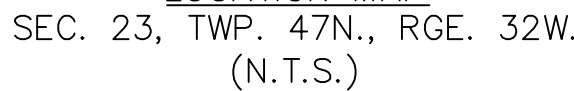


SECTION 23, TOWNSHIP 47 N, RANGE 32 W
IN LEE'S SUMMIT, JACKSON COUNTY, MO



☐	NOT FOR CONSTRUCTION
☐	REVIEWED FOR CONSTRUCTION



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. ROUBEUSH, P.L.S. 2002014092 AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 02°45'34" EAST, ON THE EAST LINE OF SAID SOUTHEAST QUARTER, 2,635.08 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 87°45'24" WEST, ON THE NORTH LINE OF SAID SOUTHEAST QUARTER, 50.00 FEET TO THE SOUTHEAST CORNER OF LOT 3, EAGLE CREEK—FIRST PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT RECORDED AS INSTRUMENT NUMBER 110409 IN BOOK 165 AT PAGE 01 IN JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE NORTHWEST CORNER OF PROPOSED HOOK FARMS FIRST PLAT; THENCE CONTINUING NORTH 87°45'24" WEST ON SAID NORTH LINE, ALSO BEING THE PROPOSED NORTH LINE OF SAID PROPOSED HOOK FARMS FIRST PLAT, ALSO BEING THE SOUTH LINE OF SAID EAGLE CREEK—FIRST PLAT, 643.83 FEET TO THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE LEAVING SAID NORTH AND SOUTH LINES, SOUTH 02°59'10" WEST, ALONG THE PROPOSED WESTERLY LINE OF PROPOSED HOOK FARMS FIRST PLAT, 277.38 FEET; THENCE NORTH 87°00'50" WEST, ALONG SAID PROPOSED WESTERLY LINE, 36.00 FEET; THENCE SOUTH 02°59'10" WEST, ALONG SAID PROPOSED WESTERLY LINE, 50.00 FEET; THENCE SOUTH 42°00'50" EAST, ALONG SAID PROPOSED WESTERLY LINE, 19.80 FEET; THENCE SOUTH 02°59'10" WEST, ALONG SAID PROPOSED WESTERLY LINE, 116.00 FEET; THENCE NORTH 87°00'50" WEST, ALONG SAID PROPOSED WESTERLY LINE, 126.12 FEET; THENCE SOUTH 07°19'52" WEST, ALONG SAID PROPOSED WESTERLY LINE, 64.17 FEET; THENCE SOUTH 29°10'47" WEST, ALONG SAID PROPOSED WESTERLY LINE, 375.17 FEET; THENCE SOUTH 15°20'56" WEST, ALONG SAID PROPOSED WESTERLY LINE, 50.00 FEET; THENCE ALONG SAID PROPOSED WESTERLY LINE, EASTERLY ALONG A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF SOUTH 74°39'04" EAST WITH A RADIUS OF 275.00 FEET, A CENTRAL ANGLE OF 11°57'16" AND AN ARC DISTANCE OF 57.38 FEET; THENCE SOUTH 27°18'12" WEST, ALONG SAID PROPOSED WESTERLY LINE, 138.17 FEET; THENCE LEAVING SAID PROPOSED WESTERLY LINE, NORTH 67°11'53" WEST, 61.05 FEET; THENCE SOUTH 88°21'16" WEST, 1,139.83 FEET; THENCE NORTH 01°38'44" WEST, 128.09 FEET; THENCE NORTH 57°02'58" EAST, 49.90 FEET; THENCE NORTHEASTERLY ALONG A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF NORTH 32°57'02" WEST WITH A RADIUS OF 50.00 FEET, A CENTRAL ANGLE OF 150°22'53" AND AN ARC DISTANCE OF 131.23 FEET; THENCE NORTH 27°25'51" EAST, 98.75 FEET; THENCE NORTH 88°21'16" EAST, 52.12 FEET; THENCE NORTH 29°10'47" EAST, 873.51 FEET TO A POINT ON SAID NORTH LINE OF SAID SOUTHEAST QUARTER, ALSO BEING THE SOUTH LINE OF EAGLE CREEK—SECOND PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT RECORDED AS INSTRUMENT NUMBER 200100058889 IN BOOK 165 AT PAGE 09 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE SOUTH 87°45'24" EAST, ON SAID NORTH LINE AND SAID SOUTH LINE, 682.19 FEET TO THE SOUTHEAST CORNER OF SAID EAGLE CREEK—SECOND PLAT, ALSO BEING THE SOUTHWEST CORNER OF SAID EAGLE CREEK—FIRST PLAT; THENCE SOUTH 87°45'24" EAST ON SAID NORTH LINE, AND SAID SOUTH LINE OF EAGLE CREEK—FIRST PLAT, 273.64 FEET TO THE POINT OF BEGINNING. CONTAINING 1,157.274 SQUARE FEET OR 26.57 ACRES, MORE OR LESS.

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

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

DATE

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F.I. 6-2

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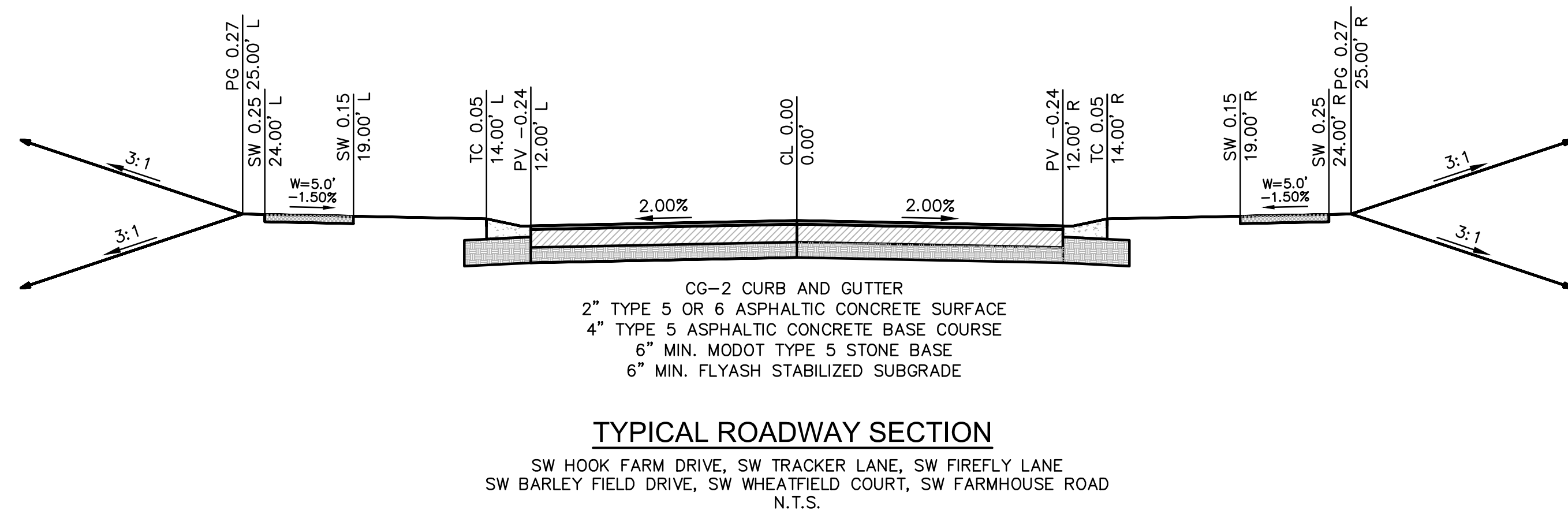
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411



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.

EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	26,149	25,993
SITE	117,707	77,137
FUTURE PHASE	0	54,547
TOTAL	143,856	157,677

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.

N

0' 30' 60' 120'
SCALE IN FEET

EAGLE CREEK
FIRST PLAT

SWALE 2,
SEE SHEET C108-C109
FOR DETAILS

TRACT M

SW WHEATFIELD COURT

SWALE 1,
SEE SHEET C107
FOR DETAILS

SW FIRELY LANE

SW BAREFIELD DRIVE

SW HOOK FARM DRIVE

HOOK FARMS
1ST PLAT

LEGEND

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

GRADING PLAN (FOR REFERENCE)
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

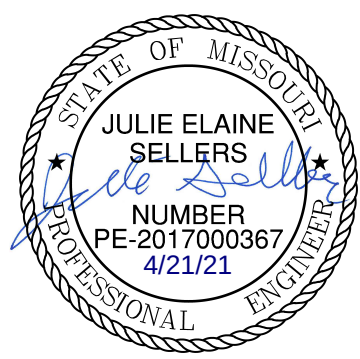
LEE'S SUMMIT, MO

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.: B19-4061
date: 01-08-2021

SHEET
C105

REV.	NO.	DATE	REVISIONS DESCRIPTION
1	1	03-23-2021	REVISED PER CITY COMMENTS
2	2	04-16-2021	REVISED PER CITY COMMENTS

REVISIONS



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Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City MO 64116
TEL 816.361.1177
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DWG: F:\2019\4001-4500\019-4061-BV40-Design\AutoCAD\Final Plans\Sheets\GNCV\Street & Storm Plans\C_GRD01_B194061.dwg
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GENERAL NOTES:

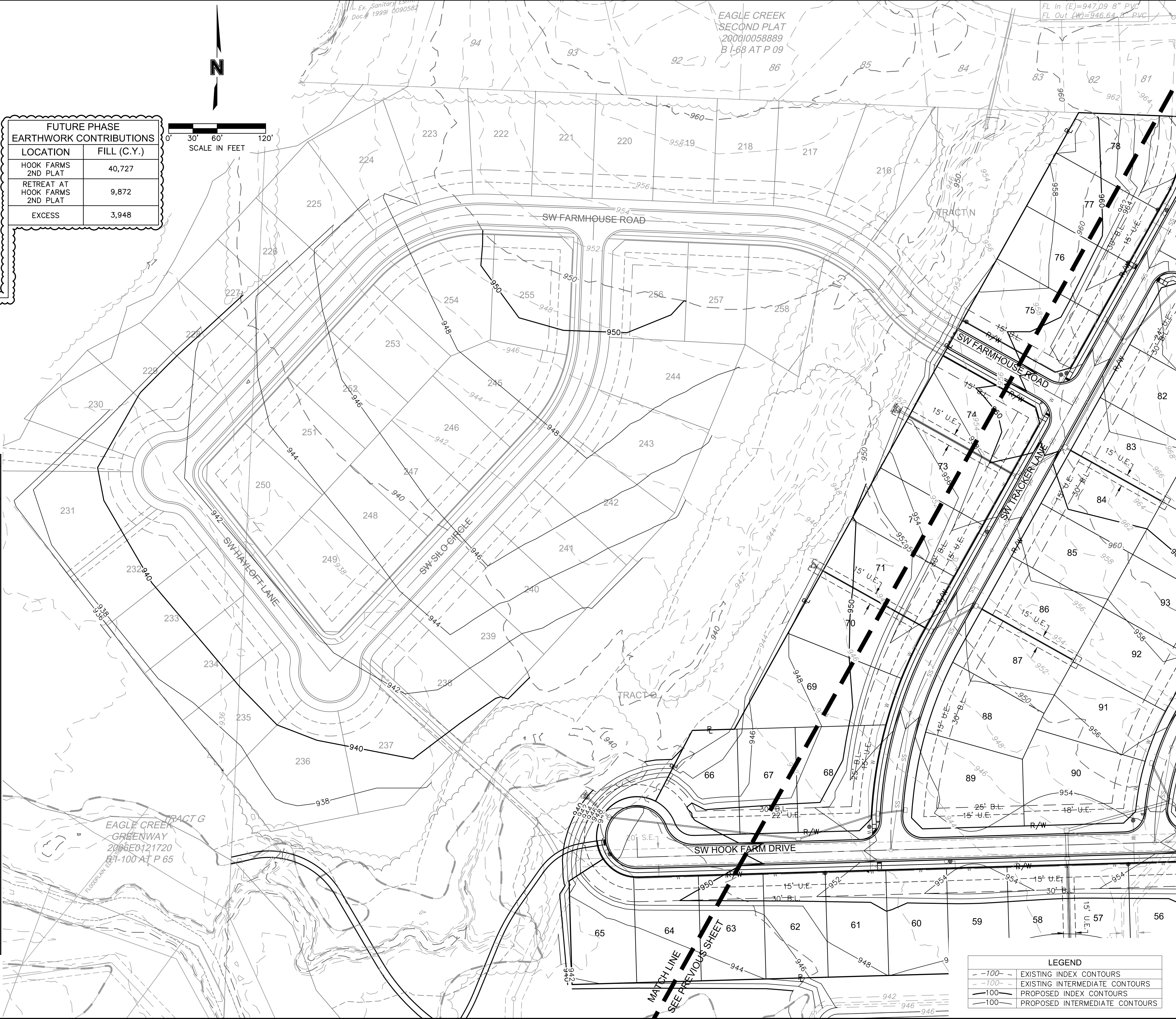
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EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	26,149	25,993
SITE	117,707	77,137
FUTURE PHASE	0	54,547
TOTAL	143,856	157,677

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.

LOT FILL INFORMATION			
LOT NUMBER	MAX DEPTH OF FILL (OVER 2' PLACED)	FILL PLACED ON EXISTING SLOPES > 5:1	PROPOSED SLOPES > 3:1
50	5.5'		
51	4.8'		
52	4.9'		
53	5.2'		
54	7.5'		
55	8.2'		
56	9.7'	X	
57	8.7'	X	
58	10.7'		
59	11.6'		
60	11.6'		
61	11.4'		
62	11.1'		
63	11.0'		
64	10.8'		
65	10.8'		
66	9.8'		
67	10.0'		
68	11.2'		
69	10.7'		
70	9.1'		
71	8.3'		
72	7.1'		
73	5.9'		
74	5.7'		
75	4.7'		
76	3.5'		
77	2.9'		
78	3.1'		
84	2.5'		
85	3.5'		
86	5.8'		
87	6.8'		
88	8.6'		
89	10.3'		
90	8.2'		
91	6.7'		
92	4.3'		
107	8.1'	X	
108	7.8'	X	
118	7.3'	X	
119	7.5'	X	
120	2.7'		
128	8.4'	X	
X Indicates condition applies to lot			



FUTURE PHASE EARTHWORK CONTRIBUTIONS	
LOCATION	FILL (C.Y.)
HOOK FARMS 2ND PLAT	40,727
RETREAT AT HOOK FARMS 2ND PLAT	9,872
EXCESS	3,948

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

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FAX 816.361.1888
www.olsson.com

STATE OF MISSOURI
JULIE ELAINE SELLERS
PE-2017000367
4/21/21
PROFESSIONAL ENGINEER

BY

DATE

REV. NO.

REVISIONS DESCRIPTION

REVISED PER CITY COMMENTS

REVISED PER CITY COMMENTS

GRADING PLAN (FOR REFERENCE)
STREET & STORM SEWER PLANS

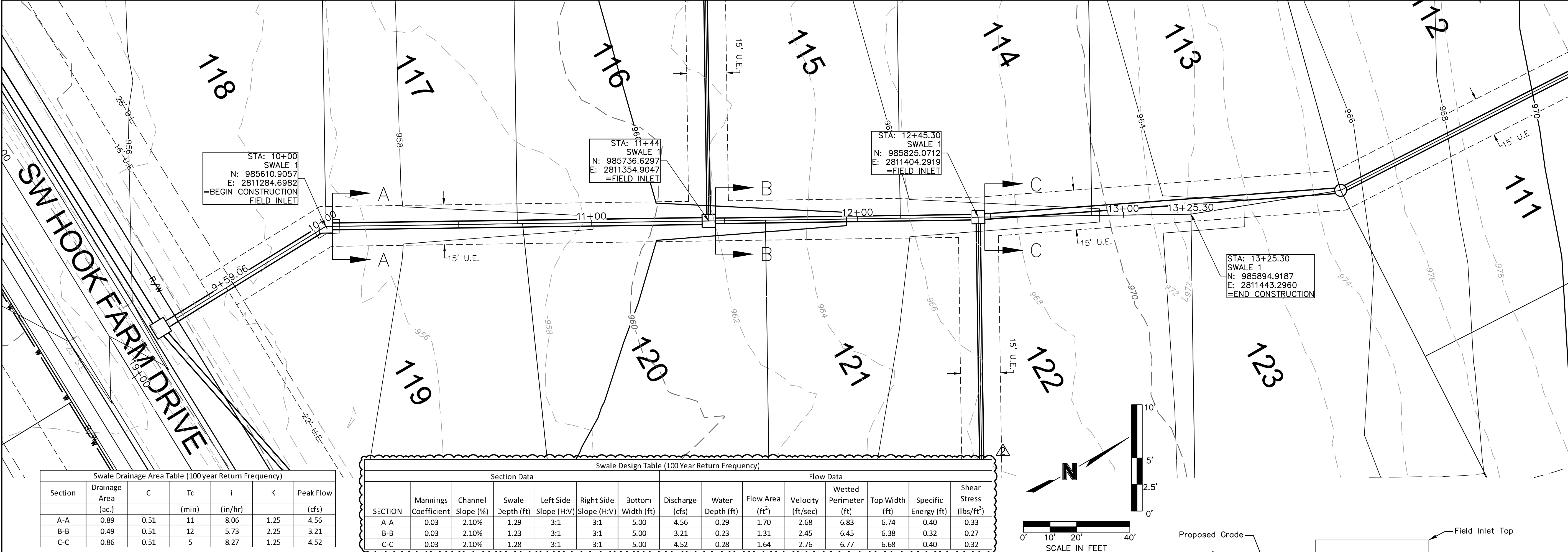
HOOK FARMS
SECOND PLAT

2021

LEE'S SUMMIT, MO

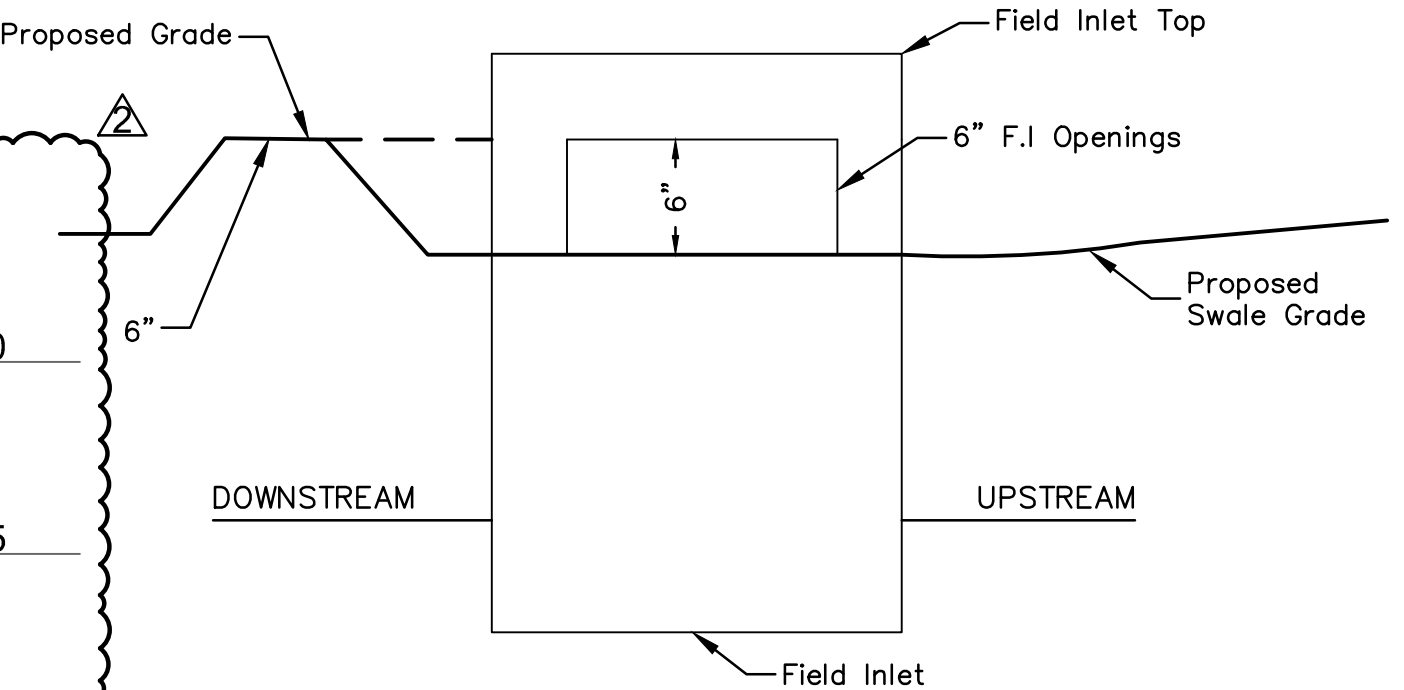
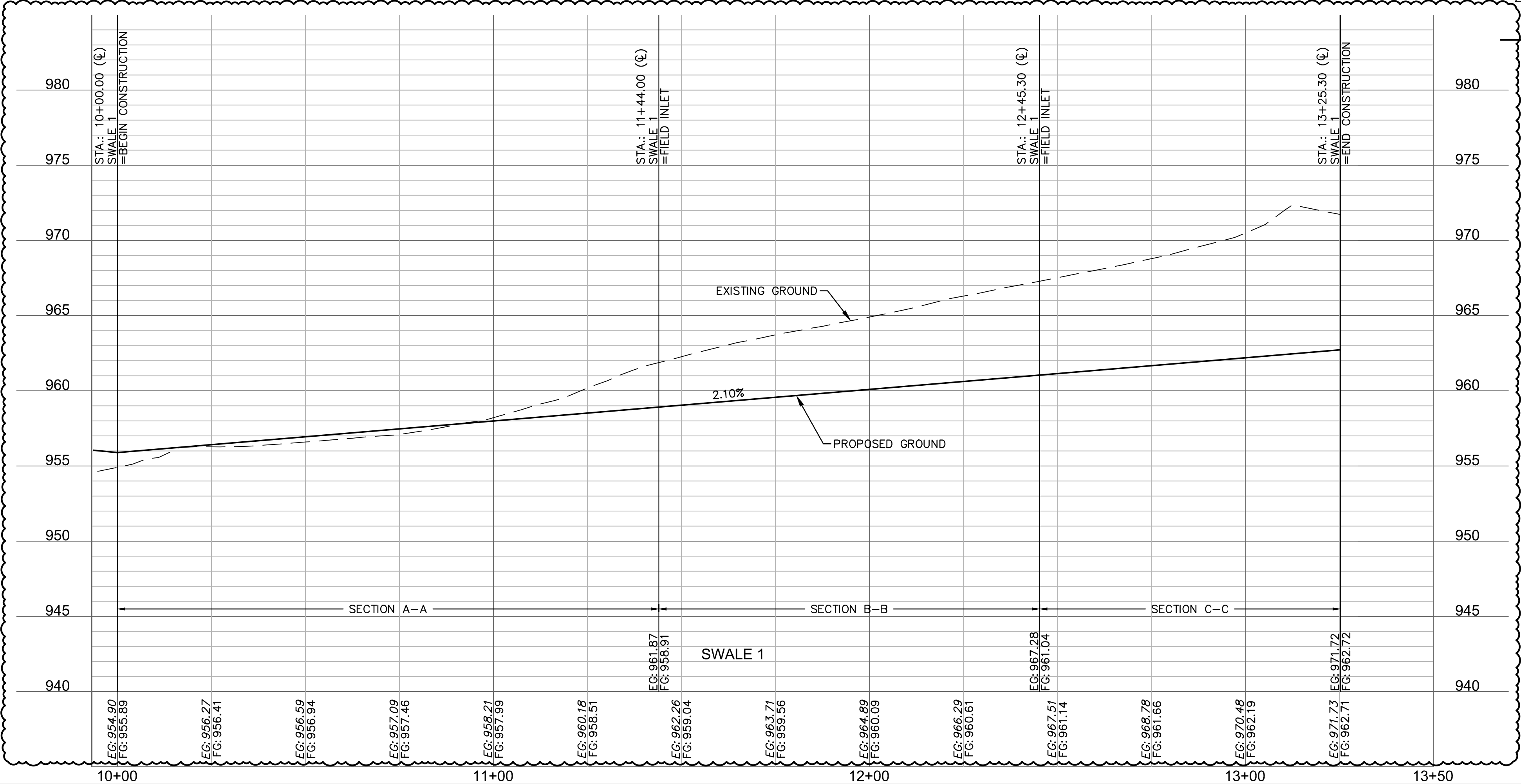
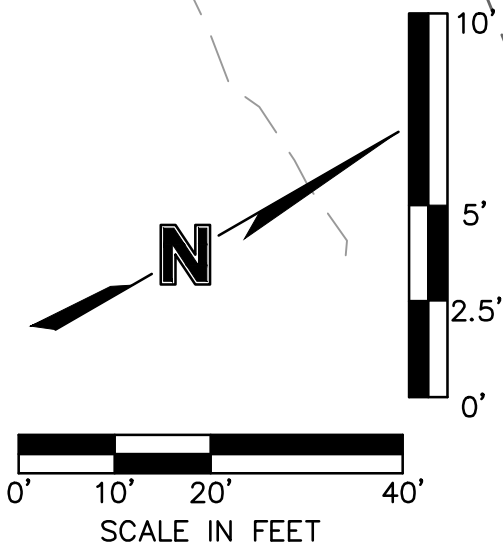
drawn by: B.M.W./A.A.
checked by: B.M.W.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
date: 01-08-2021

SHEET
C106



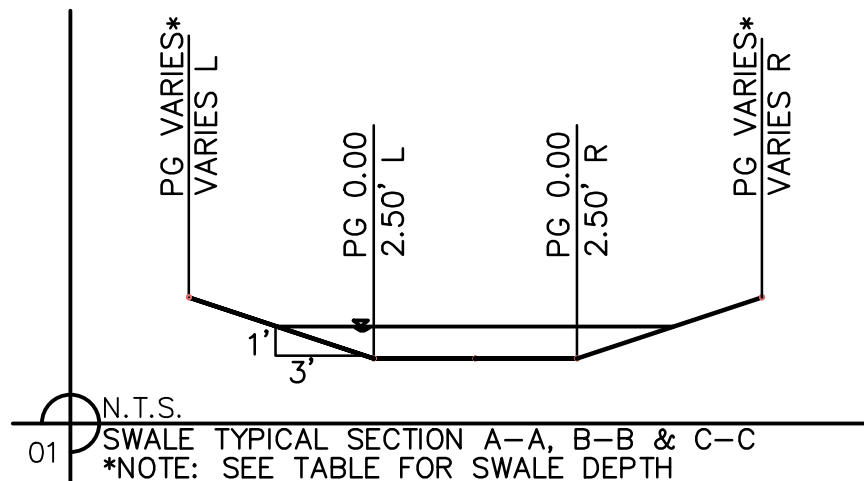
Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
A-A	0.89	0.51	11	8.06	1.25	4.56
B-B	0.49	0.51	12	5.73	2.25	3.21
C-C	0.86	0.51	5	8.27	1.25	4.52

Swale Design Table (100 Year Return Frequency)													
Section Data							Flow Data						
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)
A-A	0.03	2.10%	1.29	3:1	3:1	5.00	4.56	0.29	1.70	2.68	6.83	6.74	0.40
B-B	0.03	2.10%	1.23	3:1	3:1	5.00	3.21	0.23	1.31	2.45	6.45	6.38	0.32
C-C	0.03	2.10%	1.28	3:1	3:1	5.00	4.52	0.28	1.64	2.76	6.77	6.68	0.40



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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North Kansas City, MO 64116
TEL 816.361.1177
FAX 816.361.1888
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REVISIONS			
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	03-23-2021	REVISED PER CITY COMMENTS	
2	04-16-2021	REVISED PER CITY COMMENTS	

SWALE 1 PLAN & PROFILE
STREET & STORM SEWER PLANS

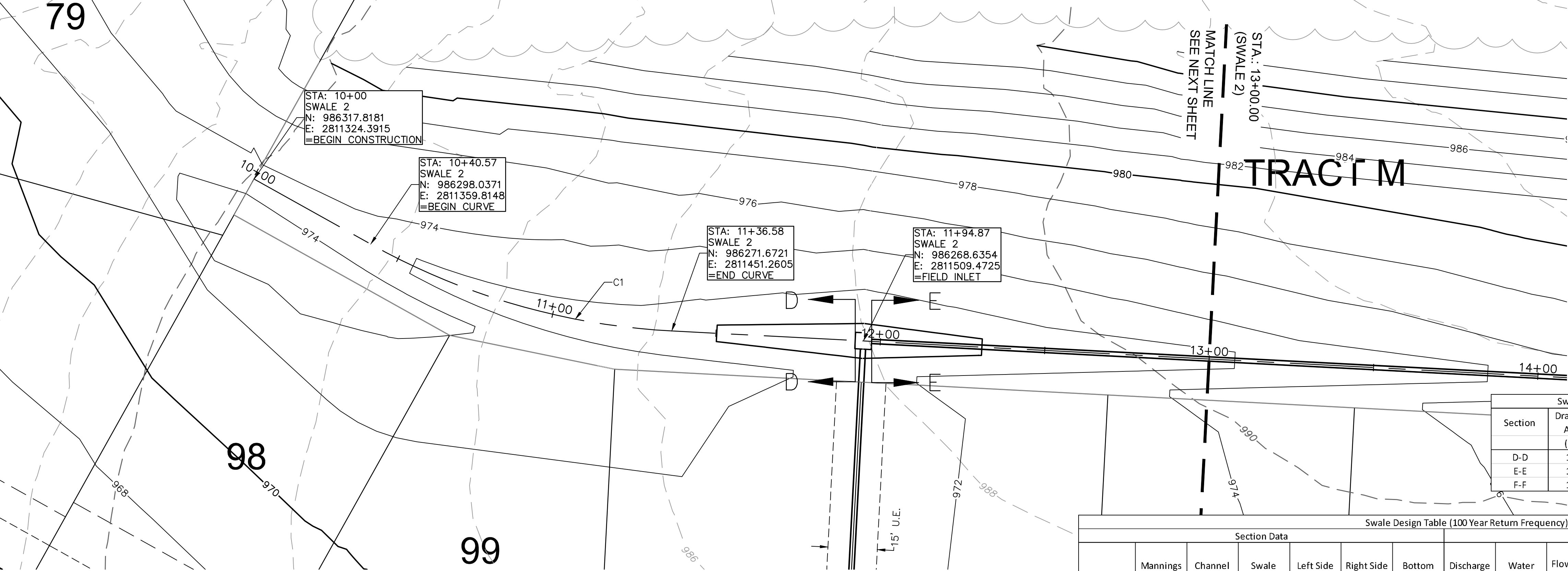
HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

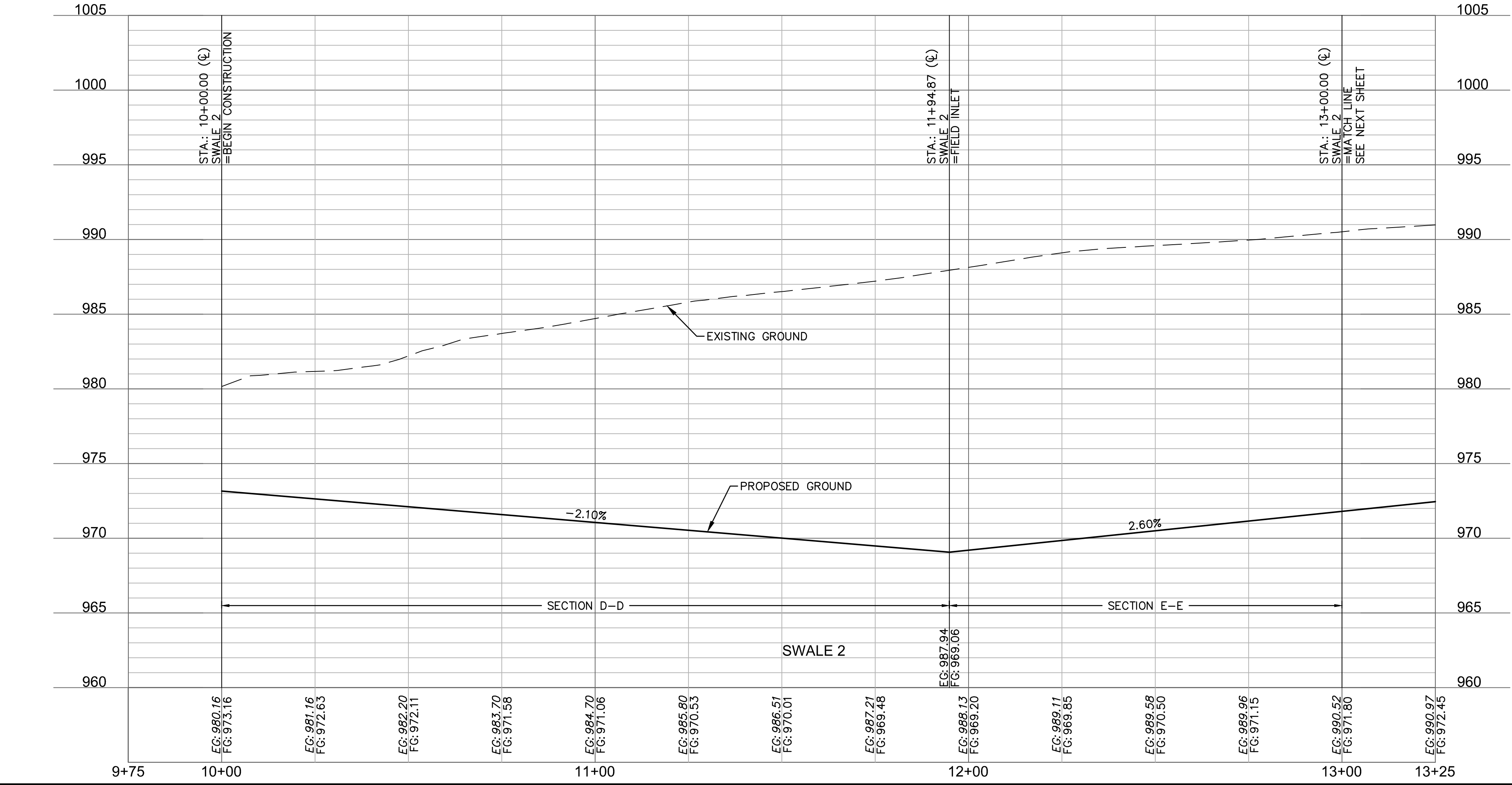
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checked by: B.M.W./A.A.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
date: 01-08-2021

