

USER: bworthley

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\QNC\A\SITE DISTURBANCE\C_TTL01_A192339.dwg
DATE: Apr 24, 2020 2:59pm XREFS: C_PBDY_A192339 C_PTBK_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 CITY OF LEE'S SUMMIT 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 CITY OF LEE'S SUMMIT. 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 APWA KANSAS CITY METRO CHAPTER 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 THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL 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) 969-1200

9. TREE CLEARING TO HAPPEN BETWEEN NOVEMBER 1 AND MARCH 31. TREES CLEARED BETWEEN APRIL 1 AND OCTOBER 31 MUST BE TREES GREATER THAN 1,000 FEET FROM FORESTED OR WOODED AREAS OR TREES LESS THAN 3 INCHES IN DIAMETER, AT BREAST HEIGHT, AND NOT MIXED WITH LARGER TREES. IF LARGER TREES NEED TO BE CLEARED, A SURVEY OF THE TREES MUST BE CONDUCTED TO MAKE SURE THERE ARE NO BAT ROOSTS IN THE TREES. TREE CLEARING TO BE CONDUCTED BY CUTTING DOWN AND MULCHING OR BY PUSHING OVER AND MULCHING. TREES SHALL NOT BE BURNED DOWN.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
PRIVATE GRADING				
1	EXCAVATION	C.Y.	27,711	
2	EMBANKMENT	C.Y.	33,974	
PUBLIC GRADING				
3	EXCAVATION	C.Y.	5,625	
4	EMBANKMENT	C.Y.	9,615	
SITE DISTURBANCE				
5	CONSTRUCTION ENTRANCE	EA.	1	
6	CONCRETE WASHOUT	EA.	1	
7	CURB INLET PROTECTION	EA.	25	
8	AREA INLET PROTECTION	EA.	11	
9	SILT FENCE	L.F.	2543	
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.	21.29	
15	TREE CLEARING	AC.	4.53	
16	PERMANENT SEEDING	AC.	18.01	

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.

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/28/2020

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

GENERAL NOTES
GRADING & SITE DISTURBANCE PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REVISIONS

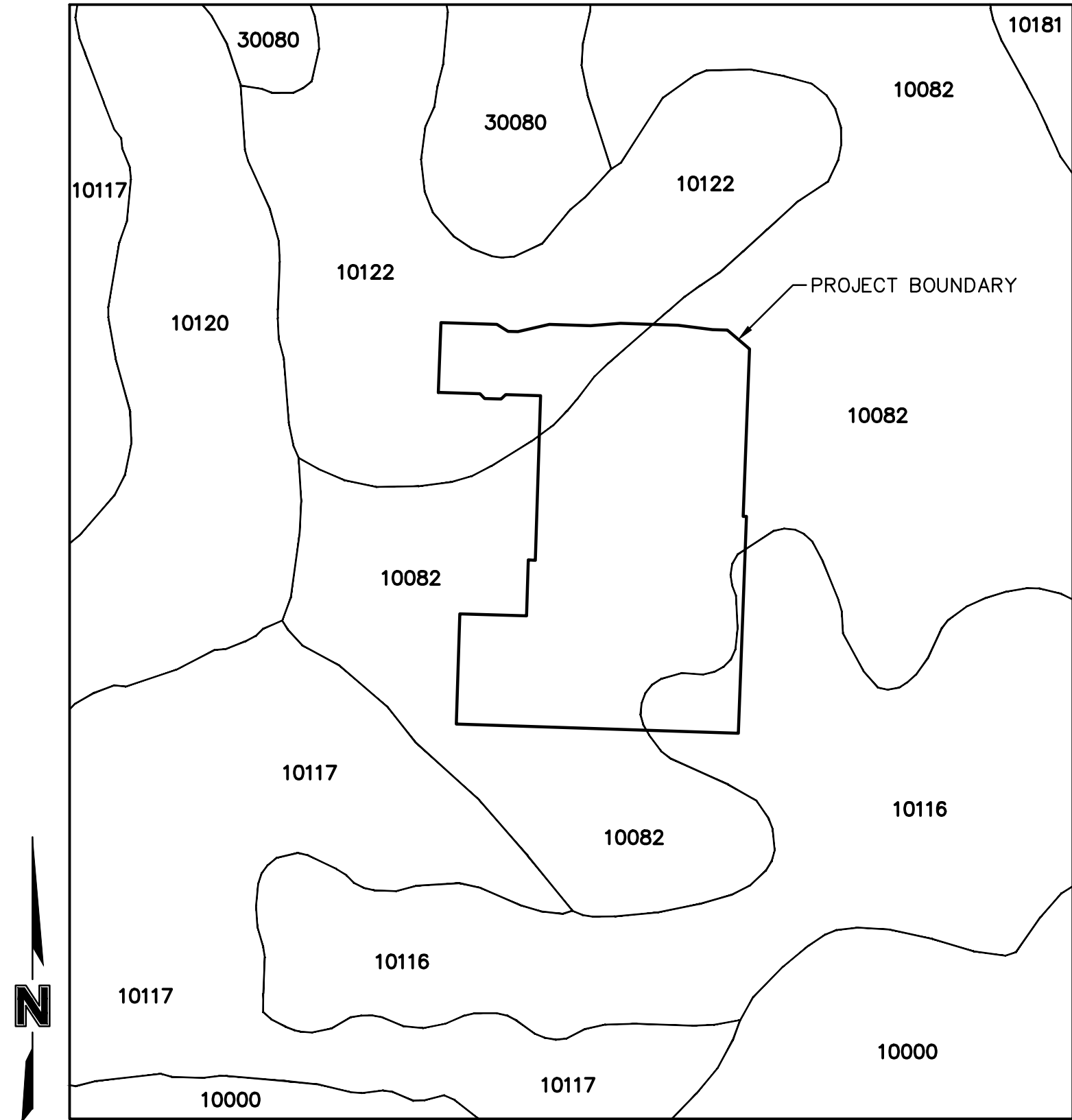
REV. NO.	DATE	REVISIONS DESCRIPTION
1	4/17/2020	NOTES AND QUANTITIES REVISED
2	4/24/2020	QUANTITIES REVISED



