

NE 1/4 SECTION 35, TOWNSHIP 47 N, RANGE 32 W.
IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

<p><u>OWNER / DEVELOPER</u> 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</p>	<p><u>UTILITY SERVICE NUMBERS</u> NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800 NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT PHONE: 816-969-1940</p>
<p><u>ENGINEER</u> OLSSON 1301 BURLINGTON ST. SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: BRYK B WORTHLEY PHONE: 816.361.1177 EMAIL: BWORTHLEY@OLSSON.COM</p>	<p>NAME: SPIRE (MGE) PHONE: 314-342-0500 NAME: AT&T PHONE: 800-286-8313 NAME: EVERGY PHONE: 816-471-5275</p>
<p><u>SURVEYOR</u> OLSSON 1301 BURLINGTON ST. SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH PHONE: 816.361.1177 EMAIL: JROUDEBUSH@OLSSON.COM</p>	<p>NAME: SPECTRUM (TWC) PHONE: 877-772-2253 NAME: GOOGLE FIBER PHONE: 877-454-6959</p>



BENCHMARK

BENCHMARK NO. 1
CHISELED PLUS ON THE EAST FLANGED BOLT OF THE FIRE HYDRANT ON THE WEST SIDE OF SW PRYOR ROAD ON ADJOINING PROPERTY SOUTH OF THE
SOUTHWEST CORNER OF SUBJECT PROPERTY.
ELEVATION = 1014.830

BENCHMARK NO. 2
RAILROAD SPIKE IN THE NORTH FACE OF POWER POLE LOCATED ON THE SOUTH SIDE MISSOURI STATE HIGHWAY 150 AT THE WEST SIDE OF THE DRIVEWAY TO
2025 MISSOURI STATE HIGHWAY 150, LEE'S SUMMIT, MO.
ELEVATION = 1031.313

Sheet Number	Sheet Title
C401	TITLE SHEET
C402	GENERAL NOTES
C403	GENERAL LAYOUT
C404	GRADING PLAN
C405	SITE DISTURBANCE PHASE A
C406	SITE DISTURBANCE PHASE A - TRAP TABLES
C407	SITE DISTURBANCE PHASE A - BASIN TABLES
C408	SITE DISTURBANCE PHASE B
C409	SITE DISTURBANCE PHASE C
C410	SITE DISTURBANCE PHASE D
C411	DETAIL SHEET
C412	DETAIL SHEET
C413	DETAIL SHEET

REVIEWED BY:

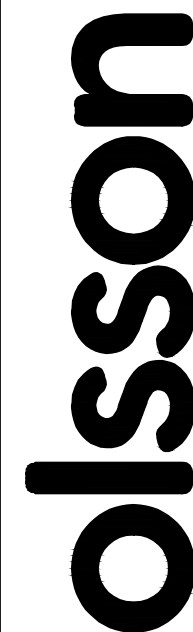
CITY OF LEE'S SUMMIT

DATE _____

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

Brock M. Worthley
BROCK M. WORTHLEY, P.E.
CIVIL ENGINEER
MO# PE-2019000237

3/17/2020
DATE



3Y

NO

DATE _____

REV.

TITLE SHEET

OSAGE

2020

drawn by: _____ G
checked by: _____ S
designed by: _____ BM
QA/QC by: _____ JE
project no.: _____ A19-233
drawing no.: C_TTL01_A19233
date: _____ 3/17/202

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\QIC\A\SITE DISTURBANCE\C_TTL01_A192339.dwg
DATE: Mar 17, 2020 8:53pm
USER: bworthley
C:\PBDY\A192339

GENERAL NOTES:

1. THE INTENT OF THIS LAND DISTURBANCE PLAN IS TO ASSIST THE DEVELOPER IN HIS RESPONSIBILITY TO PROVIDE ALL MATERIALS, TOOLS, EQUIPMENT AND LABOR NECESSARY TO CONTROL EROSION, SILTATION AND DISCHARGES OF SOIL MATERIAL (SEDIMENT) INTO DOWNSTREAM SYSTEMS OR RECEIVING CHANNELS. THIS SHALL BE REQUIRED DURING ALL PHASES OF CONSTRUCTION AND UNTIL SUITABLE GROUND COVER IS ESTABLISHED FOR ALL DISTURBED AREAS. IF ANY METHOD OF CONTROL FAILS, THE DEVELOPER SHALL NOTIFY THE OWNER IMMEDIATELY, SO THAT THE OWNER OR HIS AGENT CAN REVIEW THE DEVELOPER'S PROPOSED METHOD OF REPAIR.
- THIS PLAN INDICATES THE CRITICAL AREA(S) OF CONCERN AND THESE AREA(S) WILL BE CONTROLLED AS A MINIMUM. THE CONTROL MAY CONSIST OF TEMPORARY CONTROL MEASURES AS SHOWN ON THE PLANS OR ORDERED BY THE OWNER DURING THE LIFE OF THE CONTRACT TO CONTROL EROSION OR WATER POLLUTION, THROUGH THE USE OF BERMS, DIKES, DAMS, SEDIMENT BASINS, FIBER MATS, NETTING, STRAW BALES, GRAVEL, MULCHES, GRASSES, SLOPE DRAINS, DIVERSION SWALES OR OTHER EROSION CONTROL DEVICES OR METHODS. THE OWNER HAS THE AUTHORITY TO LIMIT THE SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY THE CONSTRUCTION OPERATIONS AND TO DIRECT THE DEVELOPER TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS OR OTHER WATER COURSES, LAKES, PONDS, OR OTHER AREAS OF WATER IMPOUNDMENT OR CONVEYANCES.
- THE TEMPORARY POLLUTION CONTROL PROVISIONS CONTAINED HEREIN SHALL BE COORDINATED WITH ANY PERMANENT EROSION CONTROL FEATURES SPECIFIED ELSEWHERE IN THE CONTRACT TO THE EXTENT PRACTICAL TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION CONTROL THROUGHOUT THE CONSTRUCTION AND POST CONSTRUCTION PERIOD.
2. THIS SEDIMENTATION CONTROL PLAN MAKES USE OF THE FOLLOWING APPLICATIONS:
- ___PRESERVATION OF EXISTING VEGETATION
 - ___X_SEDIMENT BARRIERS
 - ___X_SEDIMENT TRAPS
 - ___X_INLET PROTECTION
 - ___OUTLET PROTECTION
 - ___SOIL RETAINING SYSTEMS
 - ___SLOPE DRAINS
 - ___SUBSURFACE DRAINS
- PHYSICAL DESCRIPTION OF EACH SPECIFIC SEDIMENT CONTROL DEVICE TO BE UTILIZED IS CALLED OUT ON THE PLANS WITH INSTALLATION PROCEDURES, CONSTRUCTION SPECIFICATIONS AND MAINTENANCE ARRANGEMENT AS CALLED FOR ON THE DETAIL SHEET. IN ADDITION TO THE MEASURES SPECIFIED, THE FOLLOWING GENERAL PRACTICES SHALL BE ADHERED TO WHEN APPLICABLE.
- A) CLEARING AND GRUBBING WITHIN 50' OF A DEFINED DRAINAGE COURSE SHOULD BE AVOIDED WHEN POSSIBLE. WHERE CHANGES TO A DEFINED DRAINAGE COURSE OCCUR, WORK SHOULD BE DELAYED UNTIL ALL MATERIALS AND EQUIPMENT NECESSARY TO PROTECT AND COMPLETE THE DRAINAGE CHANGE ARE ON SITE. CHANGES SHALL BE COMPLETED AS QUICKLY AS POSSIBLE ONCE THE WORK HAS BEEN INITIATED. THE AREA IMPACTED BY THE CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR PROTECTED FROM EROSION AS SOON AS POSSIBLE. AREAS WITHIN 50' OF A DEFINED DRAINAGE WAYS SHOULD BE RECONTOURED AS NEEDED OR OTHERWISE PROTECTED WITHIN FIVE (5) WORKING DAYS AFTER GRADING HAS CEASED.
- B) WHERE SOIL DISTURBING ACTIVITIES CEASE IN AN AREA FOR MORE THAN 14 DAYS, THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE EROSION CONTROL MEASURES. IF THE SLOPE OF THE AREA IS GREATER THAN 3:1 OR IF THE SLOPE IS GREATER THAN 3% AND GREATER THAN 150 FEET IN LENGTH, THEN THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE EROSION CONTROL MEASURES IF ACTIVITIES CEASE FOR MORE THAN SEVEN (7) DAYS.
- C) EXISTING VEGETATION SHALL BE PRESERVED TO THE EXTENT AND WHERE PRACTICAL. IN NO CASE SHALL DISTURBED AREAS REMAIN WITHOUT VEGETATIVE GROUND COVER FOR A PERIOD IN EXCESS OF 60 DAYS.
- D) ADDITIONAL SITE MANAGEMENT PRACTICES WHICH SHALL BE ADHERED TO DURING THE CONSTRUCTION PROCESS SHALL INCLUDE:
- SOLID AND HAZARDOUS WASTE MANAGEMENT INCLUDING PROVIDING TRASH CONTAINERS AND REGULAR SITE CLEAN UP FOR PROPER DISPOSAL OF SOLID WASTE SUCH AS BUILDING MATERIAL, PRODUCT/MATERIAL SHIPPING WASTE, FOOD CONTAINERS AND CUPS, AND PROVIDING CONTAINERS FOR THE PROPER DISPOSAL OF WASTE PAINTS SOLVENTS, AND CLEANING COMPOUNDS.
- PROVISIONS OF PORTABLE TOILETS FOR PROPER DISPOSAL OF SANITARY SEWAGE.
- STORAGE OF CONSTRUCTION MATERIALS AWAY FROM DRAINAGE COURSES AND LOW AREAS.
- INSTALLATION OF CONTAINMENT BERMS AND USE OF DRIP PANS AT PETROLEUM PRODUCT AND LIQUID STORAGE TANKS AND CONTAINERS.
3. ALL DISTURBED AREAS SHALL BE SEEDED, FERTILIZED AND MULCHED, OR SODDED, IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS ADOPTED BY THE REVIEWING GOVERNING AGENCY AND GOOD ENGINEERING PRACTICES. THIS SHALL BE COMPLETED WITHIN FOURTEEN (14) DAYS AFTER COMPLETING THE WORK, IN ANY AREA. IF THIS IS OUTSIDE OF THE SEEDING PERIOD, SILT BARRIERS OR OTHER SIMILARLY EFFECTIVE MEASURES SHALL BE PROVIDED UNTIL SUCH TIME THAT THE AREAS CAN BE SEEDED.
4. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO ALL CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE REVIEWING GOVERNING AGENCY. THE DEVELOPER WILL BE RESPONSIBLE FOR DETERMINING ALL ADDITIONAL STANDARDS, SPECIFICATIONS OR REQUIREMENTS WHICH ARE REQUIRED BY GOVERNING AGENCIES (INCLUDING LOCAL, STATE AND FEDERAL AUTHORITIES) HAVING JURISDICTION OVER THE WORK PROPOSED BY THESE CONSTRUCTION DRAWINGS.
5. ALL EROSION CONTROL MEASURES, TEMPORARY OR PERMANENT, REQUIRE MAINTENANCE TO PRESERVE THEIR EFFECTIVENESS. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED IMMEDIATELY AFTER EACH HEAVY RAINSTORM AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY. ALL COSTS ASSOCIATED WITH THE REPAIR WORK INCLUDING RELATED INCIDENTALS WILL BE THE DEVELOPER'S RESPONSIBILITY AND SHALL BE INCLUDED IN THE DEVELOPER'S BID FOR THE PROPOSED WORK.
6. ALL EROSION CONTROL MEASURES TO BE PER KANSAS CITY, MISSOURI STANDARD DETAILS.
7. THE DEVELOPER MUST REMOVE AT HIS COST ANY BAD SUBSURFACE SOIL WHICH WOULD NOT BE ABLE TO SUPPORT ANY PROPOSED PUBLIC IMPROVEMENT. BACKFILL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTIONS 2100 AND 2201 ENTITLED "GRADING AND SITE PREPARATION" AND "SUBGRADE PREPARATION".
8. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTORS 48 HOURS PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 696-1200

ESTIMATE OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
PRIVATE GRADING				
1	EXCAVATION	C.Y.	27,647	
2	EMBANKMENT	C.Y.	33,741	
PUBLIC GRADING				
3	EXCAVATION	C.Y.	5,570	
4	EMBANKMENT	C.Y.	9,578	
SITE DISTURBANCE				
5	CONSTRUCTION ENTRANCE	EA.	1	
6	CONCRETE WASHOUT	EA.	1	
7	CURB INLET PROTECTION	EA.	24	
8	AREA INLET PROTECTION	EA.	8	
9	SILT FENCE	L.F.	2418	
10	DIVERSION BERM	L.F.	3347	
11	ROCK DITCH CHECK	EA.	3	
12	SEDIMENT TRAP	EA.	3	
13	SEDIMENT BASIN	EA.	1	
14	DISTURBED AREA	AC.	21.22	
15	TREE CLEARING	AC.	4.50	
16	PERMANENT SEEDING	AC.	18.05	

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.

