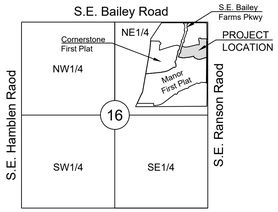
STREET, STORMWATER, AND MASTER DRAINAGE PLAN
FOR
RETREAT AT BAILEY FARMS, FIRST PLAT

IN THE CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI

LEGEND:

A/E	-	ACCESS EASEMENT
BC	-	BACK OF CURB
B/B	-	BACK TO BACK
BM	-	BENCHMARK
BL or B.L.	-	BUILDING LINE
CO	-	CLEANOUT
TJB	-	TELEPHONE JUNCTION BOX
C&G	-	CURB AND GUTTER
D/E	-	DRAINAGE EASEMENT
E/E	-	ELECTRICAL EASEMENT
EL	-	ELEVATION
FL	-	FLOW LINE
G/E	-	GAS LINE EASEMENT
HDPE	-	HIGH-DENSITY POLYETHYLENE
L/E	-	LANDSCAPE EASEMENT
MSFE	-	MINIMUM SERVICEABLE FLOOR ELEVATION
PVC	-	POLYVINYL CHLORIDE
P/L	-	PROPERTY LINE
PUB/E	-	PUBLIC EASEMENT
RCP	-	REINFORCED CONCRETE PIPE
ROW or R/W	-	RIGHT-OF-WAY
S/E	-	SANITARY SEWER EASEMENT
SL	-	SERVICE LINE
S/W	-	SIDEWALK
TE	-	TOP ELEVATION
U/E	-	UTILITY EASEMENT
WSE	-	WATER SURFACE ELEVATION
W/E	-	WATERLINE EASEMENT

ASPHALT PAVEMENT - EXISTING
ASPHALT PAVEMENT - PROPOSED
CONCRETE PAVEMENT - EXISTING
CONCRETE SIDEWALK - EXISTING
CONCRETE SIDEWALK - PROPOSED
CURB & GUTTER
CURB & GUTTER - EXISTING
TREELINE
EXISTING LOT AND R/W LINES
EXISTING PLAT LINES
P/L — PROPERTY LINES
ROW — RIGHT-OF-WAY
SANITARY SEWER MAIN
SANITARY SEWER MAIN - EXIST.
STO — STORM SEWER
STORM SEWER - EXISTING
$CATV_X$ — CABLE TV - EXISTING
FOC_X — FIBER OPTIC CABLE - EXISTING
T_X — TELEPHONE LINE - EXIST.
E_X — ELECTRIC LINE - EXISTING
OHP_X — OVERHEAD POWER LINE - EXIST.
UGE_X — UNDERGROUND ELECTRIC - EX.
G_X — GAS LINE - EXISTING
W_X — WATERLINE - EXISTING
LIGHT - EXISTING
EXISTING MANHOLE
CLEANOUT
EXISTING SANITARY MANHOLE
PROPOSED SANITARY MANHOLE
AI — EXISTING AREA INLET
CI — EXISTING CURB INLET
GI — EXISTING GRATE INLET
JB — EXISTING JUNCTION BOX
D — EXISTING STORM MANHOLE



SECTION 16-47-31

LOCATION MAP
SCALE 1" = 2000'

BASIS OF BEARINGS:
MISSOURI COORDINATE SYSTEM 1983, WEST ZONE

UTILITY CONTACTS:

MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT)
Steve Holloway
600 NE Colbern Road
Lee's Summit, MO 64086
(816) 607-2186

MISSOURI GAS ENERGY (MGE)
Brent Jones
3025 SE Clover Drive
Lee's Summit, MO 64082
(816) 399-9633
brent.jones@spireenergy.com

KANSAS CITY POWER & LIGHT COMPANY (KCP&L)
Ron Dejarnette
1300 SE Hamblin Road
Lee's Summit, MO 64081
Office: (816) 347-4316
Cell: (816) 810-5234
ron.dejarnette@kcpl.com

CITY OF LEES SUMMIT PUBLIC WORKS
Dena Mezger
220 SE Green Street
Lee's Summit, MO 64063
(816) 969-1800

AT&T
Mark Manion or Marty Loper
500 E. 8th Street, Room 370
Kansas City, MO 64106
(816) 275-2341 or (816) 275-1550

COMCAST CABLE
John Meadows
4700 Little Blue Parkway
Independence, MO 64057
(816) 795-2257

CITY OF LEE'S SUMMIT WATER UTILITIES
Mark Schaufler
1200 SE Hamblen Road
Lee's Summit, MO 64081
(816) 969-1900

GENERAL NOTES:

1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
3. LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
4. NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE.
5. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-800-DIG-RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
7. PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. AFTER APPROVAL OF THE SHOP DRAWINGS, A COPY OF THE APPROVED AND SIGNED SHOP DRAWINGS SHALL BE PROVIDED TO THE CITY INSPECTOR UPON REQUEST.
8. THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
9. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
10. ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER.
11. ALL EXCAVATIONS SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
12. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASED OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
13. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
14. THE CONTRACTOR SHALL CONTACT DEVELOPMENT SERVICES INSPECTIONS AT: 816-969-1200 TO OBTAIN A DEVELOPMENT SERVICES CONSTRUCTION PERMIT. A MINIMUM 48 HOUR NOTICE SHALL BE GIVEN PRIOR TO PERMIT ISSUANCE.
15. THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT OF WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
16. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).

STREET NOTES:

1. ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL. ALL APPLICABLE AASHTO STANDARDS HAVE BEEN MET.
2. ALL INSPECTION OF STREET CONSTRUCTION TO BE PERFORMED BY THE CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING.
3. CURB RETURN RADII SHALL BE 25' AT BACK OF CURB UNLESS OTHERWISE NOTED.
4. SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
5. ASSUMED DESIGN SPEED = 25 MPH (COLLECTOR).
6. MINIMUM STOPPING SIGHT DISTANCE = 155 FEET.
7. MINIMUM K, SAG CURVE = 26 (14 WITH LIGHTING), CREST CURVE = 12.
8. GRADE INTERSECTIONS TO DRAIN AS SHOWN.
9. SSD = STOPPING SIGHT DISTANCE.
10. ALL ADA SIDEWALK RAMPS SHALL BE CONSTRUCTED BY THE DEVELOPER WITH THE PUBLIC INFRASTRUCTURE.

SUMMARY OF QUANTITIES

	ITEM	QUANTITY	UNITS
1	CLEARING AND GRUBBING	1	LS
2	GRADING	1	LS
3	6" ASPHALT PAVEMENT - LOCAL-RESIDENTIAL STREET	3,100	SY
4	FLY-ASH OR COMPACTED AGGREGATE BASE	3,743	SY
5	TYPE CG-2 CURB AND GUTTER (INLET TRANSITIONS NOT INCLUDED) SUBIDIARY TO CG-2 IS ALL CG-2 DRY NEEDED	1,771	LF
6	TYPE A SIDEWALK RAMP	2	EA
7	5' CONCRETE SIDEWALK	36	LF
8	10' CONCRETE TRAIL	174	LF
9	4'X4' JUNCTION BOX	1	EA
10	6'X4' CURB INLET	8	EA
11	15" HDPE	360	LF
12	18" HDPE	172	LF
13	24" HDPE	106	LF
14	TURF REINFORCEMENT MAT	206	SY
15	END OF ROAD MARKERS (OM 4-1)	6	EA
16	SIGNAGE	1	LS
17	EROSION CONTROL	1	LS
18	SEEDING AND MULCHING	1	LS

EARTHWORK:

1. It is recommended that a Geotechnical Engineer observe and document all earthwork activities.
2. Contours have been shown at 1-foot or 2-foot intervals, as indicated. Grading shall consist of completing the earthwork required to bring the physical ground elevations of the existing site to the finished grade (or sub-grade) elevations provided on the plans as spot grades, contours or others means as indicated on the plans.
3. The existing site topography depicted on the plans by contouring has been established by aerial photography and field verified by g.p.s. observation near 2-20-19.The contour elevations provided may not be exact ground elevations, but rather interpretations of such. Accuracy shall be considered to be such that not more than 10 percent of spot elevation checks shall be in error by more than one-half the contour interval provided, as defined by the National Map Accuracy Standards. Any quantities provided for earthwork volumes are established using this topography contour accuracy, and therefore the inherent accuracy of any earthwork quantity is assumed from the topography accuracy.
4. Proposed contours are to approximate finished grade.
5. Unless otherwise noted, payment for earthwork shall include backfilling of the curb and gutter, sidewalk and further manipulation of utility trench spoils. The site shall be left in a mowable condition and positive drainage maintained throughout.
6. Unless otherwise noted, all earthwork is considered Unclassified. No additional compensation will be provided for rock or shale excavation, unless specifically stated otherwise.
7. Prior to earthwork activities, pre-disturbance erosion and sediment control devices shall be in place per the Storm Water Pollution Prevention plan and/or the Erosion and Sediment Control Plan prepared for this site.
8. All topsoil shall be stripped from all areas to be graded and stockpiled adjacent to the site at an area specified by the project owner or his appointed representative. Vegetation, trash, trees, brush, tree roots and limbs, rock fragments greater than 6-inches and other deleterious materials shall be removed and properly disposed of offsite or as directed by the owner or his appointed representative.
9. Unless otherwise specified in the Geotechnical Report, all fills shall be placed in maximum 6-inch lifts and compacted to 95-percent of maximum density as defined using a standard proctor test (AASHTO T99/ASTM 698).
10. Fill materials shall be per Geotechnical Report and shall not include organic matter, debris or topsoil. All fills placed on slopes greater than 6:1 shall be benched.
11. The Contractor shall be responsible for redistributing the topsoil over proposed turf and landscaped areas to a minimum depth of 6-inches below final grade.
12. All areas shall be graded for positive drainage. Unless noted otherwise the following grades shall apply:
    a. Turf Areas – 2.5% Minimum, 4H:1V Maximum
    b. Paved Areas – 1.2% Minimum, 5% Maximum
13. All disturbed areas shall be fertilized, seeded and mulched immediately after earthwork activities have ceased. Seeding shall be per the Erosion and Sediment Control Plan and/or Landscape Plan. If not specified seeding shall be per APWA Section 2400, latest edition. Unless otherwise noted, seeding shall be subsidiary to the contract price for earthwork and grading activities.
14. All disturbed areas in the right-of-way shall be sodded.
15. Underdrains are recommended for all paved areas adjacent to irrigated turf and landscaped beds.
16. Contractor shall adhere to the reporting requirements outlined in the Storm Water Pollution Prevention Plan (SWPPP) prepared for this project. Erosion and Sediment control devices shall be properly maintained and kept clean of silt and debris and in good working order. Additional erosion and sediment control measures shall be installed as required.