olsson

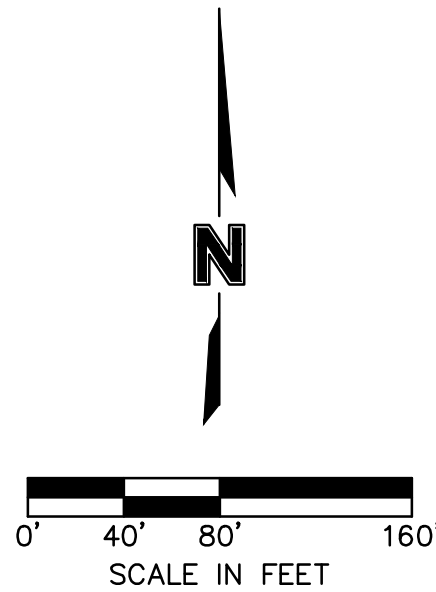
Olsson - Civil Engineering
Missouri Certificate of Authority # 001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
www.olson.com

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\019\019-2339.dwg USER: bworthley
DATE: Apr 24, 2020 2:56pm XREFS: C_PBASE_A192339 C_PBDY_A192339 C_PBASE_A192339 C_PBDY_A192339



SOILS MAP
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

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/28/2020

GENERAL LAYOUT
GRADING & SITE DISTURBANCE PLANS

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

2020

REVISIONS DESCRIPTION

DATE

REV. NO.

REVISIONS



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: SS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_GEN01_A192339
date: 3/17/2020

SHEET
C403

DWG: F:\2019\2001-2500\019-2339-A\10-Design\AutoCAD\Final Plans\Sheets\NGV\SITE DISTURBANCE\C_CRD01_A192339.dwg USER: bworthley
DATE: Apr 24, 2020 2:57pm XREFS: C_PTBK_A192339 C_PBASE_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	5,625	9,615
SITE	27,711	33,974
TOTAL	33,336	43,589

- 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.



RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/28/2020

olsson

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

STATE OF MISSOURI
BROCK M. WORTHLEY
Professional Engineer
PE-2019000237
1/24/2021

GRADING PLAN
OSAGE
FIRST PLAT

GRADING & SITE DISTURBANCE PLANS

2020

REVISIONS

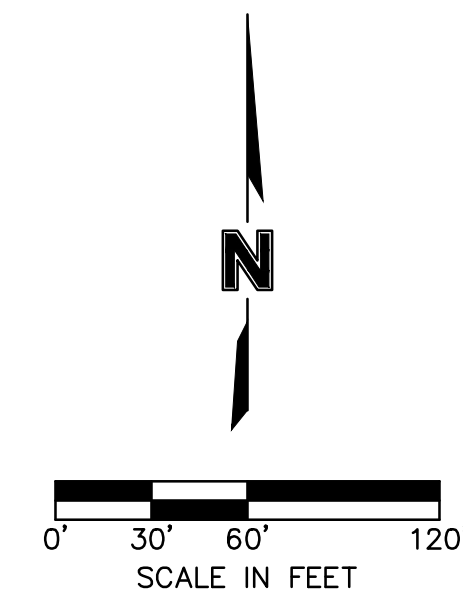
drawn by: GS
checked by: SS
designed by: BMW
QA/QC by: JES
project no.: A19-2339
drawing no.: C_CRD01_A192339
date: 3/17/2020