SHEET
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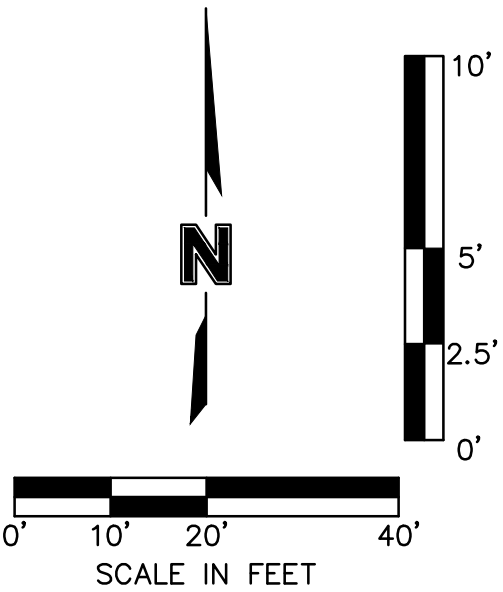
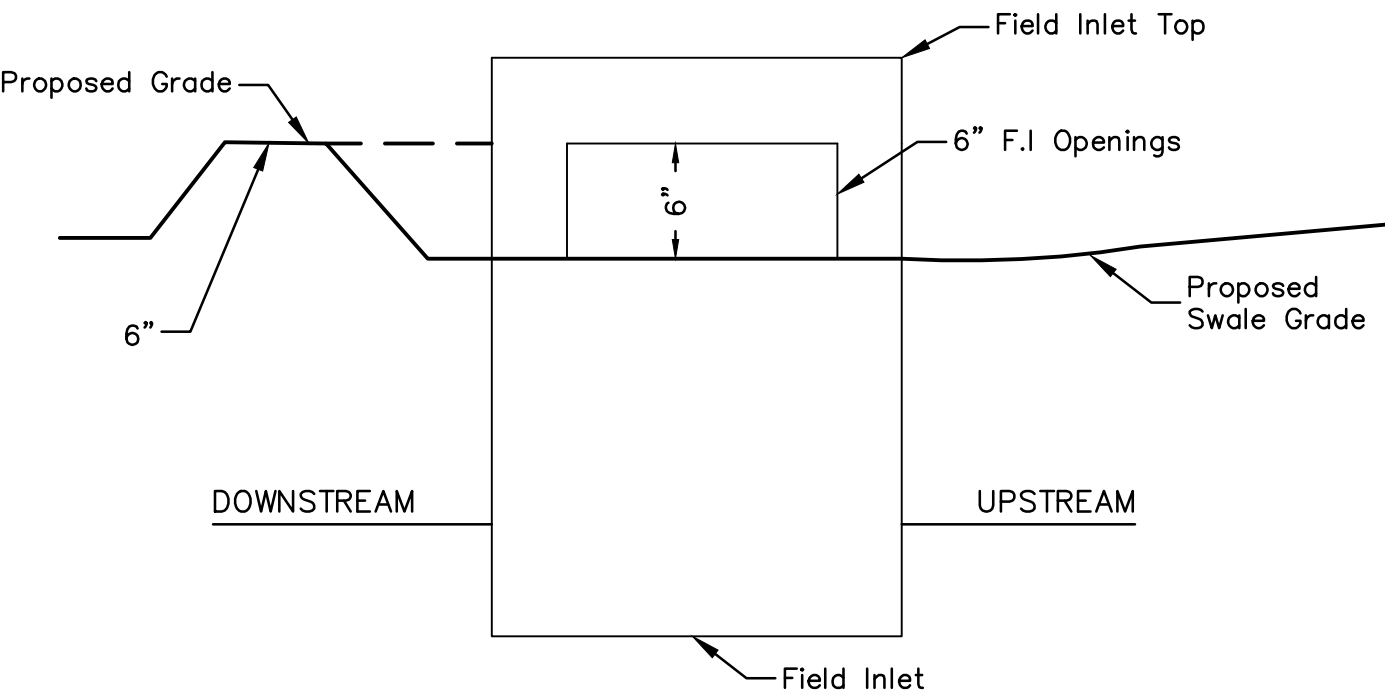


ALIGNMENT CURVES								
CURVE ID #	STATION RANGE	START COORD.	END COORD.	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C1	10+40.57 11+36.58	N: 986298.04 E: 2811359.81	N: 986271.67 E: 2811451.26	210.00	96.00	026°11'37"	S73°55'01"E	95.17



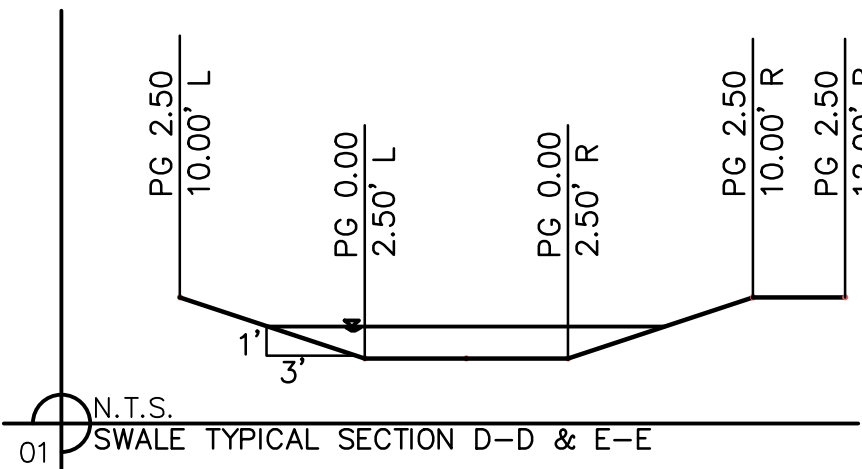
Swale Design Table (100 Year Return Frequency)														
Section Data							Flow Data							
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft²)
D-D	0.03	2.10%	2.50	3:1	3:1	5.00	5.37	0.31	1.84	2.92	6.96	6.86	0.44	0.35
E-E	0.03	2.60%	2.50	3:1	3:1	5.00	6.88	0.34	2.05	3.36	7.15	7.04	0.52	0.46
F-F	0.03	2.60%	2.50	3:1	3:1	5.00	6.78	0.34	2.05	3.31	7.15	7.04	0.52	0.46

Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area (ac.)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
D-D	1.02	0.51	5	8.27	1.25	5.37
E-E	1.30	0.51	5	4.60	2.25	6.88
F-F	1.29	0.51	5	3.18	3.25	6.78



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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STATE OF MISSOURI
JULIE ELAINE SELLERS
NUMBER PE-2017000367
4/21/21
PROFESSIONAL ENGINEER

REV.	NO.	DATE	REVISIONS DESCRIPTION
1		03-23-2021	REVISED PER CITY COMMENTS
2		04-16-2021	REVISED PER CITY COMMENTS

BY	
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REVISIONS	
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SWALE 2 PLAN & PROFILE
STREET & STORM SEWER PLANS

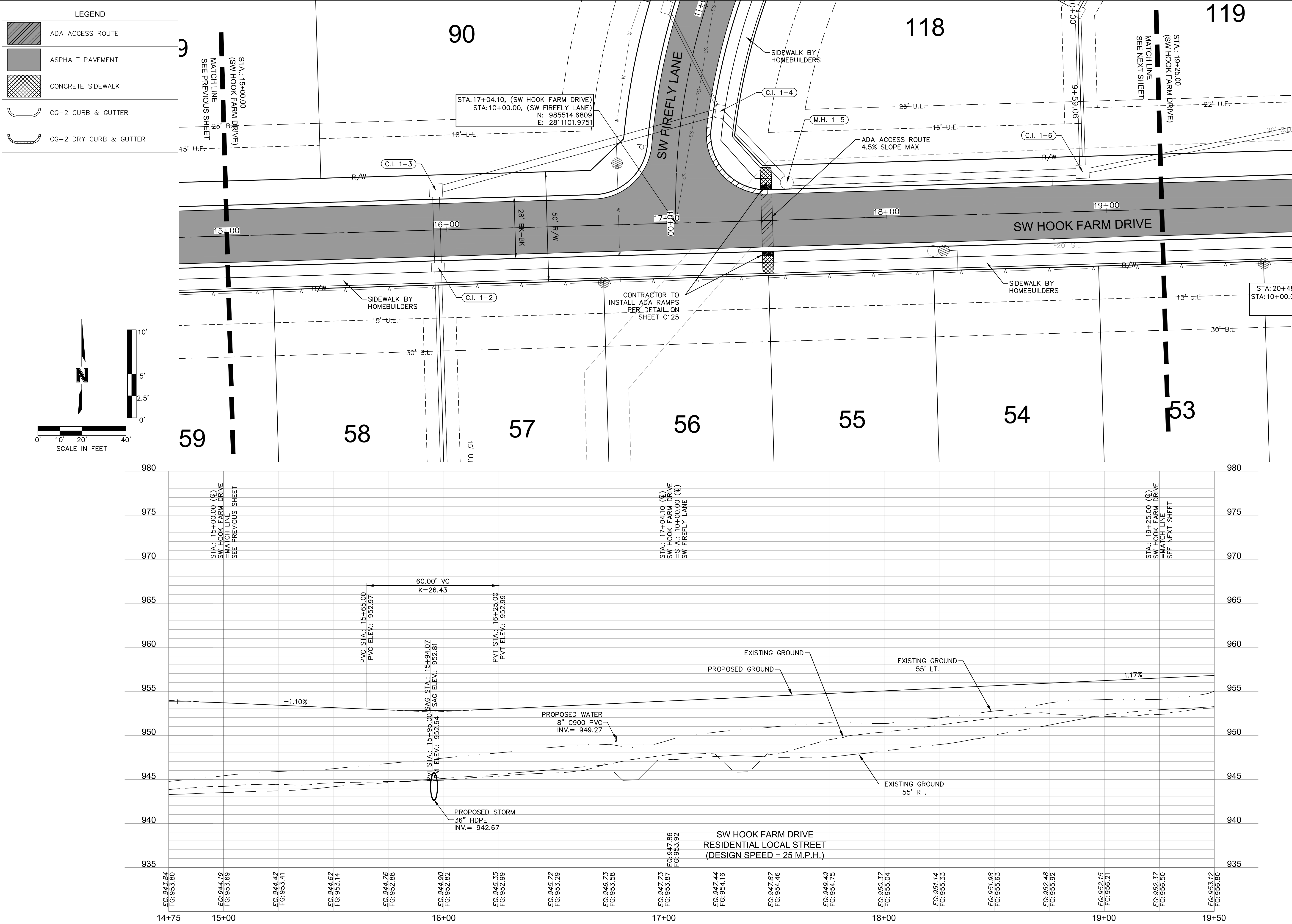
HOOK FARMS
SECOND PLAT

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.: B19-4061
date: 01-08-2021

SHEET
C108

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USER: bworthley



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STATE OF MISSOURI

JULIE ELAINE SELLERS
NUMBER PE-2017000367
4/21/21
PROFESSIONAL ENGINEER

ROADWAY PLAN & PROFILE (SW HOOK FARM DRIVE)
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

BY

DATE

REV. NO.

REVISIONS DESCRIPTION

1

03-23-2021

1

REVISED PER CITY COMMENTS

2

04-16-2021

2

REVISED PER CITY COMMENTS

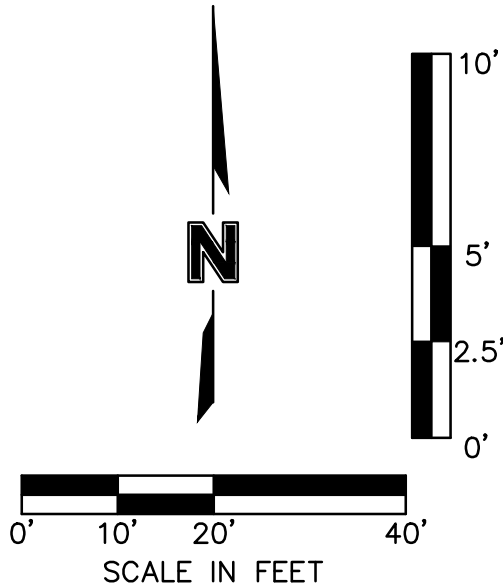
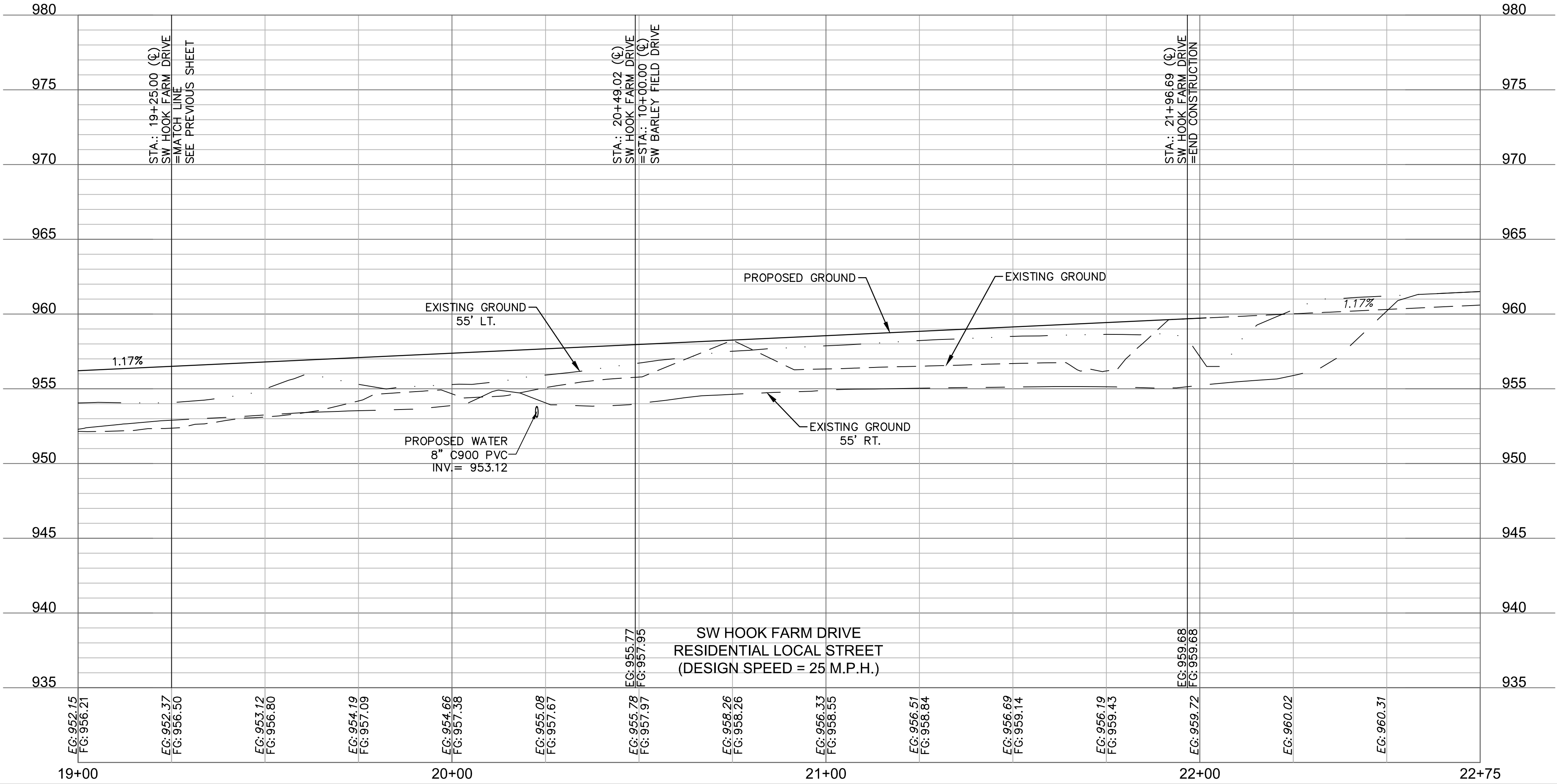
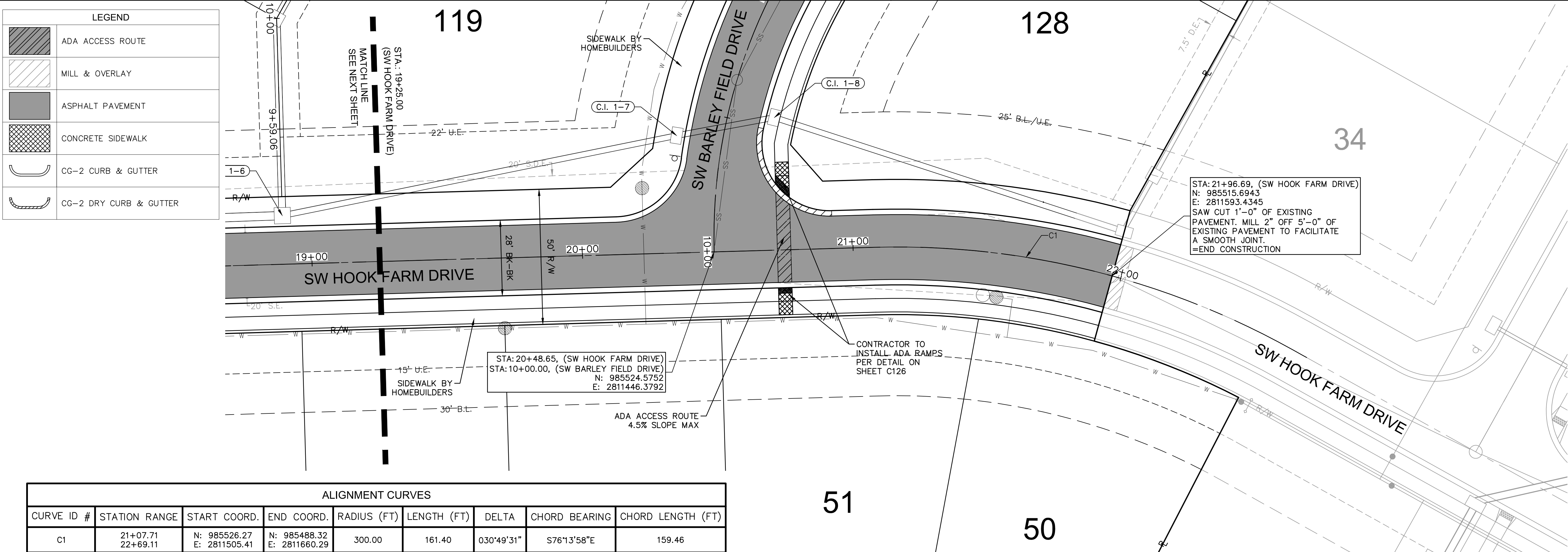
2021

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.: B19-4061
date: 01-08-2021

SHEET
C111

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USER: bworthley



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STATE OF MISSOURI
JULIE ELAINE SELLERS
Julie E. Sellers
NUMBER
PE-2017000367
4/21/21
PROFESSIONAL ENGINEER

**ROADWAY PLAN & PROFILE (SW HOOK FARM DRIVE)
STREET & STORM SEWER PLANS**

**HOOK FARMS
SECOND PLAT**

LEE'S SUMMIT, MO

2021

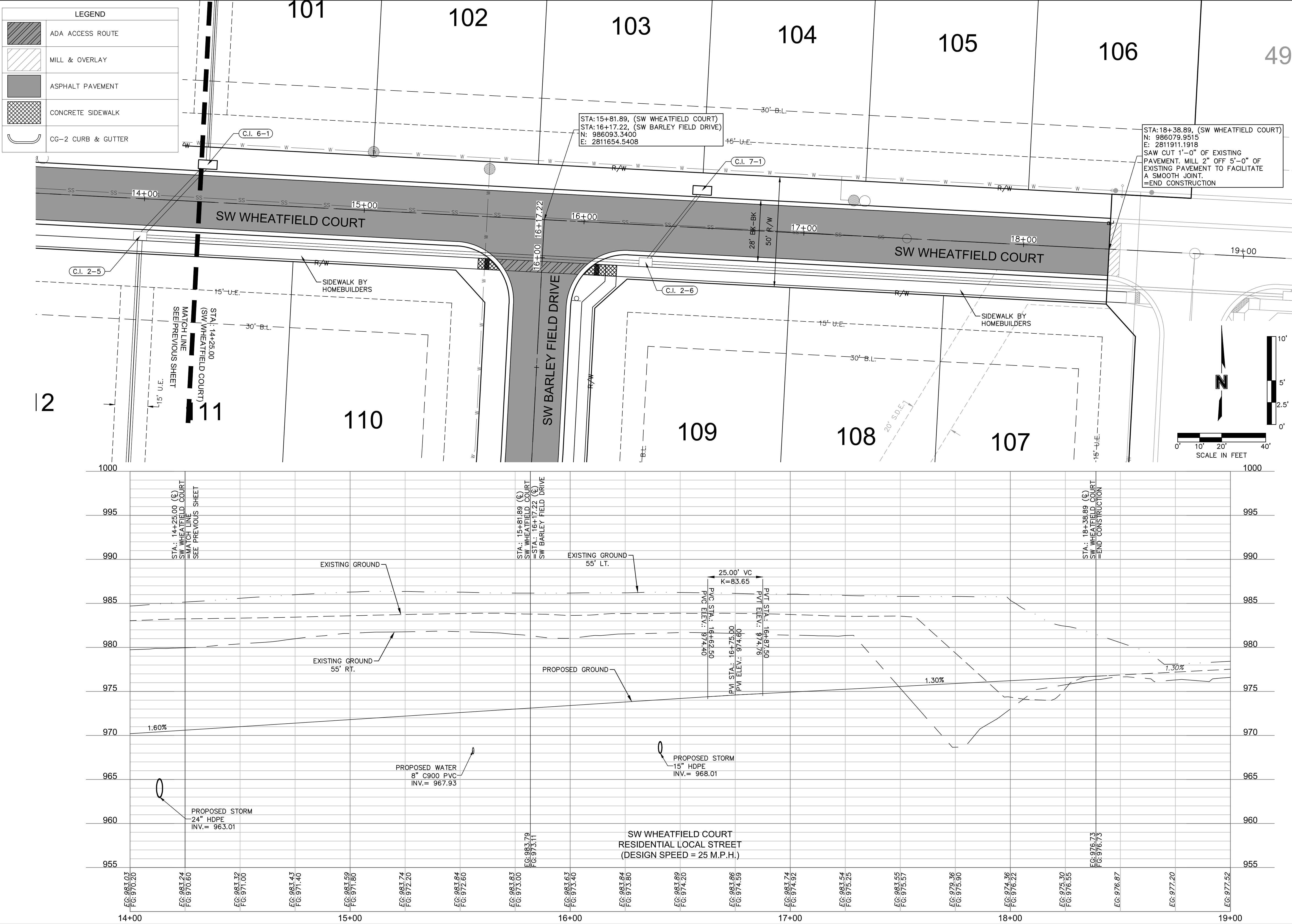
REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
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2	04-16-2021	REVISED PER CITY COMMENTS

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.: B19-4061
date: 01-08-2021

**SHEET
C112**

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STATE OF MISSOURI

JULIE ELAINE SELLERS

NUMBER
PE-2017000367

DATE
4/21/21

PROFESSIONAL ENGINEER

ROADWAY PLAN & PROFILE (SW WHEATFIELD COURT)

STREET & STORM SEWER PLANS

HOOK FARMS

SECOND PLAT

LEE'S SUMMIT, MO

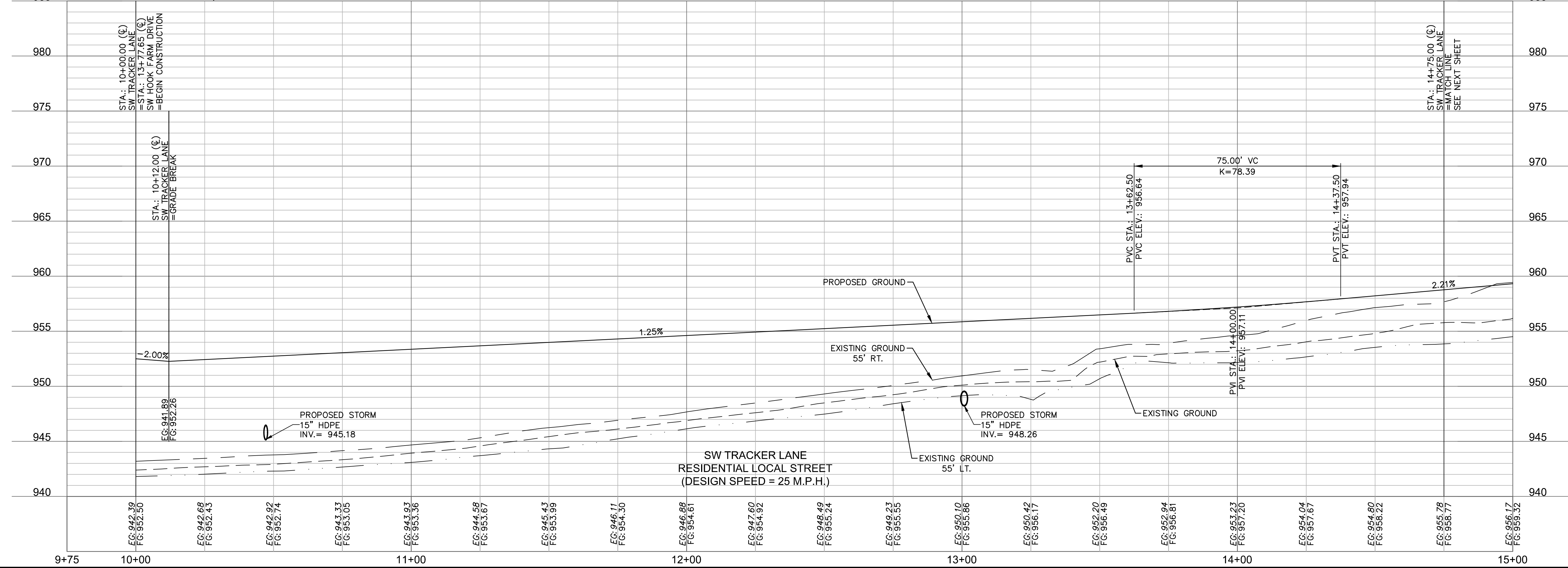
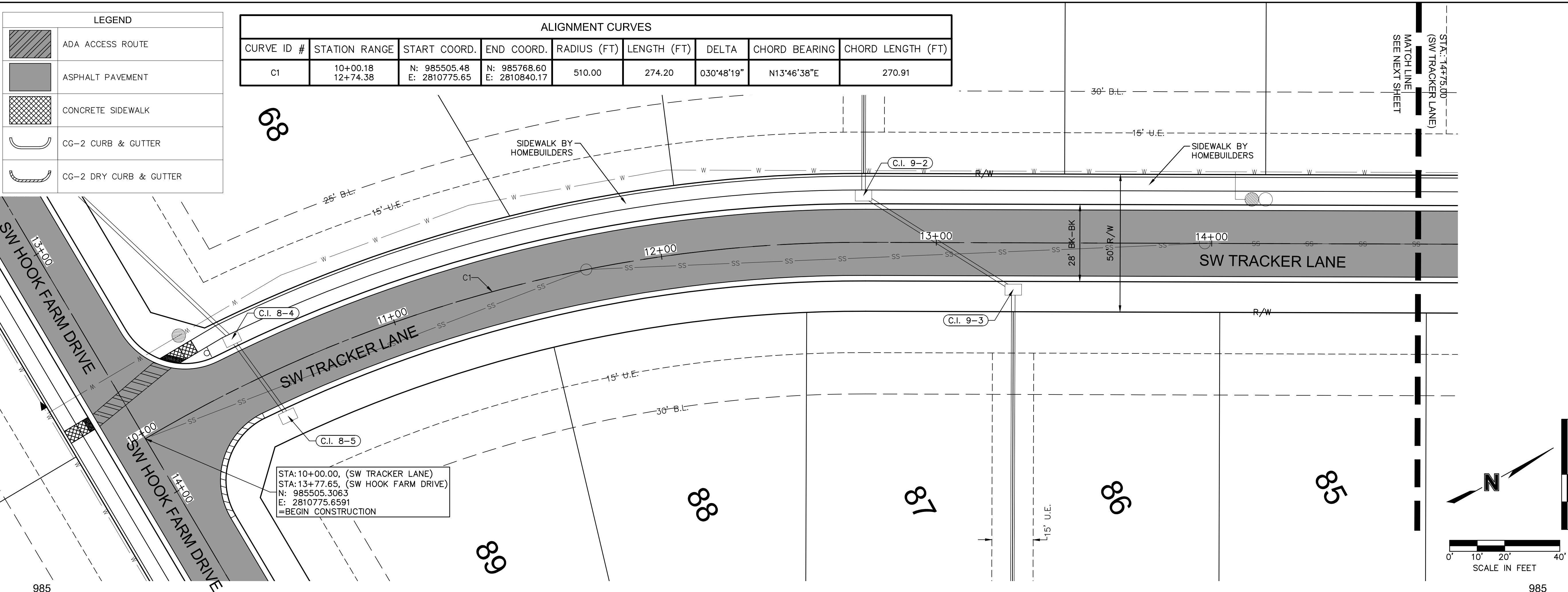
2021

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.: B19-4061
date: 01-08-2021

SHEET

C114

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Professional Engineer
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	03-23-2021	REVISED PER CITY COMMENTS	
2	04-16-2021	REVISED PER CITY COMMENTS	

REVISIONS

ROADWAY PLAN & PROFILE (SW TRACKER LANE)
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

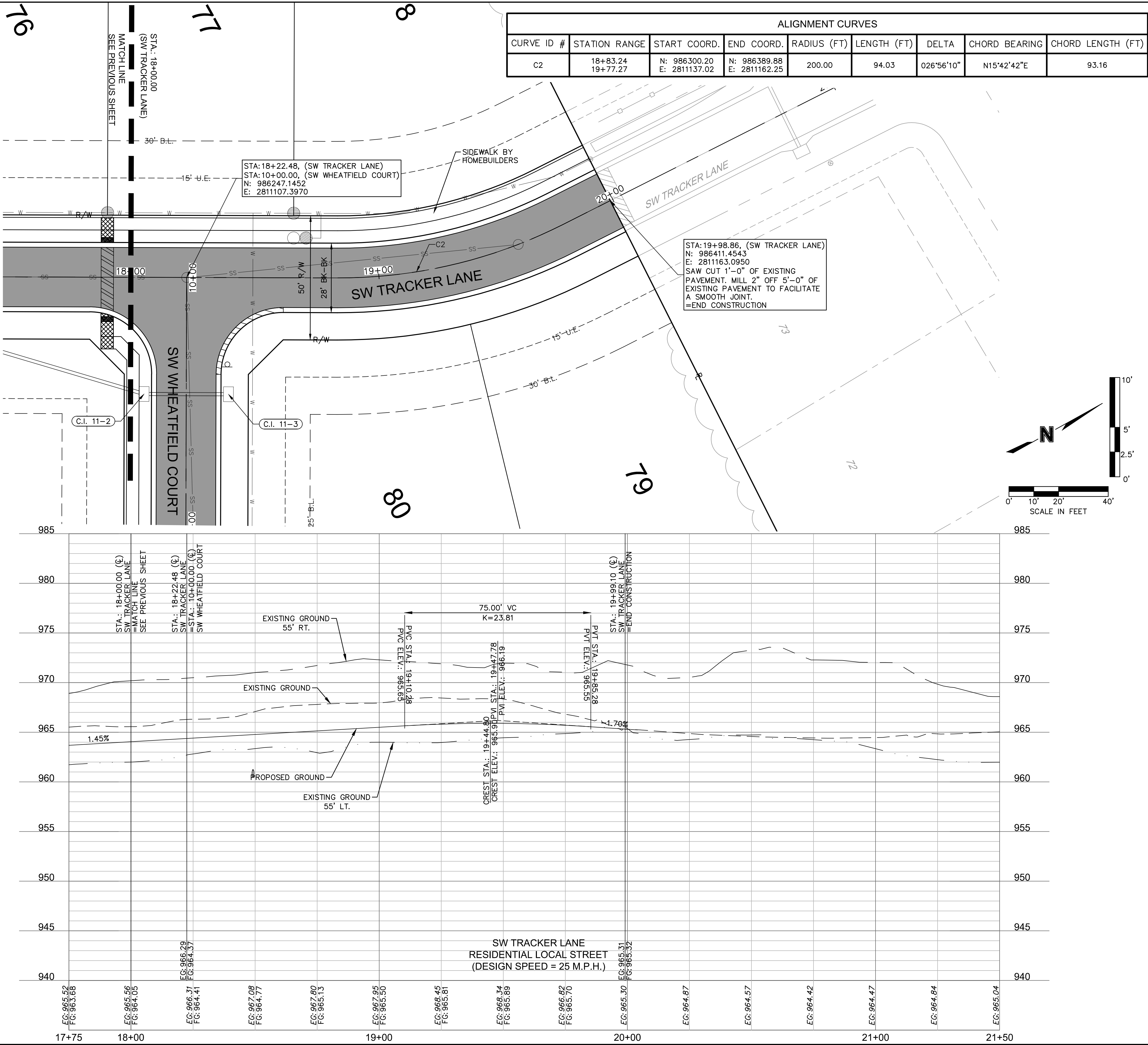
LEE'S SUMMIT, MO

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.: B19-4061
date: 01-08-2021

SHEET
C115

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



ROADWAY PLAN & PROFILE (SW TRACKER LANE)
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

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2021

REV. NO.

