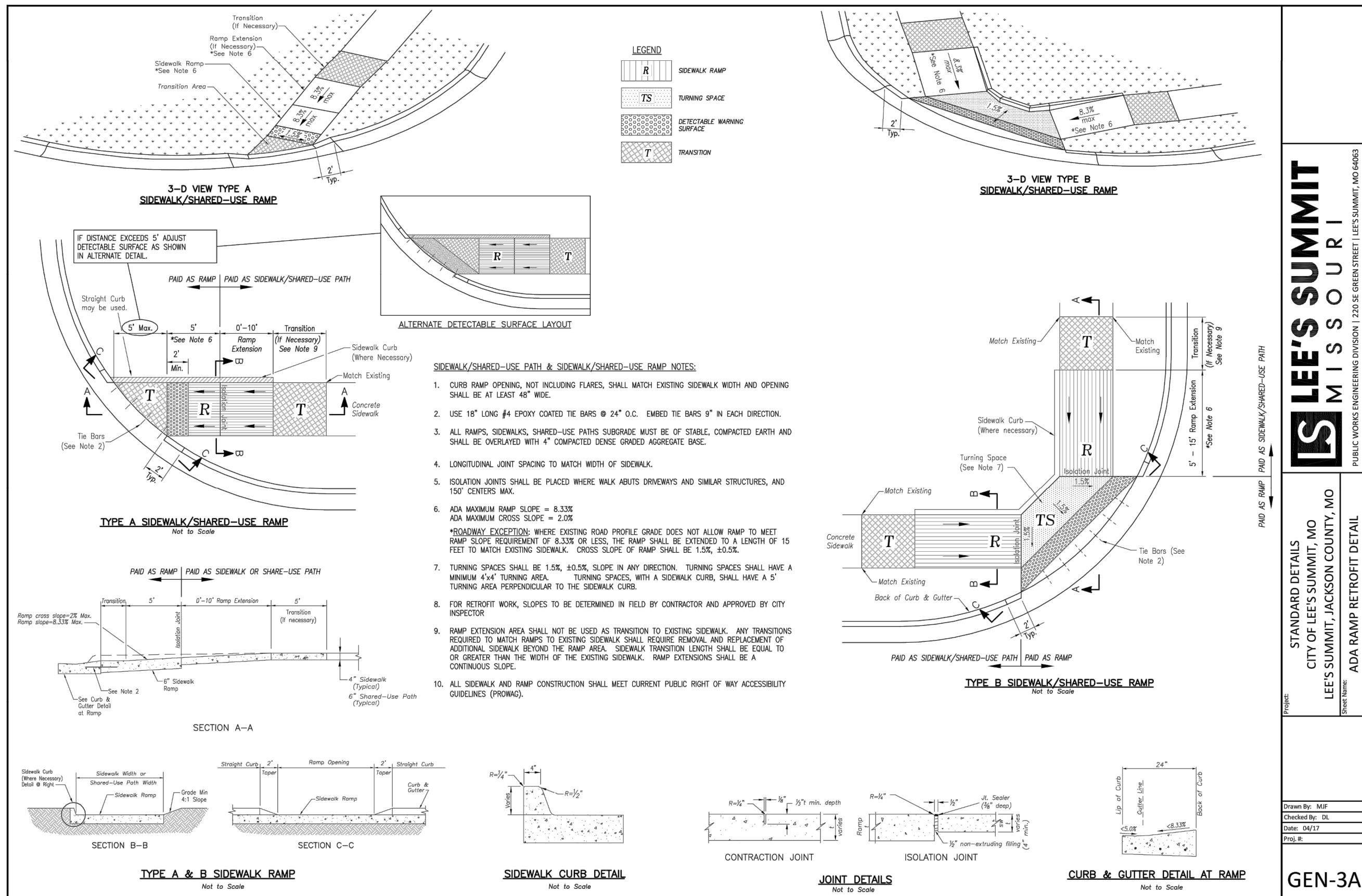
2021

LEE'S SUMMIT, MO

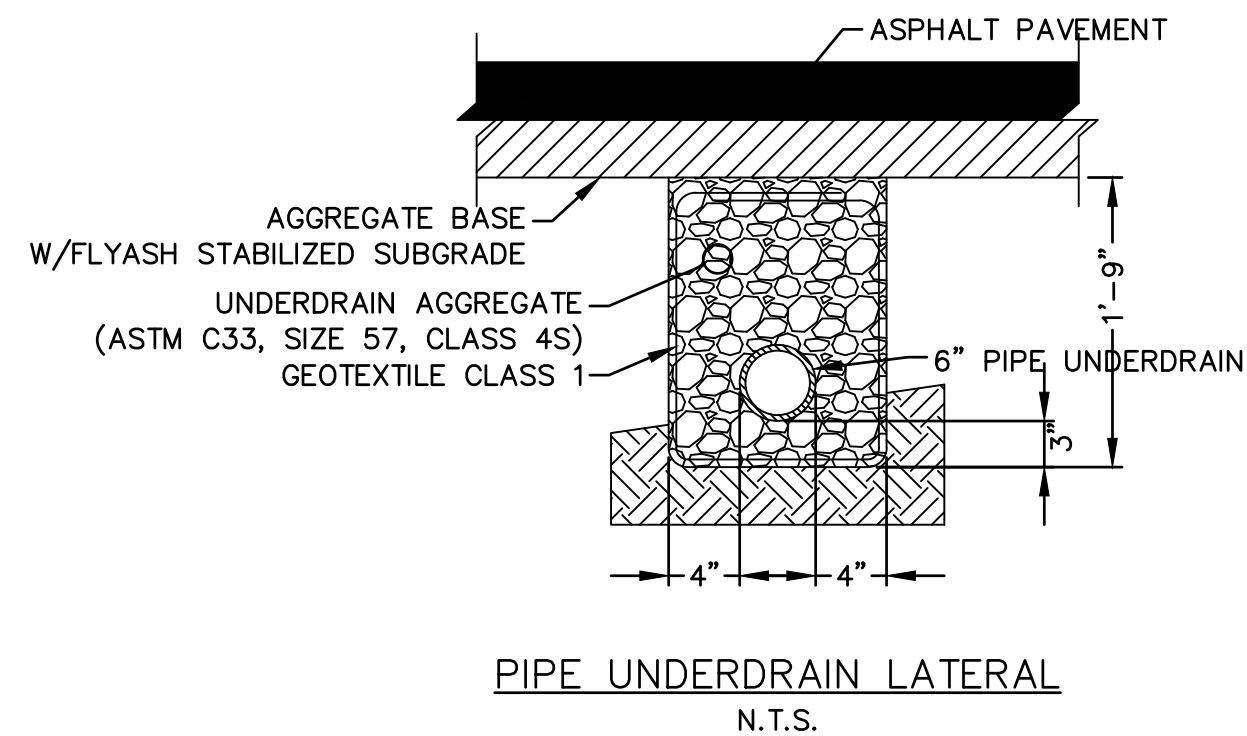
drawn by: B.M.W./A.A.
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 designed by: B.M.W./A.A.
 QA/QC by: J.E.S.
 project no.: A19-4059
 date: 05-05-2021

USER: sscyojr

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DATE: Oct 04, 2022 11:46am XREFS: C_PTBK_A194059



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



- NOTES:**
- Where Pipe Underdrains are used, all Underdrain Outlet Pipes shall be solid wall with watertight joints. All 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".

NOT AS BUILT

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

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

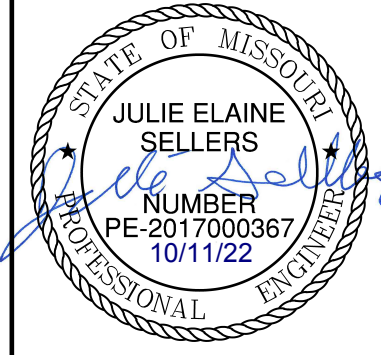
SHEET
C132

REV. NO.	DATE	REVISIONS DESCRIPTION
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2021