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Olsson - Civil Engineering

Missouri Certificate of Authority #: 001592

1301 Burlington Street

North Kansas City, MO 64116

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STATE OF MISSOURI

BROCK M. WORTHLEY

Brock M. Worthley

PE-2019080237

3/17/2020

PROFESSIONAL ENGINEER

BY

REV. NO.

DATE

REVISIONS DESCRIPTION

GENERAL NOTES

GRADING & SITE DISTURBANCE PLANS

OSAGE

FIRST PLAT

2020

LEE'S SUMMIT, MISSOURI

drawn by: GS

checked by: SS

designed by: BMW

QA/QC by: JES

project no.: A19-2339

drawing no.: C_TTL01_A192339

date: 3/17/2020

SHEET

C402

USER: worthley
C_PEROS_A192339



SOILS M
N.T.S.

SOIL CLASSIFICATION BY NRCS WEB SOIL SURVEY				
MAP	SYMBOL	SOIL TYPE	HYDROLOGIC SOIL GROUP	SLOPES
10000		ARISBURG SILT LOAM	C	1-5%
10082		ARISBURG-URBAN LAND COMPLEX	C	1-5%
10116		SAMPSEL SILTY CLAY LOAM	C/D	2-5%
10117		SAMPSEL SILTY CLAY LOAM	C/D	5-9%
10120		SHARPSBURG SILT LOAM	C	2-5%
10122		SHARPSBURG SILT LOAM	C	5-9%
10181		UDARENTS-URBAN LAND SAMPSEL COMPLEX	C	5-9%
30080		GREENTON SILTY CLAY LOAM	C/D	5-9%



DISTURBED AREA & PRESERVED VEGETATION

GENERAL LAYOUT

OSAGE
FIRST DISTRICT

LEE'S SUMMIT, MISSOURI

2020

[illegible]

DEVISIONS



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SHEET
C403

drawn by: _____ GS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: _____ A19-2339
drawing no.: C GEN01_A192339
date: _____ 3/17/2020

DWG: F:\2019\2001-2500\019-2339-A\10-Design\AutoCAD\Final Plans\Sheets\NCVA\SITE DISTURBANCE\C_CRD01_A192339.dwg USER: bworthley
DATE: Mar 17, 2020 8:54pm XREFS: C_PTBK_A192339 C_PBSE_A192339 C_PBNY_A192339

GENERAL NOTES:

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

LOT FILL INFORMATION			
LOT NUMBER	MAX DEPTH OF FILL (OVER 2' PLACED)	EXISTING SLOPES > 6:1	PROPOSED SLOPES > 3:1
1	2.2		
2	3.3		
3	3.0	X	
4	3.3	X	
5	3.9		
6	3.2		
7	4.4		
8	3.8		
9	3.2		
10	3.4		
11	3.6	X	
12			
13			
14		X	
15		X	
16	2.5	X	
17	2.5		
18	4.0		
19	4.0		
20	3.6		
21	4.0		
22	5.3		
23	6.5		
24	7.3		
25	7.0		
26	4.3		
27	4.8		
28	5.0		
29	4.9		
30	4.0		
31	3.7		
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			

X Indicates condition applies to lot

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	5,570	9,578
SITE	27,647	33,741
TOTAL	33,217	43,319

EARTHWORK QUANTITIES NOTES:

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



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STATE OF MISSOURI
BROCK M. WORTHLEY
Professional Engineer
PE-2019000237
8/17/2020

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

GRADING PLAN
GRADING & SITE DISTURBANCE PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

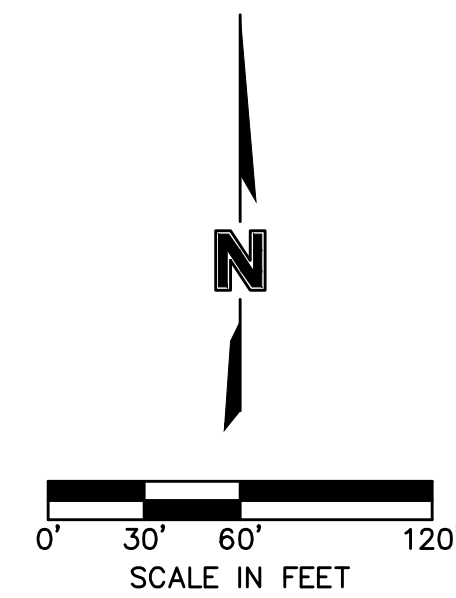
SHEET
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drawing by: GS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_CRD01_A192339
date: 8/17/2020

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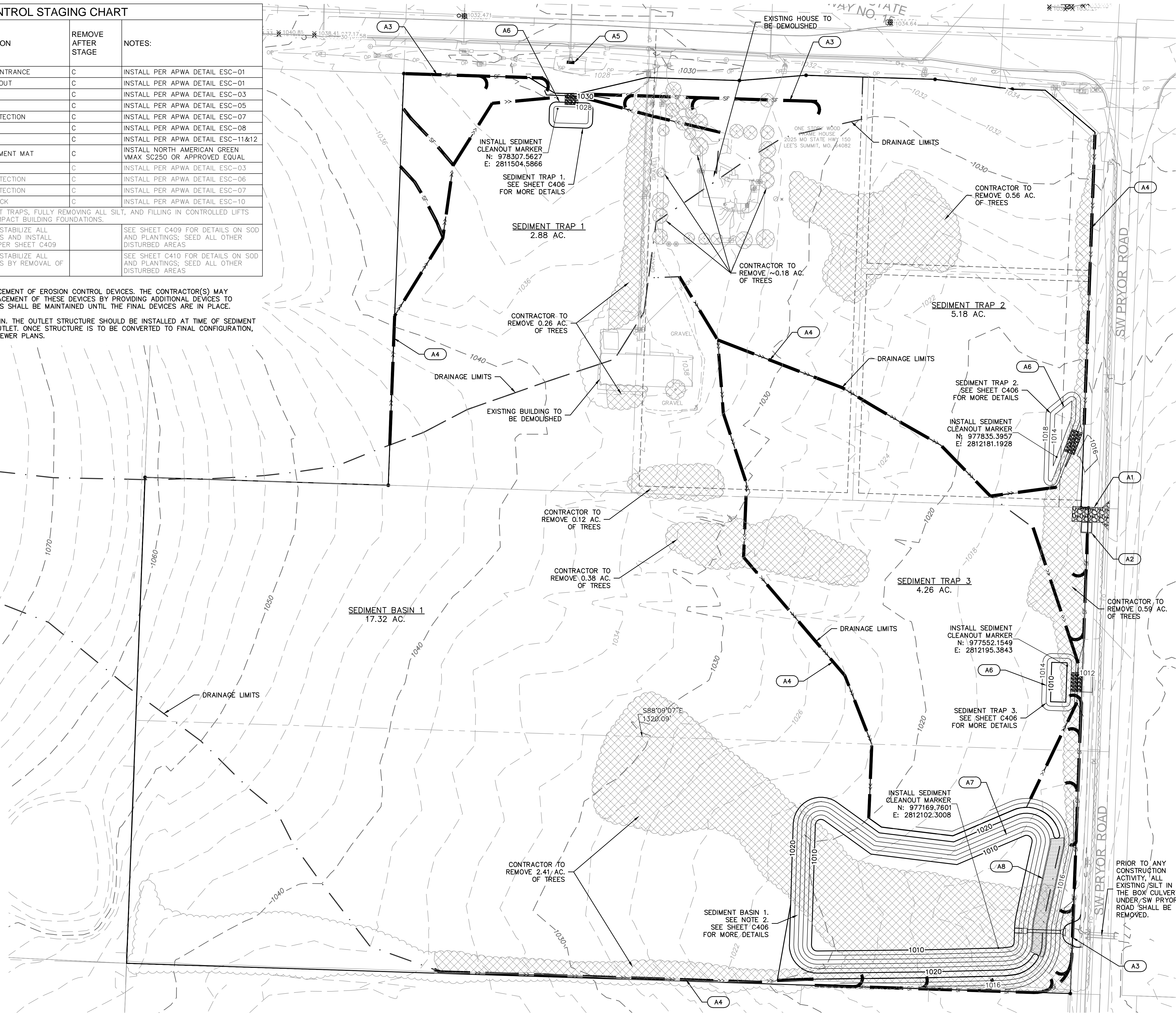
EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRE-MASS GRADING	A1	CONSTRUCTION ENTRANCE	C	INSTALL PER APWA DETAIL ESC-01
	A2	CONCRETE WASHOUT	C	INSTALL PER APWA DETAIL ESC-01
	A3	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	A4	DIVERSION BERM	C	INSTALL PER APWA DETAIL ESC-05
	A5	AREA INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-07
	A6	SEDIMENT TRAP	C	INSTALL PER APWA DETAIL ESC-08
	A7	SEDIMENT BASIN	C	INSTALL PER APWA DETAIL ESC-11&12
	A8	TURF REINFORCEMENT MAT	C	INSTALL NORTH AMERICAN GREEN VMAX SC250 OR APPROVED EQUAL
B - INTERIM	B1	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	B2	CURB INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-06
	B3	AREA INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-07
	B4	ROCK DITCH CHECK	C	INSTALL PER APWA DETAIL ESC-10
UPON REMOVAL CONTRACTOR TO OVER-EXCAVATE SEDIMENT TRAPS, FULLY REMOVING ALL SILT, AND FILLING IN CONTROLLED LIFTS TO PREVENT VOIDS OR EXCESSIVE SETTLING THAT COULD IMPACT BUILDING FOUNDATIONS.				
C - DISTURBED AREA STABILIZATION	C1	SEED, SOD AND STABILIZE ALL DISTURBED AREAS AND INSTALL ALL PLANTINGS PER SHEET C409		SEE SHEET C409 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS
D - FINAL STABILIZATION	D1	SEED, SOD AND STABILIZE ALL DISTURBED AREAS BY REMOVAL OF SEDIMENT TRAPS		SEE SHEET C410 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS

NOTE:
1. 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.
2. SEDIMENT BASIN TO BECOME PERMANENT DETENTION BASIN. THE OUTLET STRUCTURE SHOULD BE INSTALLED AT TIME OF SEDIMENT BASIN INSTALLATION TO BE UTILIZED AS SEDIMENT BASIN OUTLET. ONCE STRUCTURE IS TO BE CONVERTED TO FINAL CONFIGURATION, INSTALL PER DETENTION BASIN PLAN IN STREET & STORM SEWER PLANS.



