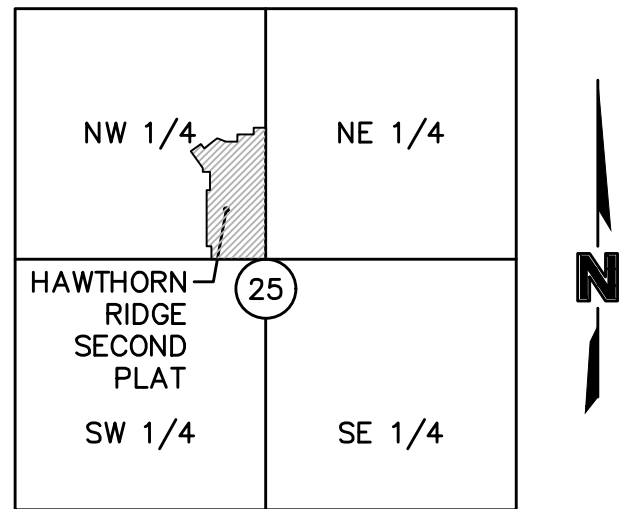


HAWTHORN RIDGE SECOND PLAT STREET & STORM SEWER PLANS

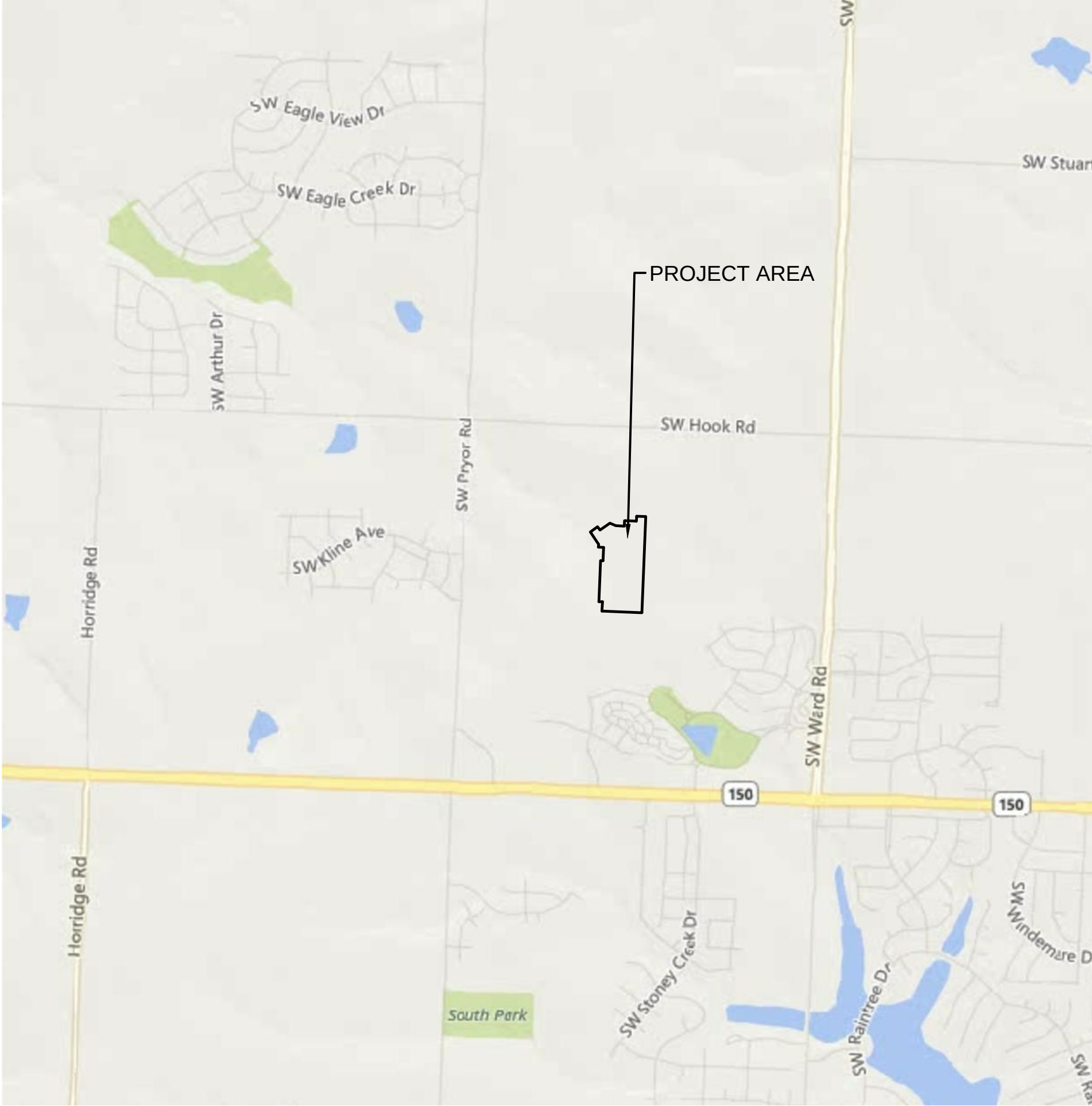
N/W 1/4 SECTION 25, TOWNSHIP 47 N, RANGE 32 W.
IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI



LOCATION MAP
Sec. 25, Twp. 47 N., Rge. 32 W.
(N.T.S.)

PROJECT TEAM & UTILITY CONTACT LIST	
OWNER / DEVELOPER CLAYTON PROPERTIES GROUP, INC. D.B.A. SUMMIT HOMES 120 SE 30TH STREET CONTACT: VINCENT WALKER LEE'S SUMMIT, MO 64082 PHONE: 816.246.6700 EMAIL: VINCENT@SUMMITHOMESKC.COM	UTILITY SERVICE NUMBERS NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800 NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT PHONE: 816-969-1940 NAME: SPIRE (MGE) PHONE: 314-342-0500 NAME: AT&T PHONE: 800-286-8313 NAME: KCP&L PHONE: 816-471-5275 NAME: SPECTRUM (TWC) PHONE: 877-772-2253 NAME: GOOGLE FIBER PHONE: 877-454-6959
ENGINEER OLSSON 1301 BURLINGTON ST. SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: MELISSA DEGONIA PHONE: 816.361.1177 EMAIL: MDEGONIA@OLSSON.COM	
SURVEYOR OLSSON 1301 BURLINGTON ST. SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH PHONE: 816.361.1177 EMAIL: JROUDEBUSH@OLSSON.COM	

- ☐ NOT FOR CONSTRUCTION
- ☒ REVIEWED FOR CONSTRUCTION



PROPERTY DESCRIPTION:

A TRACT OF LAND IN THE NORTHWEST QUARTER OF SECTION 25, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, AND A PORTION OF TRACT E, OF HAWTHORN RIDGE 1ST PLAT, A SUBDIVISION OF LAND RECORDED AS DOCUMENT 2019E0020897 IN BOOK 182 AT PAGE 83, IN THE OFFICE OF RECORDER OF DEEDS FOR JACKSON COUNTY, MISSOURI ALL BEING BOUNDED AND DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID NORTHWEST QUARTER OF SECTION 25; THENCE SOUTH 87°46'49" EAST ON THE SOUTH LINE OF SAID NORTHWEST QUARTER, 2,653.29 FEET TO THE SOUTHEAST CORNER OF SAID NORTHWEST QUARTER, (CENTER OF SECTION) AND THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE ON SAID SOUTH LINE OF SAID NORTHWEST QUARTER, NORTH 87°46'49" WEST, 577.00 FEET; THENCE LEAVING SAID SOUTH LINE, NORTH 02°13'11" EAST, 135.00 FEET; THENCE NORTH 87°46'49" WEST, 50.79 FEET; THENCE NORTH 02°18'36" EAST, 596.57 FEET; THENCE SOUTH 87°41'24" EAST, 37.00 FEET; THENCE NORTH 02°18'36" EAST, 192.00 FEET; THENCE NORTH 87°41'24" WEST, 75.58 FEET; THENCE NORTH 02°18'36" EAST, 39.05 FEET; THENCE NORTH 33°13'50" WEST, 218.11 FEET TO THE SOUTHWESTERLY CORNER OF LOT 21 OF SAID HAWTHORN RIDGE 1ST PLAT; THENCE ON THE SOUTHERLY LINE OF SAID HAWTHORN RIDGE 1ST PLAT THE FOLLOWING 9 CALLS, NORTH 54°57'38" EAST, 130.00 FEET; THENCE SOUTH 35°02'22" EAST, 58.00 FEET; THENCE NORTH 54°57'38" EAST, 175.90 FEET; THENCE SOUTH 65°30'07" EAST, 95.33 FEET; THENCE SOUTH 87°41'24" EAST, 121.73 FEET; THENCE NORTH 02°18'36" EAST, 78.00 FEET; THENCE SOUTH 87°41'24" EAST, 175.00 FEET; THENCE NORTH 02°18'36" EAST, 72.00 FEET; THENCE SOUTH 87°41'24" EAST, 130.00 FEET TO THE SOUTHEASTERLY CORNER OF LOT 28 OF SAID HAWTHORN RIDGE 1ST PLAT AND A POINT ON THE EAST LINE OF SAID NORTHWEST QUARTER; THENCE ON SAID EAST LINE, SOUTH 02°18'36" WEST, 1,392.58 FEET TO THE POINT OF BEGINNING. CONTAINING 827,409 SQUARE FEET OR 19.00 ACRES, MORE OR LESS.

BENCHMARK

RR SPIKE IN SOUTH FACE OF POWER POLE ON NORTH SIDE OF SW. HOOK ROAD, IMMEDIATELY WEST OF DRIVEWAY FOR HOUSE#1622. ELEVATION= 1024.63'

SHEET INDEX	
Sheet Number	Sheet Title
C100	COVER SHEET
C101	GENERAL NOTES
C102	GENERAL LAYOUT
C103	GRADING PLAN
C104	TYPICAL SECTIONS
C105	SWALE PLAN & PROFILE
C106	SWALE PLAN & PROFILE
C107	SWALE PLAN & PROFILE
C108	SWALE PLAN & PROFILE
C109	ROAD PLAN & PROFILE
C110	ROAD PLAN & PROFILE
C111	ROAD PLAN & PROFILE
C112	ROAD PLAN & PROFILE
C113	ROAD PLAN & PROFILE
C114	ROAD PLAN & PROFILE
C115	ROAD PLAN & PROFILE
C116	ROAD PLAN & PROFILE
C117	TRAFFIC CONTROL
C118	SIGN DETAILS
C119	ROADWAY MARKING DETAILS
C120	SPOT ELEVATIONS
C121	SPOT ELEVATIONS
C122	SPOT ELEVATIONS
C123	SPOT ELEVATIONS
C124	STORM PLAN & PROFILE
C125	STORM PLAN & PROFILE
C126	STORM PLAN & PROFILE
C127	STORM PLAN & PROFILE
C128	STORM PLAN & PROFILE
C129	STORM PLAN & PROFILE
C130	STORM PLAN & PROFILE
C131	STORM PLAN & PROFILE
C132	STORM PLAN & PROFILE

C133	STORM PLAN & PROFILE
C134	STORM PLAN & PROFILE
C135	STORM PLAN & PROFILE
C136	STORM SEWER DETAILS
C137	STORM SEWER DETAILS
C138	DRAINAGE PLAN
C139	DRAINAGE TABLES
C140	DRAINAGE TABLES
C141	MASTER DRAINAGE PLAN
C142	SITE DISTURBANCE PHASE 1
C143	SITE DISTURBANCE PHASE 2
C144	SITE DISTURBANCE PHASE 3
C145	SITE DISTURBANCE PHASE 4
C146	SEDIMENT BASIN DETAIL
C147	SITE DISTURBANCE DETAILS
C148	SITE DISTURBANCE DETAILS

REVIEWED BY:

CITY OF LEE'S SUMMIT

DATE

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

Melissa G. Degonia

MELISSA G. DEGONIA
CIVIL ENGINEER
MO#2011000892

8-13-19
DATE

REVISIONS	
NO. REV.	DATE
1	08-12-2019

COVER SHEET
STREET & STORM SEWER PLANS

HAWTHORN RIDGE
SECOND PLAT

LEE'S SUMMIT, MISSOURI

2019

drawn by: D.A.H.O.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 019-1605
date: 07-12-2018

SHEET
C100

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 ENDOCHOR ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:
 - A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
 - B. ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
 - C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES..
 - E. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION

1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
3. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
4. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
5. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

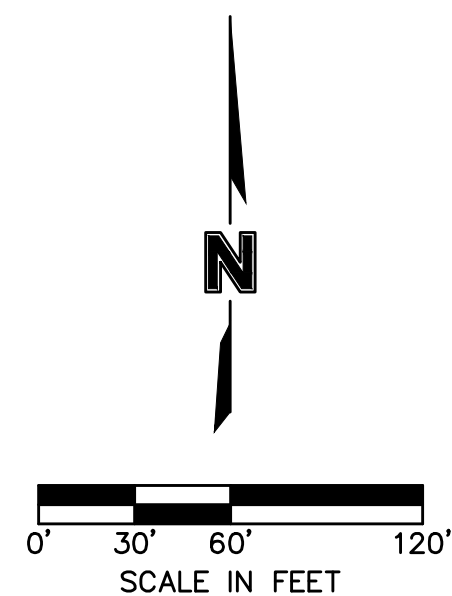
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES IN CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OR PROCEDURES UNLESS THE 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, CAT LOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
 - B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
 - C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
 - D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
 - E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
 - A. ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
 - B. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
 - A. ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
 - B. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

STORM SEWER GENERAL NOTES:

1. STORM STRUCTURES SHALL BE PER CURRENT CITY DETAILS. IF CITY DOES NOT HAVE PUBLISHED DETAILS STRUCTURES SHALL BE PER CURRENT APWA SPECIFICATIONS.
2. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH CITY OF LEE'S SUMMIT, MISSOURI.
3. ALL PIPE LENGTHS AND ELEVATIONS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
4. ALL STRUCTURE DIMENSIONS ARE TO INSIDE FACE OF STRUCTURE.
5. COORDINATES ARE PROVIDED AT THE CENTER OF STRUCTURE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING THE BOX DURING INSTALLATION.
6. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF STORM SEWER.
7. STORM SEWER TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
8. STRUCTURE INVERT CHANNELS SHALL BE SMOOTH, CIRCULAR, AND CONFORMING TO 1/2 THE ADJACENT PIPE SECTION (INVERT TO CENTER). CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AND MAINTAIN SHAPE THROUGHOUT. CHANGES IN GRADE OF ADJACENT PIPES SHALL BE TRANSITIONED SMOOTHLY AND EVENLY THROUGH THE STRUCTURE.
9. PIPE PENETRATIONS SHALL BE GROUTED TO ENSURE WATERTIGHT SEALS.
10. MAINTAIN MINIMUM DEPTH OF COVER PER APWA 5606.06

ESTIMATE OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
STREET				
1	EXCAVATION	C.Y.	42779	
2	EMBANKMENT	C.Y.	29854	⚠
3	SUBGRADE STABILIZATION (6" FLYASH TREATMENT)	S.Y.	5724	
4	SUBGRADE STABILIZATION (9" FLYASH TREATMENT)	S.Y.	7659	
5	6" ASPHALT PAVEMENT	S.Y.	4776	
6	7.5" ASPHALT PAVEMENT	S.Y.	6501	
7	CONCRETE CURB & GUTTER (CG-1)	L.F.	3213	
8	CONCRETE CURB & GUTTER (CG-2)	L.F.	2959	
9	MILL & OVERLAY	S.Y.	31	
10	ADA RAMP	EA.	20	
11	STOP SIGNS	EA.	6	⚠
12	STREET NAME SIGNS	EA.	12	
13	END OF ROAD TREATMENT	EA.	16	
STORM				
14	STD. CURB INLET (5'x3' INSIDE)	EA.	11	
15	STD. CURB INLET (5'x4' INSIDE)	EA.	5	
16	STD. CURB INLET (5'x5' INSIDE)	EA.	3	
17	STD. CURB INLET (6'x6' INSIDE)	EA.	4	
18	STD. FIELD INLET (4'x4' INSIDE)	EA.	4	
19	STD. MANHOLE (5' DIA. INSIDE)	EA.	3	
20	STD. MANHOLE (6' DIA. INSIDE)	EA.	1	
21	STD. MANHOLE (7' DIA. INSIDE)	EA.	2	
22	STD. JUNCTION BOX (6'x6' INSIDE)	EA.	1	
23	15" HDPE	L.F.	1046.87	
24	18" HDPE	L.F.	577.91	
25	24" HDPE	L.F.	778.43	
26	30" HDPE	L.F.	240.12	
27	36" HDPE	L.F.	515.73	
28	42" HDPE	L.F.	209.50	
29	48" HDPE	L.F.	238.55	
30	54" HDPE	L.F.	159.31	
31	54" CMP END SECTION	EA.	1	
32	24" HDPE PLUG	EA.	1	
33	RIPRAP	S.Y.	102	
34	CONNECTION TO EXISTING STRUCTURE	EA.	1	
EROSION CONTROL				
35	VEHICLE TRACKING DEVICE	EA.	1	
36	SEDIMENT BASIN	EA.	1	
37	SILT FENCE	LF.	3971	
38	DIVERSION BERM	LF.	910	
39	ROCK CHECK DAM	EA.	6	
40	CURB INLET PROTECTION	EA.	25	
41	AREA INLET PROTECTION	EA.	6	
42	PERMANENT SEEDING	AC.	19	



Hawthorn Ridge 2nd Plat Lot Fill Information			
Lot Number	Max depth of fill (Over 2' fill placed)	Existing slopes greater than 5:1	Proposed slopes greater than 3:1
101			
102			
103			
104			
105			
106			
107		X	
108			
109			
110			
111			
112			
113			
114			
115			
116			
117			
118			
119			
120			
121			
122			
123	2.1		
124			
125			
126			
127	2.1	X	
128	3.7	X	
129	3.7	X	
130		X	
131	2.3	X	
132	2.3		
133			
134		X	
135		X	
136		X	
137			
138			
139			
140	2.3		
141	3.0		
142		X	
143		X	
144		X	
145		X	
146			
147			
148			
149	3.1		
150	4.9		
151	6.0		
152	6.4		
153	6.4		
154	6.1		
155	5.6		
156	4.7	X	
157		X	
158		X	
159		X	



1. CONTRACTOR SHALL ADHERE TO THE "STANDARDS, SPECIFICATIONS AND DESIGN CRITERIA" SECTION 2100 AS ADOPTED BY LEE'S SUMMIT, MO (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY, OR SPECIFICATIONS IN THESE PLANS, WHICHEVER IS STRICTER.
2. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL, PRIOR TO PLACEMENT OF FILL MATERIAL. THE EXPOSED GRADES SHALL BE OBSERVED AND PROOF ROLLED USING A LOADED TANDEM AXLE DUMP TRUCK WITH A MINIMUM GROSS WEIGHT OF 20 TONS OR SIMILAR EQUIPMENT.
3. WHERE THE EXISTING GRADE IS STEEPER THEN ONE UNIT VERTICAL IN FIVE UNITS HORIZONTAL AND THE DEPTH OF FILL EXCEEDS 5 FEET, BENCHING OF THE FILL INTO THE NATURAL SLOPE SHALL BE PERFORMED. A KEY SHALL BE PROVIDED AT THE TOE OF THE FILL THAT IS AT LEAST 10 FEET WIDE AND 2 FEET IN DEPTH. BENCHES SHOULD BE CUT AS THE FILL PROGRESSES AND SHOULD HAVE A MAXIMUM BENCH HEIGHT OF 3 FEET.
4. MATERIAL FOR USE AS FILL SHALL BE IDENTIFIED AND SAMPLED FOR CLASSIFICATION, STANDARD PROCTOR (ASTM D-698) AND ATTERBERG LIMITS (ASTM D-4318) TESTING PRIOR TO COMMENCING FILL PLACEMENT.
5. ALL FILL OUTSIDE OF RIGHT-OF-WAY SHOULD BE PLACED IN CONTROLLED LIFTS HAVING A MAXIMUM LOOSE LIFT THICKNESS OF 9'.
6. FILL SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION).
7. MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF - TO +3 PERCENT OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D-698.
8. SEE SHEET C141 FOR MINIMUM LOW OPENINGS AND THIS SHEET FOR FILL DEPTHS FOR EACH LOT.

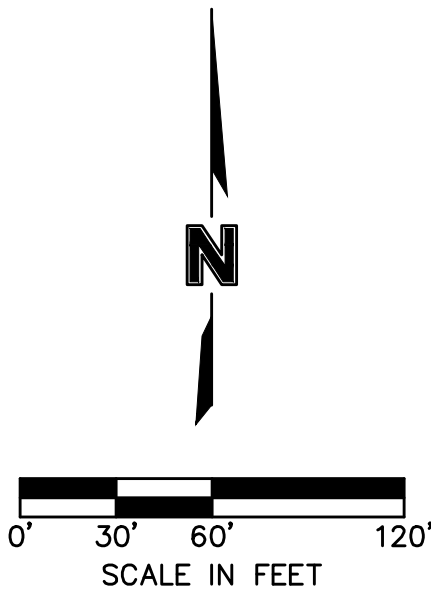
EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	7,977	2,205
SITE	34,802	27,649
TOTAL	42,779	29,854

EARTHWORK QUANTITIES NOTES:

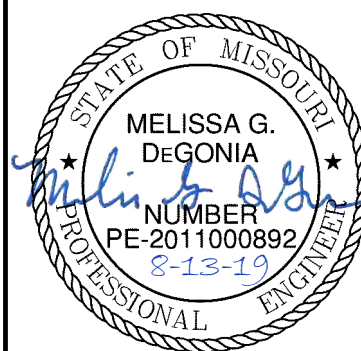
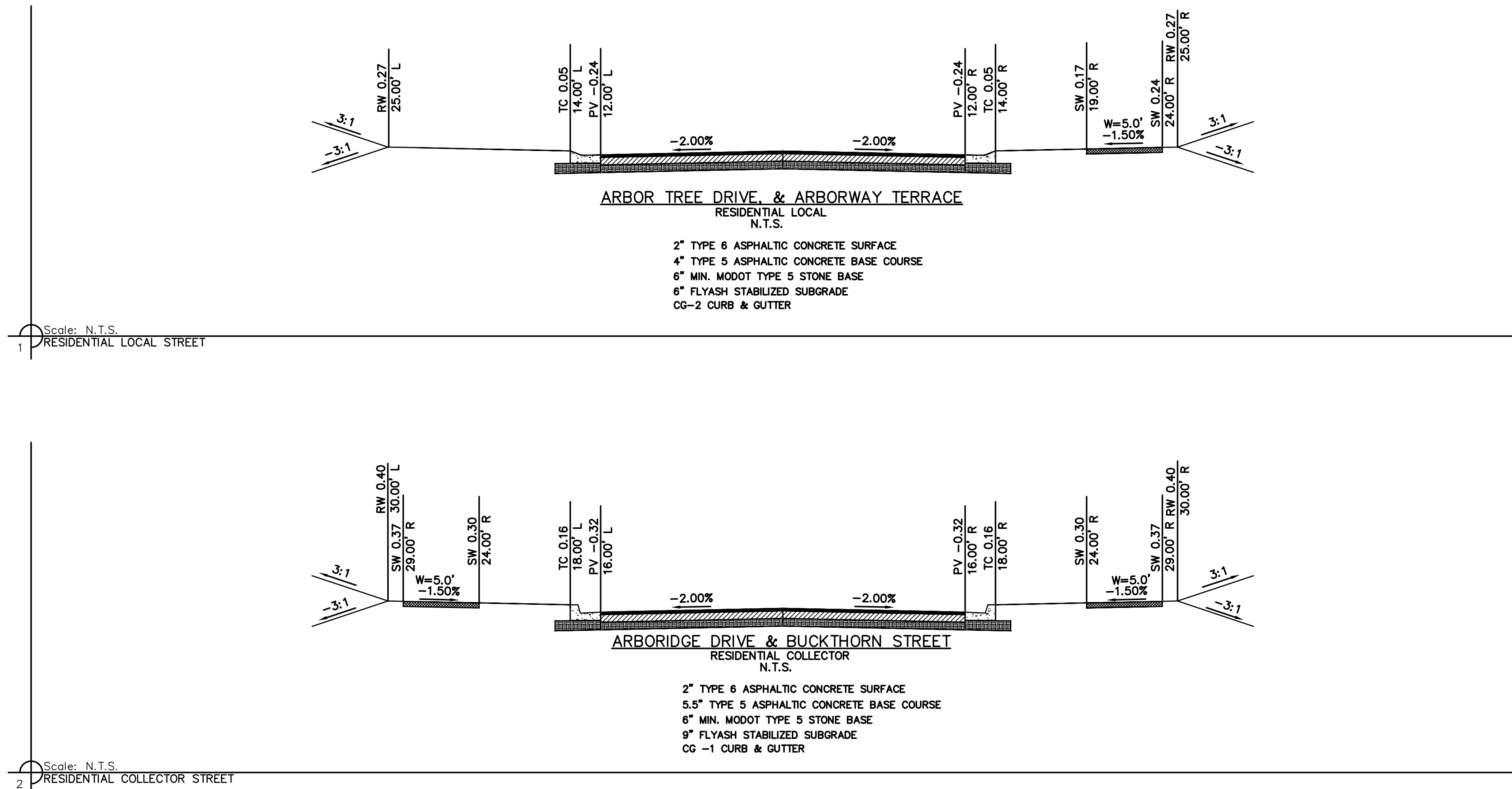
1. EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.
2. EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR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

CONTRACTOR TO USE THIS
STOCKPILED MATERIAL WHEREVER
POSSIBLE BEFORE MOVING
MATERIAL FROM THE THIRD PLAT

WARNING
HIGH-PRESSURE PIPELINE
EXCAVATION AND/OR CONSTRUCTION PROHIBITED
WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND
WITHOUT WRITTEN PERMISSION FROM
MAGELLAN PIPELINE COMPANY, L.P.



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



MELISSA G. DEGONIA
DE# 0011022002

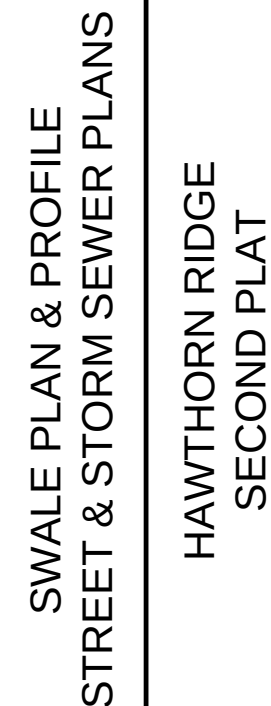
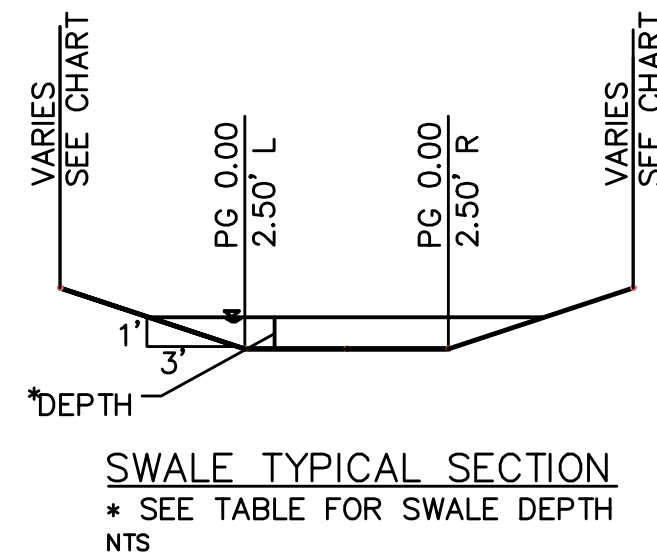
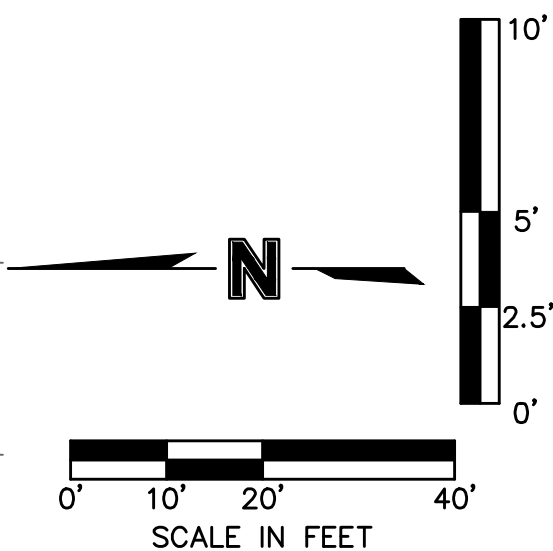
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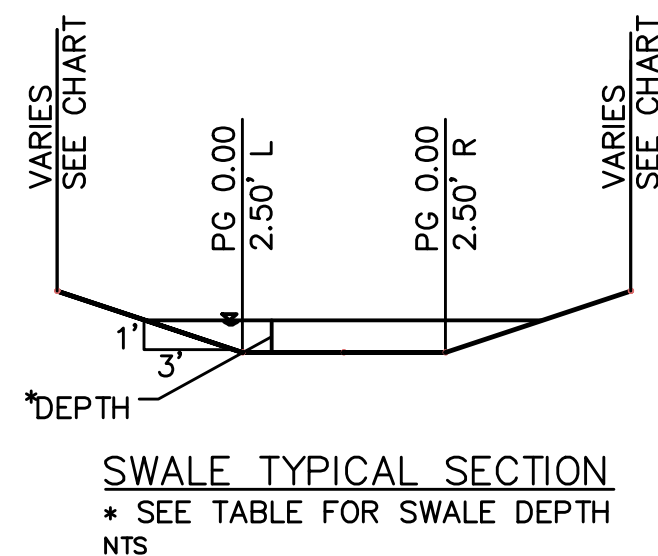
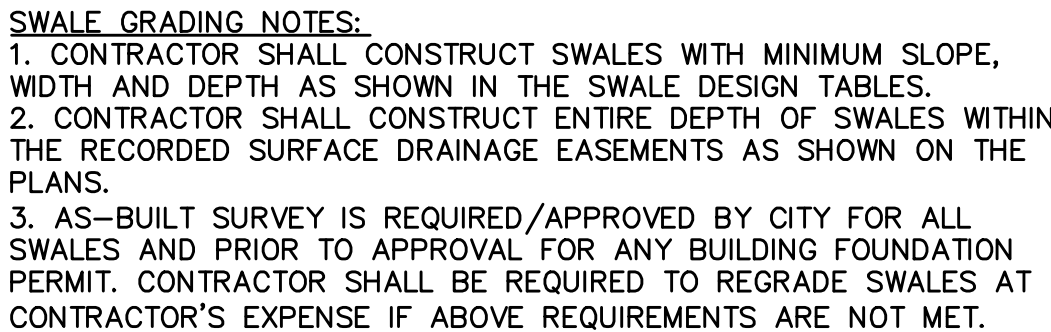
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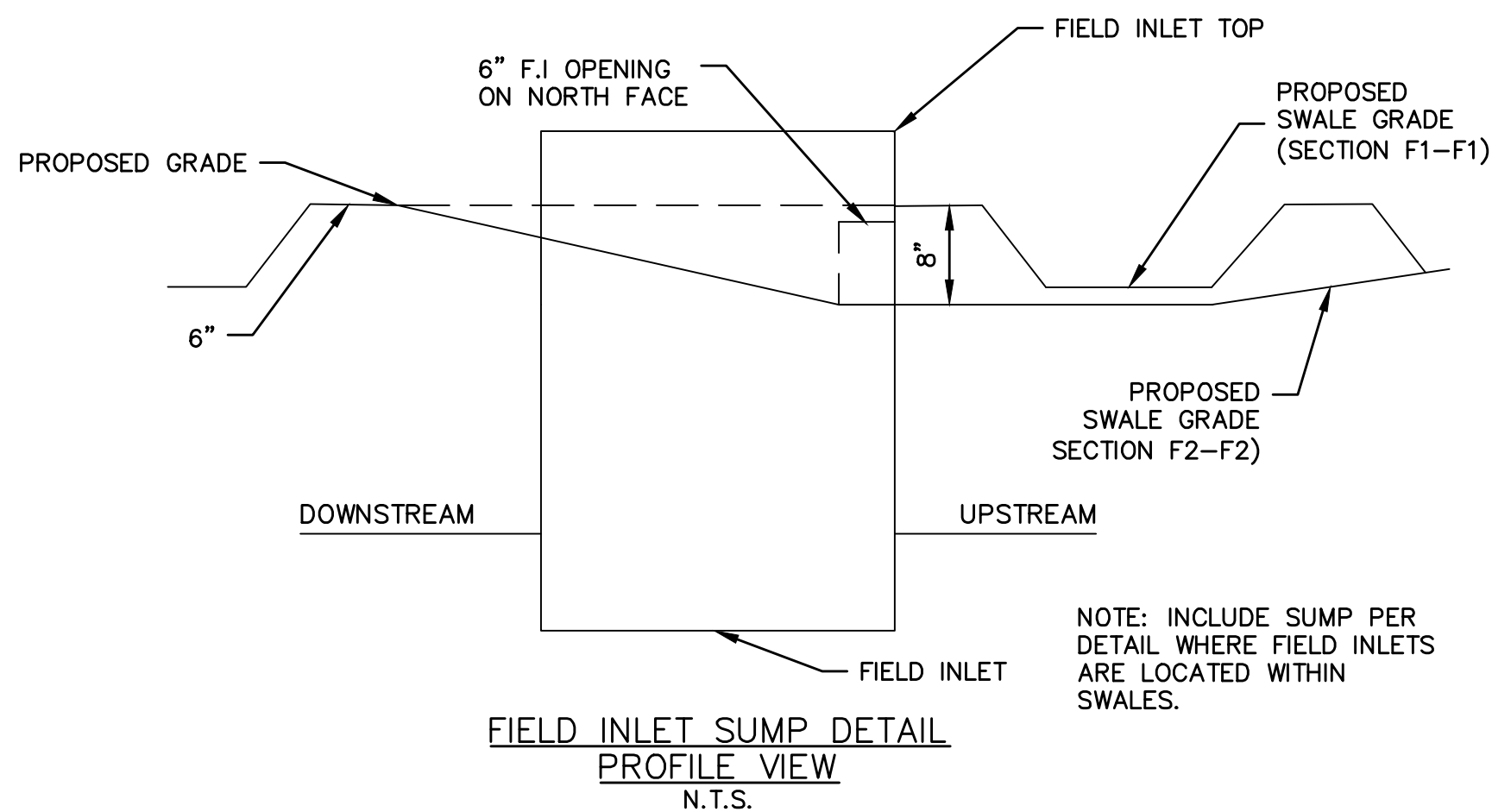
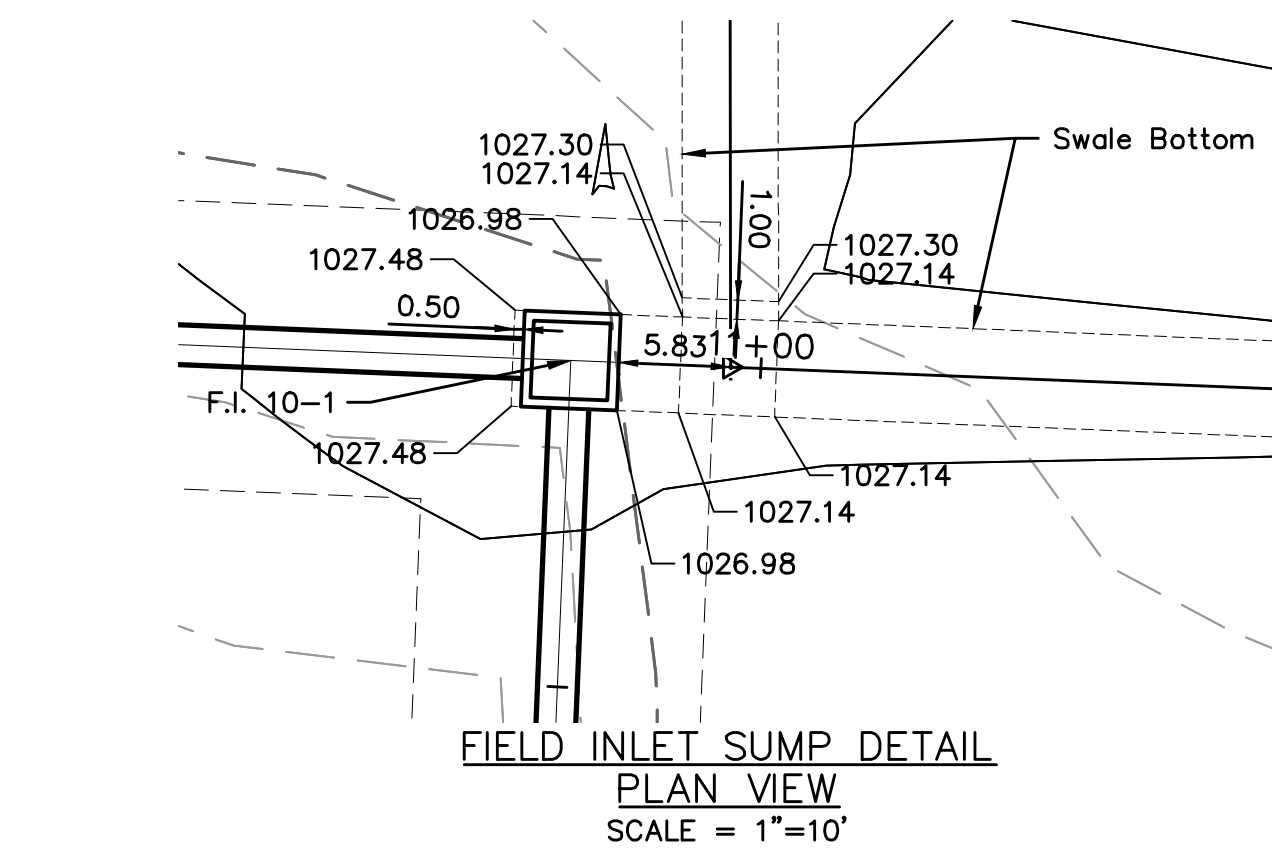
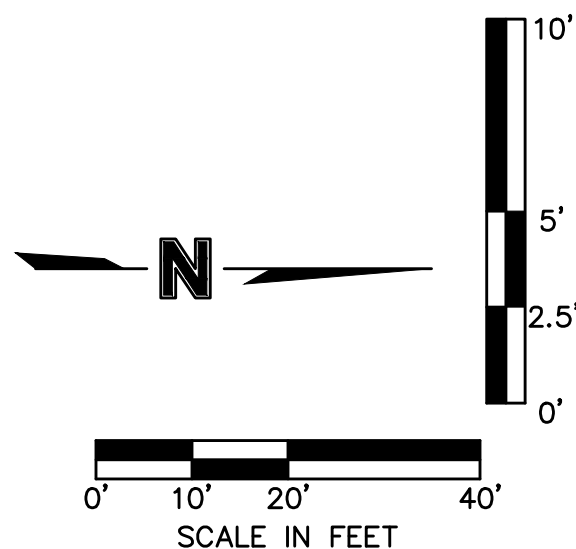