LEE'S SUMMIT, MO

REVISIONS



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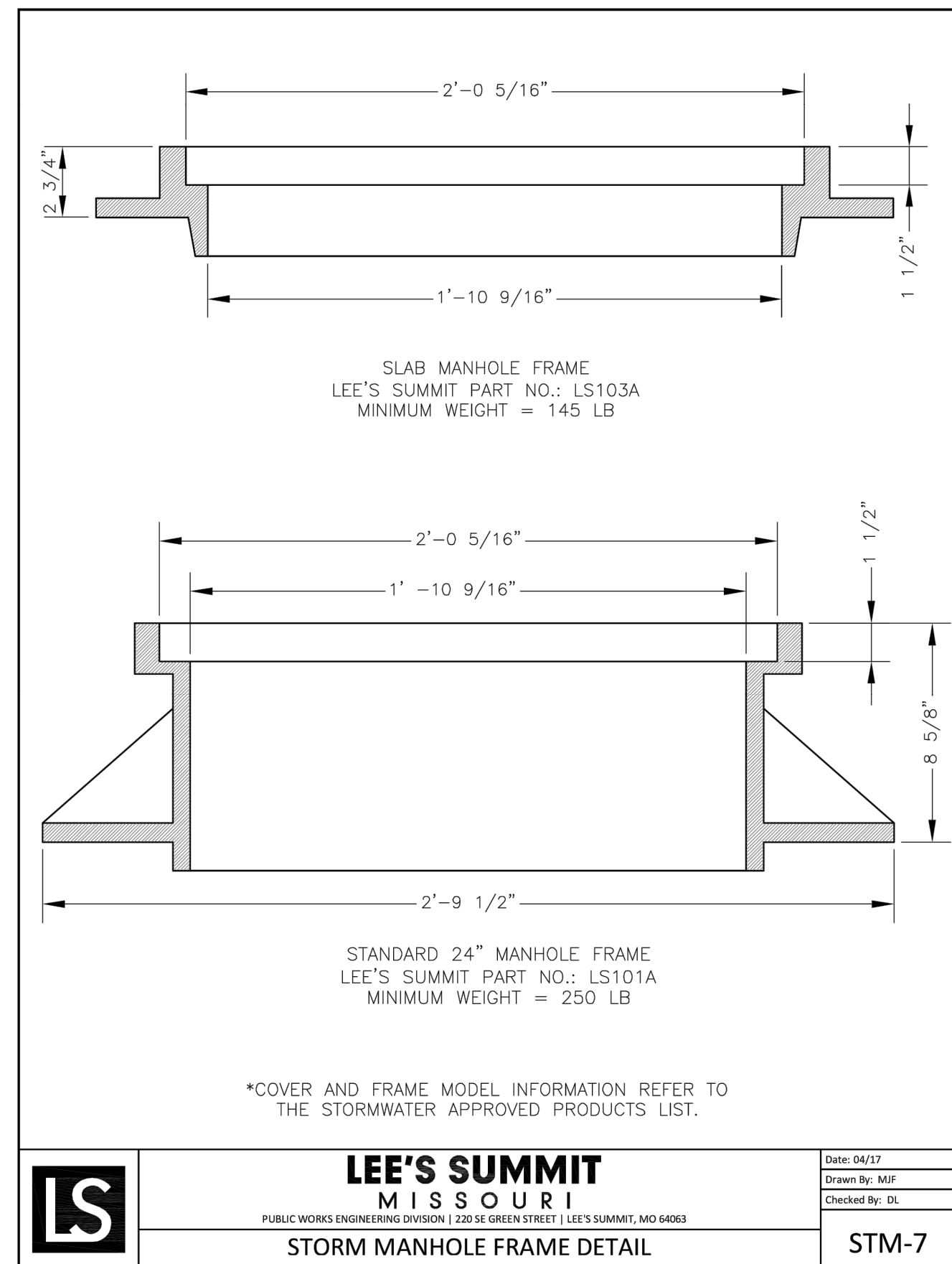
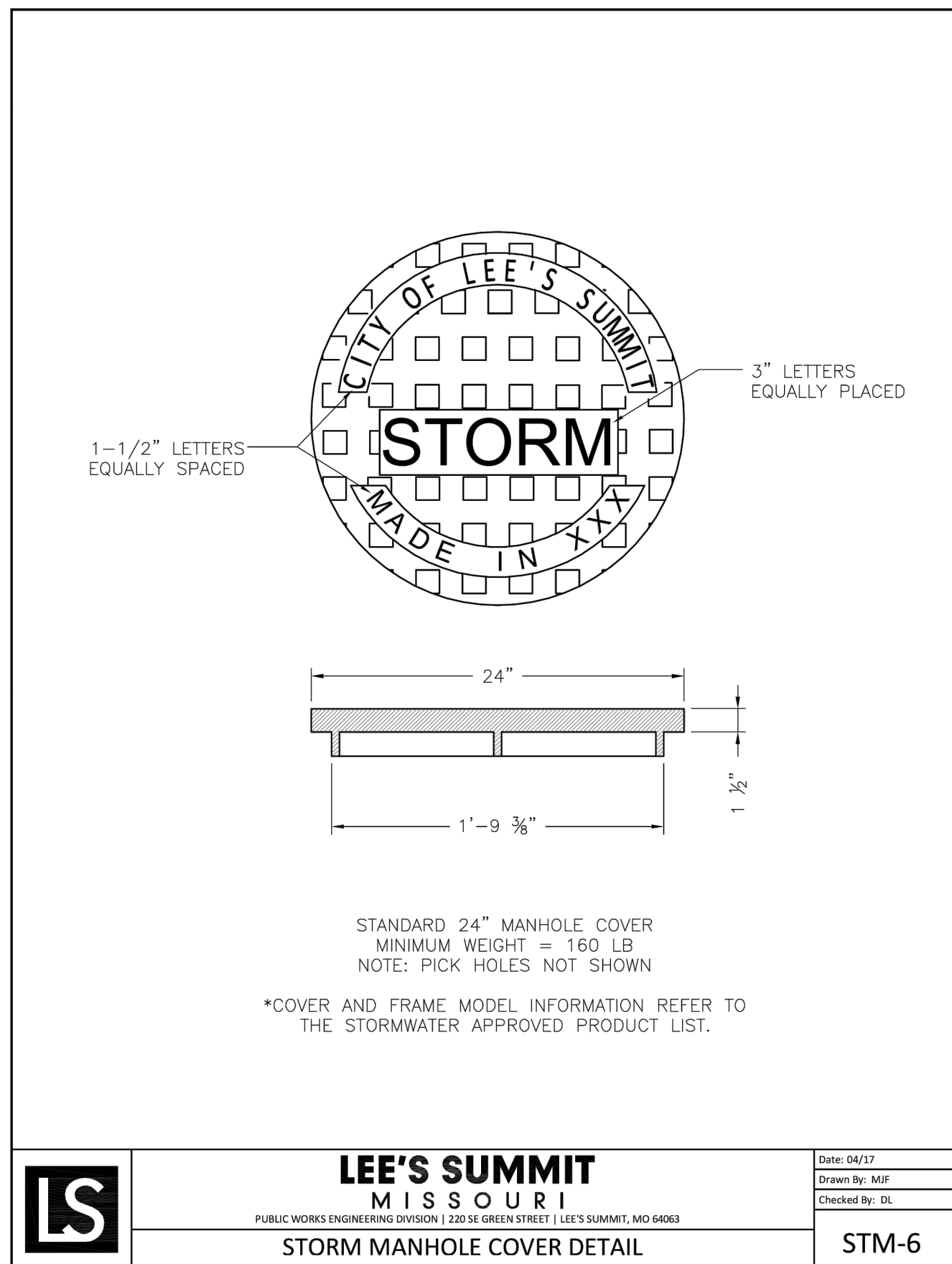