LEGEND	
PHASE A	
	SILT FENCE
	STORM DRAIN INLET PROTECTION
	TEMPORARY DIVERSION BERM
	TEMPORARY STONE CONSTRUCTION ENTRANCE
	TURF REINFORCEMENT MAT
	TREE CLEARING
	DRAINAGE AREA TO BASIN/TRAP

WHERE SILT FENCE IS SPECIFIED, IT MAY BE REPLACED BY MULCH BERM OR WATTLES FILLED WITH MULCH AT THE CONTRACTOR'S DISCRETION.



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BY	
REVISIONS DESCRIPTION	
DATE	
REV. NO.	

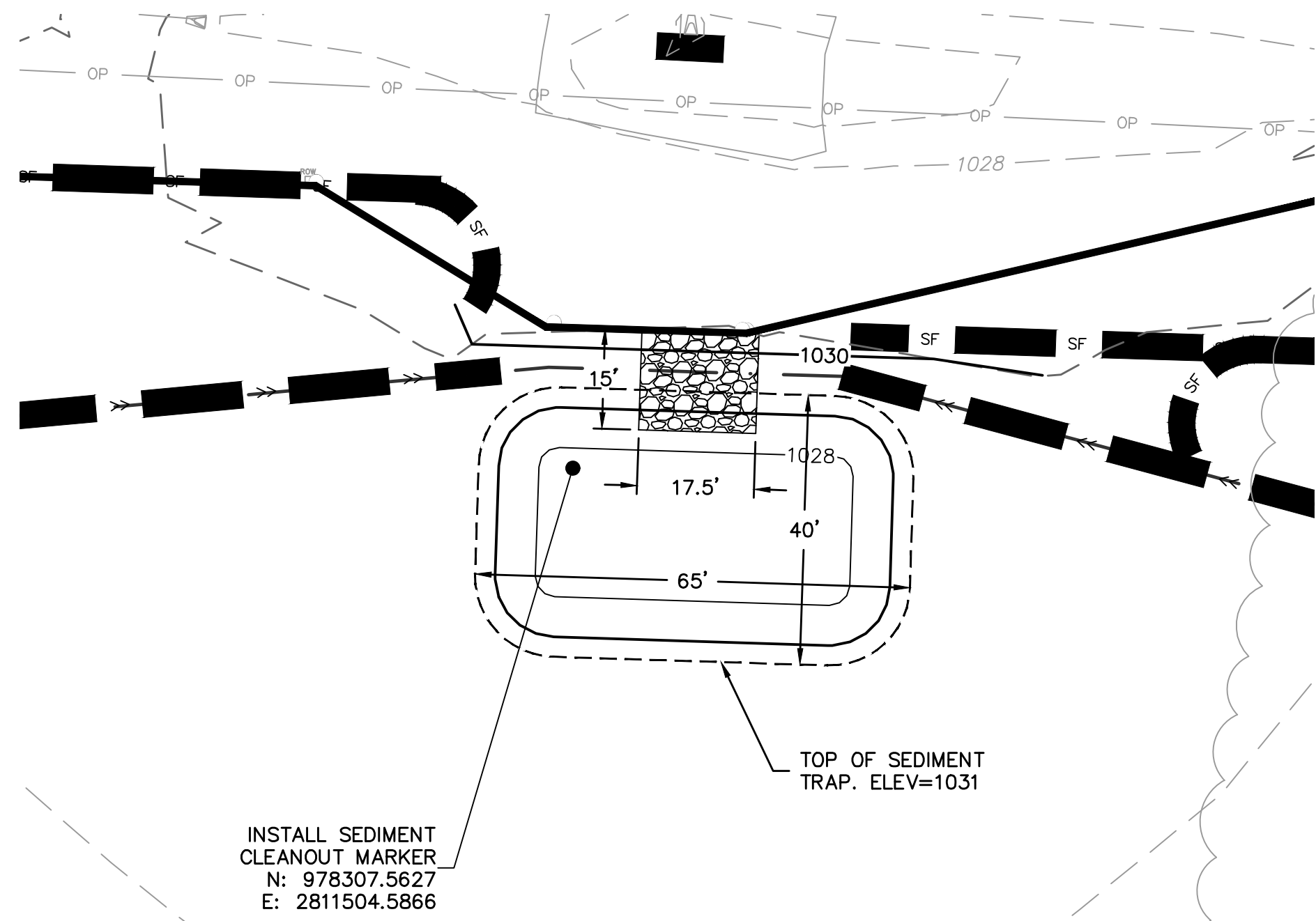
SITE DISTURBANCE PHASE A GRADING & SITE DISTURBANCE PLANS	OSAGE FIRST PLAT	2020
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drawn by: GS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_ERC01_A192339
date: 3/17/2020

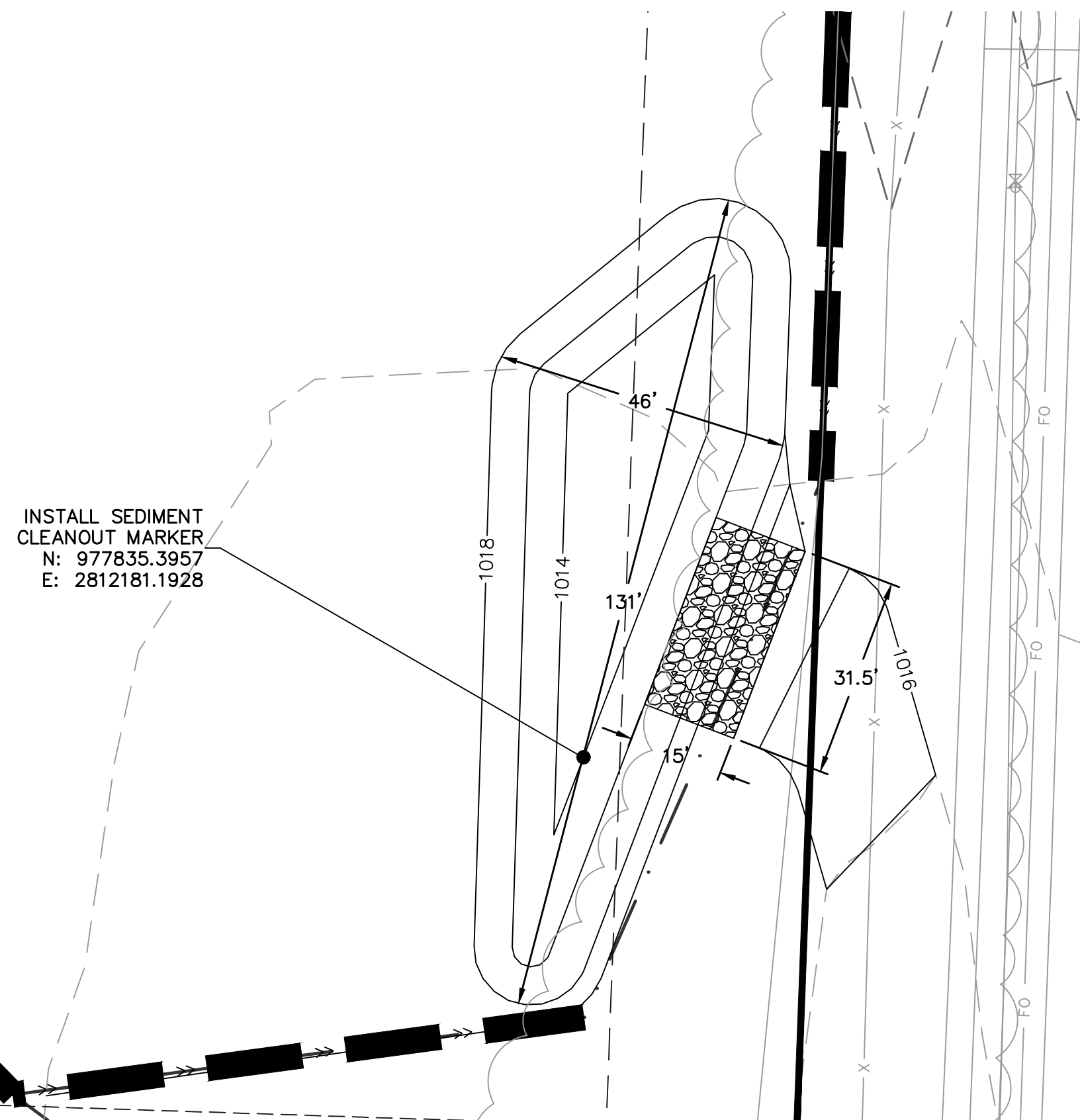
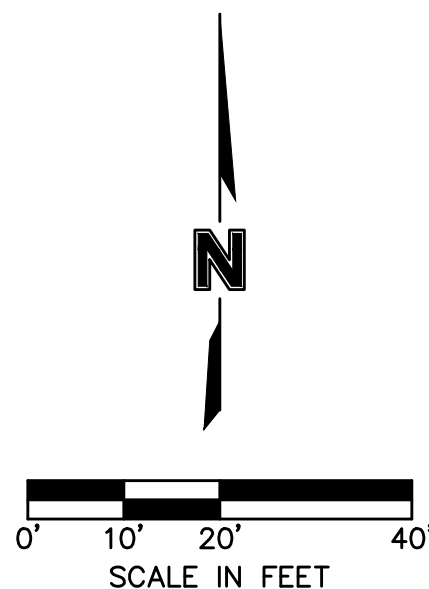
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REVISIONS