Section	Drainage Area	C	Tc	i	K	Peak Flow
	(ac.)		(min)	(in/hr)		(cfs)
E1-E1	0.60	0.51	5	10.32	1.25	3.92

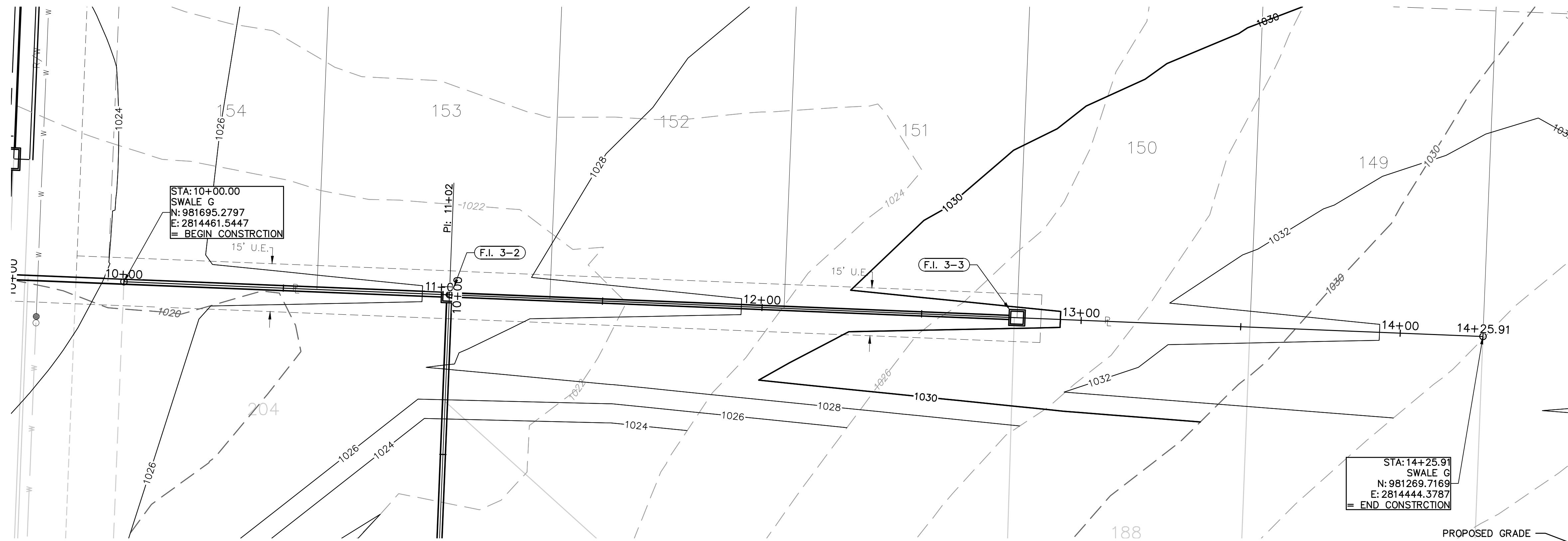




Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area	C	Tc	i	K	Peak Flow
	(ac.)		(min)	(in/hr)		(cfs)
F1-F1	0.38	0.51	5	10.32	1.25	2.50
F2-F2	0.14	0.51	5	10.32	1.25	0.92

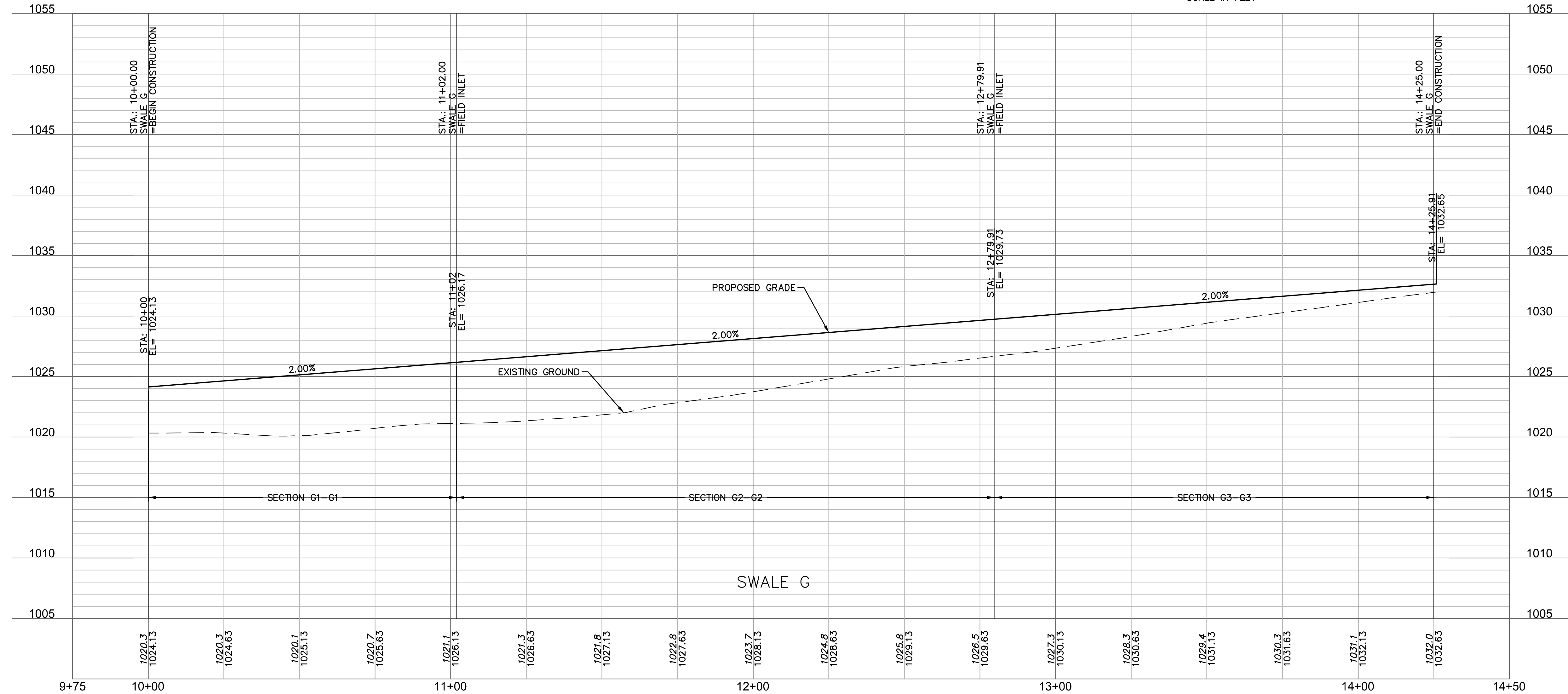
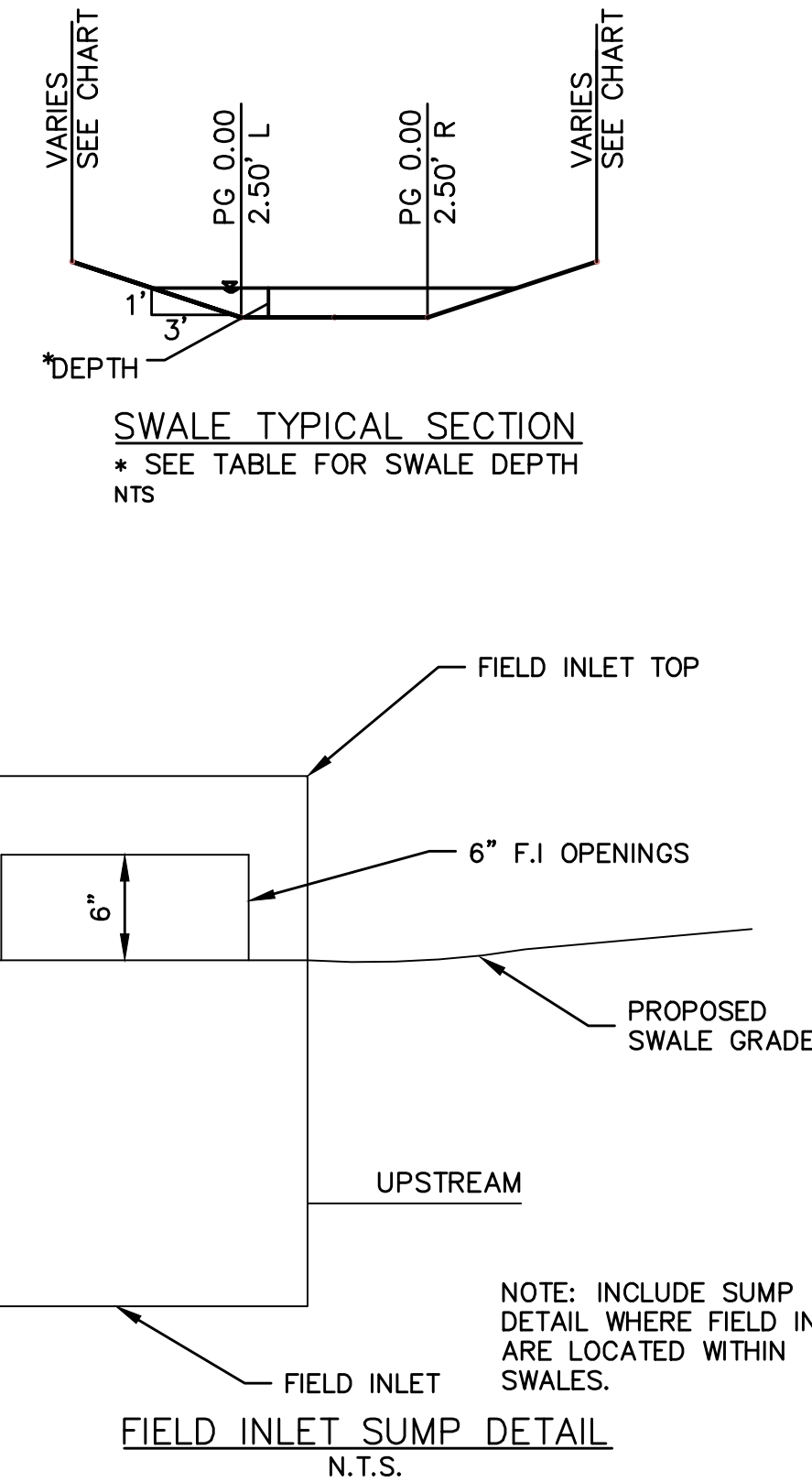
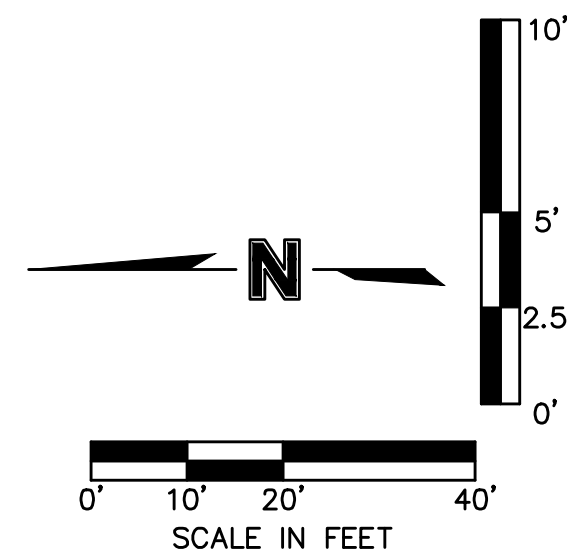


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Swale Design Table (100 Year Return Frequency)														
Section Data							Flow Data							
SECTION	Mannings Coefficient	Channel Slope (%)	Min. Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft²)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft²)
G1-G1	0.03	2.00%	1.07	3:1	3:1	5.00	0.34	0.07	0.37	0.93	5.44	5.42	0.08	0.08
G2-G2	0.03	2.00%	1.20	3:1	3:1	5.00	2.40	0.20	1.12	2.14	6.26	6.20	0.27	0.22
G3-G3	0.03	2.00%	1.24	3:1	3:1	5.00	3.28	0.24	1.37	2.39	6.52	6.44	0.33	0.26

Swale Drainage Area Table (100 year Return Frequency)						
Section	Drainage Area	C	Tc	i	K	Peak Flow
	(ac.)		(min)	(in/hr)		(cfs)
G1-G1	0.05	0.51	5	10.32	1.25	0.34
G2-G2	0.36	0.51	5	10.32	1.25	2.40
G3-G3	0.50	0.51	5	10.32	1.25	3.28

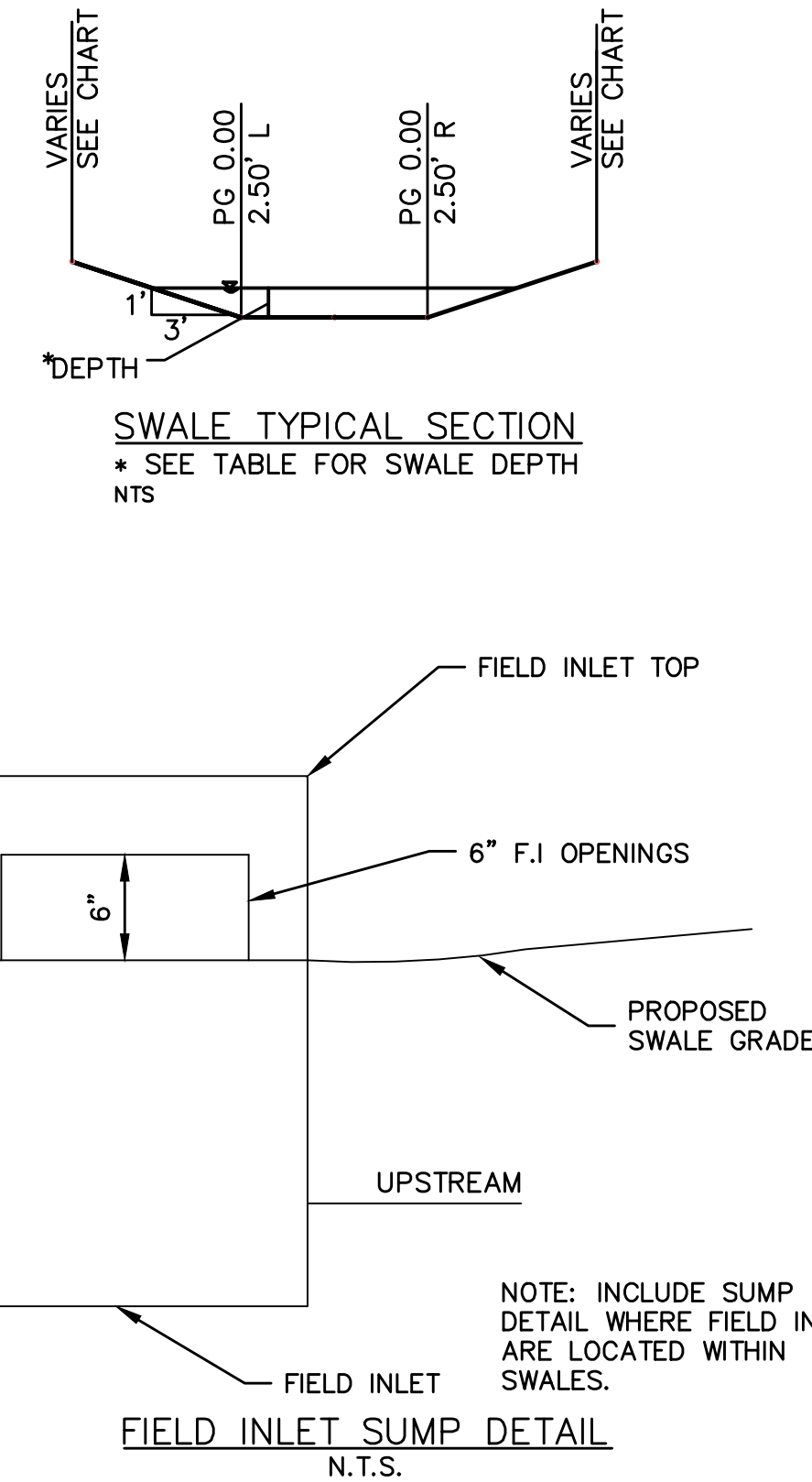


SWALE GRADING NOTES:

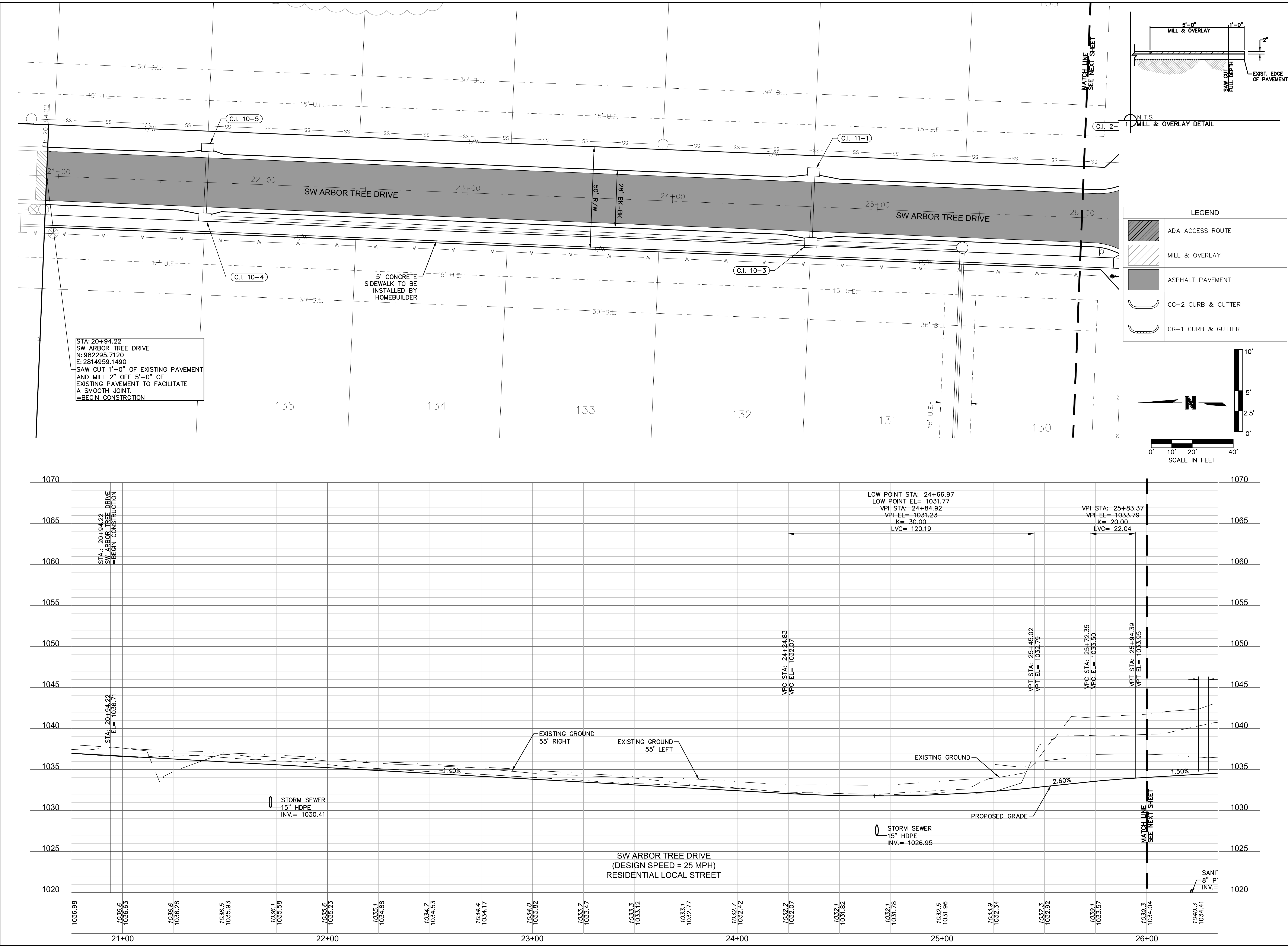
1. CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.

2. CONTRACTOR SHALL CONSTRUCT ENTIRE DEPTH OF SWALES WITHIN THE RECORDED SURFACE DRAINAGE EASEMENTS AS SHOWN ON THE PLANS.

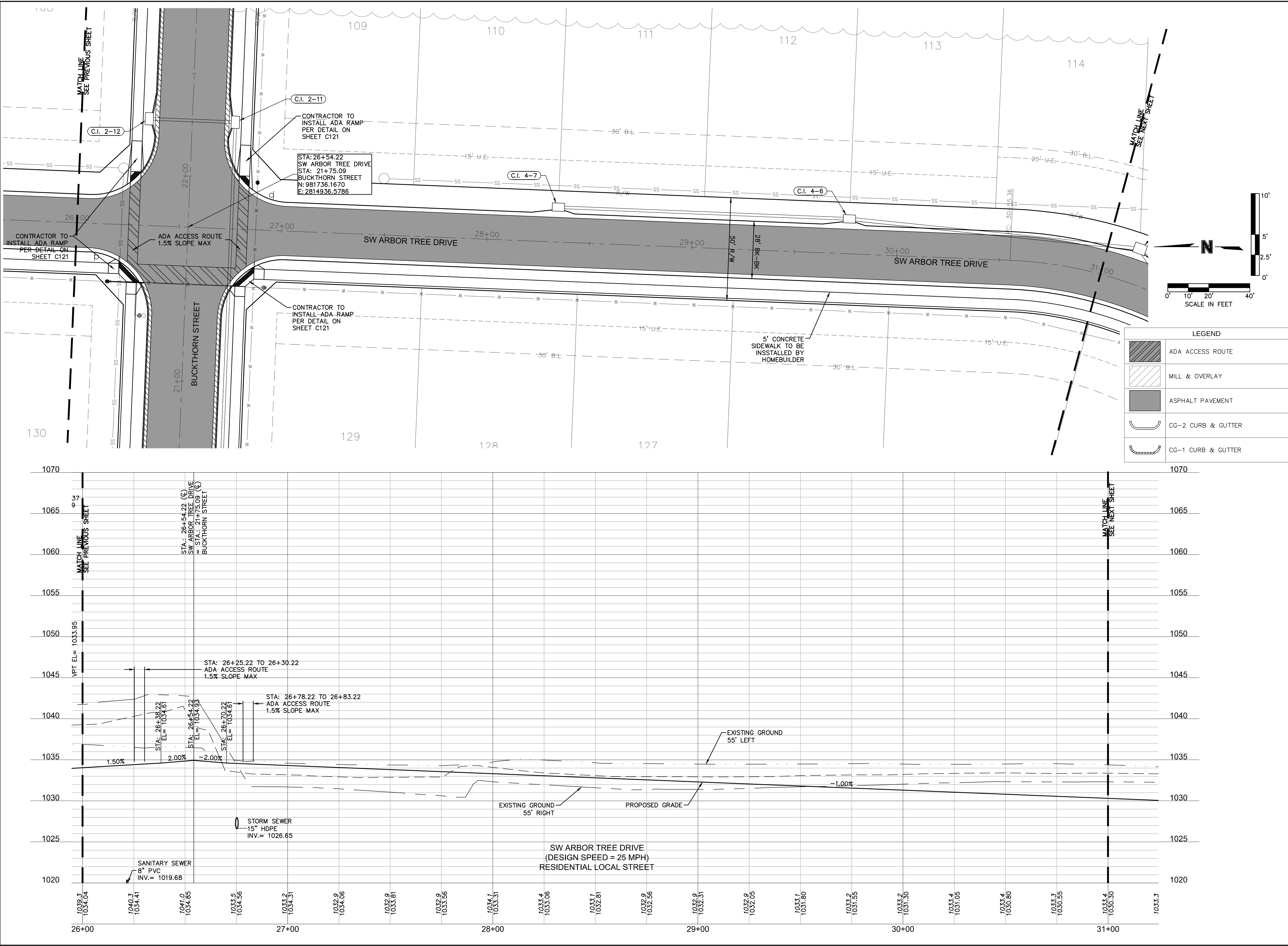
3. AS-BUILT SURVEY IS REQUIRED/APPROVED BY CITY FOR ALL SWALES AND PRIOR TO APPROVAL FOR ANY BUILDING FOUNDATION PERMIT. CONTRACTOR SHALL BE REQUIRED TO REGRADE SWALES AT CONTRACTOR'S EXPENSE IF ABOVE REQUIREMENTS ARE NOT MET.



 OLSSON - CIVIL ENGINEERING 1301 EURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 TEL. 816.861.1177 www.olsson.com					
 MELISSA G. DEGONIA NUMBER PE-2011000892 2-13-19 MELISSA G. DEGONIA PE# 2011000892					
		REVISIONS DESCRIPTION		BY	
		REVISIONS			
		NO.	DATE		
		REV.			
SWALE PLAN & PROFILE STREET & STORM SEWER PLANS					
HAWTHORN RIDGE SECOND PLAT					
LEE'S SUMMIT, MISSOURI				2019	
drawn by: _____ D.A.H.Q. checked by: _____ M.G.D. designed by: _____ B.M.W. QA/QC by: _____ N.D.H. project no.: 019-1605 date: 07-12-2012					
SHEET C107					

[illegible]

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STATE OF MISSOURI

MELISSA G. DEGONIA
NUMBER
PE-2011000892
2-13-19
PROFESSIONAL ENGINEER

MELISSA G. DEGONIA
PE# 2011000892

BY

REVISIONS DESCRIPTION

DATE

NO. REV.

REVISIONS

ROAD PLAN & PROFILE
STREET & STORM SEWER PLANS

HAWTHORN RIDGE
SECOND PLAT

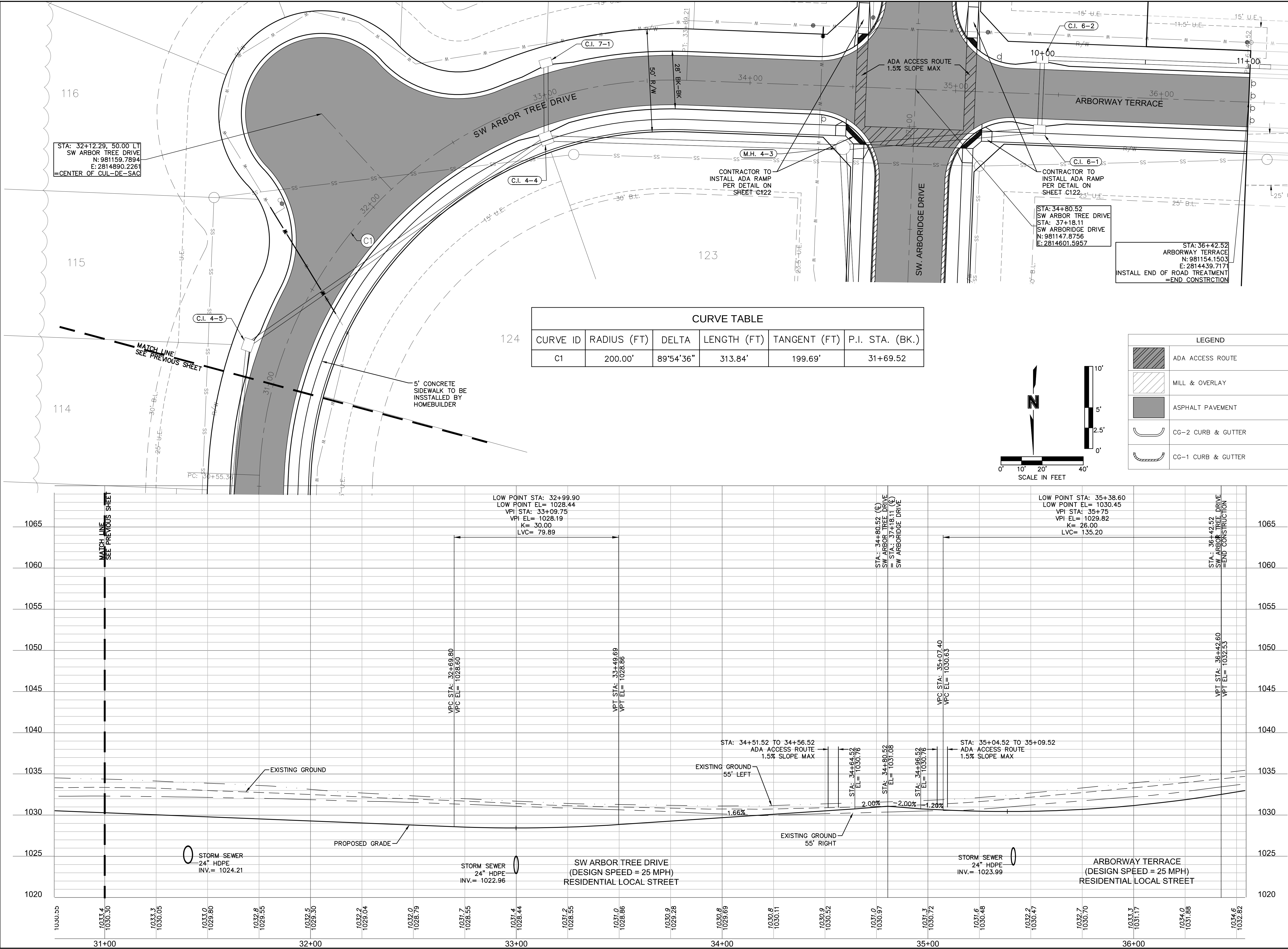
LEE'S SUMMIT, MISSOURI

2019

drawn by: D.A.H.Q.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 019-1605
date: 07-12-2018

SHEET
C110

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STATE OF MISSOURI
MELISSA G. DEAGONIA
NUMBER
PE-2011000892
2-13-19
PROFESSIONAL ENGINEER

MELISSA G. DEAGONIA
PE# 2011000892

BY

REVISIONS DESCRIPTION

NO. REV.

DATE

2019

ROAD PLAN & PROFILE
STREET & STORM SEWER PLANS

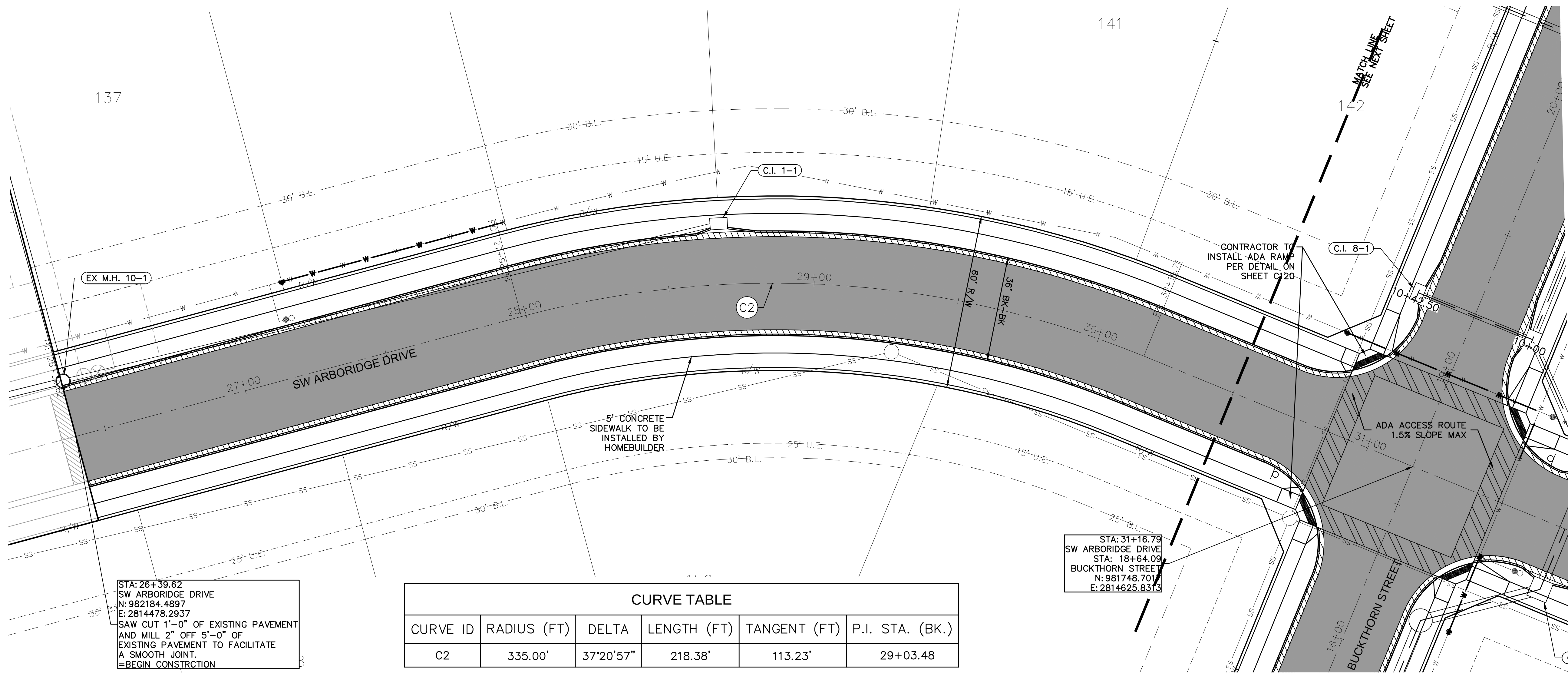
HAWTHORN RIDGE
SECOND PLAT

LEE'S SUMMIT, MISSOURI

drawn by: D.A.H.Q.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 0191605
date: 07-12-2018

SHEET
C111

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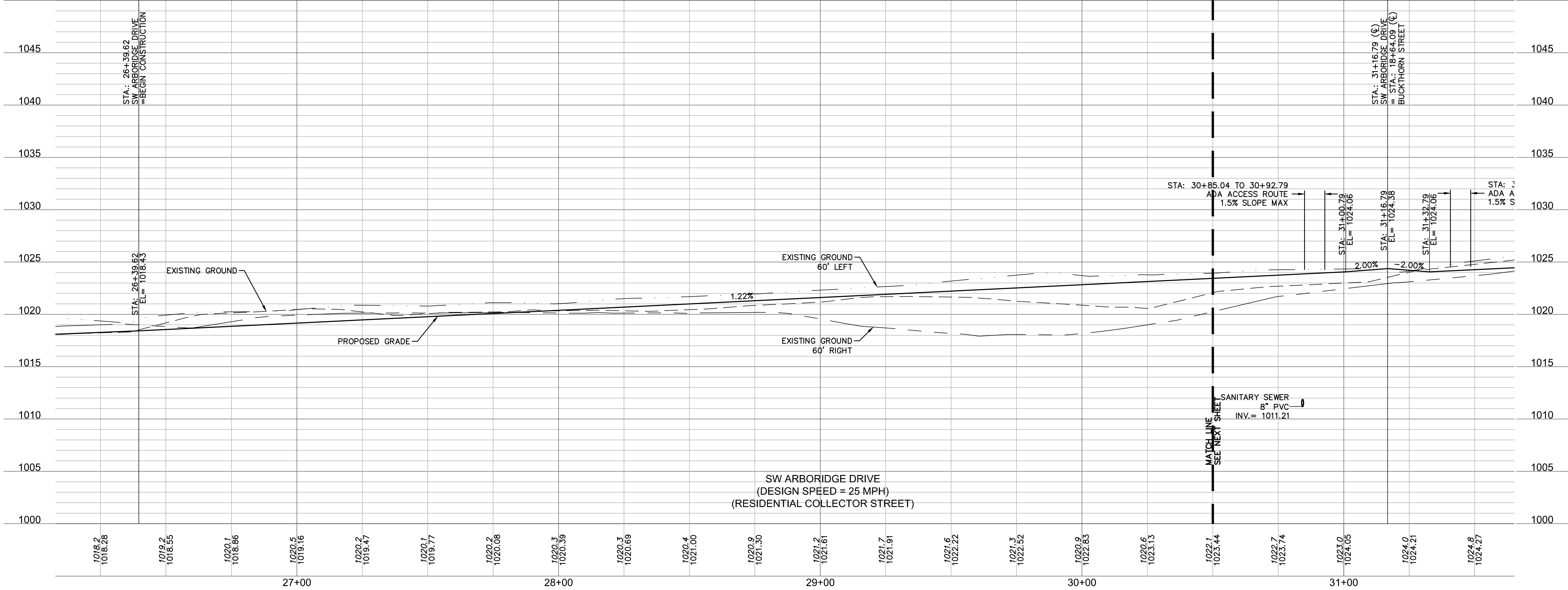
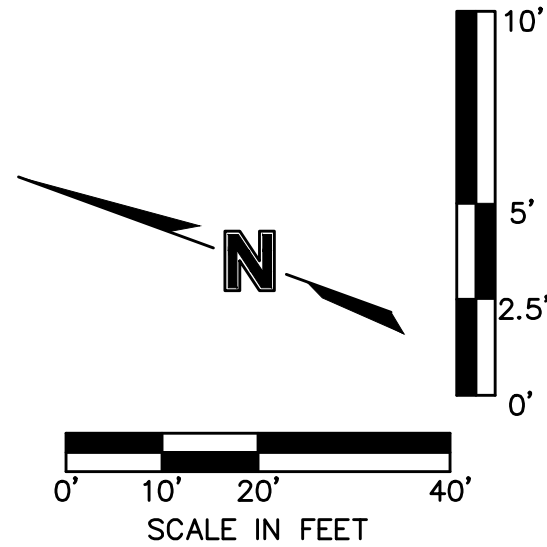
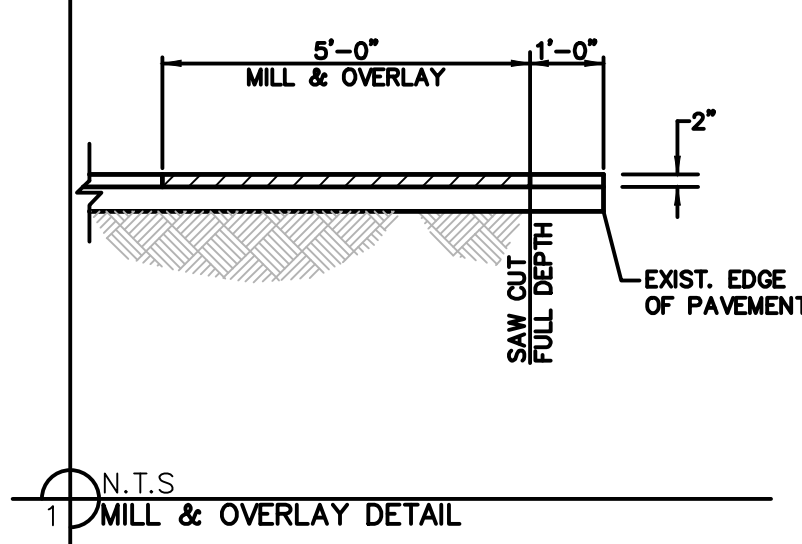


STA: 26+39.62
SW ARBORIDGE DRIVE
N: 982184.4897
E: 2814478.2937
SAW CUT 1'-0" OF EXISTING PAVEMENT
AND MILL 2" OFF 5'-0" OF
EXISTING PAVEMENT TO FACILITATE
A SMOOTH JOINT.
=BEGIN CONSTRUCTION

CURVE TABLE					
CURVE ID	RADIUS (FT)	DELTA	LENGTH (FT)	TANGENT (FT)	P.I. STA. (BK.)
C2	335.00'	37°20'57"	218.38'	113.23'	29+03.48

STA: 31+16.79
SW ARBORIDGE DRIVE
STA: 18+64.09
BUCKTHORN STREET
N: 981748.7017
E: 2814625.8313

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



SW ARBORIDGE DRIVE
(DESIGN SPEED = 25 MPH)
(RESIDENTIAL COLLECTOR STREET)

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STATE OF MISSOURI
MELISSA G. DEGNIA
NUMBER
PE-2011000892
2-13-19
PROFESSIONAL ENGINEER

MELISSA G. DEGNIA
PE# 2011000892

BY

NO. REV.