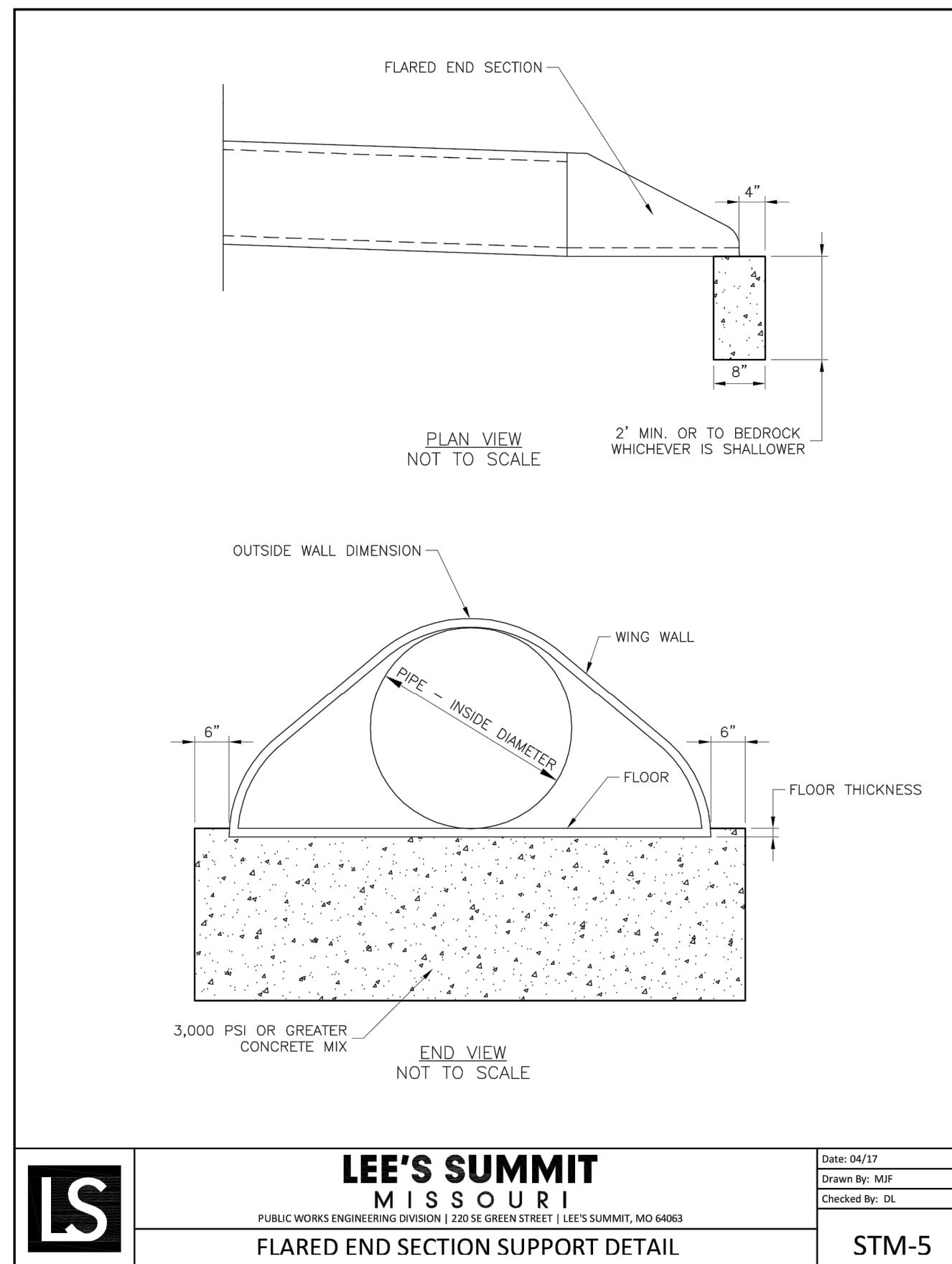
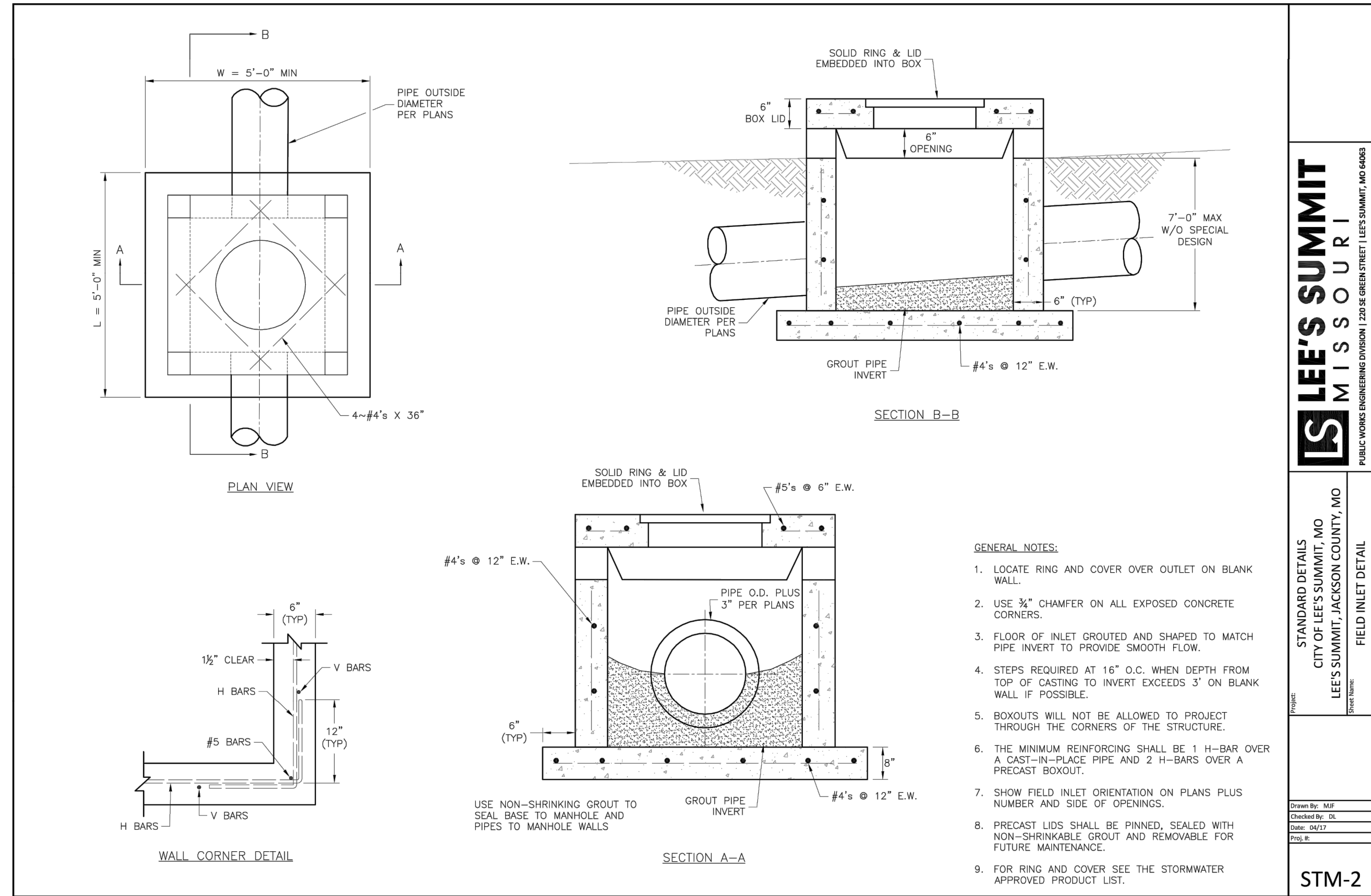