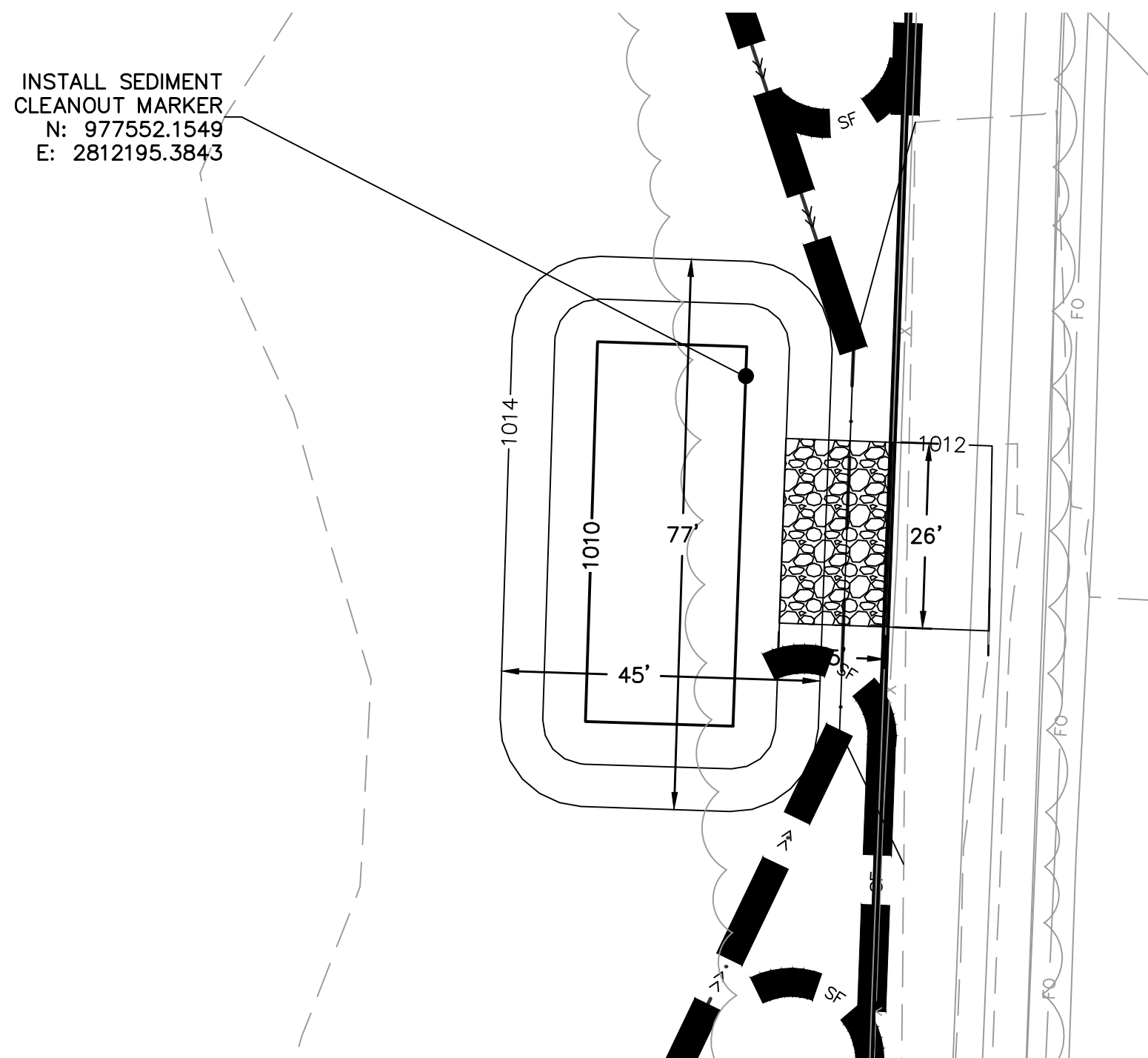
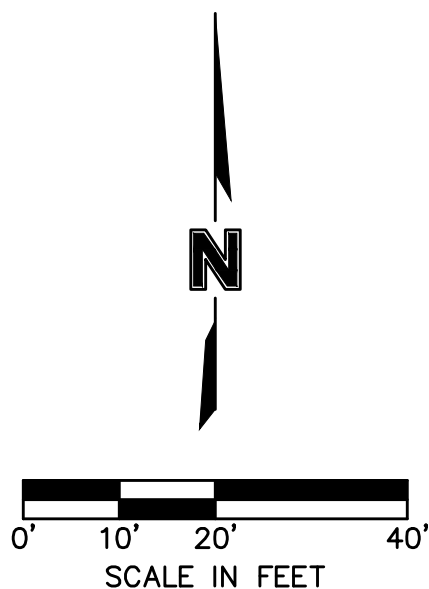
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DATE: Mar 17, 2020 8:55pm XREFS: C_PTBK_A192339 C_BASE_A192339 C_PEROS_A192339 C_DBASE_A192339



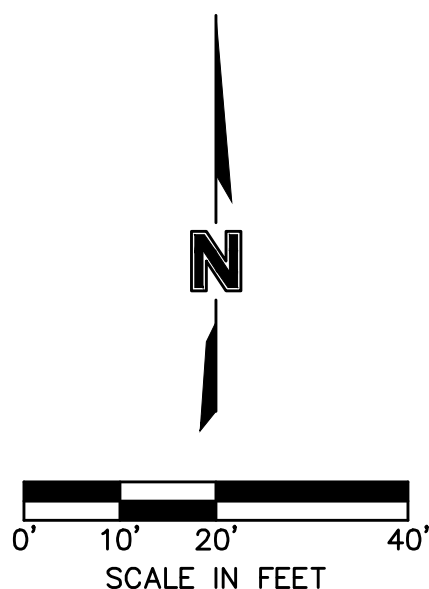
DESIGN ITEM	VALUE	UNIT
TRIBUTARY AREA	2.88	AC
MIN. STORAGE VOL	5206	CU FT
PROVIDED STORAGE VOL	6049	CU FT
SEDIMENT CLEANOUT EL.	1028.15	FT
TOP OF TRAP	1031.00	FT
BOTTOM OF TRAP	1027.00	FT
HEIGHT OF DAM	2.00	FT
SPILLWAY LENGTH	17.27	FT
SPILLWAY WIDTH	17.60	FT



DESIGN ITEM	VALUE	UNIT
TRIBUTARY AREA	5.18	AC
MIN. STORAGE VOL	9376	CU FT
PROVIDED STORAGE VOL	9931	CU FT
SEDIMENT CLEANOUT EL.	1015.24	FT
TOP OF TRAP	1018.00	FT
BOTTOM OF TRAP	1014.00	FT
HEIGHT OF DAM	2.00	FT
SPILLWAY LENGTH	31.10	FT
SPILLWAY WIDTH	31.60	FT



DESIGN ITEM	VALUE	UNIT
TRIBUTARY AREA	4.28	AC
MIN. STORAGE VOL	7700	CU FT
PROVIDED STORAGE VOL	8639	CU FT
SEDIMENT CLEANOUT EL.	1011.10	FT
TOP OF TRAP	1014.00	FT
BOTTOM OF TRAP	1010.00	FT
HEIGHT OF DAM	2.00	FT
SPILLWAY LENGTH	25.54	FT
SPILLWAY WIDTH	26.00	FT



SITE DISTURBANCE PHASE A - TRAP TABLES
GRADING & SITE DISTURBANCE PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY



olsson

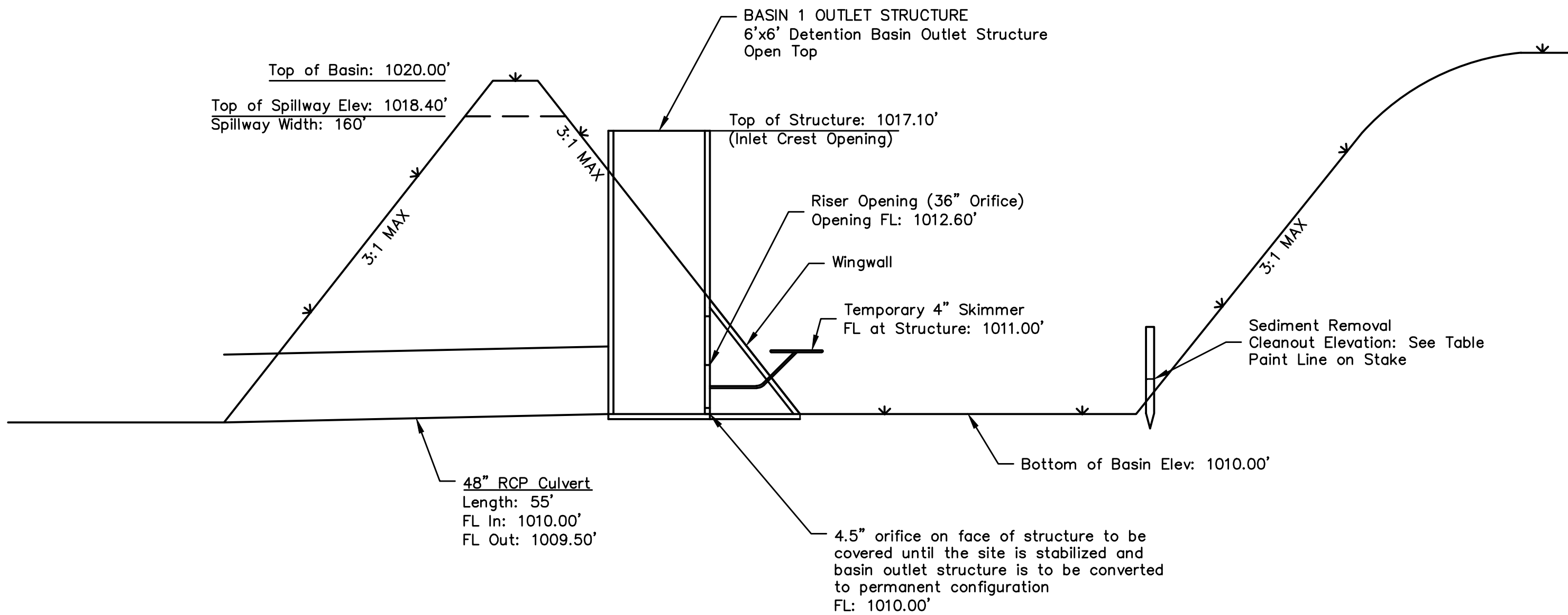
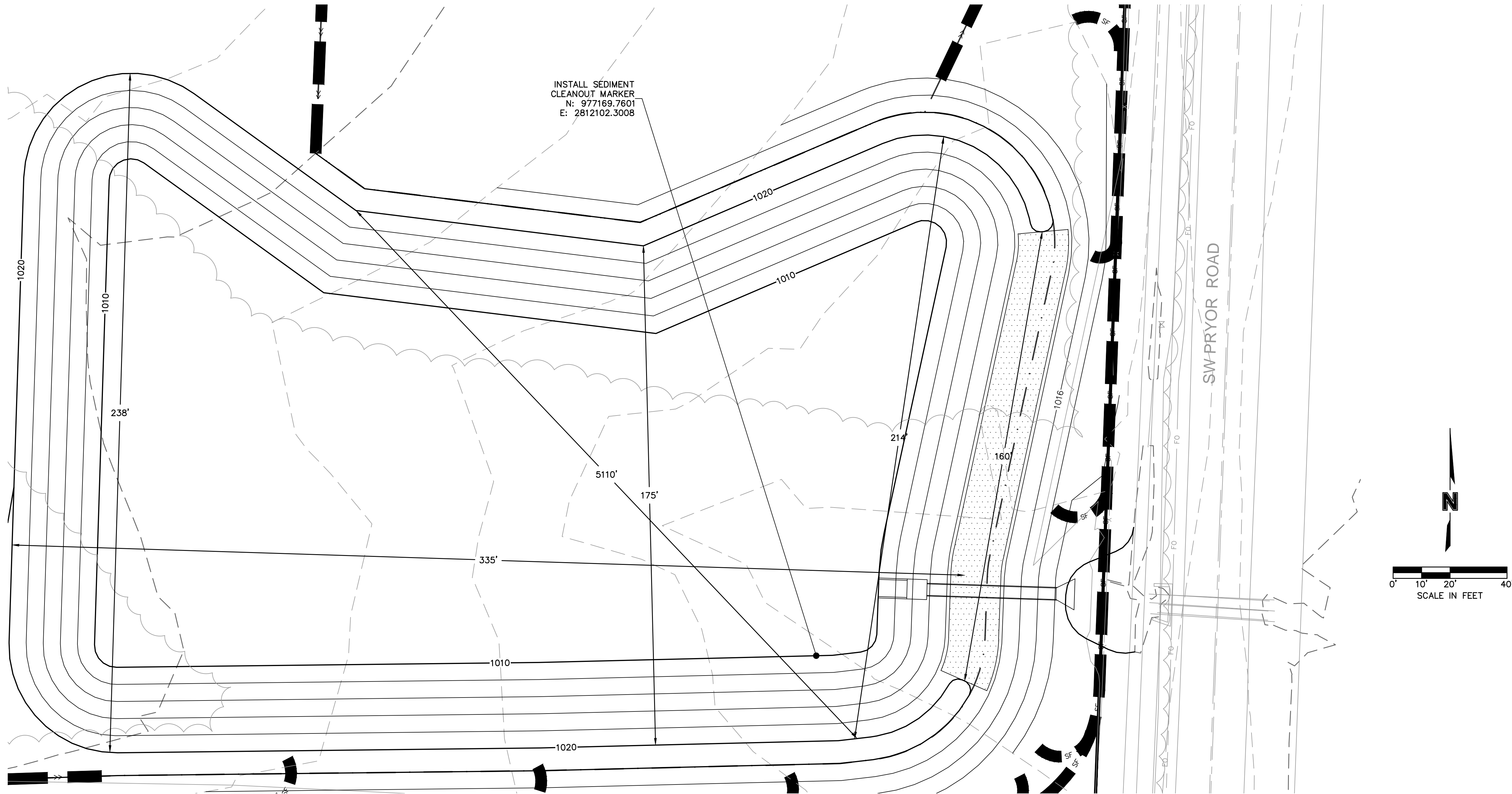
Olsson - Civil Engineering
Missouri Certificate of Authority #: 001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
www.olson.com

drawn by: _____ GS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: A19-2339
drawing no.: C_ERC01_A192339
date: 3/17/2020