DATE

REVISIONS DESCRIPTION

ROAD PLAN & PROFILE
STREET & STORM SEWER PLANS

HAWTHORN RIDGE
SECOND PLAT

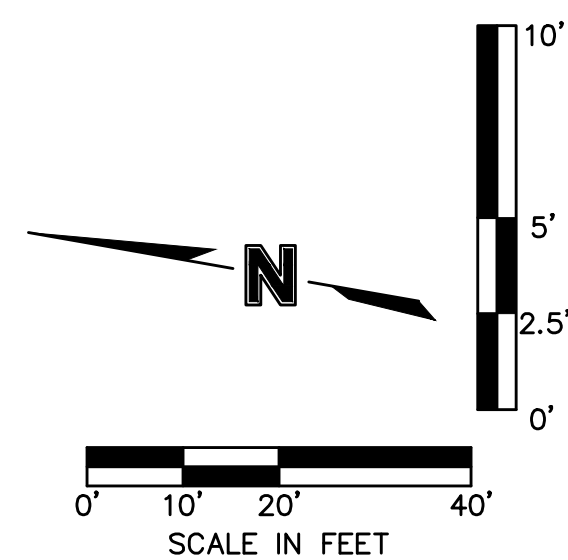
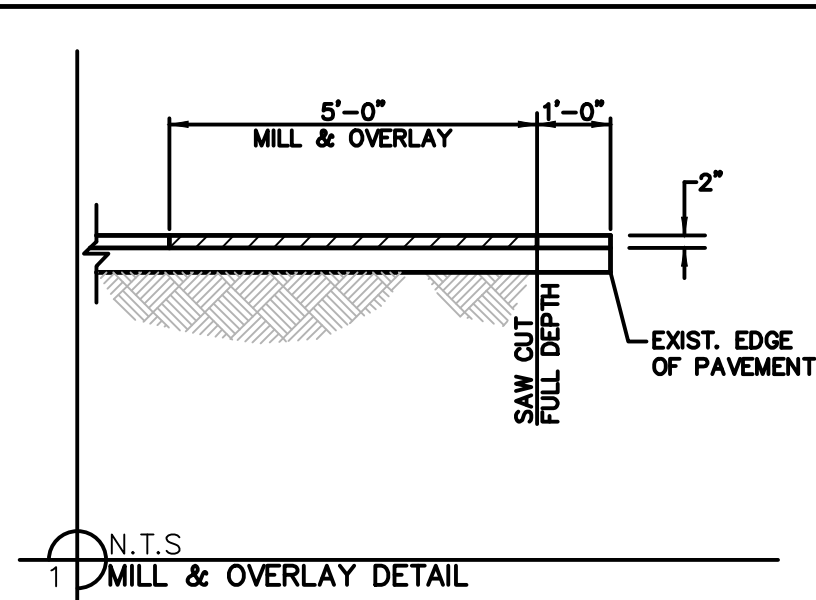
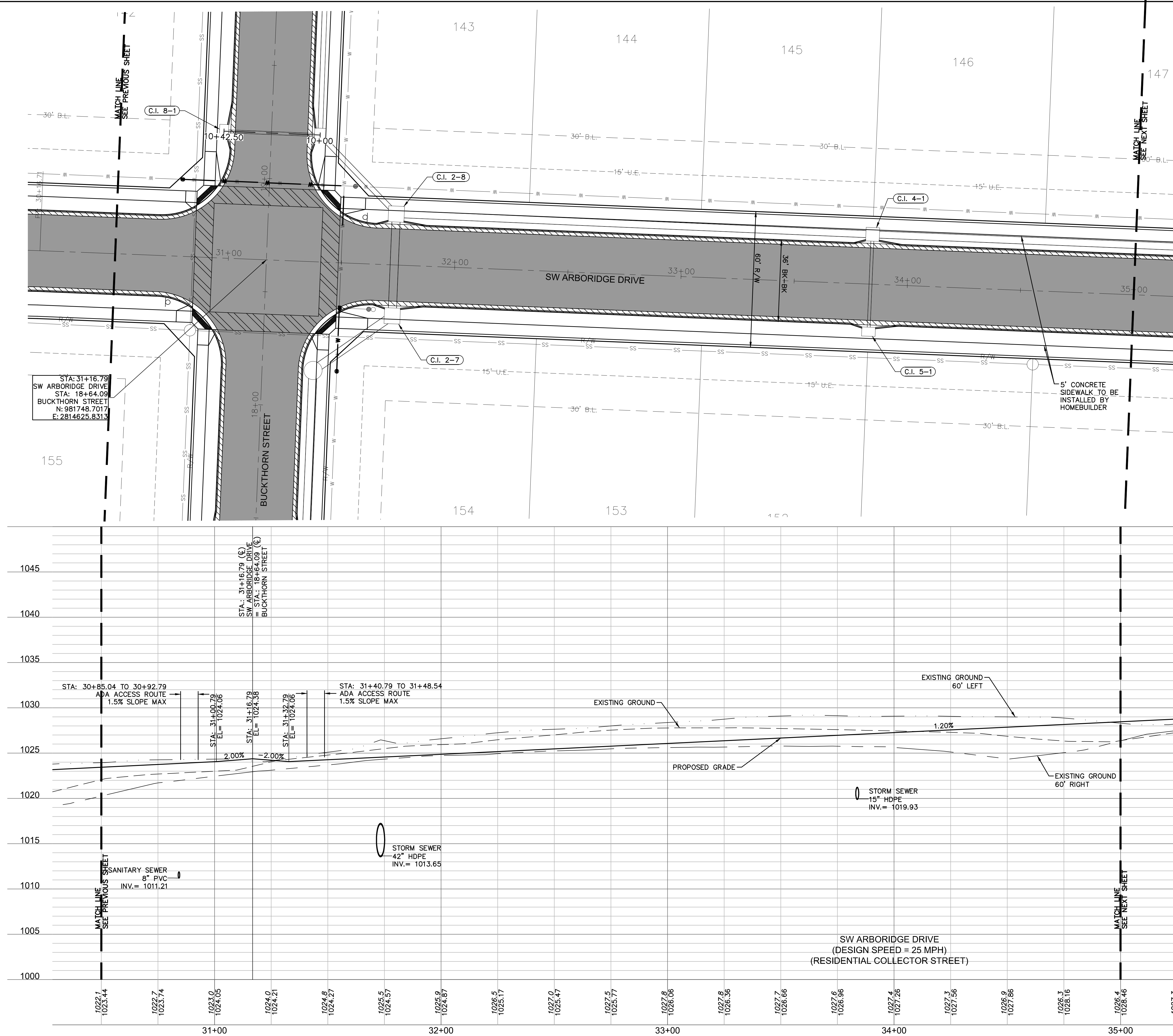
LEE'S SUMMIT, MISSOURI

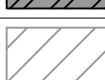
drawn by: D.A.H.O.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 0191605
date: 07-12-2018

SHEET
C112

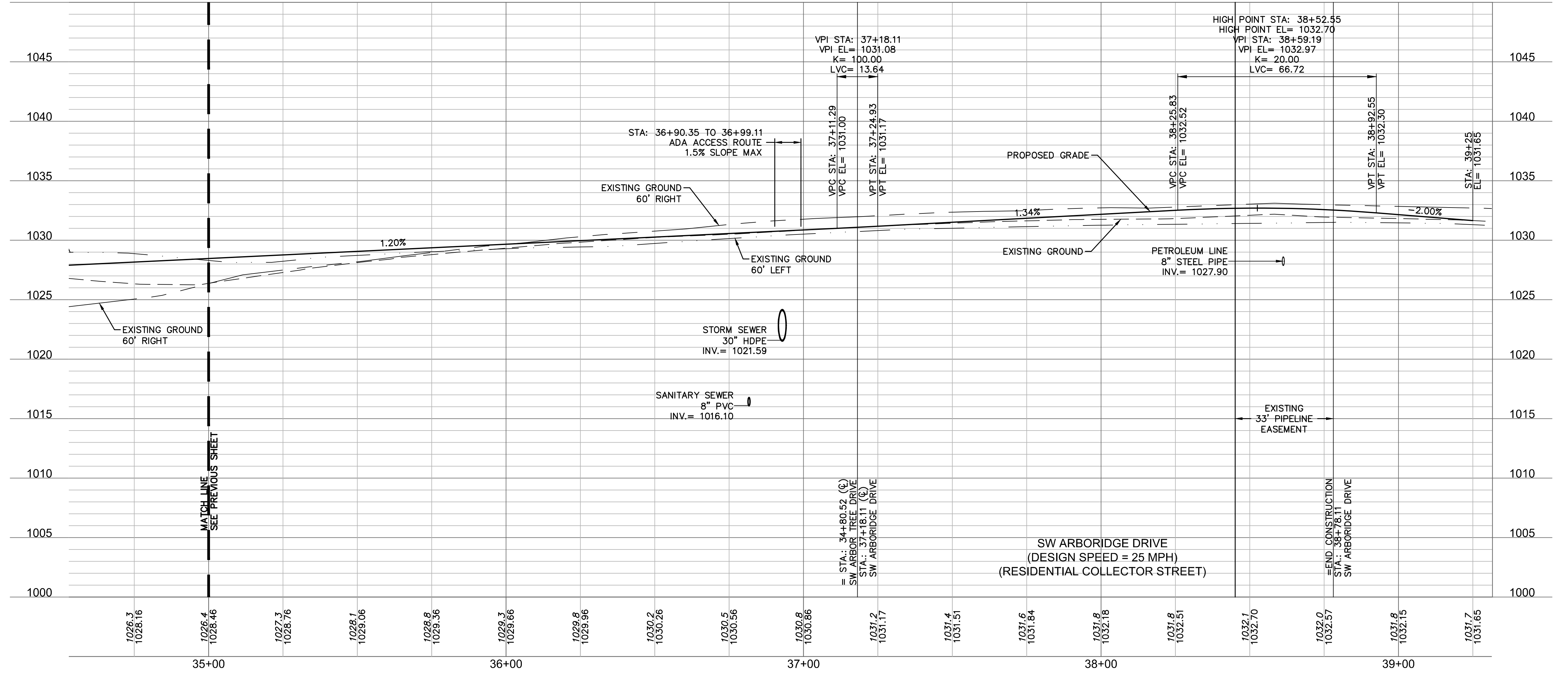
2019

REVISIONS

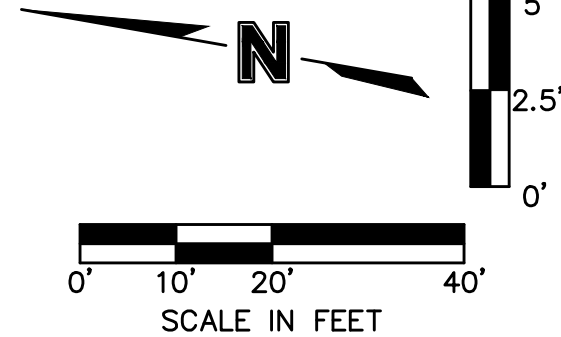


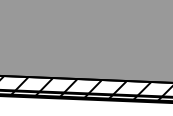
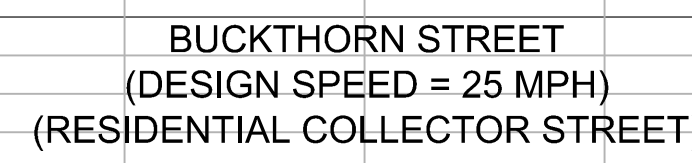
LEGEND	
	ADA ACCESS ROUTE
	MILL & OVERLAY
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER
	CG-1 CURB & GUTTER

		OLSSON - CIVIL ENGINEERING 11111 BURBANK BLVD. #1001592 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 TEL 816-361-1177 www.olson.com	
		MELISSA G. DEGONIA PE# 2011000892	
BY			
REVISIONS DESCRIPTION			
DATE			
NO. REV.			
ROAD PLAN & PROFILE STREET & STORM SEWER PLANS			
HAWTHORN RIDGE SECOND PLAT			
LEE'S SUMMIT, MISSOURI		2019	
drawn by: _____ D.A.H.Q. checked by: _____ M.G.D. designed by: _____ B.M.W. QA/QC by: _____ H.B.H. project no.: _____ 019-1605 date: _____ 07-12-2019			
SHEET C113			

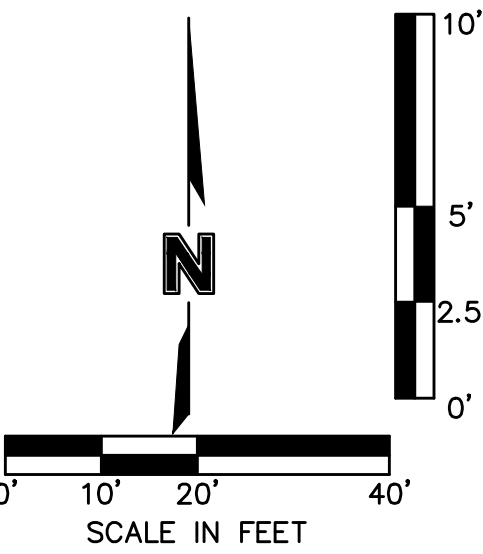


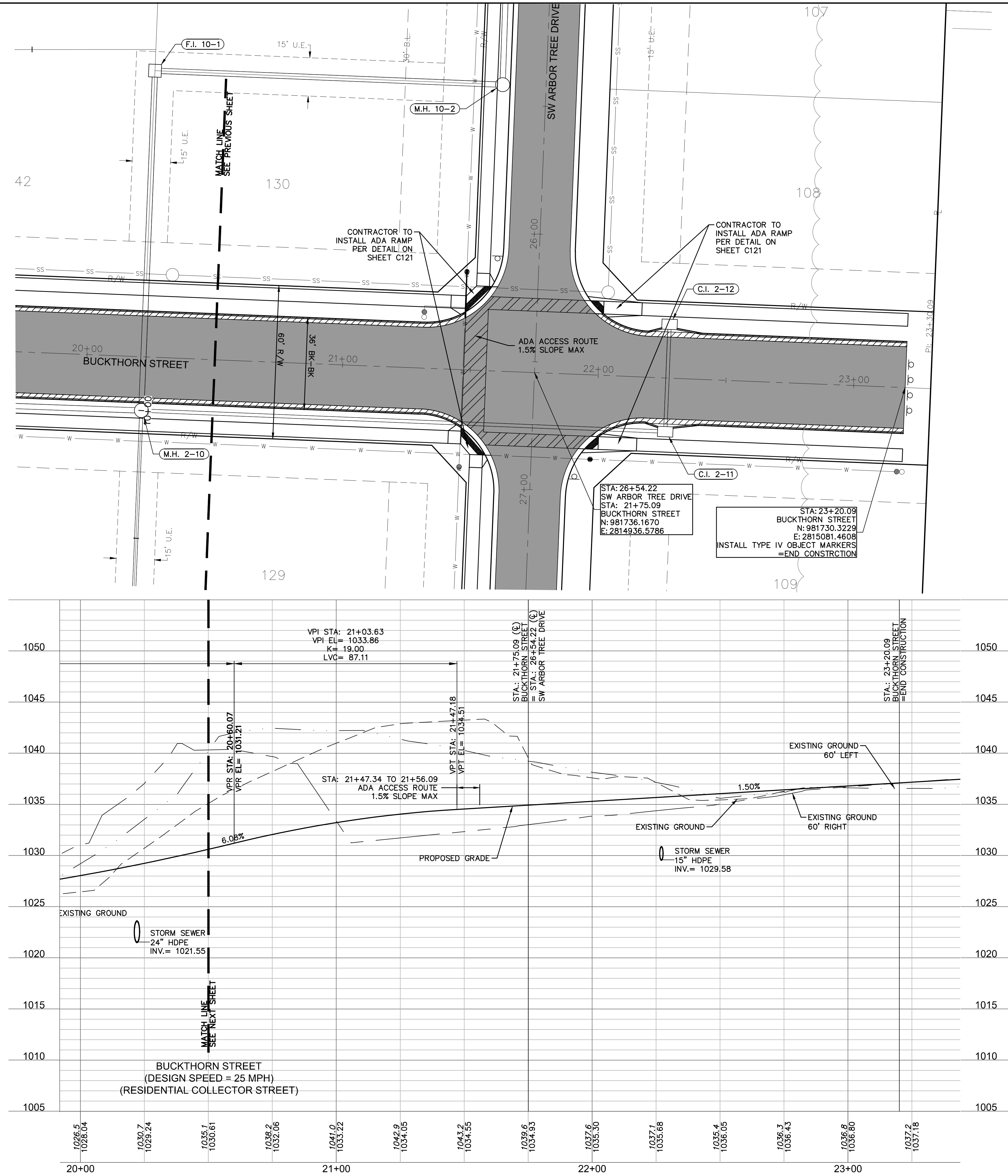
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	MILL & OVERLAY
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER
	CG-1 CURB & GUTTER



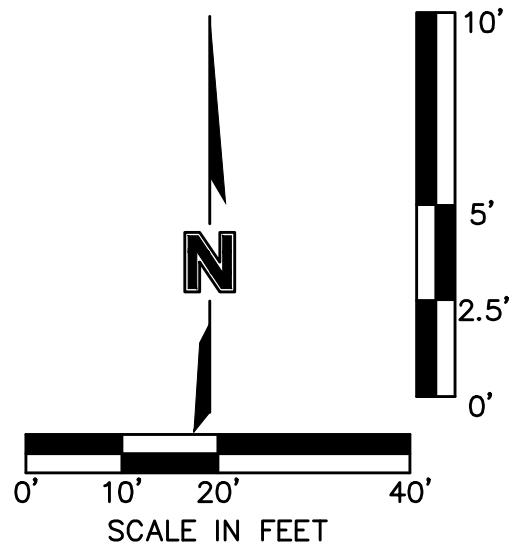


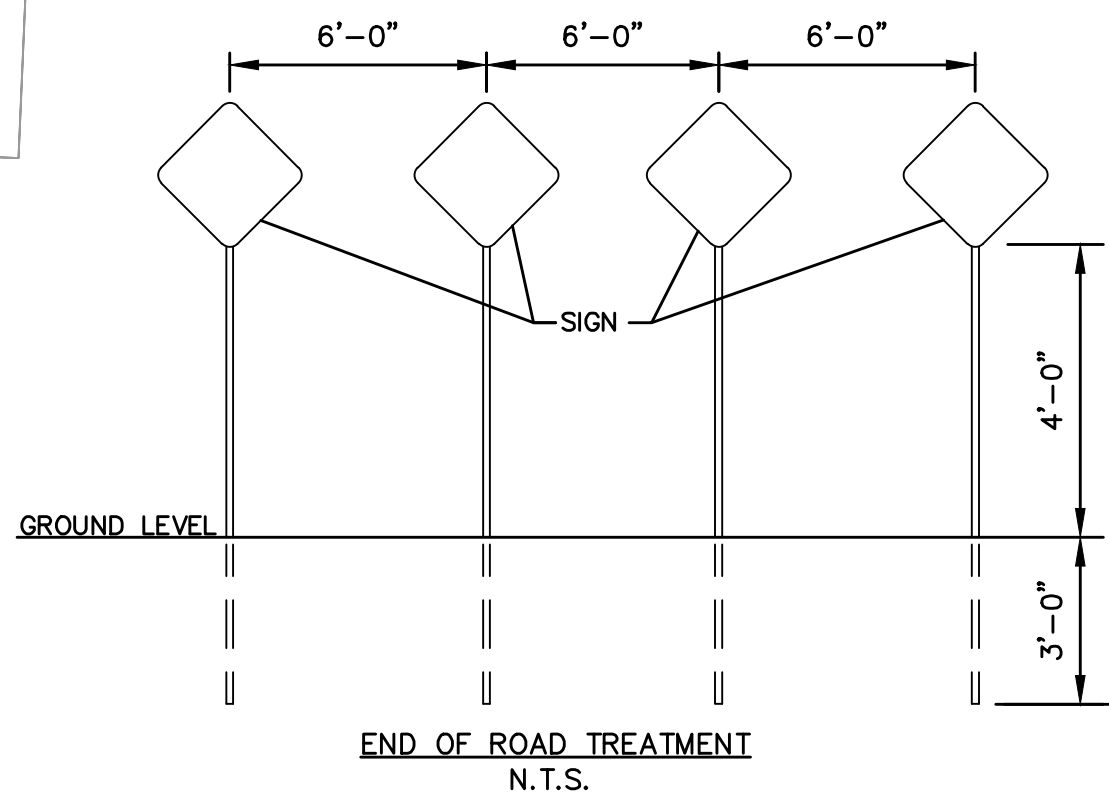
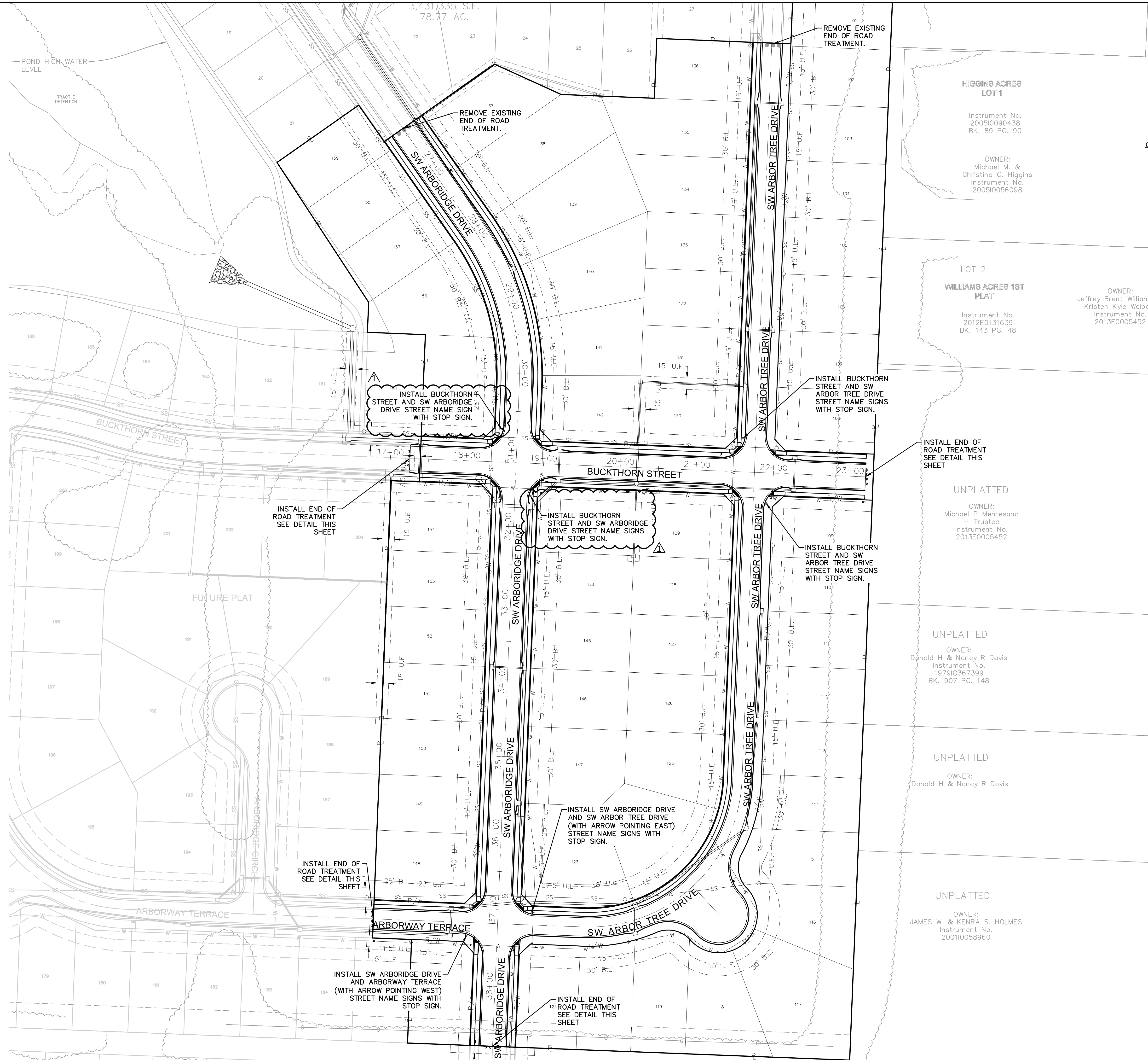
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	MILL & OVERLAY
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER
	CG-1 CURB & GUTTER



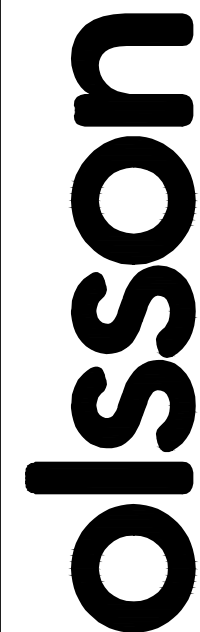


LEGEND	
	ADA ACCESS ROUTE
	MILL & OVERLAY
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER
	CG-1 CURB & GUTTER





OBJECT MARKERS (TYPE OM4-3, 18"X18")
ARE TO BE INSTALLED 2' FROM END OF
PROPOSED PAVEMENT.