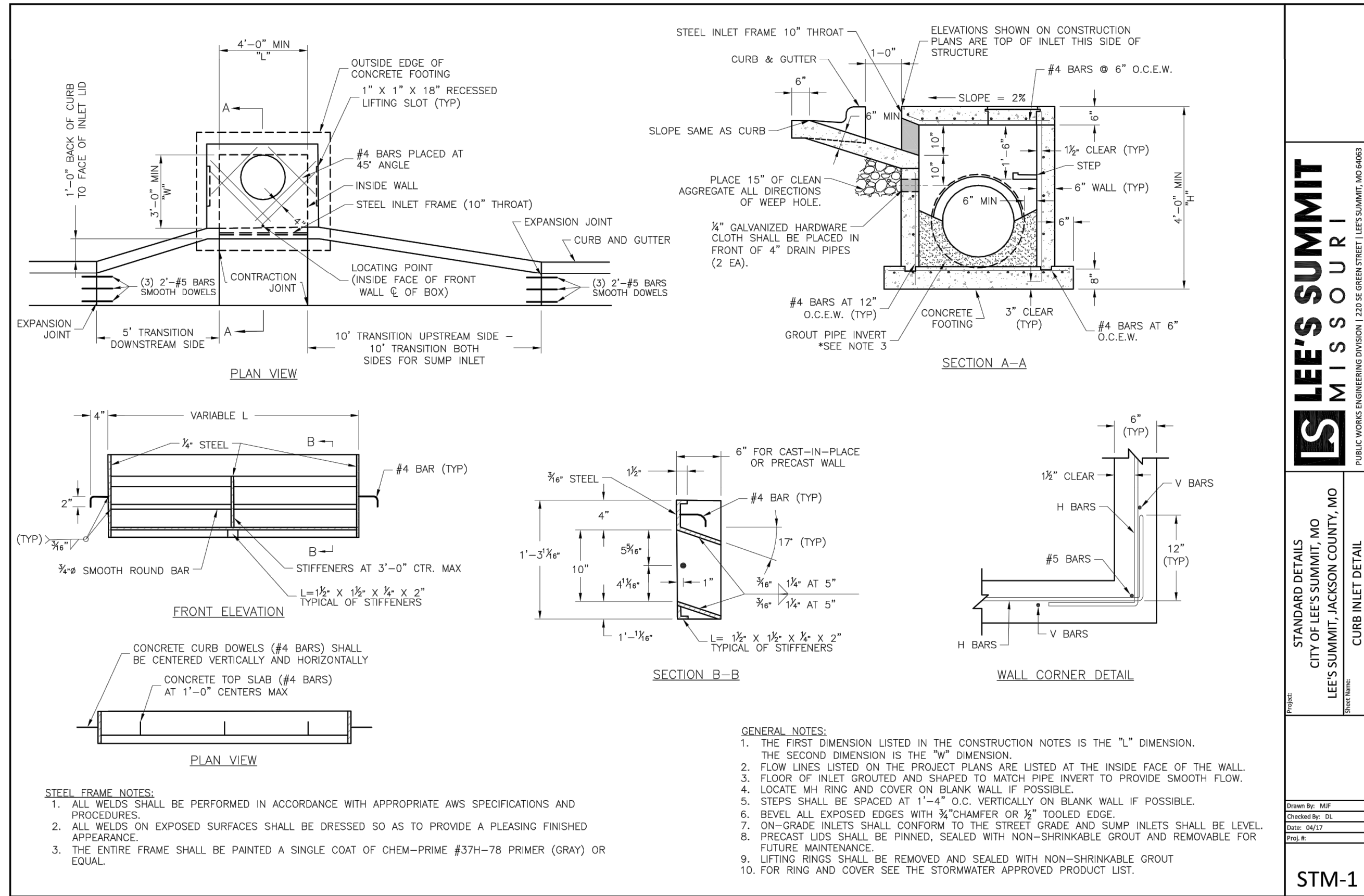
LEE'S SUMMIT MISSOURI