SHEET
C406

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\ONCA\SITE DISTURBANCE\C_ERC01_A192339.dwg USER: bworthley
DATE: Mar 17, 2020 8:55pm XREFS: C_PTBK_A192339 C_YBASE_A192339 C_PEROS_A192339 C_DBASE_A192339

1 N.T.S.
TEMPORARY SEDIMENT BASIN 1



SEDIMENT BASIN 1 - PHASE 1 DESIGN SUMMARY		
Design Item	Quantity	Units
Site Data		
Tributary Drainage Area To Pond	17.32	Acres
50% (2 Year) Design Flow	47.78	cfs
10% (10 Year) Design Flow	64.95	cfs
4% (25 Year) Design Flow	82.88	cfs
1% (100 Year) Design Flow	113.98	cfs
Pond Data		
Minimum Sediment Storage Volume	2321	cu yd
Provided Sediment Storage Volume	11062	cu yd
Bottom Elevation	1010.00	ft
Sediment Cleanout Elevation	1010.78	ft
Top of Riser Elevation	1012.60	ft
Emergency Spillway Elevation	1018.40	ft
Top of Dam Elevation	1020.00	ft
Basin Shape Data		
A = Area at Normal Pool	45577	sq ft
L = Length of Flow Path	330	ft
WE = Effective Width = A/L	138	ft
Principal Spillway Data		
Riser Pipe DIA	6'x6" Inlet Box	
Barrel Pipe DIA	48	in
Skimmer Size	4	in
Emergency Spillway Data		
Design Depth in Spillway	0.00	ft
Design Velocity in Spillway	0	ft/sec
Lining Material	TRM	
Spillway Width	160	ft
Water Surface Elevations		
2-year	1012.53	ft
10-year	1012.97	ft
25-year	1013.33	ft
100-year	1014.00	ft

SEDIMENT BASIN 1 - PHASE 2 DESIGN SUMMARY		
Design Item	Quantity	Units
Site Data		
Tributary Drainage Area To Pond	25.78	Acres
50% (2 Year) Design Flow	71.11	cfs
10% (10 Year) Design Flow	96.66	cfs
4% (25 Year) Design Flow	123.34	cfs
1% (100 Year) Design Flow	169.63	cfs
Pond Data		
Minimum Sediment Storage Volume	3455	cu yd
Provided Sediment Storage Volume	11062	cu yd
Bottom Elevation	1010.00	ft
Sediment Cleanout Elevation	1011.04	ft
Top of Riser Elevation	1012.60	ft
Emergency Spillway Elevation	1018.40	ft
Top of Dam Elevation	1020.00	ft
Basin Shape Data		
A = Area at Normal Pool	45577	sq ft
L = Length of Flow Path	330	ft
WE = Effective Width = A/L	138	ft
Principal Spillway Data		
Riser Pipe DIA	6'x6" Inlet Box	
Barrel Pipe DIA	48	in
Skimmer Size	4	in
Emergency Spillway Data		
Design Depth in Spillway	0.00	ft
Design Velocity in Spillway	0	ft/sec
Lining Material	TRM	
Spillway Width	160	ft
Water Surface Elevations		
2-year	1012.83	ft
10-year	1013.84	ft
25-year	1014.43	ft
100-year	1015.59	ft

SITE DISTURBANCE PHASE A - BASIN TABLES
GRADING & SITE DISTURBANCE PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REVISIONS DESCRIPTION

DATE

REV. NO.

BY

REVISIONS

drawn by: GS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_ERC01_A192339
date: 3/17/2020

SHEET
C407



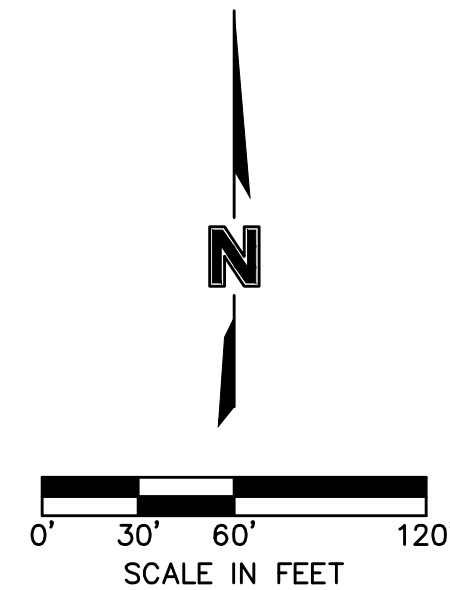
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North Kansas City, MO 64116
TEL 816.361.1177
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F:\2019\2001-2500\019-2339-A140-Design\AutoCAD\Find Plans\Sheets\NCVA\Site Disturbance\C_ERC02_A192339.dwg USER: bworthley
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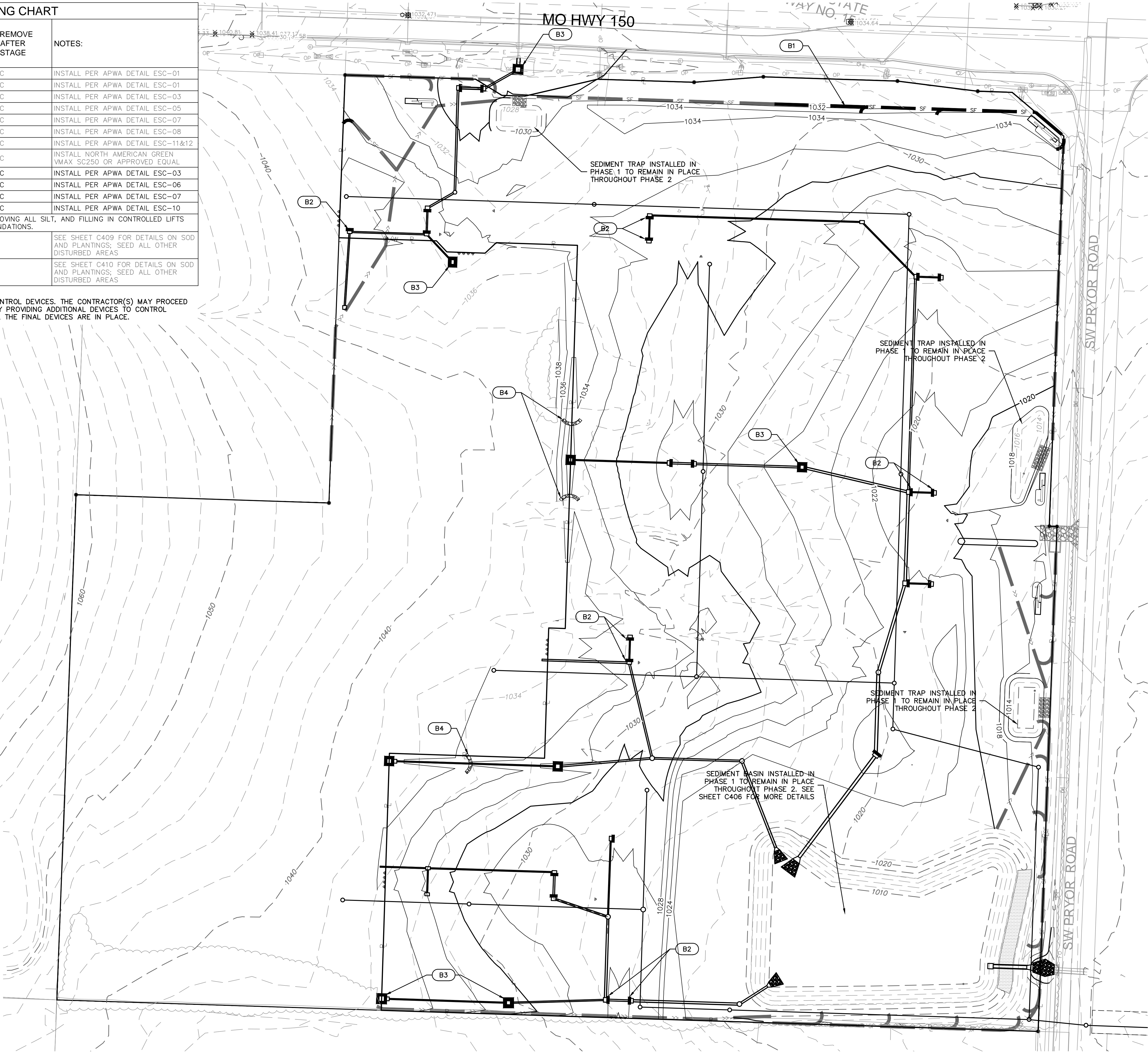
EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRE-MASS GRADING	A1	CONSTRUCTION ENTRANCE	C	INSTALL PER APWA DETAIL ESC-01
	A2	CONCRETE WASHOUT	C	INSTALL PER APWA DETAIL ESC-01
	A3	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	A4	DIVERSION BERM	C	INSTALL PER APWA DETAIL ESC-05
	A5	AREA INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-07
	A6	SEDIMENT TRAP	C	INSTALL PER APWA DETAIL ESC-08
	A7	SEDIMENT BASIN	C	INSTALL PER APWA DETAIL ESC-11&12
	A8	TURF REINFORCEMENT MAT	C	INSTALL NORTH AMERICAN GREEN VMAX SC250 OR APPROVED EQUAL
B - INTERIM	B1	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	B2	CURB INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-06
	B3	AREA INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-07
	B4	ROCK DITCH CHECK	C	INSTALL PER APWA DETAIL ESC-10
UPON REMOVAL CONTRACTOR TO OVER-EXCAVATE SEDIMENT TRAPS, FULLY REMOVING ALL SILT, AND FILLING IN CONTROLLED LIFTS TO PREVENT VOIDS OR EXCESSIVE SETTLING THAT COULD IMPACT BUILDING FOUNDATIONS.				
C - DISTURBED AREA STABILIZATION	C1	SEED, SOD AND STABILIZE ALL DISTURBED AREAS AND INSTALL ALL PLANTINGS PER SHEET C409		SEE SHEET C409 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS
D - FINAL STABILIZATION	D1	SEED, SOD AND STABILIZE ALL DISTURBED AREAS BY REMOVAL OF SEDIMENT TRAPS		SEE SHEET C410 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS

NOTE:
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.



LEGEND		
PHASE A	PHASE B	
		SILT FENCE
		STORM DRAIN INLET PROTECTION
		TEMPORARY DIVERSION BERM
		ROCK DITCH CHECK
		TEMPORARY STONE CONSTRUCTION ENTRANCE
		TURF REINFORCEMENT MAT
		TREE CLEARING
		DRAINAGE AREA TO BASIN/TRAP

WHERE SILT FENCE IS SPECIFIED, IT MAY BE REPLACED BY MULCH BERM OR WATTLES FILLED WITH MULCH AT THE CONTRACTOR'S DISCRETION.



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STATE OF MISSOURI

BROCK M. WORTHLEY

Professional Engineer

PE-2019000237

3/17/2020

BY	
REVISIONS DESCRIPTION	
DATE	
REV. NO.	