SHEET
C404

DWG: F:\2019\2001-2500\019-2339-A\10-Design\AutoCAD\Final Plans\Sheets\019\Site Disturbance\C_ERC01_A192339.dwg USER: bworthley
DATE: Apr 24, 2020 2:57pm XREFS: C_PTBK_A192339 C_XBASE_A192339 C_PEROS_A192339 C_DBASE_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 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

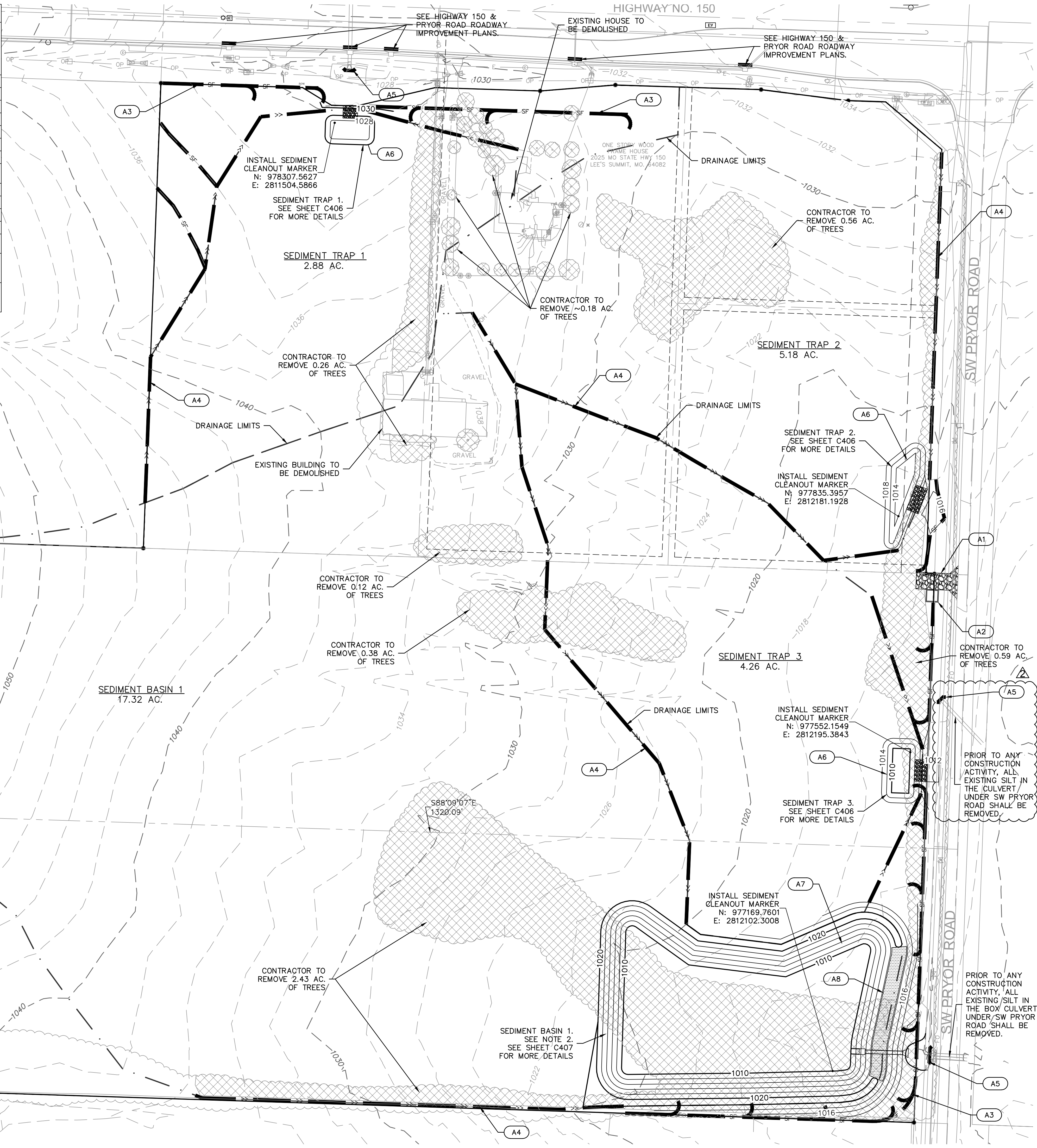
NOTE:
1. THE SITE DISTURBANCE PLANS INDICATES THE FINAL PLACEMENT OF EROSION CONTROL DEVICES. THE CONTRACTOR(S) MAY PROCEED WITH THE CONSTRUCTION PRIOR TO THE FINAL PLACEMENT OF THESE DEVICES BY PROVIDING ADDITIONAL DEVICES TO CONTROL EROSION ON THEIR ITEMS OF WORK. THESE DEVICES SHALL BE MAINTAINED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

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/28/2020



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

REVISIONS	
REV. NO.	DESCRIPTION
1	SILT FENCE, INLET PROTECTION AND NOTES ADDED
2	SEDIMENT BASIN DETAILS NOTE CORRECTED
	INLET PROTECTION ADDED

