

DWG: F:\2019\4001-4500\019-4059\40-Design\AutoCAD\Final Plans\Sheets\GNCV\GEN&TABL_0194059.dwg
DATE: Apr 06, 2021 4:59pm
USER: nhsaier
XREFS: C_PTBK_0194059_24x22 C_PBASE_0194059

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. ARCHITECTURAL AND STRUCTURAL ELEMENTS SHOWN IN THESE PLANS ARE FOR REFERENCE ONLY. CONTRACTORS AND SURVEYORS SHALL REFERENCE THEIR RESPECTIVE PLANS FOR DESIGN INFORMATION.
2. THE CONTRACTOR SHALL ADHERE TO THE SITE PREPARATION AND STRUCTURAL FILL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AS PROVIDED BY THE GEOTECHNICAL ENGINEER INCLUDING ALL CURRENT ADDENDUMS. THE STANDARDS AND SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI SHALL ALSO APPLY AND TAKE PRECEDENCE WHEN STRICTER THAN THE GEOTECHNICAL REPORT OR WHEN NO GEOTECHNICAL REPORT IS GIVEN.
3. 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 MISSOURI DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MISSOURI DEPARTMENT OF TRANSPORTATION.
 - 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. IN ADDITION TO THE CONDITIONS OF THE GEOTECHNICAL REPORT AND AS A MINIMUM THE CONTRACTOR SHALL PERFORM THE GRADING AS FOLLOWS;
 - A. THE CONSTRUCTION AREA SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL AND ORGANIC MATTER FROM ALL AREAS TO BE OCCUPIED BY BUILDING AND PAVING. STRIPPING EXISTING TOPSOIL AND ORGANIC MATTER SHALL BE TO A MINIMUM DEPTH OF 6 INCHES. TOPSOIL FOR REPLACEMENT ON SLOPES MAY BE STOCKPILED ON SITE IN AREAS DESIGNATED BY THE OWNER. CONTRACTOR SHALL REMOVE EXCESS STRIPPINGS AND EXCESS EXCAVATION WITHIN 30 DAYS OF COMPLETION OF GRADING OPERATIONS.
 - B. AREAS TO RECEIVE FILL AND AREAS CUT TO SUBGRADE LEVEL SHALL BE SCARIFIED AND THE TOP 8-INCH DEPTH COMPACTED TO 95% STANDARD PROCTOR DENSITY. THE SUBGRADE SHALL BE PROOF ROLLED WITH A MODERATELY HEAVY LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED.
 - C. FILL SHALL BE PLACED IN MAXIMUM OF 8 INCH LIFTS.
 - D. TOPSOIL SHALL BE PLACED TO A MINIMUM DEPTH OF 6 INCHES OVER ALL AREAS DISTURBED BY THE WORK. LARGE STONES, STICKS AND LUMPS SHALL BE REMOVED OR BROKEN UP, AND THE TOPSOIL SHALL BE LEVELED AND RAKED. ALL DISTURBED AREAS SHALL BE LANDSCAPED PER LANDSCAPE PLANS OR SHALL BE SEEDDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED.
 - E. CONTRACTOR SHALL PROVIDE COMPACTION TEST RESULTS AS REQUIRED.
4. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
5. 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.
6. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

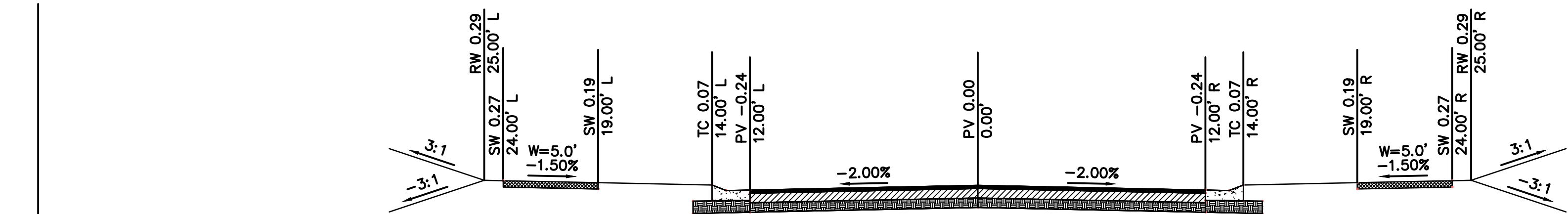
SHOP DRAWINGS

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 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. ALL SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
 - C. ALL SITE FENCING AND RAILING INCLUDING ANY GATES.
 - D. ALL LANDSCAPE AND RETAINING WALLS.
 - E. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
STREET				
1	EXCAVATION	C.Y.	19470	
2	EMBANKMENT	C.Y.	8709	
3	SUBGRADE STABILIZATION (6" FLYASH TREATMENT)	S.Y.	9150	
4	6" ASPHALT PAVEMENT	S.Y.	9150	
5	CONCRETE CURB & GUTTER (CG-2)	L.F.	6340	
6	5' CONCRETE SIDEWALK	L.F.	380	
7	ADA RAMP	EA.	12	
8	STREET NAME SIGNS WITH STOP SIGNS	EA.	5	
9	STREET NAME SIGNS	EA.	1	
STORM				
10	STD. CURB INLET (5'x3' INSIDE)	EA.	15	
11	STD. FIELD INLET (3'x3' INSIDE)	EA.	5	
12	STD. MANHOLE (4' DIA. INSIDE)	EA.	3	
13	STD. MANHOLE (5' DIA. INSIDE)	EA.	1	
14	WATER QUALITY BASIN OUTLET STRUCTURE	EA.	1	
15	6" PVC	L.F.	315	
16	15" HDPE	L.F.	18	
17	18" HDPE	L.F.	2002	
18	24" HDPE	L.F.	810	
19	30" HDPE	L.F.	34	
20	36" HDPE	L.F.	221	
21	6" FLARED END SECTION	EA.	1	
22	15" FLARED END SECTION	EA.	2	
23	18" FLARED END SECTION	EA.	1	
24	30" FLARED END SECTION	EA.	1	
25	RIPRAP	S.Y.	62	

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.

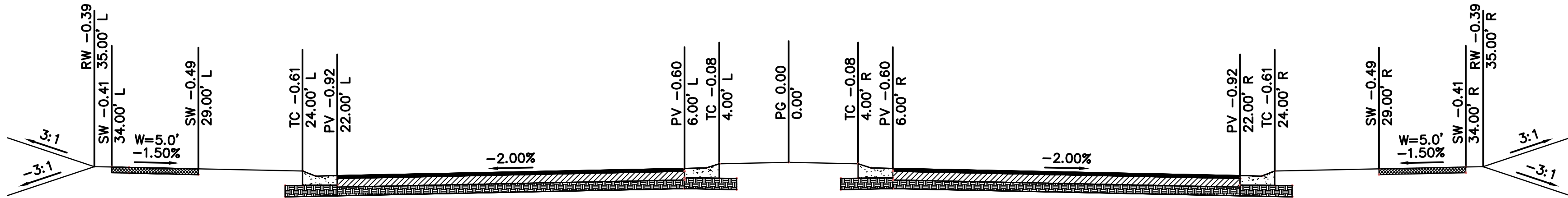


SW HEARTHSTONE PLACE, SW RED BARN ROAD, SW HARVEST MOON LANE, SW HARVEST MOON PLACE

RESIDENTIAL LOCAL
N.T.S.

2" TYPE 6 ASPHALTIC CONCRETE SURFACE
4" TYPE 5 ASPHALTIC CONCRETE BASE COURSE
6" MIN. MODOT TYPE 5 STONE BASE
6" FLYASH STABILIZED SUBGRADE
CG-2 CURB & GUTTER

Scale: N.T.S.
1 PRESIDENTIAL LOCAL STREET



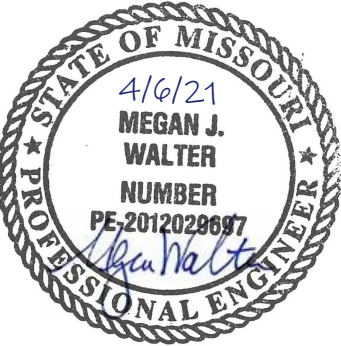
SW HEARTHSTONE PLACE ENTRY

RESIDENTIAL LOCAL
N.T.S.

2" TYPE 6 ASPHALTIC CONCRETE SURFACE
4" TYPE 5 ASPHALTIC CONCRETE BASE COURSE
6" MIN. MODOT TYPE 5 STONE BASE
6" FLYASH STABILIZED SUBGRADE
CG-2 CURB & GUTTER
CG-2 DRY CURB & GUTTER AT MEDIAN

Scale: N.T.S.
2 PRESIDENTIAL LOCAL STREET

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BY	REVISIONS DESCRIPTION	DATE	REV. NO.
	CITY COMMENTS	06-24-2021	1
	ADDED HOOK ROAD SWALE	02-01-2021	2
	SWALE AND ADA RAMP REVISIONS	04-06-2021	3

GENERAL NOTES	2020
STREET AND STORM SEWER PLANS	
THE RETREAT AT HOOK FARMS	
CONSTRUCTION DOCUMENTS	
LEE'S SUMMIT, MO	

drawn by: _____ EM
checked by: _____ EM
designed by: _____ RB
QA/QC by: _____ NH
project no.: 019-4059
drawing n6_GEN&TABL_0194059
date: 4/20/2020

SHEET C101
2 OF 54

ALL NOTES REFERENCED ON THIS PLAN SHEET MAY HAVE APPLICATIONS TO EVERY FACET OF THE CONSTRUCTION PLANS. THE NOTE HEADINGS OR TITLES ARE TO BE USED AS A GENERAL GUIDE TO APPLICABLE SITUATIONS.

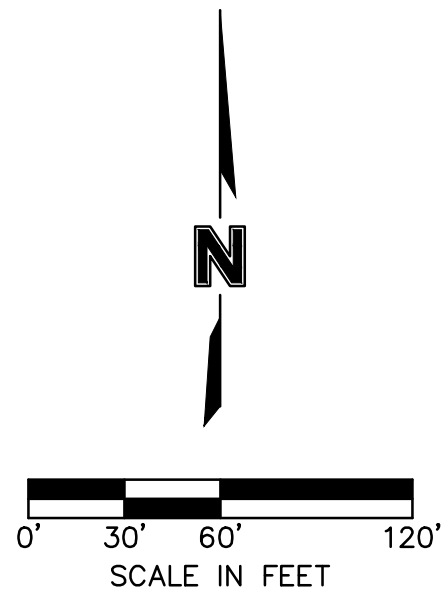
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LOT FILL TABLE	
LOT #	FILL > 8'
50	
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The Retreat at Hook Farms Minimum Building Opening Elevations				
Lot	Rear Left MBOE	Rear Right MBOE	Front Left MBOE	Front Right MBOE
50	952.35	952.59	957.53	959.70
51	952.59	953.56	959.70	959.44
52	953.56	952.02	959.44	958.54
53	952.02	949.49	958.54	957.29
54	949.49	948.52	957.29	955.52
55	955.02	948.52	952.91	957.29
56	943.32	944.18	949.94	950.48
57	944.18	944.81	950.48	951.88
58	945.02	946.14	952.26	953.74
59	946.14	947.55	953.74	955.22
60	947.55	948.68	955.22	956.65
61	948.68	950.51	956.65	957.66
62	950.51	950.16	957.66	958.50
63	950.16	951.26	958.50	959.35
64	951.26	951.36	959.35	960.19
65	951.36	953.20	960.19	961.03
66	953.20	954.94	961.03	961.85
67	954.94	955.28	961.85	962.61
68	955.28	956.50	962.61	963.44
69	956.50	957.30	963.44	965.17
70	957.30	958.12	965.17	968.09
71	958.12	961.28	968.09	971.12
72	961.28	966.20	971.12	974.07
73	966.20	968.87	974.07	975.99
74	968.87	972.41	975.99	975.71
75	965.28	963.82	963.12	961.66
76	963.82	962.95	961.66	960.79
77	962.95	962.25	960.79	960.09
78	962.25	960.60	960.09	958.44
79	960.60	959.76	958.44	957.60
80	959.76	958.72	957.60	956.56
81	958.72	956.47	956.56	954.31
82	956.47	960.54	954.31	958.38
83	960.54	961.37	958.38	959.21
84	961.37	960.07	959.21	959.49
85	961.31	961.86	960.57	961.36
86	972.83	977.49	961.36	961.51
87	969.41	972.83	961.63	965.25
88	966.47	969.41	965.25	969.05
89	966.47	969.41	969.05	971.40
90	966.47	969.41	971.40	972.84
91	966.47	969.41	972.84	972.36
92	966.47	969.41	974.45	972.54
93	966.47	969.41	972.54	970.65
94	966.47	969.41	970.65	968.16
95	966.47	969.41	968.16	966.00
96	966.47	969.41	966.00	963.42
97	966.47	969.41	963.42	961.19
98	966.47	969.41	961.19	960.38
99	966.47	969.41	960.38	959.63

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



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.

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

EARTHWORK QUANTITIES

LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	19470	8709
SITE	64236	41874
TOTAL	83706	50583

NOTES:

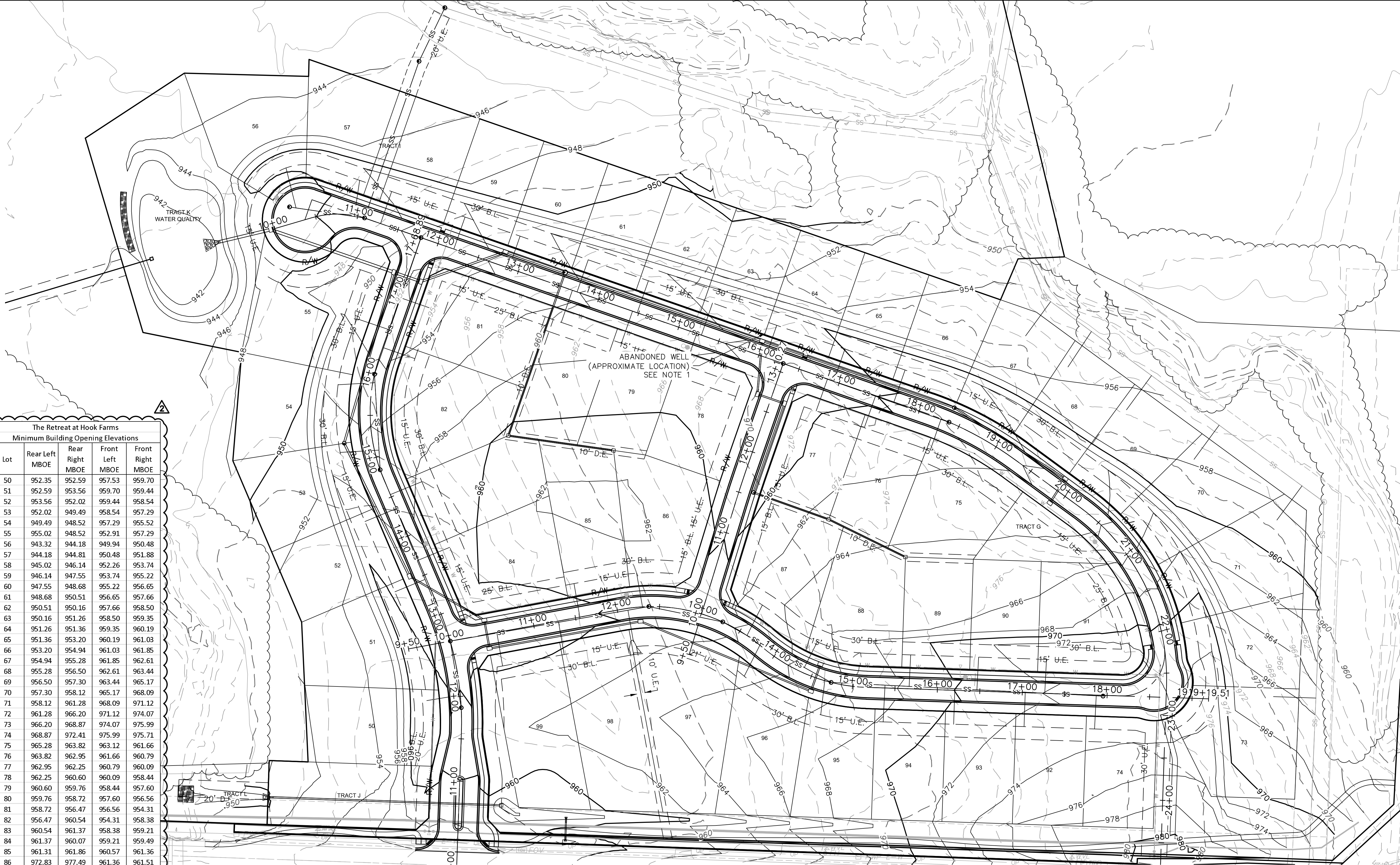
- ONE OIL OR GAS WELL IS LOCATED ON THE PROPERTY (DRY HOLE, ABANDONED AS OF 5/11/1928).
COORDINATES: 38.87019N, -94.41911W
INFORMATION VERIFIED VIA MISSOURI DNR:
<https://dnr.mo.gov/geology/geoserv/oilandgas.htm>
(UPDATED AUGUST 2018)

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.

THIRD PARTY TESTING REQUIRED FOR WATER QUALITY BASIN:

- REMOVE TOPSOIL AND ORGANIC MATERIAL FROM THE AREA
- PROOF ROLL TO CHECK THE SUBGRADE
- REMOVE OR REPAIR ANY UNSTABLE AREA IN ACCORDANCE WITH THIRD-PARTY TESTER
- PLACE 9" LOOSE LIFTS OF 9" MATERIAL WITH LL=50 AND PI=25 OR GREATER. 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.



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STATE OF MISSOURI
4/6/21
MEGAN J. WALTER
NUMBER
PE-2012028697
Professional Engineer

BY

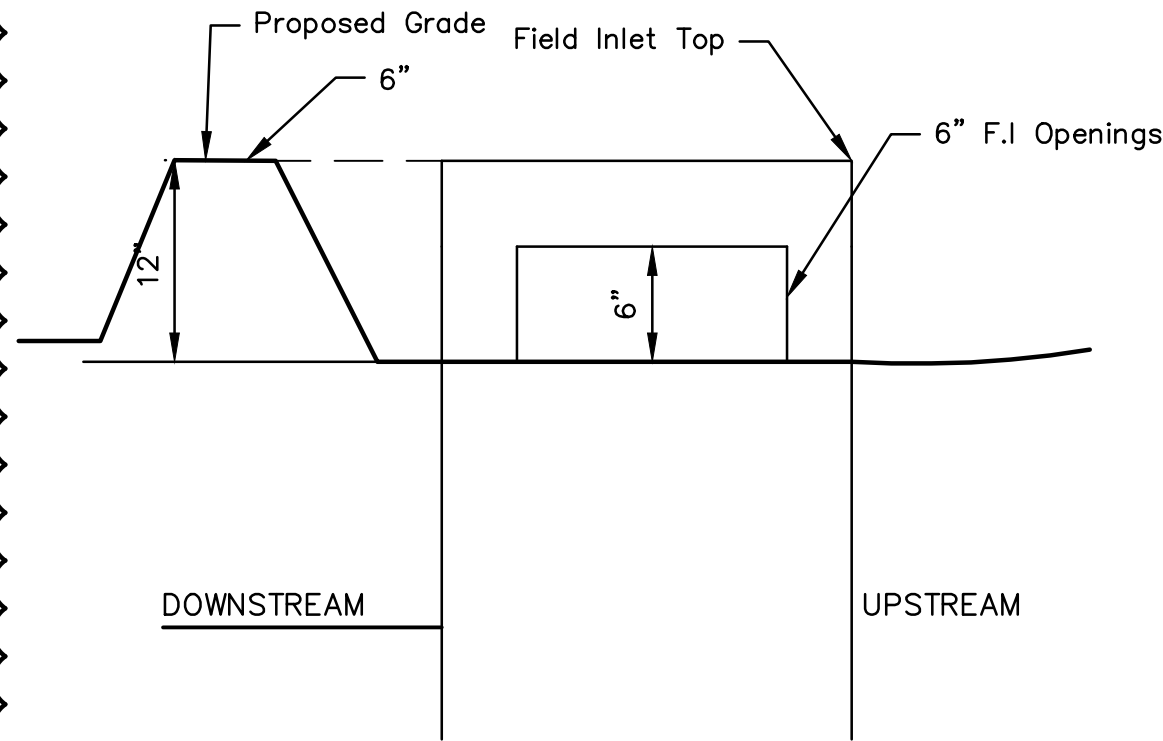
REVISIONS

GRADING PLAN
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

2020
LEE'S SUMMIT, MO

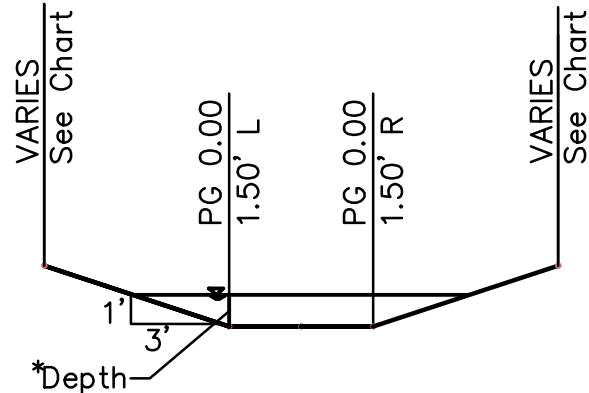
drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_GRD01_0194059
date: 4/20/2020

SHEET C103
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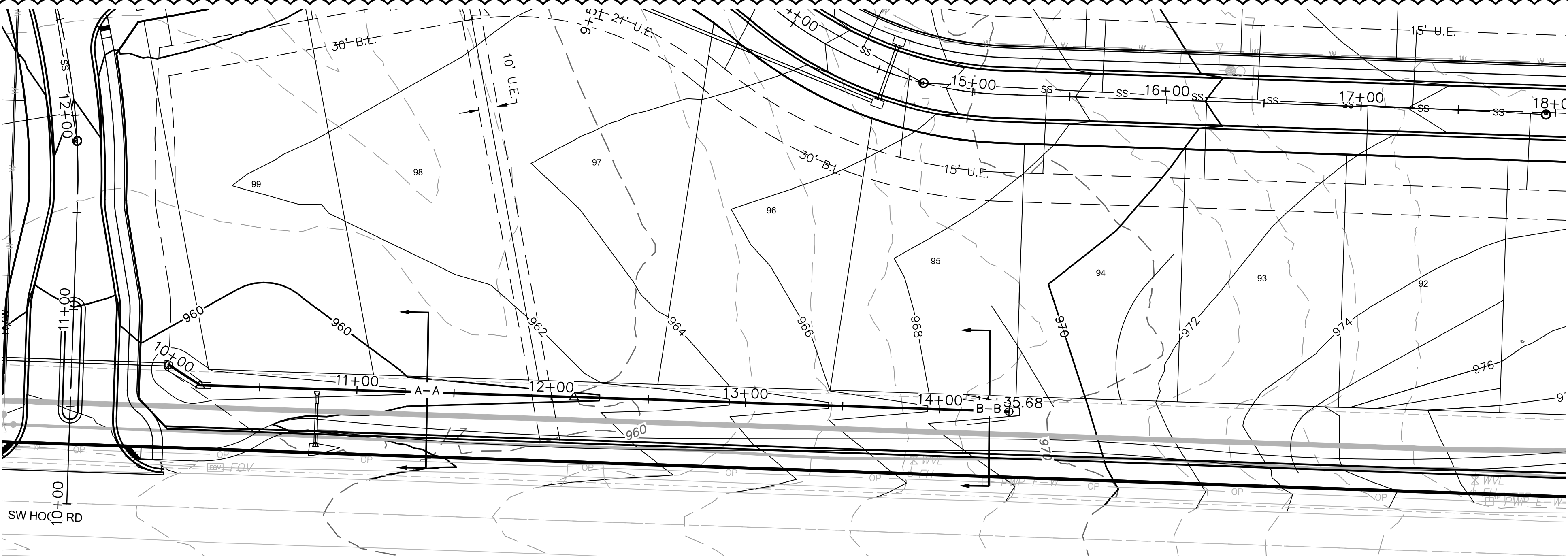


F.I. SUMP DETAIL
NOT TO SCALE

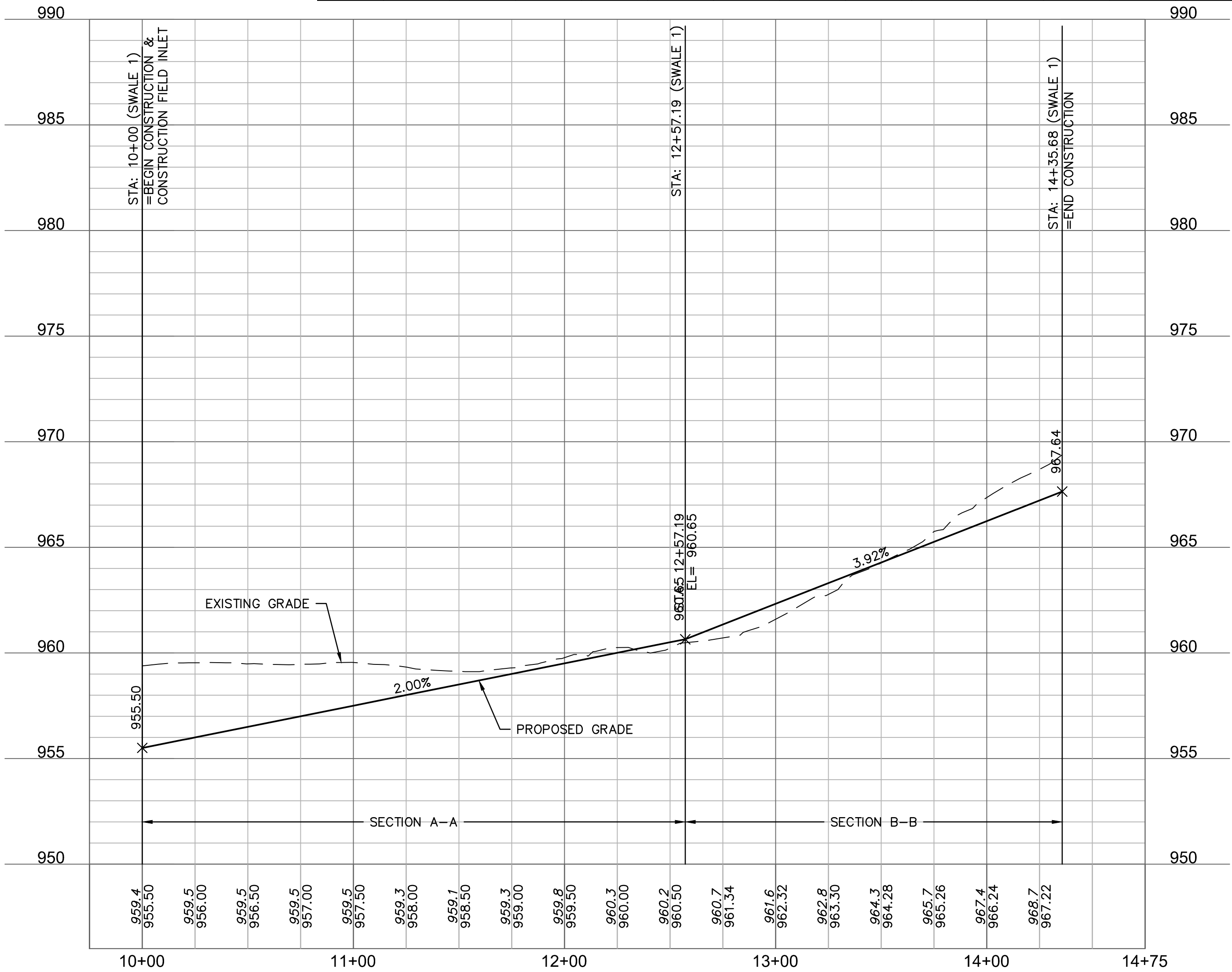
NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE
FIELD INLETS ARE LOCATED WITHIN SWALES.