UTILITIES:

1. Existing utilities have been shown to the greatest extent possible based upon information provided to the Engineer. The contractor is responsible for contacting the respective utility companies and field locating utilities prior to construction and identifying any potential conflicts. All conflicts shall immediately be brought to the attention of the Engineer.
2. The contractor shall be responsible for coordinating any required utility relocations. Utilities damaged through the negligence of the contractor shall be repaired at the contractor's expense.
3. Contractor shall verify flow-lines and structure tops prior to construction, and shall notify Engineer of any discrepancies. Provide shop drawings for all precast and manufactured utility structures for review by the Engineer prior to construction of the structures.
4. Utility Separation: Waterlines shall have a minimum of 10 feet horizontal and 2 feet vertical separation from all sanitary sewer lines, manholes, and sanitary sewer service laterals, as measured from edge to edge. If minimum separations can not be obtained, concrete encasement of the sanitary line shall be required 10 feet in each direction of the conflict.
5. Payment for trenching, backfilling, pipe embedment, flowable fill, backfill materials, clean up, seeding, sodding and any other items necessary for the construction of the utility line shall be included in the contract price for the utility installation.
6. The Contractor shall be responsible for contacting respective utility companies 48-hours in advance for the inspection of any proposed utility main extension or service line or service connection to any existing main.
7. Trench spoils shall be neatly placed onsite adjacent to the trench, and compacted to prevent saturation and excess sediment runoff. Unsuitable materials, excess rock and shale, asphalt, concrete, trees, brush etc. shall be properly disposed of offsite. Materials may be wasted onsite at the direction of the Owner or his appointed representative.
8. All excavation is considered unclassified, unless noted otherwise. Unclassified excavation for utility trenching is subsidiary to the unit price provided for the pipe. Any quantity provided for rock excavation is estimated based on the best information provided to the Project Engineer. The Engineer has the authority to identify and define the physical characteristics to determine the classification. Unit price quantities for rock excavation will be paid at a trench width of the nominal pipe diameter of the installed main plus 18 inches. Contractor is required to dispose of excess rock from their trenches by disposing it in areas as specified by the Project Engineer.

Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL LAYOUT
3	MASTER DRAINAGE PLAN-GRADING PLAN
4	SE WINDBREAK DR PLAN AND PROFILE
5	SE VANTAGE POINT DR PLAN AND PROFILE
6	INTERSECTION DETAILS
7	MASTER DRAINAGE PLAN-DRAINAGE MAP
8	MASTER DRAINAGE PLAN-DRAINAGE CALCS
9	STORM PLAN
10	STORM PROFILE
11	STREET DETAILS
12	STREET DETAILS
13	STORM DETAILS
14	STORM DETAILS
15	SIGN PLAN
16	SIGN DETAILS

APPROVED BY:

CITY ENGINEER — DATE
APPROVED FOR ONE YEAR FROM THIS DATE

OWNER/DEVELOPER:

CLAYTON PROPERTIES GROUP INC., DBA SUMMIT HOMES
BRADLEY KEMPF
120 SE 30TH STREET
LEE'S SUMMIT, MO 64082
p (816) 246-6700
BRADLEY@SUMMITHOMESKC.COM

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP-CALL BEFORE YOU DIG!

MISSOURI ONE CALL SYSTEM

MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCHMARK:

BM JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE RANSON ROAD. IT IS STAMPED JA45, 1987.

ELEV. = 1046.25

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 W. 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
#E2000003800-F #LA2001005237 #LS2000008859-F

PREPARED BY:

STATE OF MISSOURI — JAMES L. LONG — NUMBER PE-2014010495 — PROFESSIONAL ENGINEER

4/21/2022

SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

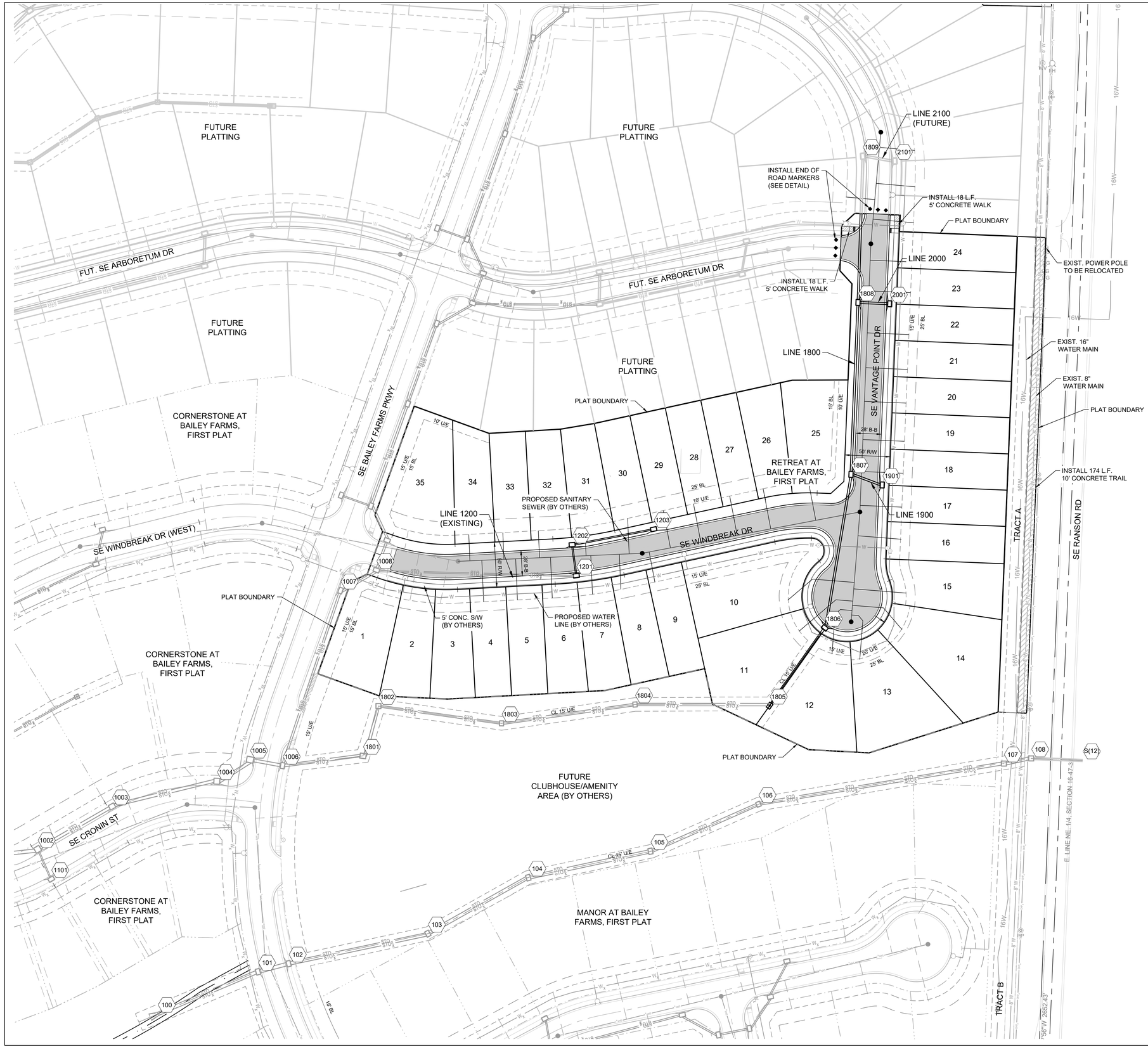
REVISION DATE	DESCRIPTION
1 03/21/2022	PER CITY COMMENTS
2 04/20/2022	PER CITY COMMENTS DATED 02/25/2022
3	
4	
5	
6	
7	
8	
9	

DRAWN BY: JRJ
CHECKED BY: JLL
DATE PREPARED: 02/09/2022
PROJ. NUMBER: 21-133

COVER SHEET

SHEET 1

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-COV.dwg, 4/25/2022 10:42:54 AM, 1:1



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ELEV. = 1046.25

BASIS OF BEARINGS:

MISSOURI STATE PLANE COORDINATE SYSTEM
(NAD) 1983, MISSOURI, WEST ZONE

NOTES:

ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE CITY OF LEES SUMMIT TECHNICAL SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.

STREET LEGEND:

RESIDENTIAL LOCAL

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PREPARED BY:

STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014016195
PROFESSIONAL ENGINEER

4/21/2022

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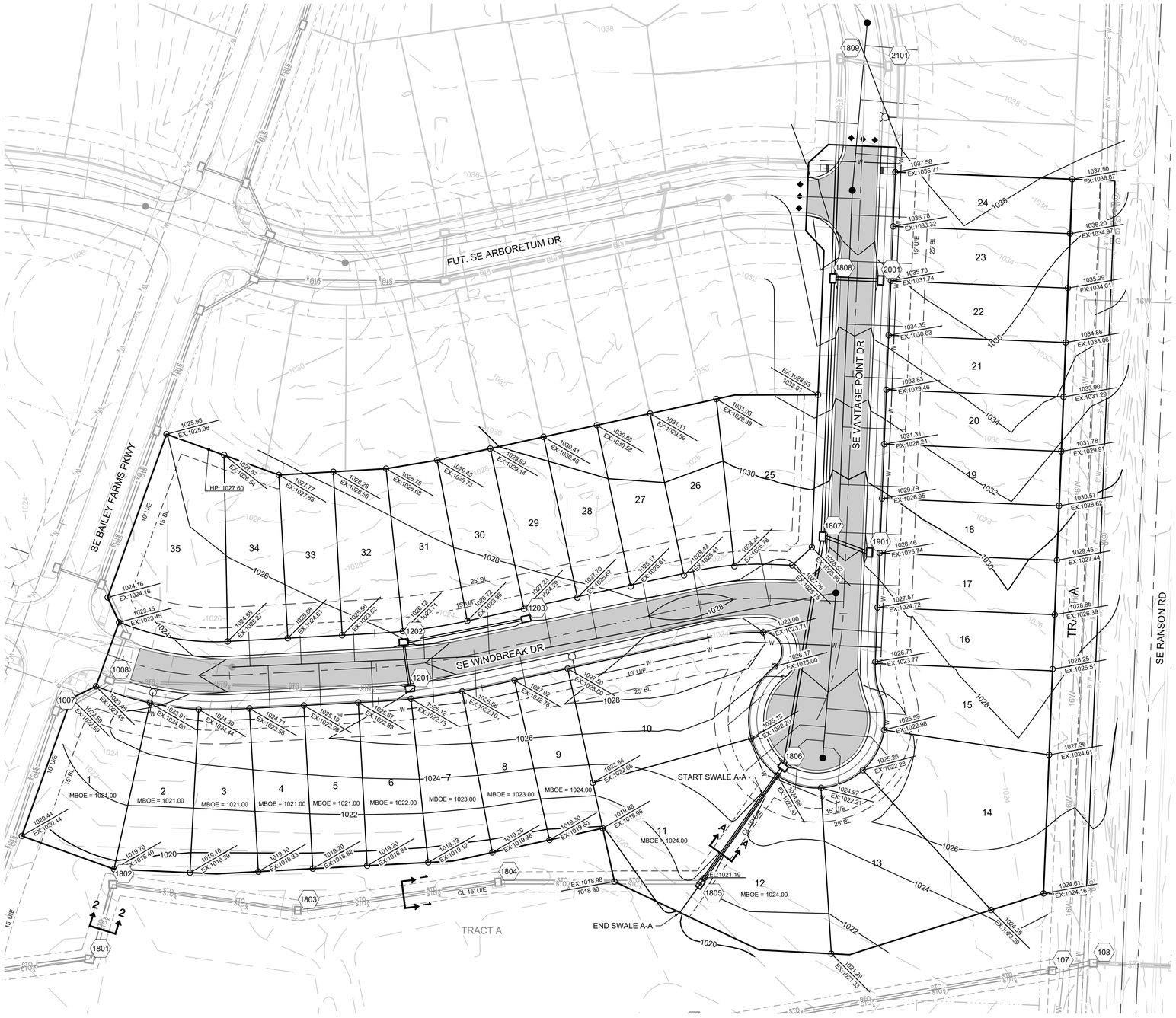
REVISION	DATE	DESCRIPTION
1	03/21/2022	PER CITY COMMENTS
2	04/20/2022	PER CITY COMMENTS DATED 02/25/2022
3		
4		
5		
6		
7		
8		