DATE

REVISIONS DESCRIPTION

BY

1

03-23-2021

REVISED PER CITY COMMENTS

2

04-16-2021

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REVISIONS

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JULIE ELAINE
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NUMBER
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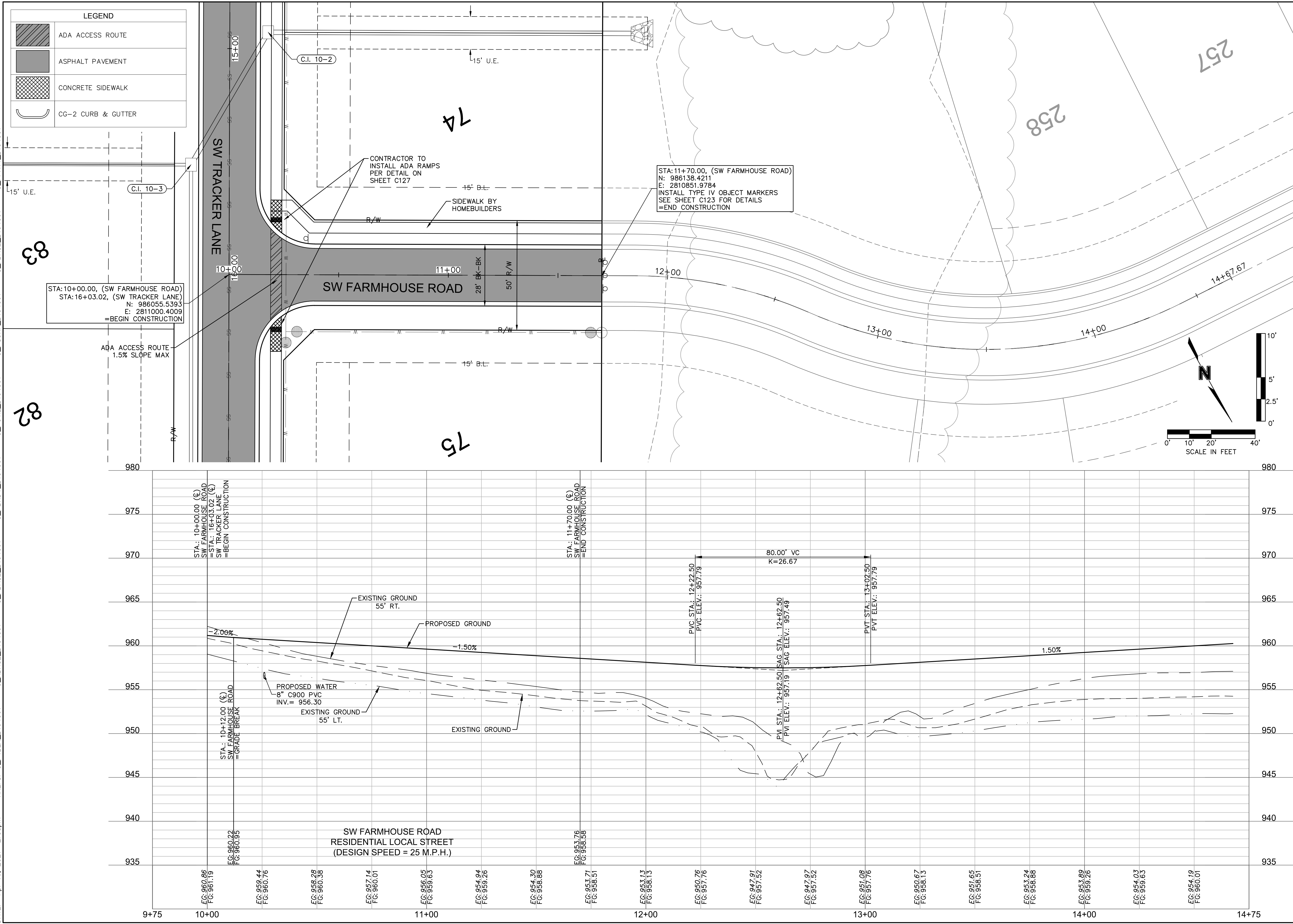
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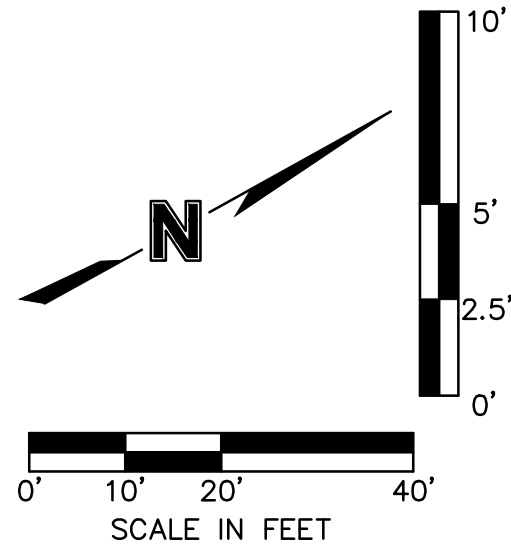
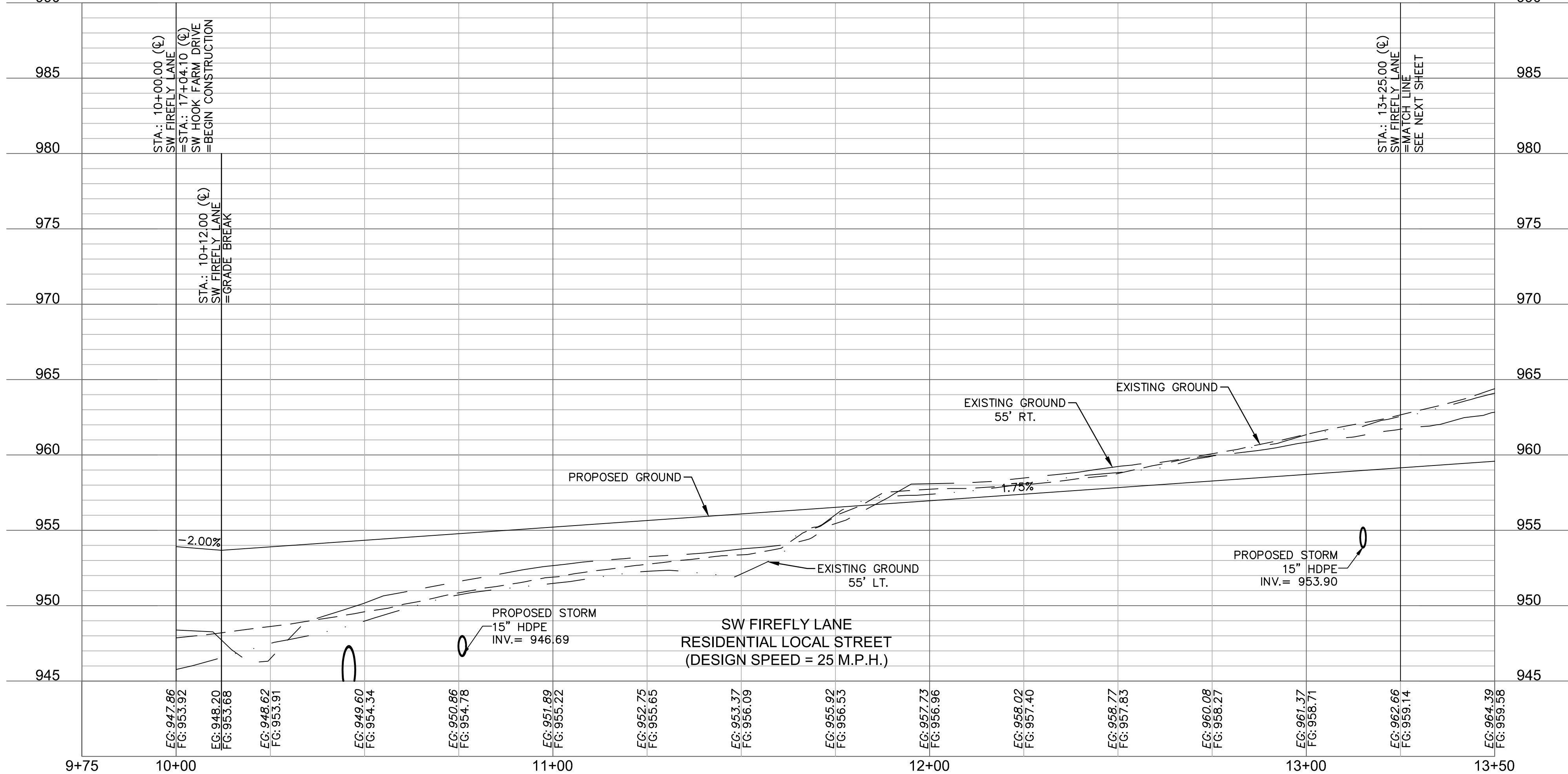
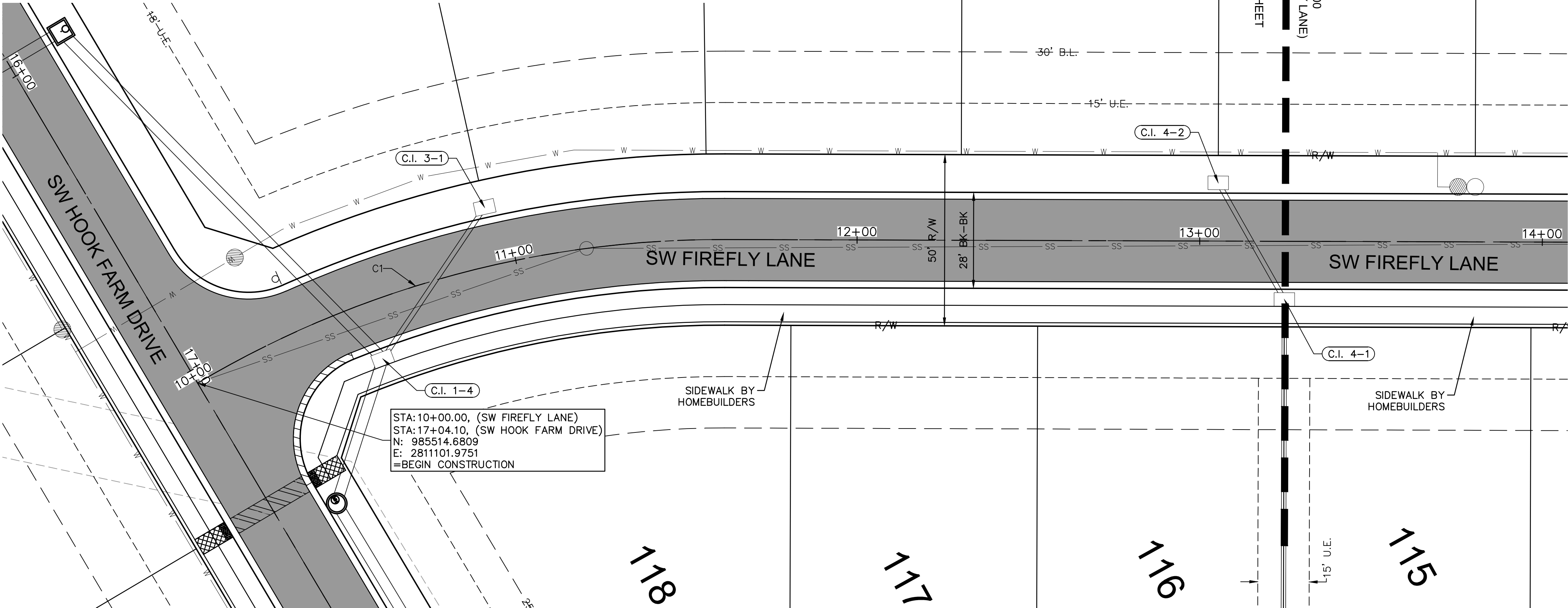
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USER: bworthley

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

ALIGNMENT CURVES								
CURVE ID #	STATION RANGE	START COORD. N: 985553.66 E: 2811103.39	END COORD. N: 985669.56 E: 2811139.92	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C1	10+39.03 11+61.40			300.00	122.37	023°22'17"	N17°29'39"E	121.53



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STATE OF MISSOURI
JULIE ELAINE SELLERS
PE-2017000367
4/21/21
PROFESSIONAL ENGINEER

ROADWAY PLAN & PROFILE (SW FIREFLY LANE)
STREET & STORM SEWER PLANS

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.: B19-4061
date: 01-08-2021

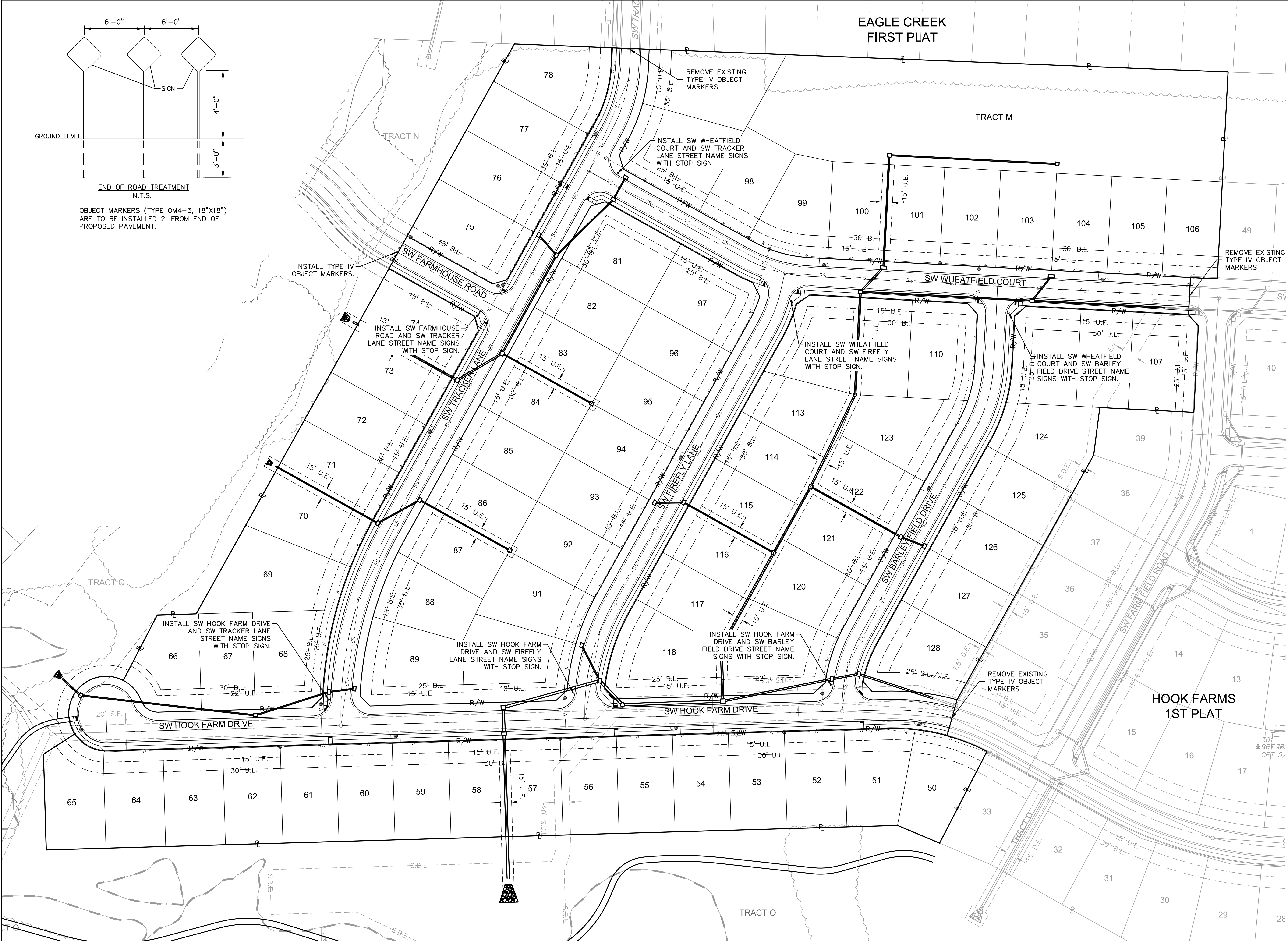
BY

REVISIONS

2021

SHEET
C119

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TRAFFIC CONTROL PLAN
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

2021

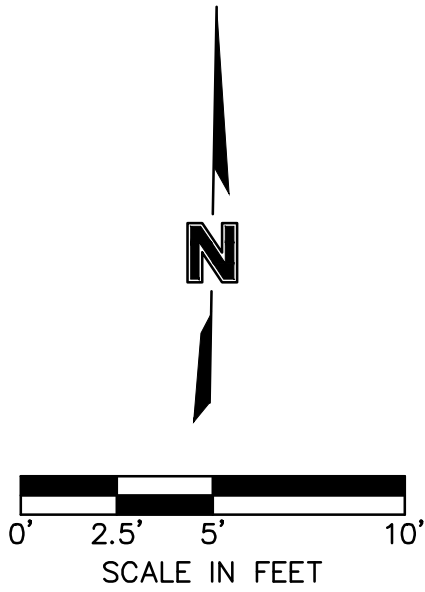
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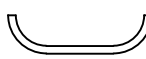
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	03-23-2021	REVISED PER CITY COMMENTS	
2	04-16-2021	REVISED PER CITY COMMENTS	

drawn by: B.M.W./J.A.A.
checked by: B.M.W./J.A.A.
designed by: B.M.W./J.A.A.
QA/QC by: J.E.S.
project no.: B19-4061
date: 01-08-2021

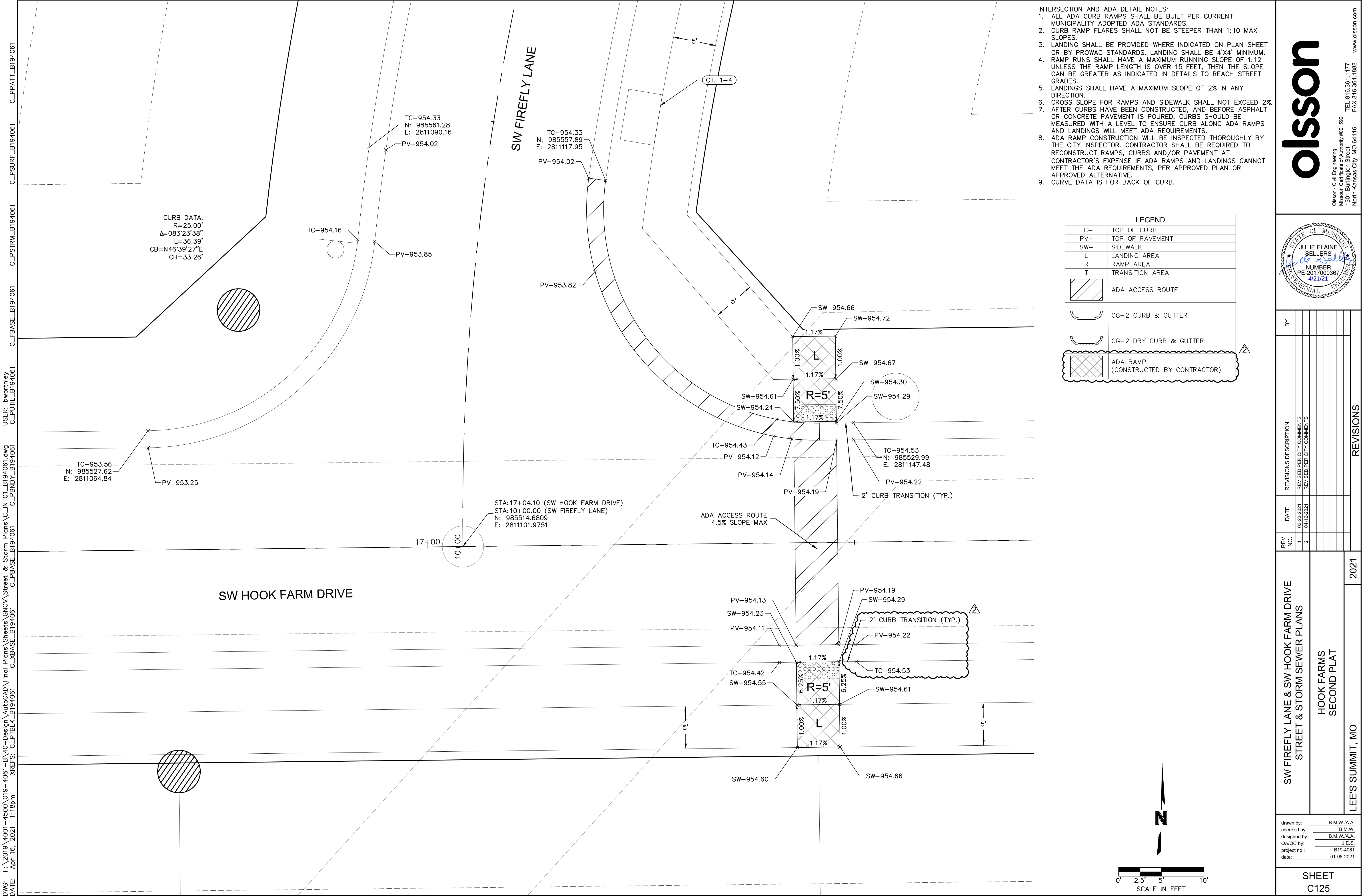
SHEET
C123

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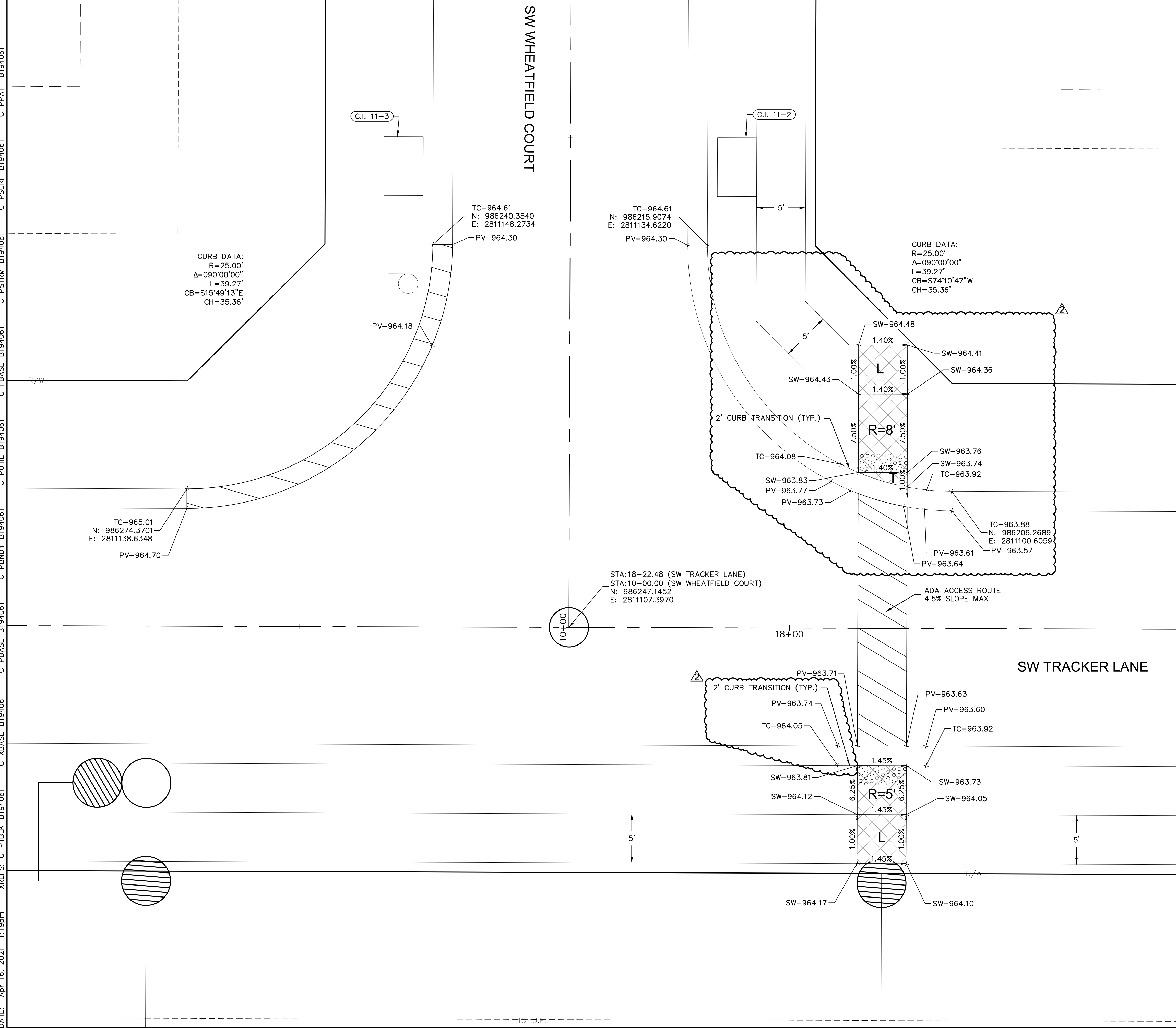
- | LEGEND | |
|---|---|
| TC- | TOP OF CURB |
| PV- | TOP OF PAVEMENT |
| SW- | SIDEWALK |
| L | LANDING AREA |
| R | RAMP AREA |
| T | TRANSITION AREA |
|  | ADA ACCESS ROUTE |
|  | CG-2 CURB & GUTTER |
|  | CG-2 DRY CURB & GUTTER |
|  | ADA RAMP
(CONSTRUCTED BY CONTRACTOR) |

STATE OF MISSOURI
JULIE ELAINE
SELLERS
NUMBER
PE-2017000367
4/21/21
PROFESSIONAL ENGINEER

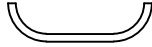


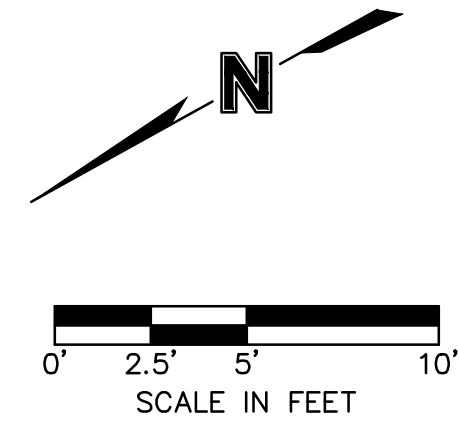
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- INTERSECTION AND ADA DETAIL NOTES:
1. ALL ADA CURB RAMPS SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
2. CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10 MAX SLOPES.
3. LANDING SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR BY PROWAG STANDARDS. LANDING SHALL BE 4'x4' MINIMUM.
4. RAMP RUNS SHALL HAVE A MAXIMUM RUNNING SLOPE OF 1:12 UNLESS THE RAMP LENGTH IS OVER 15 FEET, THEN THE SLOPE CAN BE GREATER AS INDICATED IN DETAILS TO REACH STREET GRADES.
5. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
6. CROSS SLOPE FOR RAMPS AND SIDEWALK SHALL NOT EXCEED 2%.
7. AFTER CURBS HAVE BEEN CONSTRUCTED, AND BEFORE ASPHALT OR CONCRETE PAVEMENT IS POURED, CURBS SHOULD BE MEASURED WITH A LEVEL TO ENSURE CURB ALONG ADA RAMPS AND LANDINGS WILL MEET ADA REQUIREMENTS.
8. 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.
9. CURVE DATA IS FOR BACK OF CURB.