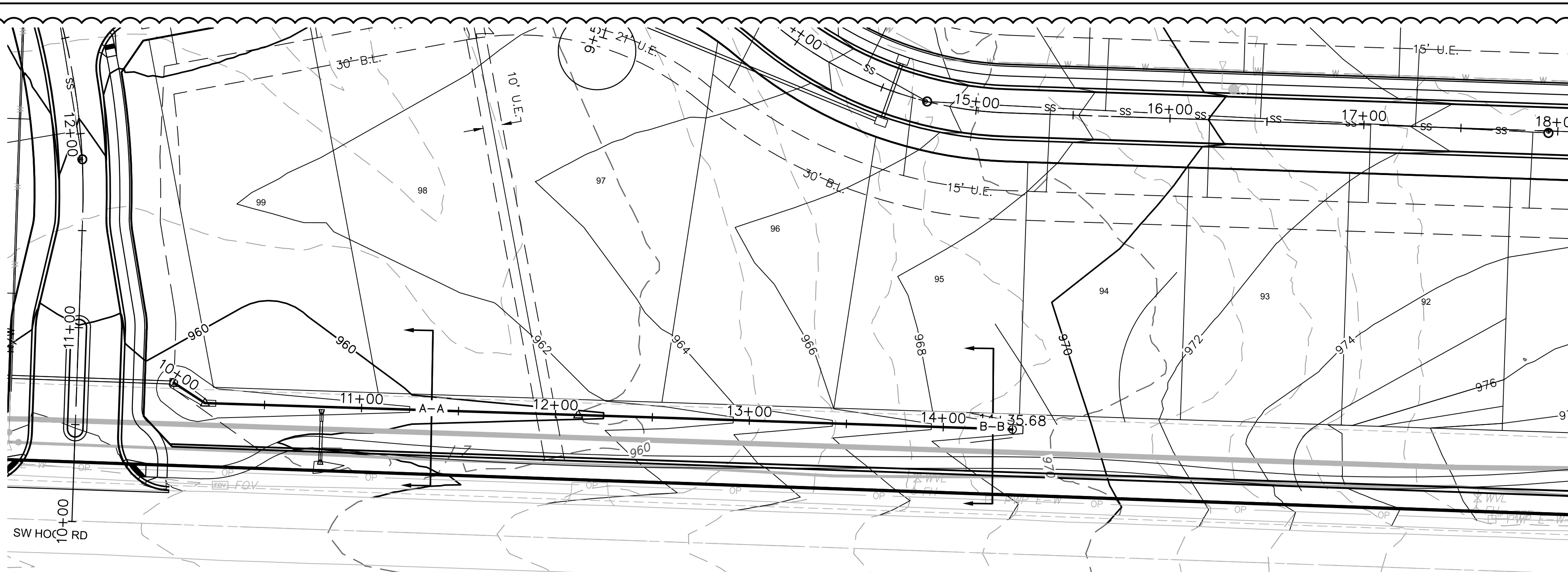
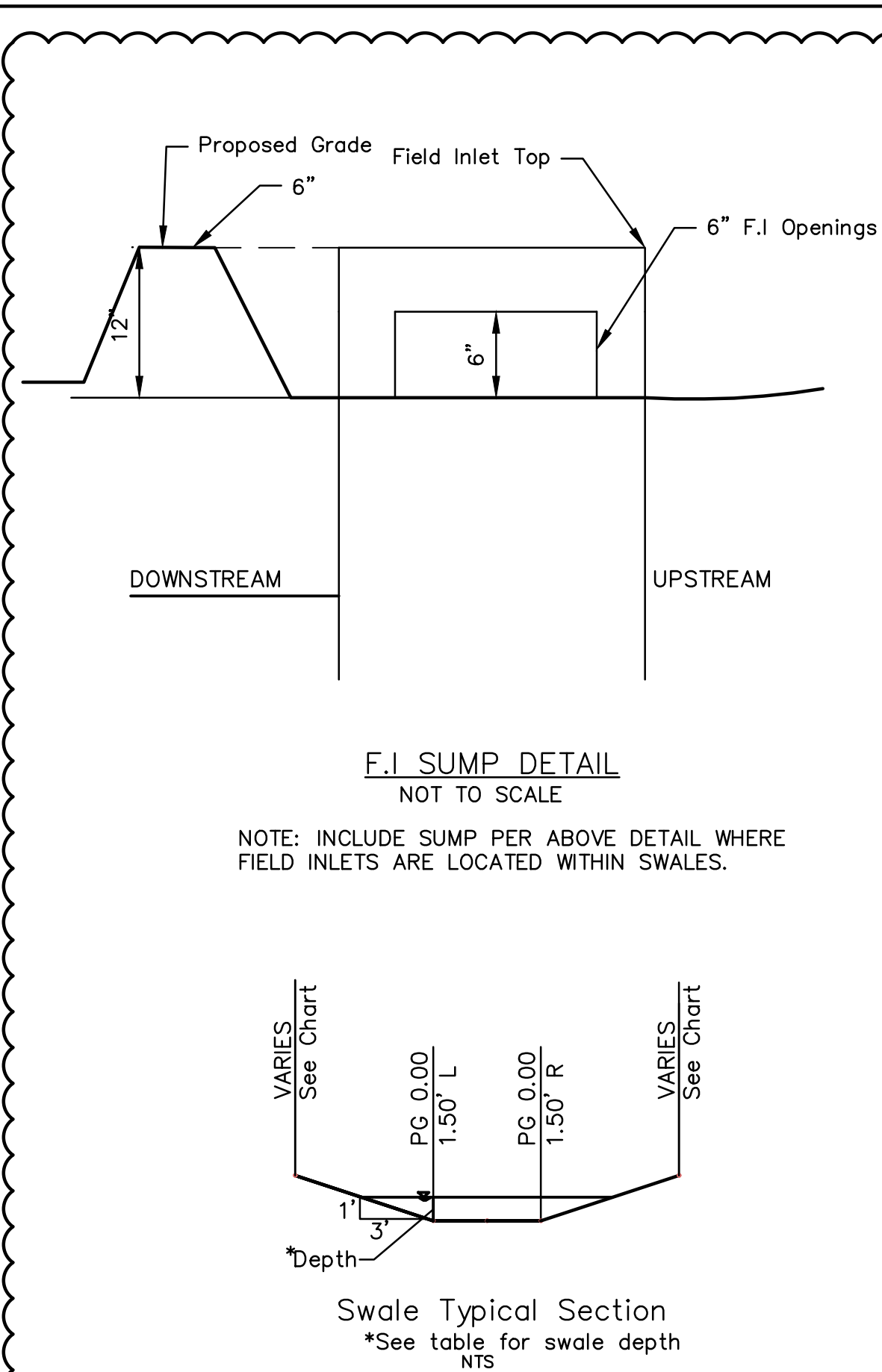


Swale Typical Section
*See table for swale depth
NTS

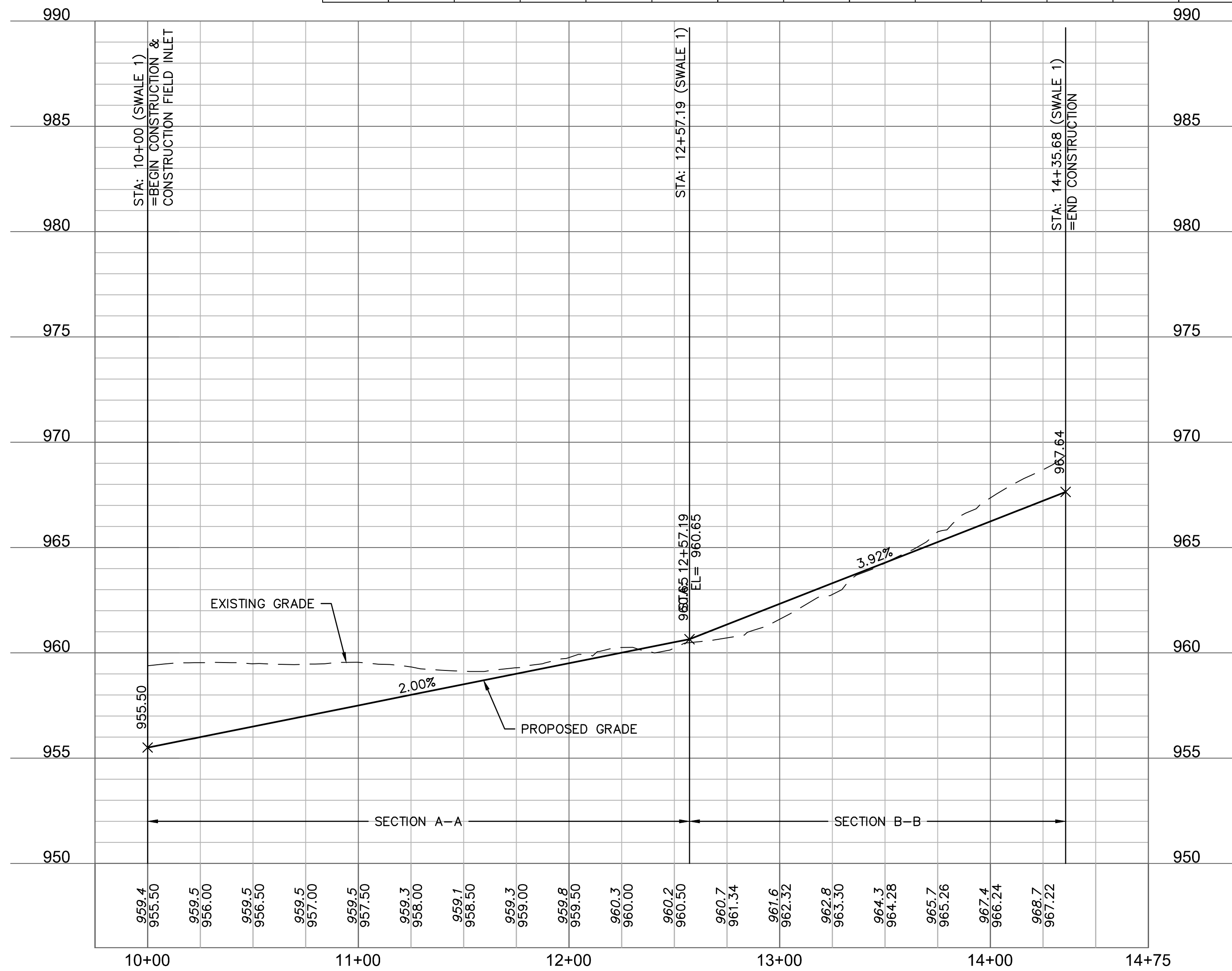


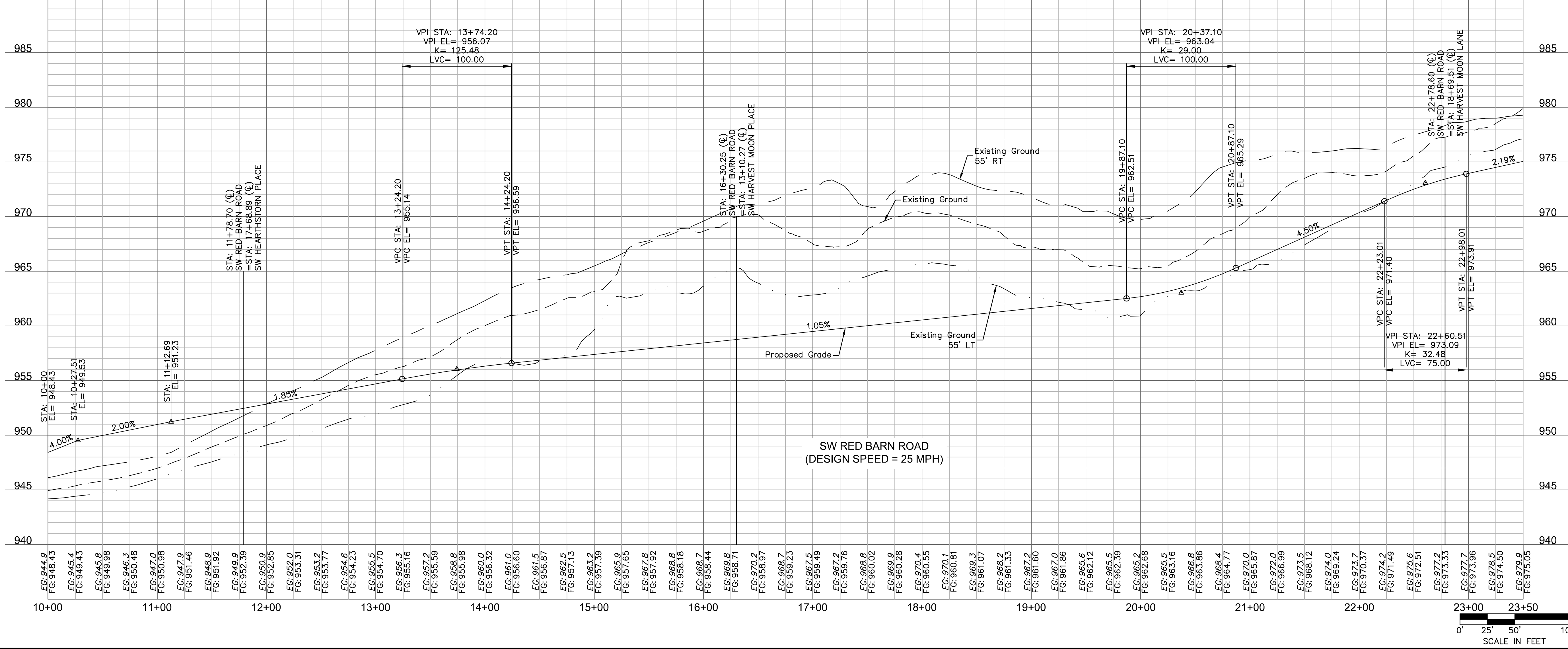
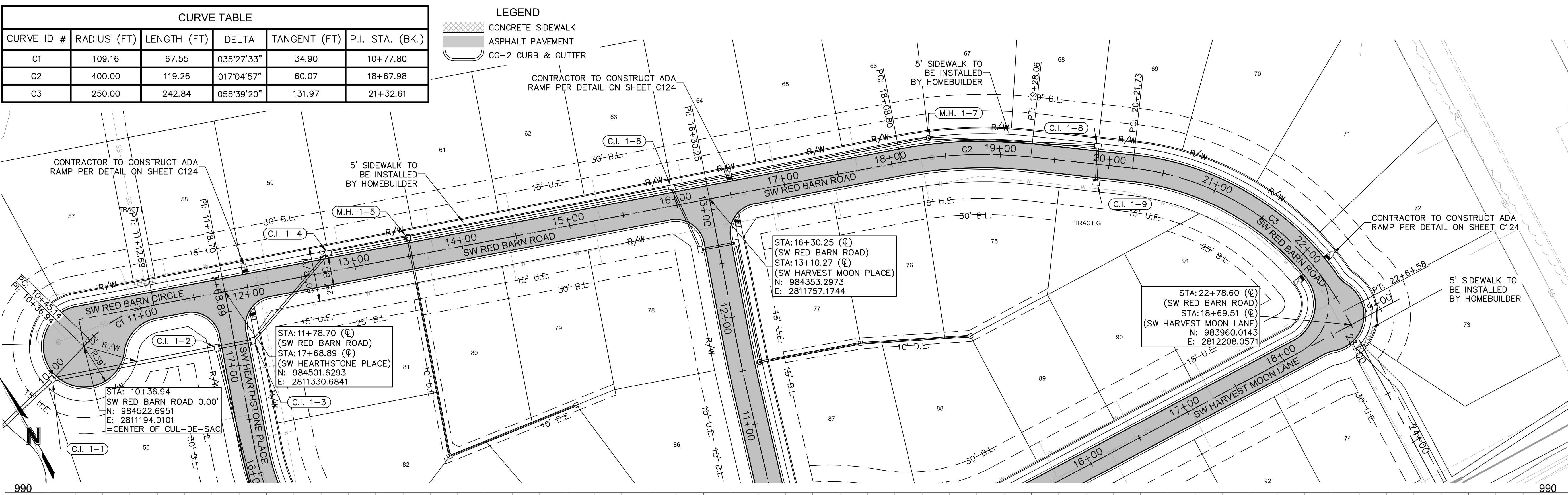
Swale Design Table (100 Year Return Frequency)														
Section Data								Flow Data						
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft²)
A-A	0.03	2.00%	1.50	3:1	3:1	3.00	8.36	0.51	2.34	3.58	6.32	6.16	0.71	0.46
B-B	0.03	3.92%	1.50	3:1	3:1	3.00	4.28	0.30	1.18	3.63	4.95	4.86	0.50	0.58





Section Data							Flow Data							
SECTION	Mannings Coefficient	Channel Slope (%)	Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft ²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft ²)
A-A	0.03	2.00%	1.50	3:1	3:1	3.00	8.36	0.51	2.34	3.58	6.32	6.16	0.71	0.46
B-B	0.03	3.92%	1.50	3:1	3:1	3.00	4.28	0.30	1.18	3.63	4.95	4.86	0.50	0.58





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Professional Engineer

4/6/21

SW RED BARN ROAD PLAN & PROFILE
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

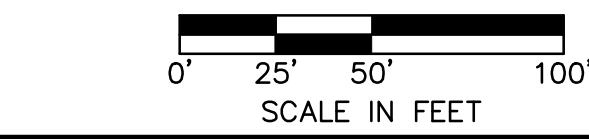
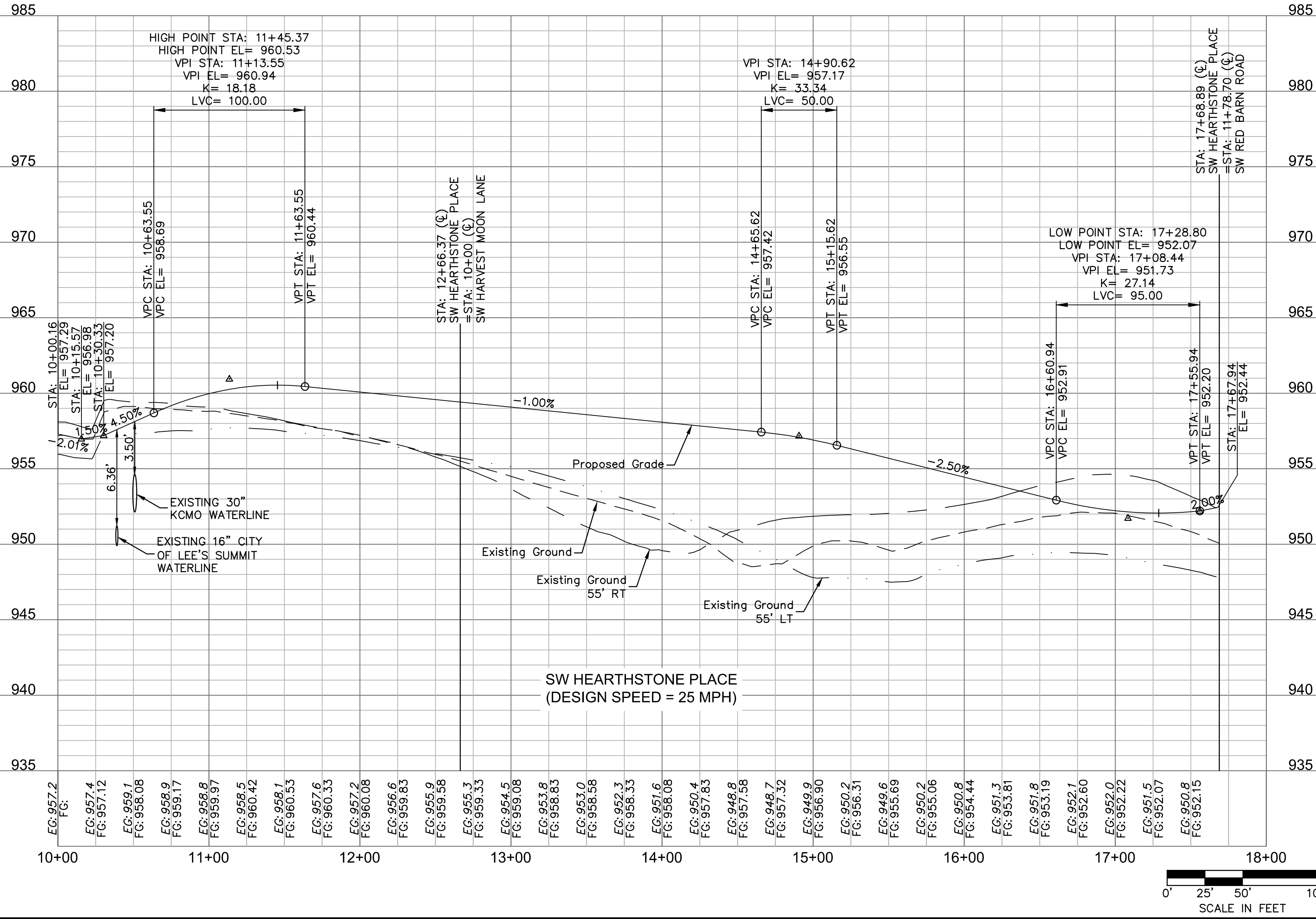
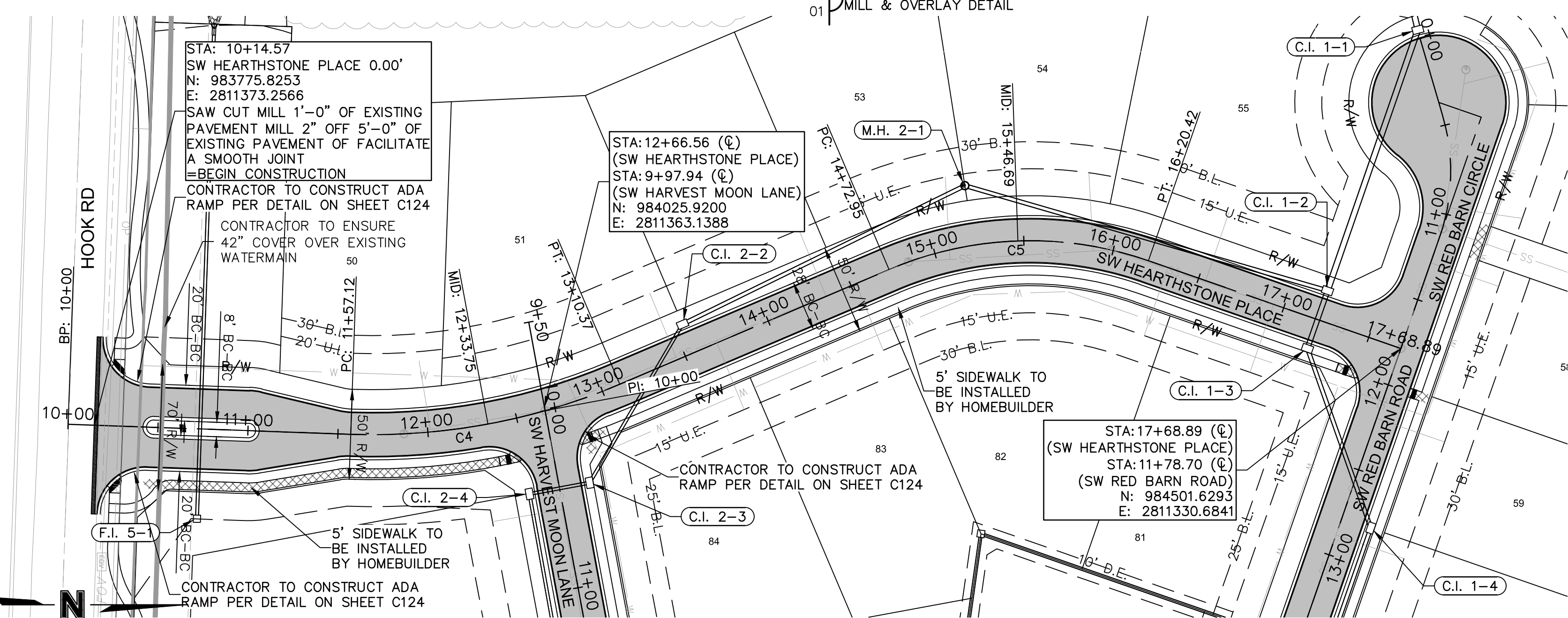
2020

drawn by: EL
checked by: EL
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_RRP02_0194059
date: 4/20/2020