DRAWN BY: JRJ
CHECKED BY: JLL
DATE PREPARED: 02/09/2022
PROJ. NUMBER: 21-133

GENERAL LAYOUT

SHEET 2

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-GEN.dwg



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GRADING LEGEND:

– – – 1023 – – – EXISTING CONTOUR

——— 1023 ——— PROPOSED CONTOUR

LOT TYPE TABLE		
LOT NUMBER	BASEMENT TYPE	MBOE
1	DAYLIGHT	1021.00
2	DAYLIGHT	1021.00
3	DAYLIGHT	1021.00
4	DAYLIGHT	1021.00
5	DAYLIGHT	1021.00
6	DAYLIGHT	1022.00
7	DAYLIGHT	1023.00
8	DAYLIGHT	1023.00
9	DAYLIGHT	1024.00
10	STANDARD	1026.00
11	STANDARD	1024.00
12	STANDARD	1024.00
13	STANDARD	1023.00
14	STANDARD	1027.00
15	STANDARD	1028.00
16	STANDARD	1029.00
17	STANDARD	1030.00
18	STANDARD	1031.00
19	STANDARD	1032.00
20	STANDARD	1034.00
21	STANDARD	1035.00
22	STANDARD	1036.00
23	STANDARD	1037.00
24	STANDARD	1038.00
25	STANDARD	1031.00
26	STANDARD	1030.00
27	STANDARD	1030.00
28	STANDARD	1030.00
29	STANDARD	1029.00
30	STANDARD	1029.00
31	STANDARD	1029.00
32	STANDARD	1028.00
33	STANDARD	1027.00
34	STANDARD	1027.00
35	STANDARD	1026.00

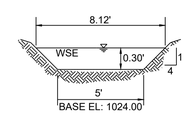
NOTES:

1. MBOE = MINIMUM BUILDING OPENING ELEVATION FOR HOUSES ADJACENT TO ENGINEERED OVERFLOW SWALES SHALL BE MINIMUM 2 FEET ABOVE THE 100 YR WATER SURFACE ELEVATION.
2. EGL = ENERGY GRADE LINE (100 YR)
3. WSE = WATER SURFACE ELEVATION (100 YR)
4. ENGINEERED SWALES TO BE GRADED TO NORMAL DEPTH OF FLOW (WATER SURFACE ELEVATION) OR 1.0 FT, WHICHEVER IS GREATER. MINIMUM SLOPE OF ENGINEERED SWALES SHALL BE AS NOTED.
5. MBOE'S ADJACENT TO SUMPED INLETS SHALL BE A MINIMUM OF 1 FOOT ABOVE TOP OF ADJACENT BERM.

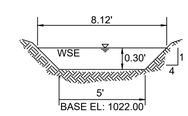
WEIR CALCULATIONS (Q = CLH^(3/2))								
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	DESIGN OVERFLOW (CFS)	WEIR ELEVATION	WEIR COEFFICIENT	LENGTH	HEAD REQ'D	WSE
1	4.07	34.65	34.65	1018.50	3.33	10'-0"	1.03	1019.53
2	5.12	43.60	43.60	1018.50	3.33	10'-0"	1.20	1019.70

100 YEAR OVERFLOW SWALES												
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY (FPS)	VELOCITY HEAD (FT.)	EGL (FT.)
A-A	3.11	26.50	15.10	11.40	3.80	5	4:1	8.12	0.39	4.45	0.31	0.70

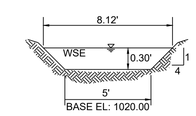
RUNOFF CALCULATIONS:
Q = K * C * I * A
K_{10} = 1.0 K_{100} = 1.25 C = 0.66 I = INTENSITY
DESIGN OVERFLOW=$Q_{OVERFLOW}$ = Q_{100} - Q_{10}
MANNINGS "n" = 0.030 FOR SWALES



100 YEAR OVERFLOW SWALE SECTIONS
START A-A



100 YEAR OVERFLOW SWALE SECTIONS
A-A



100 YEAR OVERFLOW SWALE SECTIONS
END A-A

0 40' 80'
SCALE: 1" = 40'

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STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014010195
PROFESSIONAL ENGINEER

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LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1 03/21/2022	PER CITY COMMENTS
2 04/20/2022	PER CITY COMMENTS DATED 02/25/2022
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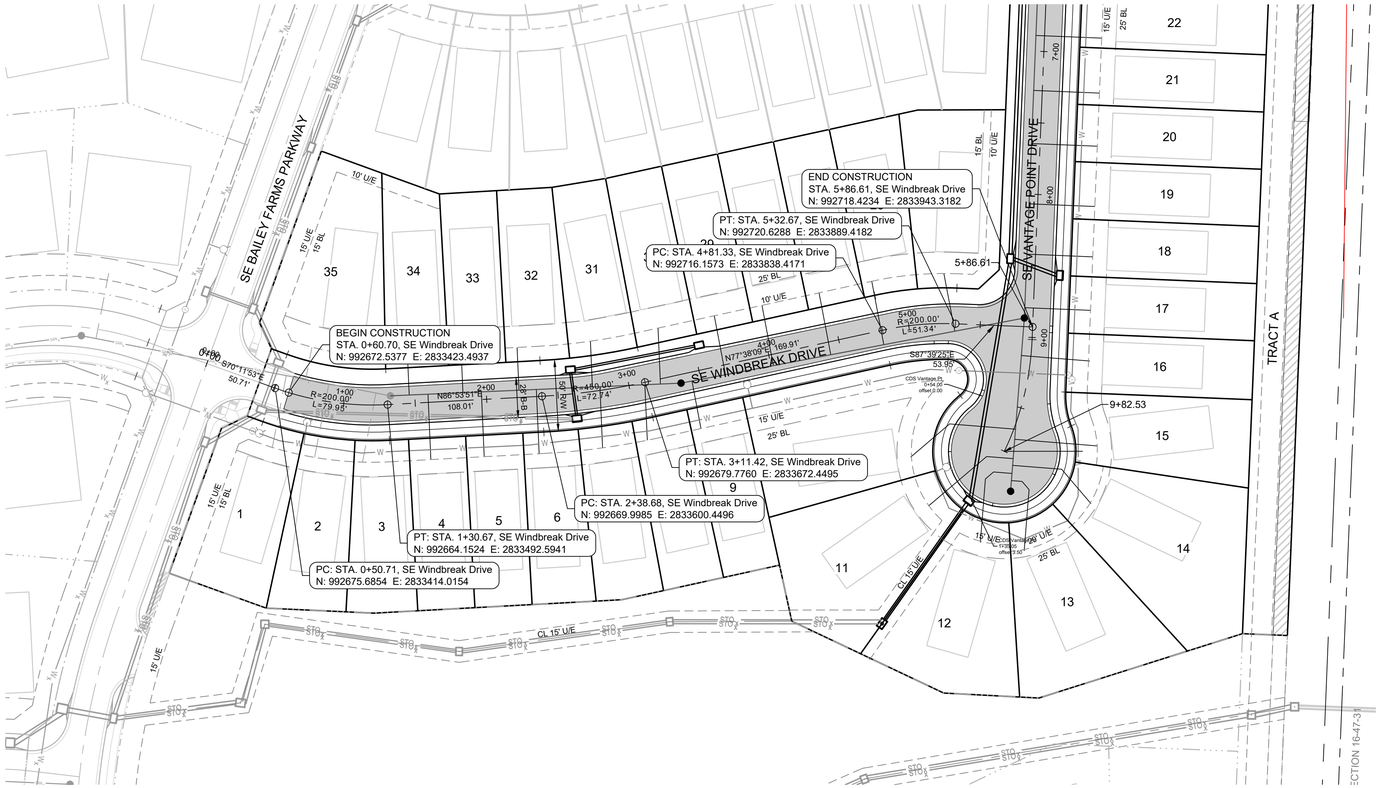
DRAWN BY: JRJ
CHECKED BY: JLL
DATE PREPARED: 02/09/2022
PROJ. NUMBER: 21-133

MASTER DRAINAGE PLAN-GRADING PLAN

SHEET 3

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-GRAD.dwg



MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCHMARK:

BM JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE RANSON ROAD. IT IS STAMPED JA45, 1987.