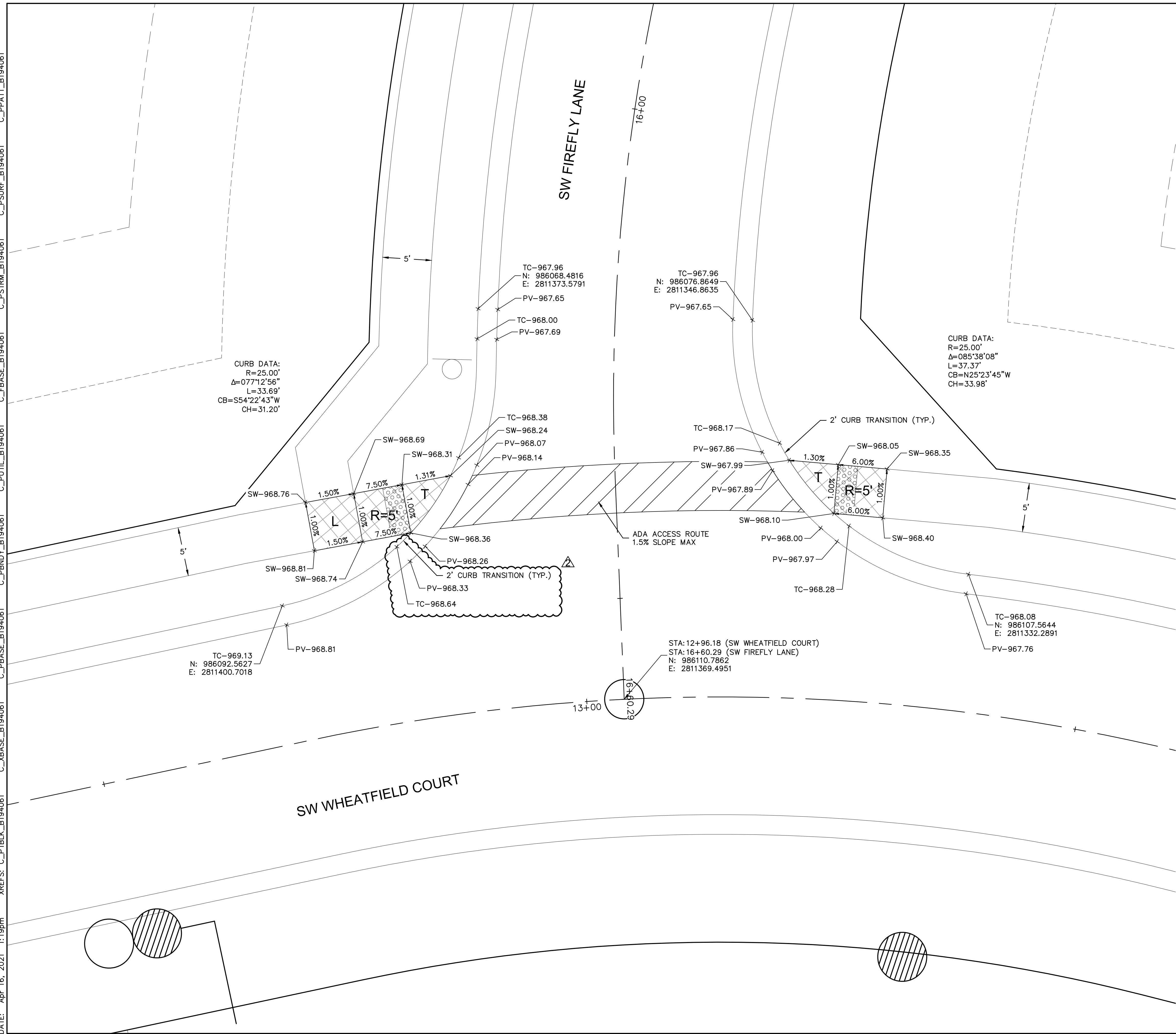
LEGEND	
TC—	TOP OF CURB
PV—	TOP OF PAVEMENT
SW—	SIDEWALK
L	LANDING AREA
R	RAMP AREA
T	TRANSITION AREA
	ADA ACCESS ROUTE
	CG-2 CURB & GUTTER
	CG-2 DRY CURB & GUTTER
	ADA RAMP (CONSTRUCTED BY CONTRACTOR)



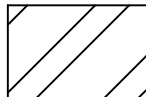
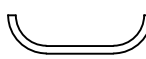
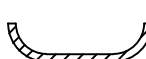
SW WHEATFIELD COURT & SW TRACKER LANE STREET & STORM SEWER PLANS					
HOOK FARMS SECOND PLAT					
LEE'S SUMMIT, MO					
2021					
drawn by: _____ B.M.W./A.A. checked by: _____ B.M.W./ designed by: _____ B.M.W./A.A. QA/QC by: _____ J.E.S. project no.: _____ B19-4061 date: _____ 01-08-2021					
SHEET C128					

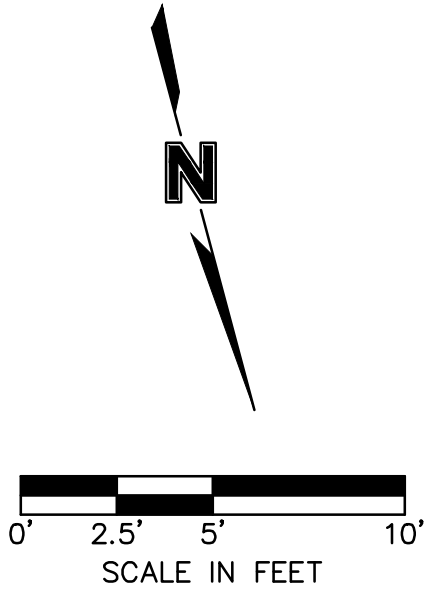
SW WHEATFIELD COURT & SW TRACKER LANE STREET & STORM SEWER PLANS		HOOK FARMS SECOND PLAT	LEE'S SUMMIT, MO	2021	REVISIONS	BY		
drawn by:	B.M.W./A.A.							
checked by:	B.M.W.							
designed by:	B.M.W./A.A.							
QA/QC by:	J.E.S.							
project no.:	B19-4061							
date:	01-08-2021							
SHEET C128								

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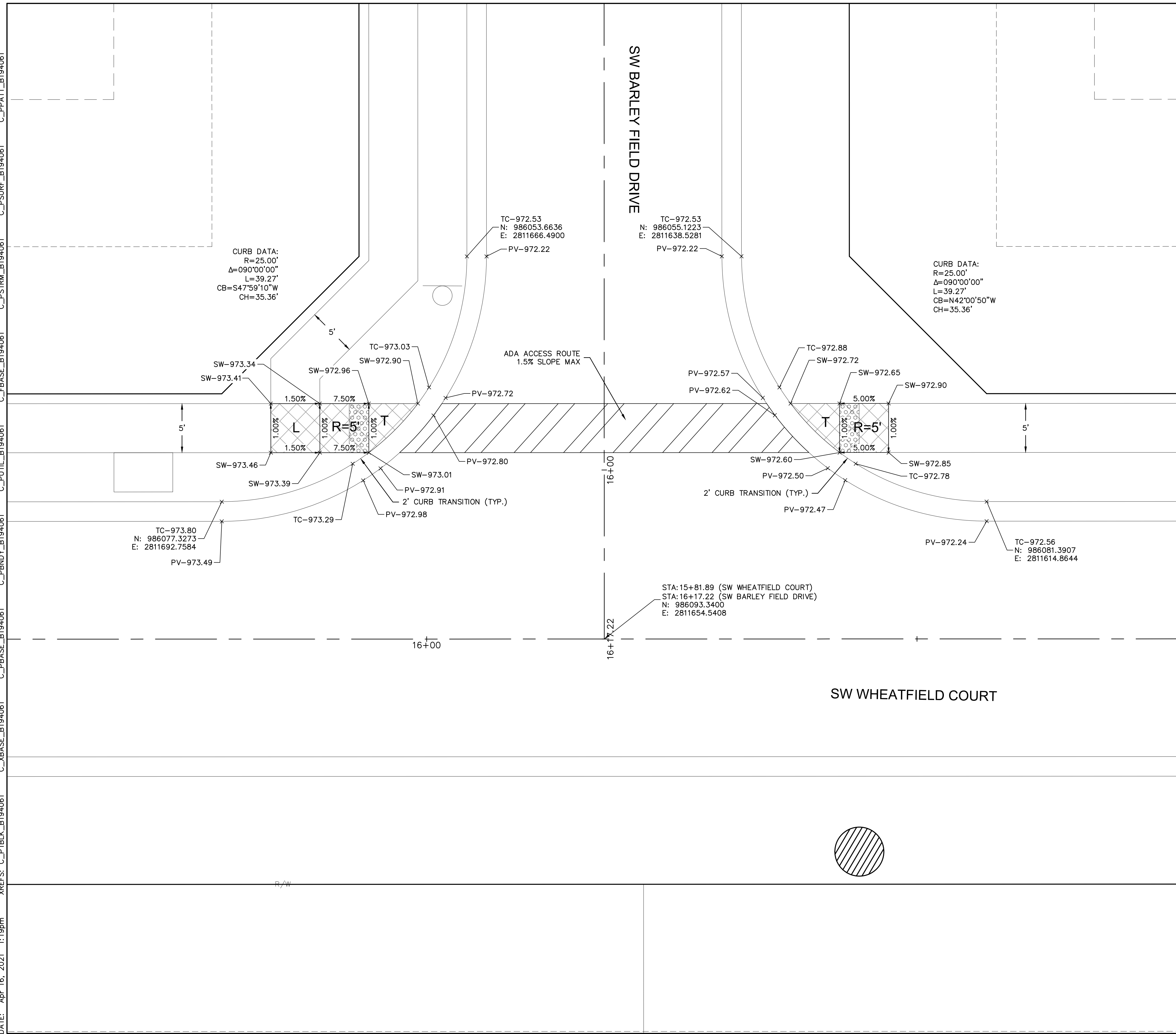


- INTERSECTION AND ADA DETAIL NOTES:
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7. AFTER CURBS HAVE BEEN CONSTRUCTED, AND BEFORE ASPHALT OR CONCRETE PAVEMENT IS LAYED, CURBS SHOULD BE REINFORCED WITH A LEVEL TO ENSURE CURB ALONG ADA RAMPS AND LANDINGS WILL MEET ADA REQUIREMENTS.
8. ADA RAMP 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.
9. CURVE DATA IS FOR BACK OF CURB.

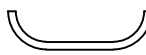
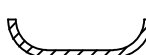
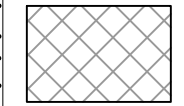
LEGEND	
TC-	TOP OF CURB
PV-	TOP OF PAVEMENT
SW-	SIDEWALK
L	LANDING AREA
R	RAMP AREA
T	TRANSITION AREA
	ADA ACCESS ROUTE
	CG-2 CURB & GUTTER
	CG-2 DRY CURB & GUTTER
	ADA RAMP (CONSTRUCTED BY CONTRACTOR)

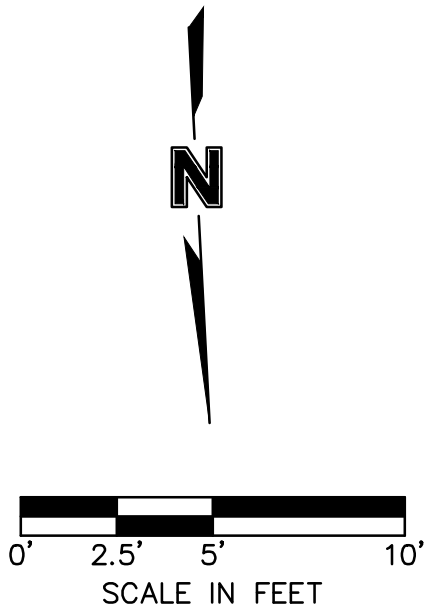


SW FIRELY LANE & SW WHEATFIELD COURT STREET & STORM SEWER PLANS					
HOOK FARMS SECOND PLAT					
LEE'S SUMMIT, MO					
2021					
drawn by: _____ B.M.W./A.A. checked by: _____ B.M.W./ designed by: _____ B.M.W./A.A./ QA/QC by: _____ J.E.S./ project no.: _____ B19-4061 date: _____ 01-08-2021					
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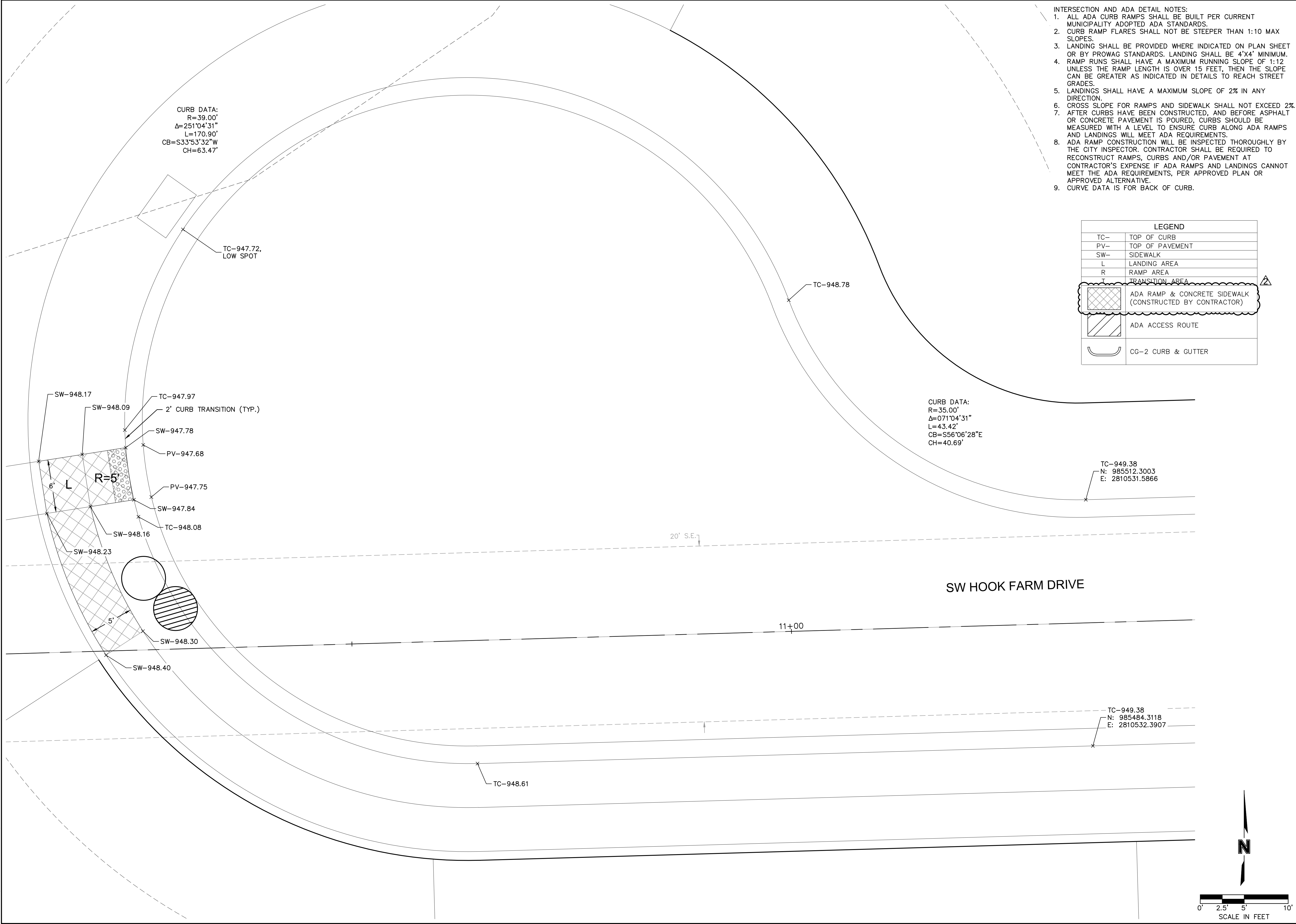
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9. CURVE DATA IS FOR BACK OF CURB.

LEGEND	
TC—	TOP OF CURB
PV—	TOP OF PAVEMENT
SW—	SIDEWALK
L	LANDING AREA
R	RAMP AREA
T	TRANSITION AREA
	ADA ACCESS ROUTE
	CG—2 CURB & GUTTER
	CG—0 DRY CURB & GUTTER
	ADA RAMP (CONSTRUCTED BY CONTRACTOR)



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USER: bworthley

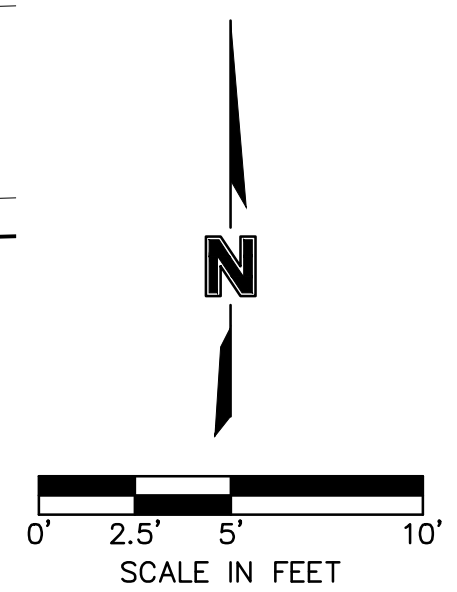


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Δ=251°04'31"
L=170.90'
CB=S33°53'32"W
CH=63.47'

CURB DATA:
R=35.00'
Δ=071°04'31"
L=43.42'
CB=S56°06'28"E
CH=40.69'

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

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



SW HOOK FARM DRIVE CUL-DE-SAC
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

2021

REVISIONS

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1	03-23-2021	REVISED PER CITY COMMENTS	
2	04-16-2021	REVISED PER CITY COMMENTS	

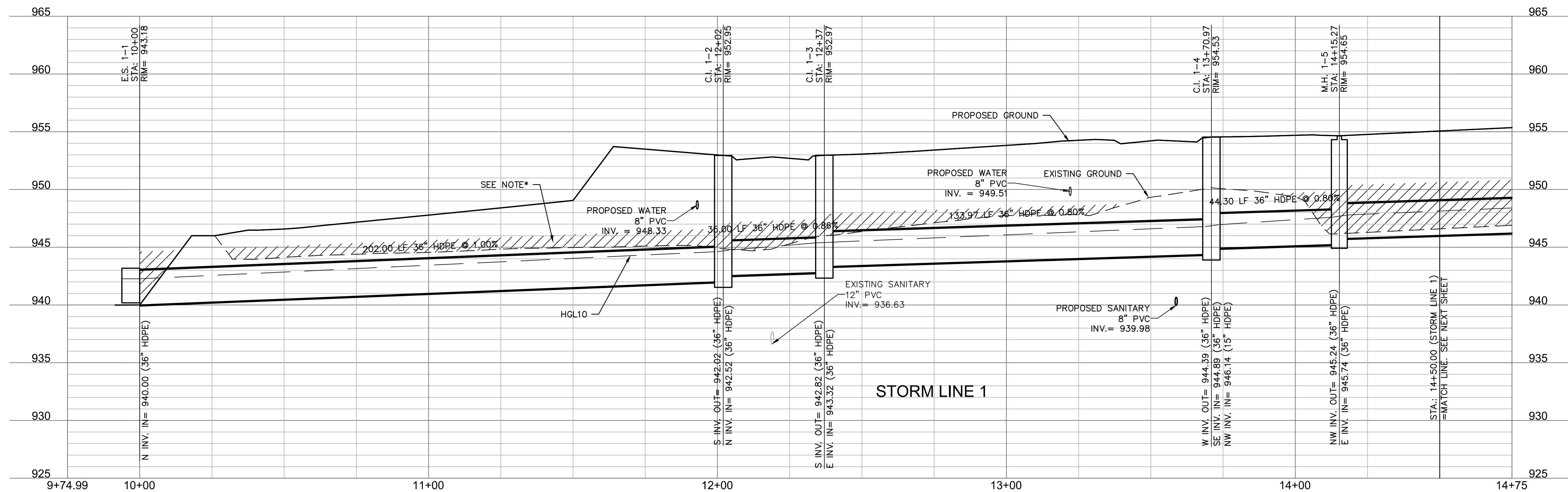
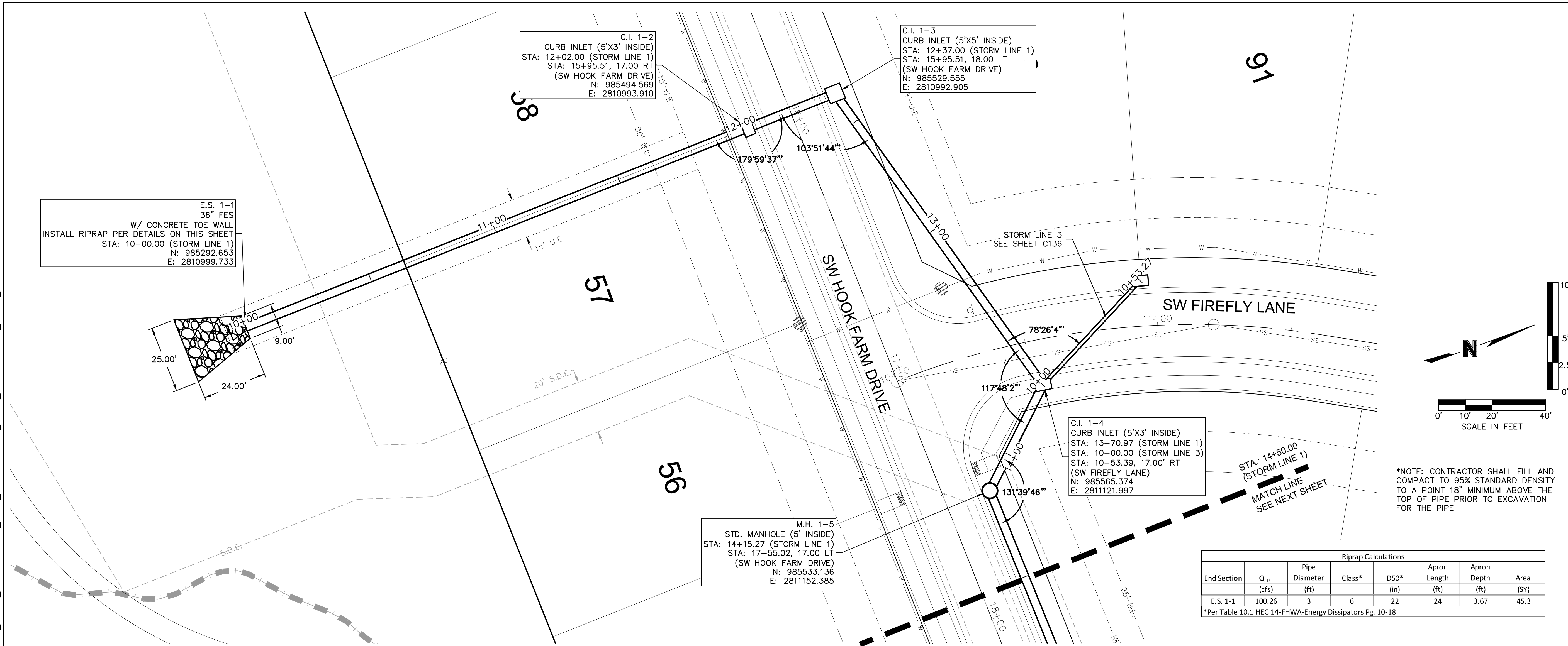
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checked by: B.M.W./
designed by: B.M.W./A.A.
QA/QC by: J.E.S./
project no.: B19-4061
date: 01-08-2021

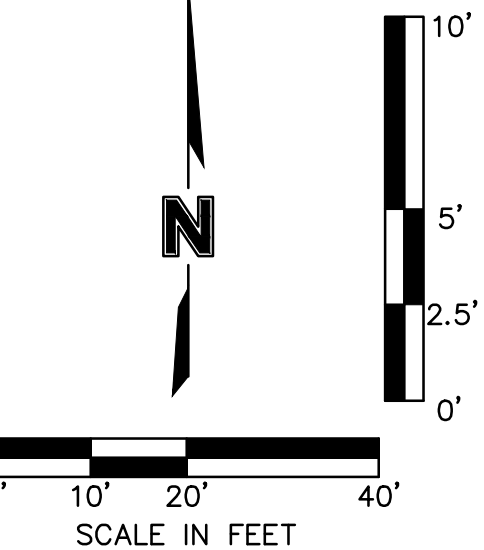
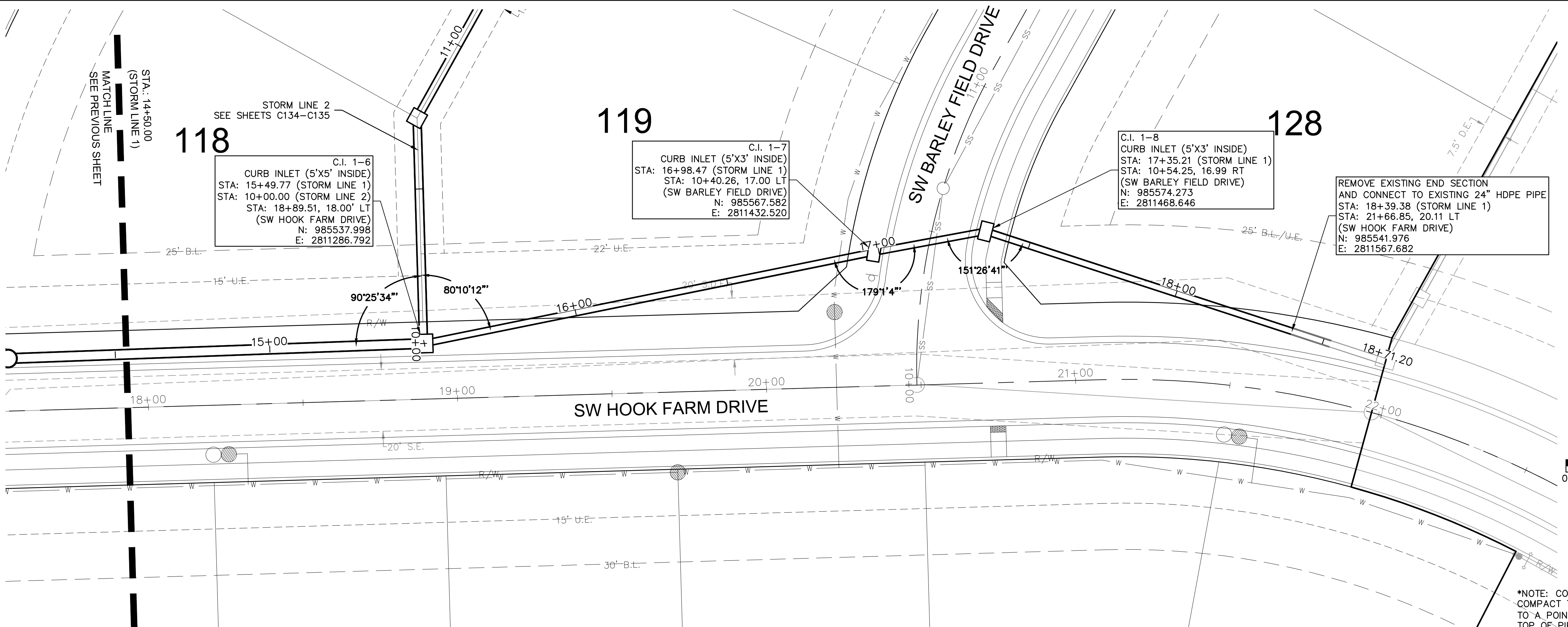
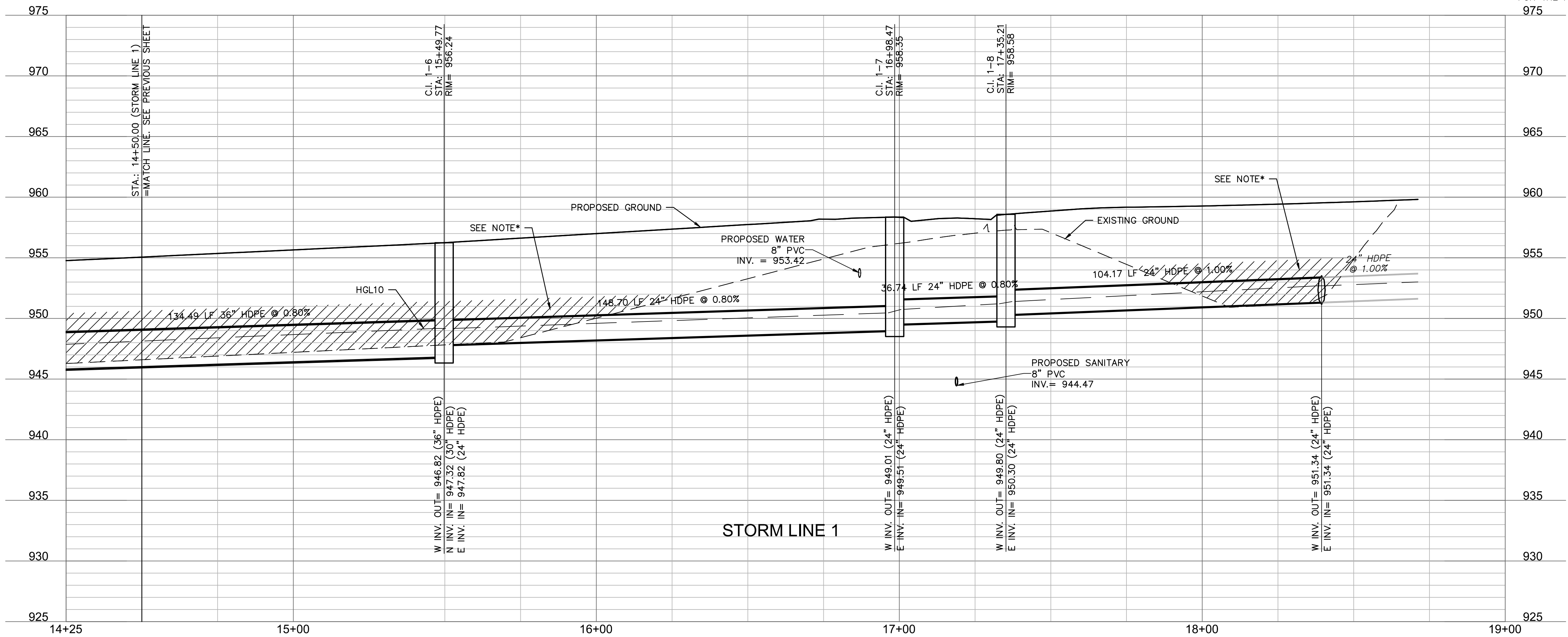
SHEET
C131

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[illegible]



*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 1)
STREET & STORM SEWER PLANS

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.: B19-4061
date: 01-08-2021

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C133

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2	2	04-16-2021	REVISED PER CITY COMMENTS

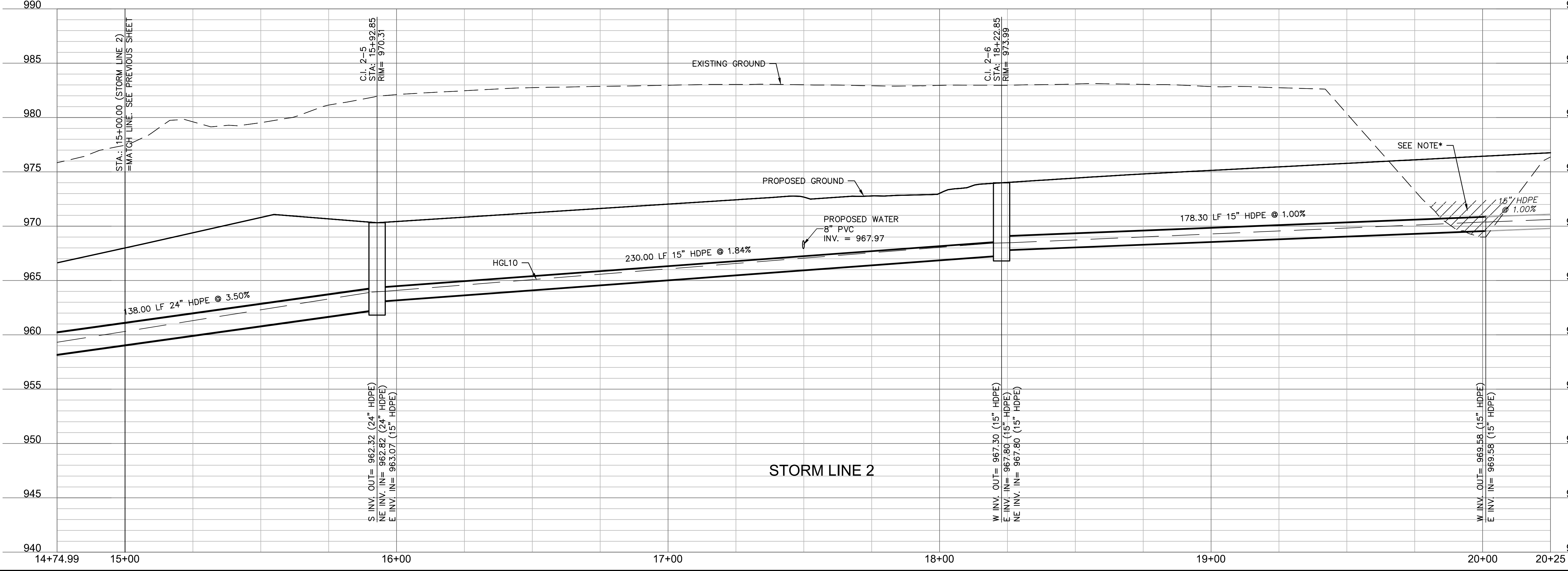
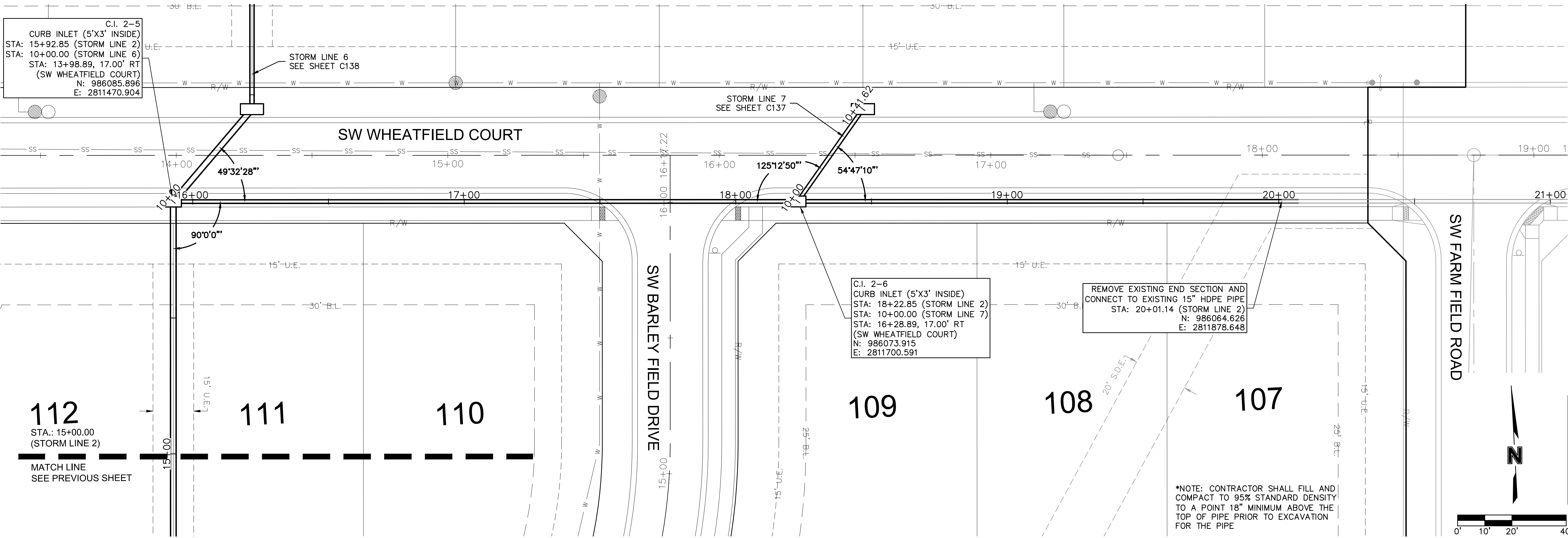
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2021