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MELISSA G. DEGONIA

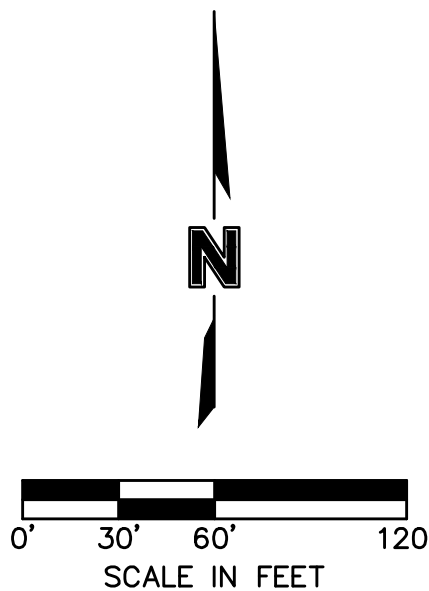
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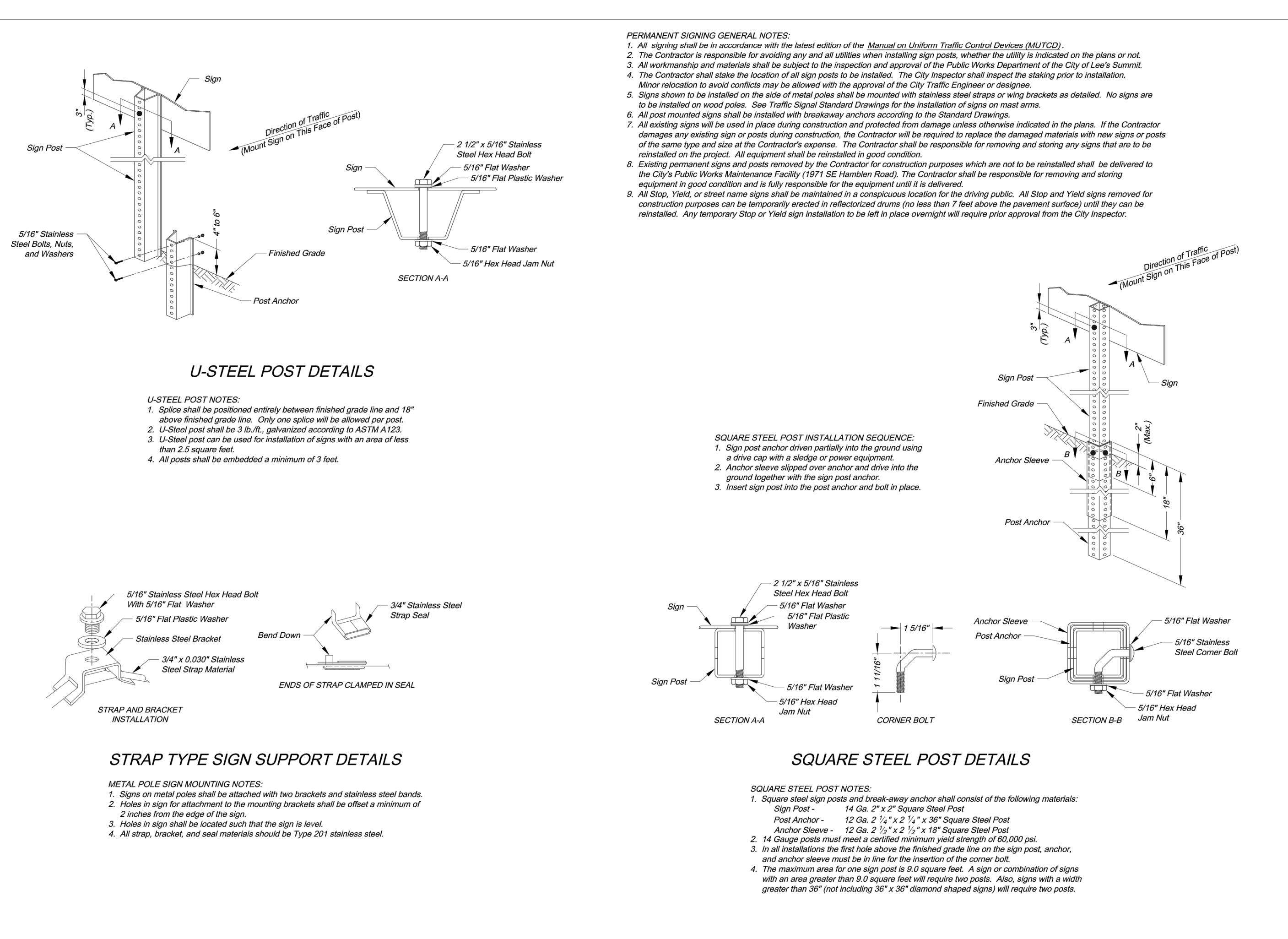
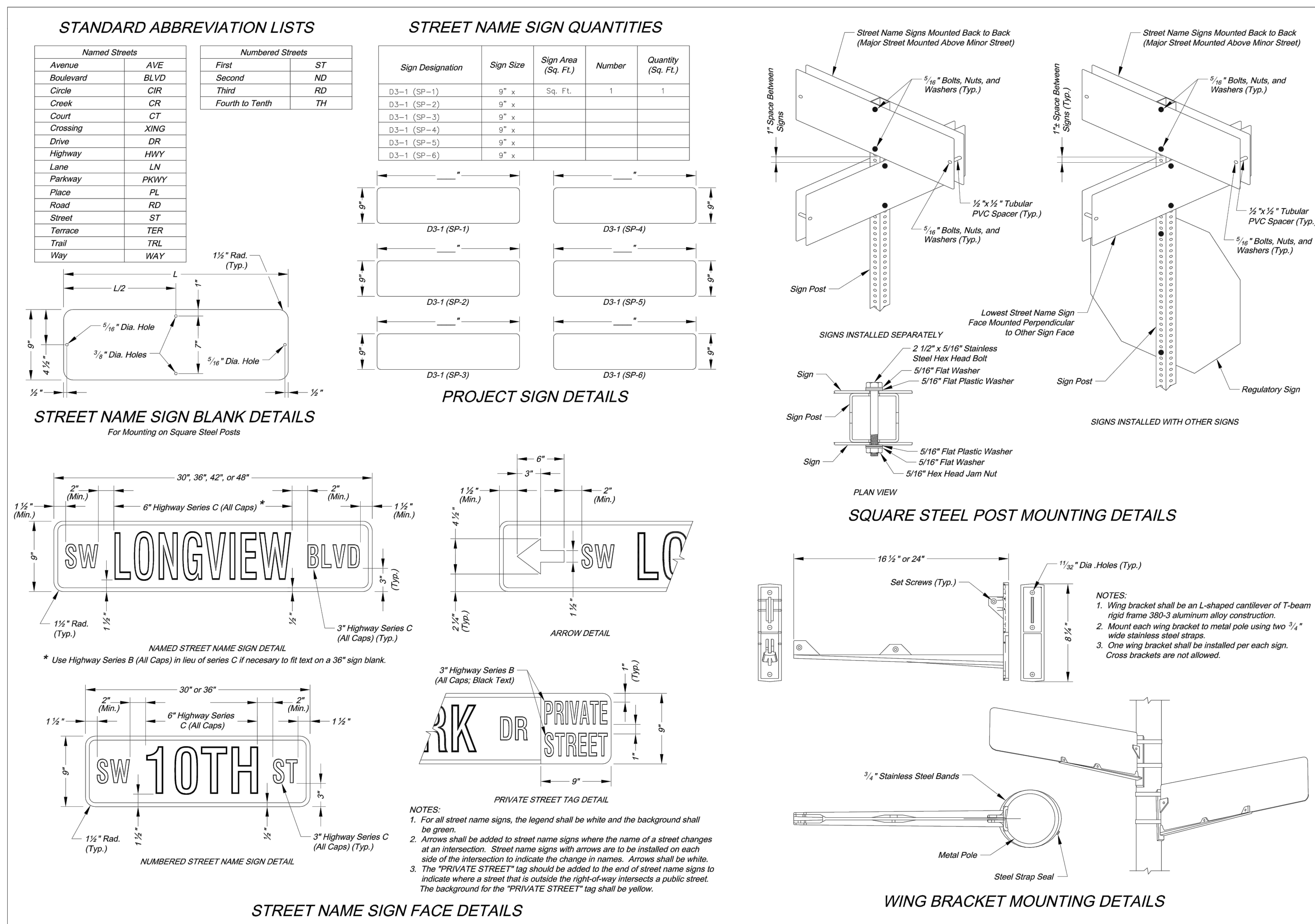
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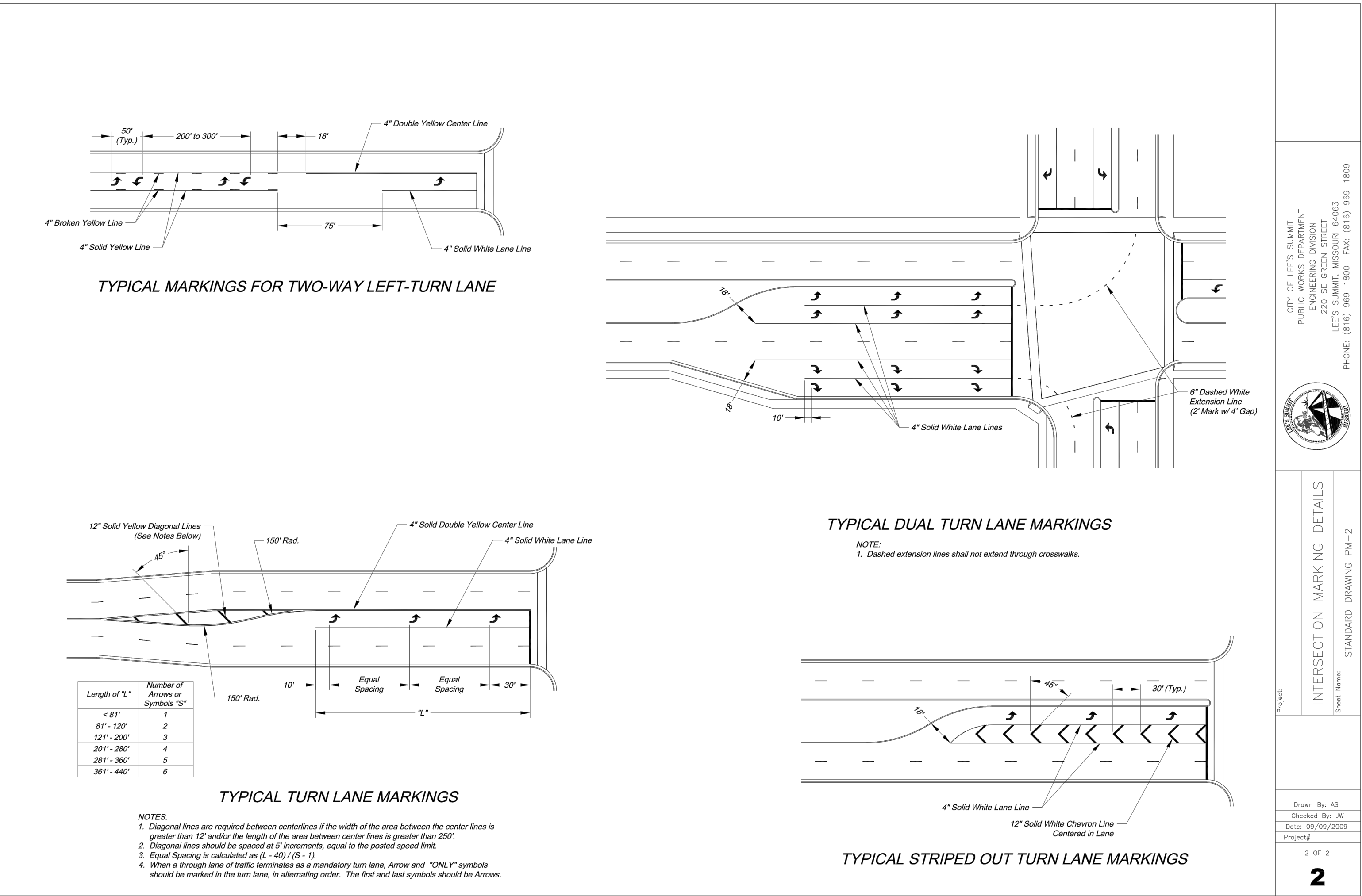
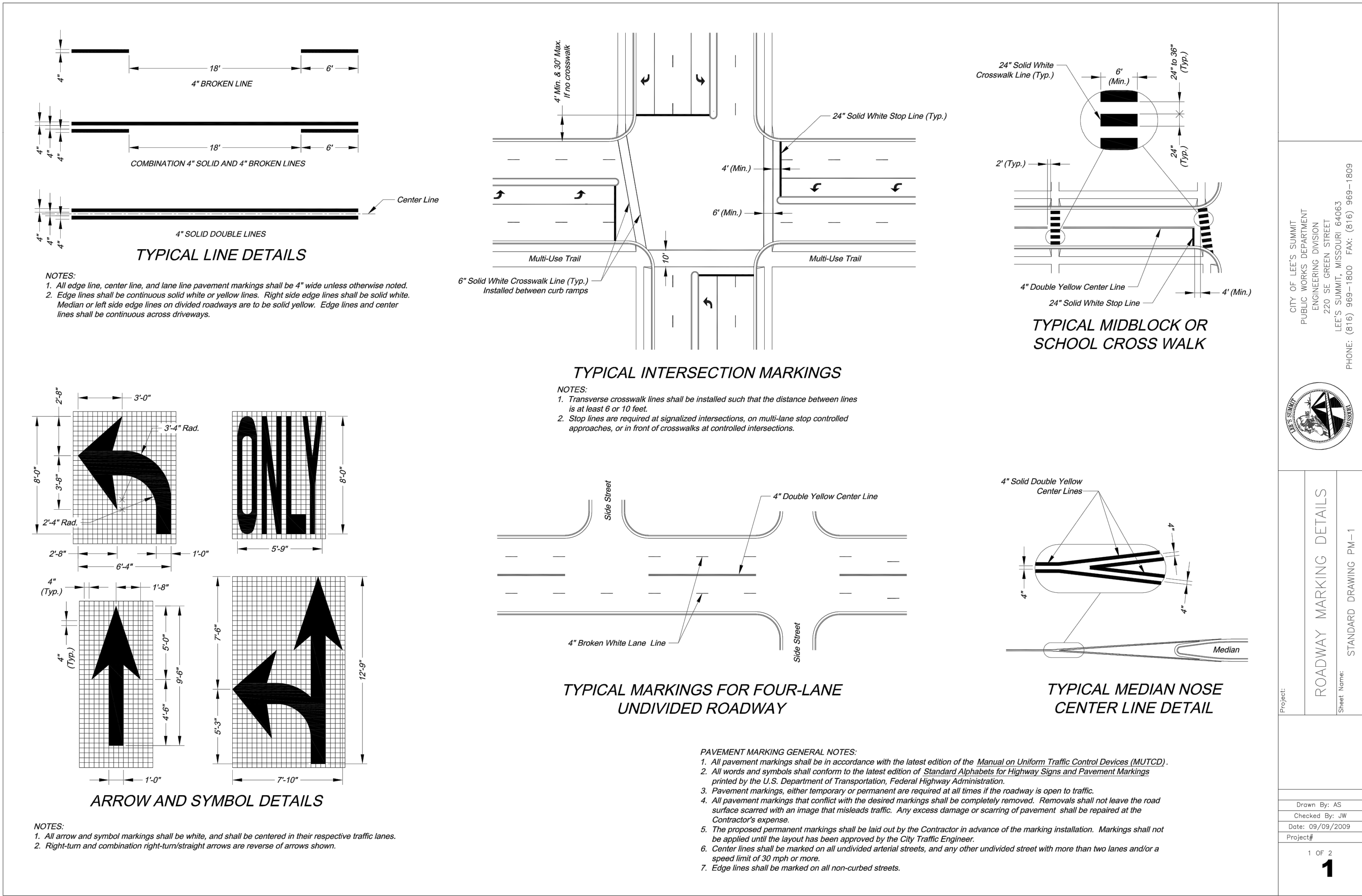
TRAFFIC CONTROL STREET & STORM SEWER PLANS	HAWTHORN RIDGE SECOND PLAT	LEE'S SUMMIT, MISSOURI	2019
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drawn by: D.A.H.O
checked by: M.G.D
designed by: B.M.W
QA/QC by: N.D.H
project no.: 019-1605
date: 07-12-2019

SHEET
C117







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1000 PINEHURST DRIVE, SUITE 100
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STATE OF MISSOURI
MELISSA G. DEGONIA
NUMBER
PE-2011000892
2-13-19
PROFESSIONAL ENGINEER

MELISSA G. DEGONIA
PE# 2011000892

BY

REVISIONS DESCRIPTION

NO. REV.

DATE

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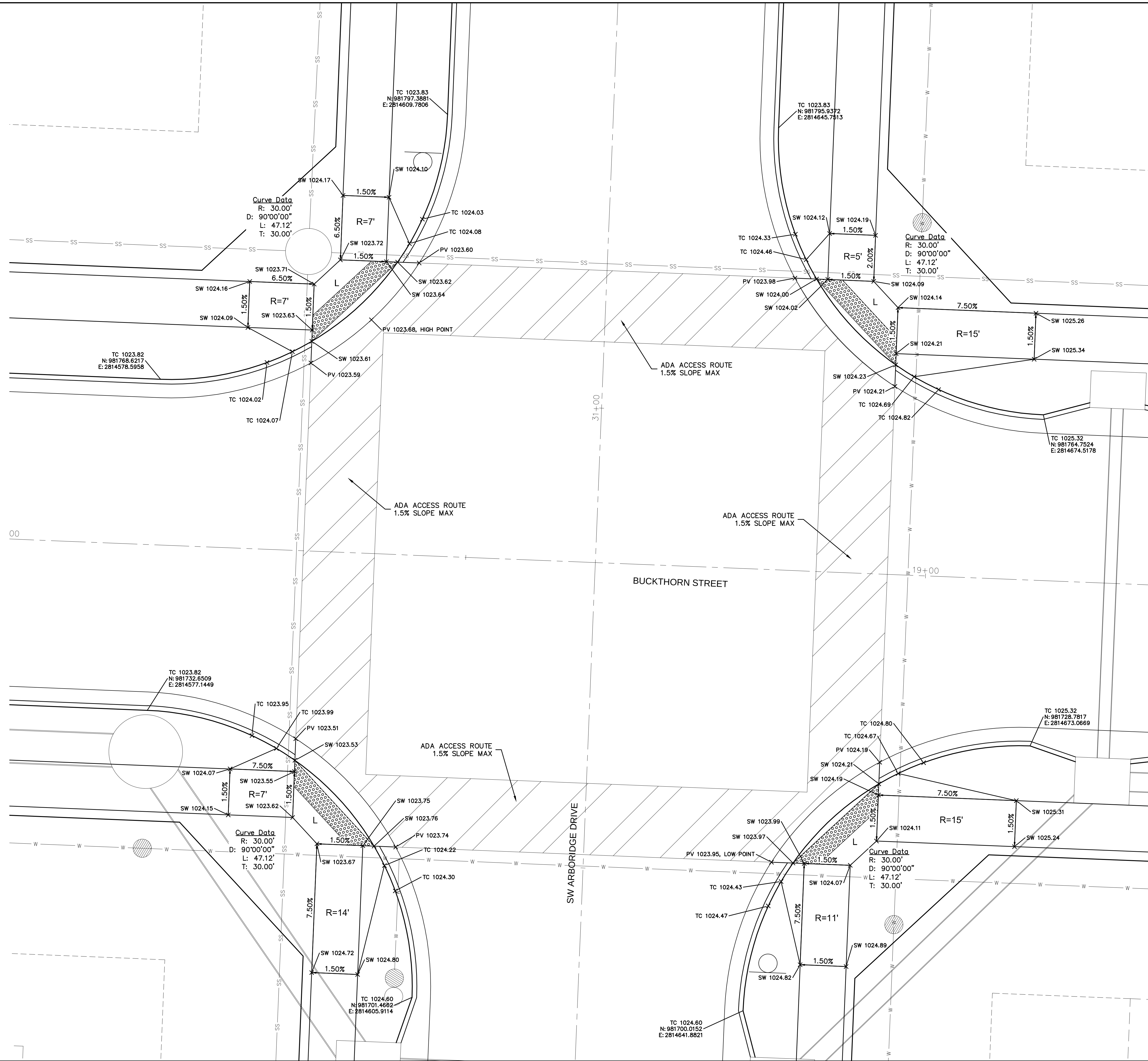
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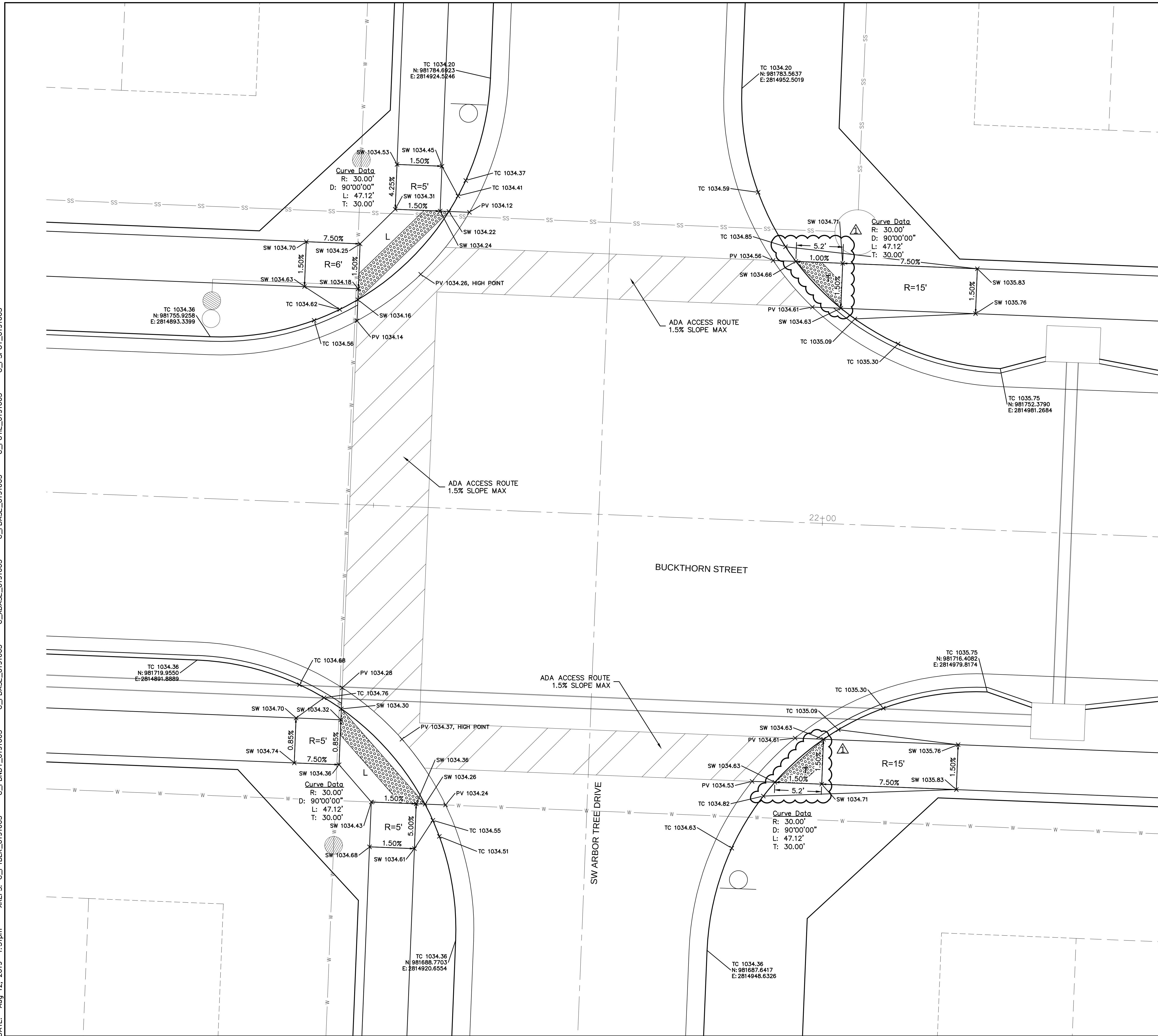


- INTERSECTION AND ADA DETAIL NOTES:
1. ALL ADA CURB RAMPS SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
2. CURB RAMP FLARES SHALL NOT BE STEEPER THAN 1:10 MAX SLOPE.
3. LANDING SHALL BE PROVIDED WHERE INDICATED ON PLAN SHEET OR BY PROWAG STANDARDS. LANDING SHALL BE 4'x4' MINIMUM.
4. 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, RAMP LANDING, OR PAVEMENT 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

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L	LANDING AREA
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T	TRANSITION AREA

A north arrow pointing upwards with the letter 'N' in the center. Below it is a scale bar labeled 'SCALE IN FEET' with markings at 0', 2.5', 5', and 10'.

SPOT ELEVATIONS
STREET & STORM SEWER PLANS

HAWTHORN RIDGE
SECOND PLAT

drawn by: D.A.H.O.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 019-1605
date: 07-12-2019

SHEET
C121

LEE'S SUMMIT MISSOURI

2019

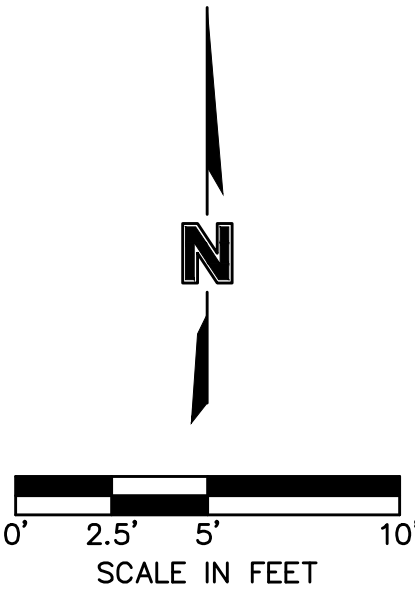
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[illegible]

MELISSA G. DEGOM
DE# 0044000000

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MO CERTIFICATE OF AUTHORITY #001592
1301 BURLINGTON, SUITE 100
NORTHBURGH, VT 05701
TEL: 802.963.1377
FAX: 802.963.1377

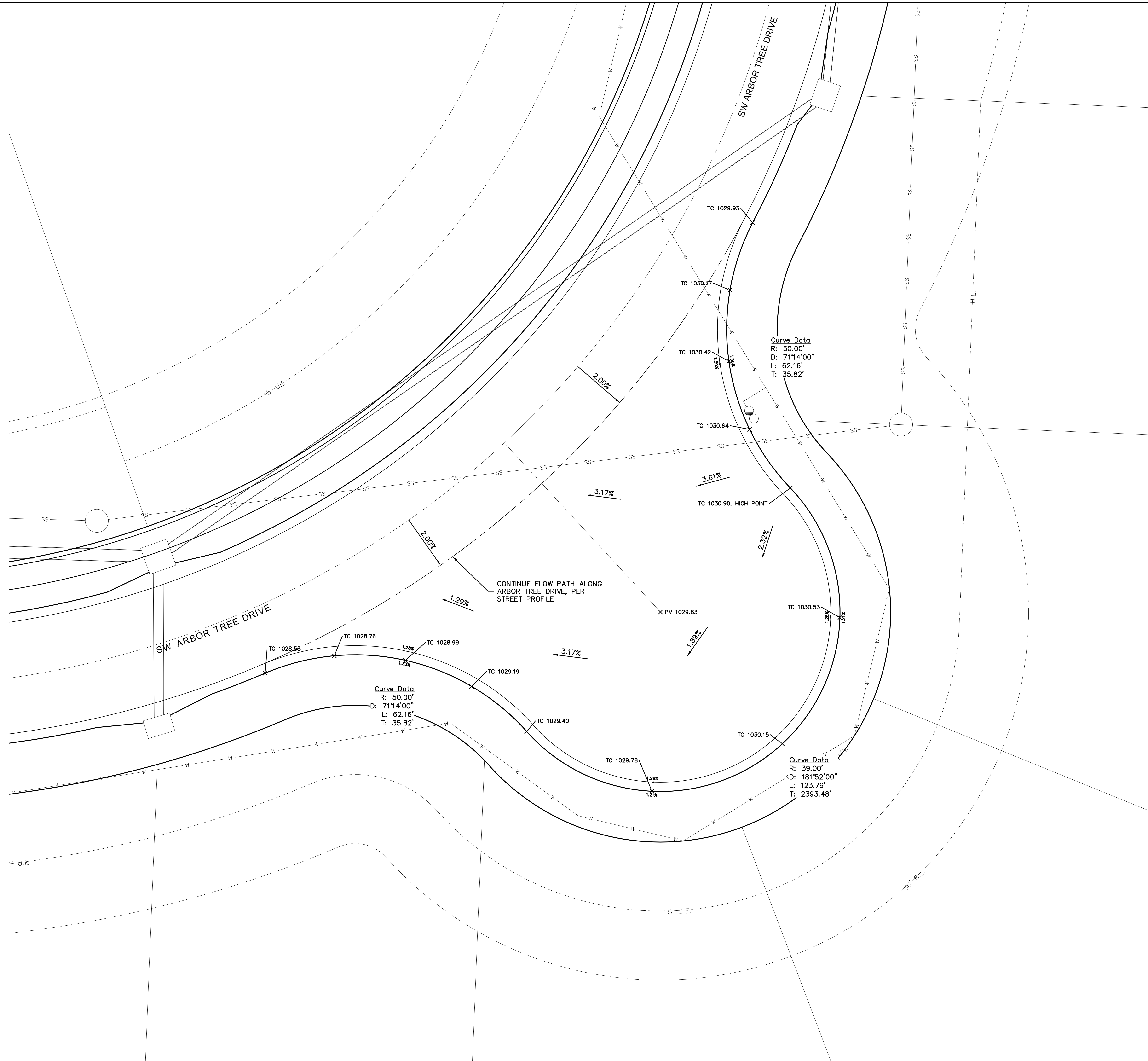
Olsson



- | LEGEND | |
|--------|-----------------|
| TC— | TOP OF CURB |
| PV— | TOP OF PAVEMENT |
| SW— | SIDEWALK |
| L | LANDING AREA |
| R | RAMP AREA |
| T | TRANSITION AREA |

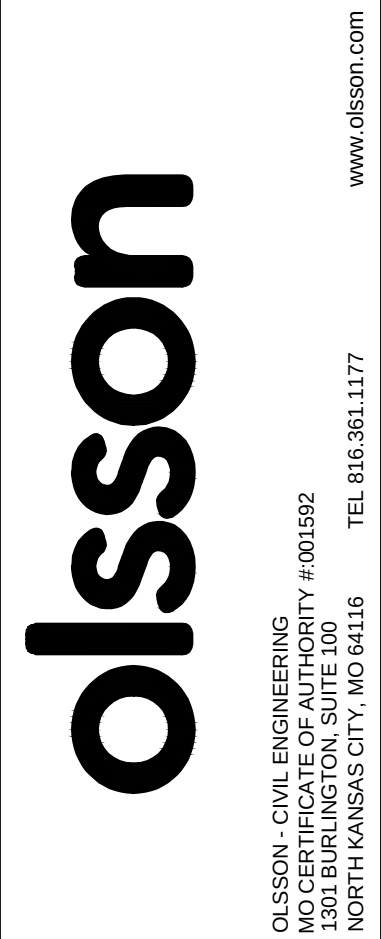
LEE'S SUMMIT MISSOURI

drawn by: D.A.H.O
checked by: M.G.D
designed by: B.M.W
QA/QC by: N.D.H
project no.: 019-1605
date: 07-12-2019



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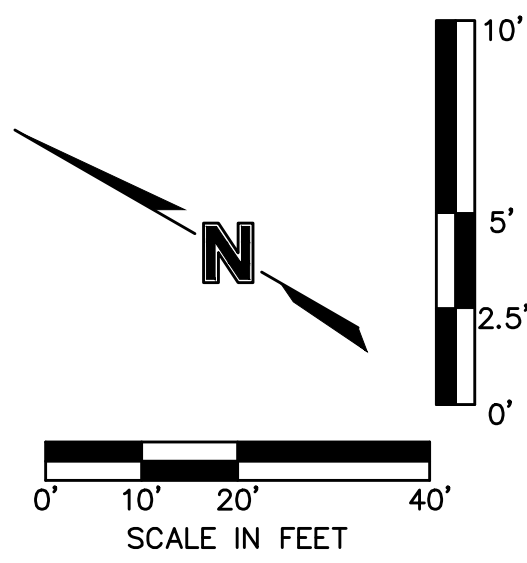


MELISSA G. DEGONIA
PE# 2011000892

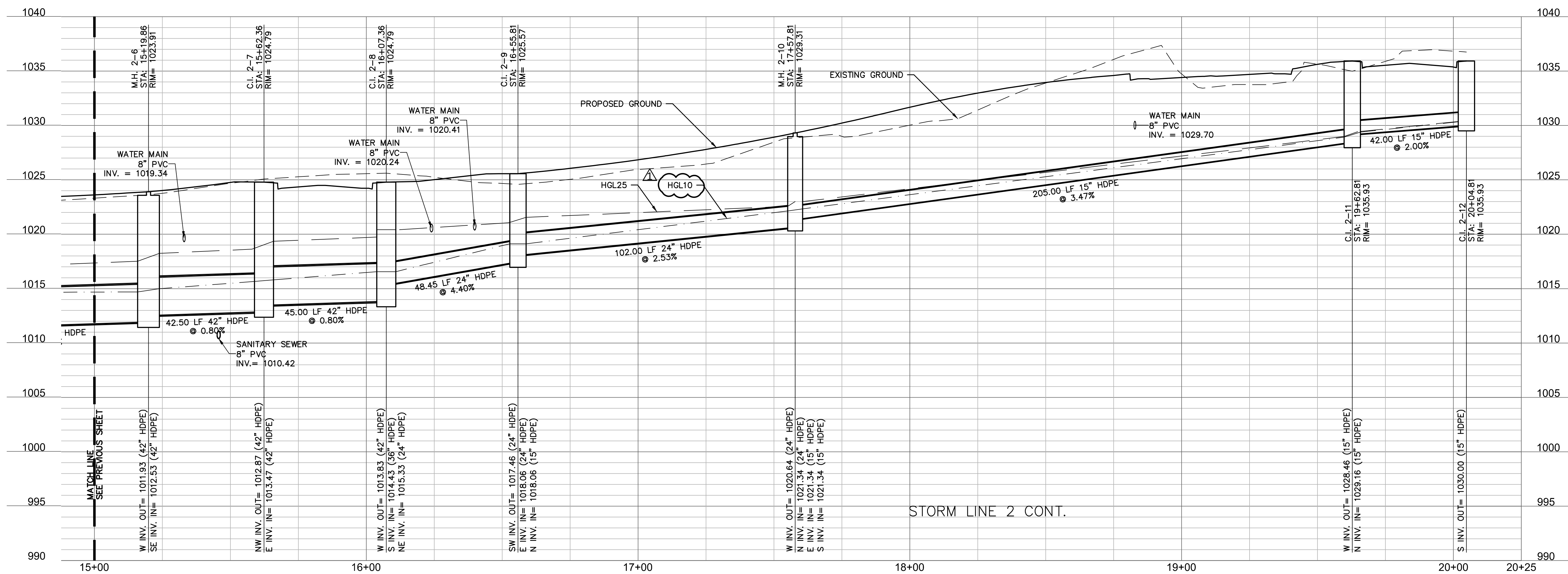
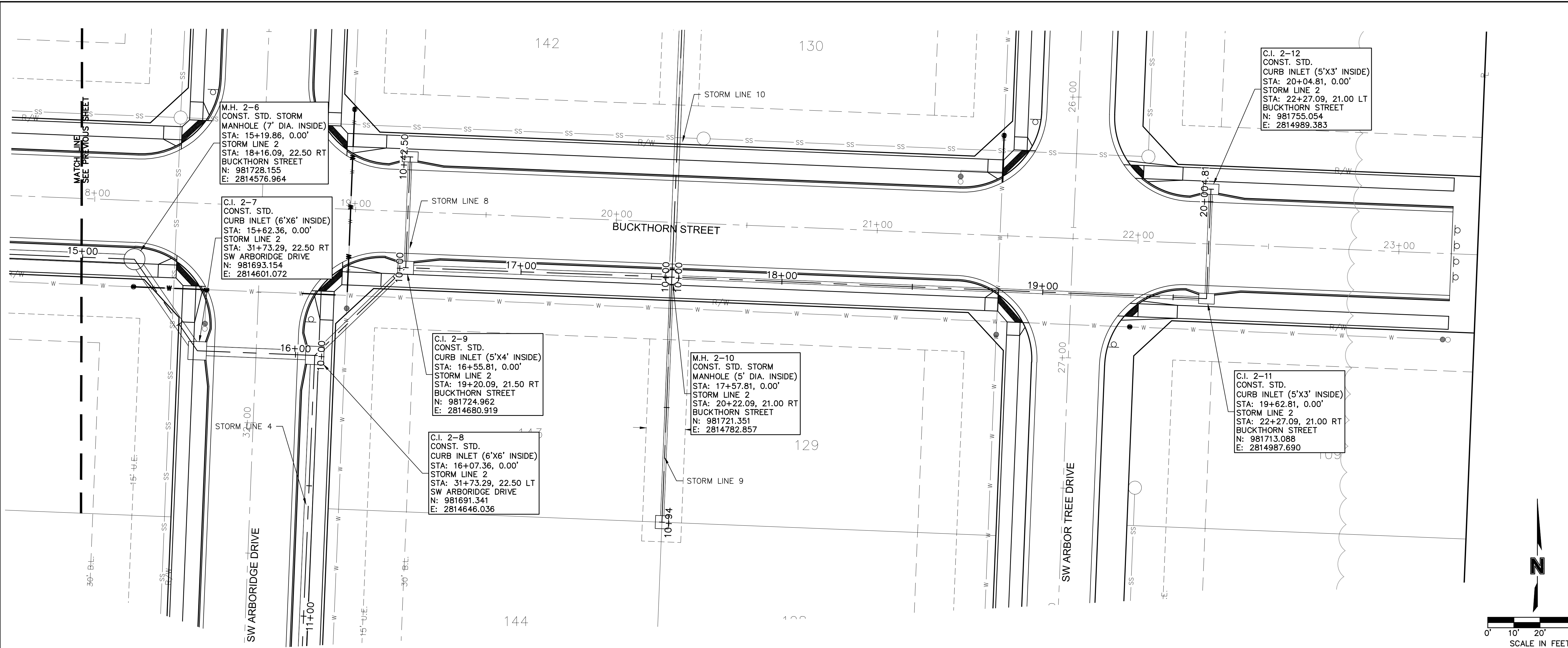
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SPOT ELEVATIONS STREET & STORM SEWER PLANS	
HAWTHORN RIDGE SECOND PLAT	
LEE'S SUMMIT, MISSOURI	2019

drawn by: D.A.H.O
checked by: M.G.D
designed by: B.M.W
QA/QC by: N.D.H
project no.: 019-1605
date: 07-12-2019



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STATE OF MISSOURI
MELISSA G. DEAGONIA
NUMBER
PE-2011000892
2-13-19
PROFESSIONAL ENGINEER

MELISSA G. DEAGONIA
PE# 2011000892

NO.	REV.	DATE	DESCRIPTION
1		08-12-2019	10-YEAR STORM HGL ADDED TO PROFILE VIEW

STORM PLAN & PROFILE
STREET & STORM SEWER PLANS

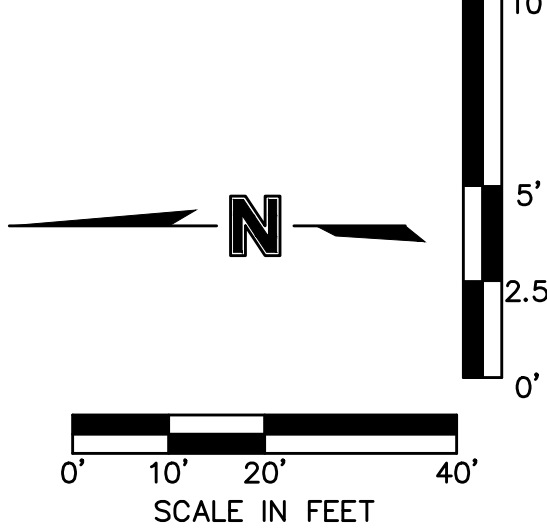
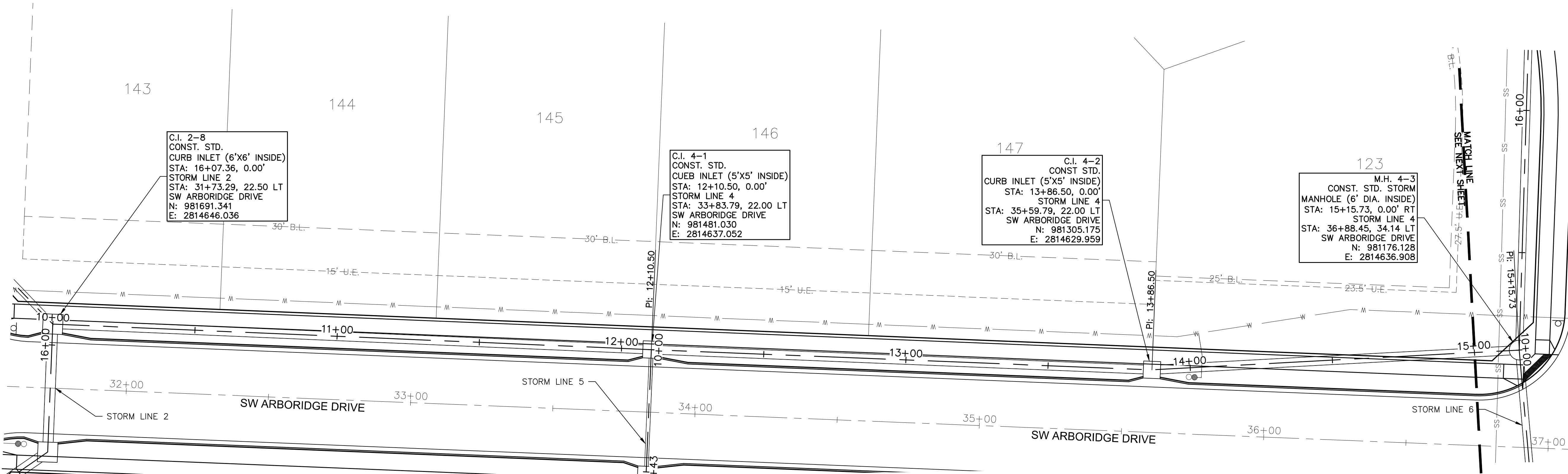
HAWTHORN RIDGE
SECOND PLAT

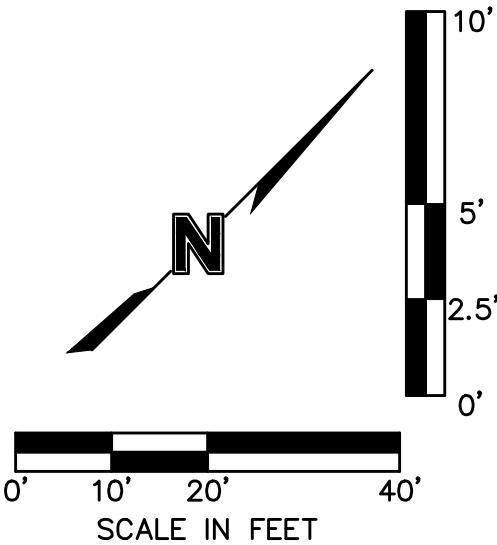
LEE'S SUMMIT, MISSOURI

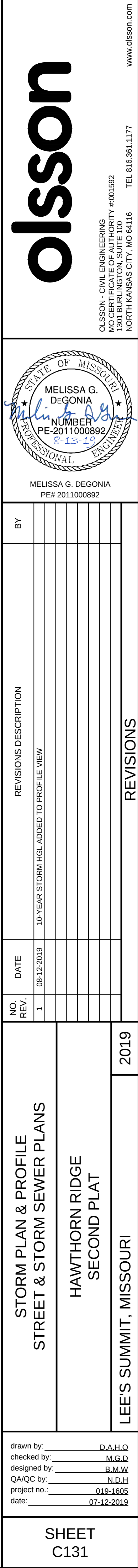
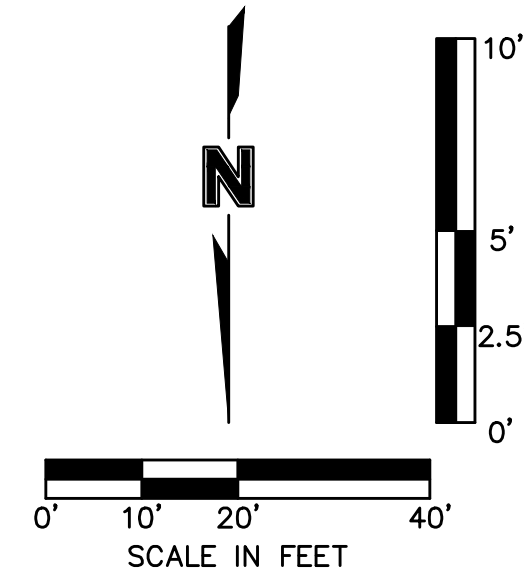
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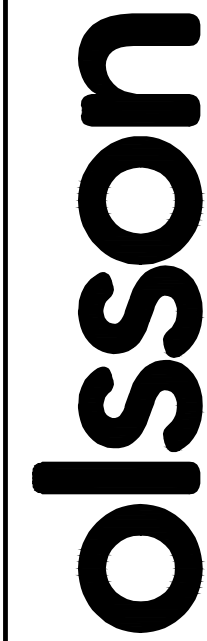
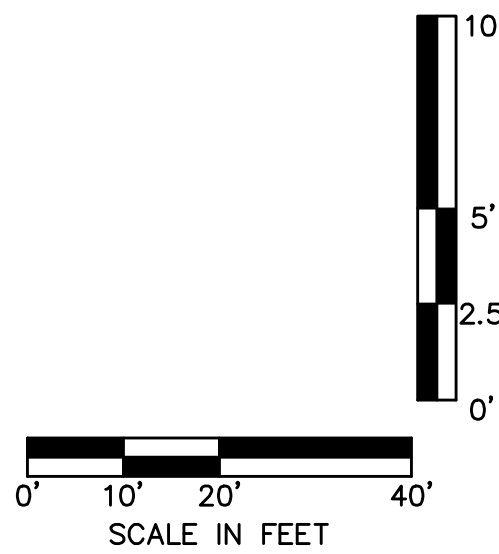
drawn by: D.A.H.O.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 019-1605
date: 07-12-2018