ELEV. = 1046.25

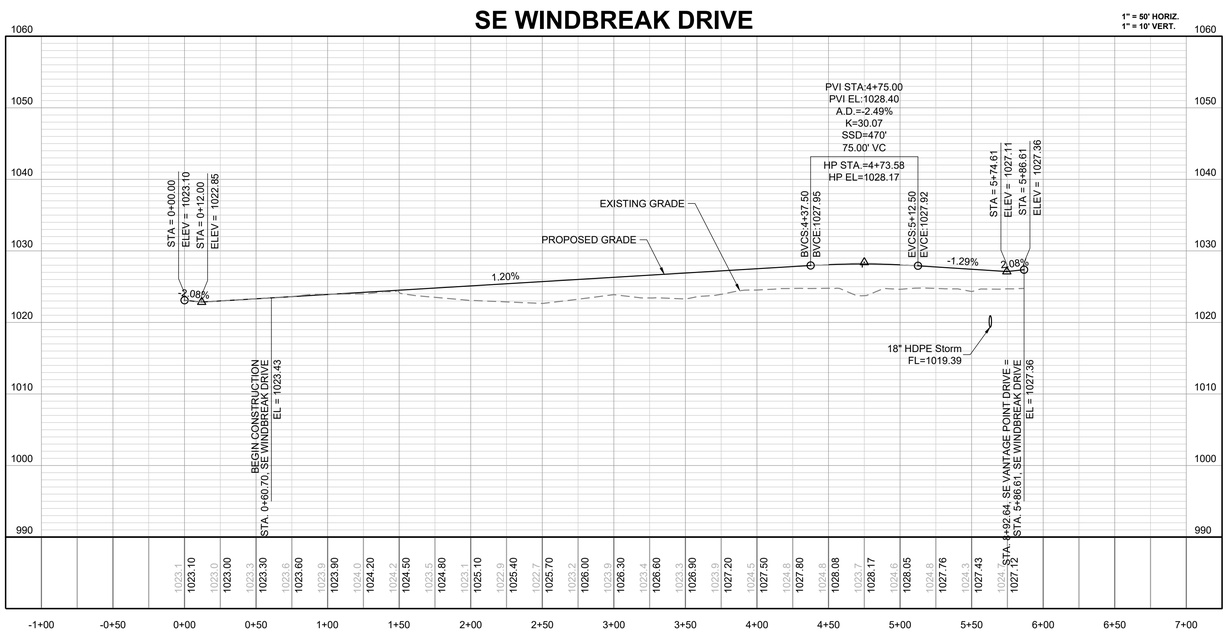
NOTES:

ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE CITY OF LEES SUMMIT TECHNICAL SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.

0 50' 100'

SCALE: 1" = 50'



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PREPARED BY:

STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014010195
PROFESSIONAL ENGINEER

4/21/2022

SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER
DRAINAGE PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

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SE WINDBREAK DR PLAN AND PROFILE

SHEET 4

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-PP.dwg

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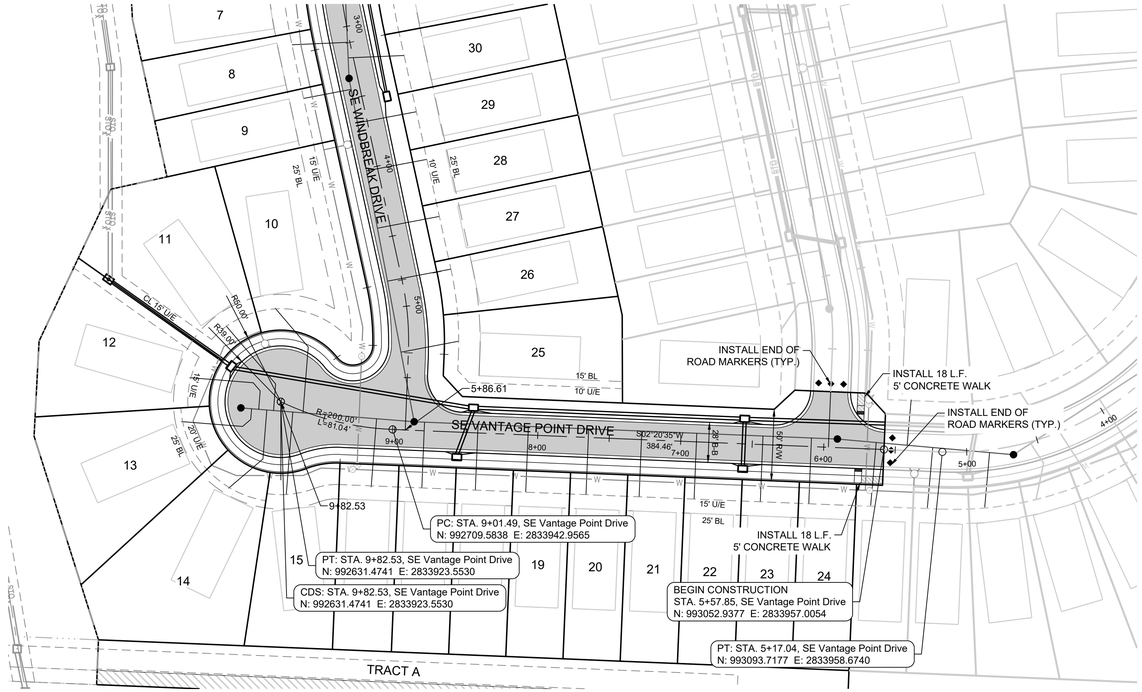
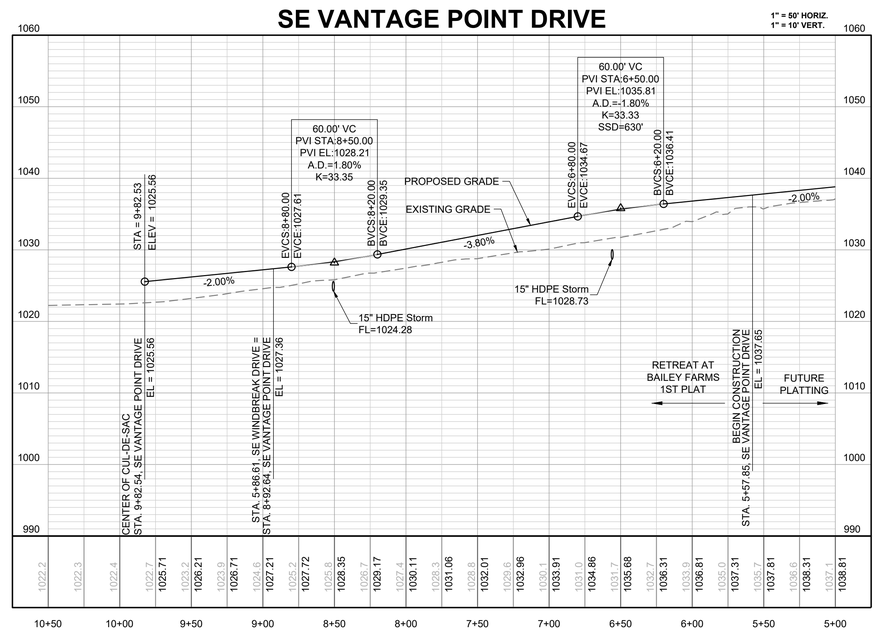


SCALE: 1" = 50'



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4/21/2022

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RETREAT AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE PLAN
SE BAILEY ROAD AND SE RANSON ROAD
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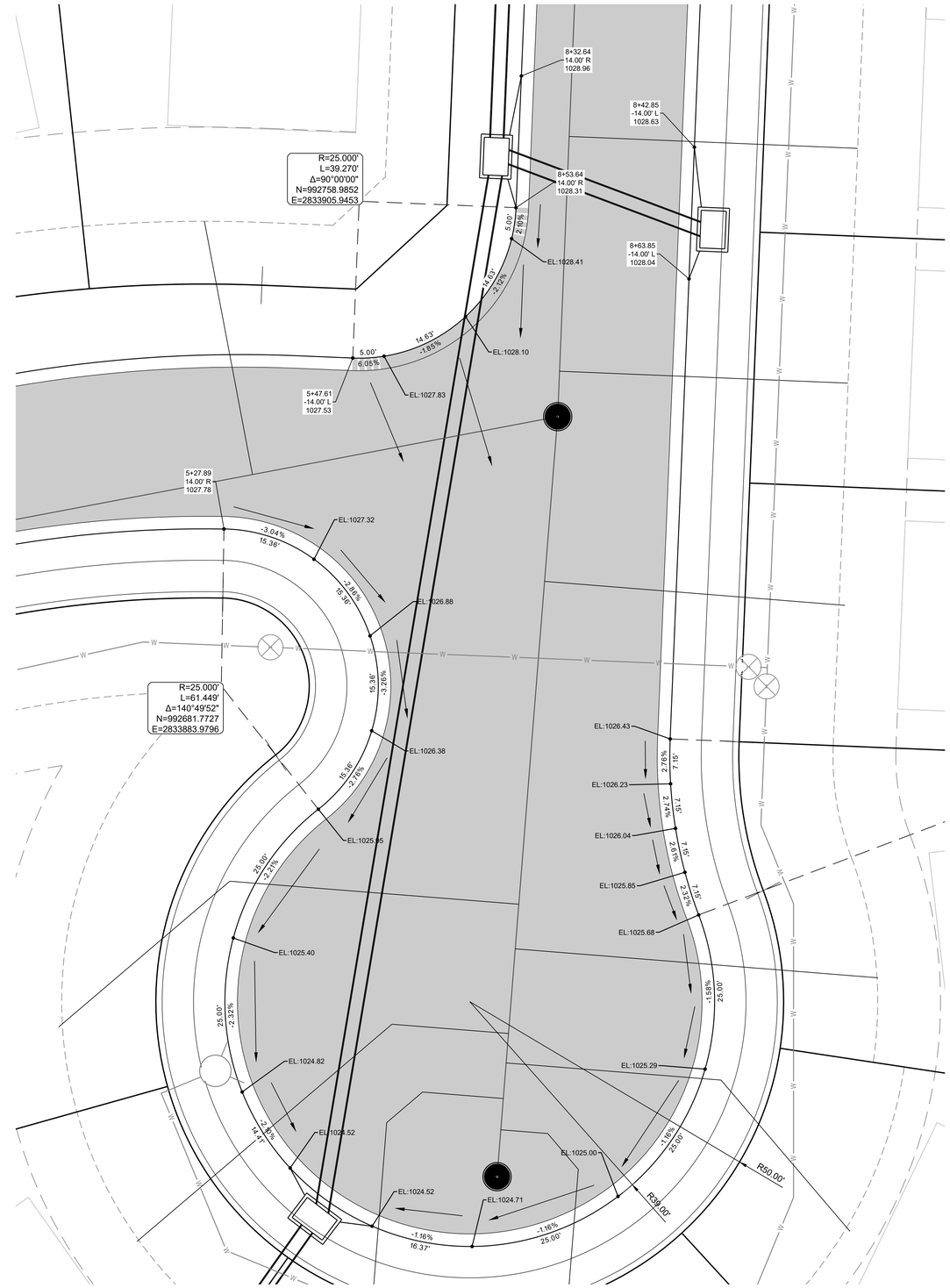
SE VANTAGE POINT DR PLAN AND PROFILE

SHEET 5

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-PP.dwg



CURB LEGEND

- CURB & GUTTER - EXISTING
- TYPE "CG-2" CURB & GUTTER
- TYPE "CG-2" DRY CURB & GUTTER
- TRANSITION "CG-2" TO "CG-2 DRY"

0 10' 20'

SCALE: 1" = 10'

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SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN