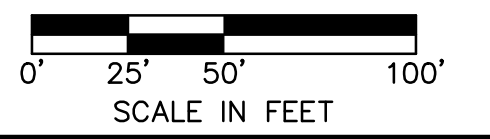
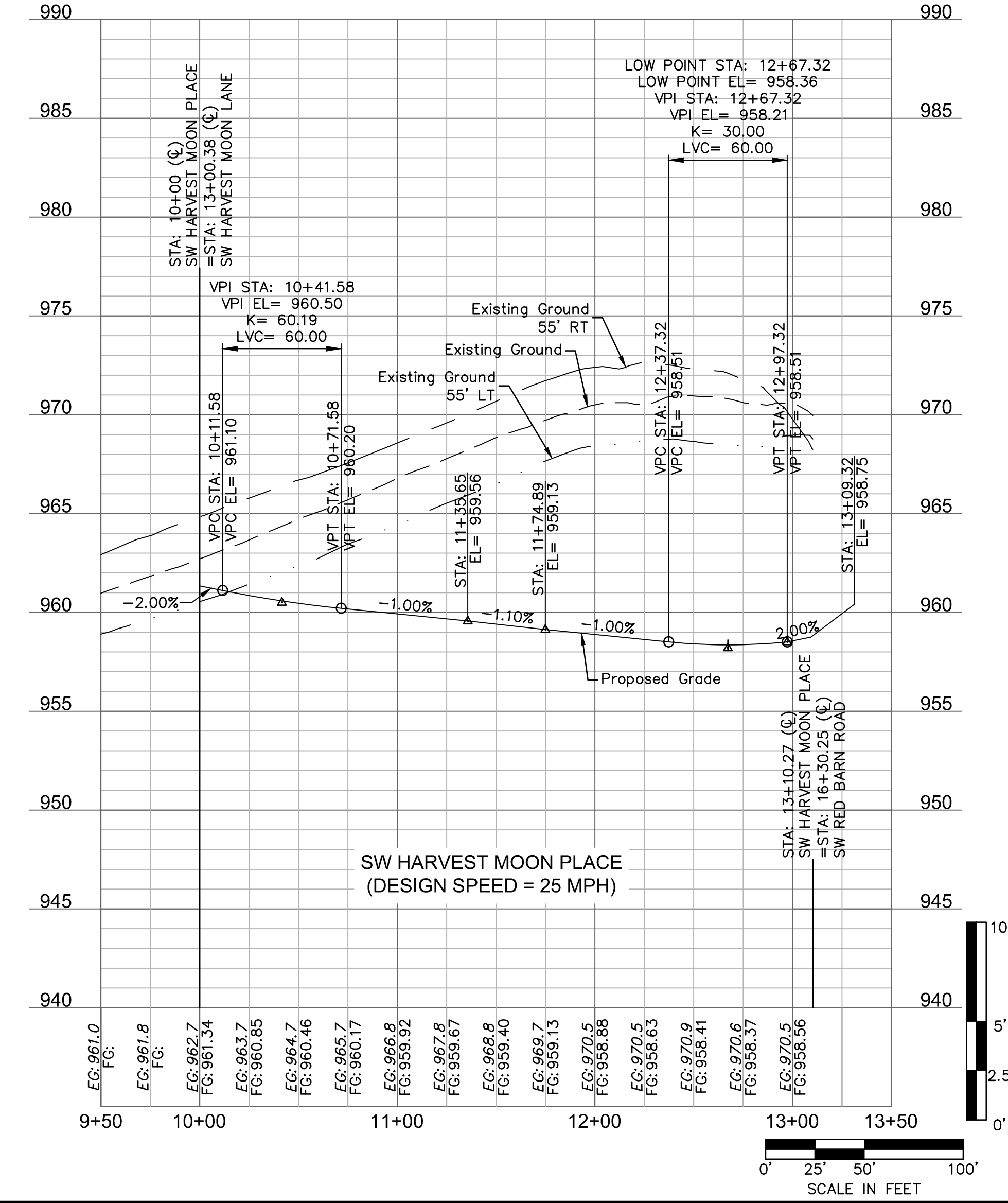
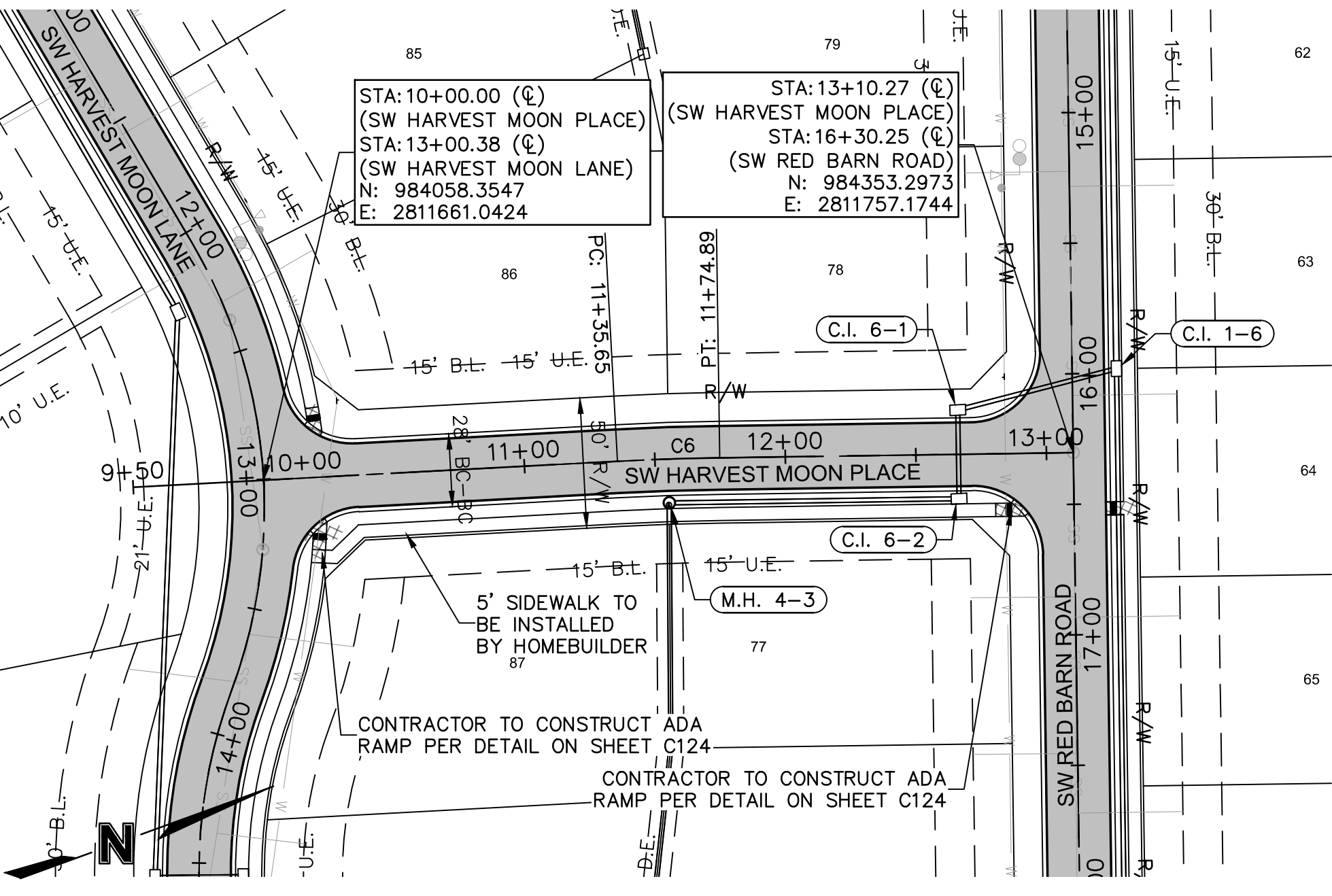
SHEET C104
5 OF 54

REVISIONS

CURVE TABLE					
CURVE ID #	RADIUS (FT)	LENGTH (FT)	DELTA	TANGENT (FT)	P.I. STA. (BK.)
C4	349.99	153.25	025°05'16"	77.87	12+32.50
C5	200.00	147.47	042°14'45"	77.27	15+43.15



CURVE TABLE					
CURVE ID #	RADIUS (FT)	LENGTH (FT)	DELTA	TANGENT (FT)	P.I. STA. (BK.)
C6	1000.00	39.23	002°14'52"	19.62	11+55.27



SW HEARTHSTONE PLACE, SW HARVEST MOON LANE PLAN & PROFILE
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_RRP02_0194059
date: 4/20/2020

BY

REV. NO. DATE REVISIONS DESCRIPTION

1 06-24-2020 CITY COMMENTS

2 02-01-2021 ADDED HOOK ROAD SWALE

3 04-06-2021 SWALE AND ADA RAMP REVISIONS

2020

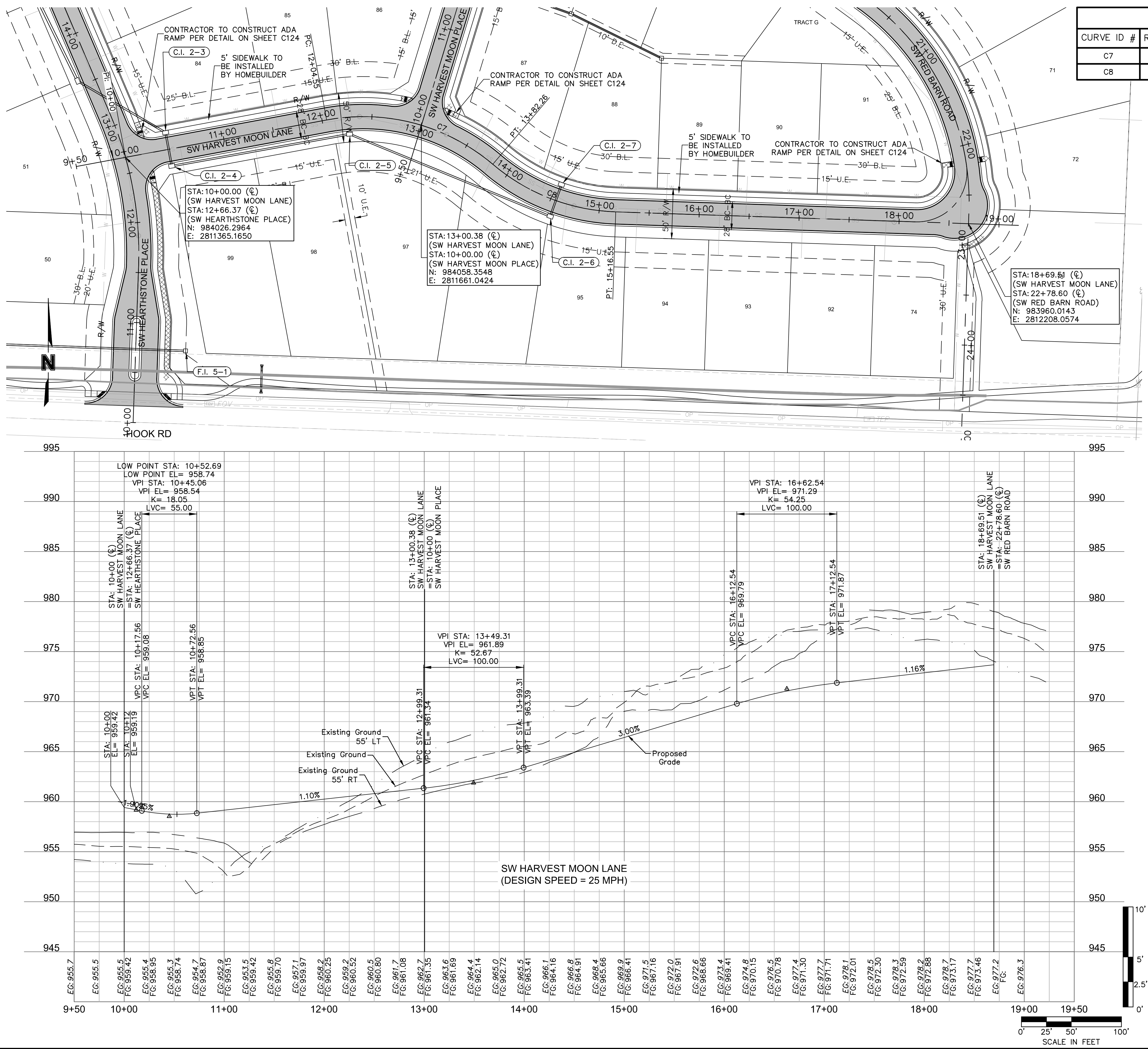
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USER: nheiser



CURVE TABLE					
CURVE ID #	RADIUS (FT)	LENGTH (FT)	DELTA	TANGENT (FT)	P.I. STA. (BK.)
C7	200.00	177.71	050°54'36"	95.20	12+87.06
C8	200.00	134.29	038°28'13"	69.78	14+46.76

LEGEND

	CONCRETE SIDEWALK
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER

[illegible]

SW HARVEST MOON LANE PLAN & PROFILE STREET AND STORM SEWER PLANS	2020
THE RETREAT AT HOOK FARMS CONSTRUCTION DOCUMENTS	EE'S SUMMIT, MO

drawn by: _____ EM
checked by: _____ EM
designed by: _____ RB
QA/QC by: _____ NH
project no.: _____ 019-4059
drawing no.: C_RRP02_0194059
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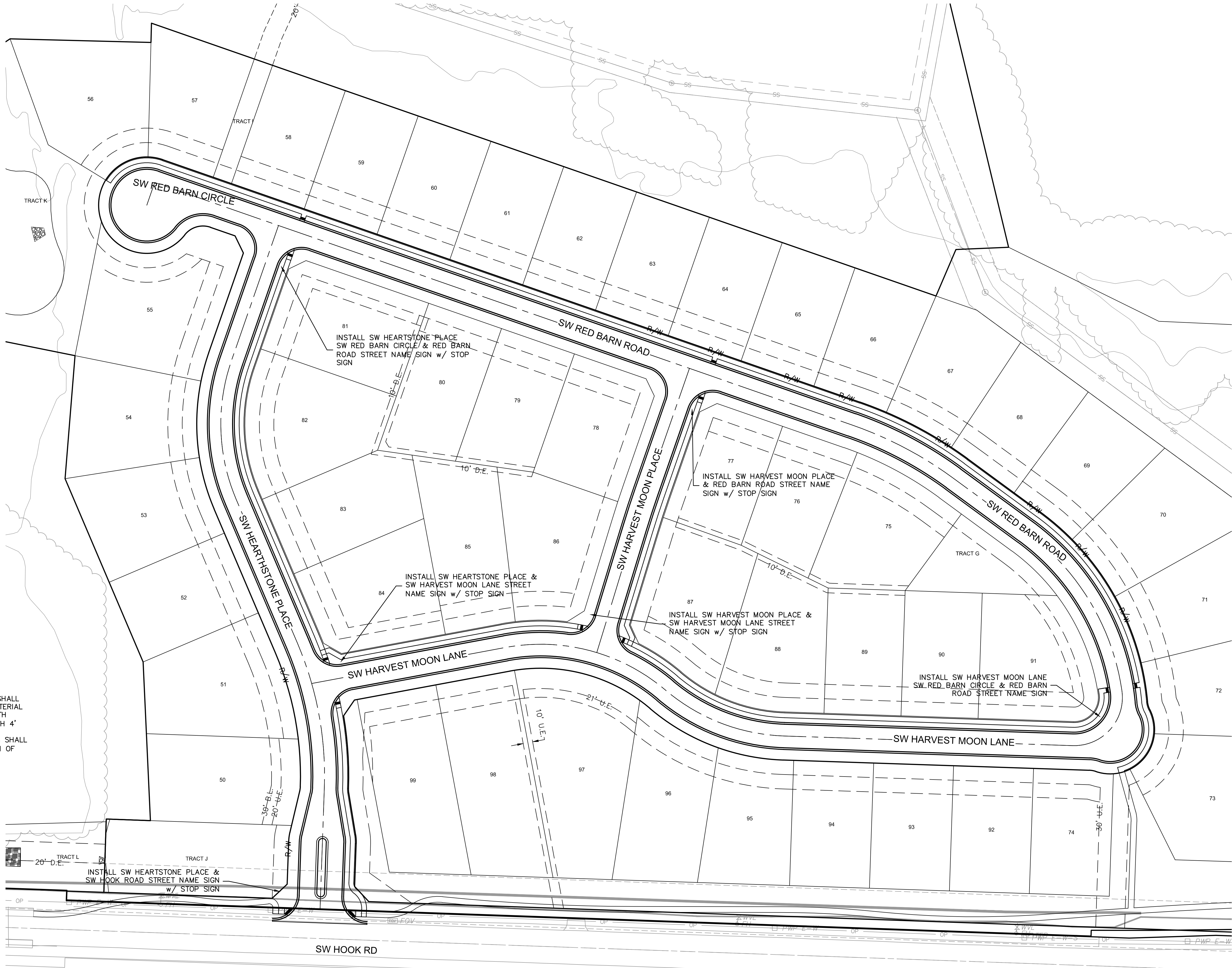
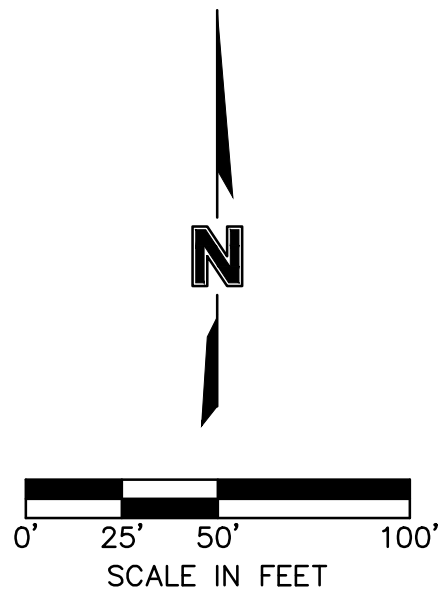
SHEET C106
7 OF 54

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NOTE:
THE CROSSWALK AND STOP LINES SHALL
BE PERFORMED THERMOPLASTIC MATERIAL
AND LOCATED IN CONFORMANCE WITH
STANDARD DETAILS AND MUTCD WITH 4'
OF SEPERATION AND CONSISTENT
PARALLEL WIDTH. CROSSWALK LINES SHALL
BE 10' APART MATCHING THE WIDTH OF
THE SHARED-USE PATH.



TRAFFIC CONTROL PLAN
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	06-24-2020	CITY COMMENTS	
2	02-01-2021	ADDED HOOK ROAD SWALE	
3	04-06-2021	SWALE AND ADA RAMP REVISIONS	

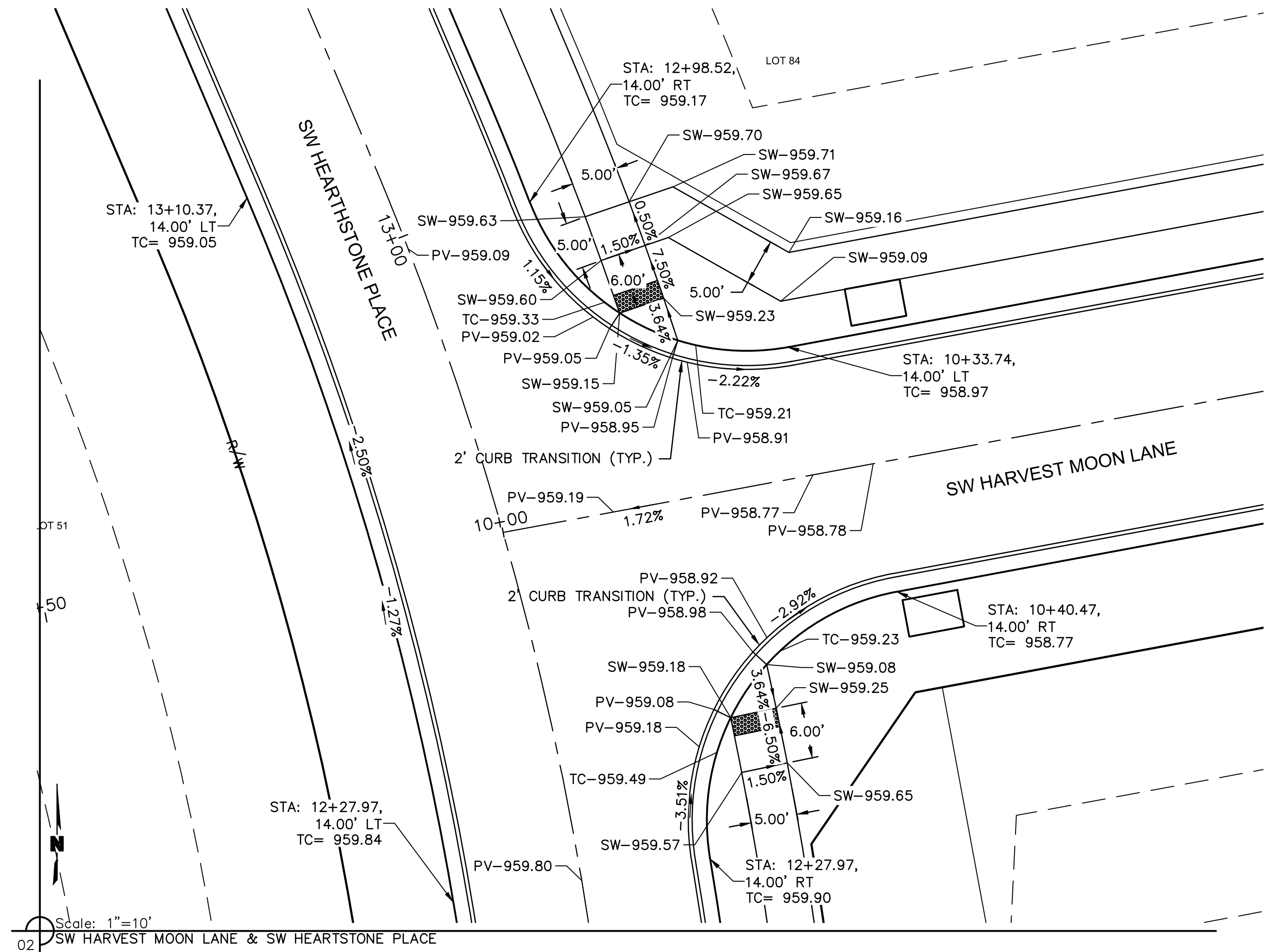
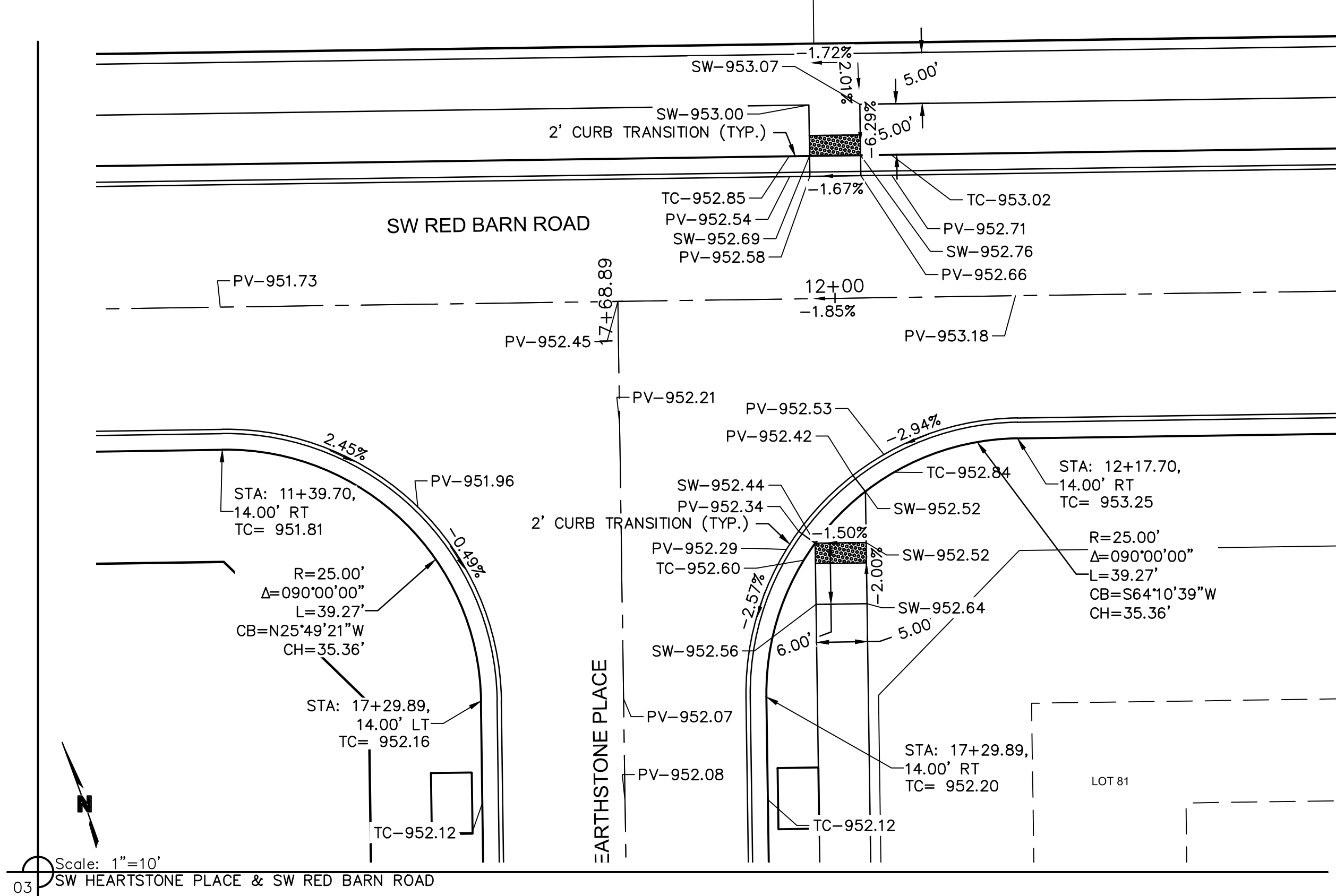
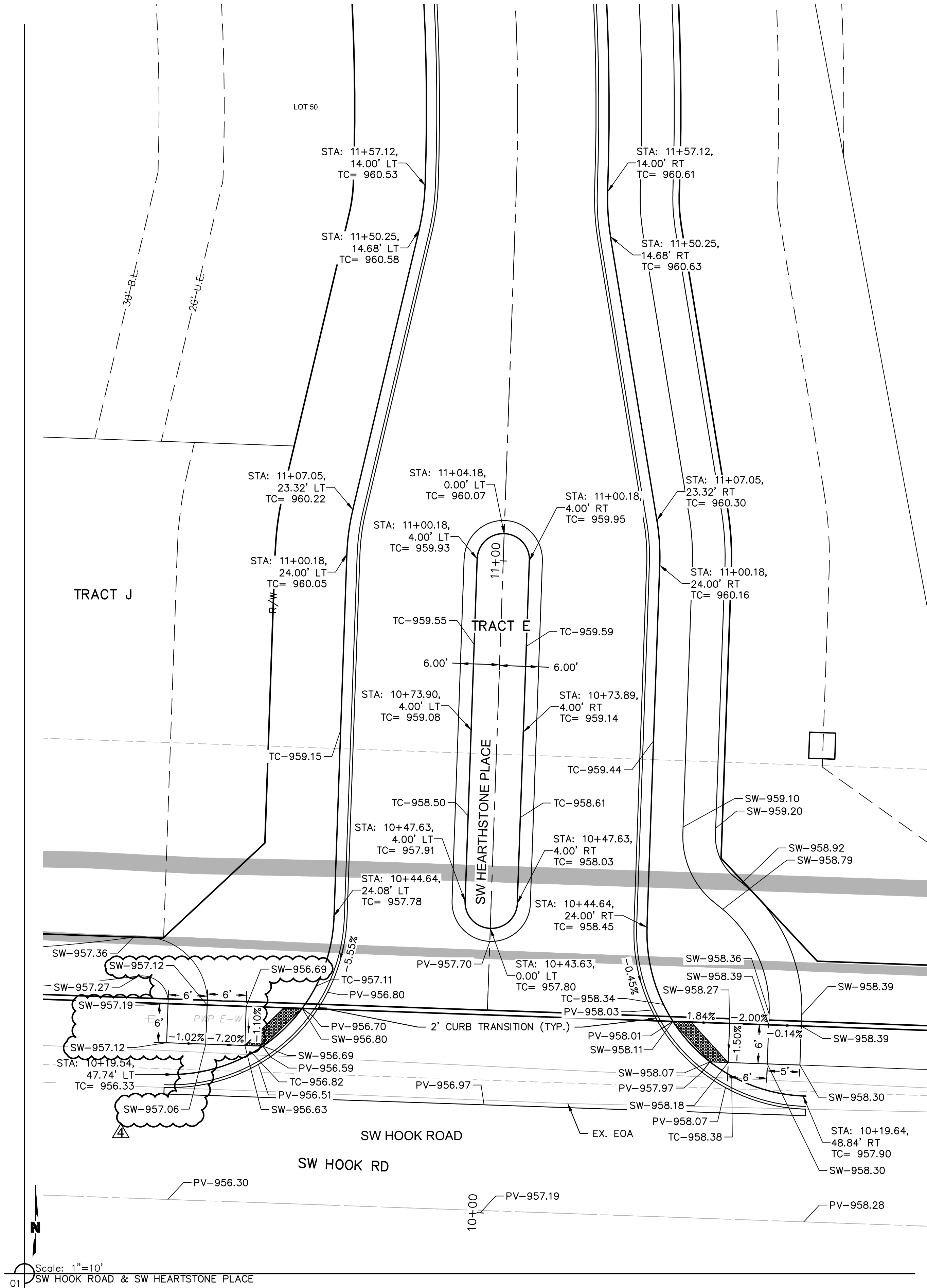