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
CURB & GUTTER DETAIL

GEN-4

USER: ssojfor

DWG: F:\2019\4001-4500\019-4059-A 40-Design\AutoCAD\Final Plans - Asbuilts\Sheets\GNCV\Street & Storm Sewer Plans\C_DTL01_A194059.dwg
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LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64663

JULIE ELAINE SELLERS
Professional Engineer
NUMBER PE-2017000367
10/11/22

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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

SIGN MOUNTING DETAILS

NOTE: The height to the bottom of a sign when it is located in a pedestrian walkway or extends into a walkway shall be a minimum of 80 inches above the walkway.

NOTE: 1. Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.

1

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
LEE'S SUMMIT, MISSOURI 64083
PHONE: (816) 389-1800 FAX: (816) 389-1809

PROJECT: SIGN MOUNTING DETAILS
Sheet Name: STANDARD DRAWING SN-1

Drawn By: AS
Checked By: JW
Date: 08/28/2020
Project: 1 OF 3

U-STEEL POST DETAILS

U-STEEL POST NOTES:
1. Sign post shall be positioned entirely between finished grade line and 18" above finished grade line. Only one splice will be allowed per post.
2. U-Steel post shall be 3" dia., galvanized according to ASTM A123.
3. U-Steel post can be used for installation of signs with an area of less than 2.5 square feet.
4. All posts shall be embedded a minimum of 3 feet.