SE BAILEY ROAD AND SE RANSON ROAD LEE'S SUMMIT, MISSOURI

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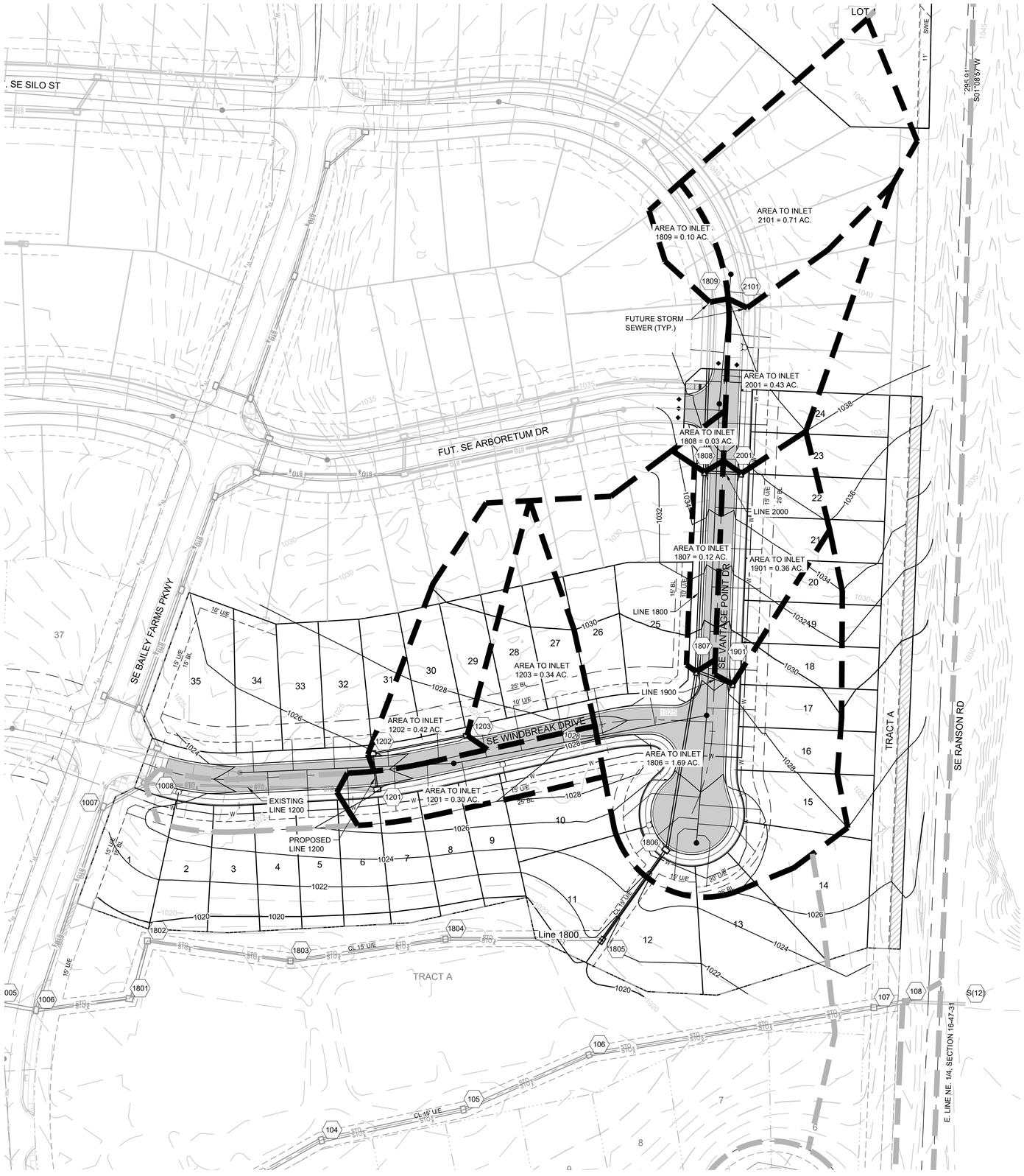
INTERSECTION DETAILS

SHEET 6

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-INT.dwg



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ELEV. = 1046.25

BASIS OF BEARINGS:

MISSOURI STATE PLANE COORDINATE SYSTEM
(NAD) 1983, MISSOURI, WEST ZONE

NOTES:

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LEGEND

EXISTING DRAINAGE AREA

PROPOSED DRAINAGE AREA

0 50' 100'

SCALE: 1" = 50'

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RETREAT AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN

SE BAILEY ROAD AND SE RANSON ROAD LEE'S SUMMIT, MISSOURI

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MASTER DRAINAGE PLAN-DRAINAGE MAP

SHEET 7

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-DRAINAGE.dwg

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10-YEAR RUNOFF CALCULATIONS

Design Storm:	10
"K" Value:	1.00
"F" Factor:	1.00

Runoff Calculations															Pipe Properties											
Inlet #	Area (acres)	"C" Value	Cumul. Area (acres)	Cumul. CxA	Tc	Intensity	Runoff To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area (acres)	Up CxA	Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top
LINE 1200																	Drop in Inlet 1008					0.50			
1201	0.30	0.66	1.06	0.70	5.0	7.35	1.46	5.14	16.09	9.11			0.00	0.00	1201	1008	HDPE	0.012	18	220.44	2.00	0.50	1016.41	1012.00	1025.97
1202	0.42	0.66	0.76	0.50	5.2	7.29	2.02	3.66	12.12	9.88			0.00	0.00	1202	1201	HDPE	0.012	15	34.53	3.00	0.50	1017.95	1016.91	1025.95
1203	0.34	0.66	0.34	0.22	5.0	7.35	1.65	1.65	9.90	8.06			0.00	0.00	1203	1202	HDPE	0.012	15	91.48	2.00	N/A	1020.28	1018.45	1027.08
LINE 1800																	Drop in Inlet 1006					0.30			
1806	1.69	0.66	3.44	2.27	6.0	7.05	7.87	16.01	34.66	11.03			0.00	0.00	1806	1805	HDPE	0.012	24	105.15	2.00	0.50	1016.76	1014.66	1024.51
1807	0.12	0.66	1.75	1.16	5.7	7.16	0.57	8.27	13.94	7.89	1901		0.36	0.24	1807	1806	HDPE	0.012	18	171.66	1.50	0.50	1019.84	1017.26	1028.70
1808	0.03	0.66	1.27	0.84	5.3	7.25	0.14	6.08	12.12	9.88	2001		0.43	0.28	1808	1807	HDPE	0.012	15	189.72	3.00	0.50	1026.03	1020.34	1035.54
LINE 1900																	Drop in Inlet 1807					0.50			
1901	0.36	0.66	0.36	0.24	5.0	7.35	1.75	1.75	6.06	4.94			0.00	0.00	1901	1807	HDPE	0.012	15	36.46	0.75	N/A	1020.61	1020.34	1028.40
LINE 2000																	Drop in Inlet 1808					0.50			
2001	0.43	0.66	0.43	0.28	5.0	7.35	2.09	2.09	11.06	9.02			0.00	0.00	2001	1808	HDPE	0.012	15	35.00	2.50	N/A	1027.40	1026.53	1035.54
LINE 2100																	Drop in Inlet 1808					0.50			
2101	0.71	0.66	0.71	0.47	5.0	7.35	3.45	3.45	7.00	5.70			0.00	0.00	2101	1808	HDPE	0.012	15	35.80	1.00	N/A	1026.88	1026.53	1038.95

100-YEAR RUNOFF CALCULATIONS

Design Storm:	100
"K" Value:	1.25
"F" Factor:	1.00

Runoff Calculations															Pipe Properties											
Inlet #	Area (acres)	"C" Value	Cumul. Area (acres)	Cumul. CxA	Tc	Intensity	Runoff To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area (acres)	Up CxA	Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top
LINE 1200																	Drop in Inlet 1008					0.50			
1201	0.30	0.66	1.06	0.70	5.0	10.32	2.55	9.03	16.09	9.11			0.00	0.00	1201	1008	HDPE	0.012	18	220.44	2.00	0.50	1016.41	1012.00	1025.97
1202	0.42	0.66	0.76	0.50	5.2	10.24	3.55	6.42	12.12	9.88			0.00	0.00	1202	1201	HDPE	0.012	15	34.53	3.00	0.50	1017.95	1016.91	1025.95
1203	0.34	0.66	0.34	0.22	5.0	10.32	2.90	2.90	9.90	8.06			0.00	0.00	1203	1202	HDPE	0.012	15	91.48	2.00	N/A	1020.28	1018.45	1027.08
LINE 1800																	Drop in Inlet 1006					0.30			
1806	1.69	0.66	3.44	2.27	6.0	9.92	13.83	28.14	34.66	11.03			0.00	0.00	1806	1805	HDPE	0.012	24	105.15	2.00	0.50	1016.76	1014.66	1024.51
1807	0.12	0.66	1.75	1.16	5.7	10.06	1.00	14.52	13.94	7.89	1901		0.36	0.24	1807	1806	HDPE	0.012	18	171.66	1.50	0.50	1019.84	1017.26	1028.70
1808	0.03	0.66	1.27	0.84	5.3	10.19	0.25	10.67	12.12	9.88	2001		0.43	0.28	1808	1807	HDPE	0.012	15	189.72	3.00	0.50	1026.03	1020.34	1035.54
LINE 1900																	Drop in Inlet 1807					0.50			
1901	0.36	0.66	0.36	0.24	5.0	10.32	3.07	3.07	6.06	4.94			0.00	0.00	1901	1807	HDPE	0.012	15	36.46	0.75	N/A	1020.61	1020.34	1028.40
LINE 2000																	Drop in Inlet 1808					0.50			
2001	0.43	0.66	0.43	0.28	5.0	10.32	3.66	3.66	11.06	9.02			0.00	0.00	2001	1808	HDPE	0.012	15	35.00	2.50	N/A	1027.40	1026.53	1035.54
LINE 2100																	Drop in Inlet 1808					0.50			
2101	0.71	0.66	0.71	0.47	5.0	10.32	6.05	6.05	7.00	5.70			0.00	0.00	2101	1808	HDPE	0.012	15	35.80	1.00	N/A	1026.88	1026.53	1038.95