SITE DISTURBANCE PHASE A
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

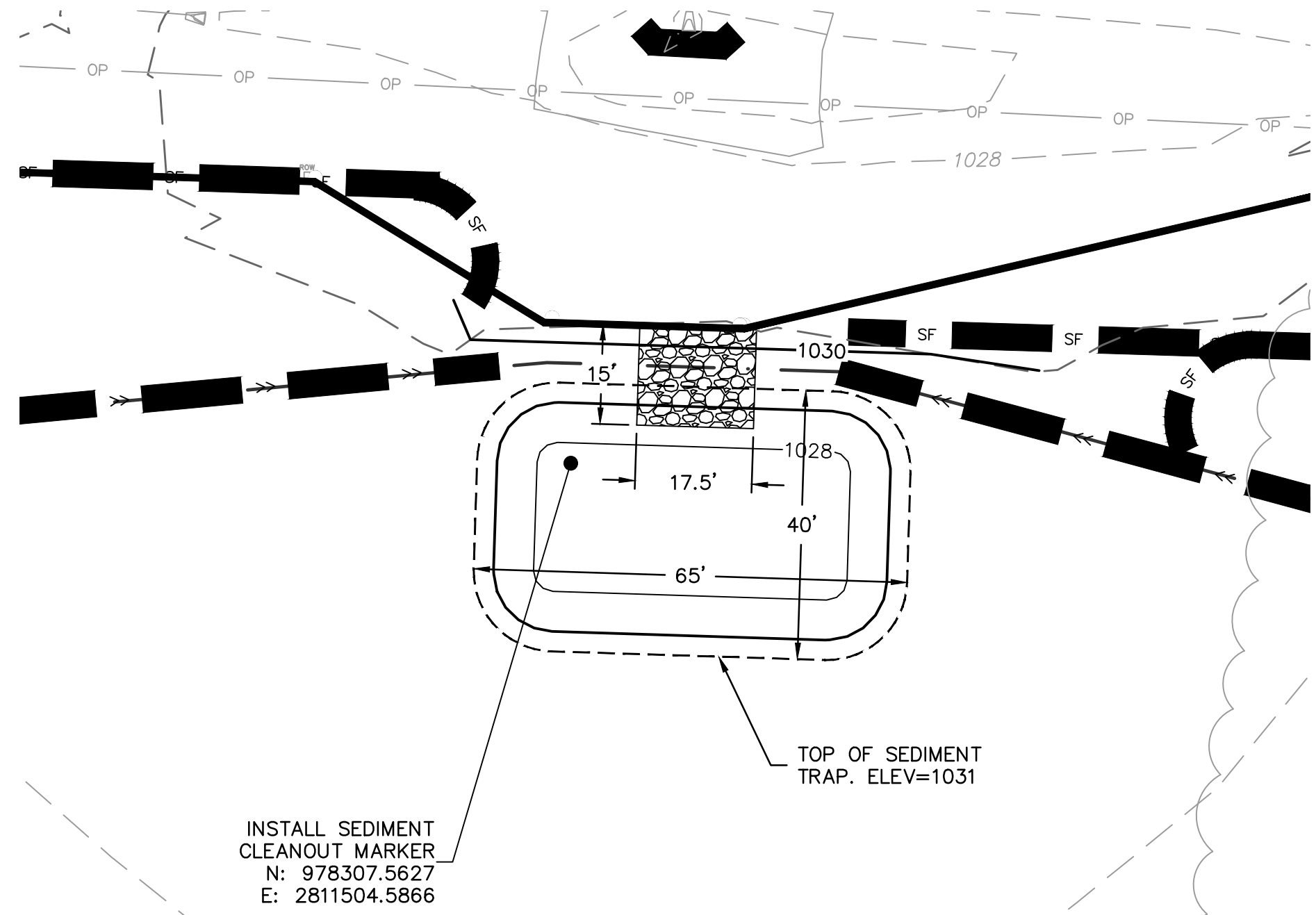
project no.: A19-2339