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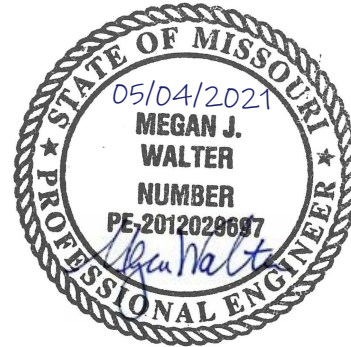
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drawing no.: C_TRF01_0194059
date: 4/20/2020

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INTERSECTION DETAILS
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

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checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_SPT01_0194059
date: 4/20/2020



REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	05-24-2020	CITY COMMENTS	
2	02-01-2021	ADDED HOOK ROAD SWALE	
3	04-06-2021	SWALE AND ADA RAMP REVISIONS	
4	05-04-2021	ADA RAMP REVISIONS	

REVISIONS

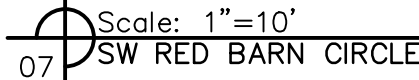
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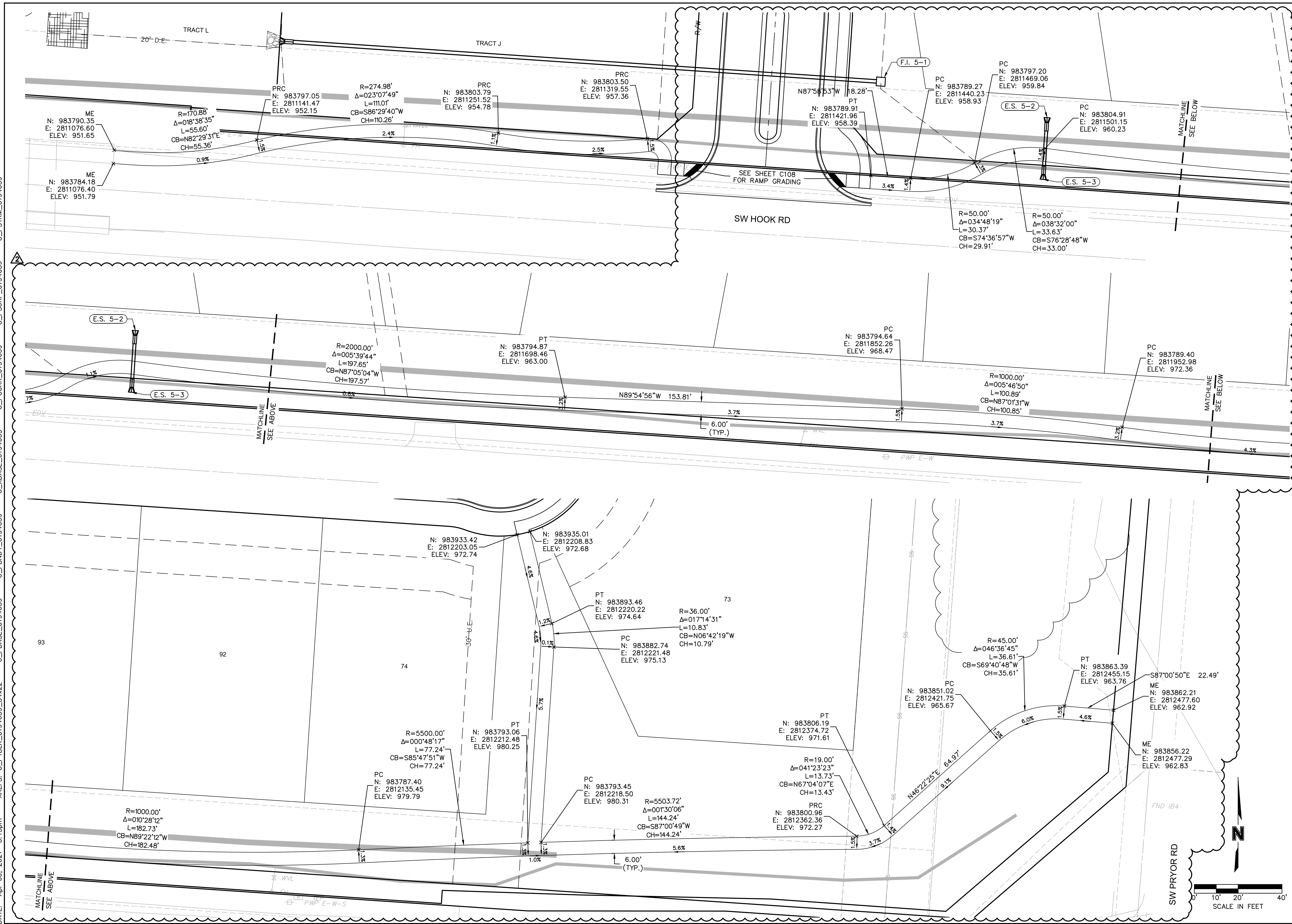
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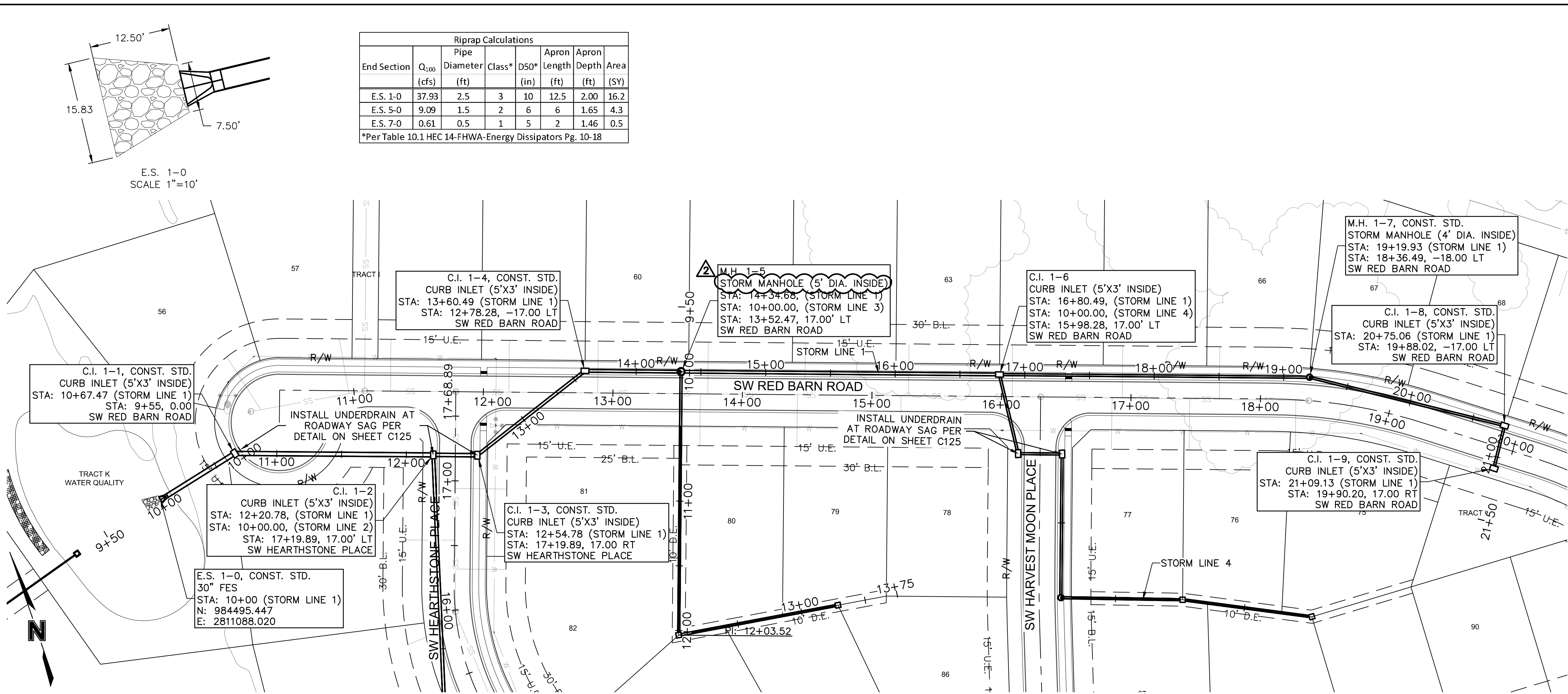
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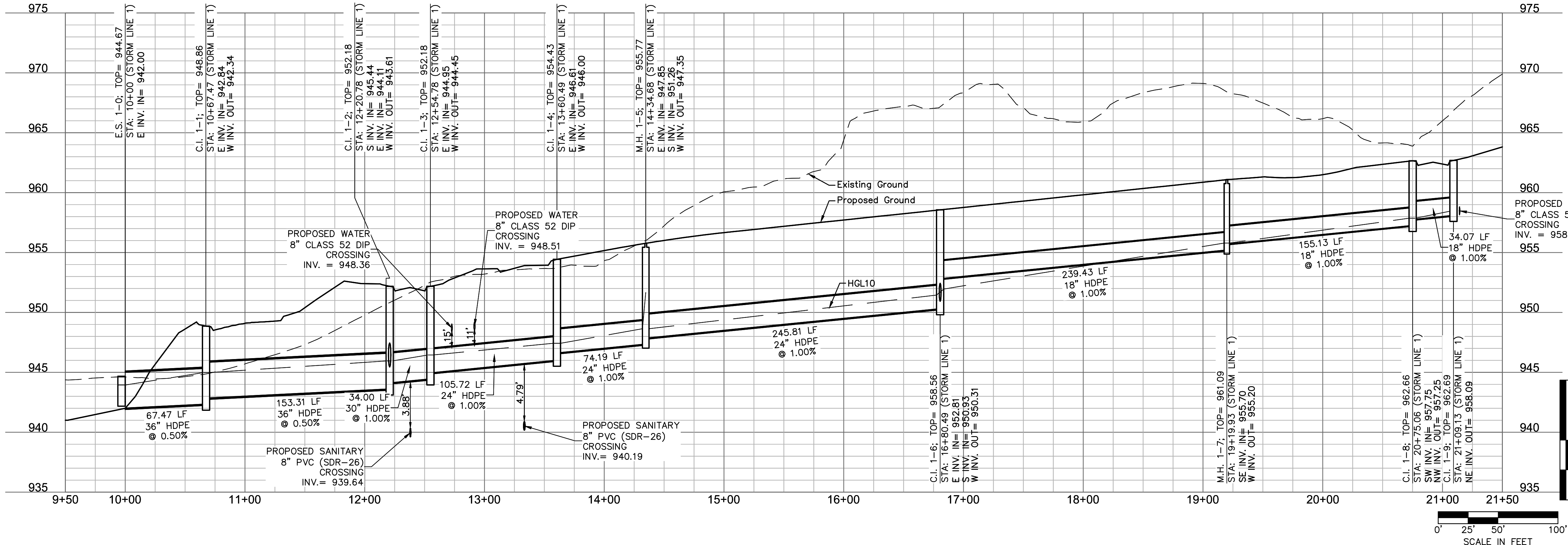


Riprap Calculations						
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft)
E.S. 1-0	37.93	2.5	3	10	12.5	2.00
E.S. 5-0	9.09	1.5	2	6	6	1.65
E.S. 7-0	0.61	0.5	1	5	2	1.46

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

- NOTES:
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
 2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 4" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.

STORM LINE 1 (9+50 - 21+50)



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Professional Engineer

BY
REV. NO. DATE REVISIONS DESCRIPTION
1 05-24-2020 CITY COMMENTS
2 02-01-2021 ADDED HOOK ROAD SWALE
3 04-06-2021 SWALE AND ADA RAMP REVISIONS

REVISIONS

STORM PLAN & PROFILES
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THE RETREAT AT HOOK FARMS
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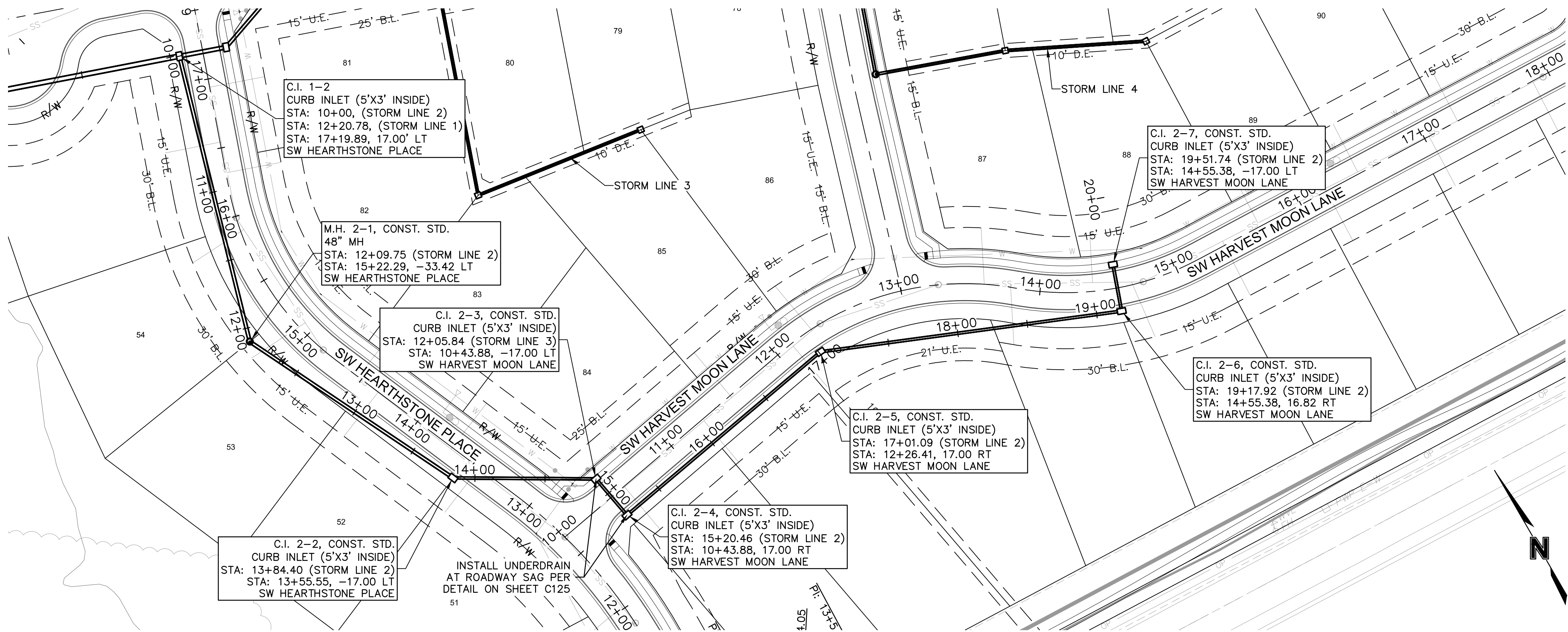
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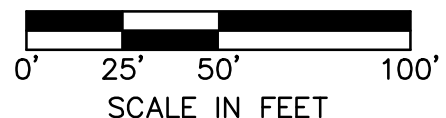
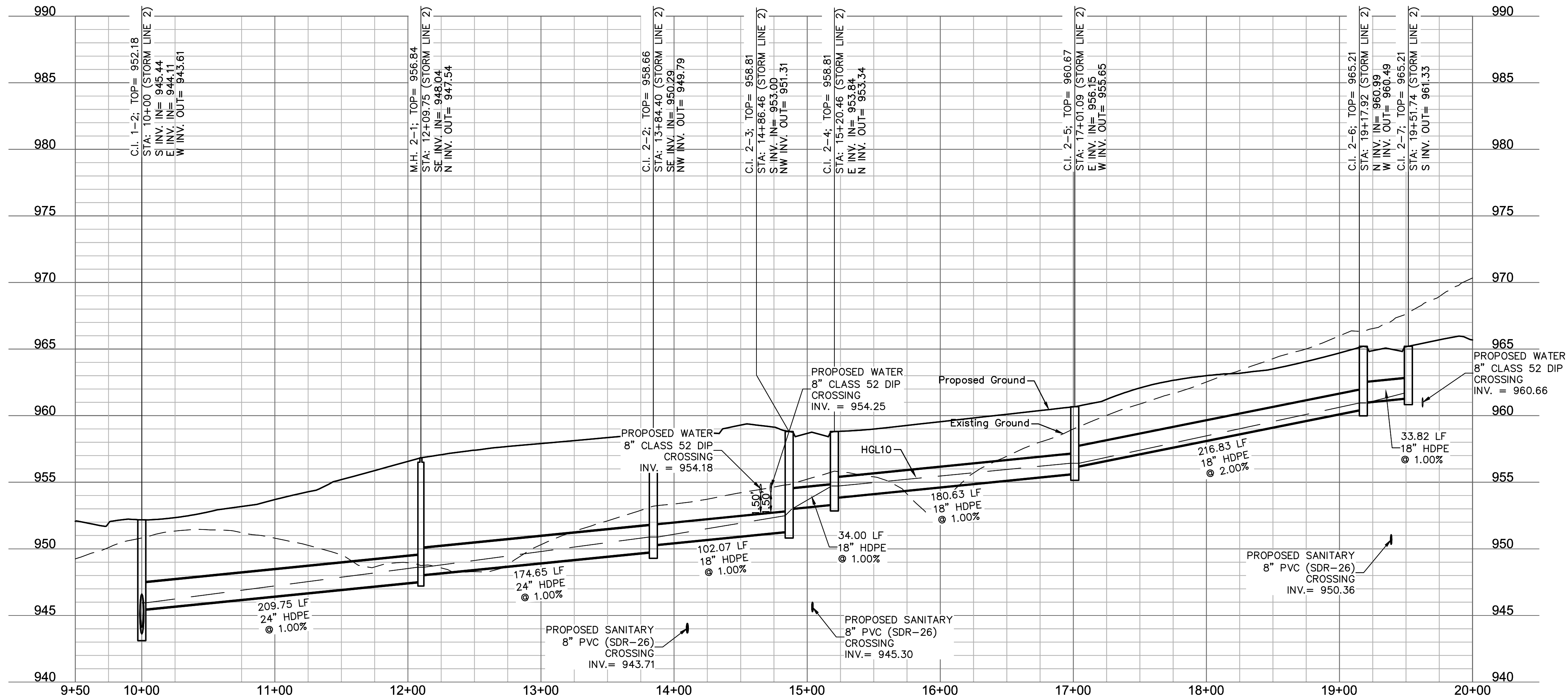
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drawing no.: C_STM02_0194059
date: 4/20/2020

SHEET C112
13 OF 54

NOTES:
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 4" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.