GUTTER SPREAD AND INLET CAPACITY CALCULATIONS - RETREAT AT BAILEY FARMS, FIRST PLAT

DESIGN STORM	10	CURB TYPE "A" = LAZY BACK
"K" FACTOR	1.00	CURB TYPE "B" = HIGH BACK

RUNOFF CALCULATIONS												INLET DESIGN							GUTTER DESIGN			
INLET #	COMPOSITE "C"	AREA	INLET Tc	INTENSITY	RUNOFF	UPSTREAM INLET	UPSTREAM INLET	UPSTREAM INLET	UPSTREAM INLET	BYPASS FROM UPSTREAM INLET	TOTAL RUNOFF	STREET GRADE	STREET CROSS SLOPE	CURB TYPE	INLET LENGTH	EFFECTIVE LENGTH 80% CAP	INLET INTERCEPTION	BYPASS TO DOWNSTREAM INLET	STREET GRADE	STREET CROSS SLOPE	DEPTH AT CURB	SPREAD OF FLOW
LINE 1200																						
1201	0.66	0.30	5	7.35	1.46					0.00	1.46	1.20	2.08	A	6	4.8	1.32	0.14	1.20	2.08	0.15	**7.94**
1202	0.66	0.42	5	7.35	2.04	1203				0.18	2.22	1.20	2.08	A	6	4.8	1.89	0.32	1.20	2.08	0.18	**9.22**
1203	0.66	0.34	5	7.35	1.65					0.00	1.65	1.20	2.08	A	6	4.8	1.47	0.18	1.20	2.08	0.16	**8.30**
LINE 1800																						
1806	0.66	1.69	5	7.35	8.20	1807	1901			0.67	8.87	SUMP	2.08	A	6	4.8	13.44	0.00	SUMP	2.08	< 0.21	**< 10.50**
1807	0.66	0.12	5	7.35	0.58	1808				0.00	0.58	3.80	2.08	A	6	4.8	0.53	0.05	3.80	2.08	0.09	**4.75**
1808	0.66	0.03	5	7.35	0.15					0.00	0.15	2.00	2.08	A	6	4.8	0.14	0.00	2.00	2.08	0.06	**3.35**
LINE 1900																						
1901	0.66	0.36	5	7.35	1.75	2001				0.40	2.15	3.80	2.08	A	6	4.8	1.53	0.62	3.80	2.08	0.14	**7.44**
LINE 2000																						
2001	0.66	0.43	5	7.35	2.09					0.00	2.09	2.00	2.08	A	6	4.8	1.68	0.40	2.00	2.08	0.16	**8.24**
LINE 2100																						
2101	0.66	0.71	5	7.35	3.44					0.00	3.44	2.00	2.08	A	6	4.8	2.43	1.02	2.00	2.08	0.19	**9.84**

NOTES:
1. CAPACITY OF INLETS ON GRADE DETERMINED USING ROUTINE OUTLINED ON PGS 56-95 TO 56-97, SECTION 5600 APWA
2. CAPACITY OF SUMP INLETS CALCULATED USING FIGURE 5604-21, SECTION 5600 APWA
3. MANNINGS "n" VALUE FOR COMBINED ASPHALT PAVEMENT AND CONCRETE CURB - 0.014

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MASTER DRAINAGE PLAN-DRAINAGE CALCS

SHEET 8

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-DRAINAGE.dwg

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BASIS OF BEARINGS:

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(NAD) 1983, MISSOURI, WEST ZONE

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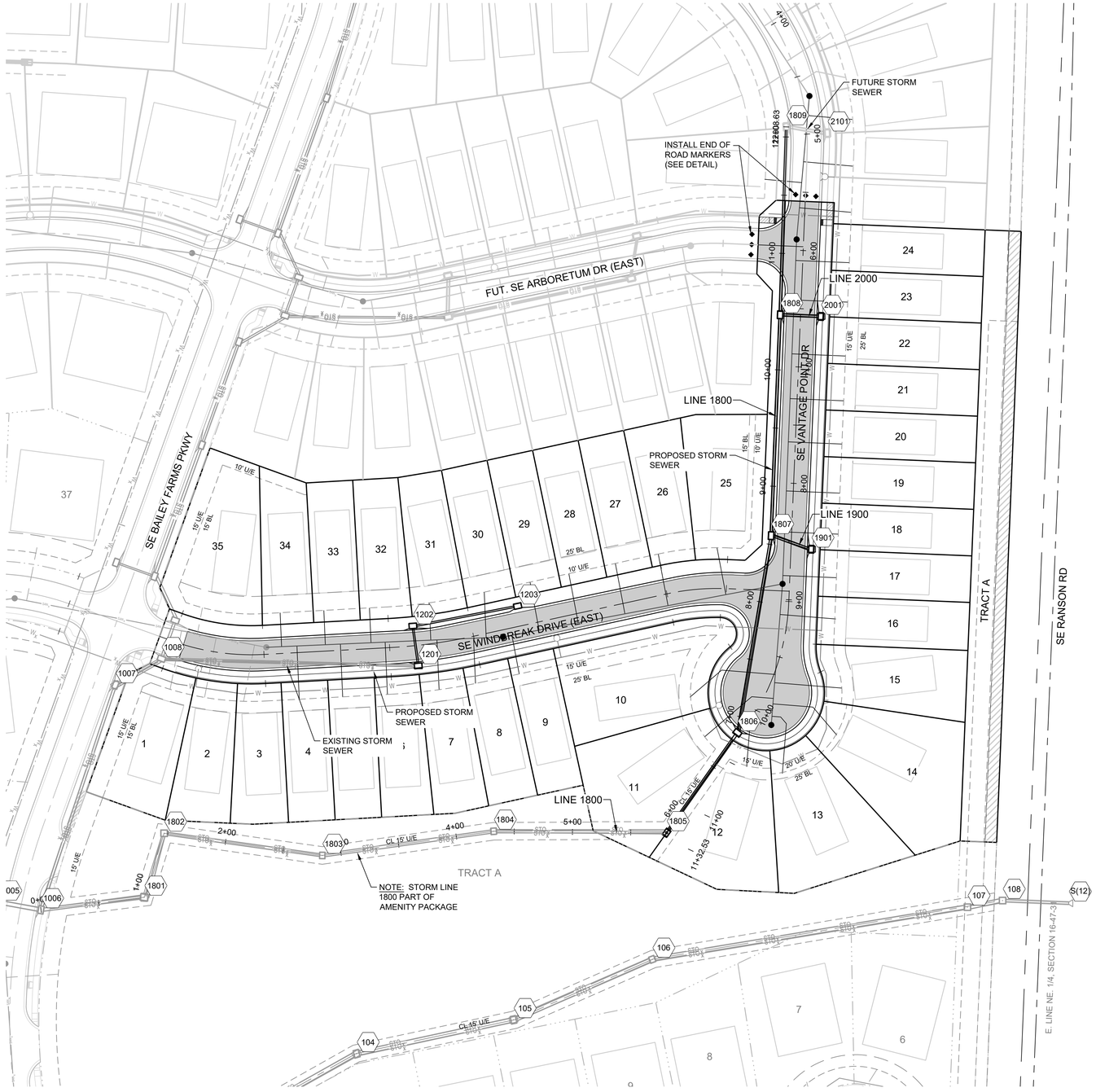

Storm Sewer Construction Notes	
Structure	Notes
1201	STA 2+20.44, LINE 1200 INSTALL 6 X 4 CURB INLET N 992654.3986 E 2833624.9486
1202	STA 2+54.97, LINE 1200 INSTALL 6 X 4 CURB INLET N 992688.6205 E 2833620.3630
1203	STA 3+46.45, LINE 1200 INSTALL 6 X 4 CURB INLET N 992705.6873 E 2833710.2379
1805	STA 5+80.78, LINE 1800 INSTALL 4 X 4 JUNCTION BOX N 992511.0888 E 2833838.0784
1806	STA 6+85.93, LINE 1800 INSTALL 6 X 4 CURB INLET N 992596.8865 E 2833898.8588
1807	STA 8+57.59, LINE 1800 INSTALL 6 X 4 CURB INLET N 992766.0995 E 2833927.7543
1808	STA 10+47.31, LINE 1800 INSTALL 6 X 4 CURB INLET N 992955.6599 E 2833935.5105
1901	STA 0+36.46, LINE 1900 INSTALL 6 X 4 CURB INLET N 992754.4673 E 2833962.3077
2001	STA 0+35.00, LINE 2000 INSTALL 6 X 4 CURB INLET N 992954.2290 E 2833970.4812

0 50' 100'
SCALE: 1" = 50'

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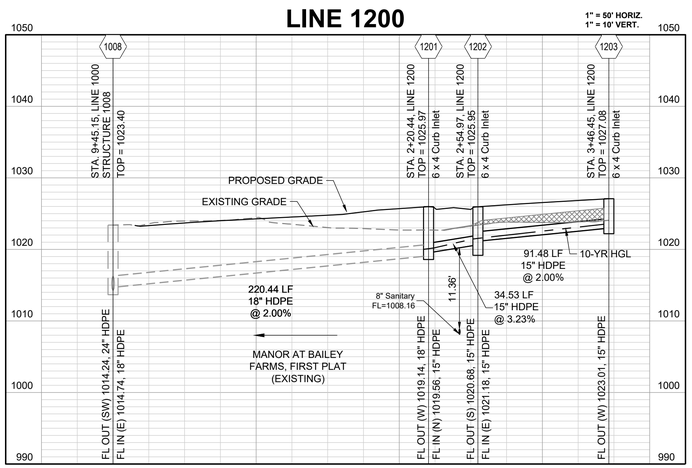
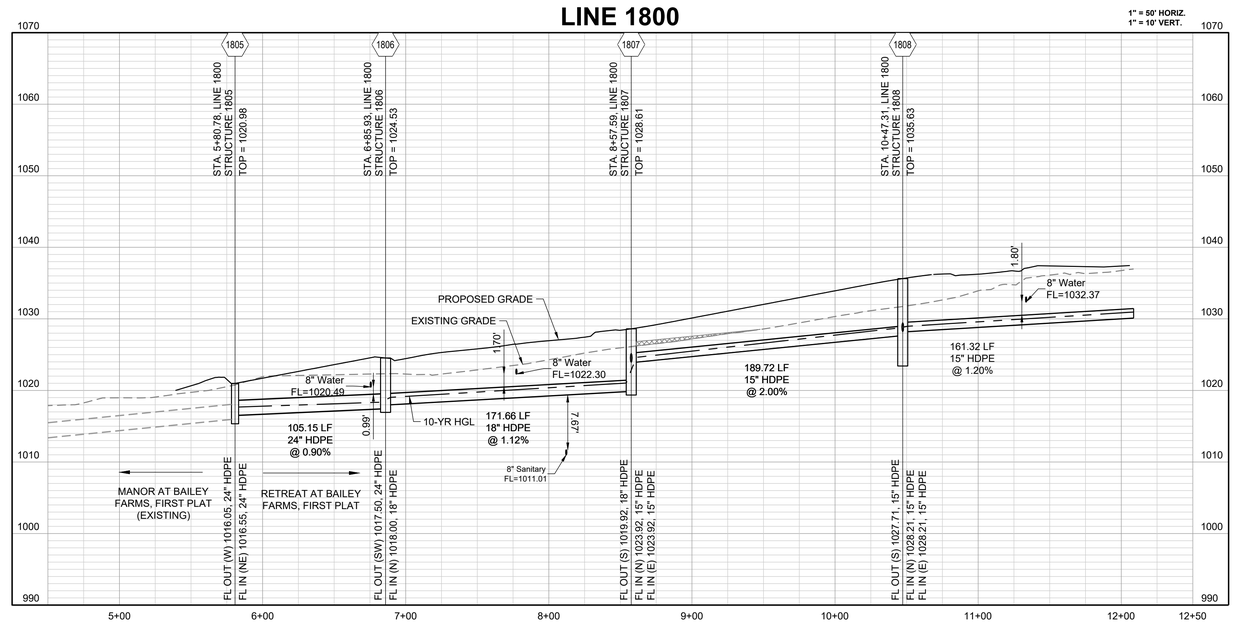
DRAWN BY:	JRJ
CHECKED BY:	JLL
DATE PREPARED:	02/09/2022
PROJ. NUMBER:	21-133