drawing no.: C_ERC01_A192339

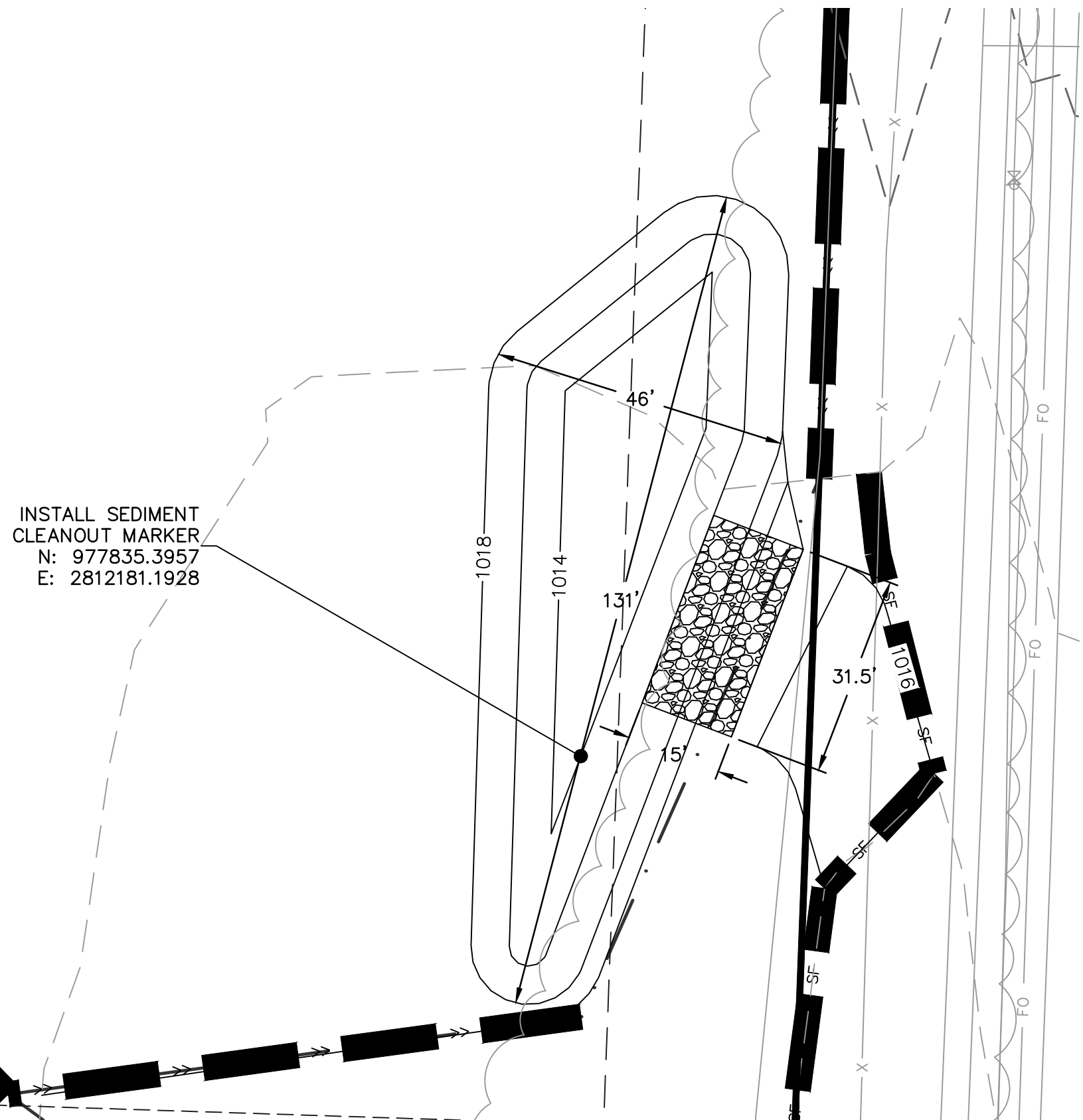
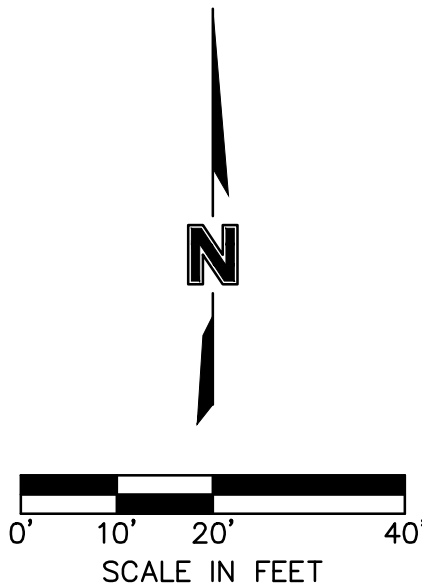
date: 3/17/2020