STORM LINE 2 (9+50 - 20+00)



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Professional Engineer

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REV. NO. DATE REVISIONS DESCRIPTION

1 05-24-2020 CITY COMMENTS

2 02-01-2021 ADDED HOOK ROAD SWALE

3 04-06-2021 SWALE AND ADA RAMP REVISIONS

STORM PLAN & PROFILES
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
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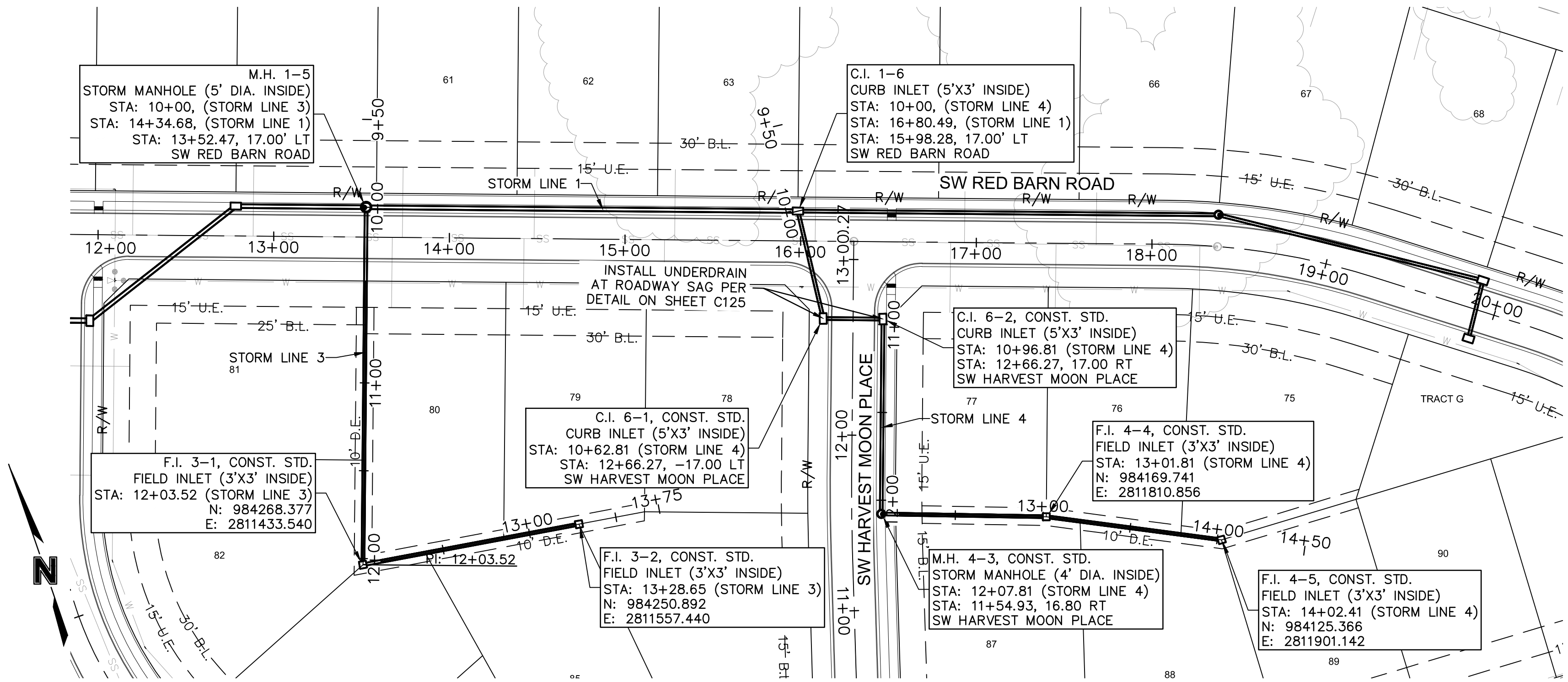
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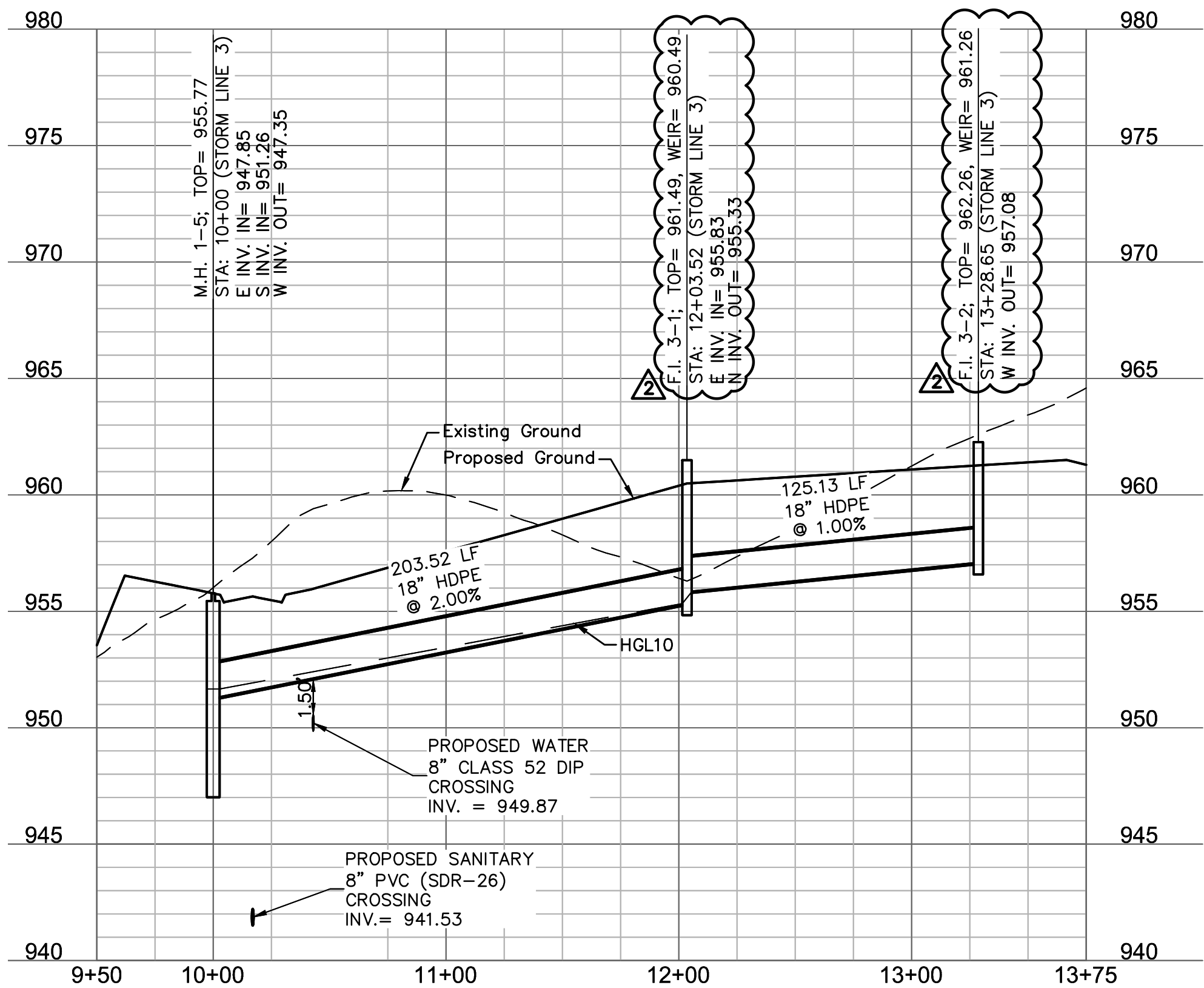
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drawing no.: C_STM02_0194059
date: 4/20/2020

SHEET C113
14 OF 54

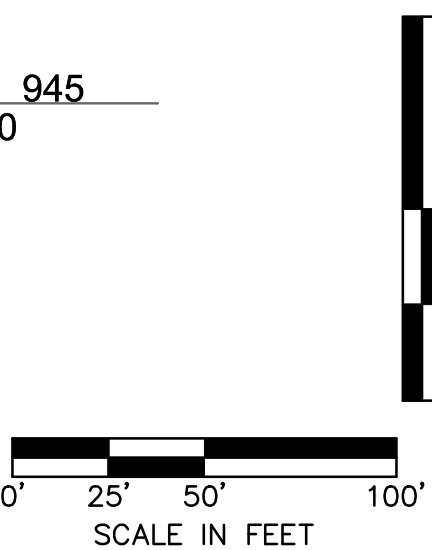
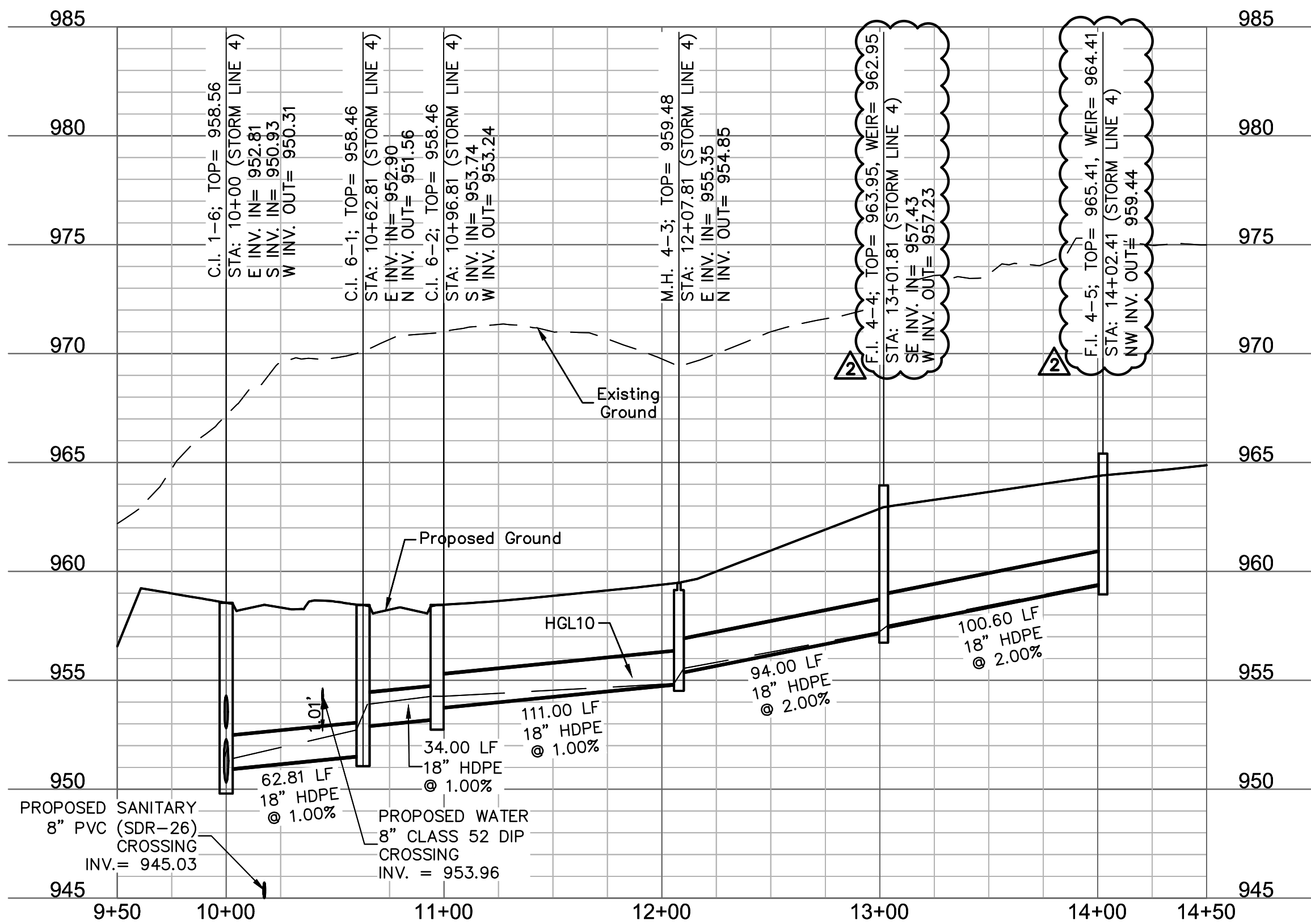
NOTES:
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 4' MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.



STORM LINE 3 (9+50 - 13+75)



STORM LINE 4 (9+50 - 14+50)



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REV. NO. DATE REVISIONS DESCRIPTION

1 06-24-2020 CITY COMMENTS

2 02-01-2021 ADDED HOOK ROAD SWALE

3 04-06-2021 SWALE AND ADA RAMP REVISIONS

2020

STORM PLAN & PROFILES
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
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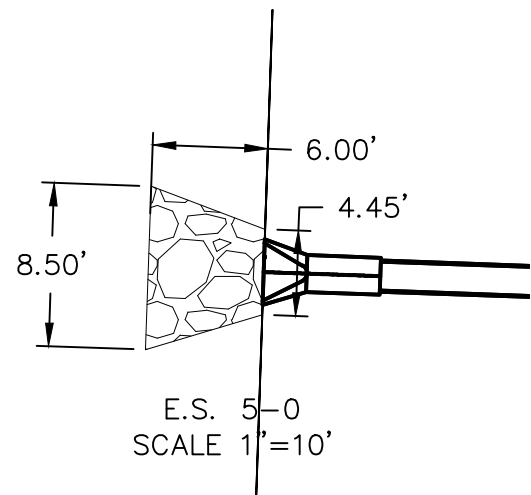
LEE'S SUMMIT, MO

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designed by: RB
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project no.: 019-4059
drawing no.: C_STM02_0194059
date: 4/20/2020

SHEET C114
15 OF 54

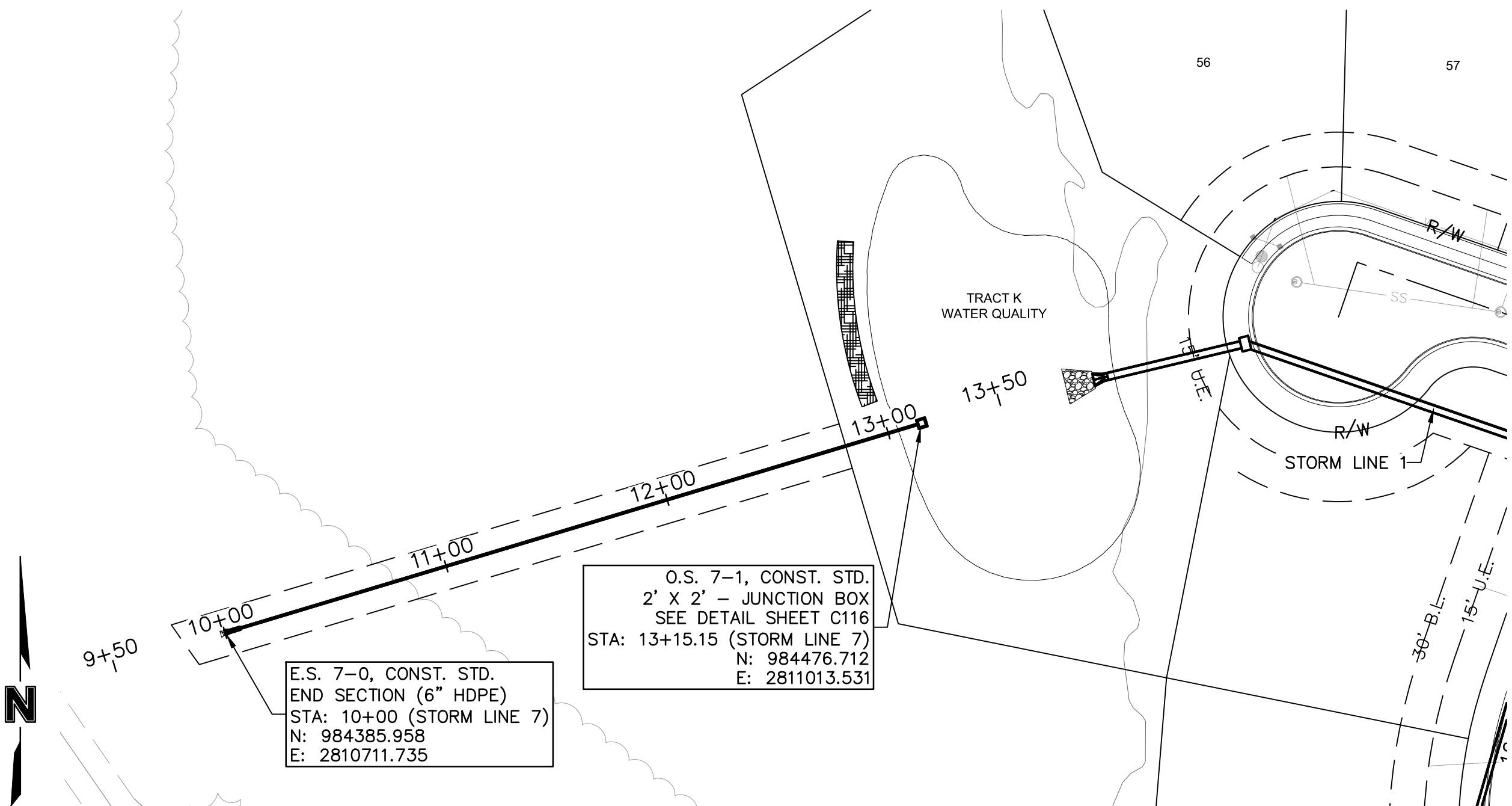
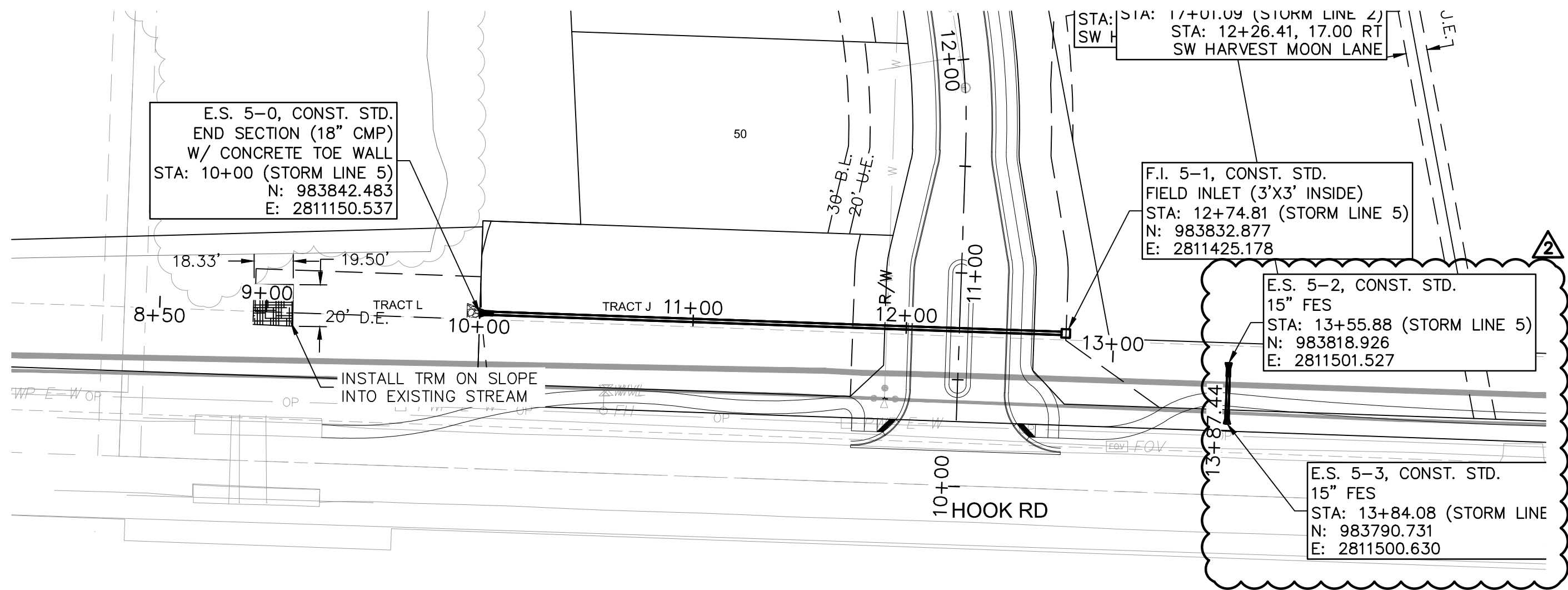
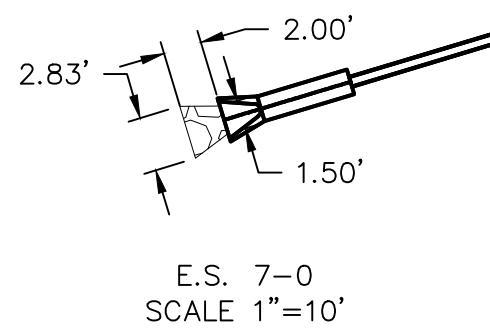
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USER: rheiser

- NOTES:
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
 2. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 4' MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.

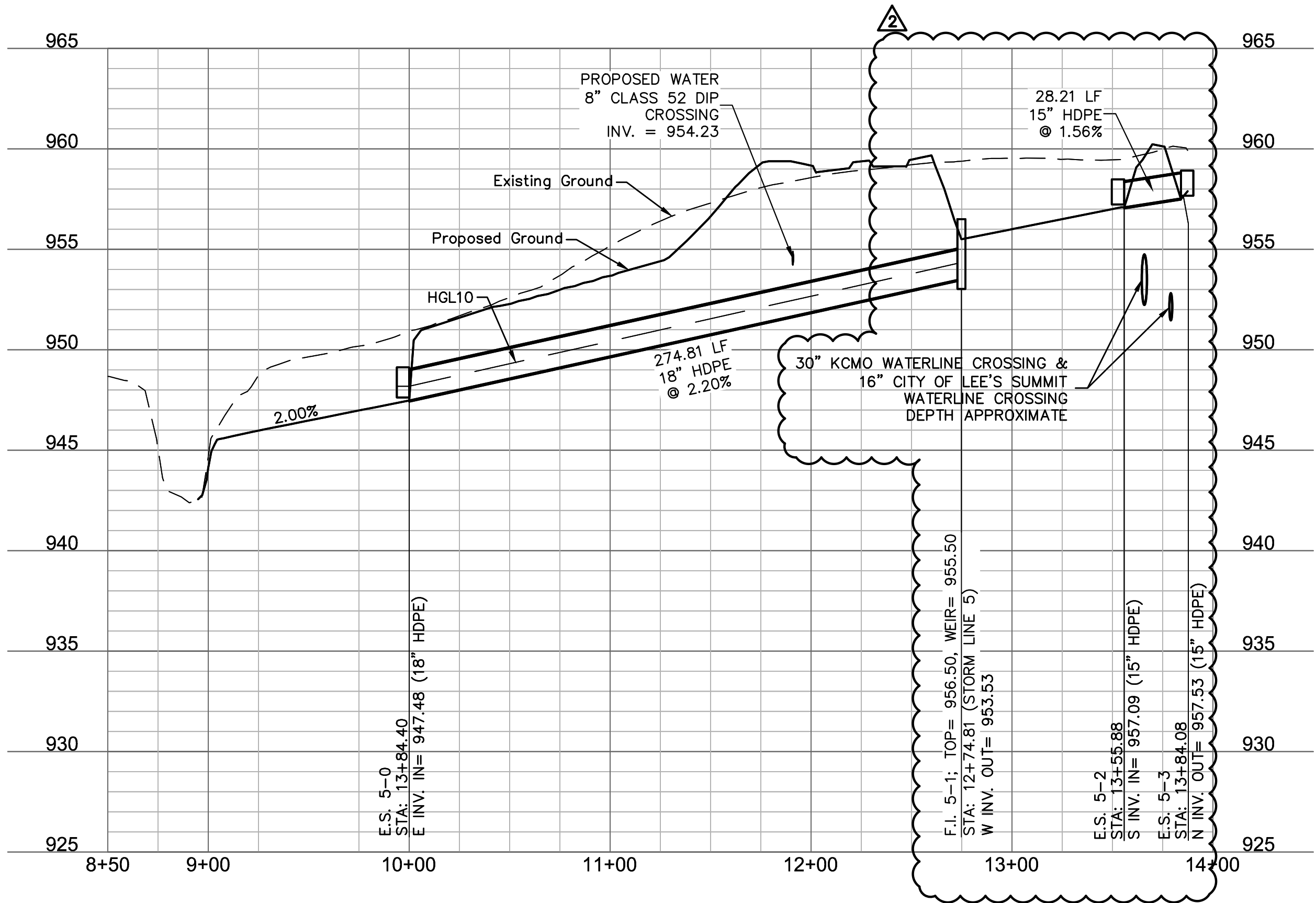


Riprap Calculations						
End Section	Q ₁₀₀ (cfs)	Pipe Diameter (ft)	Class*	D50* (in)	Apron Length (ft)	Apron Depth (ft) (SV)
E.S. 1-0	37.93	2.5	3	10	12.5	2.00
E.S. 5-0	9.09	1.5	2	6	6	1.65
E.S. 7-0	0.61	0.5	1	5	2	1.46

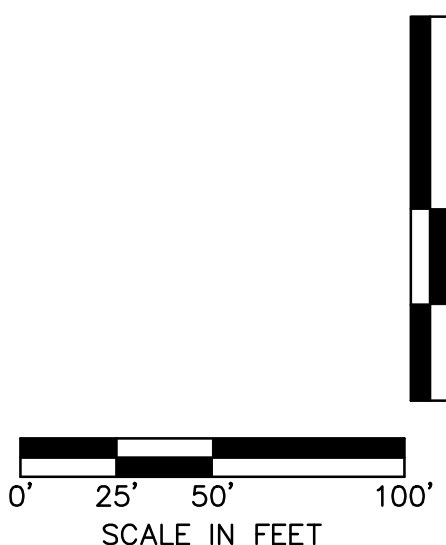
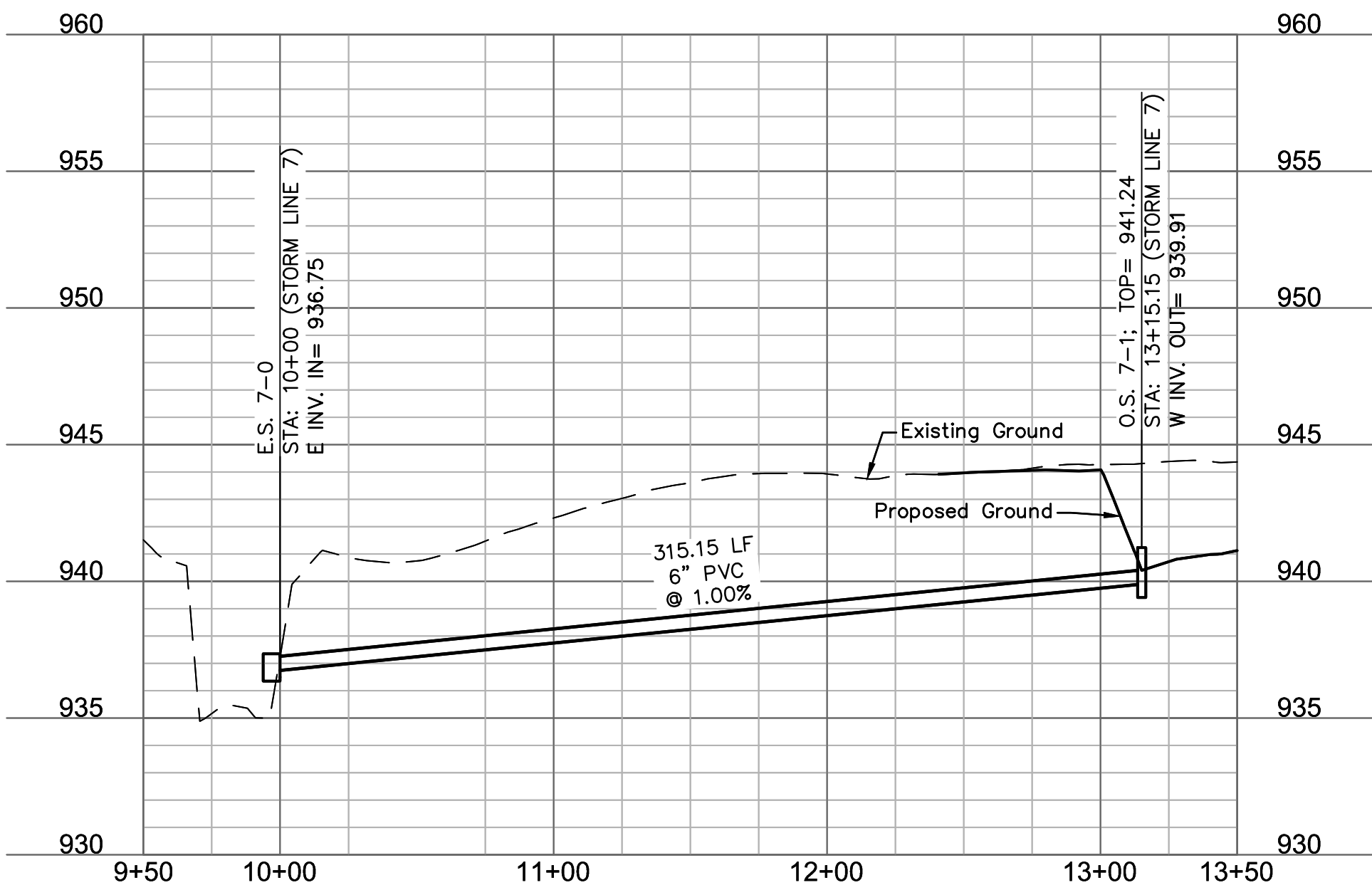
*Per Table 10.1 HEC 14-FHWA-Energy Dissipators Pg. 10-18



STORM LINE 5 (8+50 - 14+00)



STORM LINE 7 (9+50 - 13+50)