SHEET
C126









MELISSA G. DEGONI
PE# 2011000892

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STORM PLAN & PROFILE
STREET & STORM SEWER PLANS

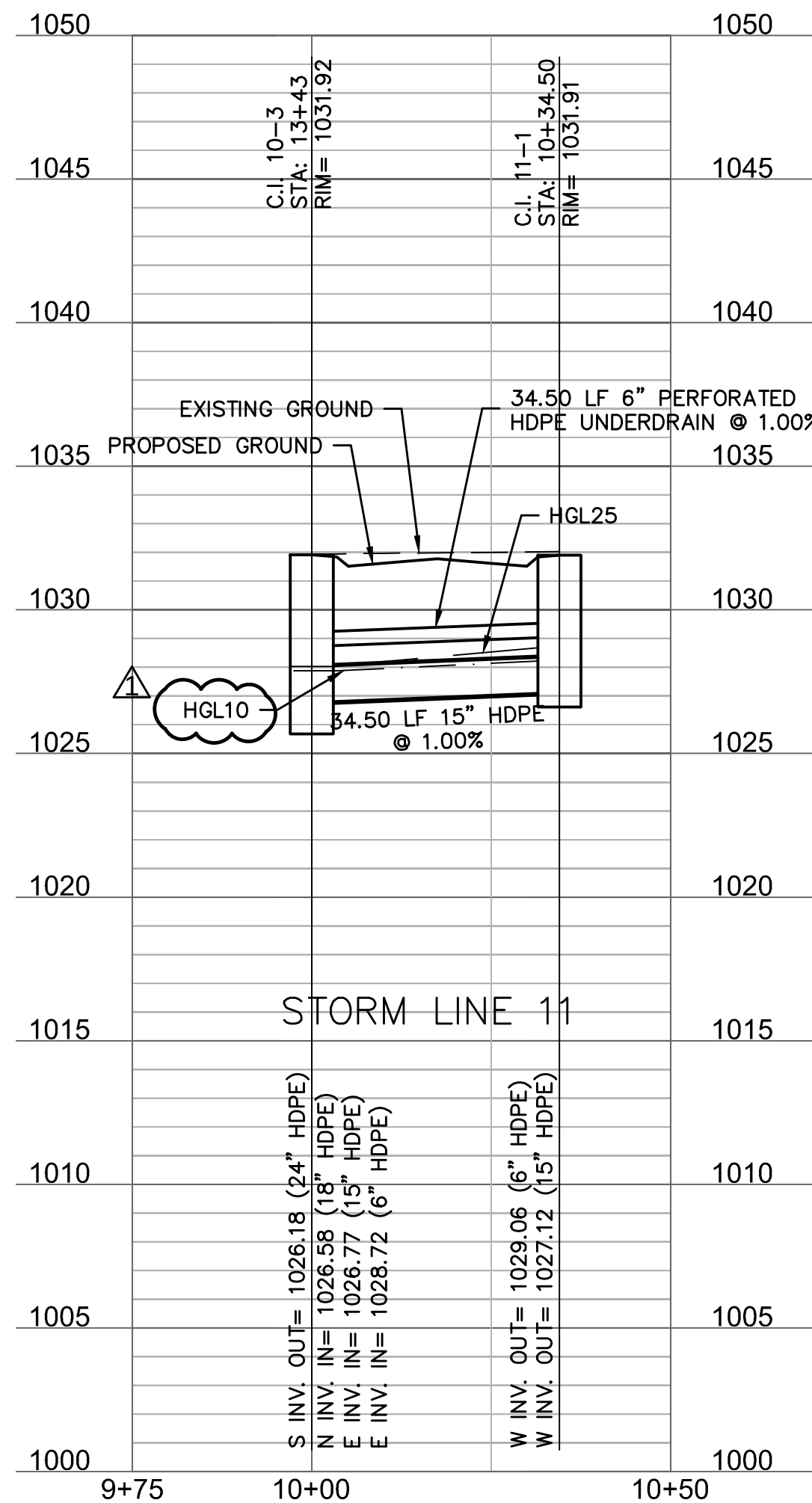
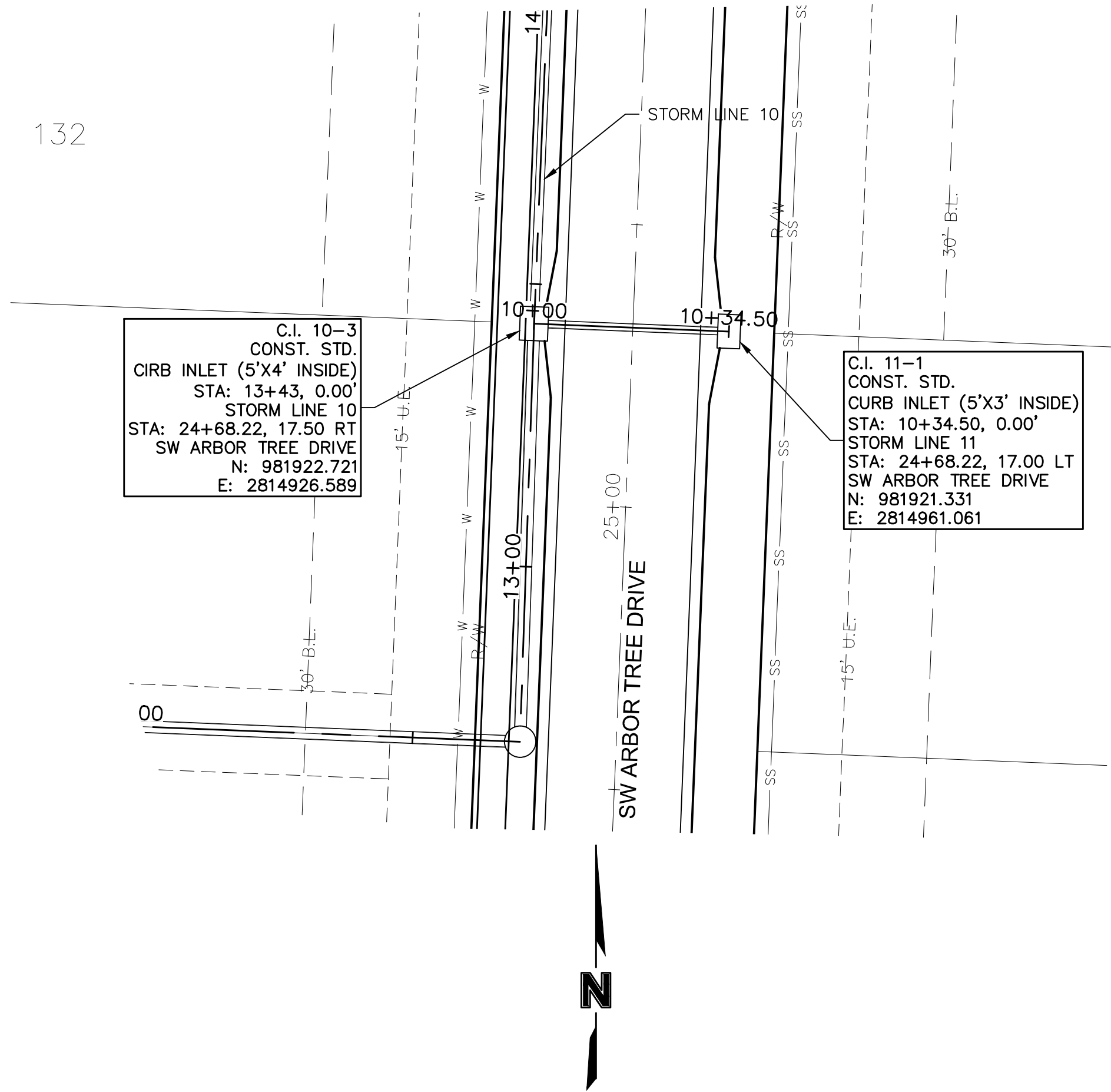
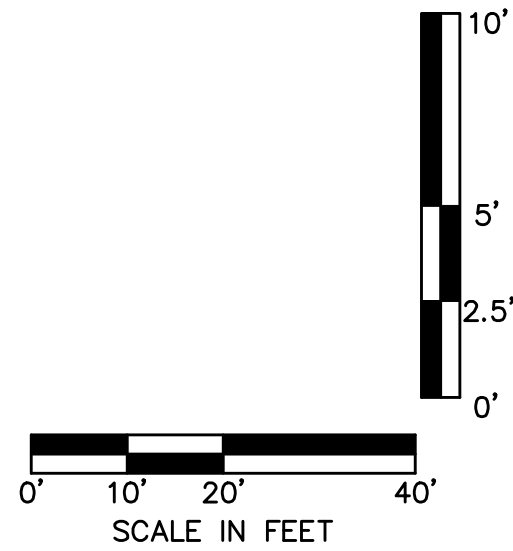
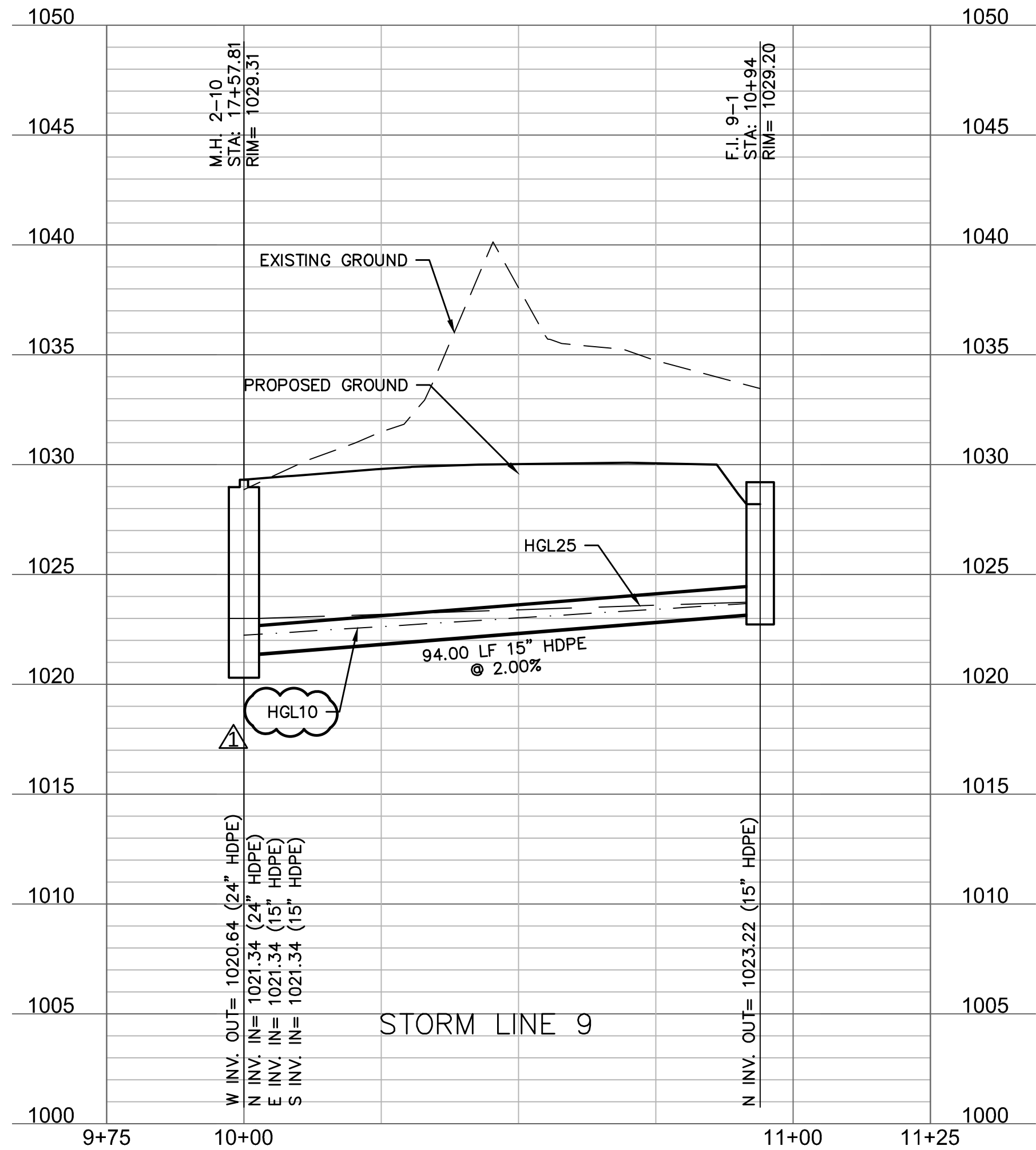
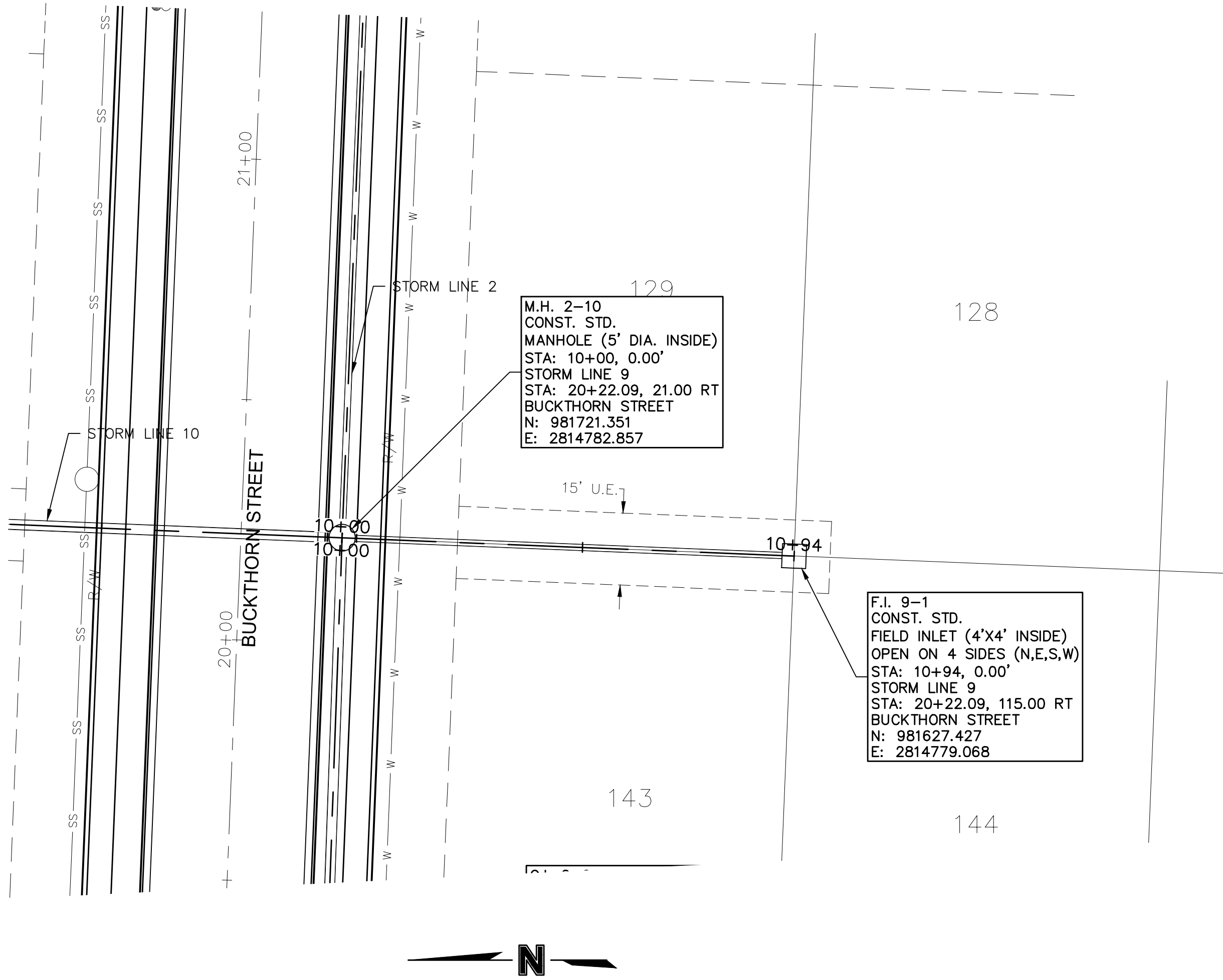
AWTHORN RIDGE SECOND PLAT

LEE'S SUMMIT MISSOURI

2019

drawn by: D.A.H.O.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 019-1605
date: 07-12-2019

SHEET
C132



drawn by: _____ D.A.H.Q.
checked by: _____ M.G.D.
designed by: _____ B.M.W.
QA/QC by: _____ N.D.H.
project no.: 019-1605
date: 07-12-2019

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STORM PLAN & PROFILE
STREET & STORM SEWER PLANS

HAWTHORN RIDGE
SECOND PLAT

LEE'S SUMMIT, MISSOURI

2019

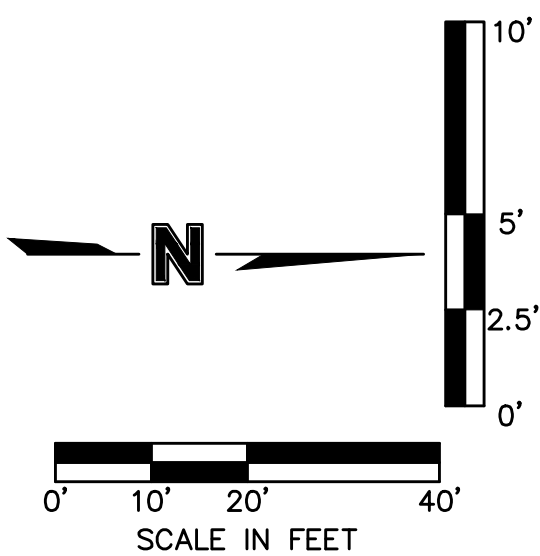
REVISIONS

BY

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PROFESSIONAL ENGINEER
PE# 2011000892
2-13-19

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USER: bworthley
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HAWTHORN RIDGE
SECOND PLAT

LEE'S SUMMIT, MISSOURI

SHEET
C134

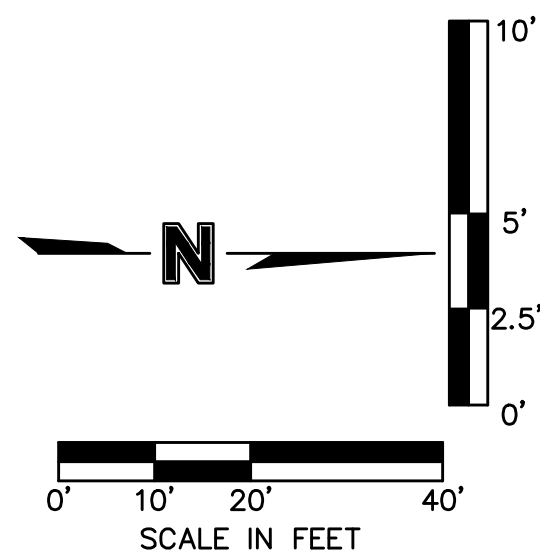
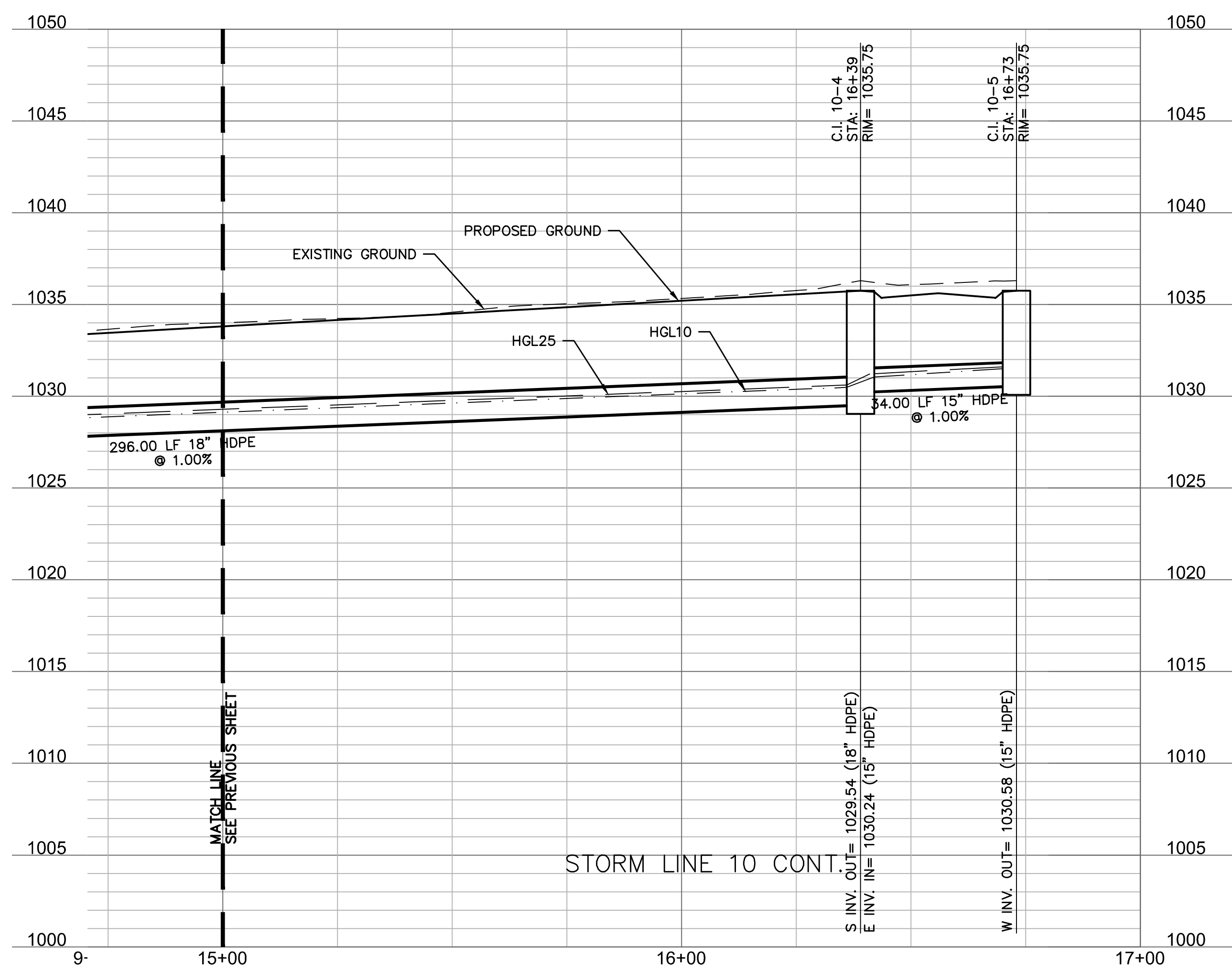
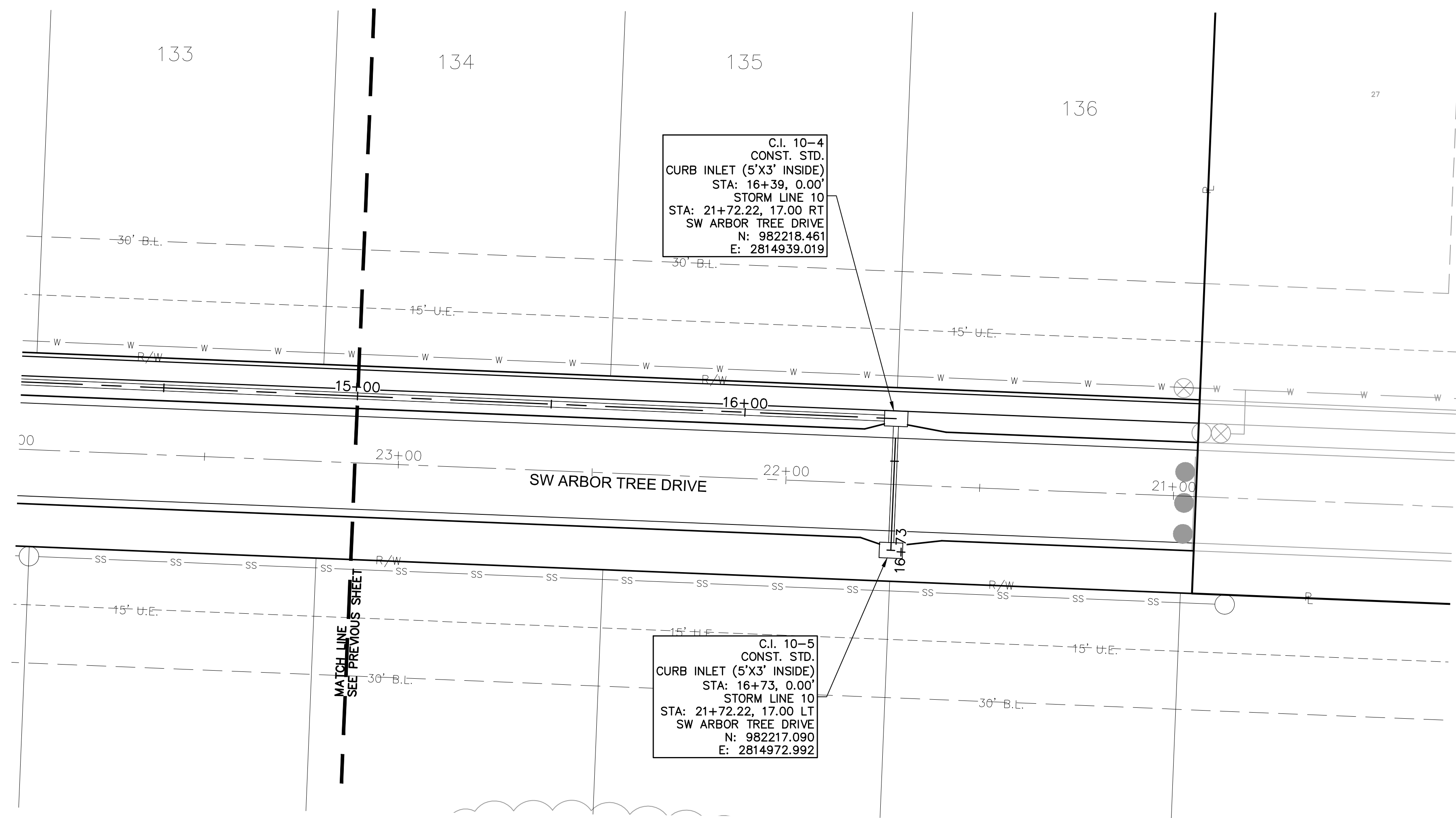
REVISIONS

MELISSA G. DEGONI
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STORM PLAN & PROFILE
STREET & STORM SEWER PLANS

HAWTHORN RIDGE
SECOND PLAT

LEE'S SUMMIT, MISSOURI

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MELISSA G. DEGONIA
PE# 2011000892

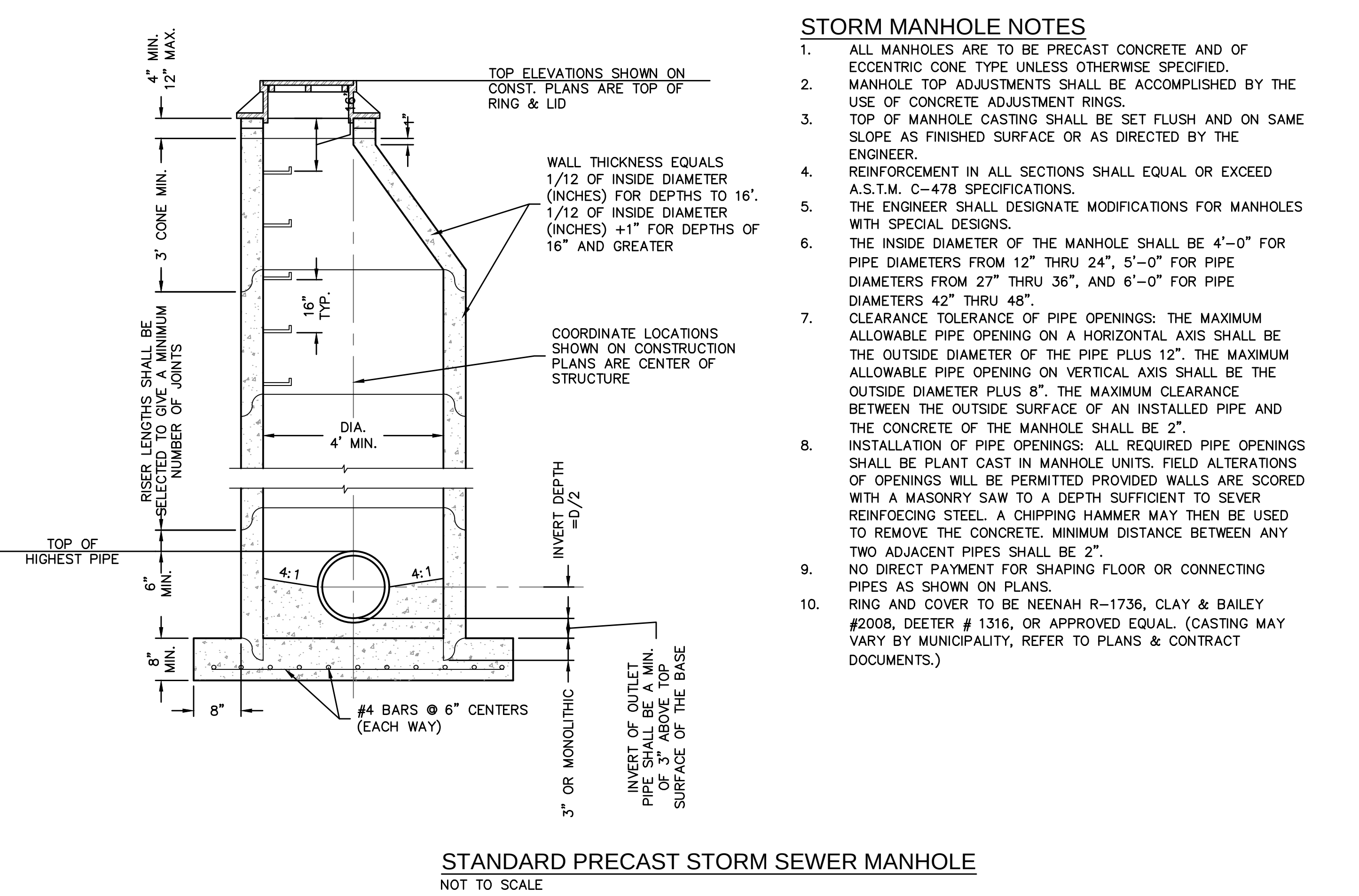
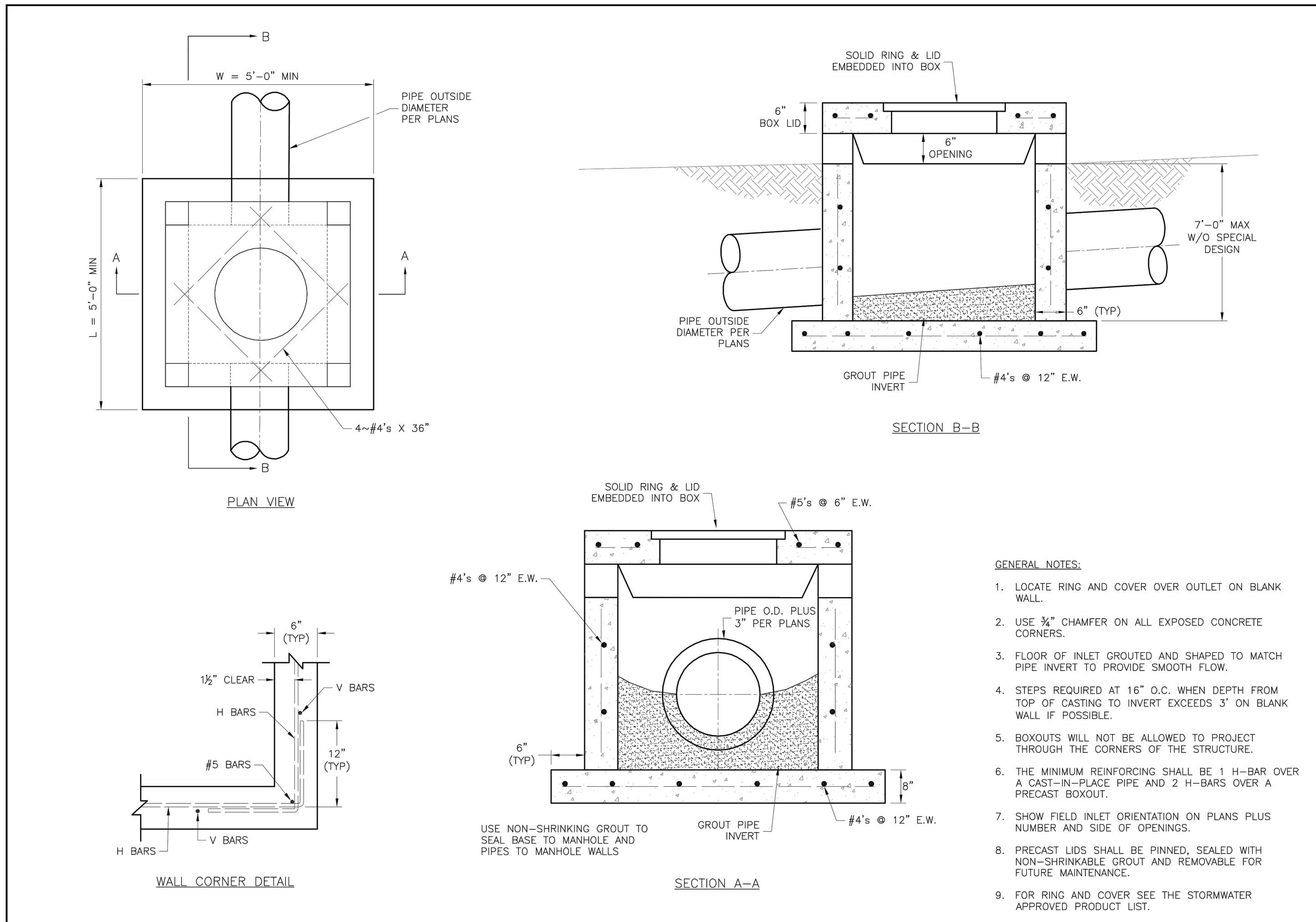
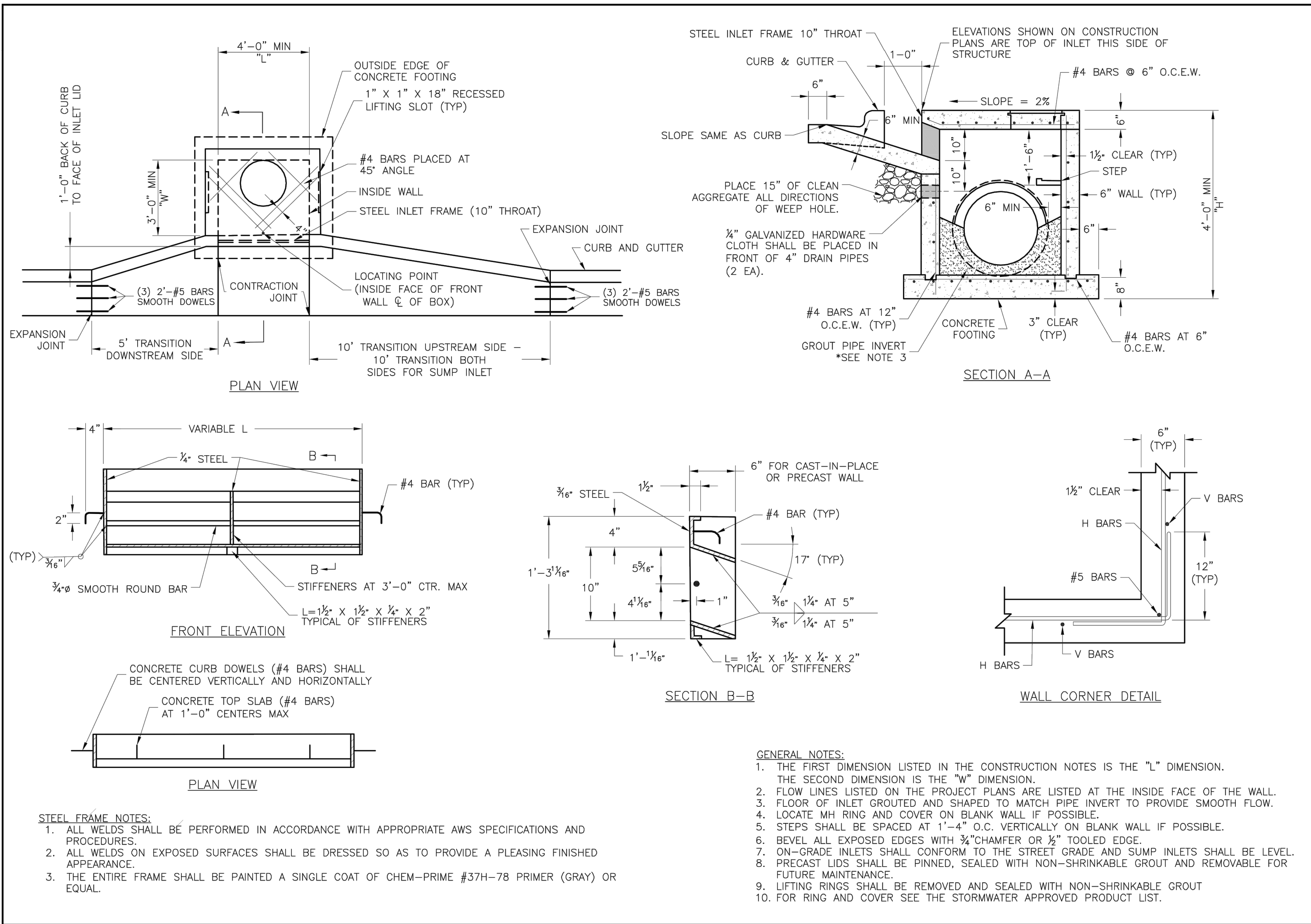
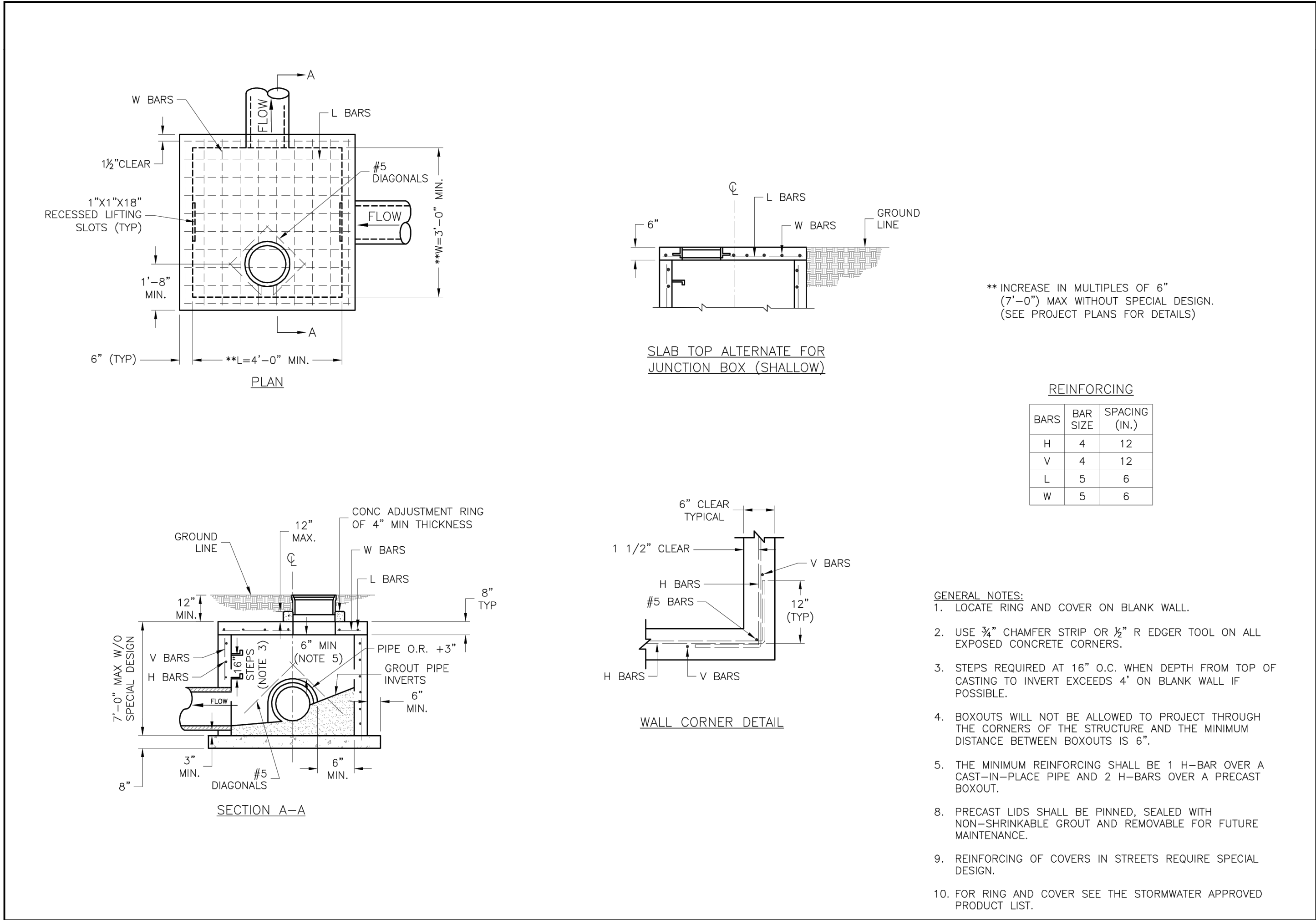