SHEET
C405

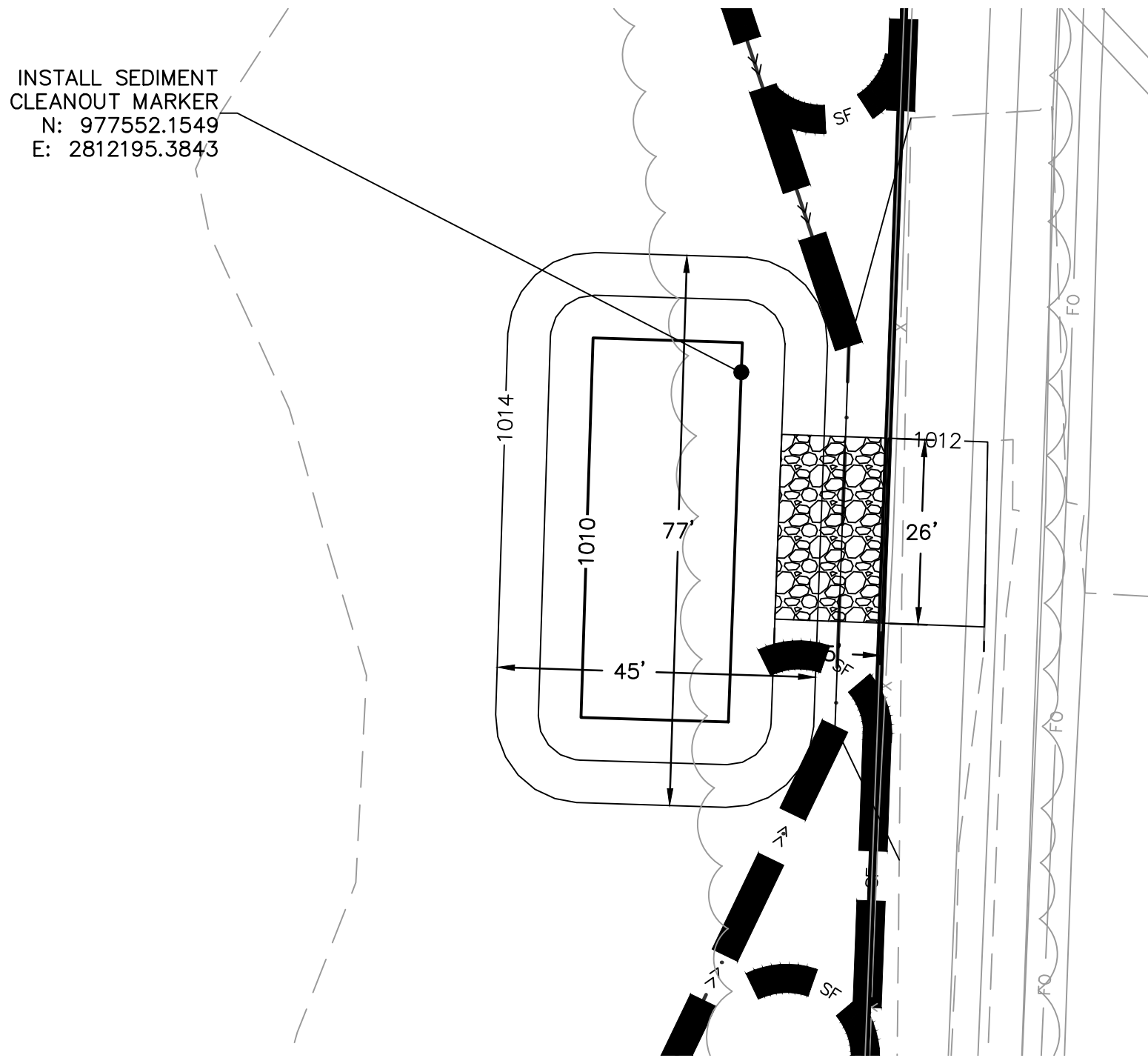
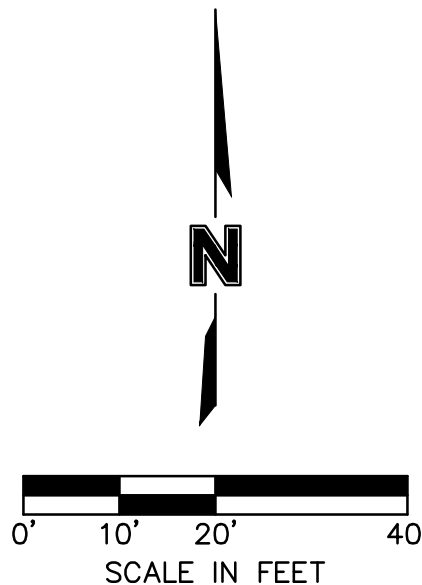
DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\CONVA\SITE DISTURBANCE\C_ERC01_A192339.dwg USER: bworthley
DATE: Apr 24, 2020 2:57pm XREFS: C_PTBK_A192339 C_XBASE_A192339 C_PEROS_A192339 C_DBASE_A192339