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

HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

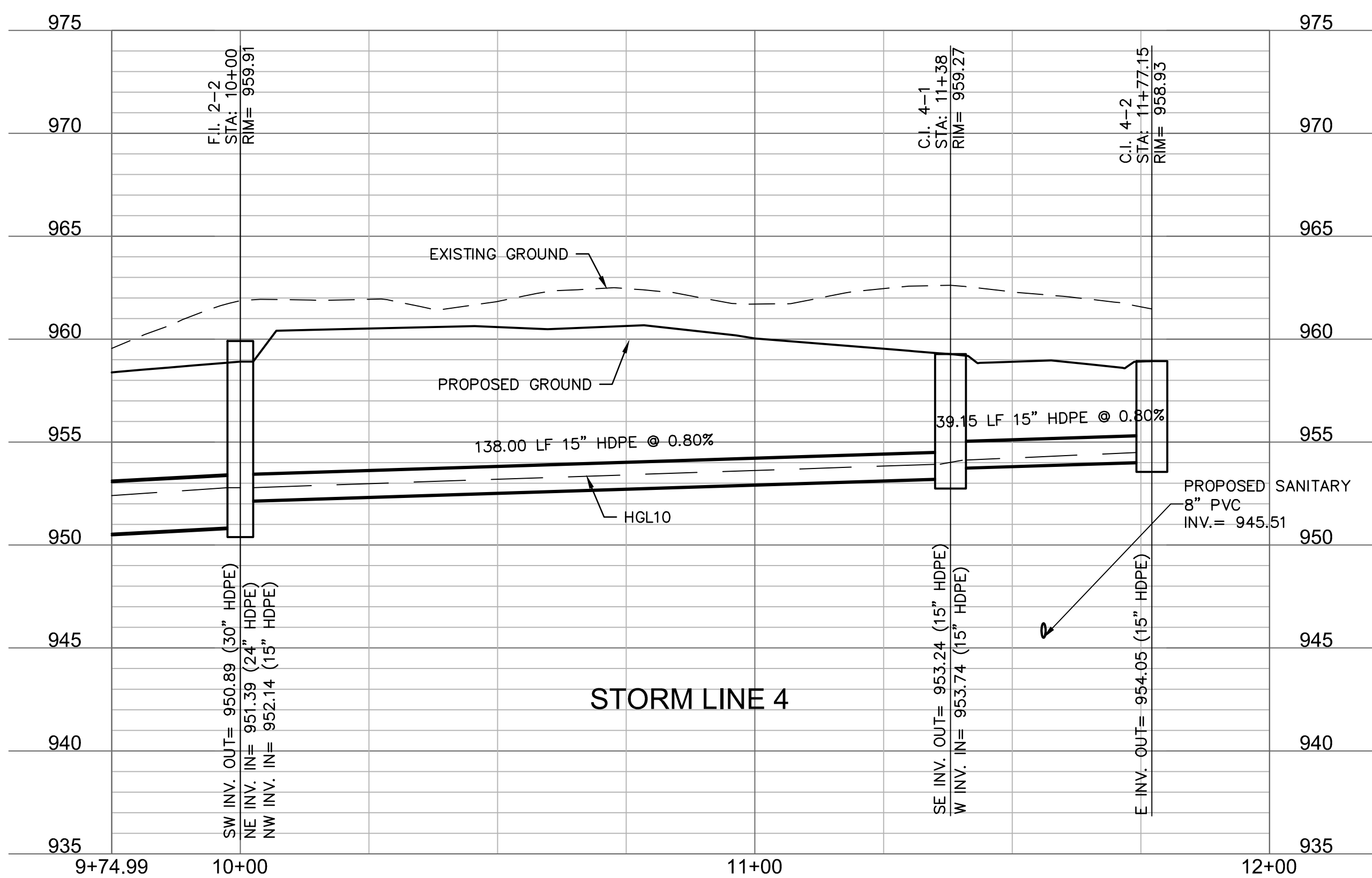
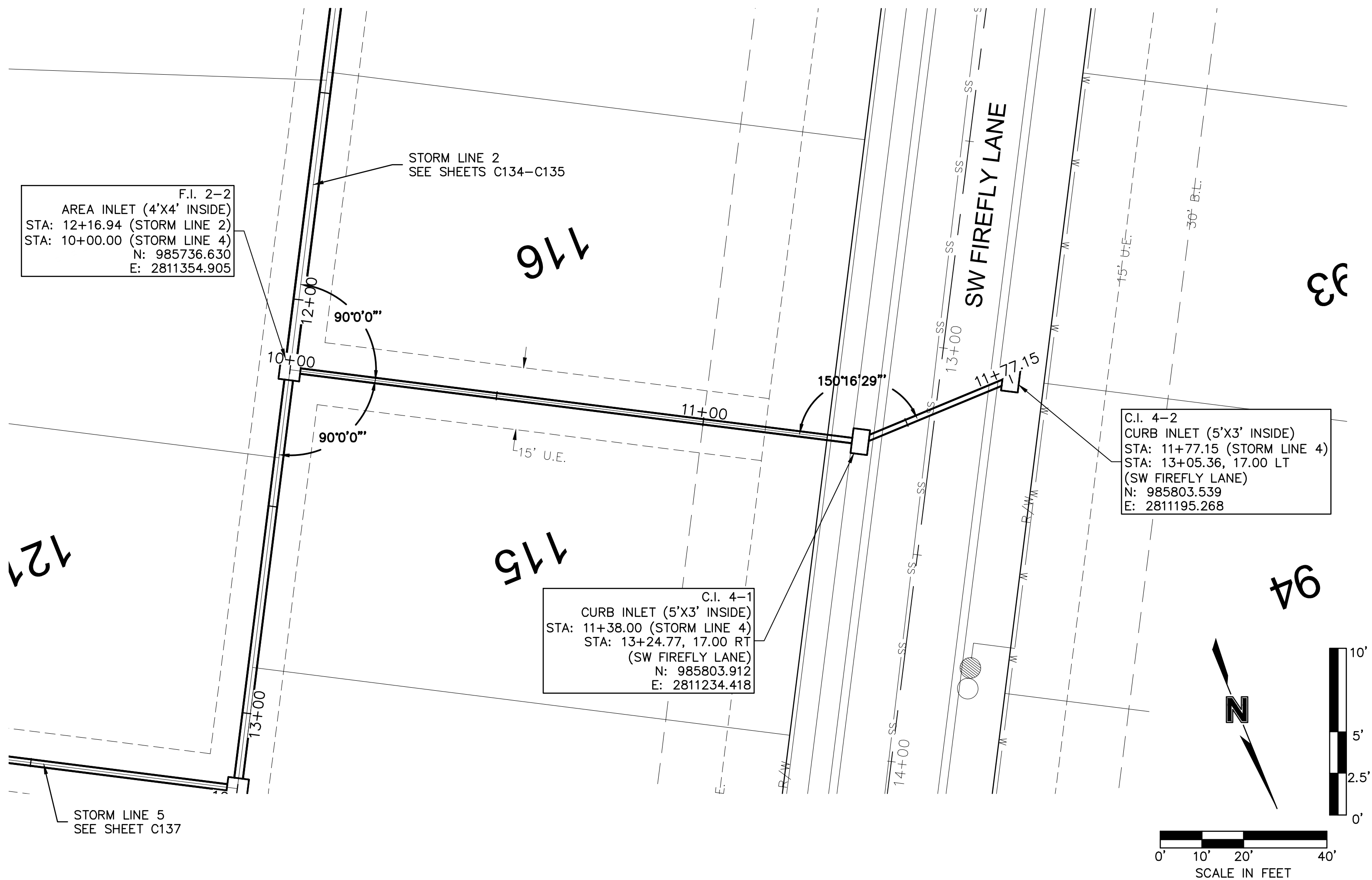
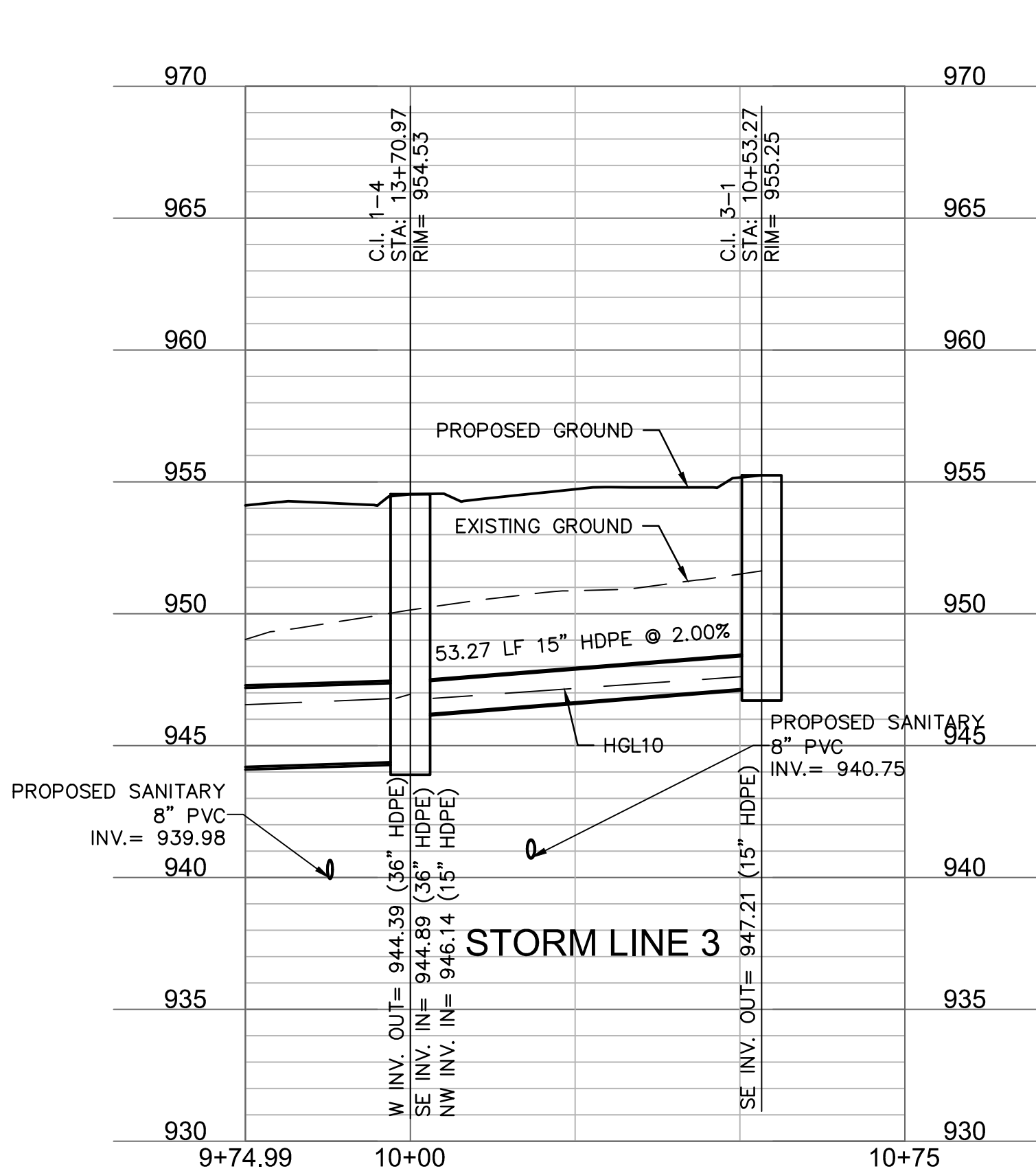
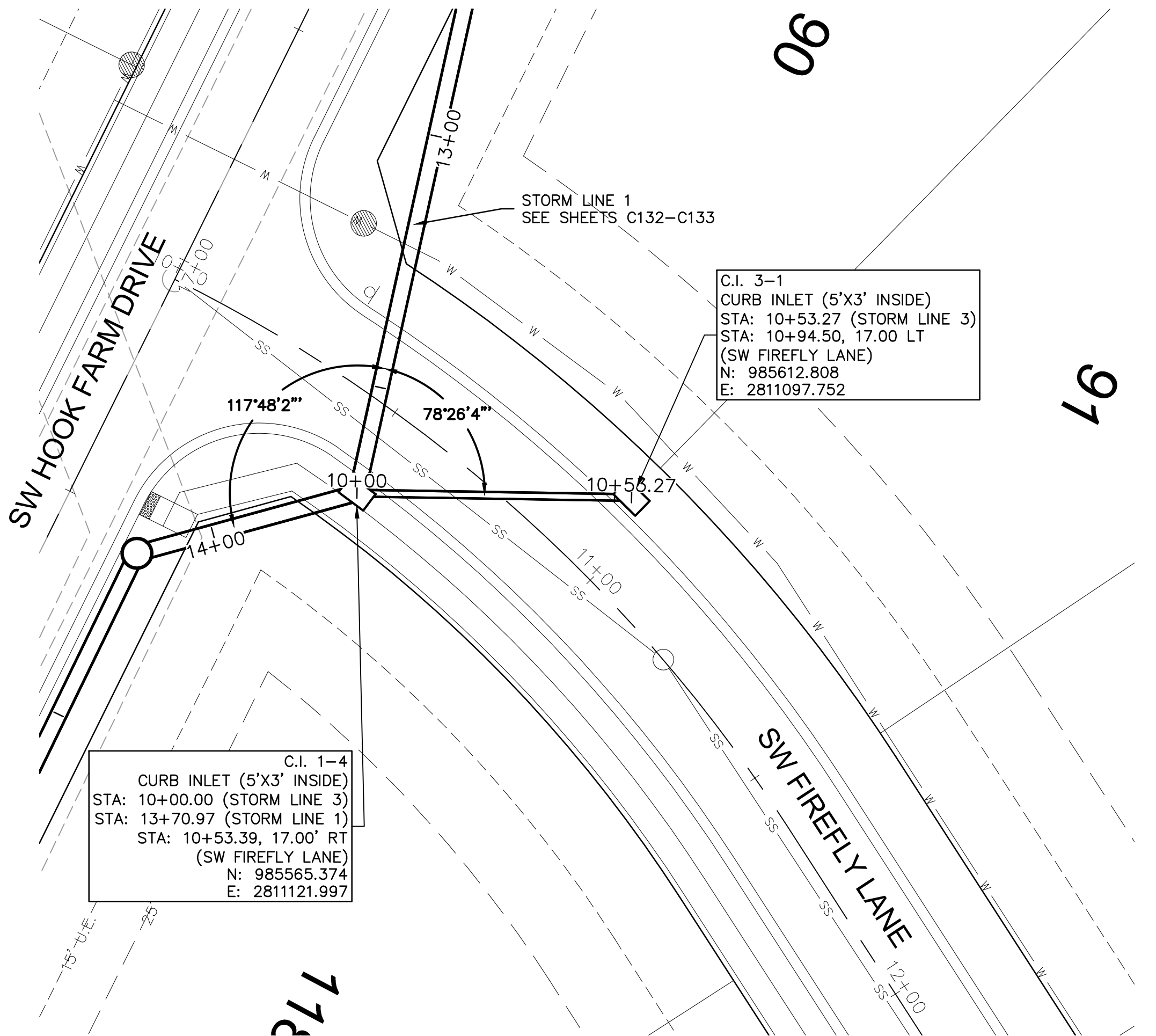
2021

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checked by: B.M.W./
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
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C135

REVISIONS

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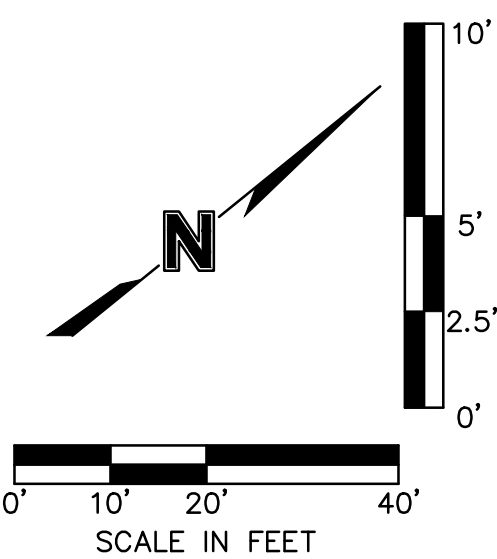
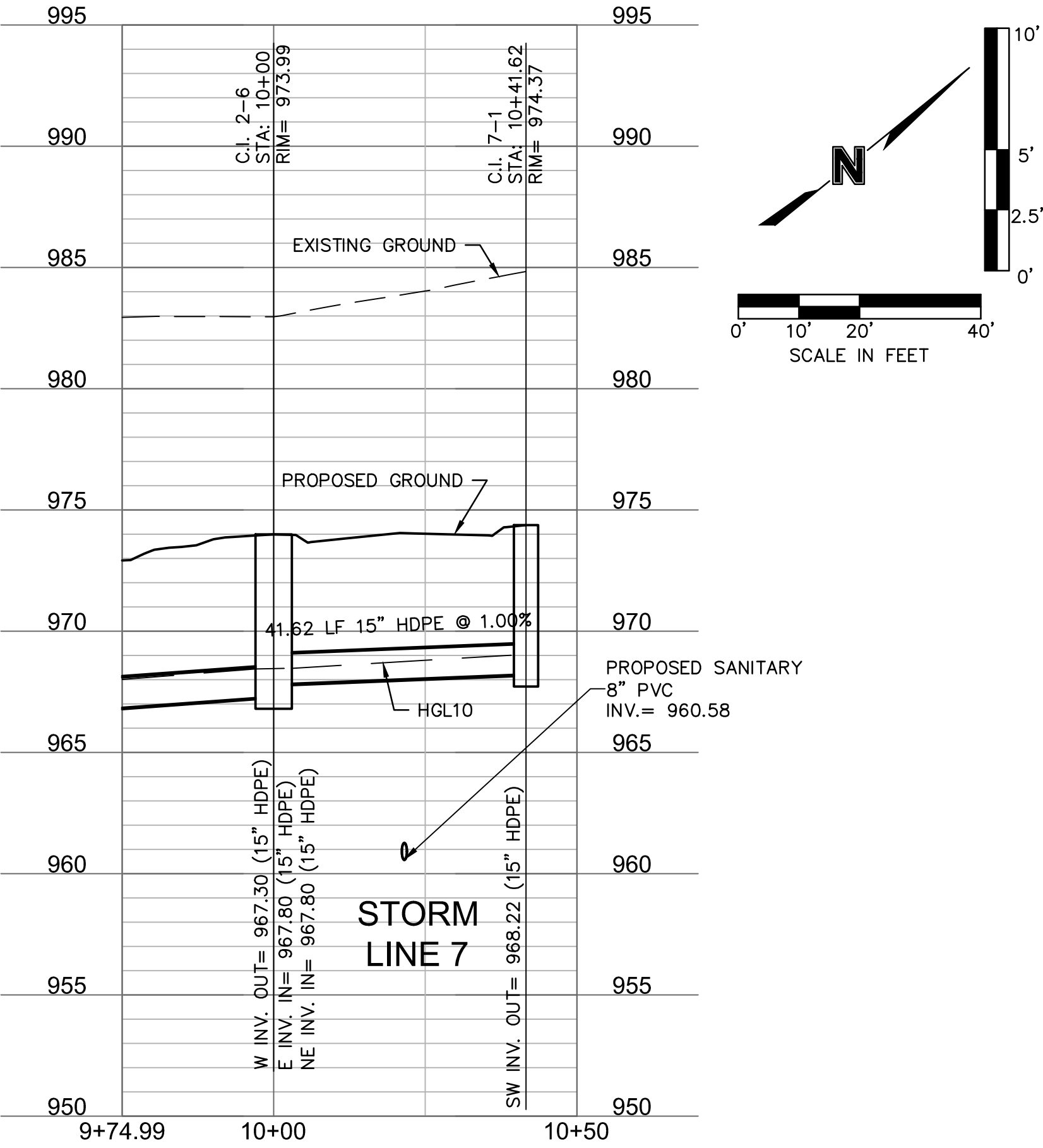
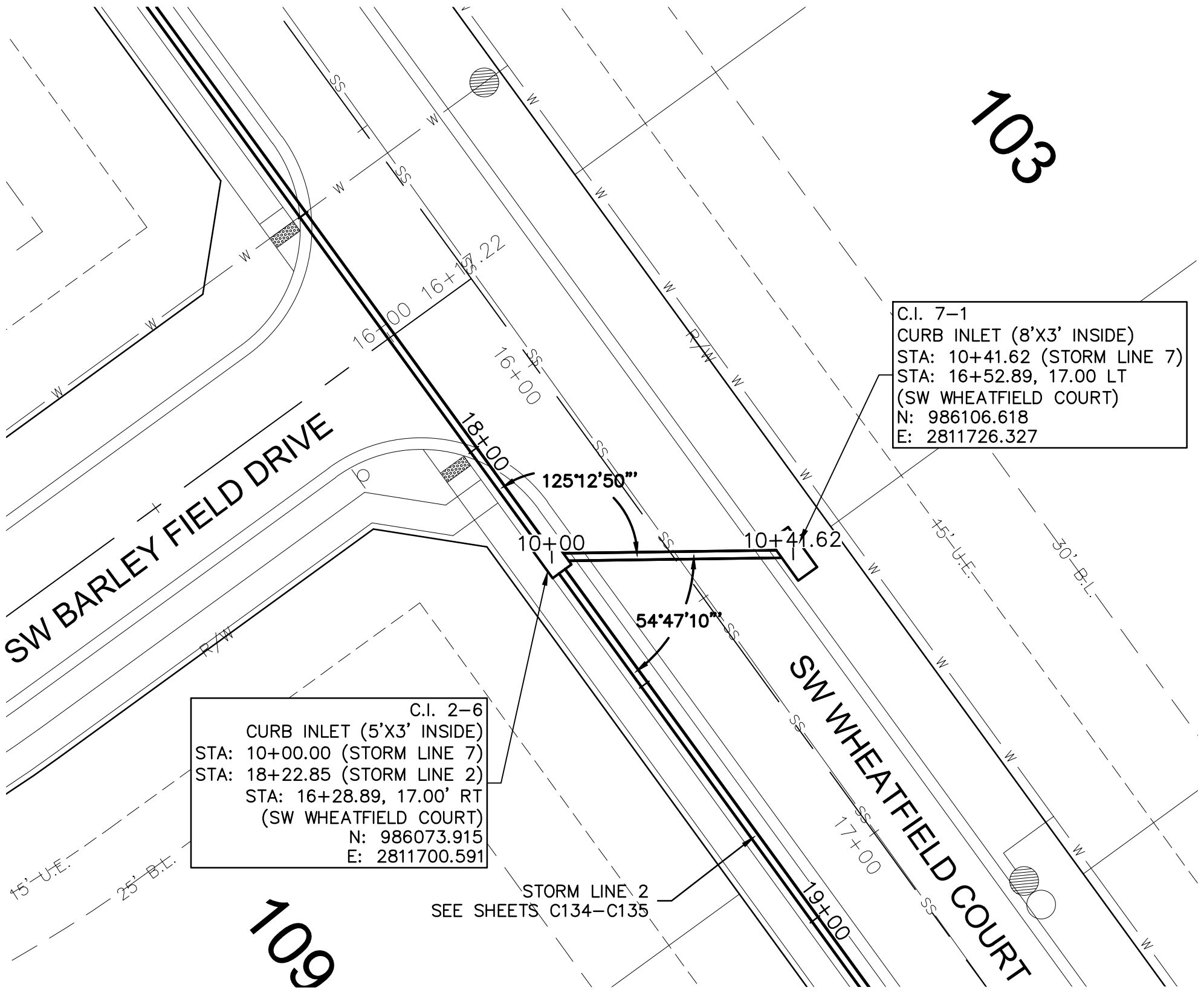
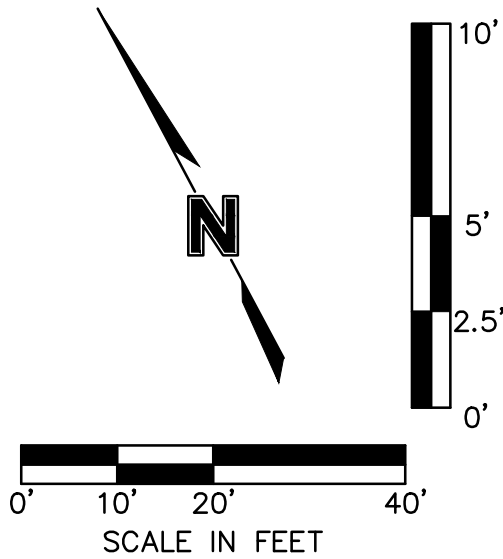
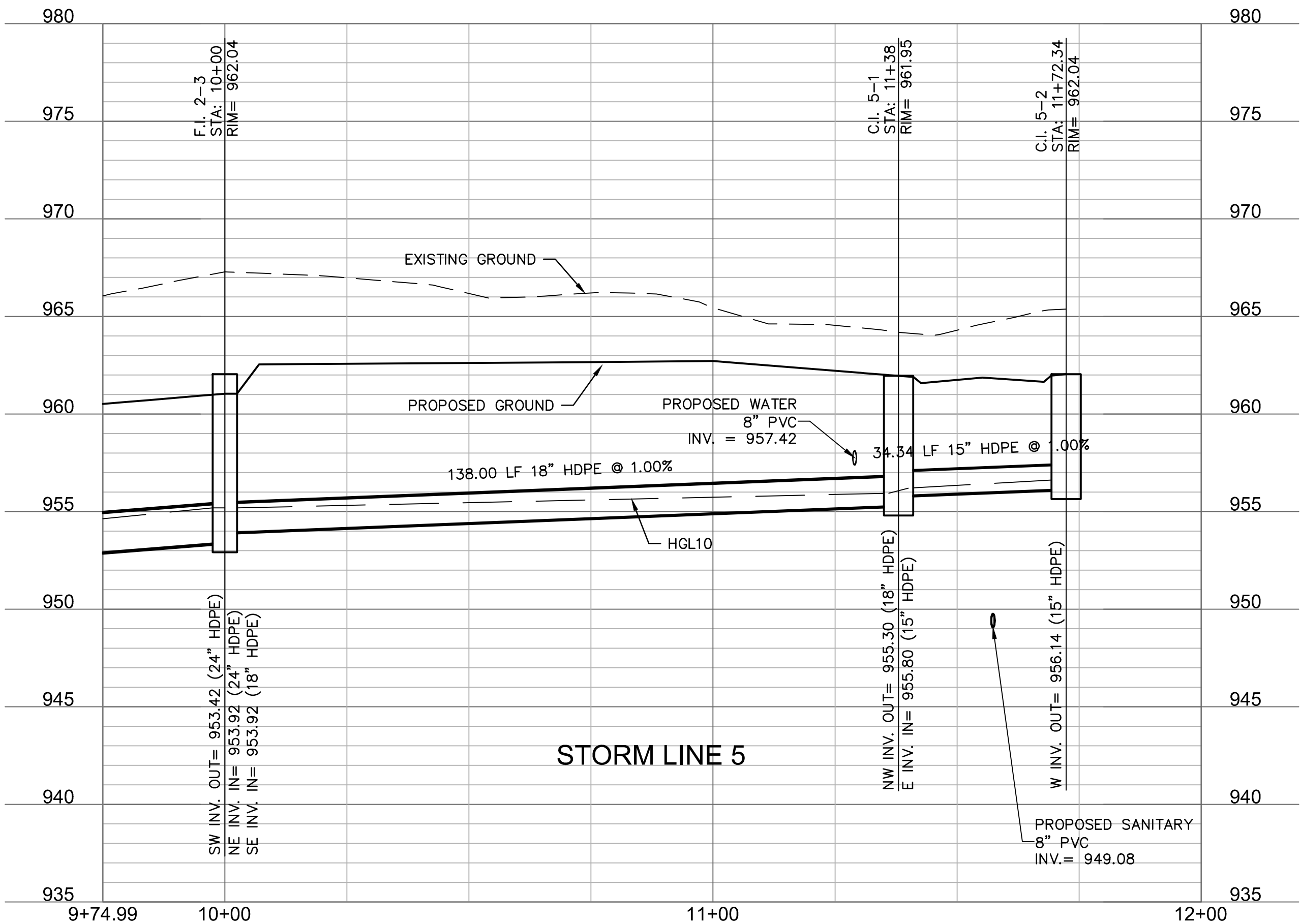
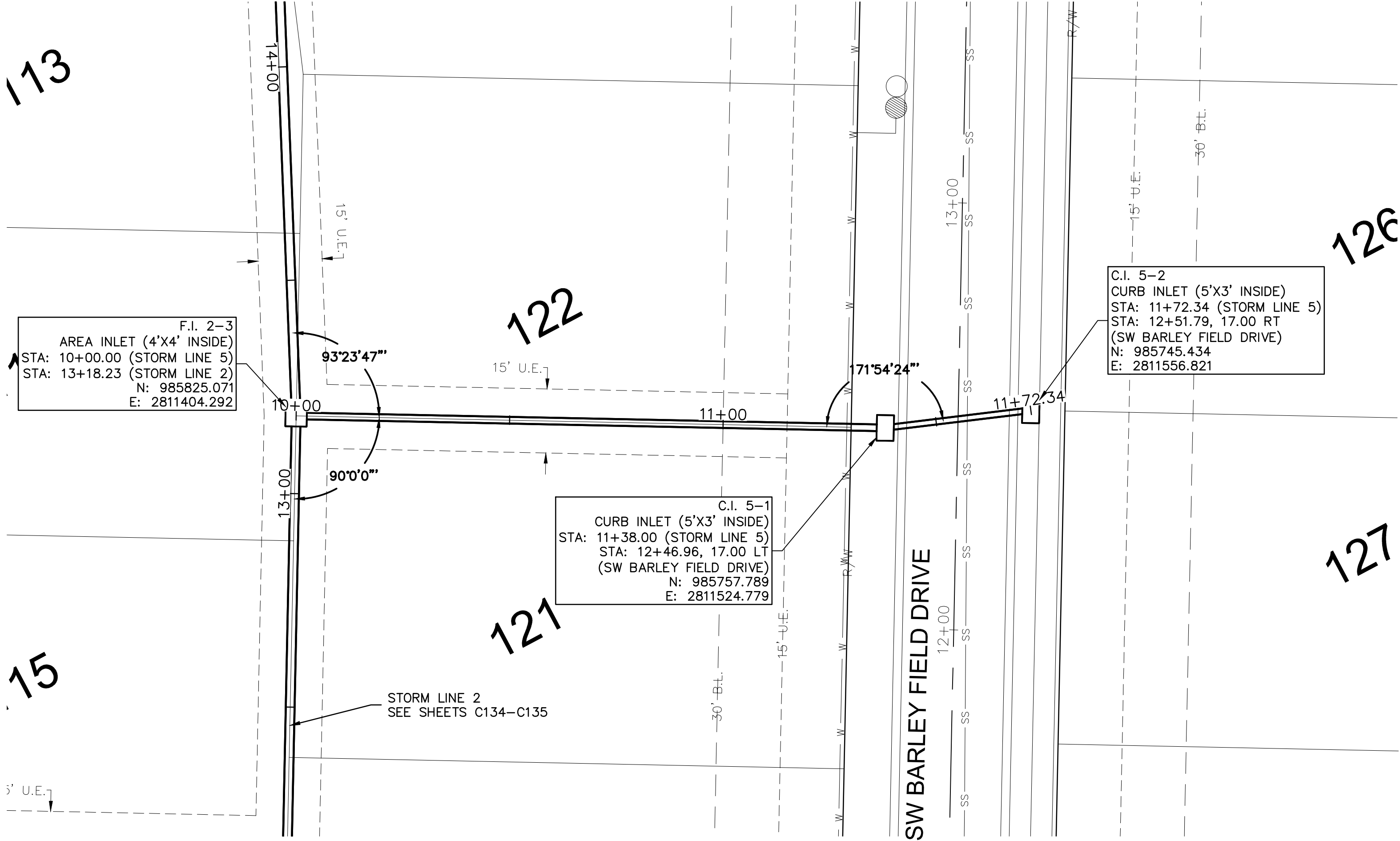
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STORM SEWER PLAN & PROFILE (LINES 3 & 4)
STREET & STORM SEWER PLANS
HOOK FARMS
SECOND PLAT
LEE'S SUMMIT, MO
2021

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.: B19-4061
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C136