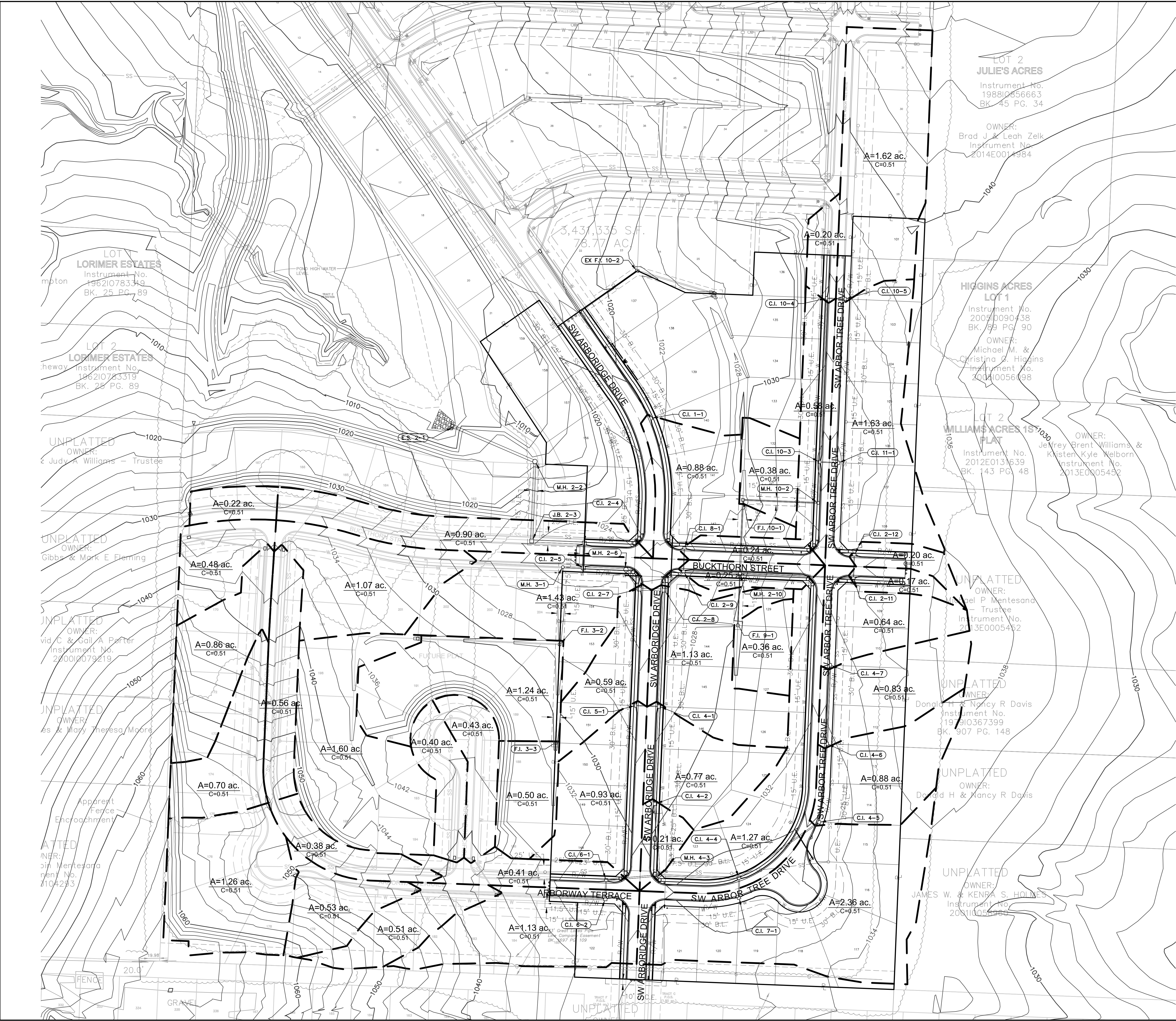
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REVISIONS DESCRIPTION

REVISIONS

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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	0.88	0.51	5.00	7.35	1.00	3.30
C.I. 2-4(L)	0.68	0.51	5.00	7.35	1.00	2.56
C.I. 2-4(R)	0.05	0.51	5.00	7.35	1.00	0.18
C.I. 2-4(B)	0.17	0.51	7.00	6.78	1.00	0.59
C.I. 2-4	0.90	0.51	7.00	6.78	1.00	3.11
C.I. 2-5(L)	0.20	0.51	5.00	7.35	1.00	0.74
C.I. 2-5(R)	0.65	0.51	5.00	7.35	1.00	2.46
C.I. 2-5(B)	0.58	0.51	7.00	6.78	1.00	2.00
C.I. 2-5	1.43	0.51	7.00	6.78	1.00	4.95
C.I. 2-7	0.59	0.51	5.00	7.35	1.00	2.21
C.I. 2-8	1.13	0.51	10.88	5.90	1.00	3.40
C.I. 2-9	0.25	0.51	5.00	7.35	1.00	0.94
C.I. 2-11	0.17	0.51	5.00	7.35	1.00	0.64
C.I. 2-12	0.20	0.51	5.00	7.35	1.00	0.75
F.I. 3-2	1.24	0.51	5.00	7.35	1.00	4.65
F.I. 3-3	0.50	0.51	5.00	7.35	1.00	1.88
C.I. 4-1	0.77	0.51	5.00	7.35	1.00	2.89
C.I. 4-2	0.21	0.51	5.00	7.35	1.00	0.79
C.I. 4-4(L)	0.14	0.51	5.00	7.35	1.00	0.51
C.I. 4-4(R)	0.82	0.51	5.00	7.35	1.00	3.09
C.I. 4-4(B)	0.31	0.51	7.00	6.78	1.00	1.07
C.I. 4-4	1.27	0.51	7.00	6.78	1.00	4.39
C.I. 4-5	0.88	0.51	5.00	7.35	1.00	3.30
C.I. 4-6	0.83	0.51	5.00	7.35	1.00	3.11
C.I. 4-7	0.64	0.51	5.00	7.35	1.00	2.40
C.I. 5-1	0.93	0.51	11.83	5.71	1.00	2.71
C.I. 6-1(L)	0.29	0.51	5.00	7.35	1.00	1.08
C.I. 6-1(R)	0.00	0.51	5.00	7.35	1.00	0.00
C.I. 6-1(B)	0.12	0.51	5.00	7.35	1.00	0.46
C.I. 6-1	0.41	0.51	5.00	7.35	1.00	1.54
C.I. 6-2(L)	0.00	0.51	5.00	7.35	1.00	0.00
C.I. 6-2(R)	0.47	0.51	5.00	7.35	1.00	1.77
C.I. 6-2(B)	0.66	0.51	7.00	6.78	1.00	2.28
C.I. 6-2	1.13	0.51	7.00	6.78	1.00	3.91
C.I. 7-1(L)	1.59	0.51	13.45	5.43	1.00	4.40
C.I. 7-1(R)	0.21	0.51	5.00	7.35	1.00	0.79
C.I. 7-1(B)	0.56	0.51	5.00	7.35	1.00	2.10
C.I. 7-1	2.36	0.51	13.45	5.43	1.00	6.53
C.I. 8-1	0.24	0.51	5.00	7.35	1.00	0.90
F.I. 9-1	0.36	0.51	5.00	7.35	1.00	1.35
F.I. 10-1	0.38	0.51	5.00	7.35	1.00	1.43
C.I. 10-3(L)	0.11	0.51	5.00	7.35	1.00	0.41
C.I. 10-3(R)	0.30	0.51	5.00	7.35	1.00	1.13
C.I. 10-3(B)	0.17	0.51	5.00	7.35	1.00	0.64
C.I. 10-3	0.58	0.51	5.00	7.35	1.00	2.18
C.I. 10-4	0.20	0.51	5.00	7.35	1.00	0.75
C.I. 10-5	1.62	0.51	8.83	6.33	1.00	5.23
C.I. 11-1(L)	0.73	0.51	5.00	7.35	1.00	2.75
C.I. 11-1(R)	0.20	0.51	5.00	7.35	1.00	0.73
C.I. 11-1(B)	0.70	0.51	7.00	6.78	1.00	2.42
C.I. 11-1	1.63	0.51	7.00	6.78	1.00	5.64

Drainage Area Design Table						
25 Year Return Frequency						
Inlet ID	Drainage Area	C	Tc	i	K	Peak Flow
	(ac)		(min)	(in/hr)		(cfs)
C.I. 1-1	0.88	0.51	5.00	8.53	1.10	4.21
C.I. 2-4(L)	0.68	0.51	5.00	8.53	1.10	3.26
C.I. 2-4(R)	0.05	0.51	5.00	8.53	1.10	0.23
C.I. 2-4(B)	0.17	0.51	7.00	7.87	1.10	0.75
C.I. 2-4	0.90	0.51	7.00	7.87	1.10	3.97
C.I. 2-5(L)	0.20	0.51	5.00	8.53	1.10	0.94
C.I. 2-5(R)	0.65	0.51	5.00	8.53	1.10	3.13
C.I. 2-5(B)	0.58	0.51	7.00	7.87	1.10	2.55
C.I. 2-5	1.43	0.51	7.00	7.87	1.10	6.31
C.I. 2-7	0.59	0.51	5.00	8.53	1.10	2.82
C.I. 2-8	1.13	0.51	10.88	6.84	1.10	4.34
C.I. 2-9	0.25	0.51	5.00	8.53	1.10	1.20
C.I. 2-11	0.17	0.51	5.00	8.53	1.10	0.81
C.I. 2-12	0.20	0.51	5.00	8.53	1.10	0.96
F.I. 3-2	1.24	0.51	5.00	8.53	1.10	5.93
F.I. 3-3	0.50	0.51	5.00	8.53	1.10	2.39
C.I. 4-1	0.77	0.51	5.00	8.53	1.10	3.68
C.I. 4-2	0.21	0.51	5.00	8.53	1.10	1.00
C.I. 4-4(L)	0.14	0.51	5.00	8.53	1.10	0.65
C.I. 4-4(R)	0.82	0.51	5.00	8.53	1.10	3.94
C.I. 4-4(B)	0.31	0.51	7.00	7.87	1.10	1.37
C.I. 4-4	1.27	0.51	7.00	7.87	1.10	5.61
C.I. 4-5	0.88	0.51	5.00	8.53	1.10	4.21
C.I. 4-6	0.83	0.51	5.00	8.53	1.10	3.97
C.I. 4-7	0.64	0.51	5.00	8.53	1.10	3.06
C.I. 5-1	0.93	0.51	11.83	6.63	1.10	3.46
C.I. 6-1(L)	0.29	0.51	5.00	8.53	1.10	1.38
C.I. 6-1(R)	0.00	0.51	5.00	8.53	1.10	0.00
C.I. 6-1(B)	0.12	0.51	5.00	8.53	1.10	0.59
C.I. 6-1	0.41	0.51	5.00	8.53	1.10	1.96
C.I. 6-2(L)	0.00	0.51	5.00	8.53	1.10	0.00
C.I. 6-2(R)	0.47	0.51	5.00	8.53	1.10	2.25
C.I. 6-2(B)	0.66	0.51	7.00	7.87	1.10	2.91
C.I. 6-2	1.13	0.51	7.00	7.87	1.10	4.99
C.I. 7-1(L)	1.59	0.51	13.45	6.29	1.10	5.61
C.I. 7-1(R)	0.21	0.51	5.00	8.53	1.10	1.00
C.I. 7-1(B)	0.56	0.51	5.00	8.53	1.10	2.68
C.I. 7-1	2.36	0.51	13.45	6.29	1.10	8.33
C.I. 8-1	0.24	0.51	5.00	8.53	1.10	1.15
F.I. 9-1	0.36	0.51	5.00	8.53	1.10	1.72
F.I. 10-1	0.38	0.51	5.00	8.53	1.10	1.82
C.I. 10-3(L)	0.11	0.51	5.00	8.53	1.10	0.53
C.I. 10-3(R)	0.30	0.51	5.00	8.53	1.10	1.44
C.I. 10-3(B)	0.17	0.51	5.00	8.53	1.10	0.81
C.I. 10-3	0.58	0.51	5.00	8.53	1.10	2.78
C.I. 10-4	0.20	0.51	5.00	8.53	1.10	0.96
C.I. 10-5	1.62	0.51	8.83	7.35	1.10	6.68
C.I. 11-1(L)	0.73	0.51	5.00	8.53	1.10	3.51
C.I. 11-1(R)	0.20	0.51	5.00	8.53	1.10	0.94
C.I. 11-1(B)	0.70	0.51	7.00	7.87	1.10	3.09
C.I. 11-1	1.63	0.51	7.00	7.87	1.10	7.19

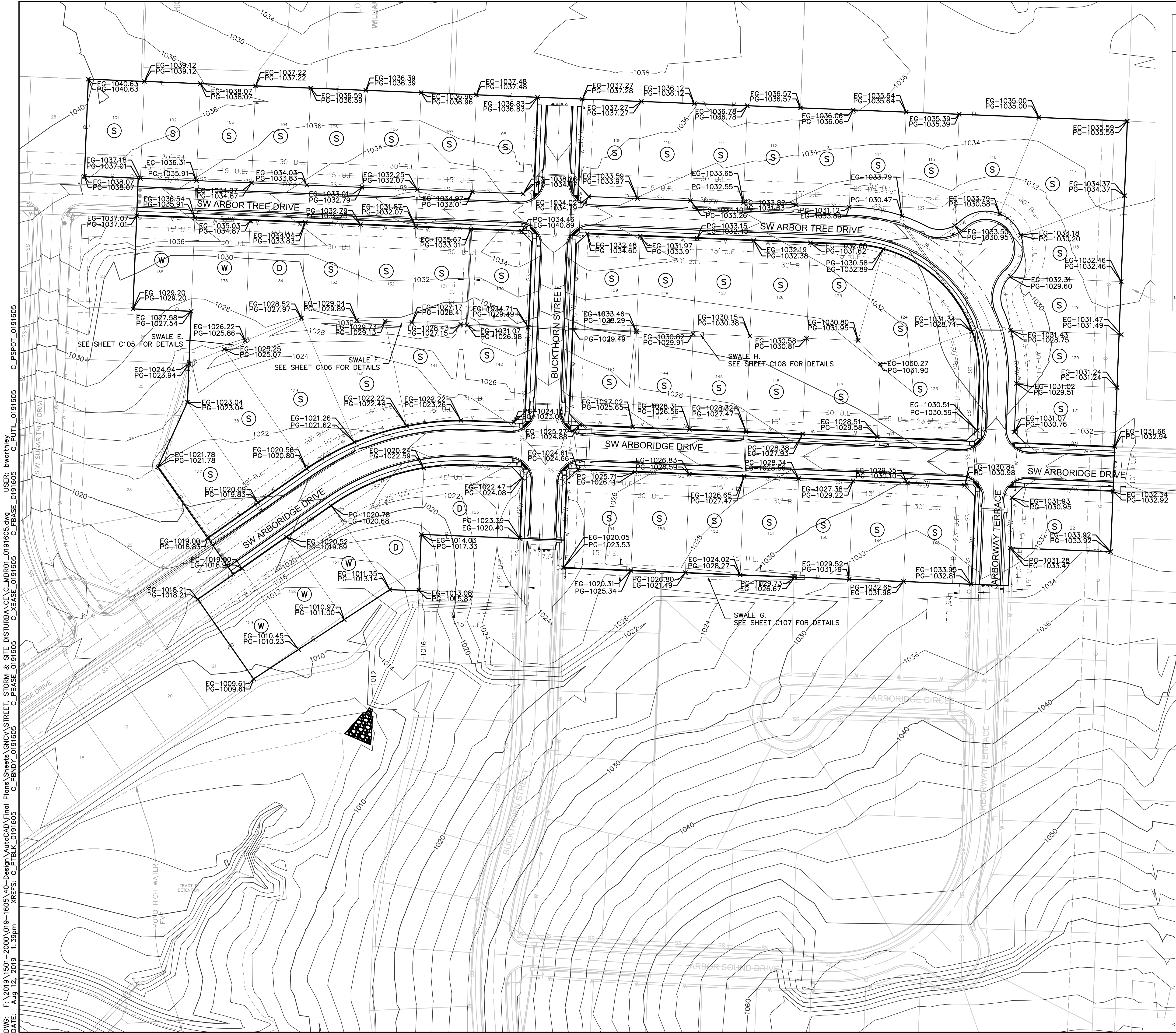
Inlet Design Table													
10 Year Return Frequency													
Inlet ID	Inlet Location	Peak Flow	Upstream Bypass	Total Flow	Clogging Factor	Inlet Capacity	Sag Inlet Capacity (Note 1)	Captured Flow	Bypass Flow	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 1-1	GRADE	3.30	0.00	3.30	1.00	3.04	3.04	3.04	0.26	92.05%	0.21	9.66	...
C.I. 2-4(L)	SAG	2.56	0.00	2.56	...	...	...	...	...	...	0.19	8.70	...
C.I. 2-4(R)	SAG	0.18	0.00	0.18	...	...	...	...	...	...	0.07	3.21	...
C.I. 2-4	SAG	3.11	0.00	3.11	0.80	23.28	18.63	3.11	0.00	100.00%	...	...	...
C.I. 2-5(L)	SAG	0.74	0.39	1.12	...	...	...	...	...	...	0.14	6.35	...
C.I. 2-5(R)	SAG	2.46	0.79	3.25	...	...	...	...	...	...	0.21	9.52	...
C.I. 2-5	SAG	4.95	1.18	6.12	0.80	23.28	18.63	6.12	0.00	100.00%	...	...	...
C.I. 2-7	GRADE	2.21	0.16	2.37	1.00	2.28	2.28	2.28	0.09	96.21%	0.18	8.47	...
C.I. 2-8	GRADE	3.40	0.19	3.58	1.00	3.29	3.29	3.29	0.29	91.86%	0.21	9.89	...
C.I. 2-9	GRADE	0.94	0.00	0.94	1.00	0.93	0.93	0.93	0.01	99.42%	0.11	5.29	...
C.I. 2-11	GRADE	0.64	0.00	0.64	1.00	0.64	0.64	0.64	0.00	99.71%	0.11	4.96	...
C.I. 2-12	GRADE	0.75	0.00	0.75	1.00	0.75	0.75	0.75	0.00	99.97%	0.11	5.28	...
F.I. 3-2	SAG	4.65	...	4.65	0.80	18.67	14.93	4.65	0.00	100.00%	...	...	0.20
F.I. 3-3	SAG	1.88	...	1.88	0.80	18.67	14.93	1.88	0.00	100.00%	...	...	0.11
C.I. 4-1	GRADE	2.89	0.00	2.89	1.00	2.70	2.70	2.70	0.19	93.53%	0.20	9.12	...
C.I. 4-2	GRADE	0.79	0.00	0.79	1.00	0.79	0.79	0.79	0.00	99.90%	0.12	5.60	...
C.I. 4-4(L)	SAG	0.51	0.00	0.51	...	...	...	...	...	...	0.09	4.64	...
C.I. 4-4(R)	SAG	3.09	0.00	3.09	...	...	...	...	...	...	0.20	10.07	...
C.I. 4-4	SAG	4.39	0.00	4.39	0.80	19.40	15.52	4.39	0.00	100.00%	...	...	...
C.I. 4-5	GRADE	3.30	0.65	3.95	1.00	3.10	3.10	3.10	0.85	78.52%	0.22	11.16	...
C.I. 4-6	GRADE	3.11	0.32	3.44	1.00	2.79	2.79	2.79	0.65	81.07%	0.21	10.59	...
C.I. 4-7	GRADE	2.40	0.00	2.40	1.00	2.08	2.08	2.08	0.32	86.54%	0.19	9.26	...
C.I. 5-1	GRADE	2.71	0.00	2.71	1.00	2.55	2.55	2.55	0.16	94.26%	0.19	8.91	...
C.I. 6-1(L)	SAG	1.08	0.65	1.73	...	...	...	...	...	...	0.14	7.10	...
C.I. 6-1(R)	SAG	0.00	0.00	0.00	...	...	...	...	...	...	0.00	0.00	...
C.I. 6-1	SAG	1.54	0.65	2.19	0.80	19.40	15.52	2.19	0.00	100.00%	...	...	...
C.I. 6-2(L)	SAG	0.00	0.00	0.00	...	...	...	...	...	...	0.00	0.00	...
C.I. 6-2(R)	SAG	1.77	1.39	3.15	...	...	...	...	...	...	0.18	8.89	...
C.I. 6-2	SAG	3.91	1.39	5.30	0.80	19.40	15.52	5.30	0.00	100.00%	...	...	...
C.I. 7-1(L)	SAG	4.40	0.85	5.25	...	...	...	...	...	...	0.24	11.91	...
C.I. 7-1(R)	SAG	0.79	0.00	0.79	...	...	...	...	...	...	0.11	5.63	...
C.I. 7-1	SAG	6.53	0.85	7.38	0.80	19.40	15.52	7.38	0.00	100.00%	...	...	...
C.I. 8-1	GRADE	0.90	0.00	0.90	1.00	0.90	0.90	0.90	0.00	99.54%	0.11	5.21	...
F.I. 9-1	SAG	1.35	...	1.35	0.80	18.67	14.93	1.35	0.00	100.00%	...	...	0.09
F.I. 10-1	SAG	1.43	...	1.43	0.80	18.67	14.93	1.43	0.00	100.00%	...	...	0.09
C.I. 10-3(L)	SAG	0.41	0.00	0.41	...	...	...	...	...	...	0.09	4.26	...
C.I. 10-3(R)	SAG	1.13	0.04	1.16	...	...	...	...	...	...	0.13	6.62	...
C.I. 10-3	SAG	2.18	0.04	2.21	0.80	19.40	15.52	2.21	0.00	100.00%	...	...	...
C.I. 10-4	GRADE	0.75	0.00	0.75	1.00	0.71	0.71	0.71	0.04	95.06%	0.11	5.62	...
C.I. 10-5	GRADE	5.23	0.00	5.23	1.00	3.50	3.50	3.50	1.73	66.97%	0.23	11.64	...
C.I. 11-1(L)	SAG	2.75	1.73	4.48	...	...	...	...	...	...	0.22	10.98	...
C.I. 11-1(R)	SAG	0.73	0.00	0.73	...	...	...	...	...	...	0.11	5.29	...
C.I. 11-1	SAG	5.64	1.73	7.37	0.80	19.40	15.52	7.37	0.00	100.00%	...	...	...

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	0.88	0.51	5.00	10.32	1.25	5.79
C.I. 2-4(L)	0.68	0.51	5.00	10.32	1.25	4.49
C.I. 2-4(R)	0.05	0.51	5.00	10.32	1.25	0.32
C.I. 2-4(B)	0.17	0.51	7.00	9.55	1.25	1.03
C.I. 2-4	0.90	0.51	7.00	9.55	1.25	5.48
C.I. 2-5(L)	0.20	0.51	5.00	10.32	1.25	1.29
C.I. 2-5(R)	0.65	0.51	5.00	10.32	1.25	4.31
C.I. 2-5(B)	0.58	0.51	7.00	9.55	1.25	3.52
C.I. 2-5	1.43	0.51	7.00	9.55	1.25	8.71
C.I. 2-7	0.59	0.51	5.00	10.32	1.25	3.88
C.I. 2-8	1.13	0.51	10.88	8.34	1.25	6.01
C.I. 2-9	0.25	0.51	5.00	10.32	1.25	1.65
C.I. 2-11	0.17	0.51	5.00	10.32	1.25	1.12
C.I. 2-12	0.20	0.51	5.00	10.32	1.25	1.32
F.I. 3-2	1.24	0.51	5.00	10.32	1.25	8.16
F.I. 3-3	0.50	0.51	5.00	10.32	1.25	3.29
C.I. 4-1	0.77	0.51	5.00	10.32	1.25	5.07
C.I. 4-2	0.21	0.51	5.00	10.32	1.25	1.38
C.I. 4-4(L)	0.14	0.51	5.00	10.32	1.25	0.89
C.I. 4-4(R)	0.82	0.51	5.00	10.32	1.25	5.42
C.I. 4-4(B)	0.31	0.51	7.00	9.55	1.25	1.89
C.I. 4-4	1.27	0.51	7.00	9.55	1.25	7.73
C.I. 4-5	0.88	0.51	5.00	10.32	1.25	5.79
C.I. 4-6	0.83	0.51	5.00	10.32	1.25	5.46
C.I. 4-7	0.64	0.51	5.00	10.32	1.25	4.21
C.I. 5-1	0.93	0.51	11.83	8.09	1.25	4.80
C.I. 6-1(L)	0.29	0.51	5.00	10.32	1.25	1.89
C.I. 6-1(R)	0.00	0.51	5.00	10.32	1.25	0.00
C.I. 6-1(B)	0.12	0.51	5.00	10.32	1.25	0.81
C.I. 6-1	0.41	0.51	5.00	10.32	1.25	2.70
C.I. 6-2(L)	0.00	0.51	5.00	10.32	1.25	0.00
C.I. 6-2(R)	0.47	0.51	5.00	10.32	1.25	3.10
C.I. 6-2(B)	0.66	0.51	7.00	9.55	1.25	4.01
C.I. 6-2	1.13	0.51	7.00	9.55	1.25	6.88
C.I. 7-1(L)	1.59	0.51	13.45	7.70	1.25	7.80
C.I. 7-1(R)	0.21	0.51	5.00	10.32	1.25	1.38
C.I. 7-1(B)	0.56	0.51	5.00	10.32	1.25	3.69
C.I. 7-1	2.36	0.51	13.45	7.70	1.25	11.58
C.I. 8-1	0.24	0.51	5.00	10.32	1.25	1.58
F.I. 9-1	0.36	0.51	5.00	10.32	1.25	2.37
C.I. 10-1	0.38	0.51	5.00	10.32	1.25	2.50
C.I. 10-3(L)	0.11	0.51	5.00	10.32	1.25	0.72
C.I. 10-3(R)	0.30	0.51	5.00	10.32	1.25	1.97
C.I. 10-3(B)	0.17	0.51	5.00	10.32	1.25	1.12
C.I. 10-3	0.58	0.51	5.00	10.32	1.25	3.82
C.I. 10-4	0.20	0.51	5.00	10.32	1.25	1.32
C.I. 10-5	1.62	0.51	8.83	8.94	1.25	9.23
C.I. 11-1(L)	0.73	0.51	5.00	10.32	1.25	4.83
C.I. 11-1(R)	0.20	0.51	5.00	10.32	1.25	1.29
C.I. 11-1(B)	0.70	0.51	7.00	9.55	1.25	4.27
C.I. 11-1	1.63	0.51	7.00	9.55	1.25	9.92

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	Inlet Efficiency (Note 2)	Gutter Depth	Gutter Spread	Ponding Depth
		(cfs)	(cfs)	(cfs)		(cfs)	(cfs)	(cfs)	(cfs)	(%)	(ft)	(ft)	(ft)
C.I. 1-1	GRADE	5.79	0.06	5.85	1.00	4.81	4.81	4.81	1.04	82.22%	0.26	11.96	...
C.I. 2-4(L)	SAG	4.49	0.00	4.49	...	...	...	...	...	...	0.23	10.75	...
C.I. 2-4(R)	SAG	0.32	0.00	0.32	...	...	...	...	...	...	0.09	3.96	...
C.I. 2-4	SAG	5.48	0.00	5.48	0.80	23.28	18.63	5.48	0.00	100.00%	...	...	...
C.I. 2-5(L)	SAG	1.29	1.89	3.18	...	...	...	...	...	...	0.20	9.38	...
C.I. 2-5(R)	SAG	4.31	2.76	7.07	...	...	...	...	...	...	0.28	12.74	...
C.I. 2-5	SAG	8.71	4.64	13.28	0.80	23.28	18.63	13.28	0.00	100.00%	...	...	...
C.I. 2-7	GRADE	3.88	0.68	4.56	1.00	4.03	4.03	4.03	0.53	88.39%	0.23	10.83	...
C.I. 2-8	GRADE	6.01	0.77	6.78	1.00	5.49	5.49	5.49	1.29	80.98%	0.27	12.57	...
C.I. 2-9	GRADE	1.65	0.00	1.65	1.00	1.58	1.58	1.58	0.07	95.98%	0.14	6.53	...
C.I. 2-11	GRADE	1.12	0.00	1.12	1.00	1.11	1.11	1.11	0.01	99.54%	0.13	6.13	...
C.I. 2-12	GRADE	1.32	0.00	1.32	1.00	1.30	1.30	1.30	0.01	98.93%	0.14	6.52	...
F.I. 3-2	SAG	8.16	...	8.16	0.80	18.67	14.93	8.16	0.00	100.00%	...	...	0.29
F.I. 3-3	SAG	3.29	...	3.29	0.80	18.67	14.93	3.29	0.00	100.00%	...	...	0.16
C.I. 4-1	GRADE	5.07	0.01	5.08	1.00	4.30	4.30	4.30	0.77	84.75%	0.24	11.27	...
C.I. 4-2	GRADE	1.38	0.00	1.38	1.00	1.37	1.37	1.37	0.01	99.20%	0.15	6.92	...
C.I. 4-4(L)	SAG	0.89	0.00	0.89	...	...	...	...	...	...	0.11	5.73	...
C.I. 4-4(R)	SAG	5.42	0.00	5.42	...	...	...	...	...	...	0.25	12.43	...
C.I. 4-4	SAG	7.73	0.00	7.73	0.80	19.40	15.52	7.73	0.00	100.00%	...	...	...
C.I. 4-5	GRADE	5.79	2.07	7.86	1.00	4.91	4.91	4.91	2.95	62.43%	0.29	14.45	...
C.I. 4-6	GRADE	5.46	0.96	6.42	1.00	4.35	4.35	4.35	2.07	67.76%	0.27	13.39	...
C.I. 4-7	GRADE	4.21	0.00	4.21	1.00	3.25	3.25	3.25	0.96	77.27%	0.23	11.43	...
C.I. 5-1	GRADE	4.80	0.00	4.80	1.00	4.12	4.12	4.12	0.68	85.83%	0.24	11.04	...
C.I. 6-1(L)	SAG	1.89	1.91	3.80	...	...	...	...	...	...	0.19	9.53	...
C.I. 6-1(R)	SAG	0.00	0.00	0.00	...	...	...	...	...	...	0.00	0.00	...
C.I. 6-1	SAG	2.70	1.91	4.61	0.80	19.40	15.52	4.61	0.00	100.00%	...	...	...
C.I. 6-2(L)	SAG	0.00	0.00	0.00	...	...	...	...	...	...	0.00	0.00	...
C.I. 6-2(R)	SAG	3.10	5.45	8.54	...	...	...	...	...	...	0.26	12.91	...
C.I. 6-2	SAG	6.88	5.45	12.33	0.80	19.40	15.52	12.33	0.00	100.00%	...	...	...
C.I. 7-1(L)	SAG	7.80	2.95	10.76	...	...	...	...	...	...	0.31	15.58	...
C.I. 7-1(R)	SAG	1.38	0.00	1.38	...	...	...	...	...	...	0.14	6.95	...
C.I. 7-1	SAG	11.58	2.95	14.54	0.80	19.40	15.52	14.54	0.00	100.00%	...	...	...
C.I. 8-1	GRADE	1.58	0.00	1.58	1.00	1.52	1.52	1.52	0.06	96.34%	0.14	6.43	...
F.I. 9-1	SAG	2.37	...	2.37	0.80	18.67	14.93	2.37	0.00	100.00%	...	...	0.13
F.I. 10-1	SAG	2.50	...	2.50	0.80	18.67	14.93	2.50	0.00	100.00%	...	...	0.13
C.I. 10-3(L)	SAG	0.72	0.00	0.72	...	...	...	...	...	...	0.11	5.26	...
C.I. 10-3(R)	SAG	1.97	0.12	2.10	...	...	...	...	...	...	0.17	8.26	...
C.I. 10-3	SAG	3.82	0.12	3.94	0.80	19.40	15.52	3.94	0.00	100.00%	...	...	...
C.I. 10-4	GRADE	1.32	0.00	1.32	1.00	1.19	1.19	1.19	0.12	90.72%	0.14	6.94	...
C.I. 10-5	GRADE	9.23	0.00	9.23	1.00	4.70	4.70	4.70	4.53	50.95%	0.29	14.41	...
C.I. 11-1(L)	SAG	4.83	4.53	9.36	...	...	...	...	...	...	0.29	14.48	...
C.I. 11-1(R)	SAG	1.29	0.01	1.30	...	...	...	...	...	...	0.13	6.56	...
C.I. 11-1	SAG	9.92	4.54	14.47	0.80	19.40	15.52	14.47	0.00	100.00%	...	...	...