SITE DISTURBANCE PHASE B GRADING & SITE DISTURBANCE PLANS	OSAGE FIRST PLAT	2020
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drawn by: GS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_ERC02_A192339
date: 3/17/2020

SHEET
C408

LEE'S SUMMIT, MISSOURI

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DATE: Mar 17, 2020 8:56pm XREFS: C_PBTBLK_A192339 C_PBNDY_A192339 C_PBASE_A192339 USER: bworthley C_PBASE_A192339

EROSION CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A – PRE-MASS GRADING	A1	CONSTRUCTION ENTRANCE	C	INSTALL PER APWA DETAIL ESC-01
	A2	CONCRETE WASHOUT	C	INSTALL PER APWA DETAIL ESC-01
	A3	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	A4	DIVERSION BERM	C	INSTALL PER APWA DETAIL ESC-05
	A5	AREA INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-07
	A6	SEDIMENT TRAP	C	INSTALL PER APWA DETAIL ESC-08
	A7	SEDIMENT BASIN	C	INSTALL PER APWA DETAIL ESC-11&12
	A8	TURF REINFORCEMENT MAT	C	INSTALL NORTH AMERICAN GREEN VMAX SC250 OR APPROVED EQUAL
B – INTERIM	B1	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	B2	CURB INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-06
	B3	AREA INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-07
	B4	ROCK DITCH CHECKS	C	INSTALL PER APWA DETAIL ESC-10
C – DISTURBED AREA STABILIZATION	C1	SEED, SOD AND STABILIZE ALL DISTURBED AREAS AND INSTALL ALL PLANTINGS PER SHEET C409		SEE SHEET C409 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS
D – FINAL STABILIZATION	D1	SEED, SOD AND STABILIZE ALL DISTURBED AREAS BY REMOVAL OF SEDIMENT TRAPS		SEE SHEET C410 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS

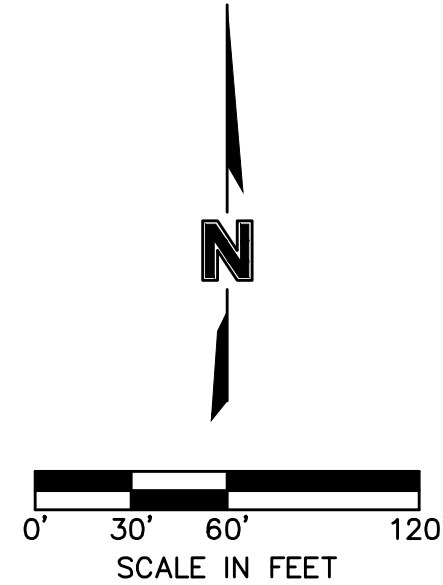
NOTE:
THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED UNTIL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

GENERAL NOTES:
SEED & MULCH NOTES:
SEEDING SHALL BE DONE BEFORE THE PROPOSED SEEDBED BECOMES ERODED, CRUSTED 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.)

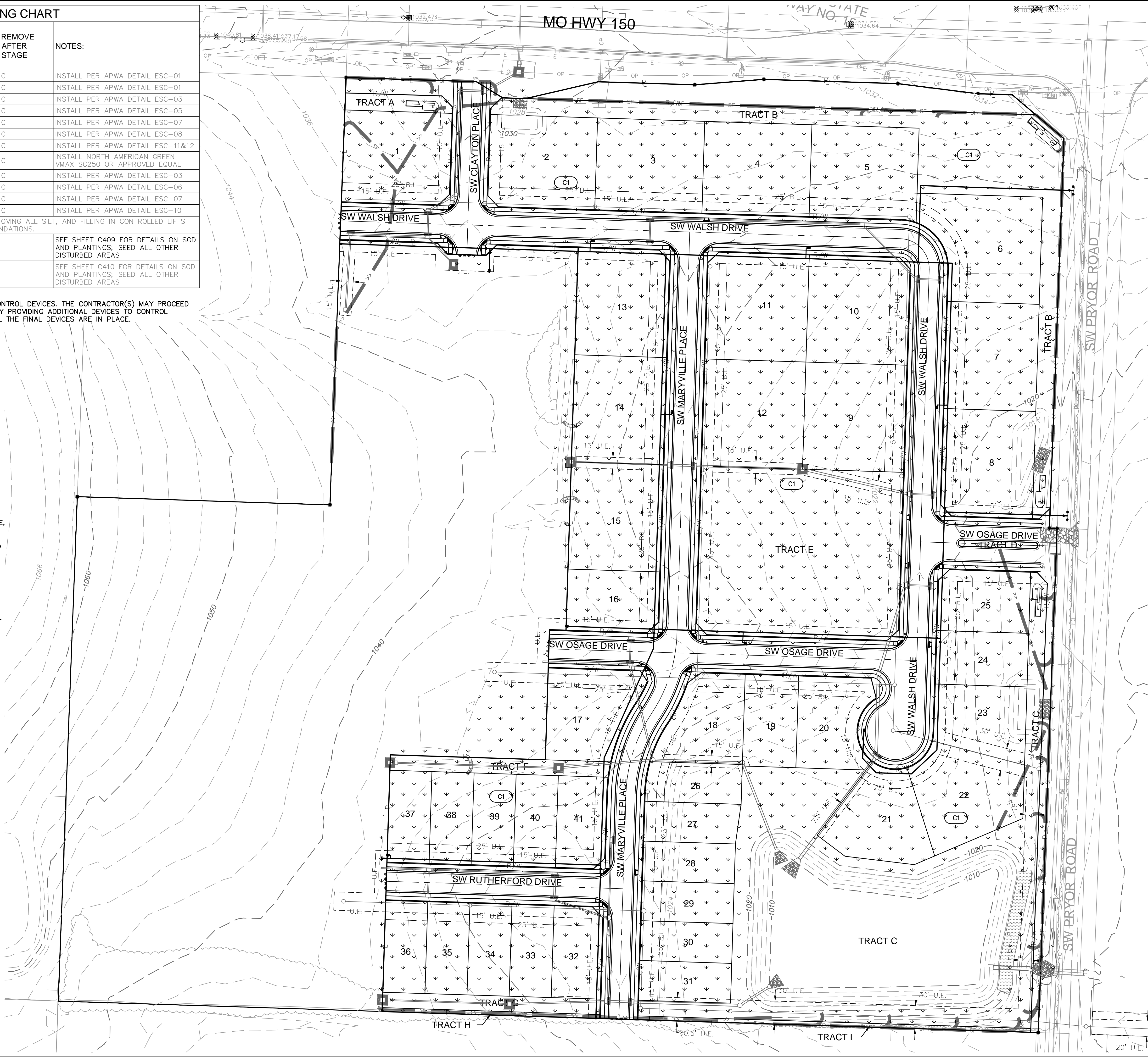
DURING THE DATES DECEMBER 15TH THROUGH MAY 31 ALL LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED TO FINISHED SLOPES OF DISTURBED AREAS. DURING THE MONTHS OF JUNE, JULY, OCTOBER, AND NOVEMBER 1ST THROUGH DECEMBER 15TH, LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED AT THE FOLLOWING RATES:
LIME – 100 % OF SPECIFIED QUANTITY
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 OATS, 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.). MULCH SHALL BE EMBEDDED BY A MULCH ANCHORING TOOL OR DISK TYPE ROLLER HAVING FLAT SERRATED DISKS SPACED NOT MORE THAN 10 INCHES APART AND CLEANING SCRAPERS SHALL 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.



LEGEND	
PHASE A & B	PHASE C
	SILT FENCE
	STORM DRAIN INLET PROTECTION
	TEMPORARY DIVERSION BERM
	ROCK DITCH CHECK
	TEMPORARY STONE CONSTRUCTION ENTRANCE
	TURF REINFORCEMENT MAT
	TREE CLEARING
	DRAINAGE AREA TO BASIN/TRAP
	TURF GRASS SEEDING

WHERE SILT FENCE IS SPECIFIED, IT MAY BE REPLACED BY MULCH BERM OR WATTLES FILLED WITH MULCH AT THE CONTRACTOR'S DISCRETION.



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North Kansas City, MO 64116
TEL 816.361.1177
www.olsson.com

STATE OF MISSOURI
BROCK M. WORTHLEY
Professional Engineer
PE-2019000237
3/17/2020

BY: _____
DATE: _____
REV. NO.: _____
REVISIONS DESCRIPTION: _____

SITE DISTURBANCE PHASE C
GRADING & SITE DISTURBANCE PLANS
OSAGE
FIRST PLAT
LEE'S SUMMIT, MISSOURI
2020

drawn by: _____ GS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: A19-2339
drawing no.: C_ERC03_A192339
date: 3/17/2020

SHEET
C409

EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A – PRE-MASS GRADING	A1	CONSTRUCTION ENTRANCE	C	INSTALL PER APWA DETAIL ESC-01
	A2	CONCRETE WASHOUT	C	INSTALL PER APWA DETAIL ESC-01
	A3	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	A4	DIVERSION BERM	C	INSTALL PER APWA DETAIL ESC-05
	A5	AREA INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-07
	A6	SEDIMENT TRAP	C	INSTALL PER APWA DETAIL ESC-08
	A7	SEDIMENT BASIN	C	INSTALL PER APWA DETAIL ESC-11&12
	A8	TURF REINFORCEMENT MAT	C	INSTALL NORTH AMERICAN GREEN VMAX SC250 OR APPROVED EQUAL
B – INTERIM	B1	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	B2	CURB INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-06
	B3	AREA INLET PROTECTION	C	INSTALL PER APWA DETAIL ESC-07
	B4	ROCK DITCH CHECK	C	INSTALL PER APWA DETAIL ESC-10
UPON REMOVAL CONTRACTOR TO OVER-EXCAVATE SEDIMENT TRAPS, FULLY REMOVING ALL SILT, AND FILLING IN CONTROLLED LIFTS TO PREVENT VOIDS OR EXCESSIVE SETTLING THAT COULD IMPACT BUILDING FOUNDATIONS.				
C – DISTURBED AREA STABILIZATION	C1	SEED, SOD AND STABILIZE ALL DISTURBED AREAS AND INSTALL ALL PLANTINGS PER SHEET C409		SEE SHEET C409 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS
D – FINAL STABILIZATION	D1	SEED, SOD AND STABILIZE ALL DISTURBED AREAS BY REMOVAL OF SEDIMENT TRAPS		SEE SHEET C410 FOR DETAILS ON SOD AND PLANTINGS; SEED ALL OTHER DISTURBED AREAS

GENERAL NOTES:
SEED & MULCH NOTES:
SEEDING SHALL BE DONE BEFORE THE PROPOSED SEEDBED BECOMES ERODED,
CRUSTED 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.

DURING THE DATES DECEMBER 15TH THROUGH MAY 31 ALL LIME, 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, LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED AT THE FOLLOWING RATES:

LIME - 100 % OF SPECIFIED QUANTITY
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 OATS, 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.). MULCH SHALL BE EMBEDDED BY A MULCH ANCHORING TOOL OR DISK TYPE ROLLER HAVING FLAT SERRATED DISKS SPACED NOT MORE THAN 10 INCHES APART AND CLEANING SCRAPERS SHALL BE PROVIDED.

A north arrow pointing upwards with the letter 'N' in the center. Below it is a scale bar marked from 0' to 120' in increments of 30'.