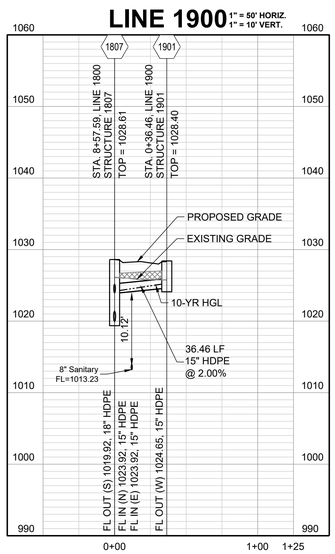
STORM PLAN

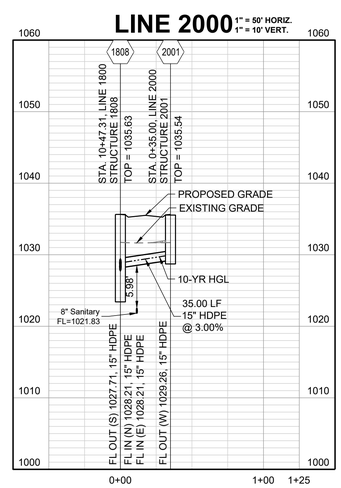
SHEET
9

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-STORM-PP.dwg









COMPACTED FILL TO BE PLACED A MINIMUM OF 1.5 FEET ABOVE TOP OF PIPE ELEVATION PRIOR TO PIPE INSTALLATION.

10-YEAR HGL

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PREPARED BY:

STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014010195
PROFESSIONAL ENGINEER

4/21/2022

SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER
DRAINAGE PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
03/21/2022	PER CITY COMMENTS
04/20/2022	PER CITY COMMENTS DATED 02/25/2022

DRAWN BY: JRJ
CHECKED BY: JLL
DATE PREPARED: 02/09/2022
PROJ. NUMBER: 21-133

STORM PROFILE

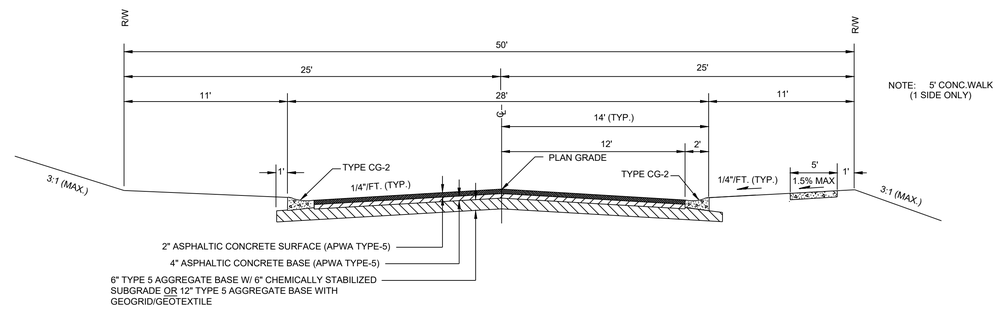
SHEET
10

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-STORM-PP.dwg

TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES

Street Classification	Pavement Option	AC Surface (in.)	AC Base (in.)	Aggregate Base (in.)	Chemical Subgrade Stabilization (in.)	Geogrid / Geotextile(1)
Residential Local/Access	A	2	4	6	6	--
	B	2	4	12	--	Geogrid / Geotextile
Residential Collector	A	2	5.5	6	9	--
	B	2	5.5	12	--	Geogrid / Geotextile
Commercial Industrial Local/Collector	A	2	7.5	6	9	--
	B	2	7.5	12	--	Geogrid / Geotextile

Notes:
(1) Geogrid shall be polypropylene material and Geotextile shall be woven, polypropylene as shown in the City's Approved Products List



RESIDENTIAL LOCAL/ACCESS

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PREPARED BY:

STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014010495
PROFESSIONAL ENGINEER

4/21/2022

SCHLAGEL & ASSOCIATES, P.A.

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STREET, STORMWATER, AND MASTER
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DRAWN BY: JRJ
CHECKED BY: JLL
DATE PREPARED: 02/09/2022
PROJ. NUMBER: 21-133

STREET DETAILS

SHEET 11

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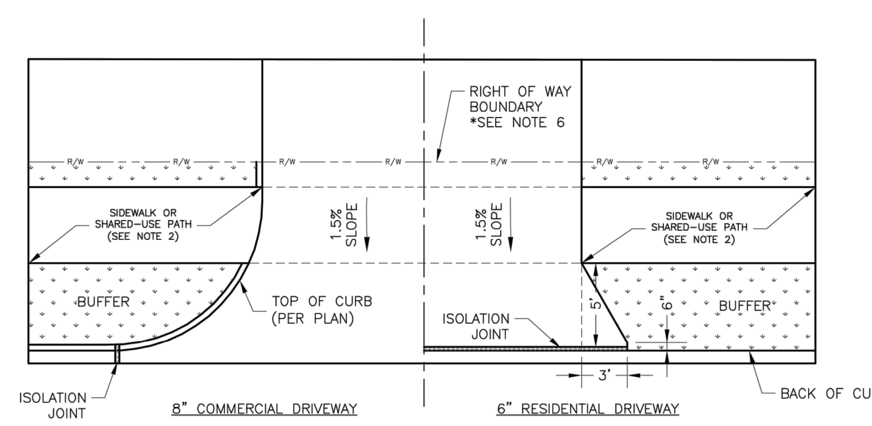
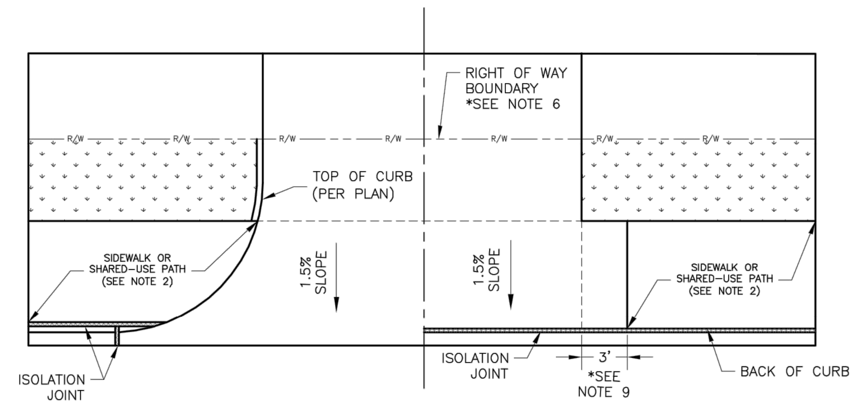


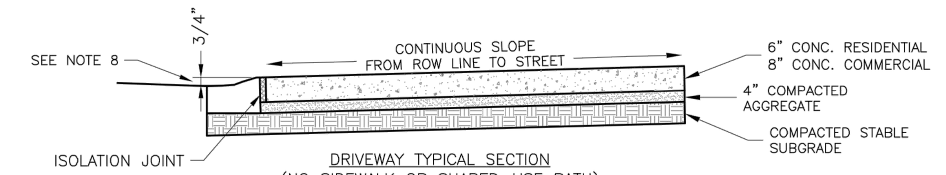
8" COMMERCIAL DRIVEWAY | 6" RESIDENTIAL DRIVEWAY

DRIVEWAY WITH BUFFER
NOT TO SCALE

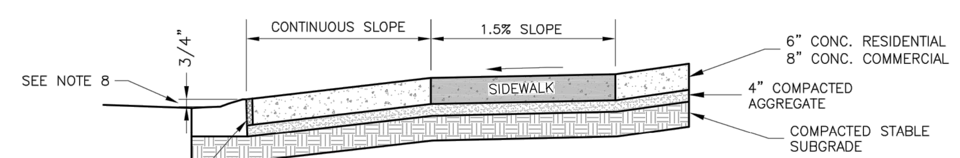


8" COMMERCIAL DRIVEWAY | 6" RESIDENTIAL DRIVEWAY

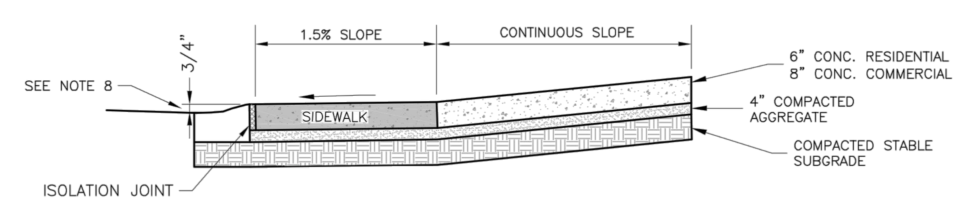
DRIVEWAY WITHOUT BUFFER
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(NO SIDEWALK OR SHARED-USE PATH)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITH BUFFER)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITHOUT BUFFER)
NOT TO SCALE

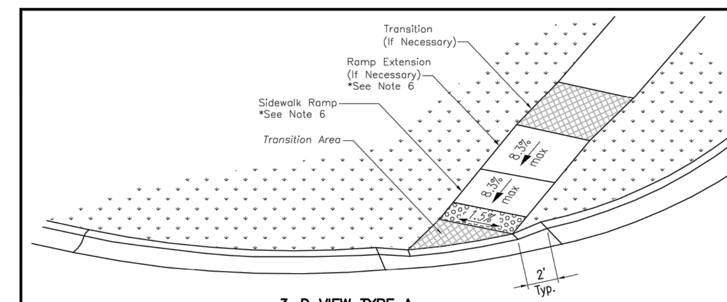
GENERAL NOTES
1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL).
3. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
4. KCMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
5. COMMERCIAL DRIVEWAYS AND DRIVEWAY APPROACHES, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
8. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CG-1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
9. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
10. THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.