- Notes:
- 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.
 - 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.

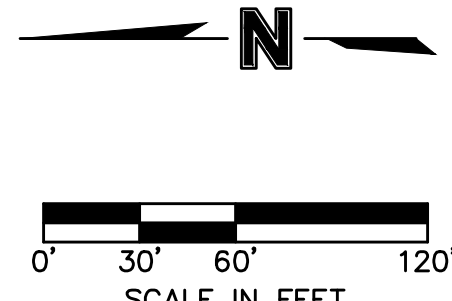
Storm Sewer Design Calculation Table														
100 Year Return Frequency														
Upstream Structure	Downstream Structure	Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (%)	Diameter (in)	Manning's n	Total Flow (cfs)	Velocity (ft/s)	Capacity (cfs)	Flow Depth (ft)	Upstream Struct. HGL (ft)	Upstream Top Elev. (ft)	
C.I. 1-1	EX C.I. 10-1	231.96	1015.54	1010.90	2.00	15	0.012	5.85	4.77	9.89	1.25	1031.28	1021.44	
M.H. 2-2	E.S 2-1	159.31	1007.00	1006.00	0.63	54	0.012	199.14	12.52	168.80	4.50	1011.89	1015.07	
J.B. 2-3	M.H. 2-2	143.55	1008.46	1007.60	0.60	48	0.012	199.14	15.85	120.45	4.00	1015.22	1024.22	
C.I. 2-4	J.B. 2-3	95.00	1009.77	1009.06	0.75	48	0.012	199.14	15.85	134.53	4.00	1018.34	1023.24	
C.I. 2-5	C.I. 2-4	45.00	1010.71	1010.37	0.76	42	0.012	193.66	20.13	94.74	3.50	1021.33	1023.24	
M.H. 2-6	C.I. 2-5	77.00	1011.93	1011.31	0.81	42	0.012	150.97	15.69	97.80	3.50	1025.32	1023.91	
C.I. 2-7	M.H. 2-6	42.50	1012.87	1012.53	0.80	42	0.012	150.97	15.69	97.48	3.50	1027.67	1024.79	
C.I. 2-8	C.I. 2-7	45.00	1013.83	1013.47	0.80	42	0.012	146.41	15.22	97.49	3.50	1030.02	1024.79	
C.I. 2-9	C.I. 2-8	48.45	1017.46	1015.33	4.40	24	0.012	39.50	12.58	51.38	2.00	1032.72	1025.57	
M.H. 2-10	C.I. 2-9	102.00	1020.64	1018.06	2.53	24	0.012	36.27	11.55	38.97	2.00	1035.94	1029.31	
C.I. 2-11	M.H. 2-10	205.00	1028.46	1021.34	3.47	15	0.012	2.44	1.99	13.04	1.25	1037.02	1035.93	
C.I. 2-12	C.I. 2-11	42.00	1030.00	1029.16	2.00	15	0.012	1.32	1.08	9.89	1.25	1037.06	1035.93	
M.H. 3-1	C.I. 2-5	37.00	1012.95	1012.21	2.00	24	0.012	28.85	9.18	34.65	2.00	1024.36	1023.38	
F.I. 3-2	M.H. 3-1	139.50	1020.17	1015.00	3.71	18	0.012	21.19	11.99	21.90	1.50	1029.73	1027.17	
F.I. 3-3	F.I. 3-2	177.91	1024.57	1020.57	2.25	15	0.012	3.29	2.68	10.49	1.25	1031.01	1030.73	
C.I. 4-1	C.I. 2-8	210.50	1016.43	1014.43	0.95	36	0.012	100.13	14.17	70.43	3.00	1035.50	1027.31	
C.I. 4-2	C.I. 4-1	176.00	1018.60	1016.93	0.95	36	0.012	90.25	12.77	70.38	3.00	1039.50	1029.42	
M.H. 4-3	C.I. 4-2	129.23	1020.13	1018.90	0.95	36	0.012	88.87	12.57	70.49	3.00	1042.47	1030.84	
C.I. 4-4	M.H. 4-3	144.23	1022.17	1020.73	1.00	30	0.012	40.76	8.31	44.39	2.50	1044.67	1028.61	
C.I. 4-5	C.I. 4-4	176.25	1024.53	1022.77	1.00	24	0.012	18.49	5.89	24.49	2.00	1046.10	1030.30	
C.I. 4-6	C.I. 4-5	142.41	1026.55	1025.13	1.00	18	0.012	10.63	6.02	11.36	1.50	1047.56	1031.67	
C.I. 4-7	C.I. 4-6	142.00	1028.24	1026.82	1.00	15	0.012	4.21	3.42	7.00	1.25	1048.24	1033.10	
C.I. 5-1	C.I. 4-1	43.00	1021.13	1018.68	5.70	15	0.012	4.80	3.91	16.70	1.25	1036.95	1027.29	
C.I. 6-1	M.H. 4-3	95.89	1023.13	1020.73	2.50	30	0.012	48.11	9.80	70.29	2.50	1044.58	1030.59	
C.I. 6-2	C.I. 6-1	35.00	1024.26	1023.73	1.51	24	0.012	43.50	13.85	30.15	2.00	1046.28	1030.59	
C.I. 7-1	C.I. 4-4	36.73	1023.14	1022.77	1.01	24	0.012	14.54	4.63	24.59	2.00	1045.23	1028.58	
C.I. 8-1	C.I. 2-9	42.50	1019.44	1018.06	3.25	15	0.012	1.58	1.29	12.61	1.25	1033.72	1025.56	
F.I. 9-1	M.H. 2-10	94.00	1023.22	1021.34	2.00	15	0.012	2.37	1.93	9.89	1.25	1036.87	1029.29	
F.I. 10-1	M.H. 2-10	133.00	1022.67	1021.34	1.00	24	0.012	31.46	10.02	24.50	2.00	1038.96	1029.17	
M.H. 10-2	F.I. 10-1	136.50	1024.74	1023.37	1.00	24	0.012	28.96	9.22	24.55	2.00	1041.49	1032.84	
C.I. 10-3	M.H. 10-2	74.00	1026.18	1025.44	1.00	24	0.012	28.96	9.22	24.50	2.00	1043.06	1031.91	
C.I. 10-4	C.I. 10-3	296.00	1029.54	1026.58	1.00	18	0.012	10.55	5.97	11.38	1.50	1046.13	1035.75	
C.I. 10-5	C.I. 10-4	34.00	1030.58	1030.24	1.00	15	0.012	9.23	7.52	7.00	1.25	1046.94	1035.75	
C.I. 11-1	C.I. 10-3	34.00	1027.12	1026.78	1.00	15	0.012	14.47	11.79	7.00	1.25	1045.04	1031.91	



Hawthorn Ridge 2nd Plat Minimum Building Opening Elevation					Hawthorn Ridge 2nd Plat Minimum Building Opening Elevation				
Lot	Rear Left MBOE	Rear Right MBOE	Front Left MBOE	Front Right MBOE	Lot	Rear Left MBOE	Rear Right MBOE	Front Left MBOE	Front Right MBOE
101	1040.63	1039.68	1038.51	1037.56	131	1029.38	1030.81	-	-
102	1039.68	1038.63	1037.56	1036.51	132	1030.81	1032.29	-	-
103	1038.63	1037.59	1036.51	1035.47	133	1032.29	1030.37	-	-
104	1037.59	1036.55	1035.47	1034.43	134	1030.37	1028.26	-	-
105	1036.55	1035.51	1034.43	1033.39	135	1028.26	1026.34	-	-
106	1035.51	1034.49	1033.39	1032.67	136	1028.97	1030.15	-	-
107	1034.49	1033.73	1032.67	1031.61	137	1021.53	1022.65	1019.31	1020.43
108	1033.73	1032.44	1031.61	1030.42	138	1022.65	1023.62	1020.43	1021.40
109	1032.44	1031.61	1030.42	1029.18	139	1023.62	1024.44	1021.40	1022.22
110	1031.61	1030.42	1029.18	1027.79	140	1024.44	1025.26	1022.22	1023.04
111	1030.42	1029.18	1027.79	1026.34	141	1025.26	1026.08	1023.04	1023.86
112	1029.18	1027.79	1026.34	1024.85	142	1026.08	1026.89	1023.86	1024.67
113	1027.79	1026.34	1024.85	1023.39	143	1027.66	1028.47	1025.44	1026.25
114	1026.34	1024.85	1023.39	1021.90	144	1028.35	1029.26	1026.25	1027.16
115	1024.85	1023.39	1021.90	1020.42	145	1029.26	1030.17	1027.16	1028.07
116	1023.39	1021.90	1020.42	1018.98	146	1030.17	1031.08	1028.07	1028.98
117	1021.90	1020.42	1018.98	1017.00	147	1031.08	1032.28	1028.98	1030.18
118	1020.42	1018.98	1017.00	1015.00	148	1032.03	1033.90	-	-
119	1018.98	1017.00	1015.00	1013.00	149	1033.05	1035.59	-	-
120	1017.00	1015.00	1013.00	1011.00	150	1034.00	1037.00	-	-
121	1015.00	1013.00	1011.00	1009.00	151	1035.00	1038.00	-	-
122	1013.00	1011.00	1009.00	1007.00	152	1036.00	1039.00	-	-
123	1011.00	1009.00	1007.00	1005.00	153	1037.00	1040.00	-	-
124	1009.00	1007.00	1005.00	1003.00	154	1038.00	1041.00	-	-
125	1007.00	1005.00	1003.00	1001.00	155	1039.00	1042.00	-	-
126	1005.00	1003.00	1001.00	999.00	156	1040.00	1043.00	-	-
127	1003.00	1001.00	999.00	997.00	157	1041.00	1044.00	-	-
128	1001.00	999.00	997.00	995.00	158	1042.00	1045.00	-	-
129	999.00	997.00	995.00	993.00	159	1043.00	1046.00	-	-
130	997.00	995.00	993.00	991.00					

- NOTES:
- MBOE - MINIMUM BUILDING OPENING ELEVATION
- NOTES:
- INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.
 - PLAT IS LOCATION IN ZONE X, "AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"
 - PLAT IS LOCATED OUTSIDE OF ANY REQUIRED BUFFER ZONES FOR NATURAL STREAMS.
 - MBOE ELEVATIONS HAVE BEEN PROVIDED AT EACH LOT CORNER. INTERPOLATION WILL BE ALLOWED BETWEEN THE RIGHT AND LEFT SIDE MBOE'S SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.
 - REFER TO SHEET C105-C108 FOR SWALE GRADING DETAILS.
 - DRAINAGE PATHS TO BE CONSTRUCTED BETWEEN EACH OF THE LOTS LABELED AS STANDARD LOTS TO DRAIN WEST.
 - NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS-GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.

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



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STATE OF MISSOURI
MELISSA G. DEAGONIA
NUMBER
PE-2011000892
2-13-19
PROFESSIONAL ENGINEER

MELISSA G. DEAGONIA
PE# 2011000892

NO. REV.	DATE	REVISIONS DESCRIPTION	REVISIONS
1	08-12-2019	MBO ABBREVIATION CHANGED TO MBOE. EXISTING GRADE ELEVATIONS ADDED TO LOT CORNERS	

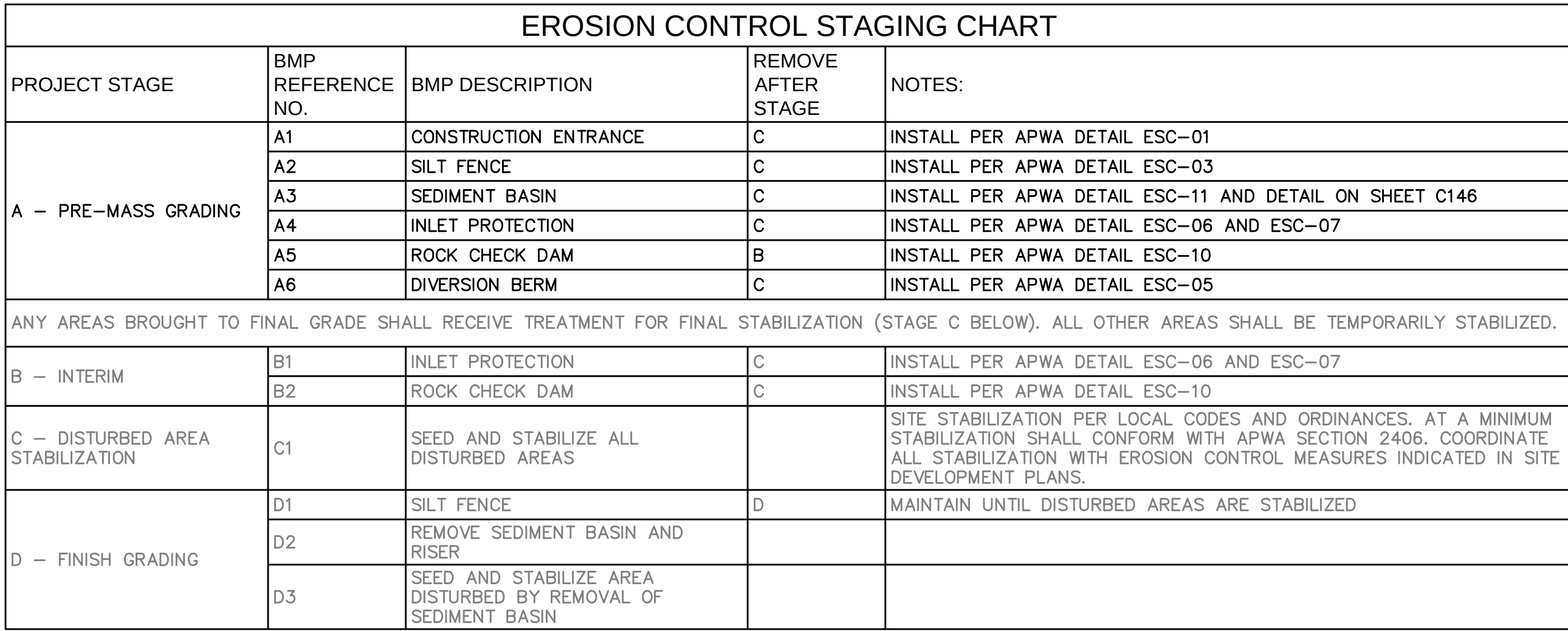
MASTER DRAINAGE PLAN
STREET & STORM SEWER PLANS

HAWTHORN RIDGE
SECOND PLAT

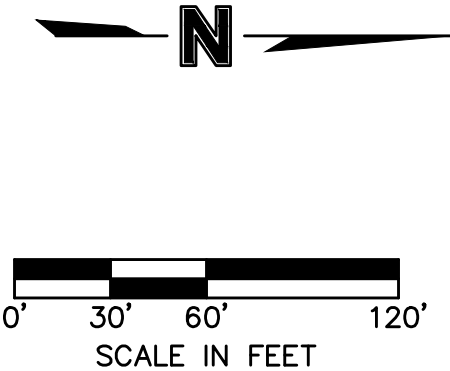
LEE'S SUMMIT, MISSOURI

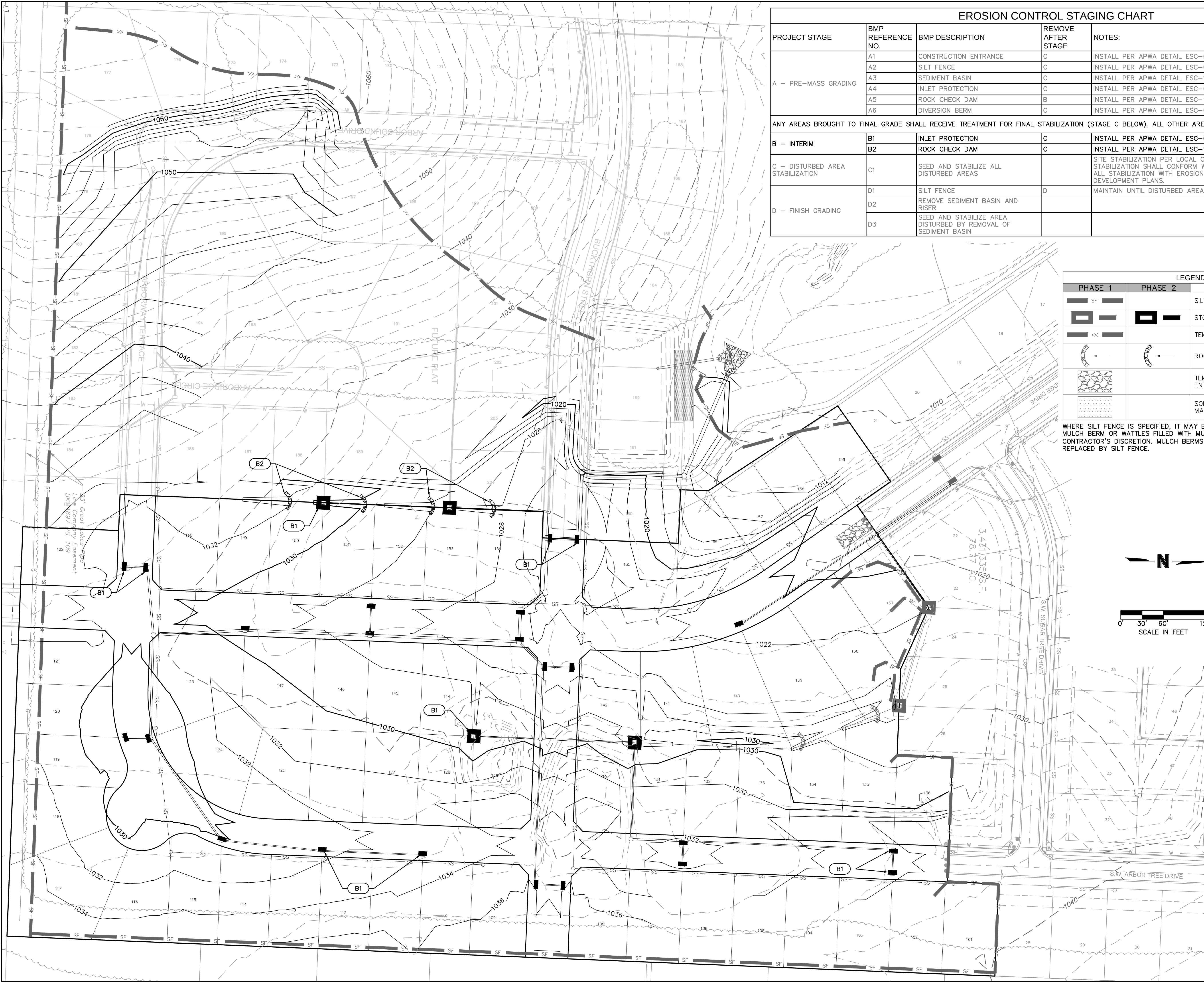
drawn by: D.A.H.Q.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 019-1605
date: 07-12-2019

SHEET
C141

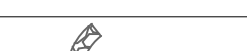


WHERE SILT FENCE IS SPECIFIED, IT MAY BE REPLACED BY MULCH BERM OR WATTLES FILLED WITH MULCH AT THE CONTRACTOR'S DISCRETION. MULCH BERMS MAY NOT BE REPLACED BY SILT FENCE.

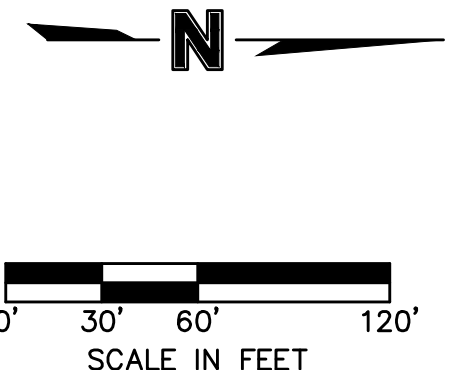




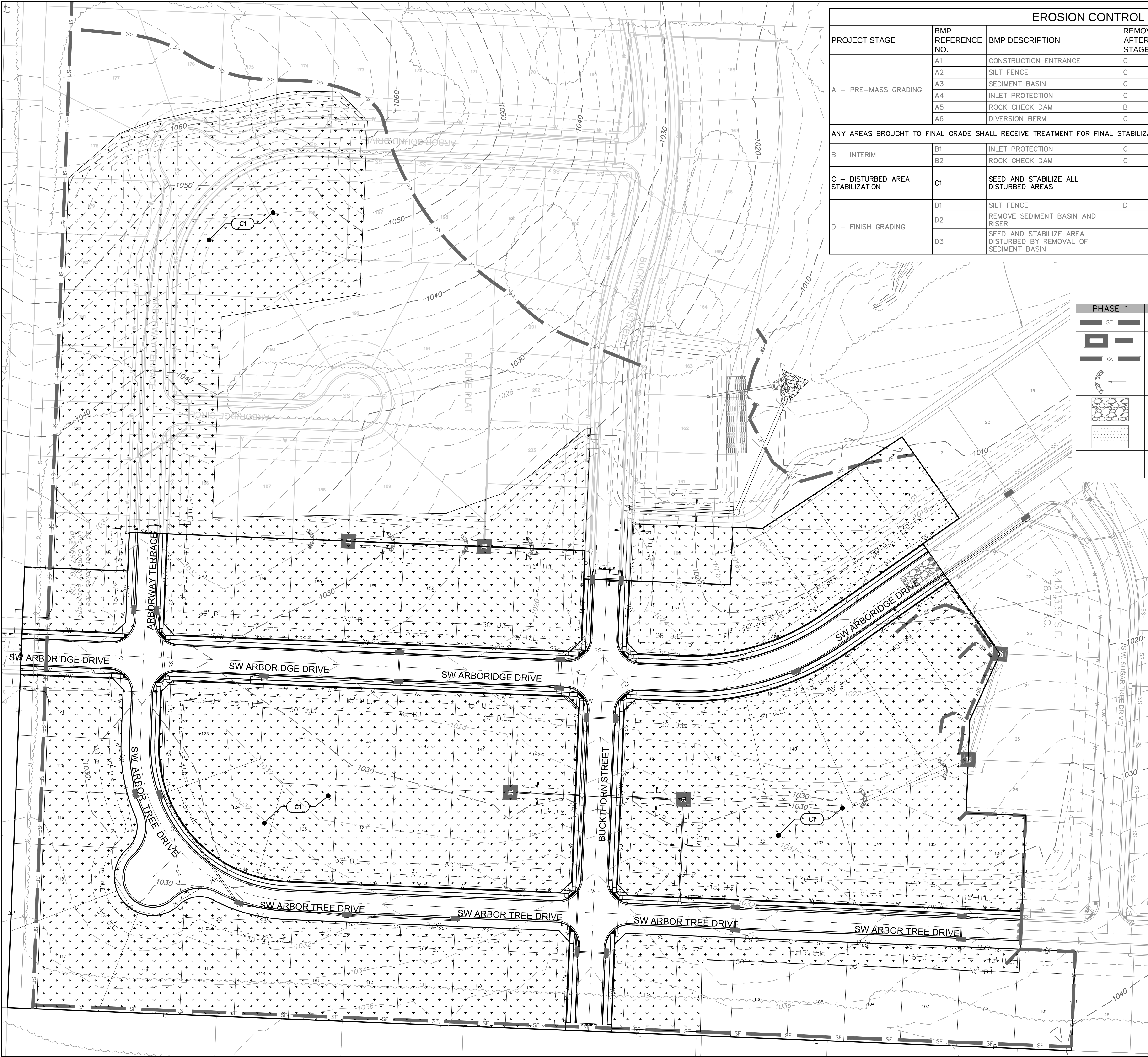
EROSION CONTROL STAGING CHART				
PROJECT STAGE	BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A – PRE–MASS GRADING	A1	CONSTRUCTION ENTRANCE	C	INSTALL PER APWA DETAIL ESC–01
	A2	SILT FENCE	C	INSTALL PER APWA DETAIL ESC–03
	A3	SEDIMENT BASIN	C	INSTALL PER APWA DETAIL ESC–11 AND DETAIL ON SHEET C146
	A4	INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC–06 AND ESC–07
	A5	ROCK CHECK DAM	B	INSTALL PER APWA DETAIL ESC–10
	A6	DIVERSION BERM	C	INSTALL PER APWA DETAIL ESC–05
ANY AREAS BROUGHT TO FINAL GRADE SHALL RECEIVE TREATMENT FOR FINAL STABILIZATION (STAGE C BELOW). ALL OTHER AREAS SHALL BE TEMPORARILY STABILIZED.				
B – INTERIM	B1	INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC–06 AND ESC–07
	B2	ROCK CHECK DAM	C	INSTALL PER APWA DETAIL ESC–10
C – DISTURBED AREA STABILIZATION	C1	SEED AND STABILIZE ALL DISTURBED AREAS		SITE STABILIZATION PER LOCAL CODES AND ORDINANCES. AT A MINIMUM STABILIZATION SHALL CONFORM WITH APWA SECTION 240B. COORDINATE ALL STABILIZATION WITH EROSION CONTROL MEASURES INDICATED IN SITE DEVELOPMENT PLANS.
D – FINISH GRADING	D1	SILT FENCE	D	MAINTAIN UNTIL DISTURBED AREAS ARE STABILIZED
	D2	REMOVE SEDIMENT BASIN AND RISER		
	D3	SEED AND STABILIZE AREA DISTURBED BY REMOVAL OF SEDIMENT BASIN		

LEGEND		
PHASE 1	PHASE 2	
		SILT FENCE
		STORM DRAIN INLET PROTECTION
		TEMPORARY DIVERSION BERM
		ROCK CHECK DAMS
		TEMPORARY STONE CONSTRUCTION ENTRANCE
		SOIL STABILIZATION BLANKETS & MATTING

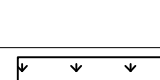
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 MELISSA G. DEGONIA PE# 2011000892	
BY	
REVISIONS DESCRIPTION	
DATE	
NO. REV.	
SITE DISTURBANCE PHASE 2 STREET & STORM SEWER PLANS	
HAWTHORN RIDGE SECOND PLAT	
LEE'S SUMMIT, MISSOURI	
2019	
drawn by: _____ D.A.H.O. checked by: _____ M.G.D. designed by: _____ B.M.W. QA/QC by: _____ N.D.H. project no.: _____ 019-1805 date: _____ 07-12-2019	
SHEET C143	



EROSION CONTROL STAGING CHART				
PROJECT STAGE	BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A – PRE-MASS GRADING	A1	CONSTRUCTION ENTRANCE	C	INSTALL PER APWA DETAIL ESC-01
	A2	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	A3	SEDIMENT BASIN	C	INSTALL PER APWA DETAIL ESC-11 AND DETAIL ON SHEET C146
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	A5	ROCK CHECK DAM	B	INSTALL PER APWA DETAIL ESC-10
	A6	DIVERSION BERM	C	INSTALL PER APWA DETAIL ESC-05
ANY AREAS BROUGHT TO FINAL GRADE SHALL RECEIVE TREATMENT FOR FINAL STABILIZATION (STAGE C BELOW). ALL OTHER AREAS SHALL BE TEMPORARILY STABILIZED.				
B – INTERIM	B1	INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-06 AND ESC-07
	B2	ROCK CHECK DAM	C	INSTALL PER APWA DETAIL ESC-10
C – DISTURBED AREA STABILIZATION	C1	SEED AND STABILIZE ALL DISTURBED AREAS		SITE STABILIZATION PER LOCAL CODES AND ORDINANCES. AT A MINIMUM STABILIZATION SHALL CONFORM WITH APWA SECTION 2406. COORDINATE ALL STABILIZATION WITH EROSION CONTROL MEASURES INDICATED IN SITE DEVELOPMENT PLANS.
D – FINISH GRADING	D1	SILT FENCE	D	MAINTAIN UNTIL DISTURBED AREAS ARE STABILIZED
	D2	REMOVE SEDIMENT BASIN AND RISER		
	D3	SEED AND STABILIZE AREA DISTURBED BY REMOVAL OF SEDIMENT BASIN		

LEGEND		
PHASE 1	PHASE 2	PHASE 3
 SF 		SILT FENCE
 	 	STORM DRAIN INLET PROTECTION
 << 		TEMPORARY DIVERSION BERM
		ROCK CHECK DAMS
		TEMPORARY STONE CONSTRUCTION ENTRANCE
		SOIL STABILIZATION BLANKETS & MATTING
		 TURF GRASS SEEDING

GENERAL NOTES:

CONTRACTOR TO PLACE AT LEAST 12" OF TOP SOIL CAPABLE OF SUPPORTING VEGETATION.

SEED & MULCH NOTES:

SEEDING SHALL BE DONE BEFORE THE PROPOSED SEEDBED BECOMES ERODED, CRUSHED OVER, OR DRIED OUT AND SHALL NOT BE DONE WHEN THE GROUND IS FROZEN, OR COVERED WITH SNOW. THE SEED SHALL COMPLY WITH THE REQUIREMENTS OF THE MISSOURI SEED LAW AND THE FEDERAL SEED ACT. ALSO, IT SHALL CONTAIN NO SEED OF ANY PLANT ON THE FEDERAL NOXIOUS WEED LIST. OTHER WEED SEED SHALL NOT EXCEED ONE PERCENT BY WEIGHT OF MIX.

SEED & FERTILIZER RATE:

MIX I - RYE GRASS / BLUE GRASS	-----100 LBS. PER ACRE
MIX II - TALL FESCUE / BLUE GRASS	-----195 LBS. PER ACRE
FERTILIZER	-----800 TO 1200 LBS. PER ACRE
(25 LBS. PER 1000 SQ. FT.)	

DURING THE DATES DECEMBER 15TH THROUGH MAY 31 ALL FERTILIZER, SEED, AND MULCH SHALL BE APPLIED TO FINISHED SLOPES OF DISTURBED AREAS. DURING THE MONTHS OF JUNE, JULY, OCTOBER, AND NOVEMBER 1ST THROUGH DECEMBER 15TH, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED AT THE FOLLOWING RATES:

FERTILIZER - 75 % OF THE SPECIFIED QUANTITY

SEED - 50 % OF THE SPECIFIED QUANTITY

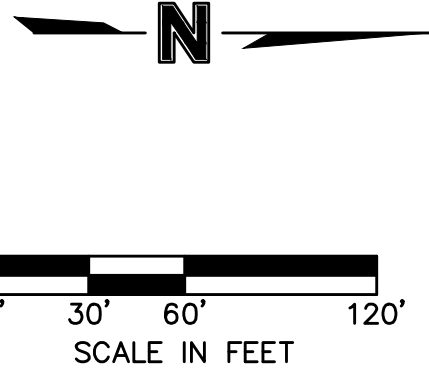
MULCH - 100 % OF THE SPECIFIED QUANTITY

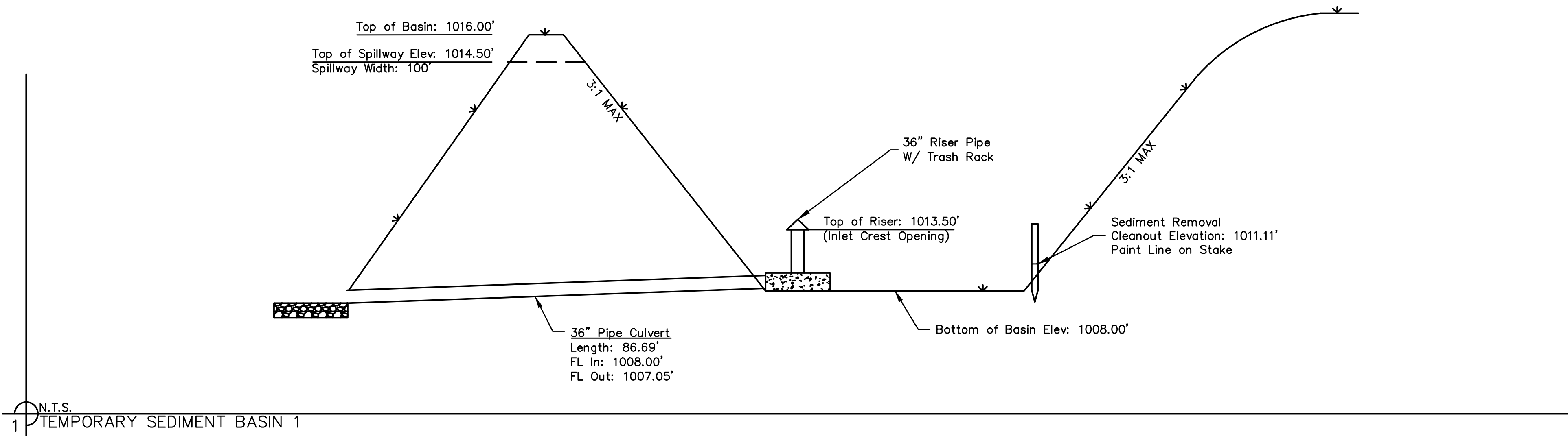
MULCH SHALL BE VEGETATIVE TYPE, CEREAL STRAW FROM STALKS OF COATS, RYE, OR BARLEY, OR APPROVED EQUAL. THE STRAW SHALL BE FREE OF PROHIBITED WEED SEED AND RELATIVELY FREE OF ALL OTHER NOXIOUS AND UNDESIRABLE SEED. MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE, (70 TO 90 LBS. PER 1000 SQ. FT.). ROLLER SHALL BE EMBEDDED BY A MULCH ANCHORING TOOL OR DISK TYPE MULCH HAVING FLAT SERRATED DISKS SPACED NOT MORE THAN 10 INCHES APART AND CLEANING SCRAPERS BE PROVIDED.

THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED UNTIL THE FINAL DEVICES ARE IN PLACE.