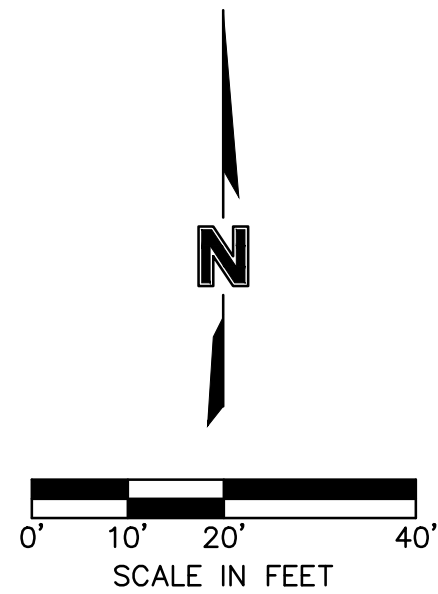
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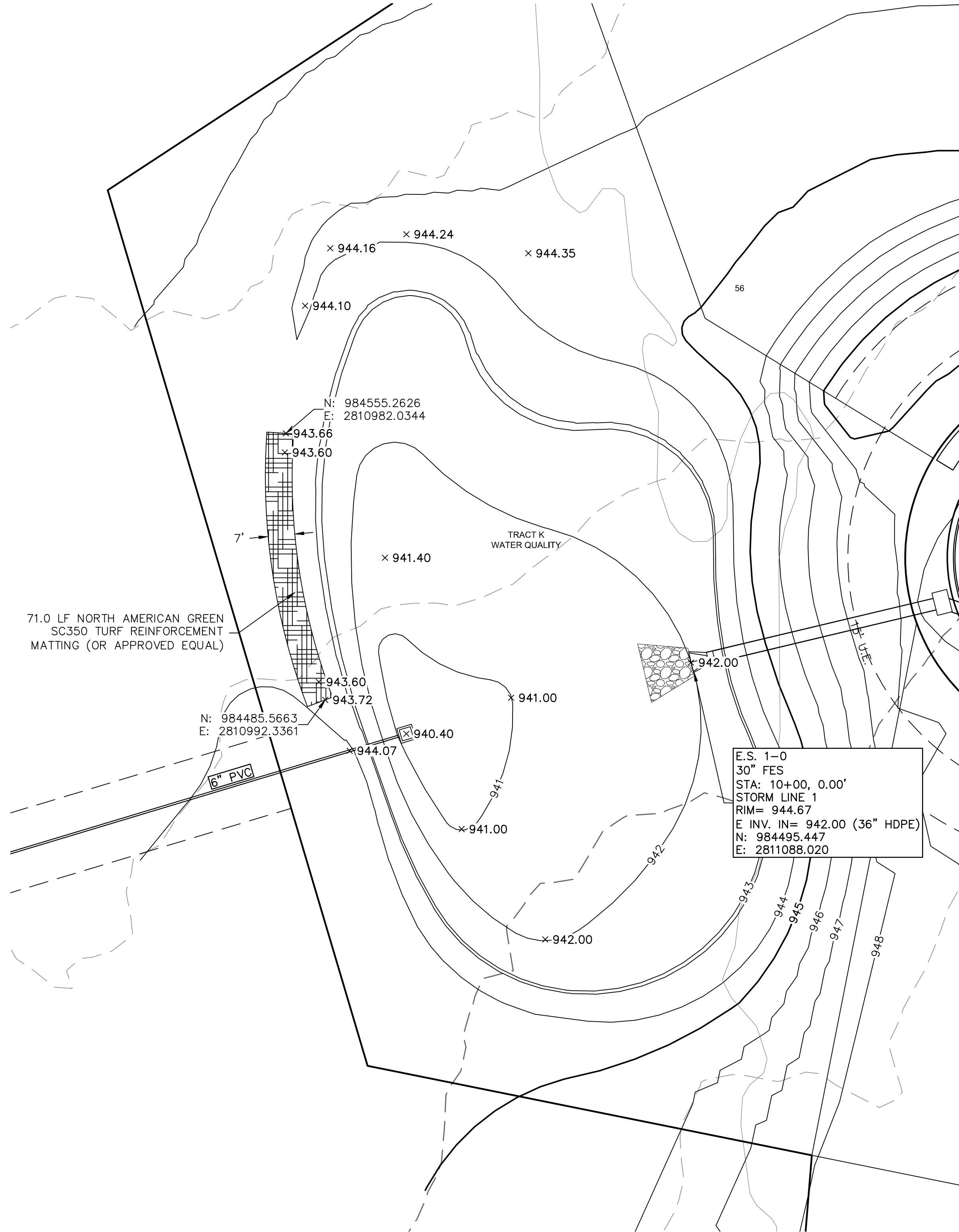
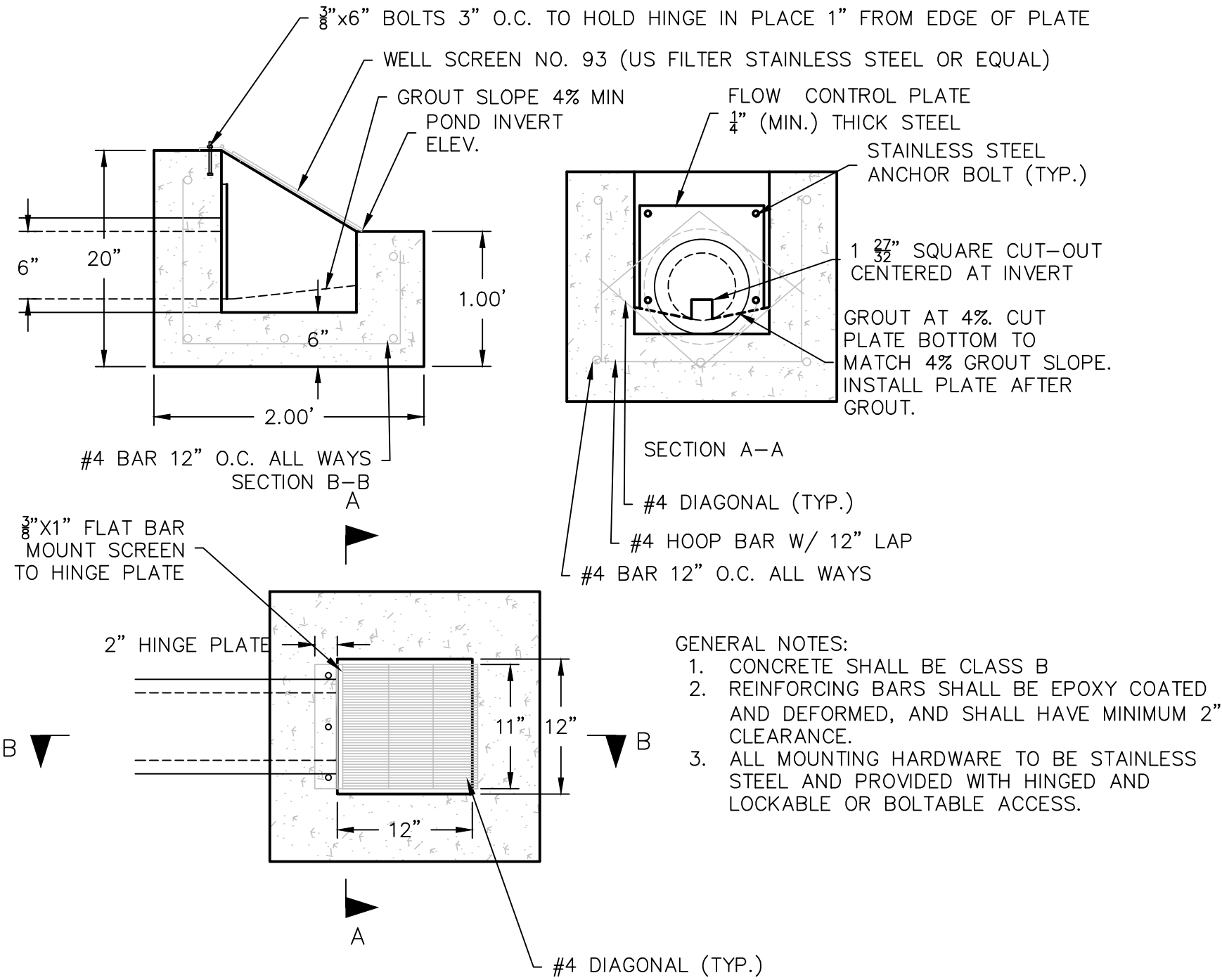
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MEGAN J. WALTER
NUMBER
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Professional Engineer

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16 OF 54

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Scale: 1"=1'
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DETENTION BASIN PLAN STREET AND STORM SEWER PLANS		THE RETREAT AT HOOK FARMS CONSTRUCTION DOCUMENTS		2020	
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designed by:	RB	QA/QC by:	NH		
project no.:	019-4059	drawing no.:	C_GRD02_0194059		
date:	4/20/2020				
SHEET		C116		17 OF 54	

BY

REVISIONS

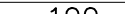
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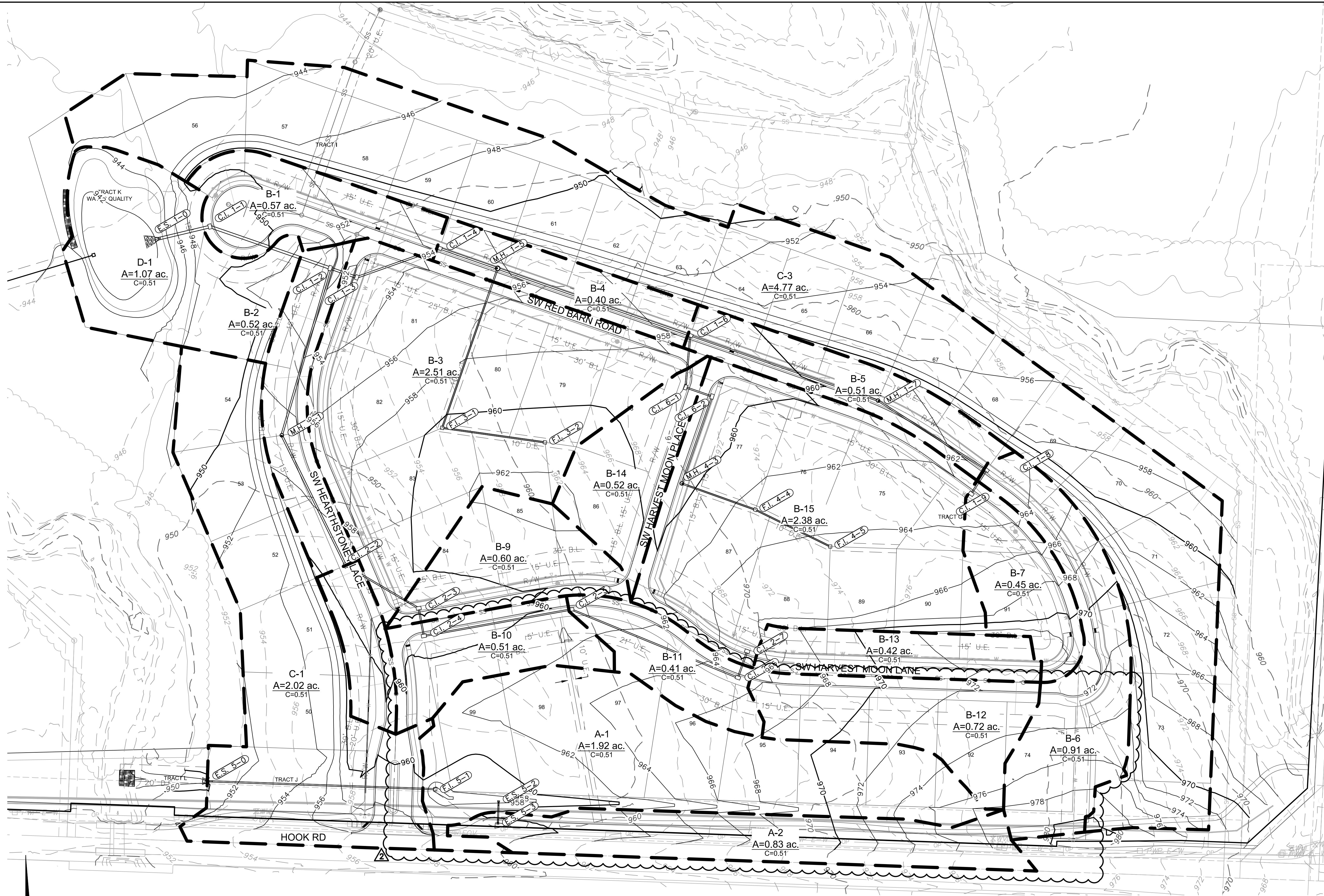


NOTES:
1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.

3. BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.

4. MLO ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN CORNER MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.

LEGEND	
	FINISHED INDEX CONTOURS
	FINISHED INTERMEDIATE CONTOURS
	RIDGE LINE
	DRAINAGE AREA
	RUNOFF COEFFICIENT
	STORM STRUCTURE NUMBER



DRAINAGE PLAN
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS

DRAINAGE PLAN STREET AND STORM SEWER PLANS	2020
THE RETREAT AT HOOK FARMS CONSTRUCTION DOCUMENTS	LEE'S SUMMIT, MO

[illegible]

Olsson

1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
FAX 816.361.1888
www.olsson.com

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. 1-1	0.57	0.51	8.01	6.53	1.00	1.90
C.I. 1-2	0.52	0.51	7.61	6.63	1.00	1.76
C.I. 1-3	2.50	0.51	19.85	4.60	1.00	5.86
C.I. 1-4	0.40	0.51	7.06	6.77	1.00	1.38
C.I. 1-6	0.51	0.51	7.74	6.59	1.00	1.71
C.I. 1-8	0.91	0.51	7.94	6.54	1.00	3.04
C.I. 1-9	0.45	0.51	13.89	5.35	1.00	1.23
C.I. 2-2	0.25	0.51	5.89	7.09	1.00	0.90
C.I. 2-3	0.60	0.51	10.88	5.90	1.00	1.80
C.I. 2-4	0.51	0.51	13.50	5.42	1.00	1.41
C.I. 2-5	0.41	0.51	12.15	5.65	1.00	1.18
C.I. 2-6	0.72	0.51	19.54	4.63	1.00	1.70
C.I. 2-7	0.42	0.51	7.14	6.75	1.00	1.45
C.I. 4-1	0.52	0.51	11.84	5.71	1.00	1.51
C.I. 4-2	2.38	0.51	18.47	4.74	1.00	5.75

Inlet Design Table														
10 Year Return Frequency														
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Downstream Bypass Inlet	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)		(%)	(ft)	(ft)	(ft)
C.I. 1-1	SAG	1.90	1.30	3.20	0.80	19.40	15.52	3.20	0.00		100.00%	0.21	7.03	...
C.I. 1-2	SAG	1.76	0.09	1.84	0.80	19.40	15.52	1.84	0.00		100.00%	0.21	5.78	...
C.I. 1-3	SAG	5.86	0.00	5.86	0.80	19.40	15.52	5.86	0.00		100.00%	0.32	8.91	...
C.I. 1-4	GRADE	1.38	0.88	2.26	1.00	1.84	1.84	1.84	0.42	C.I. 1-1	81.51%	0.16	8.15	...
C.I. 1-6	GRADE	1.71	0.58	2.29	1.00	1.99	1.99	1.99	0.30	C.I. 1-4	86.69%	0.18	9.02	...
C.I. 1-8	GRADE	3.04	0.00	3.04	1.00	2.46	2.46	2.46	0.58	C.I. 1-6	80.99%	0.20	9.77	...
C.I. 1-9	GRADE	1.23	0.00	1.23	1.00	1.13	1.13	1.13	0.09	C.I. 4-2	92.33%	0.14	6.96	...
C.I. 2-2	GRADE	0.90	0.00	0.90	1.00	0.82	0.82	0.82	0.09	C.I. 1-2	90.43%	0.11	5.41	...
C.I. 2-3	SAG	1.80	0.00	1.80	0.80	19.40	15.52	1.80	0.00		100.00%	0.19	6.62	...
C.I. 2-4	SAG	1.41	0.49	1.90	0.80	19.40	15.52	1.90	0.00		100.00%	0.19	6.75	...
C.I. 2-5	GRADE	1.18	0.33	1.51	1.00	1.35	1.35	1.35	0.16	C.I. 2-4	89.30%	0.15	7.30	...
C.I. 2-6	GRADE	1.70	0.00	1.70	1.00	1.37	1.37	1.37	0.33	C.I. 2-5	80.77%	0.13	6.71	...
C.I. 2-7	GRADE	1.45	0.00	1.45	1.00	1.21	1.21	1.21	0.24	C.I. 4-2	83.46%	0.13	6.31	...
C.I. 4-1	SAG	1.51	0.00	1.51	0.80	19.40	15.52	1.51	0.00		100.00%	0.15	7.42	...
C.I. 4-2	SAG	5.75	0.33	6.08	0.80	19.40	15.52	6.08	0.00		100.00%	0.25	12.49	...
F.I. 5-1	SAG	6.57	0.00	6.57	0.50	18.19	9.09	6.57	0.00		100.00%	...	...	0.82
Notes:														
1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600.														
Both theoretical capacity and reduced capacity are shown.														
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.														

From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Pipe Diameter	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Peak Flow	Max Flow Velocity	Travel Time	Design Flow Capacity	Max Flow / Design Flow Ratio	Max Flow Depth / Total Depth Ratio	Max Flow Depth
		(ft)	(ft)	(ft)	(%)	(inches)					(cfs)	(cfs)	(ft/sec)	(min)	(cfs)			(ft)
C.I. 1-9	C.I. 1-8	34.07	958.09	957.75	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	1.27	3.78	0.15	11.38	0.11	0.25	0.36
C.I. 1-8	M.H. 1-7	155.13	957.25	955.70	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	4.31	5.60	0.46	11.38	0.38	0.45	0.67
M.H. 1-7	C.I. 1-6	239.43	955.20	952.81	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	4.27	5.71	0.70	11.38	0.38	0.44	0.66
C.I. 1-6	M.H. 1-5	245.81	950.31	947.85	1.0000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	13.54	7.40	0.55	24.51	0.55	0.56	1.13
M.H. 1-5	C.I. 1-4	74.19	947.35	946.61	1.0000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	13.54	6.80	0.18	24.51	0.55	0.61	1.21
C.I. 1-4	C.I. 1-3	105.72	946.00	944.95	1.0000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	15.00	6.61	0.27	24.48	0.61	0.74	1.48
C.I. 1-3	C.I. 1-2	34.00	944.45	944.11	1.0000	30.00	0.0120	0.5000	0.5000	0.0000	0.00	20.86	6.47	0.09	44.44	0.47	0.74	1.84
C.I. 1-2	C.I. 1-1	153.31	943.61	942.84	0.5000	36.00	0.0120	0.5000	0.5000	0.0000	0.00	31.14	5.90	0.43	51.21	0.61	0.71	2.12
C.I. 1-1	E.S. 1-0	67.47	942.34	942.00	0.5000	36.00	0.0120	0.5000	0.5000	0.0000	0.00	36.51	6.57	0.17	51.15	0.71	0.73	2.20
C.I. 2-7	C.I. 2-6	33.82	961.33	960.99	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	1.50	3.94	0.14	11.38	0.13	0.27	0.40
C.I. 2-6	C.I. 2-5	216.83	960.49	956.15	2.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	3.15	6.81	0.53	16.09	0.20	0.31	0.46
C.I. 2-5	C.I. 2-4	180.63	955.65	953.84	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	4.33	5.65	0.53	11.38	0.38	0.45	0.67
C.I. 2-4	C.I. 2-3	34.00	953.34	953.00	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	5.74	5.40	0.10	11.38	0.50	0.58	0.87
C.I. 2-3	C.I. 2-2	102.07	951.31	950.29	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	7.54	6.14	0.28	11.38	0.66	0.66	0.98
C.I. 2-2	M.H. 2-1	174.65	949.79	948.04	1.0000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	8.46	6.53	0.45	24.51	0.35	0.43	0.86
M.H. 2-1	C.I. 1-2	209.75	947.54	945.44	1.0000	24.00	0.0120	0.5000	0.5000	0.0000	0.00	8.47	6.60	0.53	24.51	0.35	0.43	0.85
F.I. 3-2	F.I. 3-1	125.13	957.08	955.83	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		11.38	0.00	0.00	0.00
F.I. 3-1	M.H. 1-5	203.52	955.33	951.26	2.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		16.09	0.00	0.00	0.00
F.I. 4-5	F.I. 4-4	100.60	959.44	957.43	2.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		16.09	0.00	0.00	0.00
F.I. 4-4	M.H. 4-3	94.00	957.23	955.35	2.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		16.09	0.00	0.00	0.00
M.H. 4-3	C.I. 4-2	111.00	954.85	953.74	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		11.38	0.00	0.18	0.26
C.I. 4-2	C.I. 4-1	34.00	953.24	952.90	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	6.10	5.48	0.10	11.38	0.54	0.60	0.90
C.I. 4-1	C.I. 1-6	62.81	951.56	950.93	1.0000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	7.74	5.99	0.17	11.38	0.68	0.69	1.02
E.S. 5-3	E.S. 5-2	18.19	958.07	957.89	1.0000	12.00	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		3.86	0.00	0.00	0.00
F.I. 5-1	E.S. 5-0	274.81	953.53	947.48	2.2000	18.00	0.0120	0.5000	0.5000	0.0000	0.00	6.84	8.68	0.53	16.88	0.41	0.46	0.67
O.S. 7-1	E.S. 7-0	315.15	939.91	936.75	1.0000	6.00	0.0120	0.5000	0.5000	0.0000	0.00	0.00	0.00		0.61	0.00	0.00	0.00

*C.I. 1-1 IS SIZED FOR 10-YR

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. 1-1	0.57	0.51	8.01	9.20	1.25	3.34
C.I. 1-2	0.52	0.51	7.61	9.34	1.25	3.10
C.I. 1-3	2.50	0.51	19.85	6.64	1.25	10.58
C.I. 1-4	0.40	0.51	7.06	9.53	1.25	2.43
C.I. 1-6	0.51	0.51	7.74	9.29	1.25	3.02
C.I. 1-8	0.91	0.51	7.94	9.23	1.25	5.35
C.I. 1-9	0.45	0.51	13.89	7.60	1.25	2.18
C.I. 2-2	0.25	0.51	5.89	9.96	1.25	1.59
C.I. 2-3	0.60	0.51	10.88	8.34	1.25	3.19
C.I. 2-4	0.51	0.51	13.50	7.69	1.25	2.50
C.I. 2-5	0.41	0.51	12.15	8.01	1.25	2.09
C.I. 2-6	0.72	0.51	19.54	6.68	1.25	3.07
C.I. 2-7	0.42	0.51	7.14	9.50	1.25	2.54
C.I. 4-1	0.52	0.51	11.84	8.09	1.25	2.68
C.I. 4-2	2.38	0.51	18.47	6.83	1.25	10.36

Inlet Design Table														
100 Year Return Frequency														
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Downstream Bypass Inlet	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)		(%)	(ft)	(ft)	(ft)
C.I. 1-1	SAG	3.34	4.83	8.17	0.80	19.40	15.52	8.17	0.00		100.00%	0.30	9.99	...
C.I. 1-2	SAG	3.10	0.27	3.36	0.80	19.40	15.52	3.36	0.00		100.00%	0.26	7.23	...
C.I. 1-3	SAG	10.58	0.00	10.58	0.80	19.40	15.52	10.58	0.00		100.00%	0.40	11.12	...
C.I. 1-4	GRADE	2.43	2.85	5.28	1.00	3.31	3.31	3.31	1.98	C.I. 1-1	62.59%	0.22	11.20	...
C.I. 1-6	GRADE	3.02	1.65	4.68	1.00	3.48	3.48	3.48	1.20	C.I. 1-4	74.39%	0.24	11.78	...
C.I. 1-8	GRADE	5.35	0.00	5.35	1.00	3.70	3.70	3.70	1.65	C.I. 1-6	69.10%	0.24	12.09	...
C.I. 1-9	GRADE	2.18	0.00	2.18	1.00	1.88	1.88	1.88	0.30	C.I. 4-2	86.11%	0.17	8.63	...
C.I. 2-2	GRADE	1.59	0.00	1.59	1.00	1.32	1.32	1.32	0.27	C.I. 1-2	83.22%	0.13	6.68	...
C.I. 2-3	SAG	3.19	0.00	3.19	0.80	19.40	15.52	3.19	0.00		100.00%	0.24	8.20	...
C.I. 2-4	SAG	2.50	1.62	4.12	0.80	19.40	15.52	4.12	0.00		100.00%	0.26	9.03	...
C.I. 2-5	GRADE	2.09	0.97	3.07	1.00	2.42	2.42	2.42	0.65	C.I. 2-4	78.84%	0.19	9.53	...
C.I. 2-6	GRADE	3.07	0.00	3.07	1.00	2.09	2.09	2.09	0.97	C.I. 2-5	68.21%	0.17	8.37	...
C.I. 2-7	GRADE	2.54	0.00	2.54	1.00	1.85	1.85	1.85	0.70	C.I. 4-2	72.66%	0.16	7.80	...
C.I. 4-1	SAG	2.68	0.00	2.68	0.80	19.40	15.52	2.68	0.00		100.00%	0.18	9.19	...
C.I. 4-2	SAG	10.36	1.00	11.36	0.80	19.40	15.52	11.36	0.00		100.00%	0.32	15.79	...
F.I. 5-1	SAG	11.56	0.00	11.56	0.50	18.19	9.09	9.09	2.47		78.64%	...	...	1.50

Notes:

1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600. Both theoretical capacity and reduced capacity are shown.