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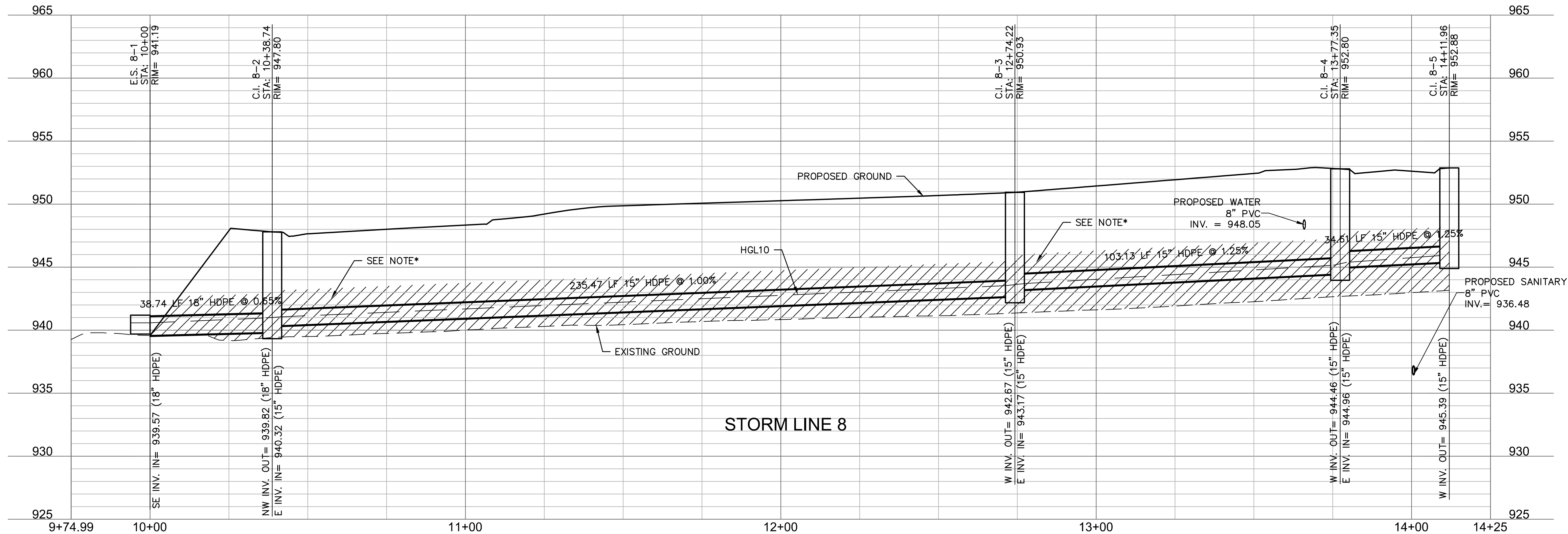
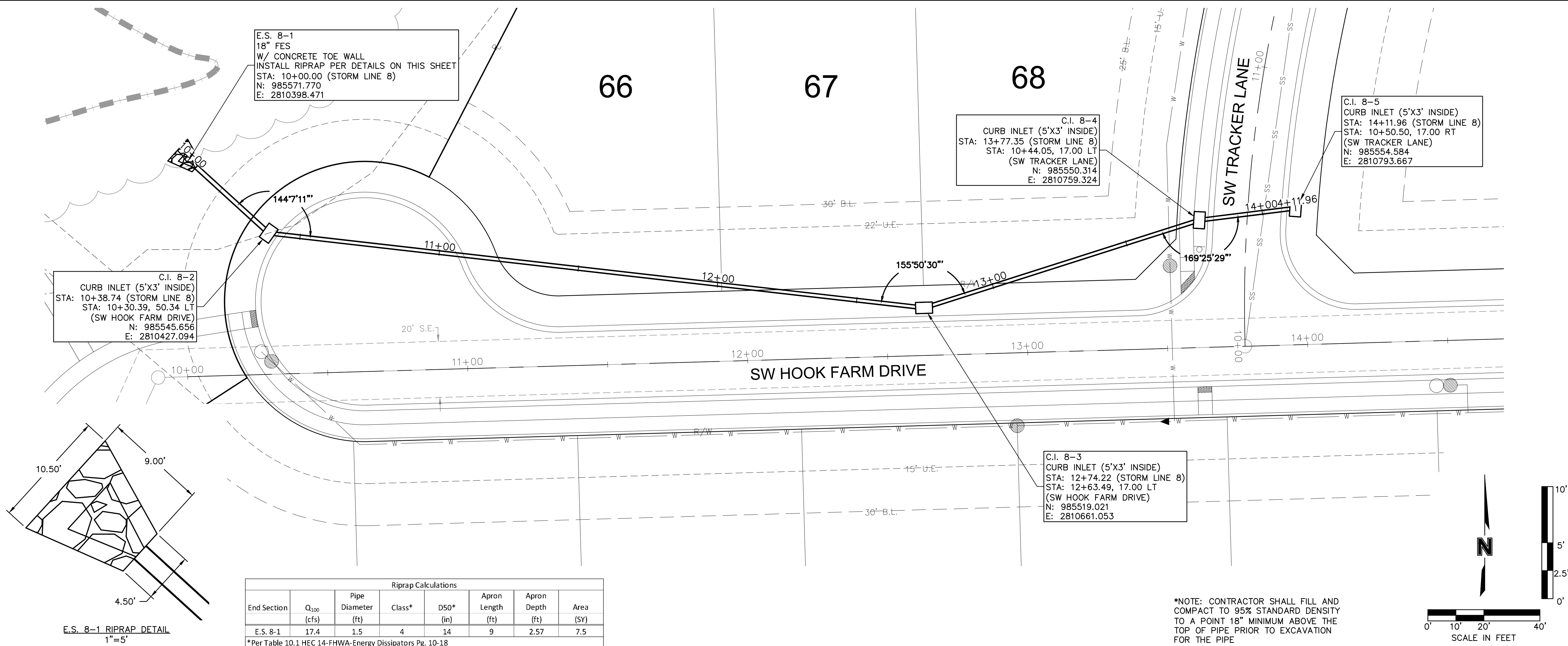
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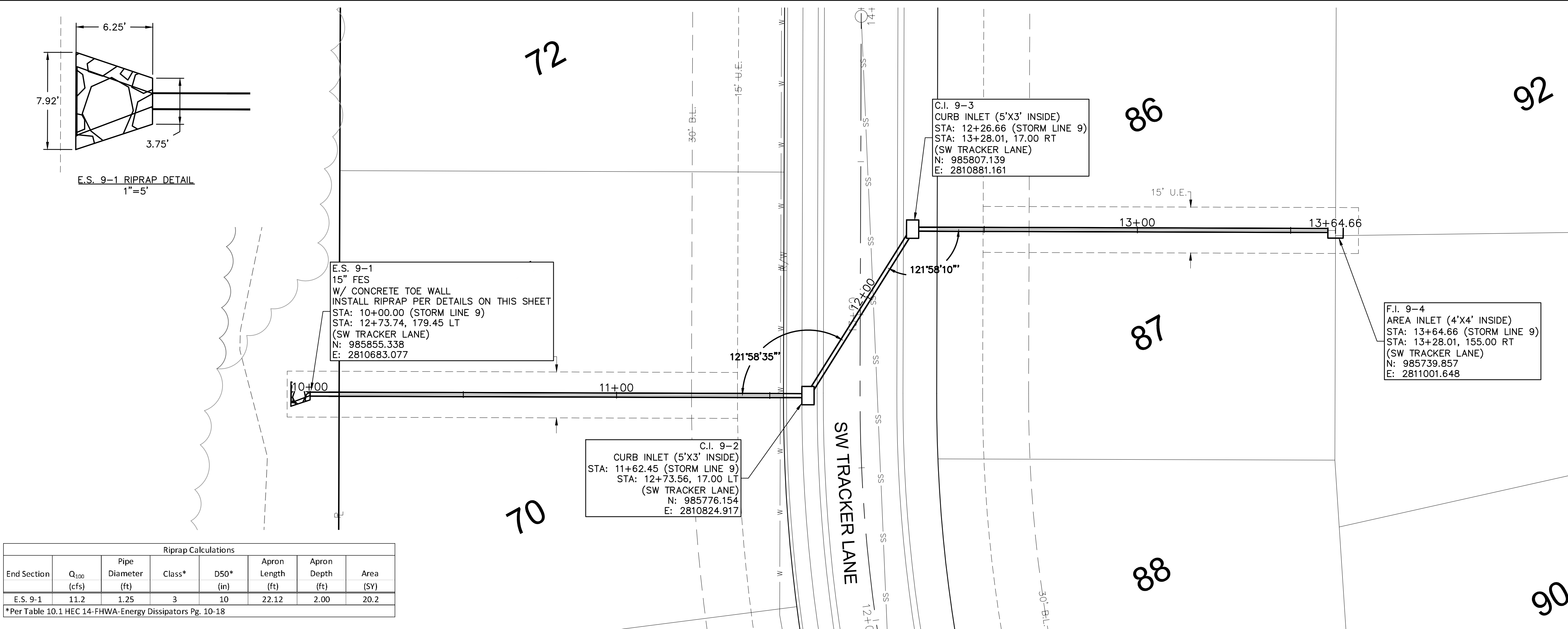
STORM SEWER PLAN & PROFILE (LINES 5 & 7)
STREET & STORM SEWER PLANS
HOOK FARMS
SECOND PLAT
LEE'S SUMMIT, MO
2021

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checked by: B.M.W./
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
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SHEET
C137

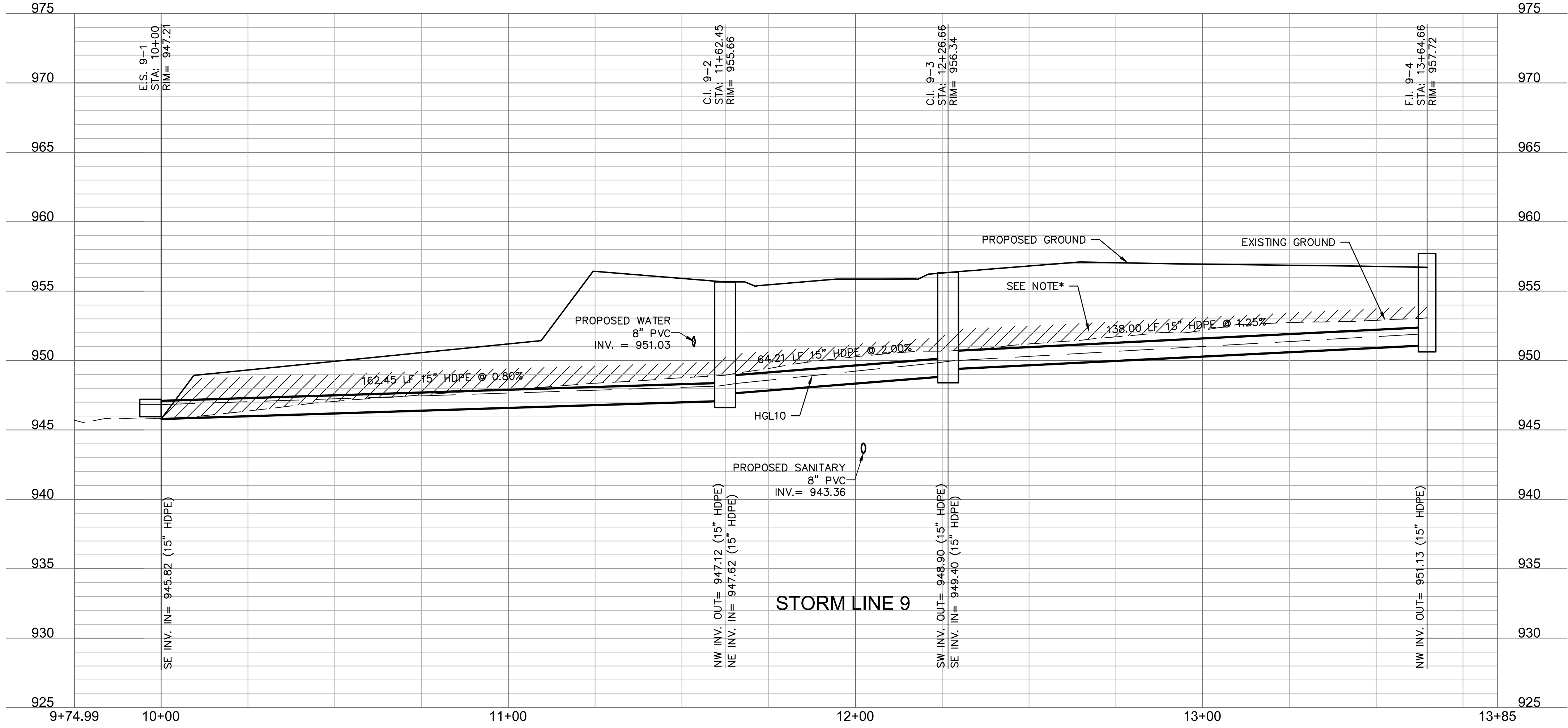


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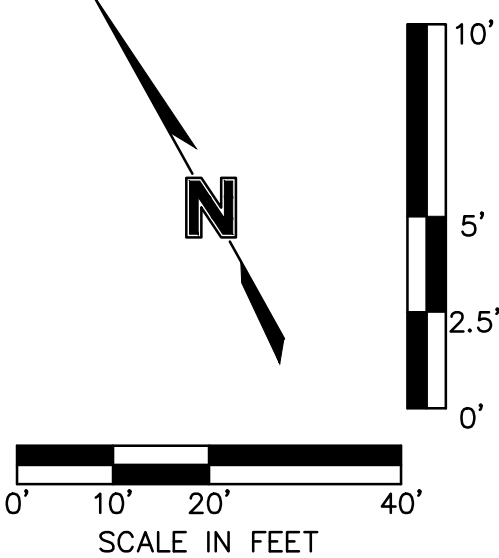


Riprap Calculations						
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)
E.S. 9-1	11.2	1.25	3	10	22.12	2.00
Area (SV)						
20.2						

* 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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STORM SEWER PLAN & PROFILE (LINE 9)
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

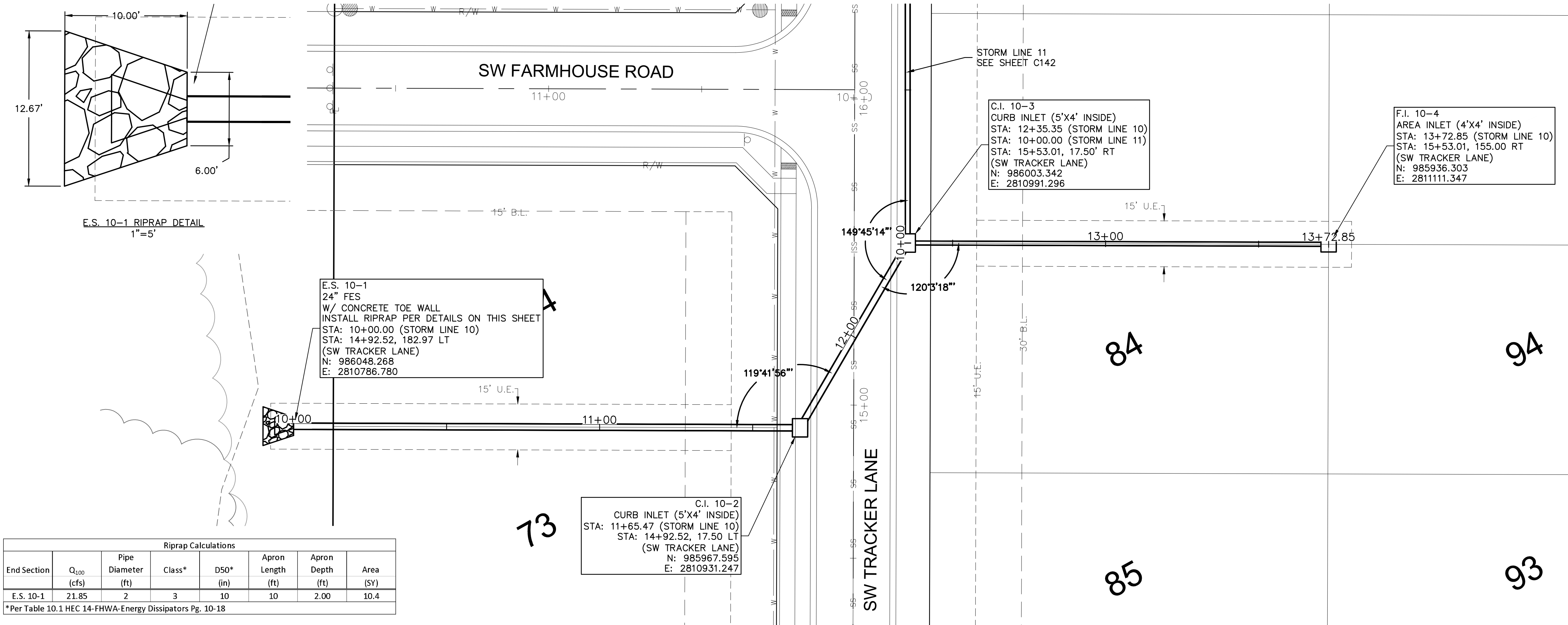
LEE'S SUMMIT, MO

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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.: B19-4061
date: 01-08-2021

2021

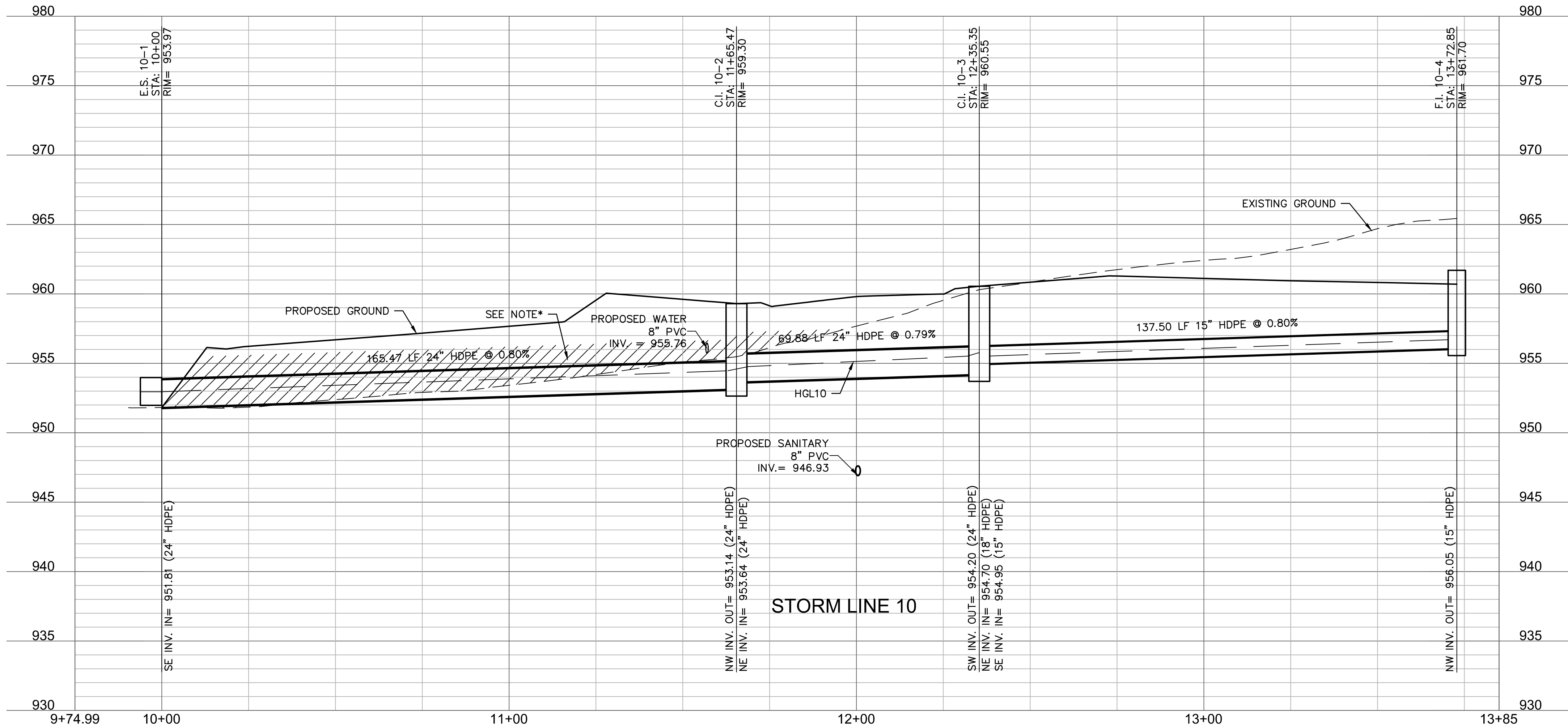
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C140

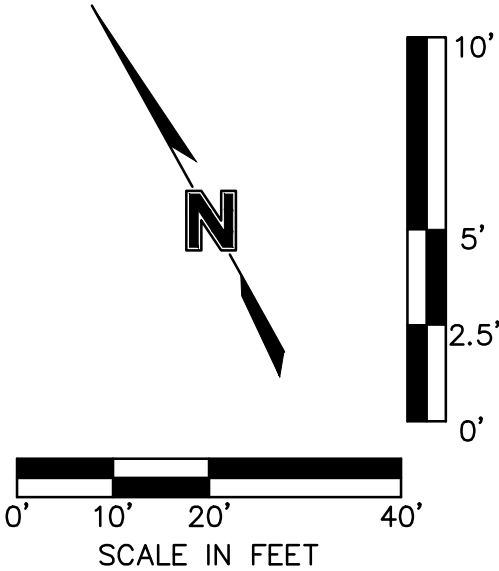


Riprap Calculations							
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)	Area (SY)
E.S. 10-1	21.85	2	3	10	10	2.00	10.4

* 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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STORM SEWER PLAN & PROFILE (LINE 10)
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

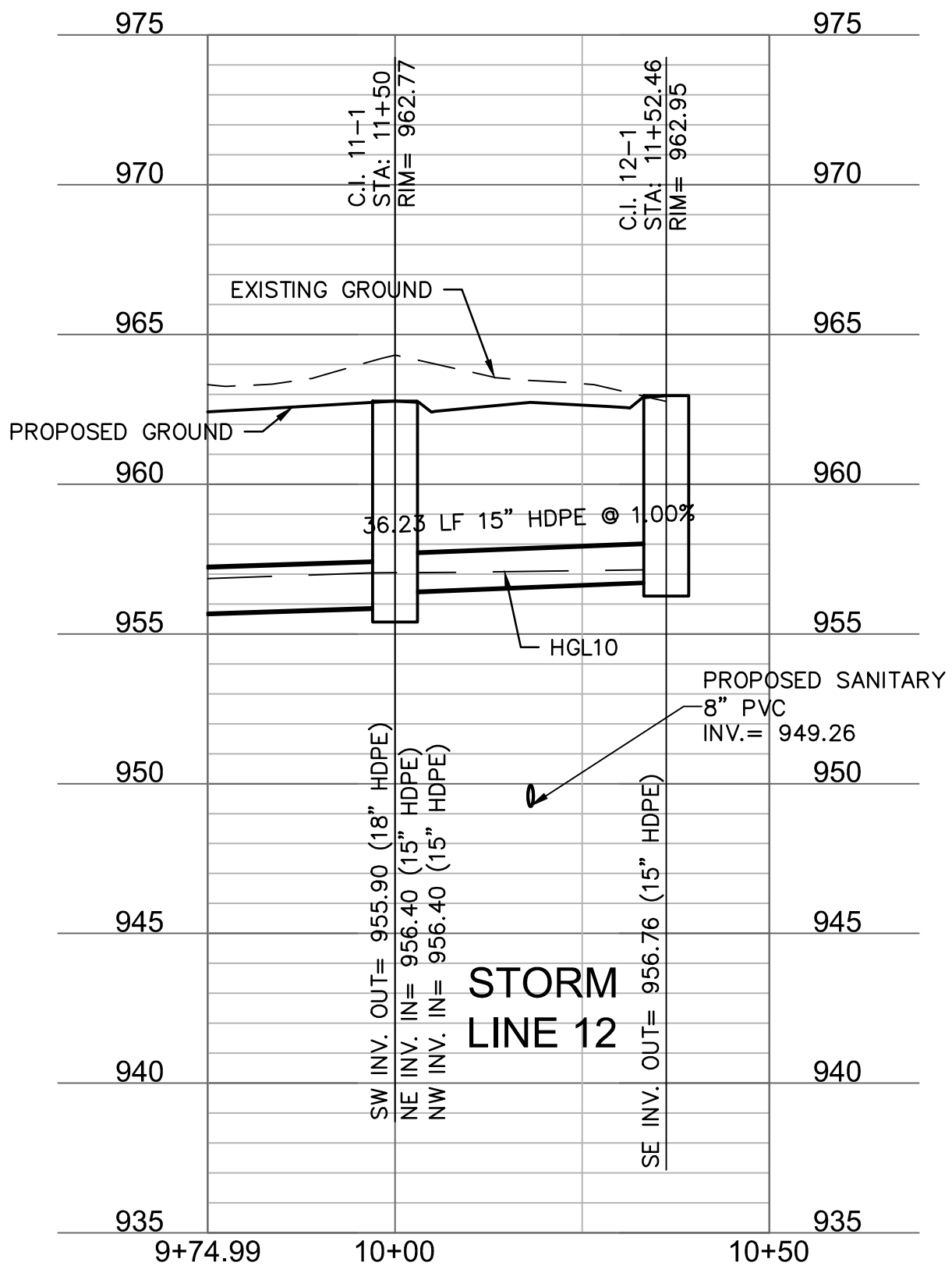
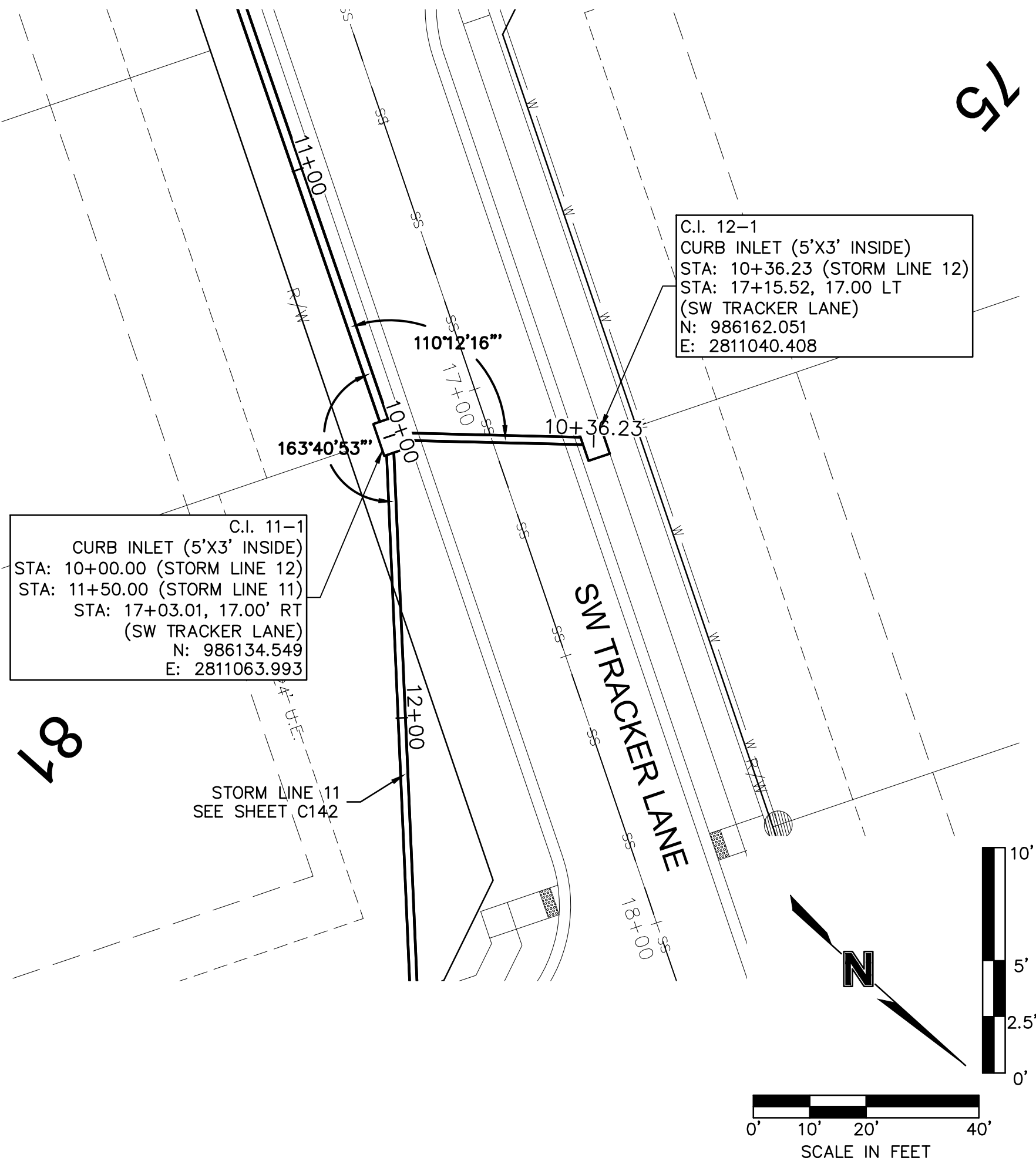
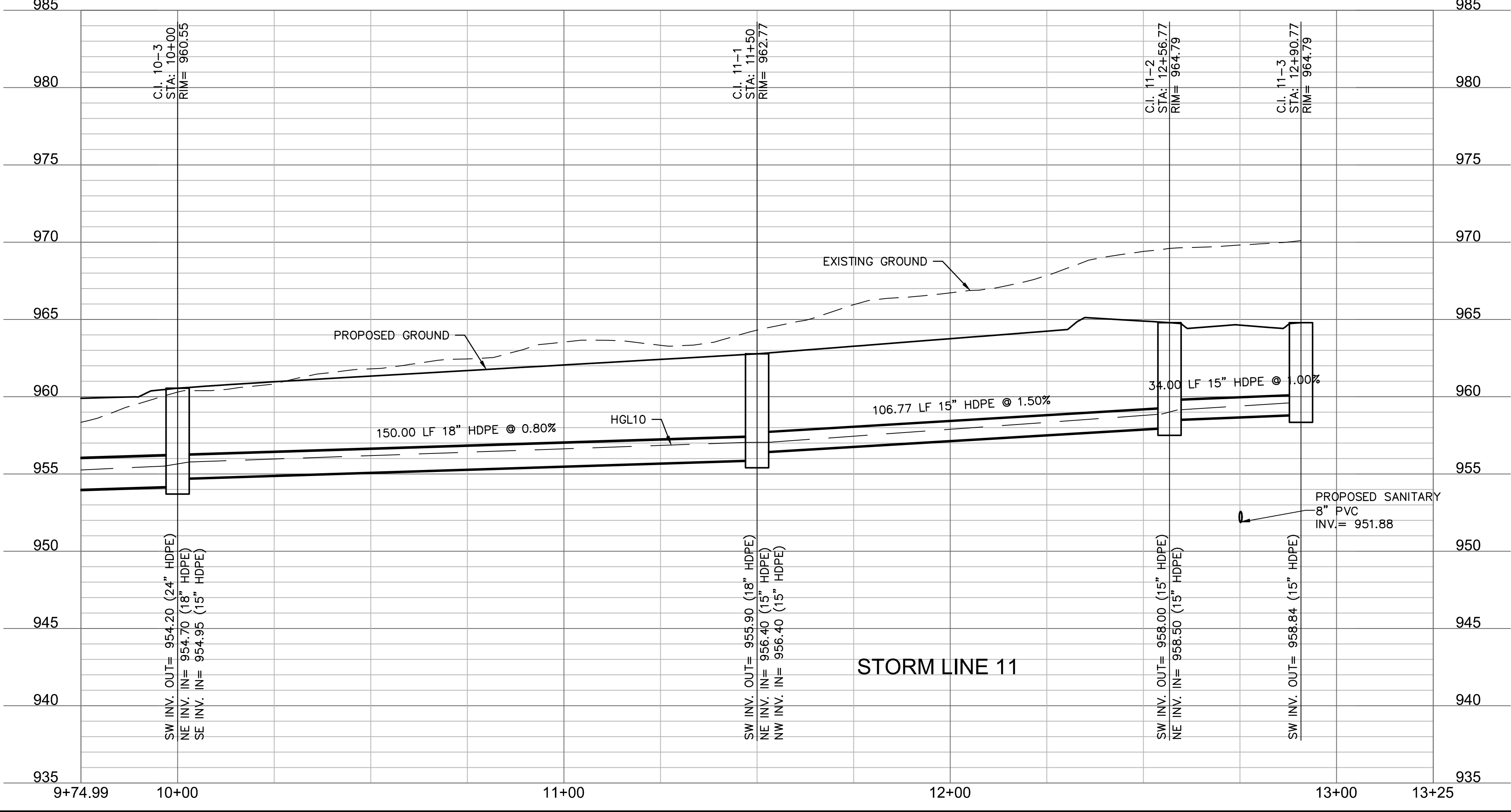
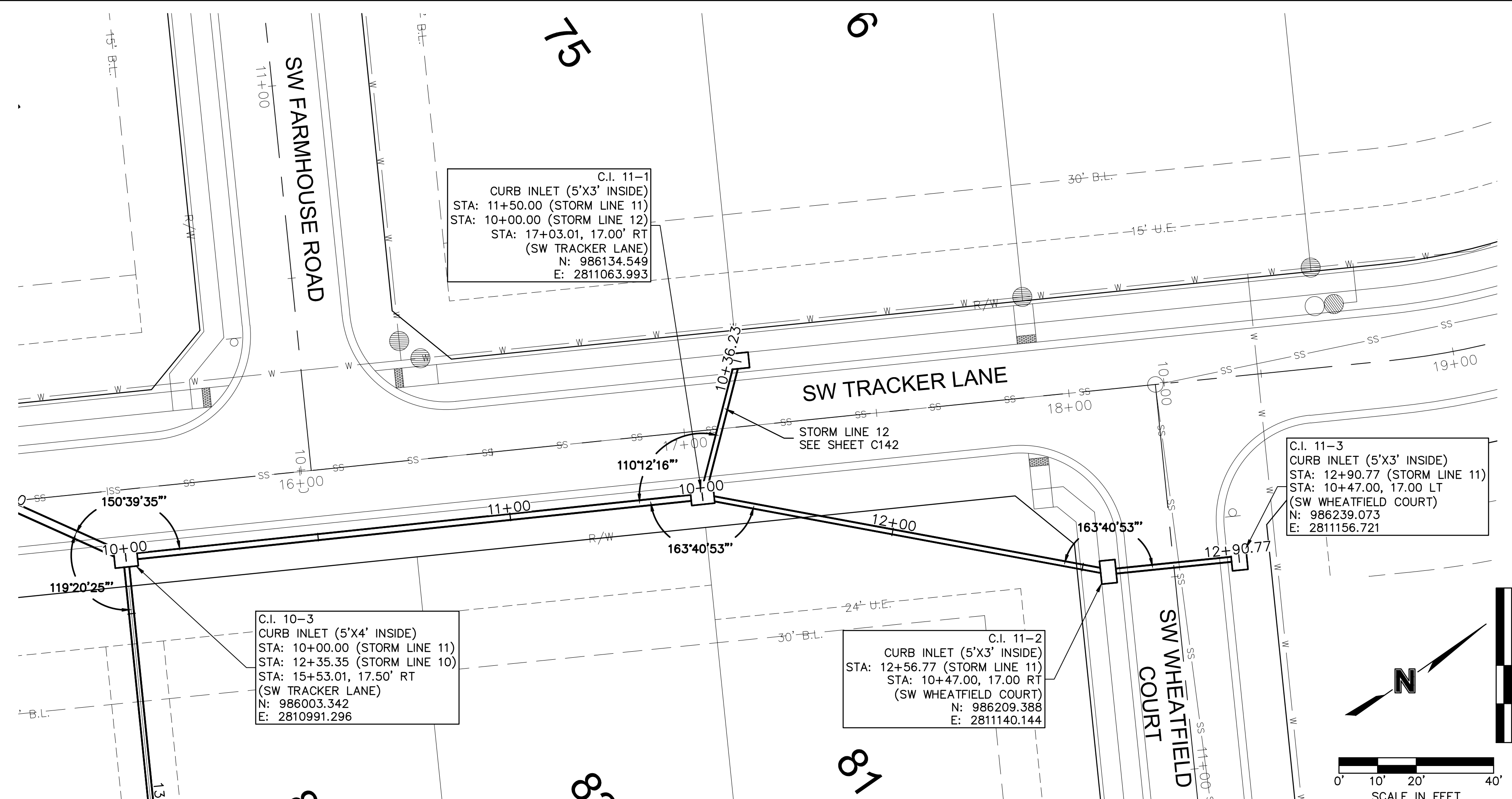
LEE'S SUMMIT, MO