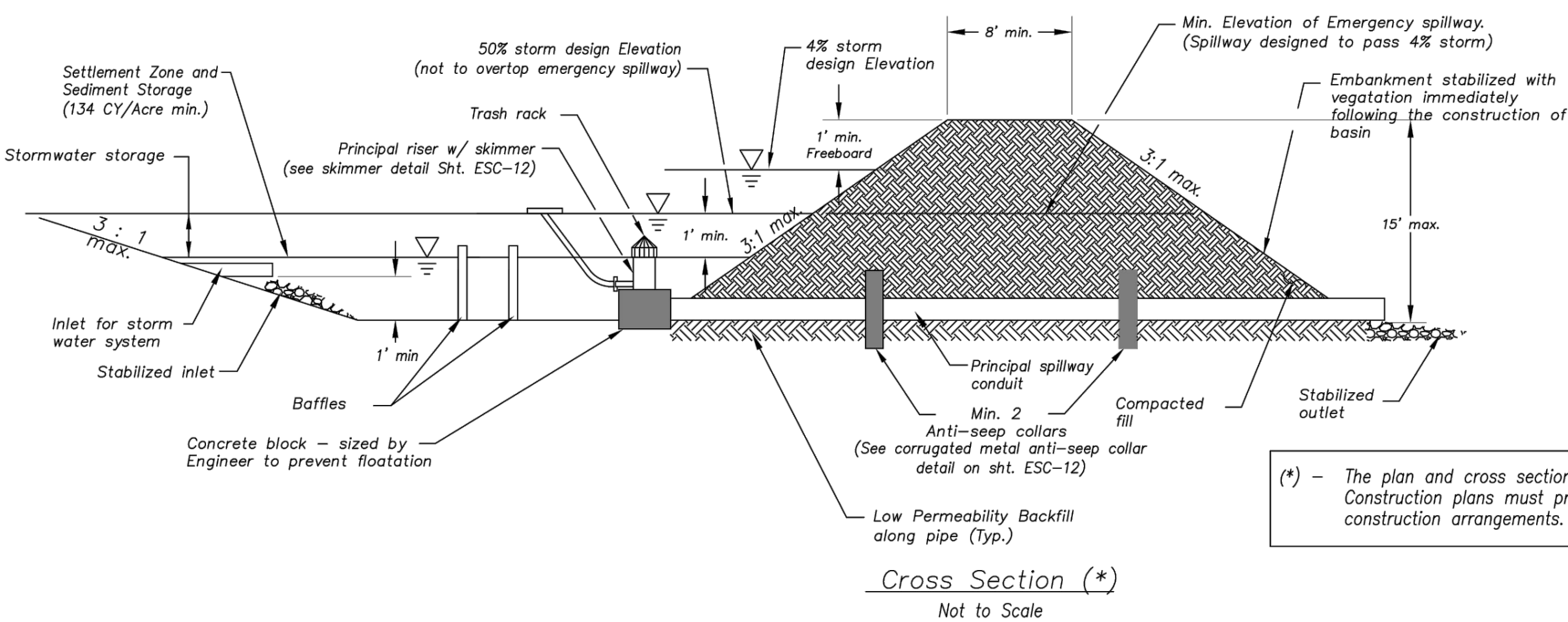
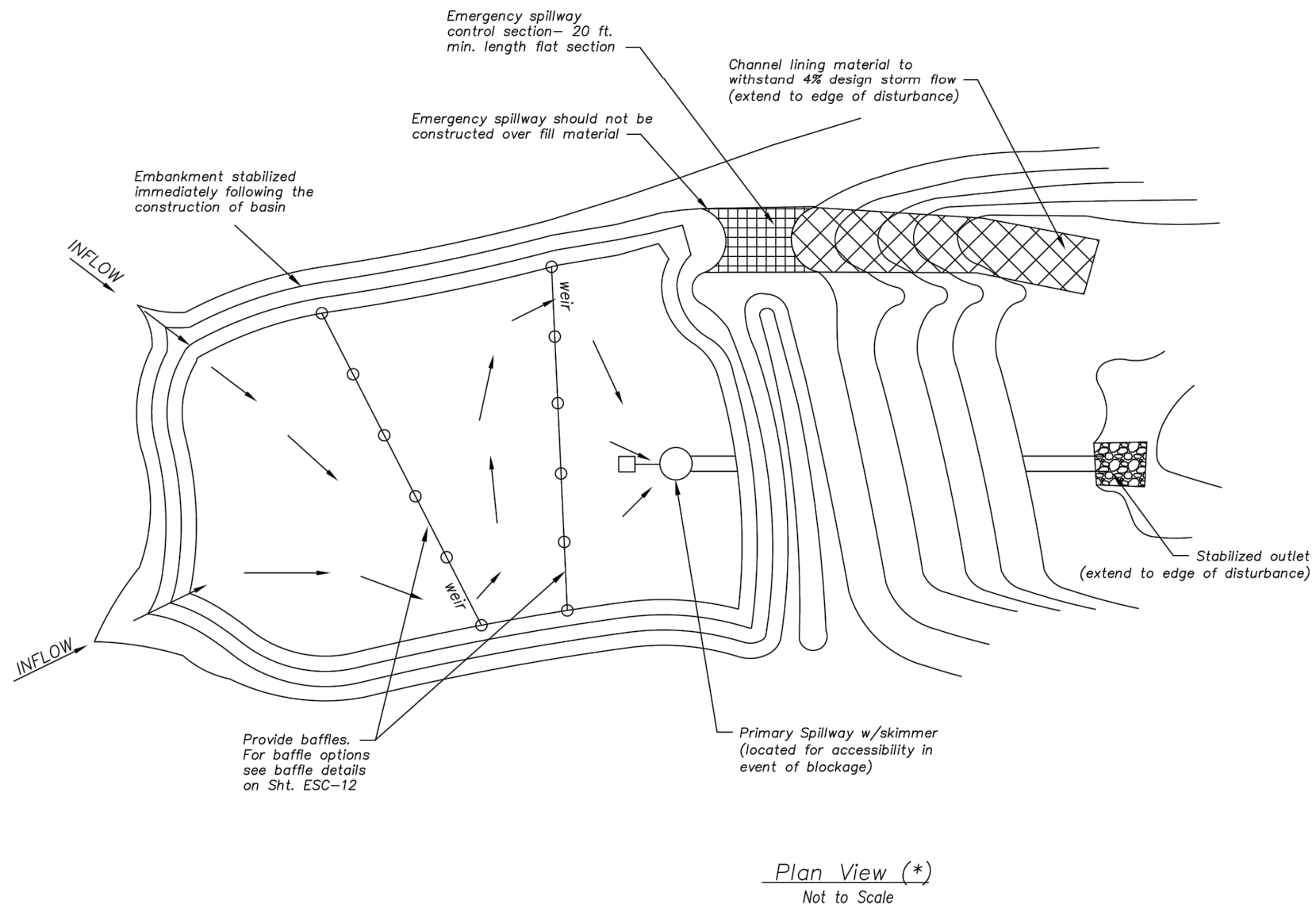
ALL DISTURBED AREAS SHALL BE PREPARED FOR SEEDING/SODDING PER KCMO/APWA 2406, APPLICATION OF SEED/SOD SHALL BE DONE IN ACCORDANCE WITH KCMO/APWA 2406.4. THE SITE DISTURBANCE PERMIT SHALL BE MAINTAINED IN AN "OPEN" STATUS UNTIL FINAL ACCEPTANCE PER KCMO/APWA 2407.

NATIVE SEED MIXES AND SLOPES OVER 5:1 TO BE INSTALLED WITH AN EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC10B OR APPROVED EQUAL) AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.





Sediment Basin #1 Design Summary			
Design Item		Quantity	Units
Site Data			
Tributary Drainage Area To Pond		27.17	Acres
50% (2 YR) Design Flow		72.16	cfs
4% (25 YR) Design Flow		139.96	cfs
1% (100 YR) Design Flow		177.99	cfs
Pond Data			
Minimum Sediment Storage Volume		3641	cu yd
Provided Sediment Storage Volume		4216	cu yd
Bottom Elevation		1008.00	ft
Sediment Cleanup Elevation		1011.11	ft
Sediment Cleanup Volume		2711.63	cu yd
Top of Riser Elevation		1013.50	ft
Top of Dam Elevation		1016.00	ft
Basin Shape Data			
A = Area at Top of Riser		22954	sq ft
L = Length of Flow Path		180	ft
WE = Effective Width = A/L		128	ft
Principal Spillway Data			
Riser Pipe DIA		36	in
Barrel Pipe DIA		36	in
Barrel Invert In		1008.00	ft
Barrel Invert Out		1007.05	ft
Riser Perforations			
Number of Rows		4	
Perforation DIA		1	in
Perforations per Row		36	
Lowest Row Elevation		1011.50	ft
Distance Between Rows		0.5	ft
Emergency Spillway Data			
Spillway Width		100.00	ft
Emergency Spillway Elevation		1014.50	ft
Water Surface Data			
2 year WSE		1014.40	ft
25 year WSE		1014.94	ft
100 year WSE		1015.06	ft
Discharge Data			
2 year		29.88	cfs
25 year		138.96	cfs
100 year		178.71	cfs



Sediment Basin Notes

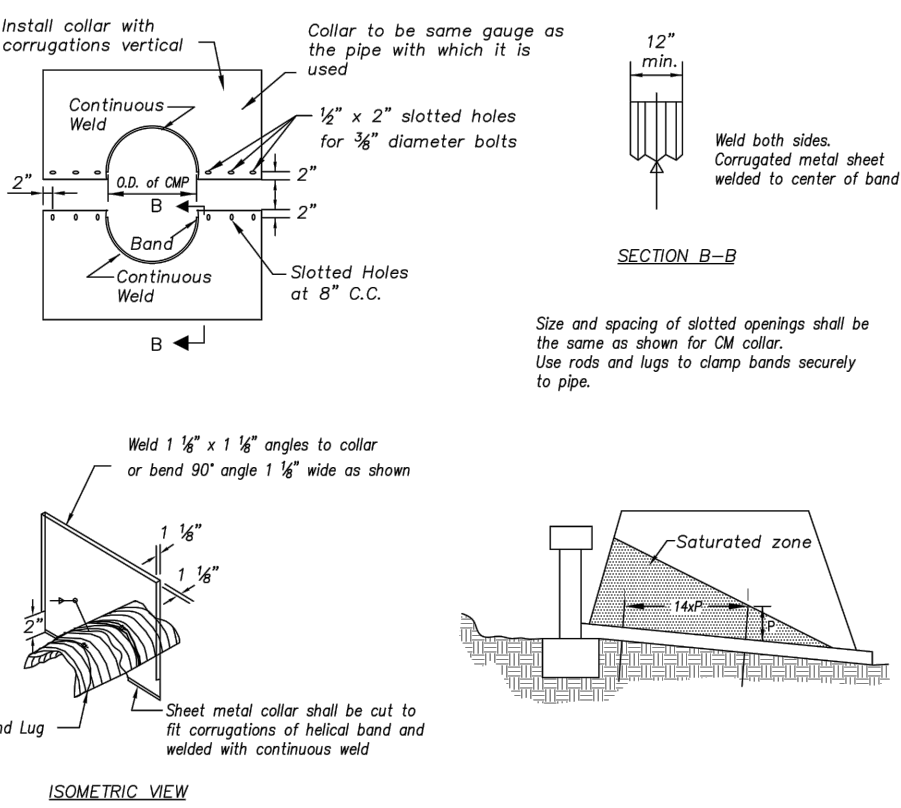
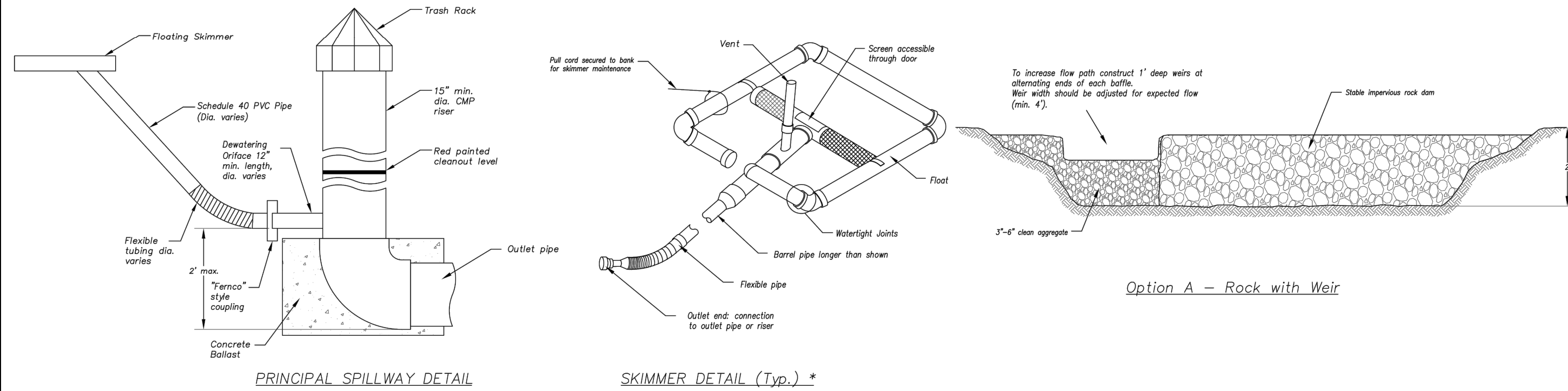
1. Interior baffles shall be provided to reduce short-circuiting of the basin. See Sht. ESC-12 for approved baffle options.
2. Emergency spillways to be located in a non-fill location when feasible and shall be lined with a non-erodible material such as Riprap or Turf Reinforcement Mat.
3. When directed, sediment basins shall be fenced using construction fence or other material for safety reasons and include warning signs, reading: "Danger - KEEP OUT".

Maintenance:

1. Check temporary sediment basins after periods of significant runoff.
2. Remove sediment and restore the basin to its original dimensions when sediment accumulates to 20% of the storage capacity.
3. Immediately repair any erosion damage to the embankment and outlets.
4. Repair and/or replace baffles as necessary to maintain function and integrity of installation.
5. Keep outlet, skimmer and pool area free of oil trash and other debris.

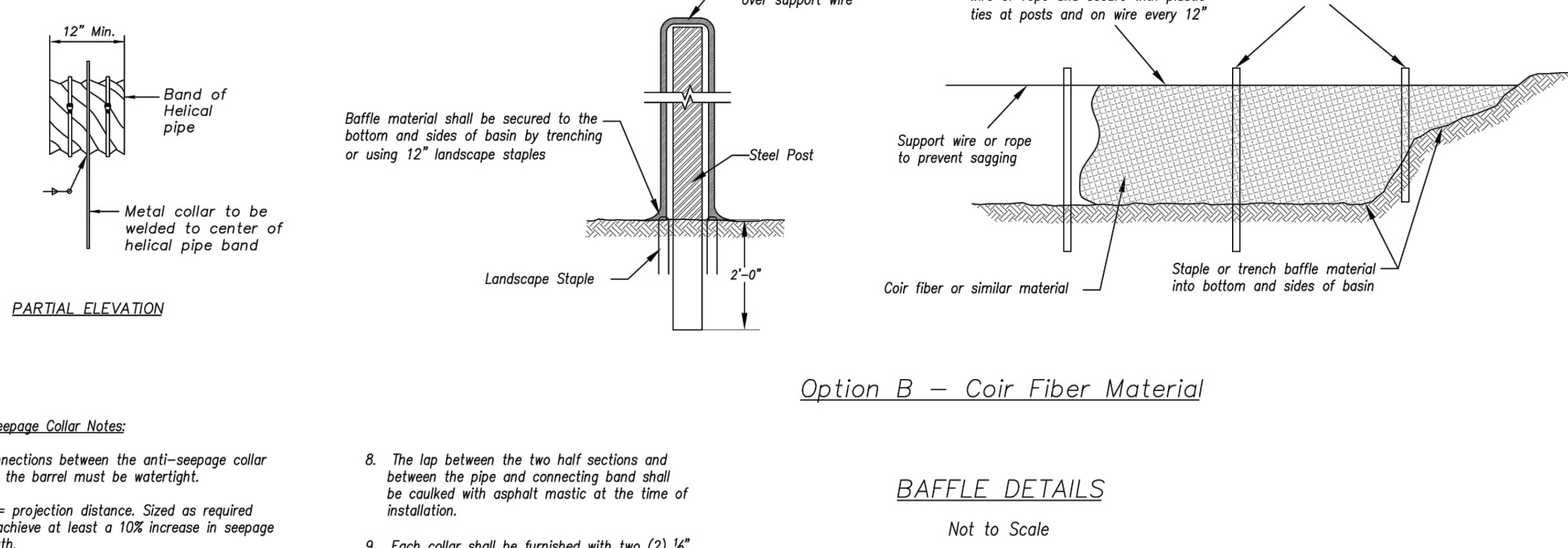
(*) - The plan and cross section are schematic in nature. Construction plans must provide specific site construction arrangements.

Modified from 2015 Overland Park Standard Details
for Erosion and Sediment Control.



SKIMMER DETAIL (Typ.) *

* Designer to provide specific details per application (e.g. pipe sizes, screen sizes, perforation, etc.) as required.

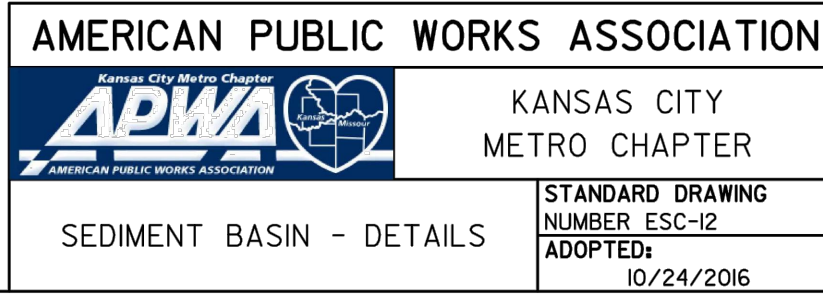


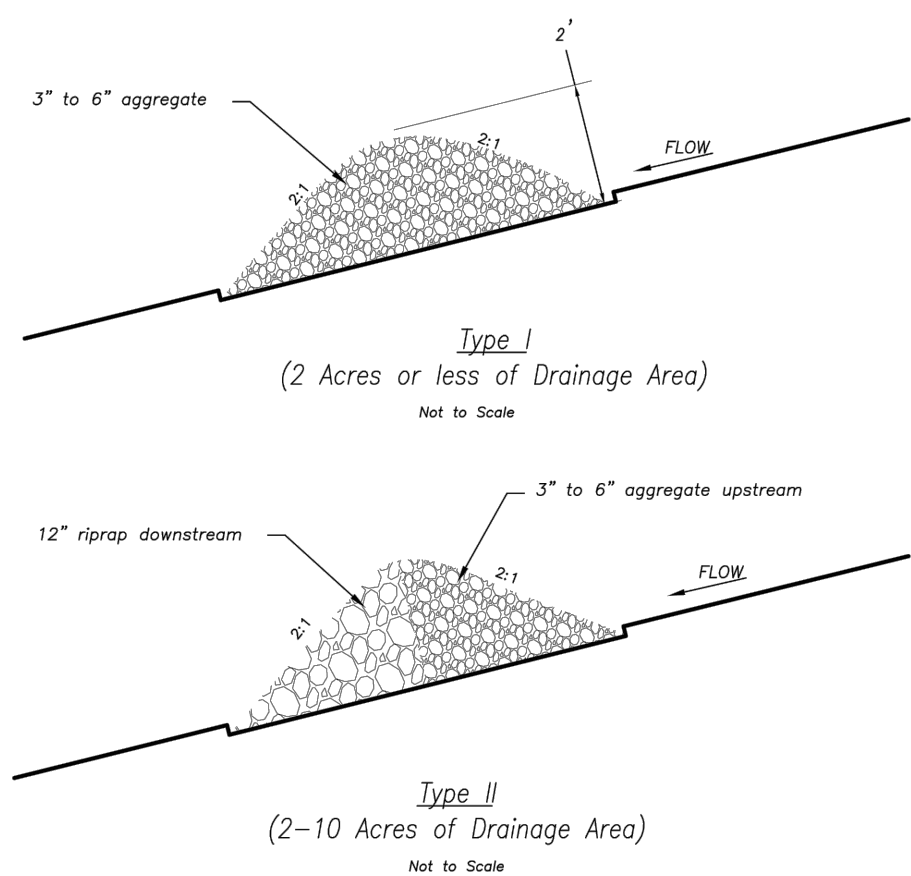
Anti-Seepage Collar Notes

1. Connections between the anti-seepage collar and the barrel must be watertight.
 2. P = projection distance. Sized as required to achieve at least a 10X increase in seepage length.
 3. $14xP$ = Max. spacing between collars.
 4. Collars shall generally be placed in the middle third of the embankment, and within the saturated zone.
 5. All materials to be in accordance with construction material specifications.
 6. When specified on the plans, coating of collars shall be in accordance with construction material specifications.
- Unassembled collars to be marked by painting or tagging to identify matching pairs.

8. The lap between the two half sections and between the pipe and connecting band shall be caulked with asphalt mastic at the time of installation.
9. Each collar shall be standard tank with 2 (½) diameter rods with flanged tank lugs for connecting the collars to the pipe.
10. For bands and collars, modification of the details shown may be used providing equal water tightness is maintained and detailed drawings are Submitted and approved by the Engineer prior to delivery.
11. Two other types of anti-seep collars are:
 - a. Corrugated metal, similar to above, except shop welded to a 4 ft. section of the pipe and connected to the pipe with connecting bands.
 - b. Concrete, 6 inches thick, formed around the pipe with #3 rebar spaced 15".

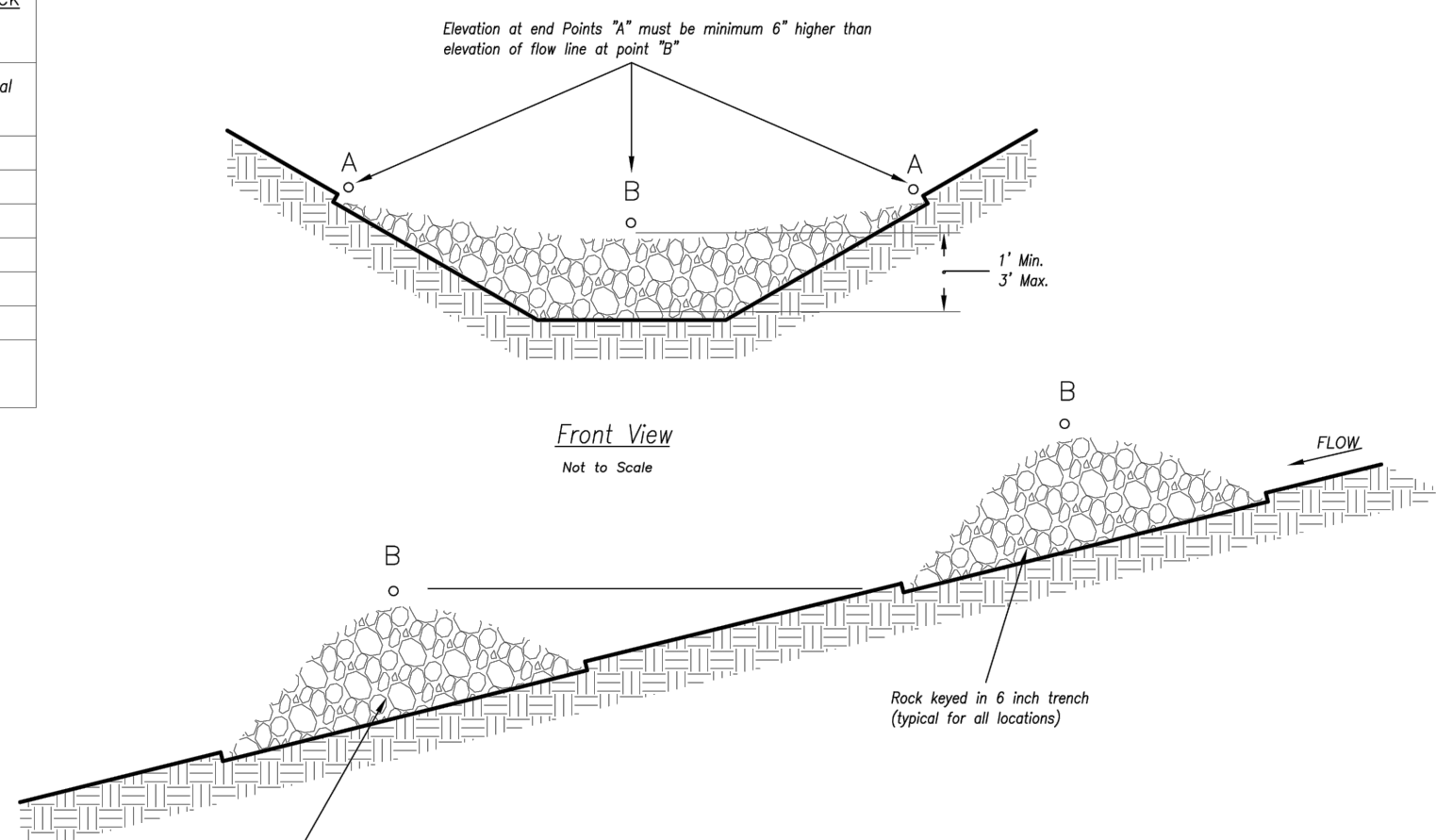
Modified from 2015 Overland Park Standard Details
for Erosion and Sediment Control.





Temporary Rock Ditch Check Spacing	
Ditch Centerline Slope (%)	Spacing Interval (Feet)
5.0	60
6.0	50
7.0	43
8.0	36
9.0	33
10.0	29

Note: Use this spacing only for Rock Ditch Checks.



Spacing Between Check Dams (all types)
Not to Scale

Notes:

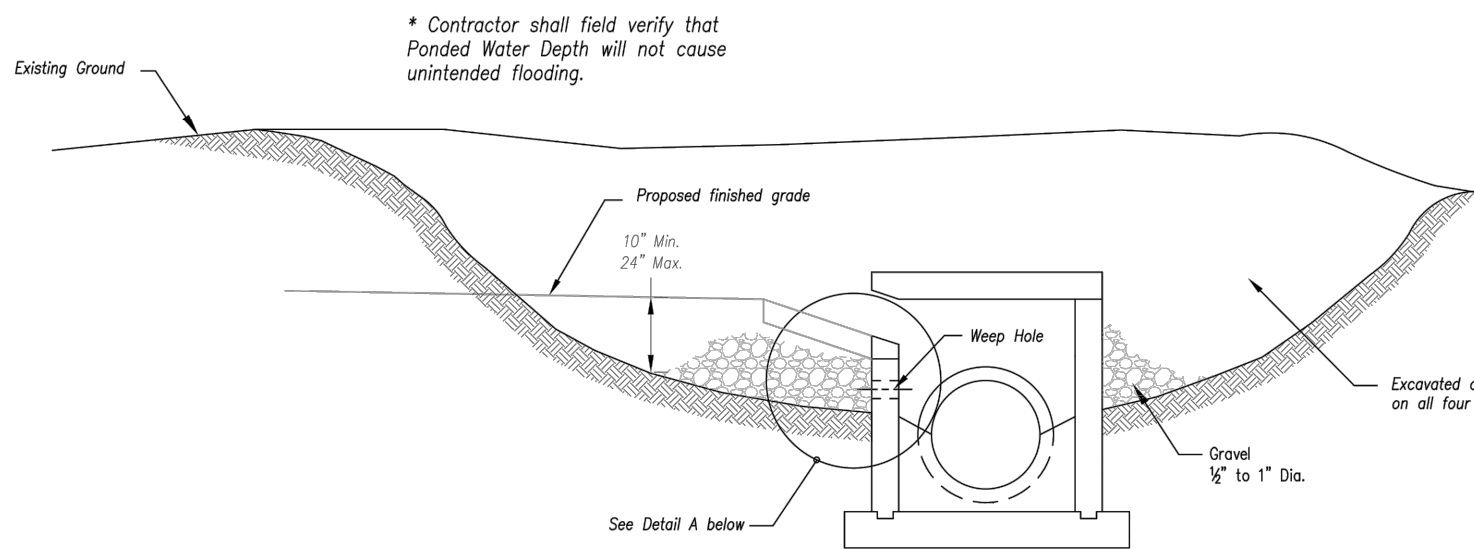
1. Rock check dams shall be used only for drainage areas less than 10 acres unless approved by the City Engineer.
2. Use rock checks only in situations where the ditch slope exceeds 6%.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches 1/2 the height of the ditch check.
2. Replace and reshape as necessary to maintain function and integrity of installation.

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	
	KANSAS CITY METRO CHAPTER
ROCK DITCH CHECKS	STANDARD DRAWING NUMBER ESC-10 ADOPTED: 10/24/2016



Detail A

EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

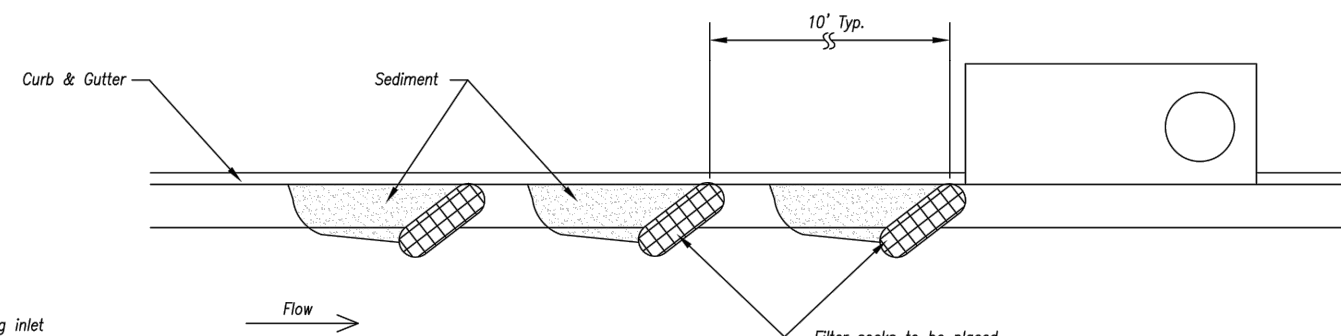
Notes:

1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" x 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When inlet is completed and curb poured, filter socks or approved equal should be used (Late Stage Curb Inlet). Straw wattles are not approved for curb inlet use.
3. Contractor to field verify ponding water shall not create a traffic hazard.

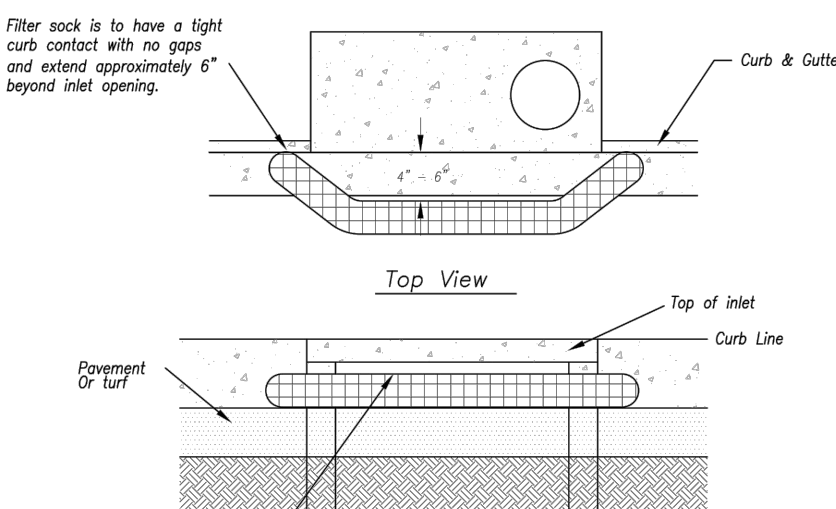
Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.



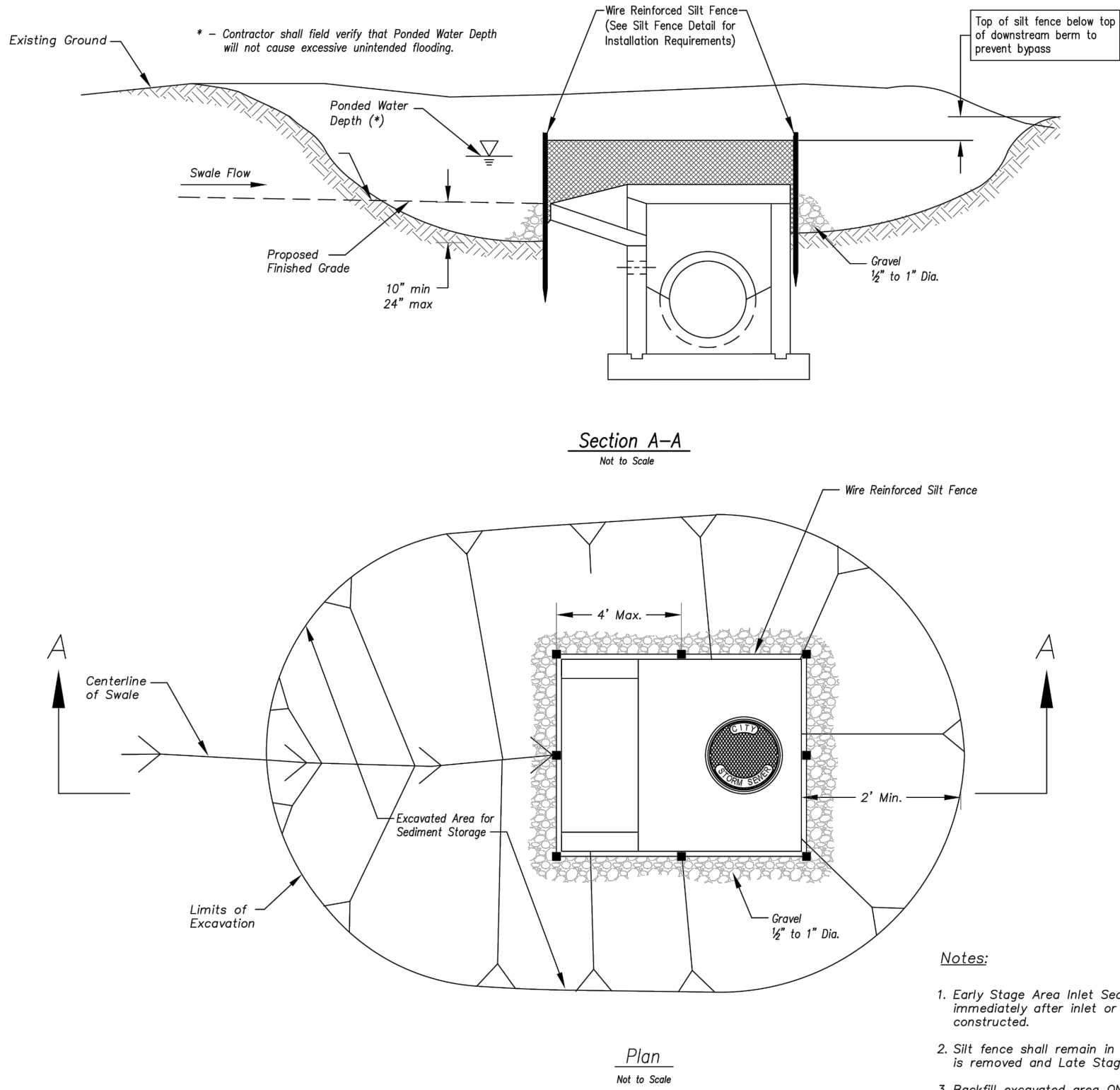
On Grade Curb Inlet Protection



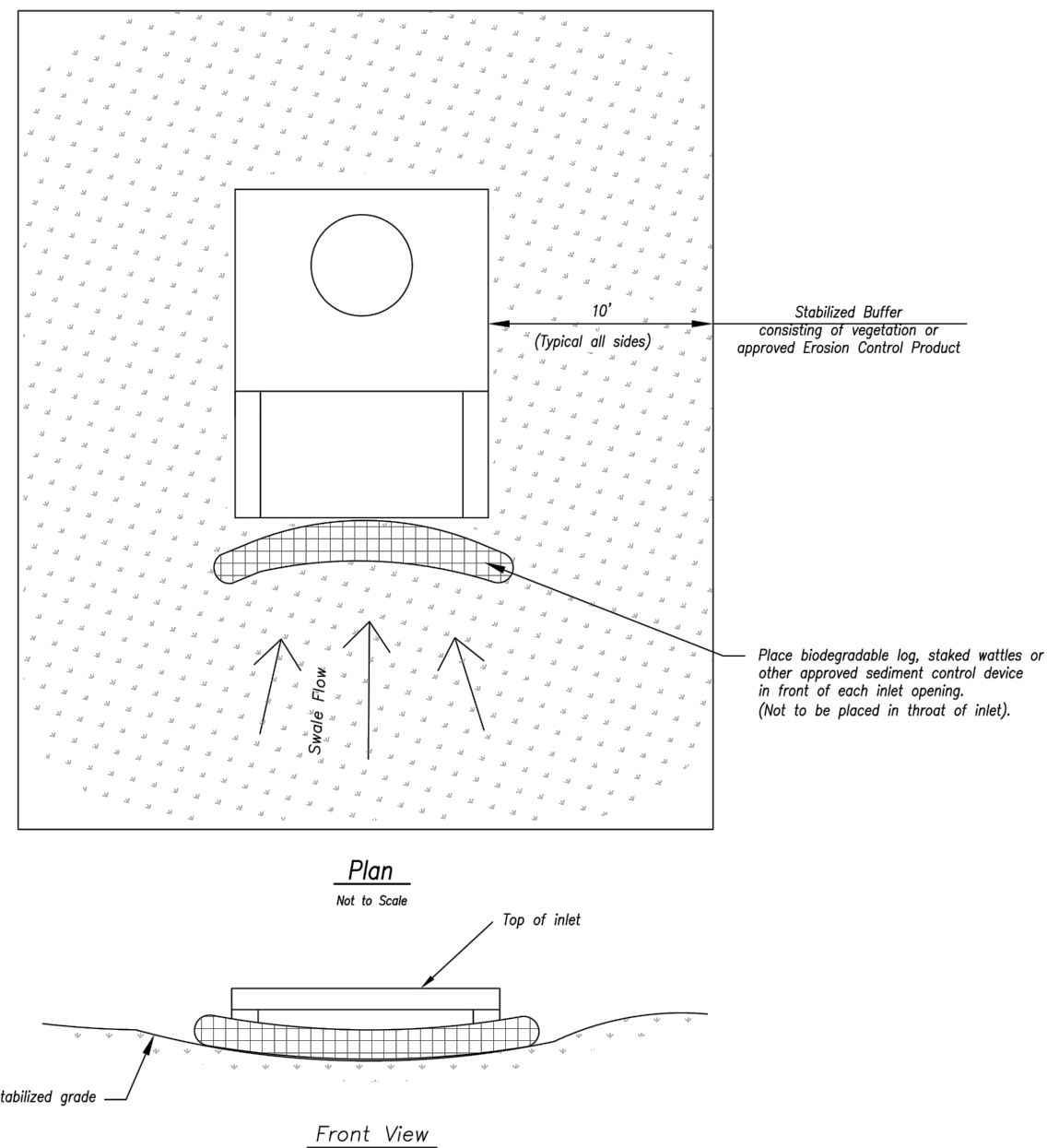
Sump Inlet Sediment Filter

LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

AMERICAN PUBLIC WORKS ASSOCIATION	
	KANSAS CITY METRO CHAPTER
CURB INLET PROTECTION	STANDARD DRAWING NUMBER ESC-06 ADOPTED: 10/24/2016



EARLY STAGE AREA INLET
(All open boxes and inlets not at final grade)



LATE STAGE AREA INLET
(Area inlets at final grade and existing inlets)

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION	
	KANSAS CITY METRO CHAPTER
AREA INLET AND JUNCTION BOX PROTECTION	STANDARD DRAWING NUMBER ESC-07 ADOPTED: 10/24/2016

SITE DISTURBANCE DETAILS
STREET AND STORM SEWER PLANS

HAWTHORN RIDGE
SECOND PLAT

LEE'S SUMMIT, MISSOURI

2019

drawn by: D.A.H.O.
checked by: M.G.D.
designed by: B.M.W.
QA/QC by: N.D.H.
project no.: 0191605
date: 07-12-2018

SHEET
C148



MELISSA G. DEGONIA
PE# 2011000892

BY

REVISIONS DESCRIPTION

NO. REV. DATE

REVISIONS

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