2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

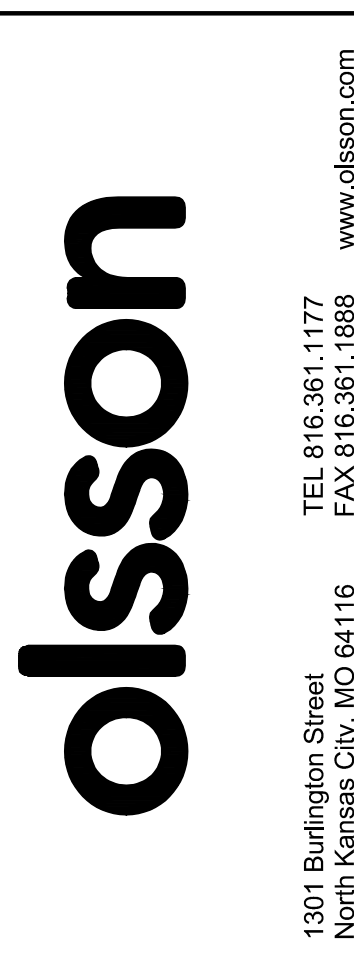
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Date: Apr 06, 2021 5:30pm USER: nheiser
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3. BUFFER ZONE FOR NATURAL STREAMS IS LOCATED WITHIN PLAT.

4. MLO ELEVATIONS HAVE BEEN PROVIDED PER LOT LINES. INTERPOLATION WILL BE ALLOWED BETWEEN THE RIGHT AND LEFT SIDE MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.

5. SWALES TO BE CONSTRUCTED BETWEEN EACH OF THE LOTS 75-84, 92-94 TO DRAIN TOWARDS THE ROADWAY.



drawn by: _____

checked by: _____

designed by: _____

QA/QC by: _____

project no.: _____ 01

date: _____ C_DRN02_01

drawing no.: _____ 4/2

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SHEET _____

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EM	LEE'S SUMMIT, MO	2020		1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 FAX 816.361.1888 www.olson.com
EM		2020		
EM				
NH				
4059				

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drawn by	designed by	projected by	date	sheet no.	total sheets



BY _____
REVISIONS DESCRIPTION
DATE

MASTER DRAINAGE PLAN

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REV.	DATE	DESCRIPTION	BY

EM	LEE'S SUMMIT, MO	2020		1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 FAX 816.361.1888 www.olson.com	
EM		2020			
NH					
4059					
4059					



NOTES:

1. A 4" P.V.C. sleeve shall be installed in new concrete medians at each location where a sign is to be installed.
2. For existing concrete medians, a 4" hole shall be cored into the concrete

NOTES:

1. A 4" P.V.C. sleeve shall be installed in new concrete medians at each location where a sign is to be installed.
2. For existing concrete medians, a 4" hole shall be cored into the concrete

* 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.



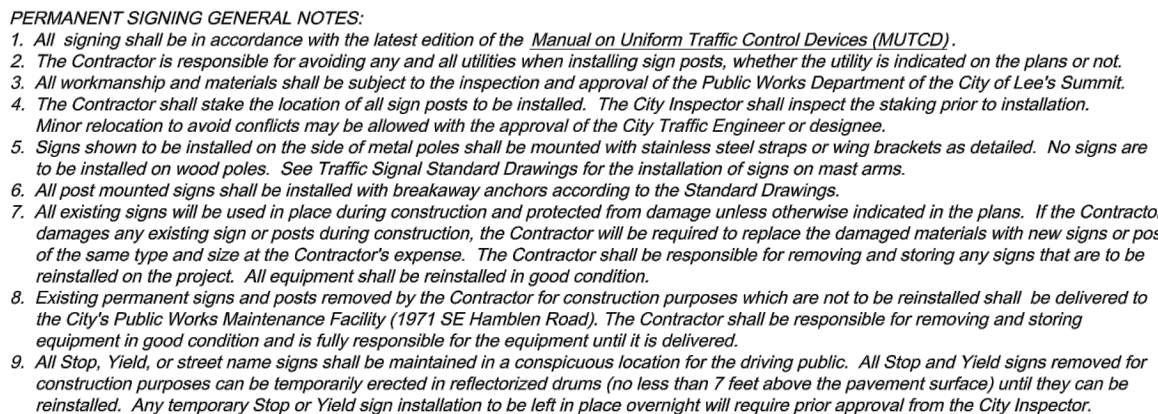
U-STEEL POST NOTES:

1. Splice 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 lb./ft., 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.



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 201 stainless steel.



SQUARE STEEL POST INSTALLATION SEQUENCE:

1. Sign post anchor driven partially into the ground using a drive cap with a sledge or power equipment.
2. Anchor sleeve slipped over anchor and drive into the ground together with the sign post anchor.
3. Insert sign post into the post anchor and bolt in place.



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 1/4" x 2 1/4" x 36" Square Steel Post
Anchor Sleeve -	12 Ga. 2 1/4" x 2 1/4" x 18" Square Steel Post
2. 14 Gauge posts must meet a certified minimum yield strength of 60,000 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.
4. The maximum area for one sign post is 9.0 square feet. A sign or combination of signs with an area greater than 9.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 36" x 36" diamond shaped signs) will require two posts.



CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64066
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CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

IN MOUNTING DETAILS

STANDARD DRAWING SN-1-

Project:

Drawn By: AS
 Checked By: JW
 Date: 08/26/2009
 Project#
 1 OF 3
1

1 OF 3
1

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64066
PHONE: (816) 969-1800 FAX: (816) 969-1801

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ENGINEERING DIVISION
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LEE'S SUMMIT, MISSOURI 64063
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SIGN POST DETAILS
STANDARD DRAWING SN-2

Project:		Sheet Name:
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Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

2 OF 3
2

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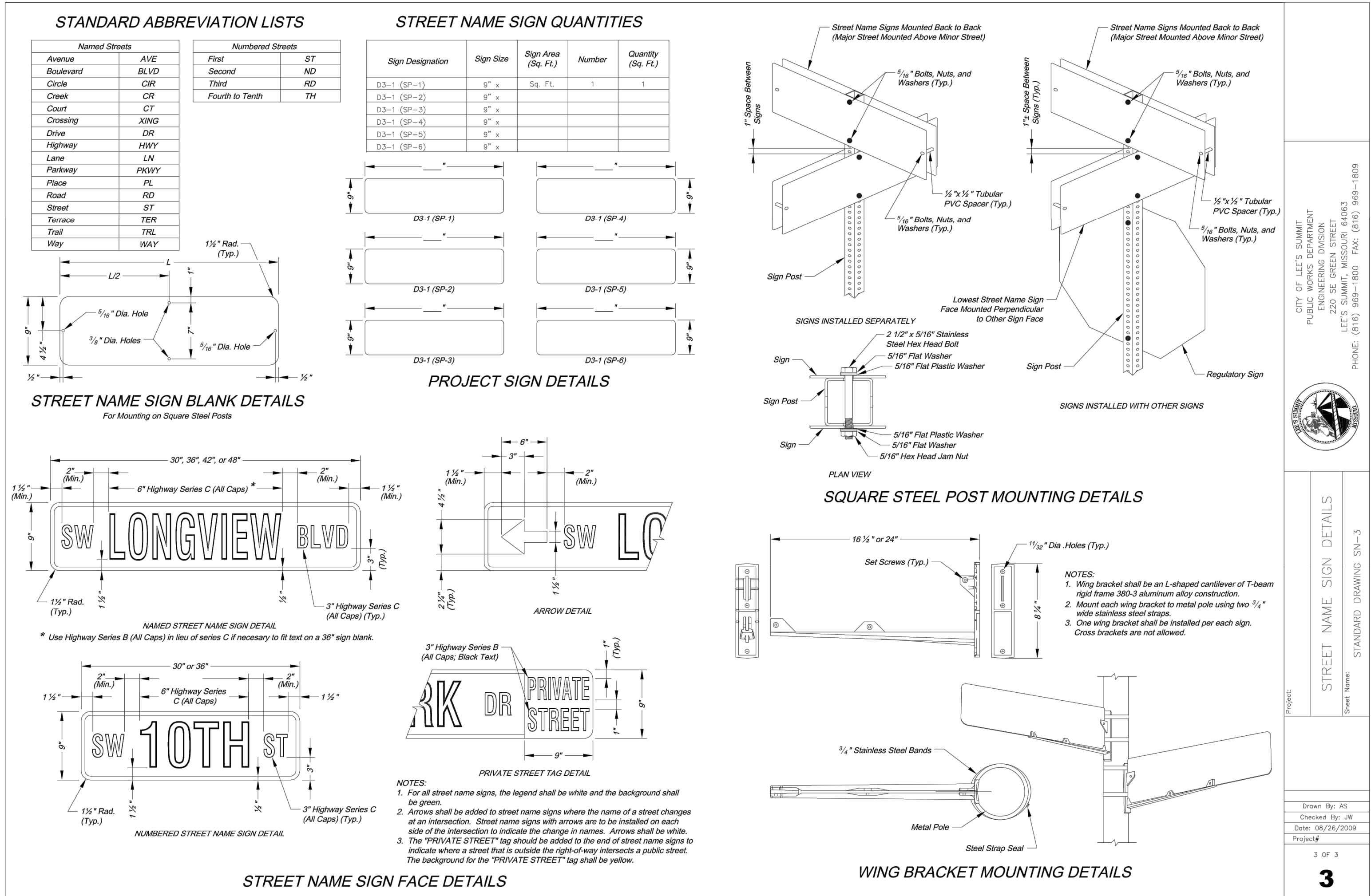
REVISIONS

2020

LEE'S SUMMIT, MO

drawn by: _____ EM
checked by: _____ EM
designed by: _____ RB
QA/QC by: _____ NH
project no.: _____ 019-4059
drawing no.: _____ C_DTL00_0194059
date: _____ 4/20/2020

SHEET C120
21 OF 54



STREET NAME SIGN DETAILS

For Mounting on Square Steel Posts

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For Mounting on Square Steel Posts

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For Mounting on Square Steel Posts

STREET NAME SIGN DETAILS

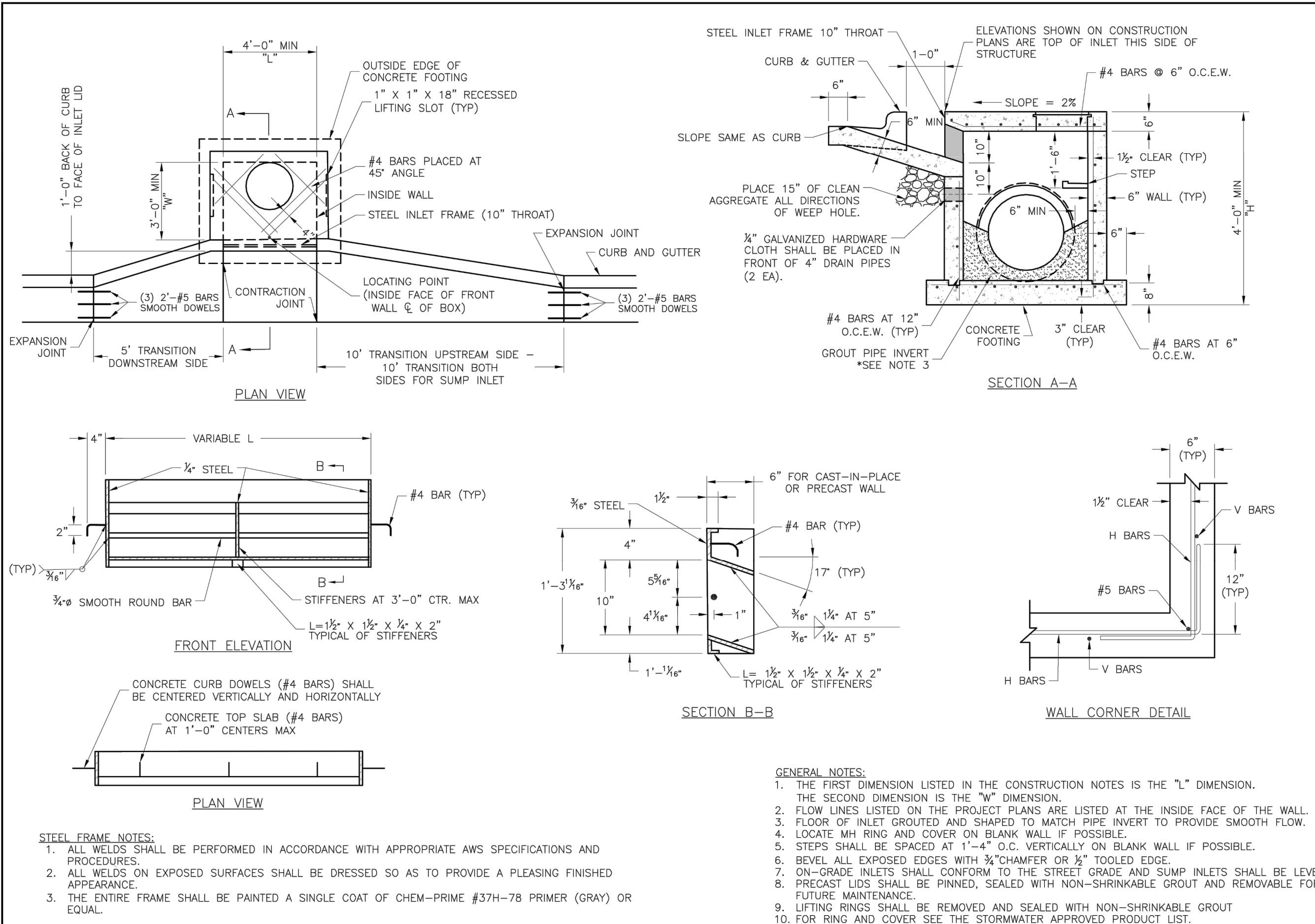
For Mounting on Square Steel Posts

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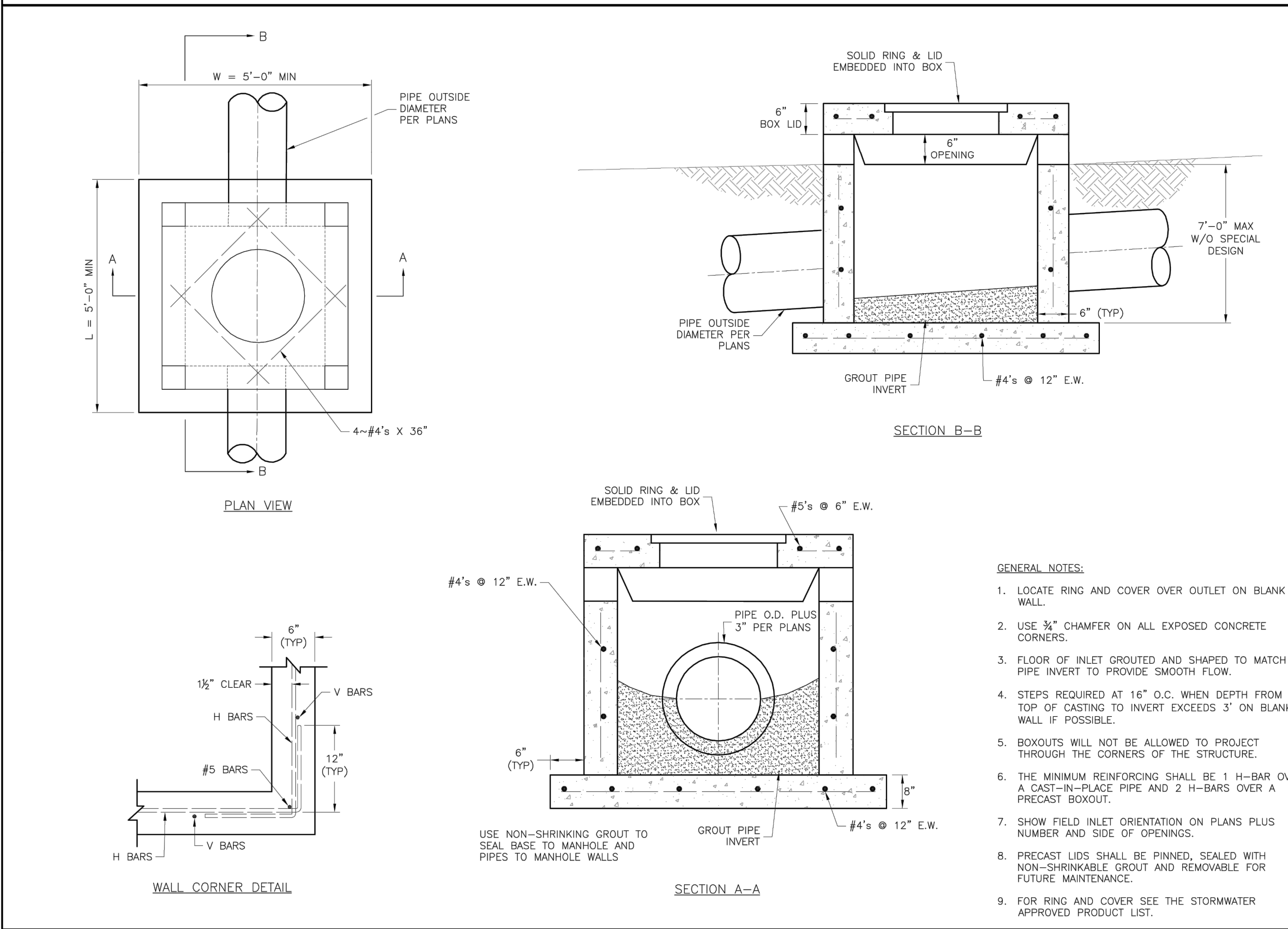
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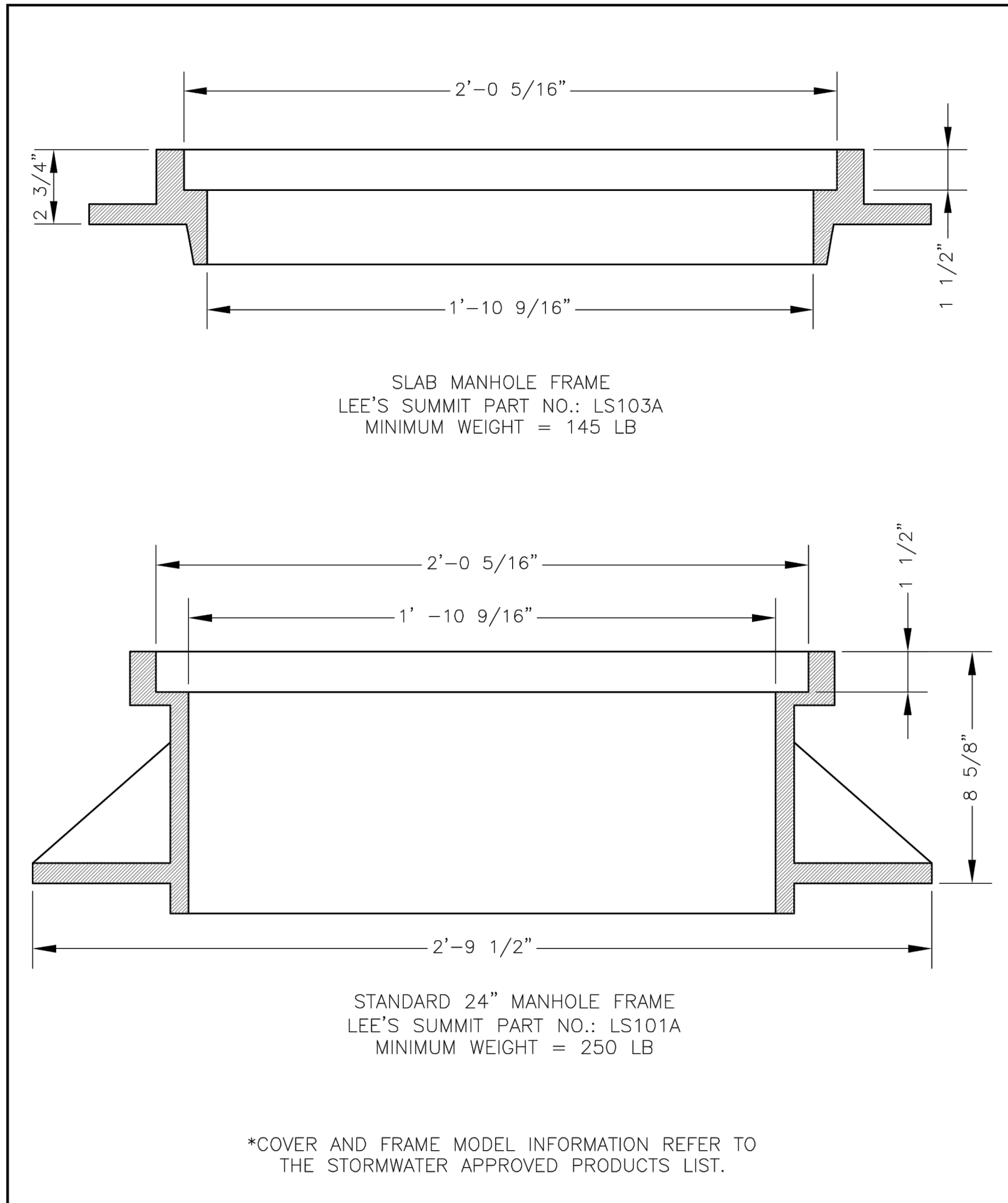
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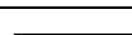


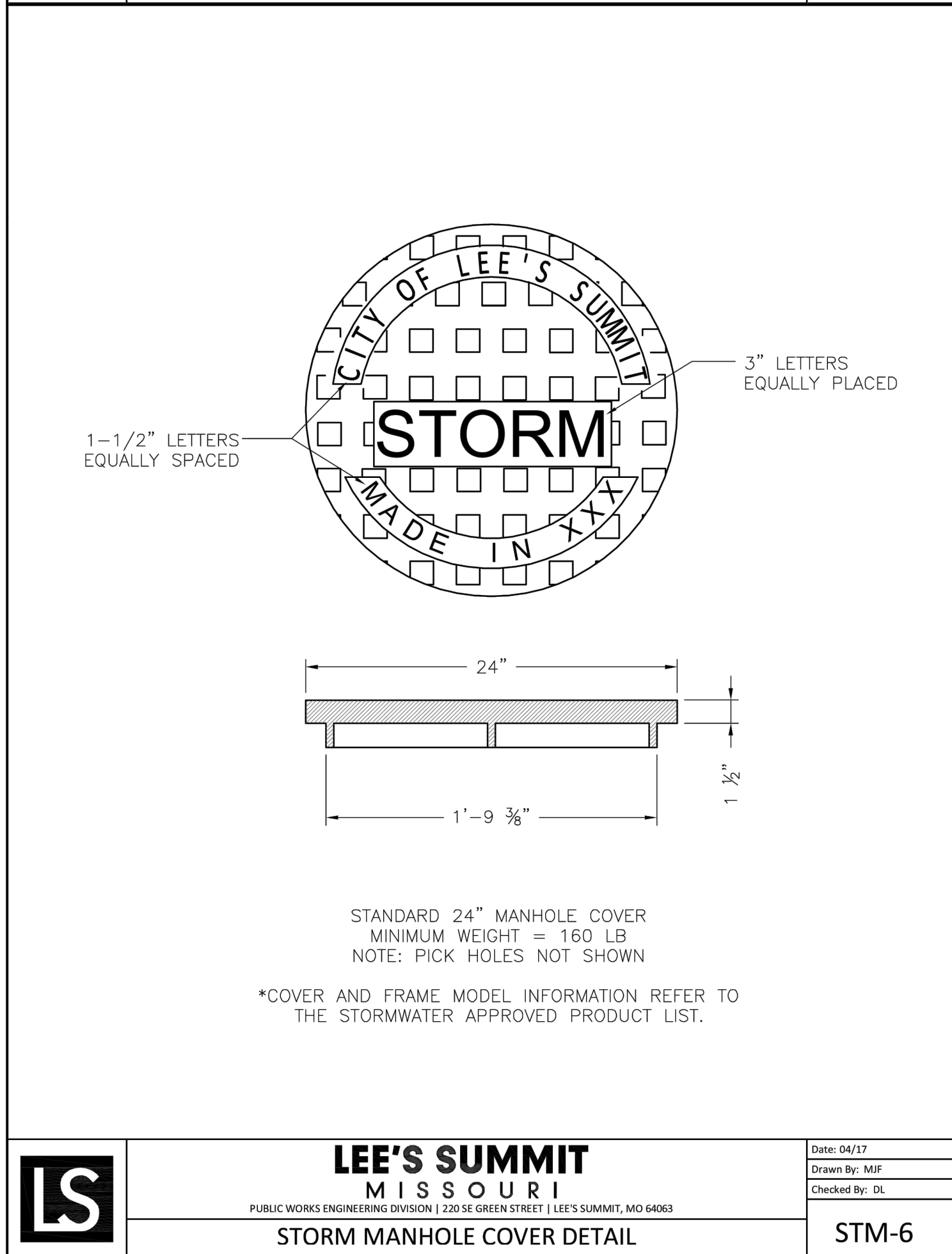
STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO	PROJECT LEE'S SUMMIT, JACKSON COUNTY, MO Sheet Name	Drawn By: MIF Checked By: DL Date: 04/17 Proj. #:	PUBLIC WORKS ENGINEERING DIVISION 220 S. GREEN STREET LEE'S SUMMIT, MO 64063
CURB INLET DETAIL			
STM-1			



STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO		PROJECT LEE'S SUMMIT, JACKSON COUNTY, MO Sheet Name	LS LEE'S SUMMIT MISSOURI	PUBLIC WORKS ENGINEERING DIVISION 1200 SE GREEN STREET LEE'S SUMMIT, MO 64063
FIELD INLET DETAIL				
STM-2				
Drawn By: MIF				
Checked By: DL				
Date: 04/17				
Proj. #:				



	LEE'S SUMMIT MISSOURI		Date: 04/17
	PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063		Drawn By: MJF
	STORM MANHOLE FRAME DETAIL		Checked By: DL
			STM-7



STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO	PROJECT LEE'S SUMMIT, JACKSON COUNTY, MO Sheet Name	Drawn By: MIF Checked By: DL Date: 04/17 Proj. #:	PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063			
STANDARD 24" MANHOLE COVER LEE'S SUMMIT PART NO.: LS101A MINIMUM WEIGHT = 250 LB						
STM-6						