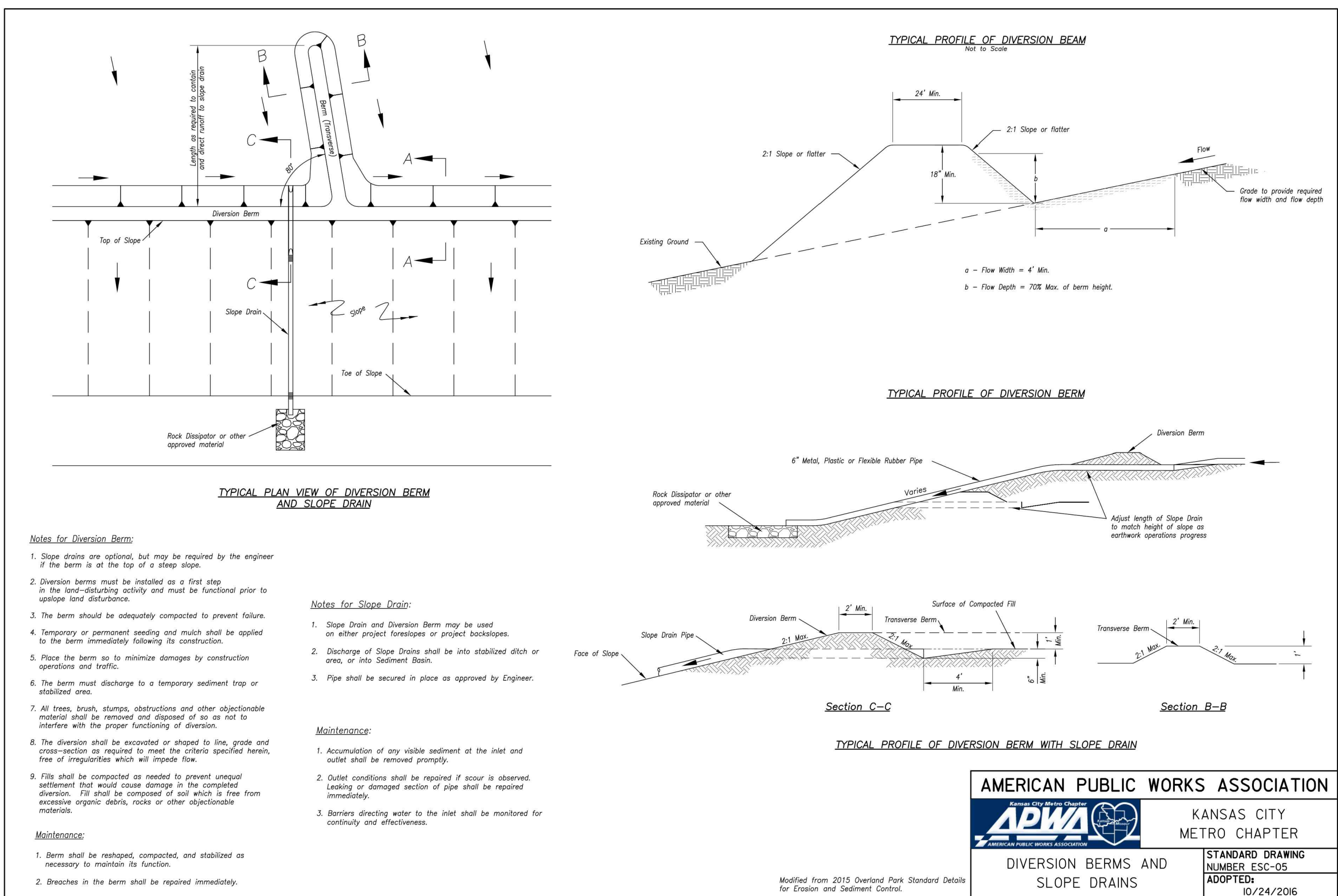
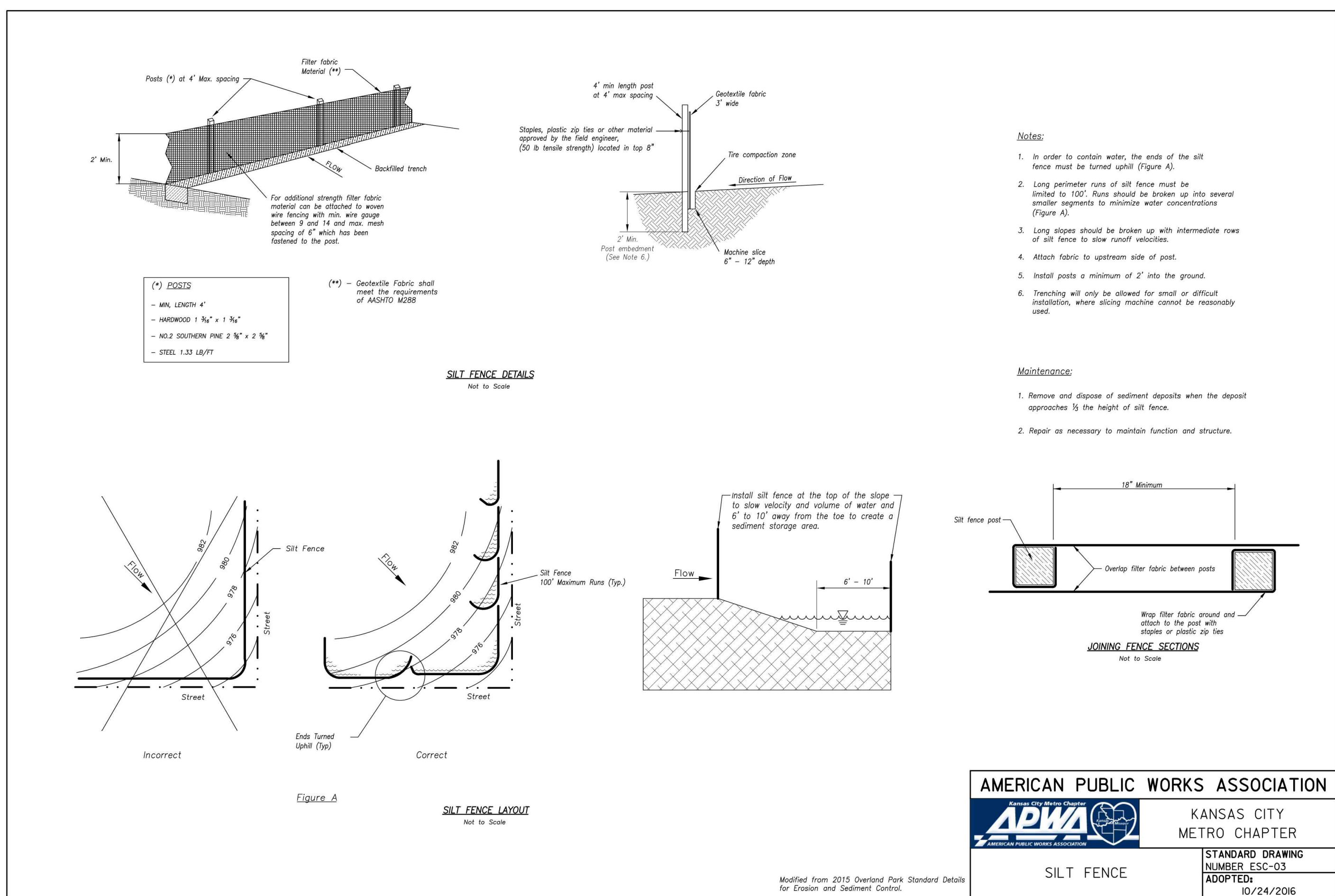
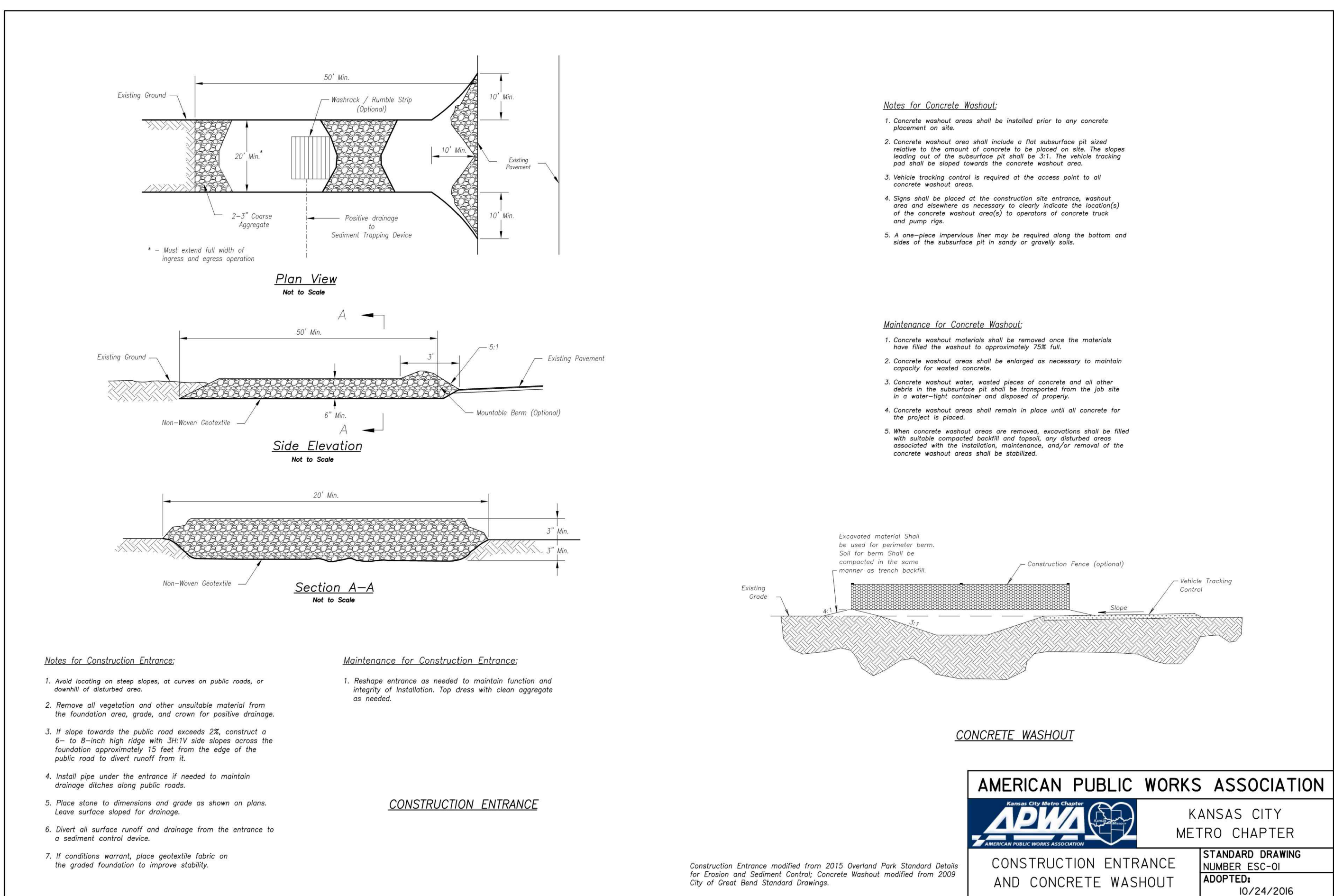
WHERE SILT FENCE IS SPECIFIED, IT MAY BE REPLACED BY MULCH BERM OR WATTLES FILLED WITH MULCH AT THE CONTRACTOR'S DISCRETION.