STRAP TYPE SIGN SUPPORT DETAILS

METAL POLE SIGN MOUNTING NOTES:
1. Signs on metal poles shall be attached with two brackets and stainless steel bands.
2. Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2 inches from the edge of the sign.
3. Holes in sign shall be located such that the sign is level.
4. All strap, bracket, and seal materials should be Type 304 stainless steel.

SQUARE STEEL POST DETAILS

SQUARE STEEL POST NOTES:
1. Square steel sign posts and break-away anchor shall consist of the following materials:
Sign Post - 14 Ga. 2" x 2" Square Steel Post
Post Anchor - 12 Ga. 2 1/2" x 2 1/2" x 30" Square Steel Post
Anchor Sleeve - 12 Ga. 2 1/2" x 2 1/2" x 18" Square Steel Post
2. 14 Gauge posts must meet a certified minimum yield strength of 80,000 psi.
3. In all installations, the first hole above the finished grade line on the sign post, anchor, and anchor sleeve must be in line for the insertion of the corner bolt, and anchor sleeve must be in line for the insertion of the corner bolt.
4. The maximum area for one sign post is 8.0 square feet. A sign or combination of signs with an area greater than 8.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 30" x 30" diamond shaped signs) will require two posts.

2

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
LEE'S SUMMIT, MISSOURI 64083
PHONE: (816) 389-1800 FAX: (816) 389-1809

PROJECT: SIGN POST DETAILS
Sheet Name: STANDARD DRAWING SN-2

Drawn By: AS
Checked By: JW
Date: 08/28/2020
Project: 2 OF 3

STANDARD ABBREVIATION LISTS

Named Streets		Numbered Streets	
Avenue	AVENUE	First	ST
Boulevard	BLVD	Second	RD
Circle	CIR	Third	ND
Crest	CR	Fourth to Tenth	TH
Court	CRT		
Crossing	XING		
Drive	DR		
Highway	HWAY		
Lane	LN		
Parkway	PKWY		
Place	PL		
Road	RD		
Street	ST		
Terrace	TR		
Town	TWN		
Way	WAY		

STREET NAME SIGN QUANTITIES

Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1)	9" x 9"	Sq. Ft.	1	1
D3-1 (SP-2)	9" x 9"	Sq. Ft.	1	1
D3-1 (SP-3)	9" x 9"	Sq. Ft.	1	1
D3-1 (SP-4)	9" x 9"	Sq. Ft.	1	1
D3-1 (SP-5)	9" x 9"	Sq. Ft.	1	1
D3-1 (SP-6)	9" x 9"	Sq. Ft.	1	1

STREET NAME SIGN BLANK DETAILS

PROJECT SIGN DETAILS

STREET NAME SIGN FACE DETAILS

SQUARE STEEL POST MOUNTING DETAILS

WING BRACKET MOUNTING DETAILS

3

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PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
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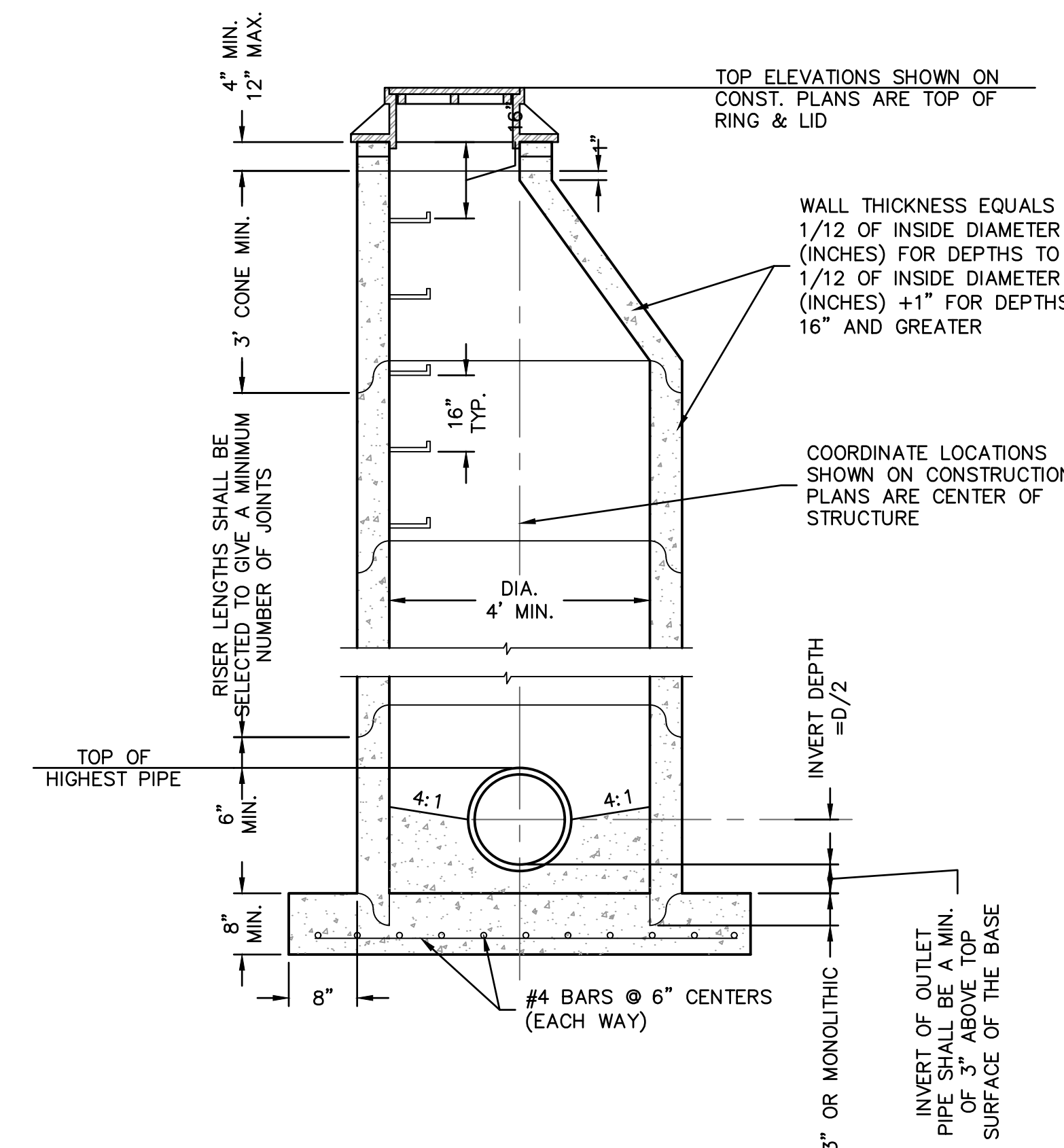
PROJECT: STREET NAME SIGN DETAILS
Sheet Name: STANDARD DRAWING SN-3