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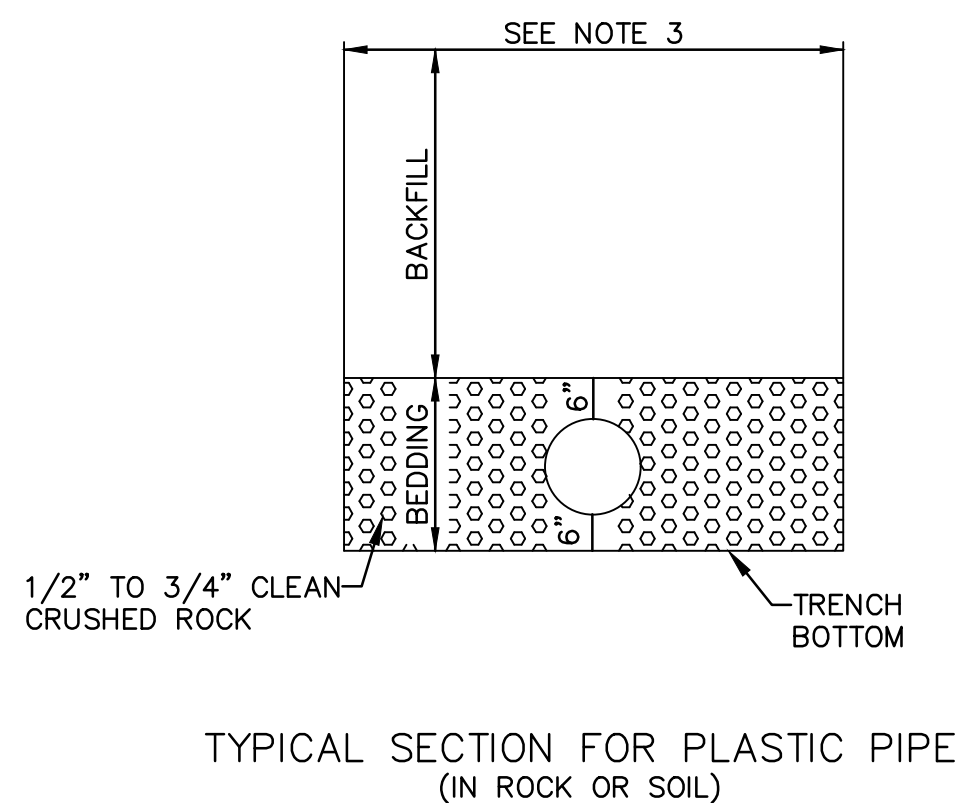
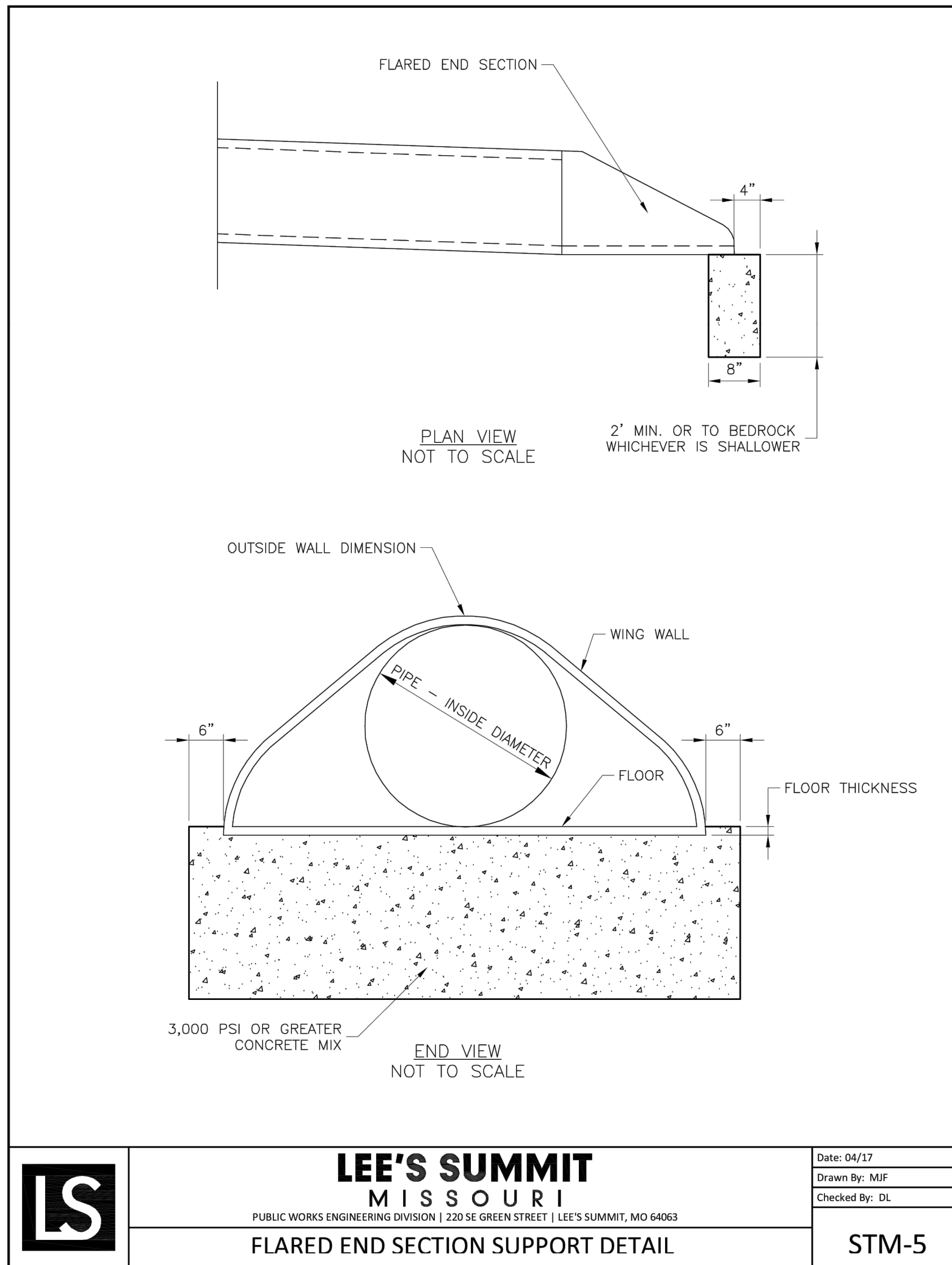
STATE OF MISSOURI
4/6/21
MEGAN J. WALTER
NUMBER
PE-2012028697
Professional Engineer

BY
REV. NO. DATE REVISIONS DESCRIPTION
1 06-24-2020 CITY COMMENTS
2 02-01-2021 ADDED HOOK ROAD SWALE
3 04-06-2021 SWALE AND ADA RAMP REVISIONS
2020

STORM DETAILS
STREET AND STORM SEWER PLANS
THE RETREAT AT HOOK FARMS
CONSTRUCTION DOCUMENTS
LEE'S SUMMIT, MO

drawn by: EM
checked by: EM
designed by: RB
QA/QC by: NH
project no.: 019-4059
drawing no.: C_DTL00_0194059
date: 4/20/2020

SHEET C122
23 OF 54



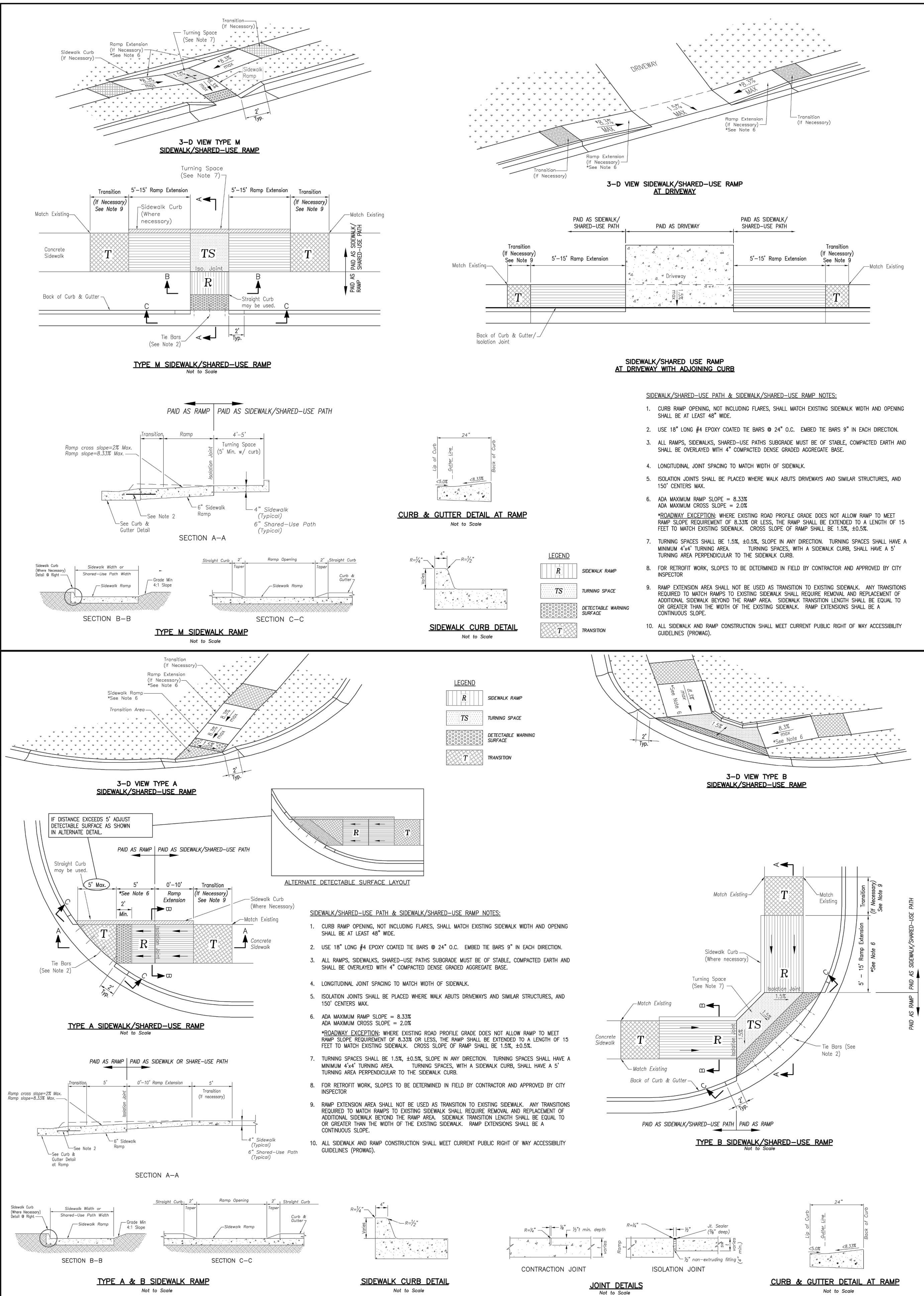
1. BACKFILL SHALL BE JOB EXCAVATED MATERIAL FREE FROM DEBRIS AND STONES COMPACTED TO 90% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 FOR BACKFILL UNDER PAVEMENT (EXISTING OR PROPOSED).
2. TRENCH BANKS MAY BE CUT BACK ON SLOPES IN ACCORDANCE WITH CURRENT OSHA REGULATIONS, 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.

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.



STORM DETAILS			REV.	DATE	REVISIONS DESCRIPTION	BY
STREET AND STORM SEWER PLANS			NO.			
THE RETREAT AT HOOK FARMS CONSTRUCTION DOCUMENTS			1	06-24-2020	CITY COMMENTS	
			2	04-08-2021	CHANGED TO ADA SWALE	
			3	04-08-2021	CHANGED TO ADA SWALE	
					SWALE AND ADA RAMP REVISIONS	
LEE'S SUMMIT. MO						
					REVISIONS	



LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64603	
STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO Sheet Name: ADA RAMP RETROFIT DETAIL	GEN-3B
Drawn By: MIF Checked By: DL Date: 04/17 Proj. #:	
GEN-3A	
STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO Sheet Name: ADA RAMP RETROFIT DETAIL	
Drawn By: MIF Checked By: DL Date: 04/17 Proj. #:	

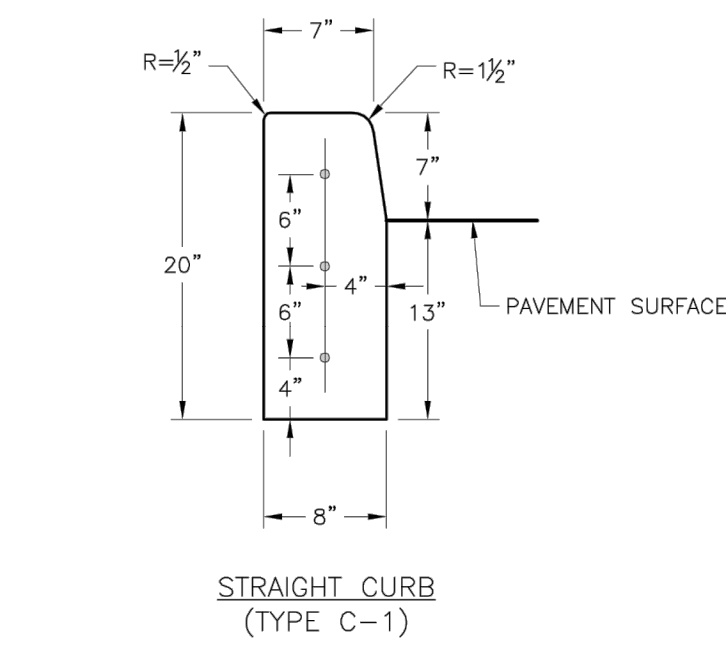
STREET DETAILS STREET AND STORM SEWER PLANS THE RETREAT AT HOOK FARMS CONSTRUCTION DOCUMENTS		2020	LEE'S SUMMIT, MO
drawn by: EM checked by: EM designed by: RB QA/QC by: NH project no.: 019-4059 drawing no.: C_DTL00_0194059 date: 4/20/2020		REVISIONS	
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	06-24-2020	CITY COMMENTS	
2	02-01-2021	ADDED HOOK ROAD SWALE	
3	04-02-2021	SWALE AND ADA RAMP REVISIONS	
SHEET C124		25 OF 54	

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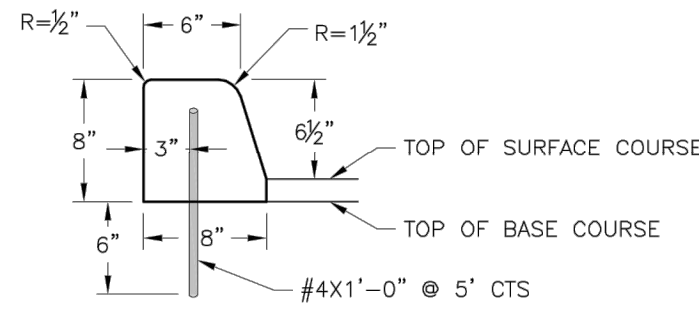
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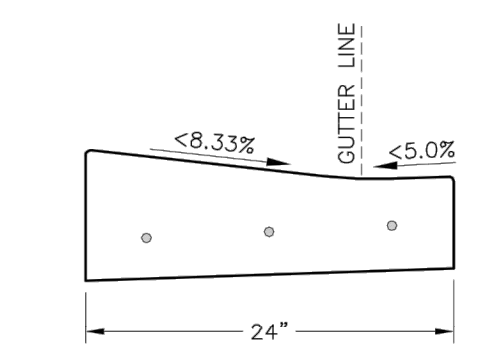




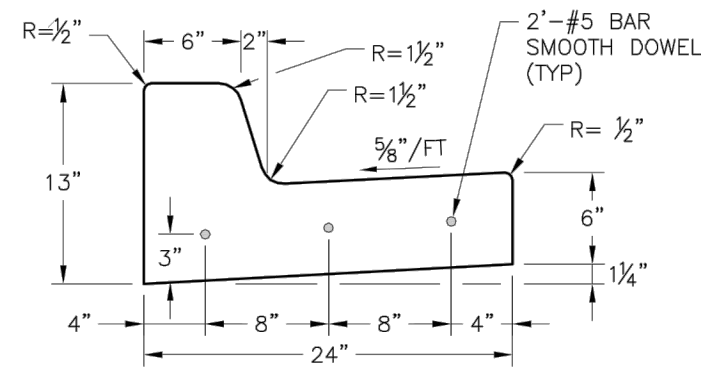
STRAIGHT CURE
(TYPE C-1)



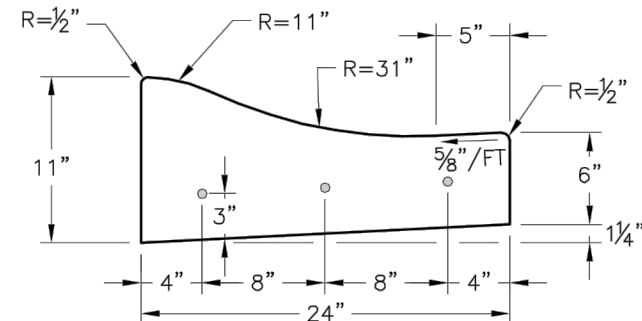
DOWELLED CURB
(TYPE DC)



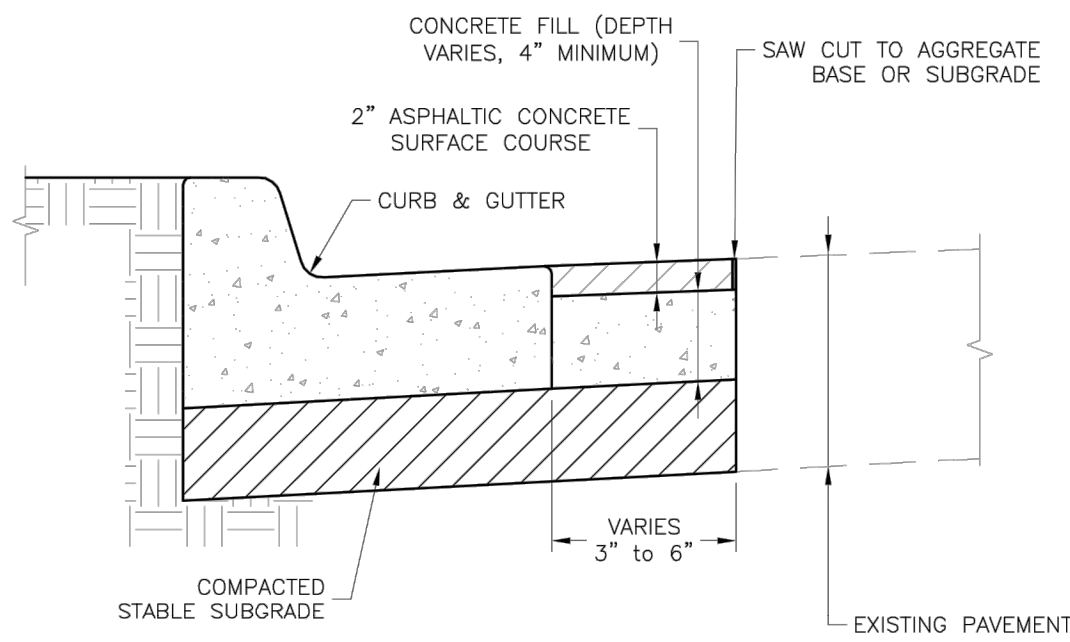
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



STRAIGHT BACK CURB &
GUTTER
(TYPE CG-1)



ROLL BACK CURB &
GUTTER
(TYPE CG-2)

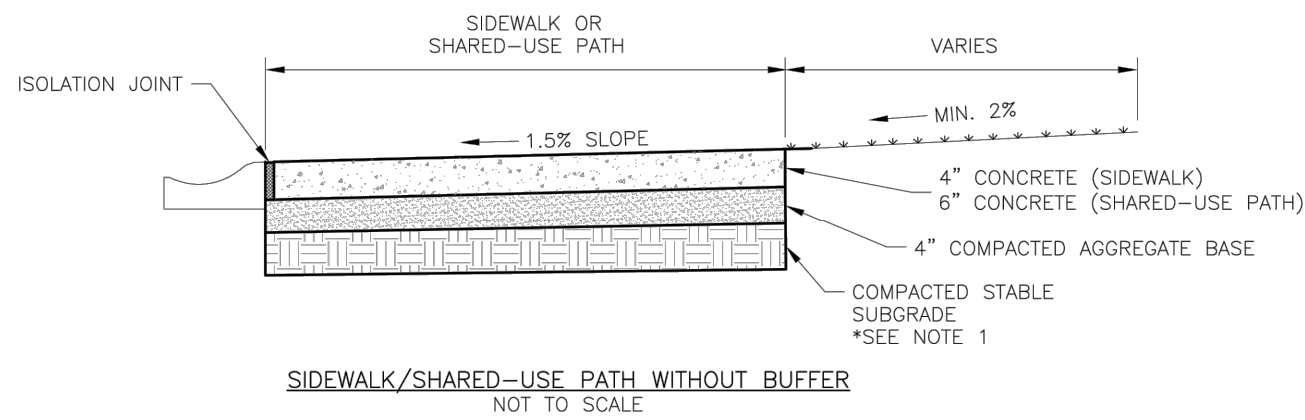


CURB REPLACEMENT DETAIL

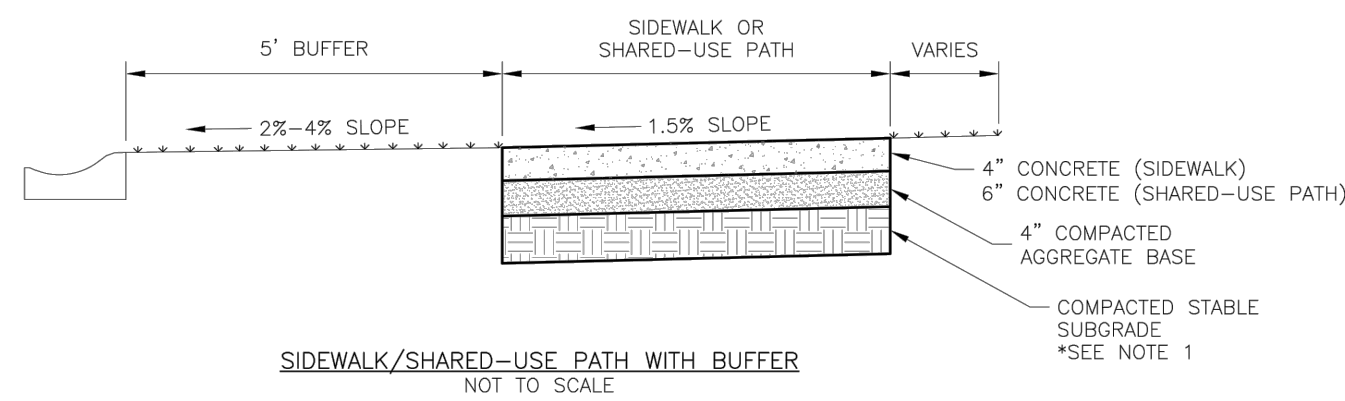
GENERAL NOTES

1. 3/4" ISOLATION JOINTS WITH 3 (2"-#5 BARS) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

GEN-4



SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

1. SUBGRADE MUST BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAPPED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. 4" MINIMUM 4" CONCRETE MIN SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN INTERIOR JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK/SHARED-USE PATHS, BUT NO GREATER THAN 10 FT.
6. AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED-USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
7. SHARED-USE PATHS WIDTH SHALL BE 10 FT. WIDE.
8. SIDEWALK/SHARED-USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
9. WHITING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.



LEE'S SUMMIT
MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

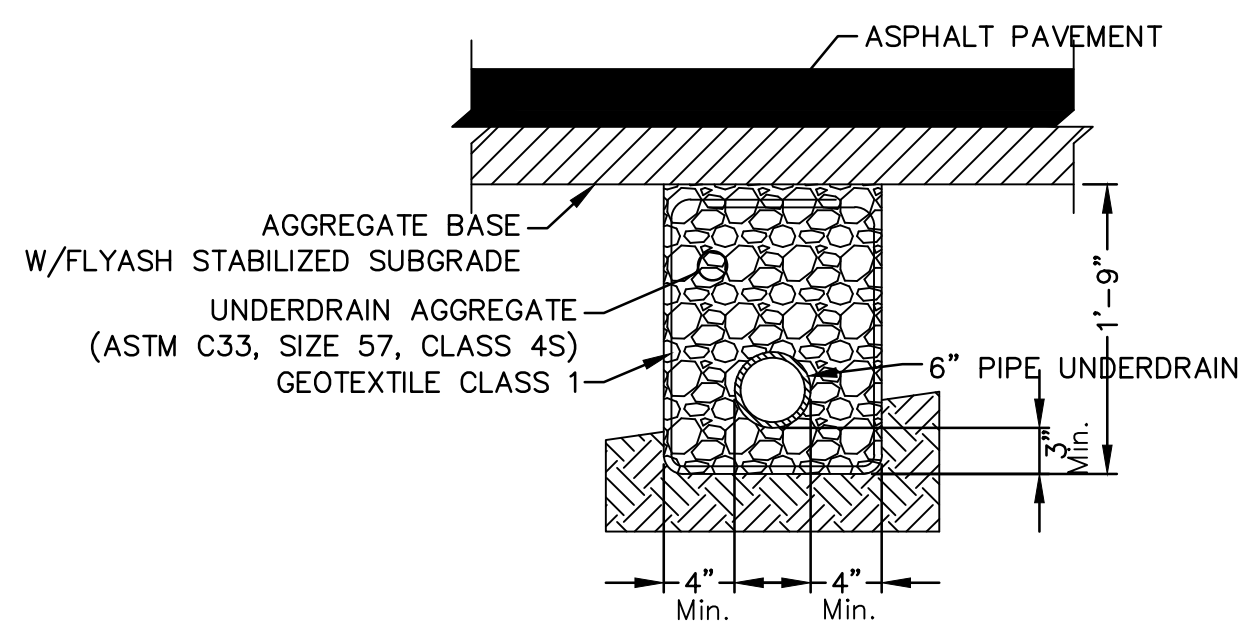
SIDEWALK/SHARED-USE PATH DETAIL

Date: 04/17

Drawn By: MJF

Checked By: DL

GEN-2



PIPE UNDERDRAIN LATERAL
N.T.S.

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".

STREET DETAILS
STREET AND STORM SEWER PLANS

THE RETREAT AT HOOK FARMS CONSTRUCTION DOCUMENTS

LEE'S SUMMIT, MO

2020

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REVISIONS



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