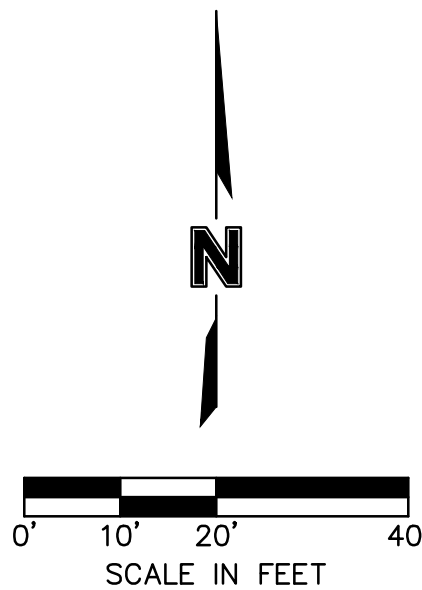
SEDIMENT TRAP 1 DESIGN SUMMARY		
DESIGN ITEM	VALUE	UNIT
TRIBUTARY AREA	2.88	AC
MIN. STORAGE VOL.	5206	CU FT
PROVIDED STORAGE VOL.	6049	CU FT
SEDIMENT CLEANOUT EL.	1028.15	FT
TOP OF TRAP	1031.00	FT
BOTTOM OF TRAP	1027.00	FT
HEIGHT OF DAM	2.00	FT
SPILLWAY LENGTH	17.27	FT
SPILLWAY WIDTH	17.60	FT



SEDIMENT TRAP 2 DESIGN SUMMARY		
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	31.50	FT



SEDIMENT TRAP 3 DESIGN SUMMARY		
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



RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

04/28/2020

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

OSAGE
FIRST PLAT

LEE'S SUMMIT, MISSOURI

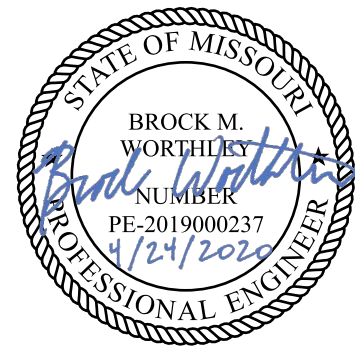
2020

REVISIONS DESCRIPTION

REV. NO.

DATE

REVISIONS



olsson

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

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

USER: bworthley



04/28/2020

SEDIMENT BASIN 1 - PHASE A 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		1029.00	ft
Basin Shape Data			
A = Area at Normal Pool		45677	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 B 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

OSAGE
FIRST PLAT

LEE'S SUMMIT MISSOURI

2020

REVISIONS DESCRIPTION

DAT

REV.

DEVICIONIC



Olsson - Civil Engineering
Missouri Certificate of Authority #: 001592
1301 Burlington Street
North Kansas City, MO 64116

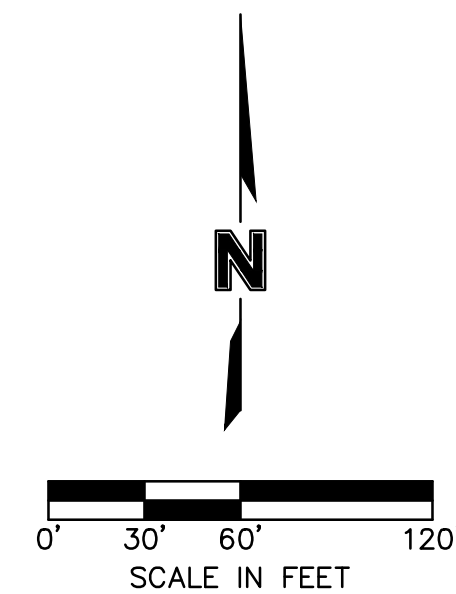
TFI 816 361 1177

oslo

DWG: F:\2019\2001-2500\019-2339-A140-Design\AutoCAD\Final Plans\Sheets\ENGV\SITE DISTURBANCE\C_ERC02_A192339.dwg USER: bworthley C_PBASE_A192339
DATE: Apr 24, 2020 2:58pm XREFS: C_PTBK_A192339 C_PBASE_A192339 C_PBDY_A192339 C_PBNDY_A192339