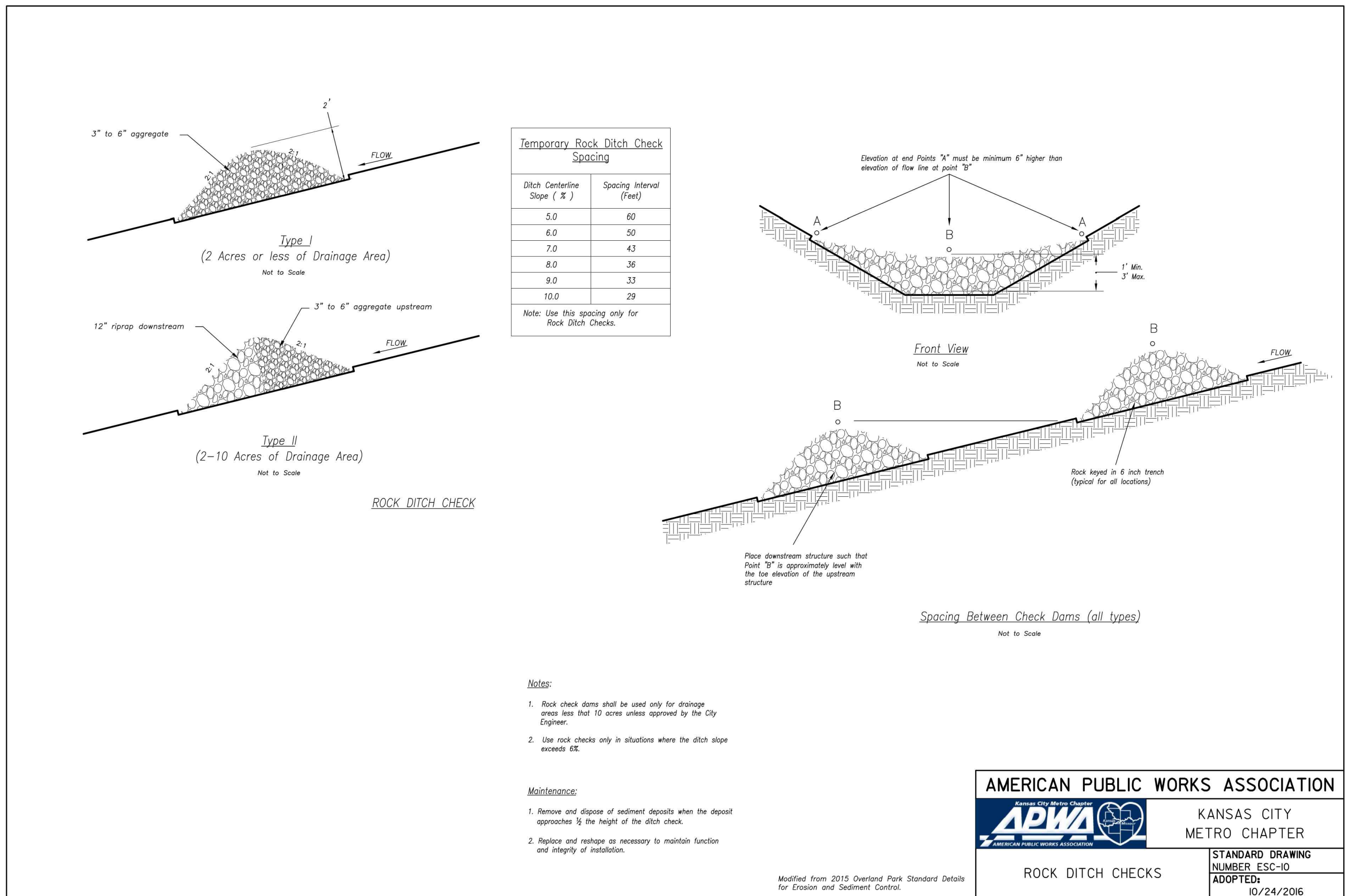
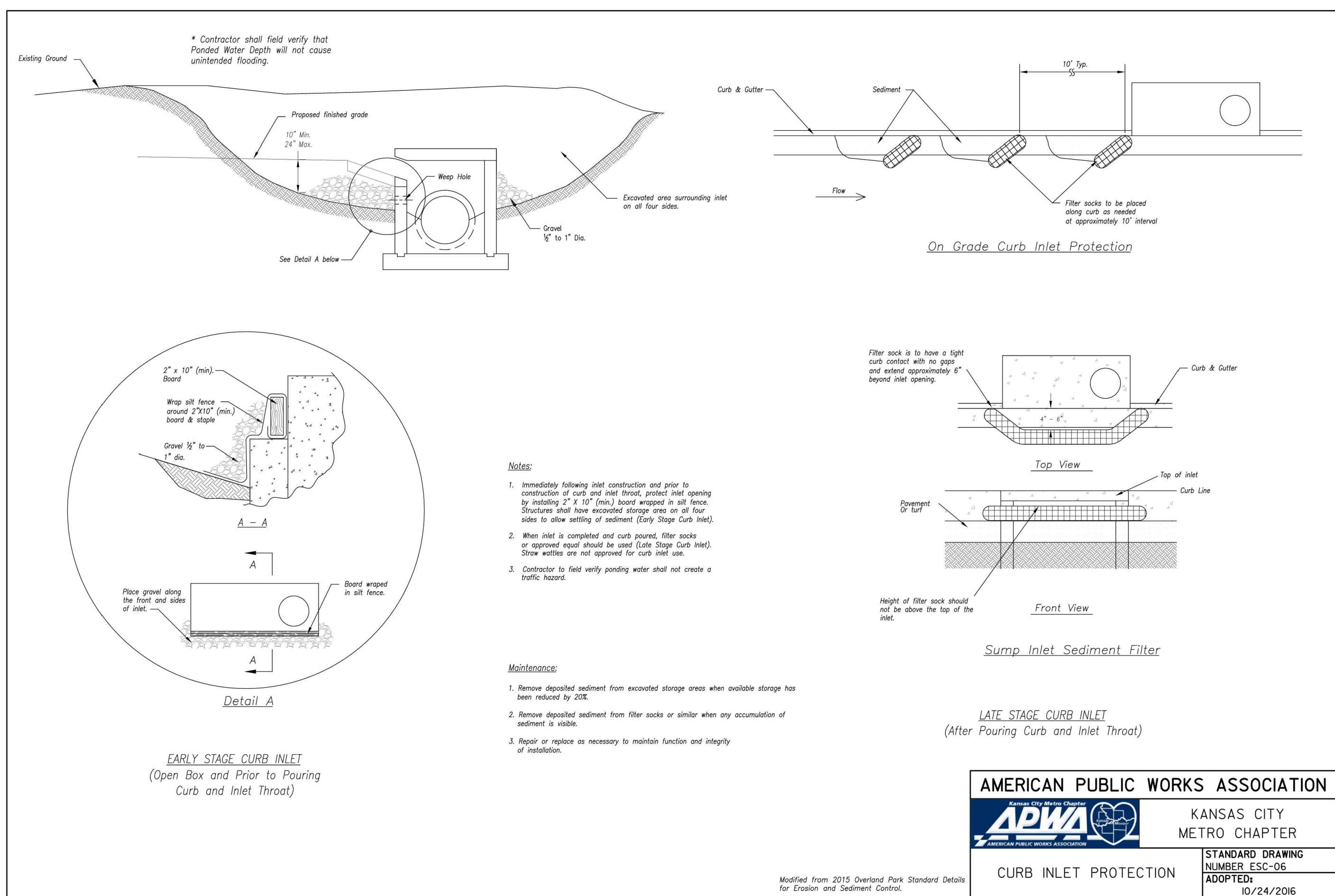
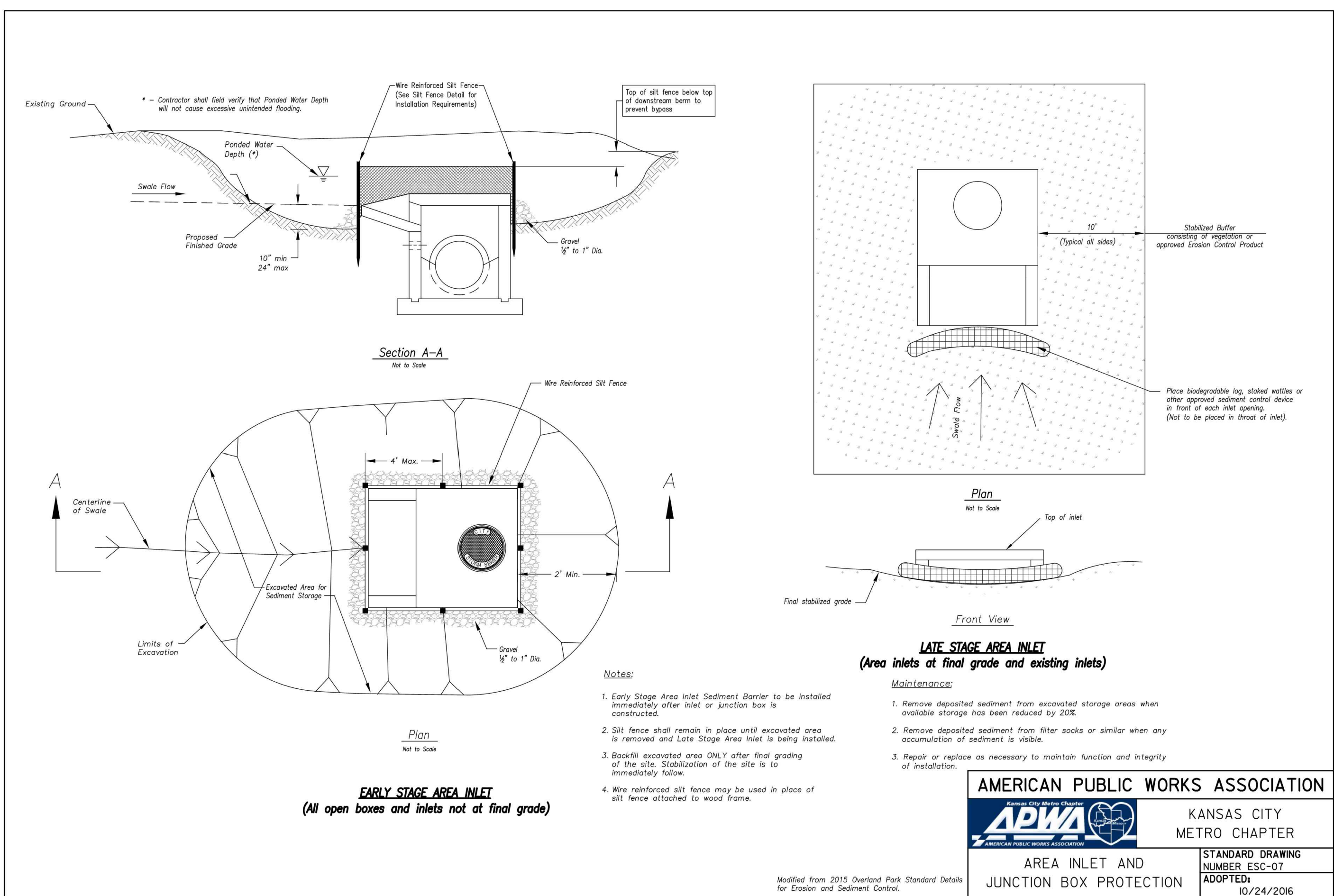
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OSAGE FIRST PLAT	SITE DISTURBANCE PHASE D GRADING & SITE DISTURBANCE PLANS
OSAGE	

drawn by: _____ GS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: _____ A19-2339
drawing no.: C_ERC04_A192339
date: _____ 3/17/2020

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C410





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Olsson - Civil Engineering
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STATE OF MISSOURI
BROCK M. WORTHLEY
Professional Engineer
PE-2019000237
3/17/2020

DETAIL SHEET
GRADING & SITE DISTURBANCE PLANS
OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

drawn by: _____ GS
checked by: _____ SS
designed by: _____ BMW
QA/QC by: _____ JES
project no.: A19-2339
drawing no.: C_DTL01_A192339
date: 3/17/2020

SHEET
C412

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

REVISIONS