2021

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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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SHEET
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REVISIONS

STORM SEWER PLAN & PROFILE (LINES 11 & 12)
STREET & STORM SEWER PLANS

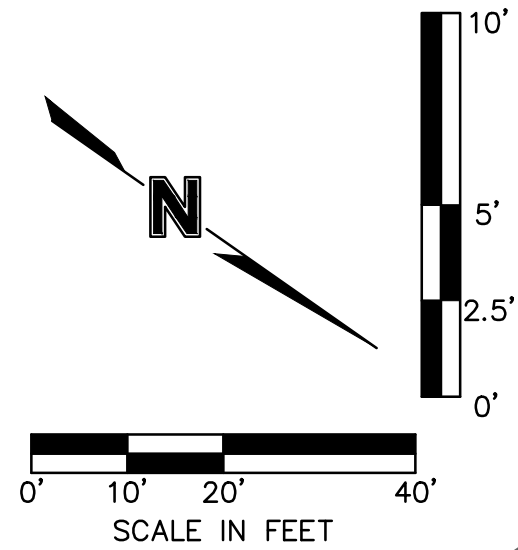
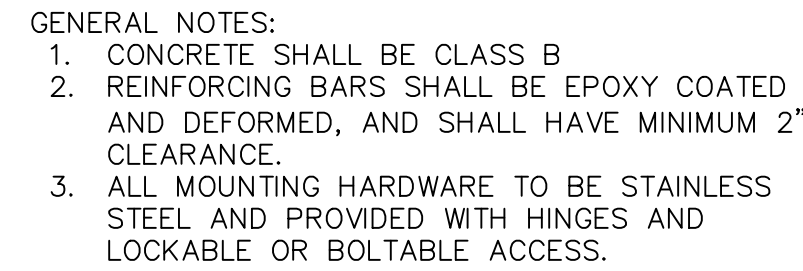
HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

2021

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checked by: B.M.W./
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
date: 01-08-2021

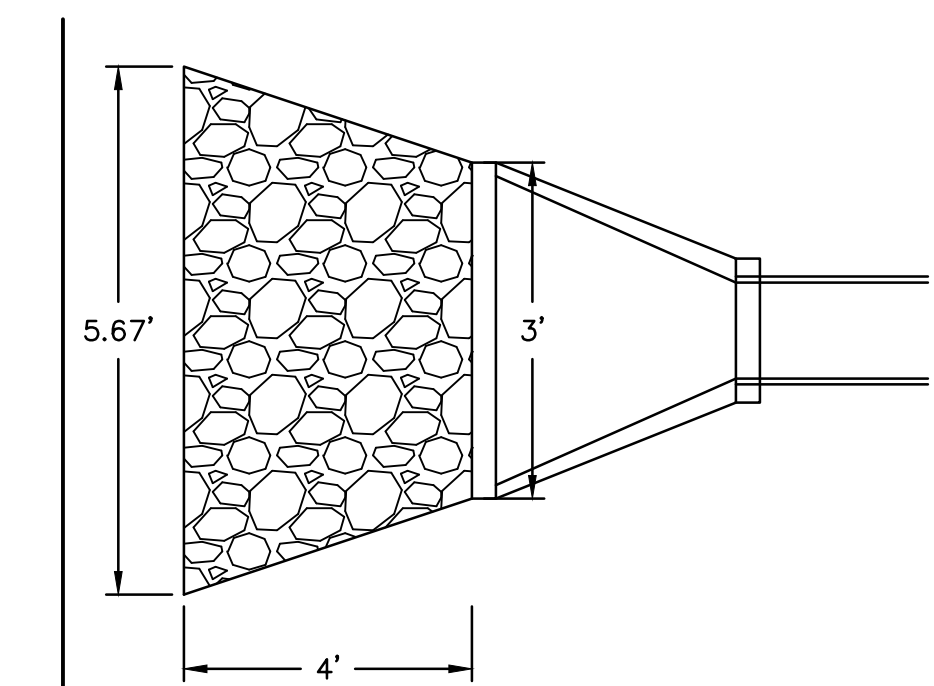
SHEET
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BASIN DETAILS	
SPILLWAY TYPE	BROAD CRESTED WEIR
SPILLWAY LENGTH	58 FT
SPILLWAY ELEVATION	942.50 FT
SPILLWAY DEPTH	3.50 FT
DAM ELEVATION	946.00 FT
WATER QUALITY STORM WATER SURFACE ELEVATION	941.17 FT
100-YR DESIGN WATER SURFACE ELEVATION	943.37 FT
DESIGN STORAGE	109,035 CF

Riprap Calculations							
End Section	Q ₁₀₀	Pipe Diameter	Class*	D50*	Apron Length	Apron Depth	Area
	(cfs)	(ft)		(in)	(ft)	(ft)	(SY)
WQv Outlet	4.154	1	1	5	4	1.46	1.9

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



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Hook Farms Second Plat Minimum Building Opening Elevations			Hook Farms Second Plat Minimum Building Opening Elevations		
Lot	MBOE Required*	As-Built Grading Plan Required	Lot	MBOE Required*	As-Built Grading Plan Required
50	X		87		
51	X		88		
52	X		89		
53	X		90		
54	X		91		
55	X		92		
56	X		93		
57	X		94		
58	X		95		
59	X		96		
60	X		97		
61	X		98		X
62	X		99		X
63	X		100		X
64	X		101		X
65	X		102		X
66	X		103		X
67	X		104		X
68	X		105		X
69	X		106		X
70	X		107		
71	X		108		
72	X		109		
73	X		110		
74	X		111		
75	X		112		
76	X		113	X	X
77	X		114	X	X
78	X		115	X	X
79			116	X	X
80			117	X	X
81			118	X	X
82			119	X	X
83			120	X	X
84			121	X	X
85			122	X	X
86			123	X	X
Notes:			124	X	X
X - Indicates the condition applies to the lot.			125	X	X
* - MBOE's will be determined once the as-built survey has been completed. This table will be replaced with a new table showing the determined MBOE for these lots.			126	X	X
			127	X	X
			128	X	X

NOTES:

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

LEGEND

100 FINISHED INDEX CONTOURS
100 FINISHED INTERMEDIATE CONTOURS

BASEMENT TYPES

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

0' 30' 60' 120'
SCALE IN FEET

N

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MASTER DRAINAGE PLAN
STREET & STORM SEWER PLANS

HOOK FARMS
SECOND PLAT

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.: B19-4061
date: 01-08-2021

SHEET
C144

Inlet Design Table						
10 Year Return Frequency						
Inlet ID	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 1-2(L)	3.36	0.00	100.00%	0.20	10.20	...
C.I. 1-2(R)	0.23	0.00	100.00%	0.07	3.74	...
C.I. 1-2	4.19	0.00	100.00%	...	...	...
C.I. 1-3(L)	0.34	0.00	100.00%	0.09	4.36	...
C.I. 1-3(R)	2.74	0.00	100.00%	0.19	9.44	...
C.I. 1-3	7.20	0.00	100.00%	...	...	...
C.I. 1-4	1.43	0.24	85.63%	0.14	7.21	...
C.I. 1-6	1.94	0.32	85.85%	0.18	8.79	...
C.I. 1-7	1.08	0.13	89.48%	0.13	6.36	...
C.I. 1-8	1.05	0.12	89.77%	0.13	6.28	...
F.I. 2-1	3.04	0.00	100.00%	...	...	0.15
F.I. 2-2	2.59	0.00	100.00%	...	...	0.13
F.I. 2-3	2.48	0.00	100.00%	...	...	0.13
C.I. 2-5	0.64	0.03	95.13%	0.11	5.27	...
C.I. 2-6	0.97	0.08	91.95%	0.12	6.22	...
C.I. 3-1	1.08	0.11	90.54%	0.13	6.47	...
C.I. 4-1	1.66	0.32	83.66%	0.16	7.76	...
C.I. 4-2	1.28	0.18	87.85%	0.14	6.92	...
C.I. 5-1	1.34	0.20	87.27%	0.14	7.05	...
C.I. 5-2	1.54	0.27	85.02%	0.15	7.50	...
C.I. 6-1	3.22	0.90	78.18%	0.21	10.38	...
F.I. 6-2	3.41	0.00	100.00%	...	...	0.16
F.I. 6-3	4.16	0.00	100.00%	...	...	0.18
C.I. 7-1	3.80	1.42	72.80%	0.23	11.35	...
C.I. 8-2(L)	2.06	0.00	100.00%	0.15	7.65	...
C.I. 8-2(R)	0.99	0.00	100.00%	0.13	6.25	...
C.I. 8-2	3.99	0.00	100.00%	...	...	...
C.I. 8-3	1.51	0.17	89.96%	0.16	7.96	...
C.I. 8-4	1.10	0.14	88.79%	0.13	6.37	...
C.I. 8-5	1.86	0.38	83.08%	0.17	8.31	...
C.I. 9-2	0.98	0.08	92.39%	0.13	6.34	...
C.I. 9-3	1.59	0.25	86.30%	0.16	7.76	...
F.I. 9-4	3.68	0.00	100.00%	...	...	0.17
C.I. 10-2	0.33	0.01	97.51%	0.08	3.88	...
C.I. 10-3	1.85	0.41	81.75%	0.16	8.20	...
F.I. 10-4	2.63	0.00	100.00%	...	...	0.14
C.I. 11-1	3.20	1.41	69.52%	0.22	11.03	...
C.I. 11-2	0.91	0.07	92.93%	0.12	6.12	...
C.I. 11-3	3.67	2.18	62.75%	0.24	11.98	...
C.I. 12-1	0.94	0.07	92.82%	0.12	6.25	...

Drainage Area Design Table						
10 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 1-2(L)	0.87	0.51	5.00	7.35	1.00	3.26
C.I. 1-2(R)	0.06	0.51	5.00	7.35	1.00	0.23
C.I. 1-2(B)	0.16	0.51	5.00	7.35	1.00	0.60
C.I. 1-2	1.09	0.51	5.00	7.35	1.00	4.09
C.I. 1-3(L)	0.09	0.51	5.00	7.35	1.00	0.34
C.I. 1-3(R)	0.55	0.51	5.00	7.35	1.00	2.06
C.I. 1-3(B)	1.10	0.51	5.00	7.35	1.00	4.13
C.I. 1-3	1.74	0.51	5.00	7.35	1.00	6.53
C.I. 1-4	0.36	0.51	5.00	7.35	1.00	1.35
C.I. 1-6	0.50	0.51	5.00	7.35	1.00	1.88
C.I. 1-7	0.27	0.51	5.00	7.35	1.00	1.01
C.I. 1-8	0.24	0.51	5.00	7.35	1.00	0.90
F.I. 2-1	0.81	0.51	5.00	7.35	1.00	3.04
F.I. 2-2	0.69	0.51	5.00	7.35	1.00	2.59
F.I. 2-3	0.66	0.51	5.00	7.35	1.00	2.48
C.I. 2-5	0.18	0.51	5.00	7.35	1.00	0.68
C.I. 2-6	0.28	0.51	5.00	7.35	1.00	1.05
C.I. 3-1	0.27	0.51	5.00	7.35	1.00	1.01
C.I. 4-1	0.52	0.51	5.00	7.35	1.00	1.95
C.I. 4-2	0.39	0.51	5.00	7.35	1.00	1.46
C.I. 5-1	0.40	0.51	5.00	7.35	1.00	1.50
C.I. 5-2	0.46	0.51	5.00	7.35	1.00	1.73
C.I. 6-1	0.72	0.51	5.00	7.35	1.00	2.70
F.I. 6-2	0.91	0.51	5.00	7.35	1.00	3.41
F.I. 6-3	1.11	0.51	5.00	7.35	1.00	4.16
C.I. 7-1	1.02	0.51	5.00	7.35	1.00	3.83
C.I. 8-2(L)	0.55	0.51	5.00	7.35	1.00	2.06
C.I. 8-2(R)	0.22	0.51	5.00	7.35	1.00	0.83
C.I. 8-2(B)	0.25	0.51	5.00	7.35	1.00	0.94
C.I. 8-2	1.02	0.51	5.00	7.35	1.00	3.83
C.I. 8-3	0.31	0.51	5.00	7.35	1.00	1.16
C.I. 8-4	0.31	0.51	5.00	7.35	1.00	1.16
C.I. 8-5	0.53	0.51	5.00	7.35	1.00	1.99
C.I. 9-2	0.28	0.51	5.00	7.35	1.00	1.05
C.I. 9-3	0.38	0.51	5.00	7.35	1.00	1.43
F.I. 9-4	0.98	0.51	5.00	7.35	1.00	3.68
C.I. 10-2	0.09	0.51	5.00	7.35	1.00	0.34
C.I. 10-3	0.23	0.51	5.00	7.35	1.00	0.86
F.I. 10-4	0.70	0.51	5.00	7.35	1.00	2.63
C.I. 11-1	0.63	0.51	5.00	7.35	1.00	2.36
C.I. 11-2	0.26	0.51	5.00	7.35	1.00	0.98
C.I. 11-3	1.32	0.51	5.00	7.35	1.00	4.95
C.I. 12-1	0.27	0.51	5.00	7.35	1.00	1.01

Storm Sewer Design Calculation Table													
10 Year Return Frequency													
Upstream Structure	Downstream Structure	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (%)	Diameter (in)	Manning's n	Total Flow (cfs)	Velocity (ft/s)	Capacity (cfs)	Flow Depth (ft)	Upstream Struct. HGL (ft)	Upstream Top Elev. (ft)
C.I. 1-2	E.S. 1-1	202.00	942.02	940.00	1.00	36	0.012	65.27	10.82	72.25	2.23	944.61	952.95
C.I. 1-3	C.I. 1-2	35.00	942.83	942.52	0.86	36	0.012	61.08	10.33	68.99	2.19	945.35	952.95
C.I. 1-4	C.I. 1-3	133.97	944.39	943.32	0.80	36	0.012	53.88	9.58	64.51	2.10	946.77	954.53
M.H. 1-5	C.I. 1-4	44.30	945.24	944.89	0.79	36	0.012	51.37	9.41	64.22	2.03	947.57	954.65
C.I. 1-6	M.H. 1-5	134.49	946.82	945.74	0.80	36	0.012	51.37	9.44	64.75	2.02	949.15	956.22
C.I. 1-7	C.I. 1-6	148.70	949.01	947.82	0.80	24	0.012	16.30	7.01	21.91	1.33	950.46	958.22
C.I. 1-8	C.I. 1-7	36.74	949.80	949.51	0.79	24	0.012	15.22	6.97	21.77	1.23	951.21	958.58
NULL ON LINE 1	C.I. 1-8	104.17	951.34	950.30	1.00	24	0.012	14.17	7.17	24.48	1.09	952.69	953.52
F.I. 2-1	C.I. 1-6	72.94	948.43	947.32	1.52	30	0.012	34.08	8.46	54.44	1.85	950.41	956.89
F.I. 2-2	F.I. 2-1	144.00	950.89	948.93	1.36	30	0.012	30.54	8.99	51.83	1.46	952.77	959.91
F.I. 2-3	F.I. 2-2	101.30	953.42	951.39	2.00	24	0.012	25.01	9.67	34.69	1.38	955.18	962.04
M.H. 2-4	F.I. 2-3	136.61	956.99	953.92	2.25	24	0.012	19.65	8.37	36.73	1.26	958.58	965.63
C.I. 2-5	M.H. 2-4	138.00	962.32	957.49	3.50	24	0.012	19.65	9.27	45.84	1.09	963.91	970.31
C.I. 2-6	C.I. 2-5	230.00	967.30	963.07	1.84	15	0.012	8.72	8.09	9.49	0.94	968.44	973.99
NULL ON LINE 2	C.I. 2-6	178.30	969.58	967.80	1.00	15	0.012	3.95	5.30	6.99	0.67	970.38	970.95
C.I. 3-1	C.I. 1-4	53.27	947.21	946.14	2.01	15	0.012	1.08	2.42	9.91	0.63	947.62	955.25
C.I. 4-1	F.I. 2-2	138.00	953.24	952.14	0.80	15	0.012	2.94	4.48	6.25	0.63	953.93	959.27
C.I. 4-2	C.I. 4-1	39.15	954.05	953.74	0.79	15	0.012	1.28	3.62	6.22	0.38	954.50	958.93
C.I. 5-1	F.I. 2-3	138.00	955.30	953.92	1.00	18	0.012	2.88	2.89	11.38	1.26	955.94	961.95
C.I. 5-2	C.I. 5-1	34.34	956.14	955.80	0.99	15	0.012	1.54	4.00	6.96	0.40	956.63	962.04
C.I. 6-1	C.I. 2-5	44.69	963.21	962.82	0.87	24	0.012	10.29	5.69	22.89	1.09	964.36	970.78
F.I. 6-2	C.I. 6-1	150.50	964.91	963.71	0.80	18	0.012	7.57	5.97	10.16	0.96	965.97	970.06
F.I. 6-3	F.I. 6-2	225.00	970.47	965.41	2.25	15	0.012	4.16	6.45	10.49	0.55	971.29	975.91
C.I. 7-1	C.I. 2-6	41.62	968.22	967.80	1.01	15	0.012	3.80	5.25	7.03	0.66	969.01	974.37
C.I. 8-2	E.S. 8-1	38.74	939.82	939.57	0.65	18	0.012	8.46	5.88	9.14	1.13	940.97	946.73
C.I. 8-3	C.I. 8-2	235.47	942.67	940.32	1.00	15	0.012	4.47	4.98	6.99	0.86	943.53	950.92
C.I. 8-4	C.I. 8-3	103.13	944.46	943.17	1.25	15	0.012	2.96	5.09	7.82	0.53	945.15	952.80
C.I. 8-5	C.I. 8-4	34.61	945.39	944.96	1.24	15	0.012	1.86	4.43	7.80	0.42	945.93	952.88
C.I. 9-2	E.S. 9-1	162.45	947.12	945.82	0.80	15	0.012	5.73	5.70	6.26	0.94	948.09	955.66
C.I. 9-3	C.I. 9-2	64.21	948.90	947.62	1.99	15	0.012	4.75	6.55	9.88	0.61	949.78	956.35
F.I. 9-4	C.I. 9-3	138.00	951.13	949.40	1.25	15	0.012	3.68	5.44	7.83	0.60	951.90	957.72
C.I. 10-2	E.S. 10-1	165.47	953.14	951.81	0.80	24	0.012	13.10	6.67	21.93	1.11	954.44	959.29
C.I. 10-3	C.I. 10-2	69.88	954.20	953.64	0.79	24	0.012	12.77	6.63	22.01	1.09	955.48	960.55
F.I. 10-4	C.I. 10-3	137.50	956.05	954.95	0.80	15	0.012	2.63	4.48	6.25	0.57	956.70	961.70
C.I. 11-1	C.I. 10-3	150.00	955.90	954.70	0.80	18	0.012	8.72	6.26	10.18	1.07	957.04	962.77
C.I. 11-2	C.I. 11-1	106.77	958.00	956.40	1.50	15	0.012	4.58	6.07	8.56	0.65	958.87	964.79
C.I. 11-3	C.I. 11-2	34.00	958.84	958.50	1.00	15	0.012	3.67	5.19	7.00	0.64	959.61	964.79
C.I. 12-1	C.I. 11-1	36.23	956.76	956.40	0.99	15	0.012	0.94	2.23	6.97	0.64	957.14	962.95

Inlet Design Table						
100 Year Return Frequency						
Inlet ID	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 1-2(L)	6.19	0.00	100.00%	0.26	12.82	...
C.I. 1-2(R)	0.39	0.00	100.00%	0.09	4.62	...
C.I. 1-2	7.63	0.00	100.00%	...	...	...
C.I. 1-3(L)	0.59	0.00	100.00%	0.11	5.38	...
C.I. 1-3(R)	6.36	0.00	100.00%	0.26	12.96	...
C.I. 1-3	14.19	0.00	100.00%	...	...	...
C.I. 1-4	2.44	0.89	73.20%	0.19	9.34	...
C.I. 1-6	3.55	1.43	71.29%	0.24	11.81	...
C.I. 1-7	1.90	0.48	79.74%	0.16	8.20	...
C.I. 1-8	1.92	0.50	79.31%	0.17	8.25	...
F.I. 2-1	5.33	0.00	100.00%	...	...	0.22
F.I. 2-2	4.54	0.00	100.00%	...	...	0.19
F.I. 2-3	4.34	0.00	100.00%	...	...	0.19
C.I. 2-5	1.08	0.11	90.84%	0.13	6.50	...
C.I. 2-6	1.58	0.26	85.66%	0.15	7.68	...
C.I. 3-1	1.89	0.42	81.80%	0.17	8.30	...
C.I. 4-1	2.57	0.96	72.69%	0.19	9.63	...
C.I. 4-2	2.03	0.53	79.27%	0.17	8.55	...
C.I. 5-1	2.14	0.60	78.02%	0.18	8.76	...
C.I. 5-2	2.44	0.85	74.25%	0.19	9.38	...
C.I. 6-1	5.35	4.17	56.23%	0.28	14.21	...
F.I. 6-2	5.99	0.00	100.00%	...	...	0.23
F.I. 6-3	7.30	0.00	100.00%	...	...	0.27
C.I. 7-1	5.55	4.78	53.73%	0.29	14.65	...
C.I. 8-2(L)	3.62	0.00	100.00%	0.19	9.45	...
C.I. 8-2(R)	2.87	0.00	100.00%	0.19	9.30	...
C.I. 8-2	8.13	0.00	100.00%	...	...	...
C.I. 8-3	3.64	1.42	71.92%	0.24	12.02	...
C.I. 8-4	1.83	0.46	79.78%	0.16	8.02	...
C.I. 8-5	3.80	2.55	59.83%	0.25	12.28	...
C.I. 9-2	1.62	0.26	86.25%	0.16	7.85	...
C.I. 9-3	4.00	2.86	58.28%	0.25	12.72	...
F.I. 9-4	6.45	0.00	100.00%	...	...	0.25
C.I. 10-2	0.56	0.03	94.87%	0.10	4.79	...
C.I. 10-3	4.19	4.36	49.04%	0.27	13.48	...
F.I. 10-4	4.61	0.00	100.00%	...	...	0.20
C.I. 11-1	5.09	7.04	41.98%	0.32	15.85	...
C.I. 11-2	1.49	0.22	87.24%	0.15	7.56	...
C.I. 11-3	5.08	7.77	39.56%	0.32	16.10	...
C.I. 12-1	1.55	0.23	87.07%	0.15	7.71	...

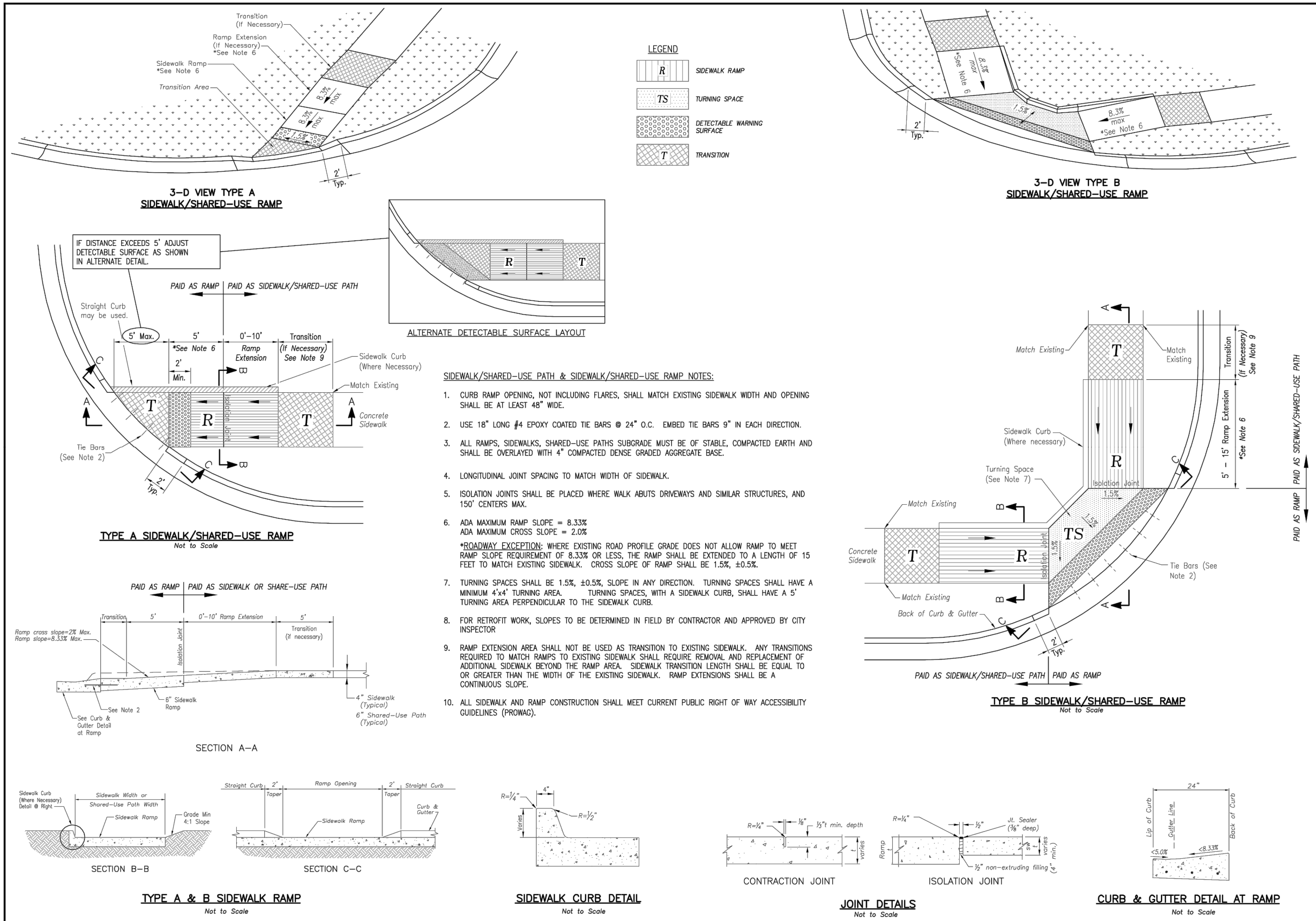
Drainage Area Design Table						
100 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 1-2(L)	0.87	0.51	5.00	10.32	1.25	5.73
C.I. 1-2(R)	0.06	0.51	5.00	10.32	1.25	0.39
C.I. 1-2(B)	0.16	0.51	5.00	10.32	1.25	1.05
C.I. 1-2	1.09	0.51	5.00	10.32	1.25	7.17
C.I. 1-3(L)	0.09	0.51	5.00	10.32	1.25	0.59
C.I. 1-3(R)	0.55	0.51	5.00	10.32	1.25	3.62
C.I. 1-3(B)	1.10	0.51	5.00	10.32	1.25	7.24
C.I. 1-3	1.74	0.51	5.00	10.32	1.25	11.45
C.I. 1-4	0.36	0.51	5.00	10.32	1.25	2.37
C.I. 1-6	0.50	0.51	5.00	10.32	1.25	3.29
C.I. 1-7	0.27	0.51	5.00	10.32	1.25	1.78
C.I. 1-8	0.24	0.51	5.00	10.32	1.25	1.58
F.I. 2-1	0.81	0.51	5.00	10.32	1.25	5.33
F.I. 2-2	0.69	0.51	5.00	10.32	1.25	4.54
F.I. 2-3	0.66	0.51	5.00	10.32	1.25	4.34
C.I. 2-5	0.18	0.51	5.00	10.32	1.25	1.18
C.I. 2-6	0.28	0.51	5.00	10.32	1.25	1.84
C.I. 3-1	0.27	0.51	5.00	10.32	1.25	1.78
C.I. 4-1	0.52	0.51	5.00	10.32	1.25	3.42
C.I. 4-2	0.39	0.51	5.00	10.32	1.25	2.57
C.I. 5-1	0.40	0.51	5.00	10.32	1.25	2.63
C.I. 5-2	0.46	0.51	5.00	10.32	1.25	3.03
C.I. 6-1	0.72	0.51	5.00	10.32	1.25	4.74
F.I. 6-2	0.91	0.51	5.00	10.32	1.25	5.99
F.I. 6-3	1.11	0.51	5.00	10.32	1.25	7.30
C.I. 7-1	1.02	0.51	5.00	10.32	1.25	6.71
C.I. 8-2(L)	0.55	0.51	5.00	10.32	1.25	3.62
C.I. 8-2(R)	0.22	0.51	5.00	10.32	1.25	1.45
C.I. 8-2(B)	0.25	0.51	5.00	10.32	1.25	1.65
C.I. 8-2	1.02	0.51	5.00	10.32	1.25	6.71
C.I. 8-3	0.31	0.51	5.00	10.32	1.25	2.04
C.I. 8-4	0.31	0.51	5.00	10.32	1.25	2.04
C.I. 8-5	0.53	0.51	5.00	10.32	1.25	3.49
C.I. 9-2	0.28	0.51	5.00	10.32	1.25	1.84
C.I. 9-3	0.38	0.51	5.00	10.32	1.25	2.50
F.I. 9-4	0.98	0.51	5.00	10.32	1.25	6.45
C.I. 10-2	0.09	0.51	5.00	10.32	1.25	0.59
C.I. 10-3	0.23	0.51	5.00	10.32	1.25	1.51
F.I. 10-4	0.70	0.51	5.00	10.32	1.25	4.61
C.I. 11-1	0.63	0.51	5.00	10.32	1.25	4.15
C.I. 11-2	0.26	0.51	5.00	10.32	1.25	1.71
C.I. 11-3	1.32	0.51	5.00	10.32	1.25	8.69
C.I. 12-1	0.27	0.51	5.00	10.32	1.25	1.78