Drawn By: AS
Checked By: JW
Date: 08/28/2020
Project: 3 OF 3

NOT AS BUILT

STORM MANHOLE NOTES

- ALL MANHOLES ARE TO BE PRECAST CONCRETE AND OF ECCENTRIC CONE TYPE UNLESS OTHERWISE SPECIFIED.
- MANHOLE TOP ADJUSTMENTS SHALL BE ACCOMPLISHED BY THE USE OF CONCRETE ADJUSTMENT RINGS.
- TOP OF MANHOLE CASTING SHALL BE SET FLUSH AND ON SAME SLOPE AS FINISHED SURFACE OR AS DIRECTED BY THE ENGINEER.
- THE ENGINEER SHALL DESIGNATE MODIFICATIONS FOR MANHOLES WITH SPECIAL DESIGNS.
- THE INSIDE DIAMETER OF THE MANHOLE SHALL BE 4'-0" FOR PIPE DIAMETERS FROM 12" THRU 24", 5'-0" FOR PIPE DIAMETERS FROM 27" THRU 36", AND 6'-0" FOR PIPE DIAMETERS 42" THRU 48".
- CLEARANCE TOLERANCE OF PIPE OPENINGS: THE MAXIMUM ALLOWABLE PIPE OPENING ON A HORIZONTAL AXIS SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 12". THE MAXIMUM ALLOWABLE PIPE OPENING ON VERTICAL AXIS SHALL BE THE OUTSIDE DIAMETER PLUS 8". THE MAXIMUM CLEARANCE BETWEEN THE OUTSIDE SURFACE OF AN INSTALLED PIPE AND THE CONCRETE OF THE MANHOLE SHALL BE 2".
- INSTALLATION OF PIPE OPENINGS: ALL REQUIRED PIPE OPENINGS SHALL BE PLANT CAST IN MANHOLE UNITS. FIELD ALTERATIONS OF OPENINGS WILL BE PERMITTED PROVIDED WALLS ARE SCORED WITH A MASONRY SAW TO A DEPTH SUFFICIENT TO SEVER REINFORCING STEEL. A CHIPPING HAMMER MAY THEN BE USED TO REMOVE THE CONCRETE. MINIMUM DISTANCE BETWEEN ANY TWO ADJACENT PIPES SHALL BE 2".
- NO DIRECT PAYMENT FOR SHAPING FLOOR OR CONNECTING PIPES AS SHOWN ON PLANS.
- RING AND COVER TO BE NEENAH R-1736, CLAY & BAILEY #2008, DEETER # 1316, OR APPROVED EQUAL. (CASTING MAY VARY BY MUNICIPALITY, REFER TO PLANS & CONTRACT DOCUMENTS.)



STANDARD PRECAST STORM SEWER MANHOLE NOT TO SCALE

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JULIE ELAINE SELLERS
Professional Engineer
NUMBER PE-2017000367
10/11/22

REV. NO.	DATE	REVISIONS DESCRIPTION
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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
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SHEET C134