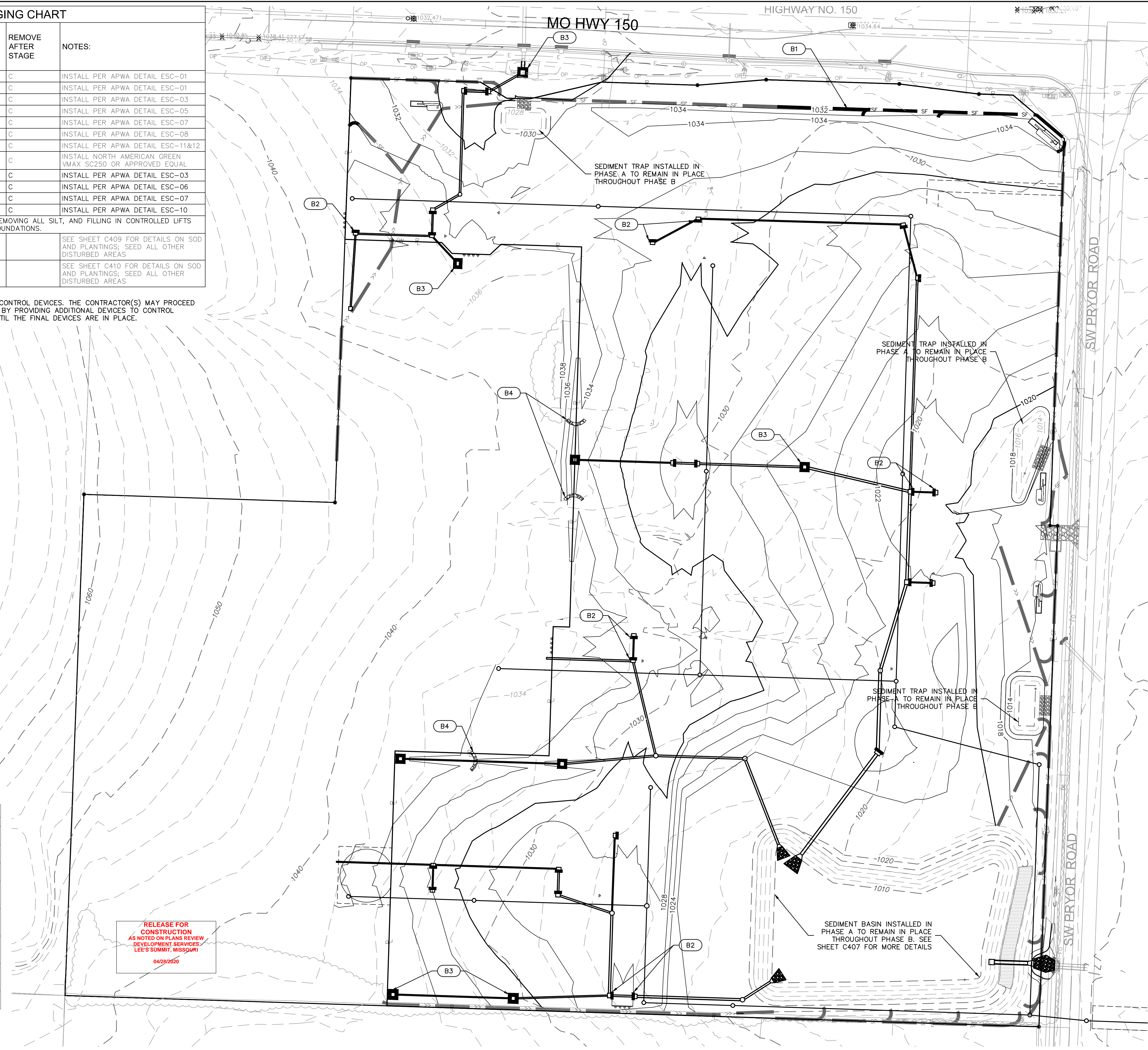
EROSION CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRE-MASS GRADING	A1	CONSTRUCTION ENTRANCE	C	INSTALL PER APWA DETAIL ESC-01
	A2	CONCRETE WASHOUT	C	INSTALL PER APWA DETAIL ESC-01
	A3	SILT FENCE	C	INSTALL PER APWA DETAIL ESC-03
	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 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.



olsson

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

STATE OF MISSOURI
BROCK M. WORTHLEY
Professional Engineer
PE-2019000237
4/24/2020

REV. NO.	DATE	REVISIONS DESCRIPTION
1	4/17/2020	SEDIMENT BASIN DETAILS NOTE CORRECTED

SITE DISTURBANCE PHASE B
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_ERC02_A192339
date: 3/17/2020

SHEET
C408

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
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.

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



<div>olsson</div> <div>Olsson - Civil Engineering Missouri Certificate of Authority #: 001592 1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 www.olsson.com</div>		<div></div>	
<div>SITE DISTURBANCE PHASE C GRADING & SITE DISTURBANCE PLANS</div>		REV. NO.	
		DATE	
<div>OSAGE FIRST PLAT</div>		REVISIONS DESCRIPTION	
		REVISIONS	
LEE'S SUMMIT, MISSOURI		2020	
<div>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</div>			
<div>SHEET C409</div>			

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.

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



ONCE DISTURBED AREAS HAVE BEEN STABILIZED, CONTRACTOR TO REMOVE SILT FROM SEDIMENT BASIN, REMOVE SKIMMER AND CONVERT DETENTION BASIN OUTLET STRUCTURE TO ITS FINAL CONFIGURATION.



SITE DISTURBANCE PHASE D 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. ERC04 A192339 date: 3/17/2020			
SHEET C410			

DWG: F:\2019\2001-2500\019-2339-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\SITE DISTURBANCE\C_ERC04_A192339.dwg
DATE: Apr 24, 2020 3:00pm XREFS: C_PTBK_A192339 C_XBASE_A192339 C_PEROS_A192339 C_PBN DY_A192339
USER: bworthley C_PBASE_A192339 T_PBASE_A192339