Storm Sewer Design Calculation Table													
100 Year Return Frequency													
Upstream Structure	Downstream Structure	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (%)	Diameter (in)	Manning's n	Total Flow (cfs)	Velocity (ft/s)	Capacity (cfs)	Flow Depth (ft)	Upstream Struct. HGL (ft)	Upstream Top Elev. (ft)
C.I. 1-2	E.S. 1-1	202.00	942.02	940.00	1.00	36	0.012	100.26	14.26	72.25	2.90	946.61	952.95
C.I. 1-3	C.I. 1-2	35.00	942.83	942.52	0.86	36	0.012	92.63	13.11	68.99	3.00	948.11	952.95
C.I. 1-4	C.I. 1-3	133.97	944.39	943.32	0.80	36	0.012	78.44	11.10	64.51	3.00	950.76	954.53
M.H. 1-5	C.I. 1-4	44.30	945.24	944.89	0.79	36	0.012	74.11	10.49	64.22	3.00	951.99	954.65
C.I. 1-6	M.H. 1-5	134.49	946.82	945.74	0.80	36	0.012	74.11	10.49	64.75	3.00	954.09	956.22
C.I. 1-7	C.I. 1-6	148.70	949.01	947.82	0.80	24	0.012	17.99	5.73	21.91	2.00	955.58	958.22
C.I. 1-8	C.I. 1-7	36.74	949.80	949.51	0.79	24	0.012	16.09	5.12	21.77	2.00	955.89	958.58
NULLON LINE 1	C.I. 1-8	104.17	951.34	950.30	1.00	24	0.012	14.17	4.51	24.48	2.00	956.36	953.52
F.I. 2-1	C.I. 1-6	72.94	948.43	947.32	1.52	30	0.012	54.19	11.04	54.44	2.50	956.33	956.89
F.I. 2-2	F.I. 2-1	144.00	950.89	948.93	1.36	30	0.012	48.00	9.78	51.83	2.50	958.21	959.91
F.I. 2-3	F.I. 2-2	101.30	953.42	951.39	2.00	24	0.012	38.86	12.37	34.69	2.00	961.35	962.04
M.H. 2-4	F.I. 2-3	136.61	956.99	953.92	2.25	24	0.012	29.94	9.53	36.73	2.00	964.35	965.63
C.I. 2-5	M.H. 2-4	138.00	962.32	957.49	3.50	24	0.012	29.94	9.53	45.84	2.00	966.83	970.31
C.I. 2-6	C.I. 2-5	230.00	967.30	963.07	1.84	15	0.012	11.08	9.03	9.49	1.25	973.17	973.99
NULLON LINE 2	C.I. 2-6	178.30	969.58	967.80	1.00	15	0.012	3.95	3.22	6.99	1.25	974.24	970.95
C.I. 3-1	C.I. 1-4	53.27	947.21	946.14	2.01	15	0.012	1.89	1.54	9.91	1.25	951.57	955.25
C.I. 4-1	F.I. 2-2	138.00	953.24	952.14	0.80	15	0.012	4.60	3.75	6.25	1.25	959.40	959.27
C.I. 4-2	C.I. 4-1	39.15	954.05	953.74	0.79	15	0.012	2.03	1.65	6.22	1.25	959.50	958.93
C.I. 5-1	F.I. 2-3	138.00	955.30	953.92	1.00	18	0.012	4.58	2.59	11.38	1.50	962.53	961.95
C.I. 5-2	C.I. 5-1	34.34	956.14	955.80	0.99	15	0.012	2.44	1.99	6.96	1.25	962.60	962.04
C.I. 6-1	C.I. 2-5	44.69	963.21	962.82	0.87	24	0.012	17.78	5.66	22.89	2.00	967.63	970.78
F.I. 6-2	C.I. 6-1	150.50	964.91	963.71	0.80	18	0.012	13.29	7.52	10.16	1.50	971.03	970.06
F.I. 6-3	F.I. 6-2	225.00	970.47	965.41	2.25	15	0.012	7.30	5.95	10.49	1.25	972.39	975.91
C.I. 7-1	C.I. 2-6	41.62	968.22	967.80	1.01	15	0.012	5.55	4.52	7.03	1.25	973.94	974.37
C.I. 8-2	E.S. 8-1	38.74	939.82	939.57	0.65	18	0.012	17.40	9.91	9.14	1.44	941.90	946.73
C.I. 8-3	C.I. 8-2	235.47	942.67	940.32	1.00	15	0.012	9.27	7.55	6.99	1.25	946.64	950.92
C.I. 8-4	C.I. 8-3	103.13	944.46	943.17	1.25	15	0.012	5.63	4.59	7.82	1.25	947.57	952.80
C.I. 8-5	C.I. 8-4	34.61	945.39	944.96	1.24	15	0.012	3.80	3.10	7.80	1.25	947.77	952.88
C.I. 9-2	E.S. 9-1	162.45	947.12	945.82	0.80	15	0.012	11.20	9.13	6.26	1.25	952.40	955.66
C.I. 9-3	C.I. 9-2	64.21	948.90	947.62	1.99	15	0.012	9.58	7.81	9.88	1.25	954.12	956.35
F.I. 9-4	C.I. 9-3	138.00	951.13	949.40	1.25	15	0.012	6.45	5.26	7.83	1.25	956.73	957.72
C.I. 10-2	E.S. 10-1	165.47	953.14	951.81	0.80	24	0.012	21.85	7.88	21.93	1.63	954.81	959.29
C.I. 10-3	C.I. 10-2	69.88	954.20	953.64	0.79	24	0.012	21.29	7.83	22.01	1.58	955.85	960.55
F.I. 10-4	C.I. 10-3	137.50	956.05	954.95	0.80	15	0.012	4.61	4.90	6.25	0.92	956.92	961.70
C.I. 11-1	C.I. 10-3	150.00	955.90	954.70	0.80	18	0.012	13.21	7.48	10.18	1.50	958.22	962.77
C.I. 11-2	C.I. 11-1	106.77	958.00	956.40	1.50	15	0.012	6.57	5.35	8.56	1.25	959.51	964.79
C.I. 11-3	C.I. 11-2	34.00	958.84	958.50	1.00	15	0.012	5.08	4.80	7.00	1.15	959.75	964.79
C.I. 12-1	C.I. 11-1	36.23	956.76	956.40	0.99	15	0.012	1.55	1.26	6.97	1.25	958.59	962.95

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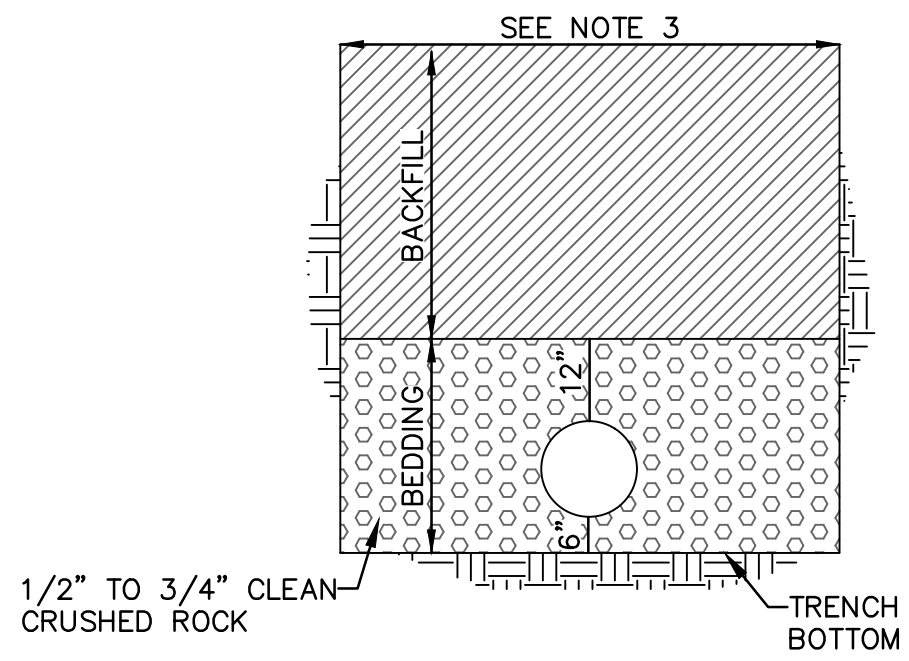
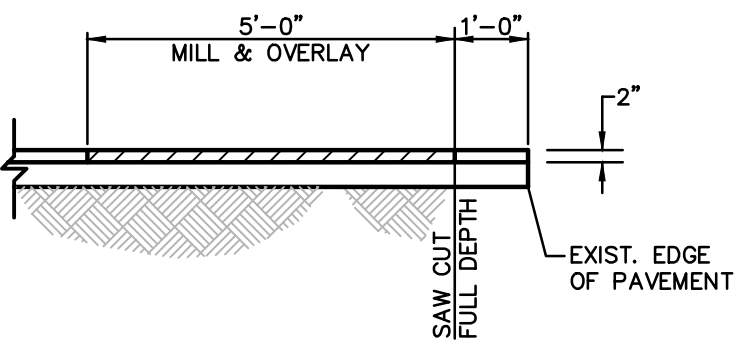
STATE OF MISSOURI
JULIE ELAINE SELL



LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 1205 SE GREEN STREET | LEE'S SUMMIT, MO 64683

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
ADA RAMP RETROFIT DETAIL

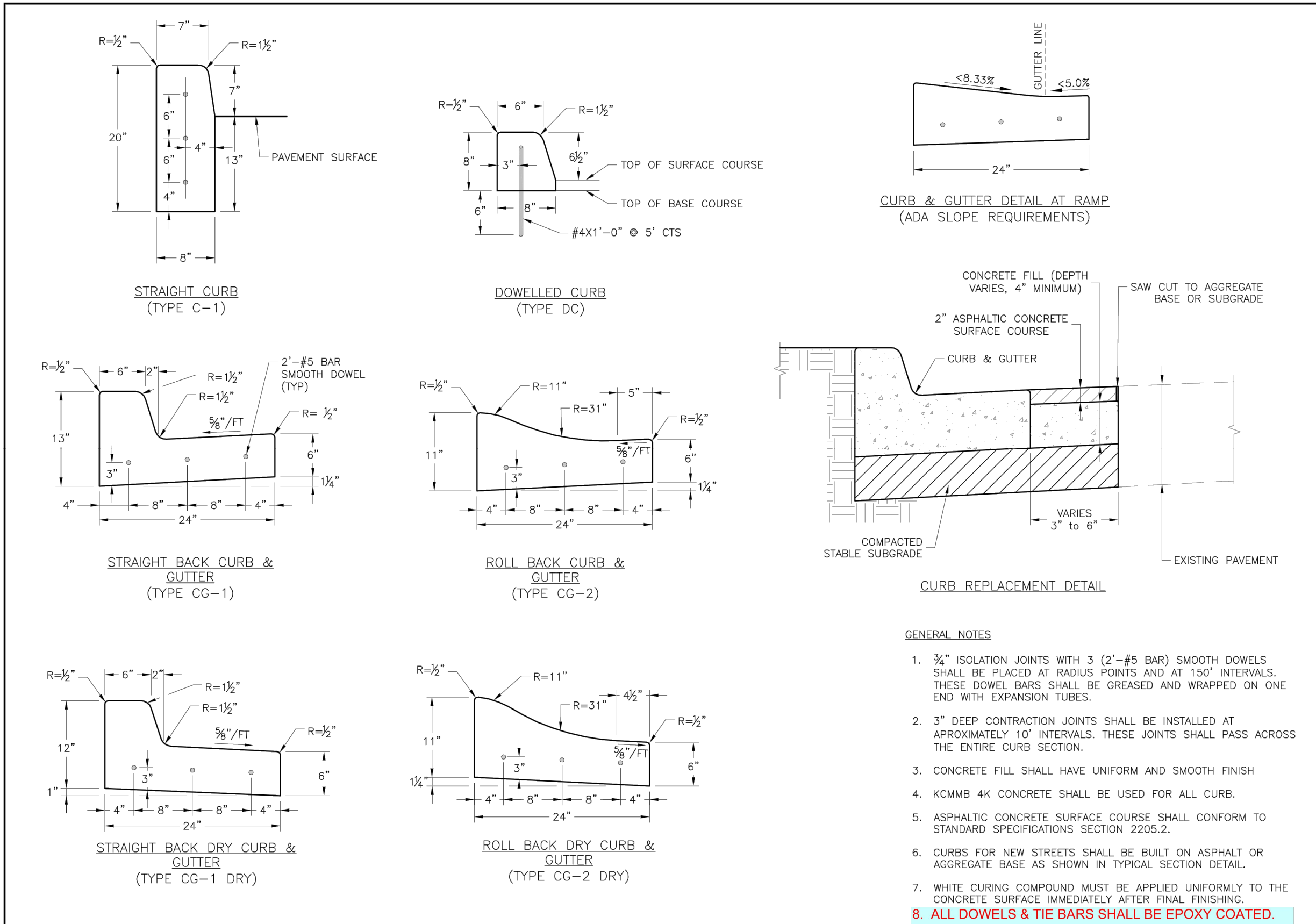
GEN-3A



UNDERGROUND PIPE INSTALLATION FOR STORM SEWER LINES

N.T.S.

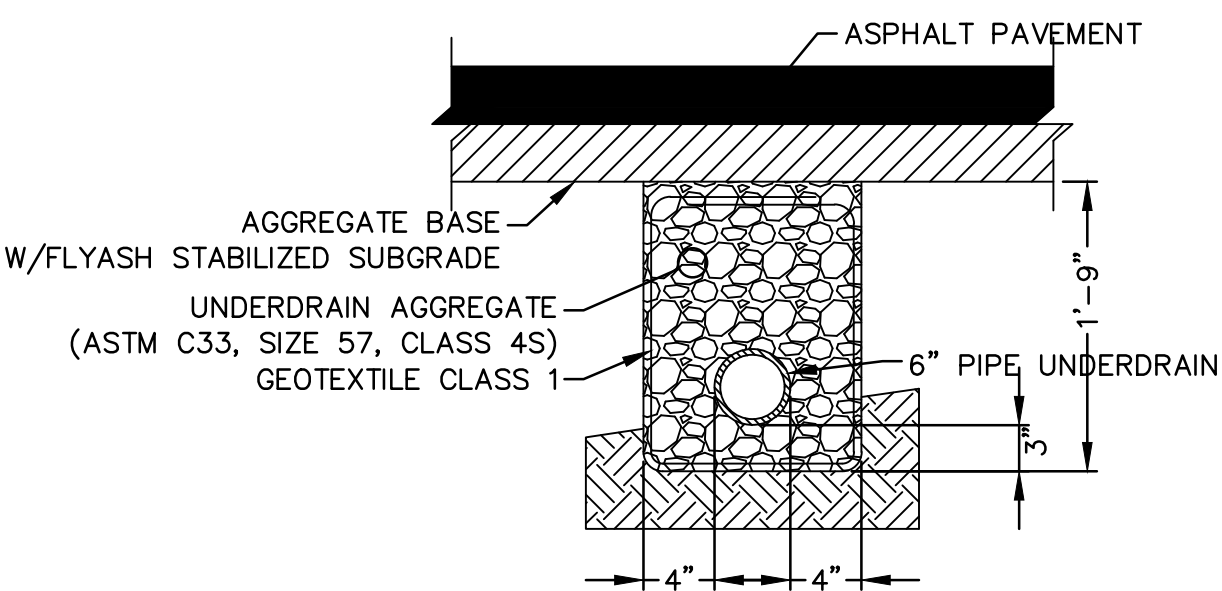
1. BACKFILL SHALL BE JOB EXECAVATED MATERIAL FREE FROM DEBRIS AND STONES COMPACTED TO 90% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698. BACKFILL UNDER PAVEMENT (EXISTING OR PROPOSED), SHALL BE FLOWABLE FILL.
2. TRENCH BANKS MAY BE CUT BACK ON SLOPES IN ACCORDANCE WITH CURRENT 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.
3. MINIMUM AND MAXIMUM WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.



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

GEN-4



- NOTES:**
1. 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.
 2. All Underdrain Pipes shall be installed at a minimum slope of 1%.
 3. Underdrain Pipe shall be installed with the perforations placed down.
 4. Blanket Underdrain Aggregate, Pipe Underdrain Aggregate, Pipe Underdrain, Edge Underdrain and Outlet Pipe shall conform to City of Lee's Summit Specifications.
 5. Overlap geotextile at top of trench a minimum of 12".

DETAIL SHEET
STREET & STORM SEWER PLANS

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.: B19-4061
date: 01-08-2021

SHEET
C148

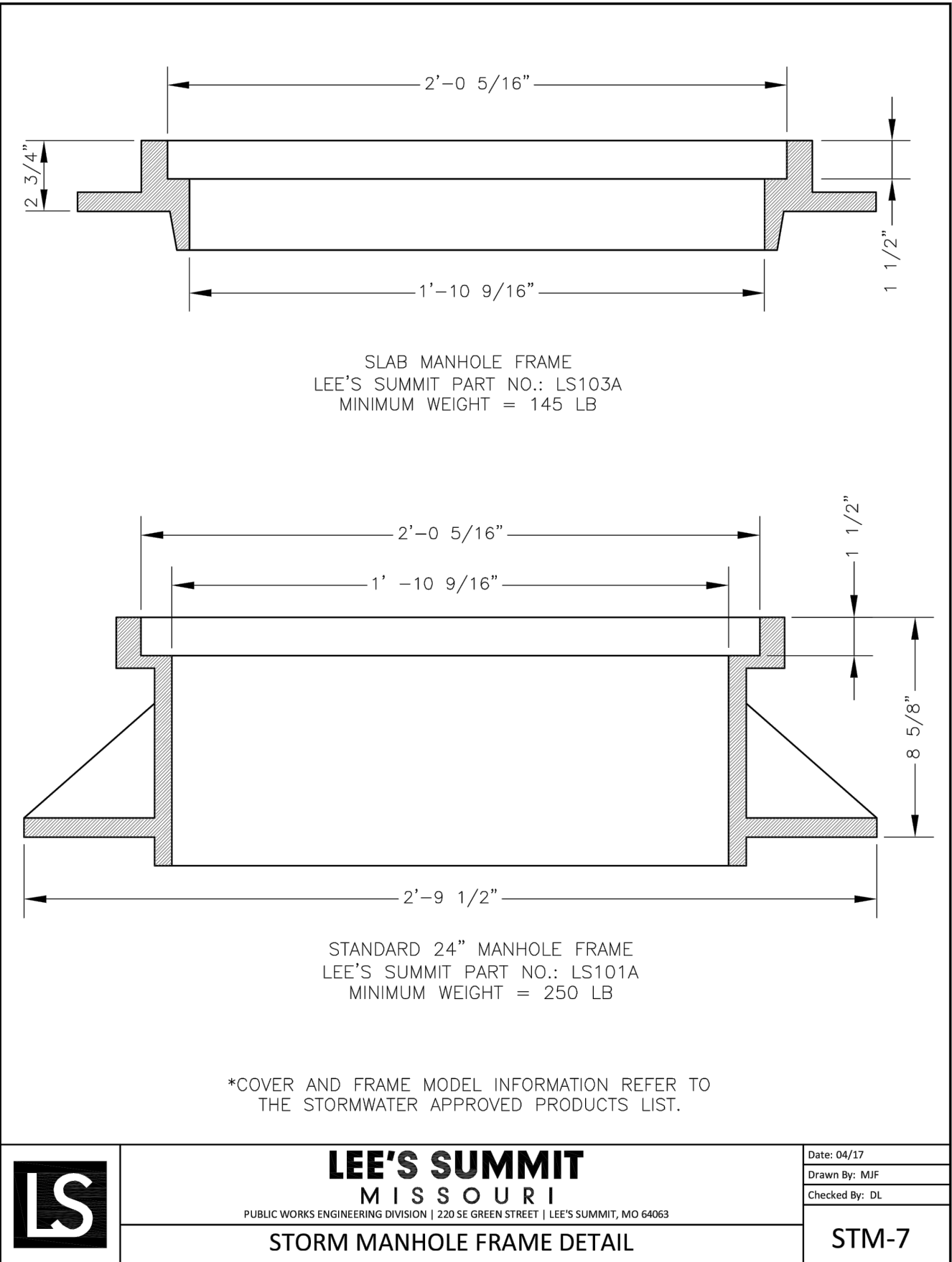
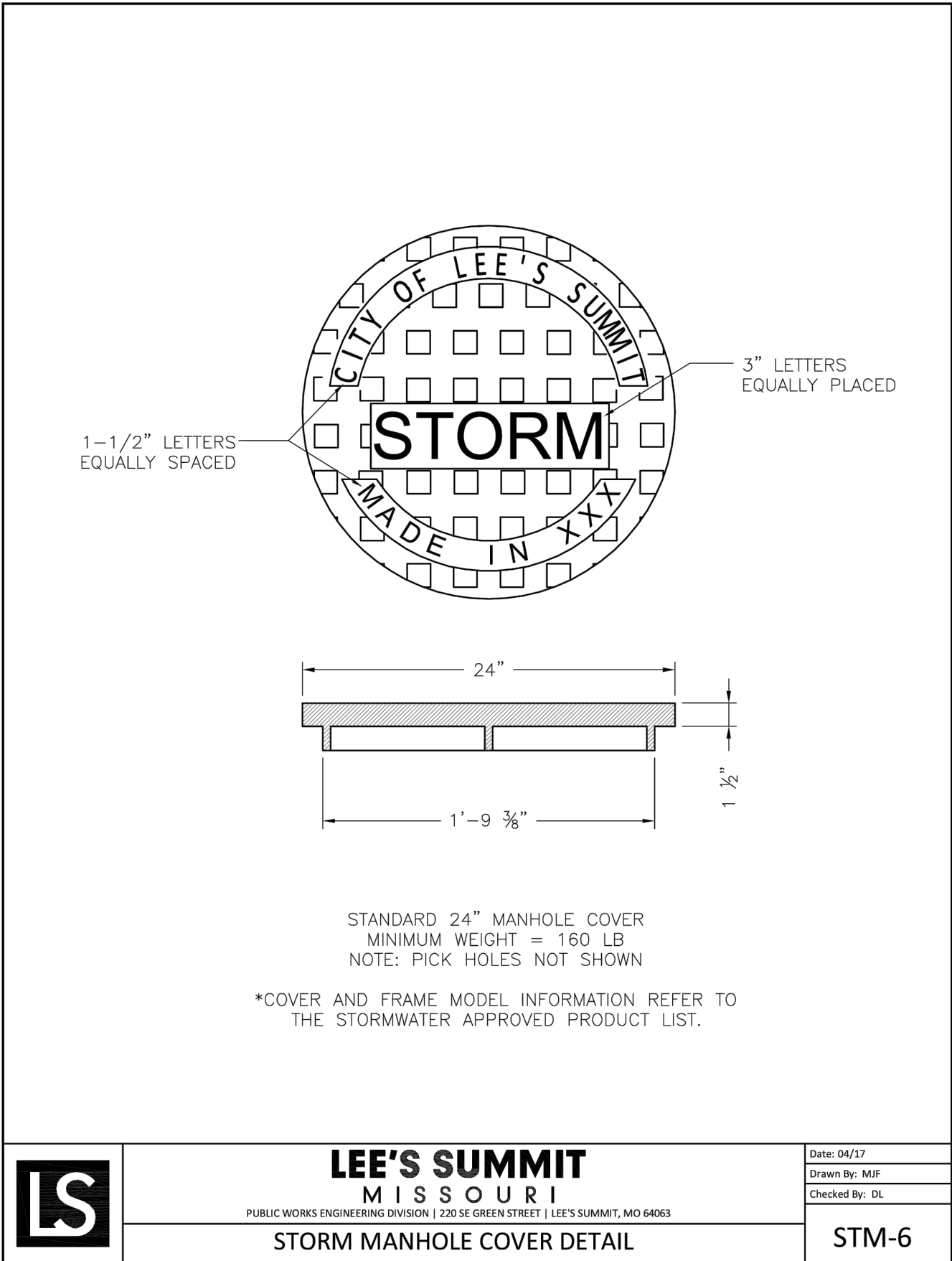
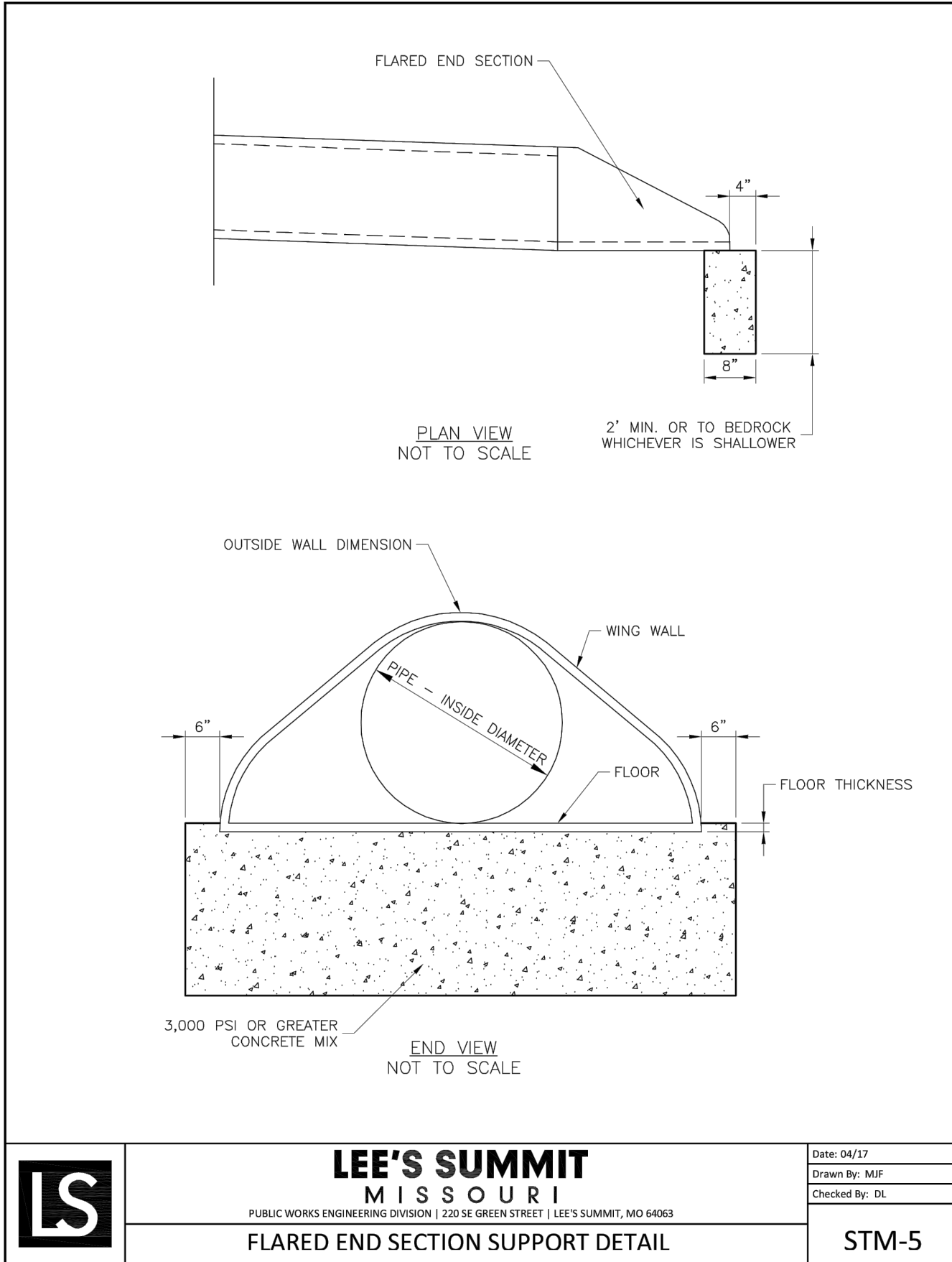
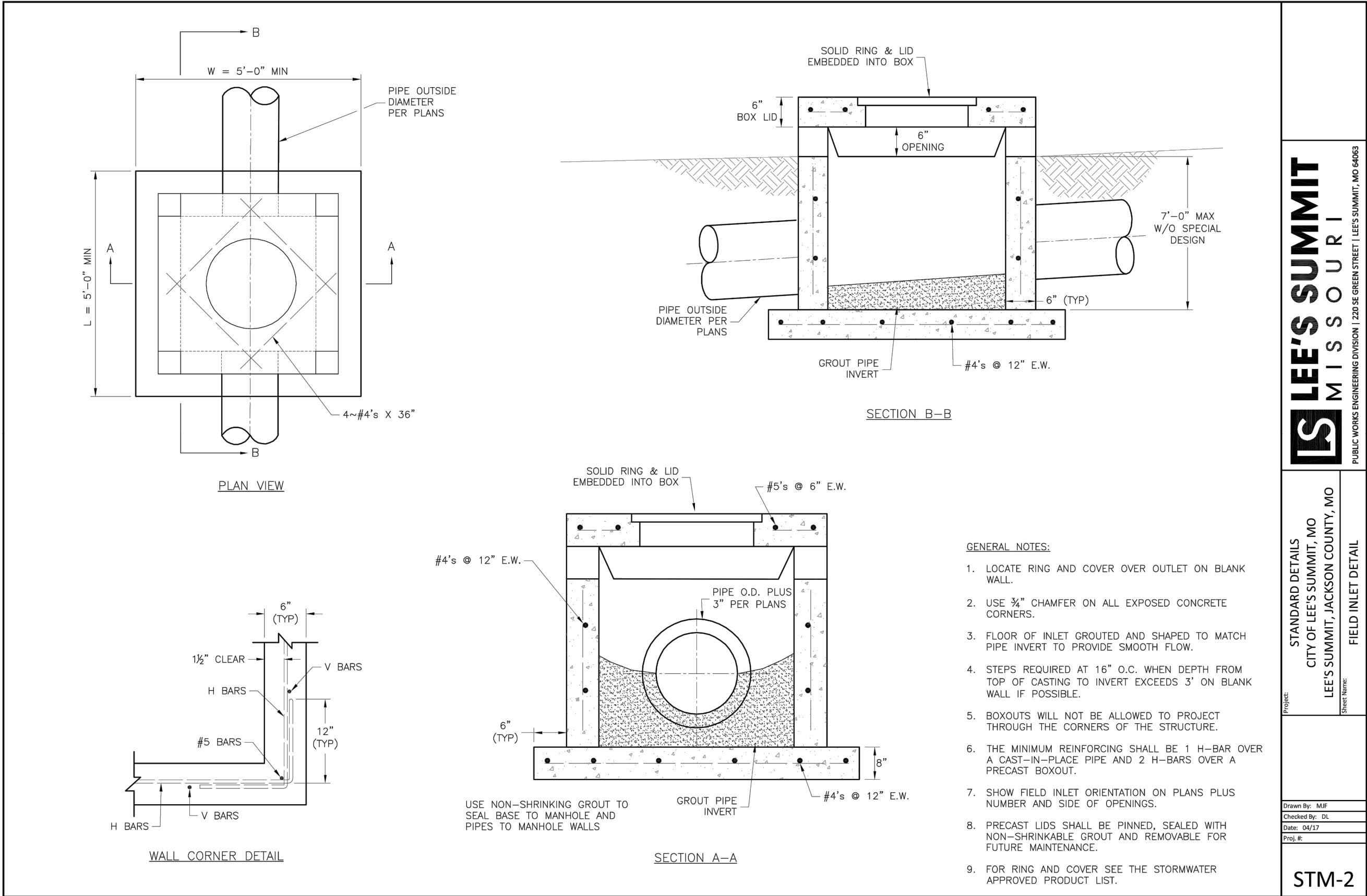
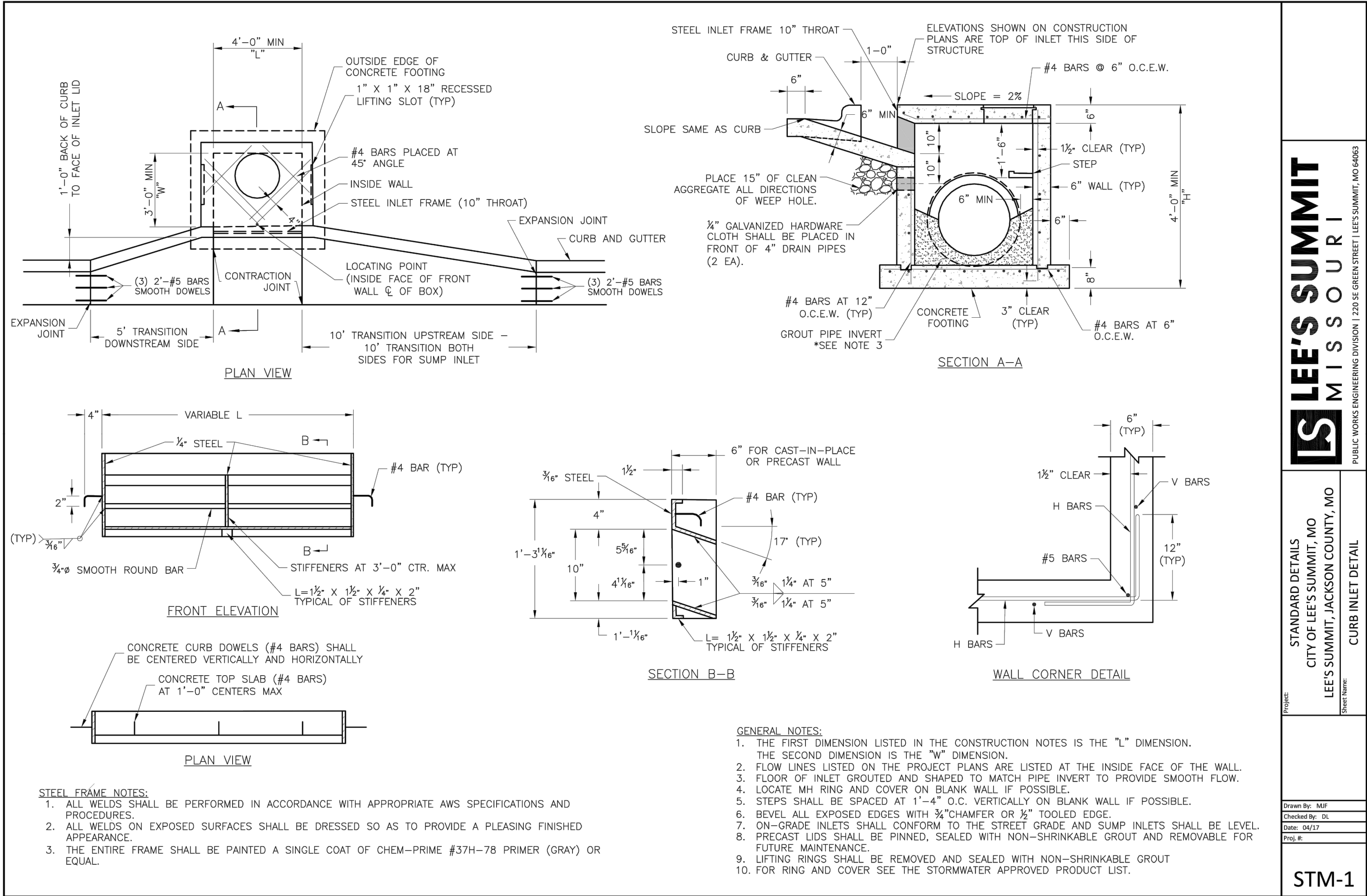
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	03-23-2021	REVISED PER CITY COMMENTS	
2	04-16-2021	REVISED PER CITY COMMENTS	

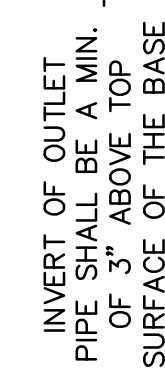
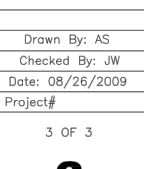
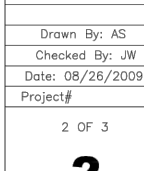
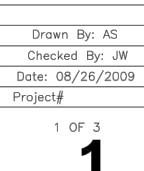
REVISIONS



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STANDARD PRECAST STORM SEWER MANHOLE

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.: _____ B19-4061 date: _____ 01-08-2021	DETAIL SHEET STREET & STORM SEWER PLANS	
	HOOK FARMS SECOND PLAT	
	LEE'S SUMMIT, MO	2021