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

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: DRIVEWAY DETAIL

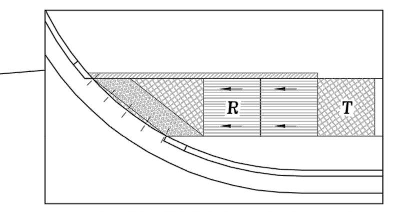
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-1

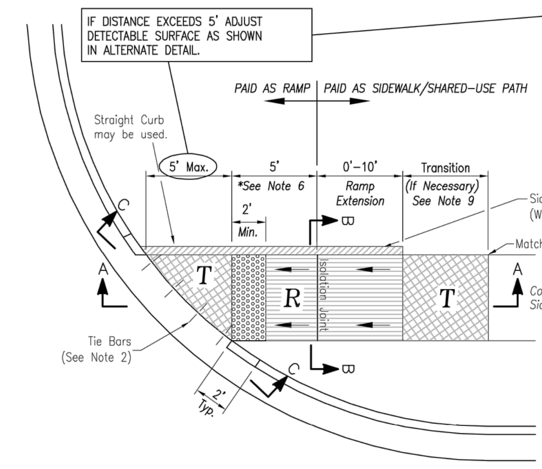


3-D VIEW TYPE A
SIDEWALK/SHARED-USE RAMP

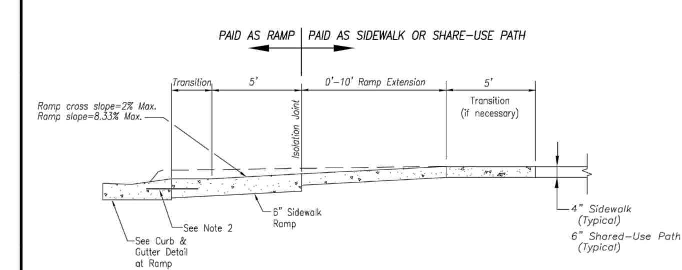
LEGEND
- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION



ALTERNATE DETECTABLE SURFACE LAYOUT

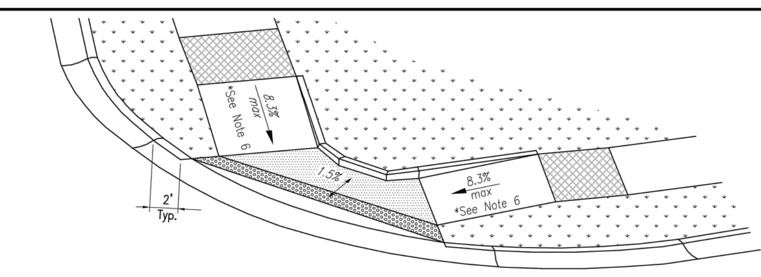


TYPE A SIDEWALK/SHARED-USE RAMP
Not to Scale

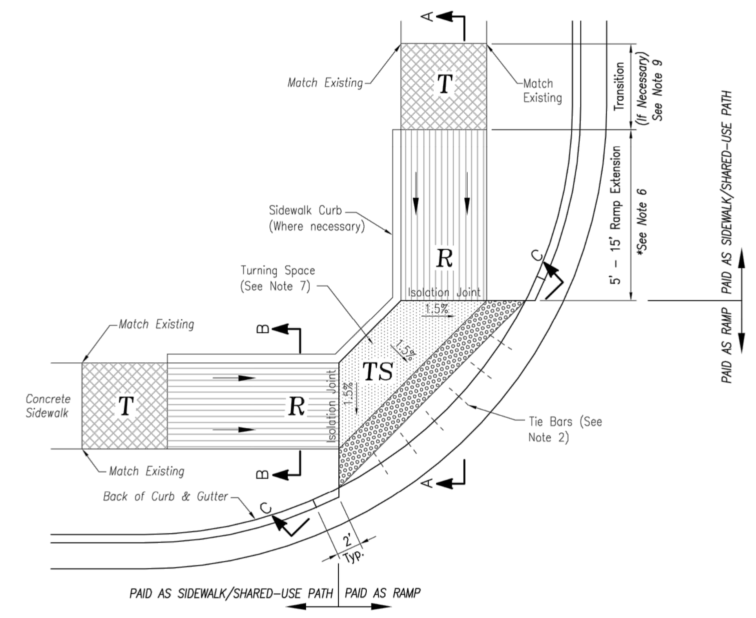


SECTION A-A

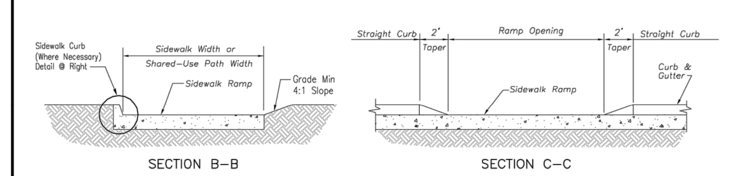
SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:
1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
ADA MAXIMUM CROSS SLOPE = 2.0%
*ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).



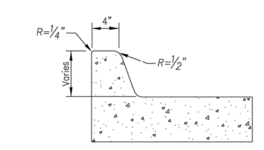
3-D VIEW TYPE B
SIDEWALK/SHARED-USE RAMP



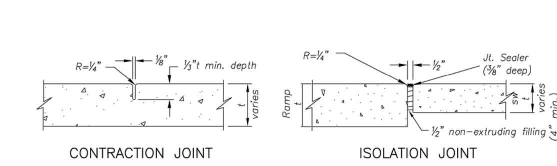
TYPE B SIDEWALK/SHARED-USE RAMP
Not to Scale



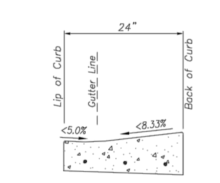
TYPE A & B SIDEWALK RAMP
Not to Scale



SIDEWALK CURB DETAIL
Not to Scale



JOINT DETAILS
Not to Scale



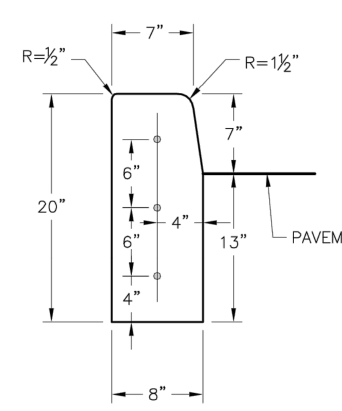
CURB & GUTTER DETAIL AT RAMP
Not to Scale

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

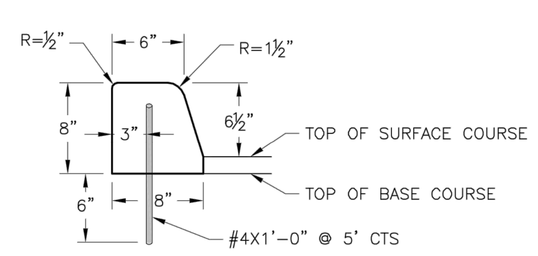
Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

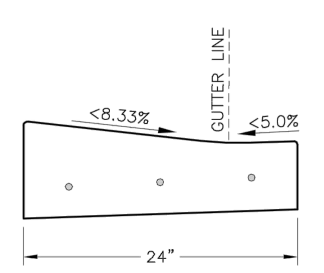
GEN-3A



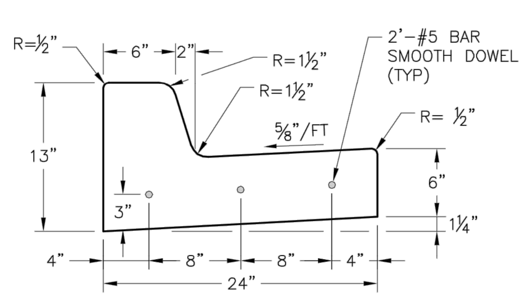
STRAIGHT CURB
(TYPE C-1)



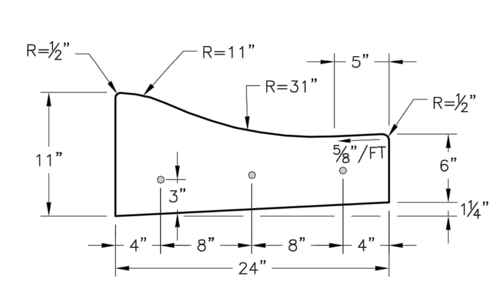
DOWELLED CURB
(TYPE DC)



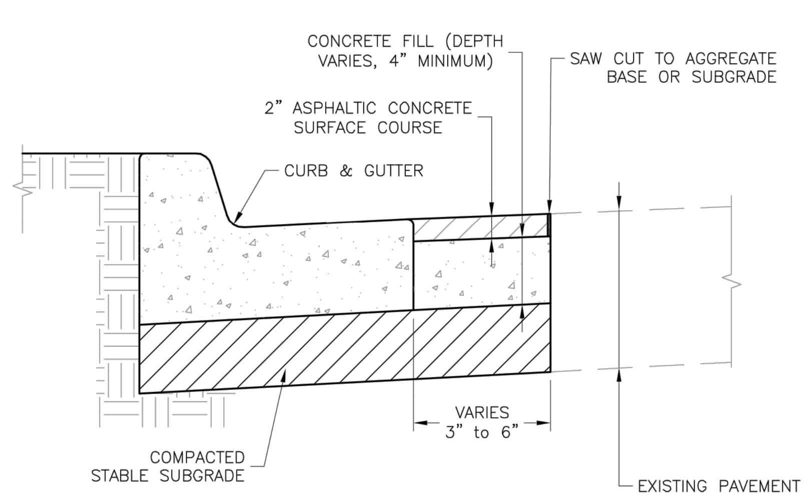
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



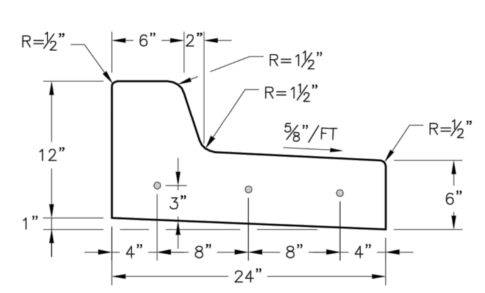
STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)



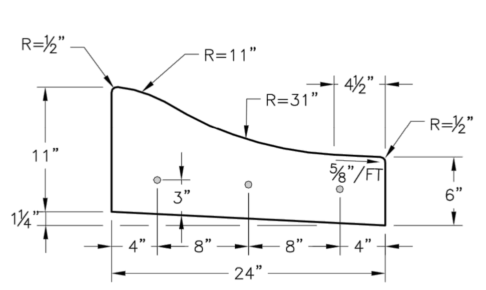
ROLL BACK CURB & GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



STRAIGHT BACK DRY CURB & GUTTER
(TYPE CG-1 DRY)



ROLL BACK DRY CURB & GUTTER
(TYPE CG-2 DRY)

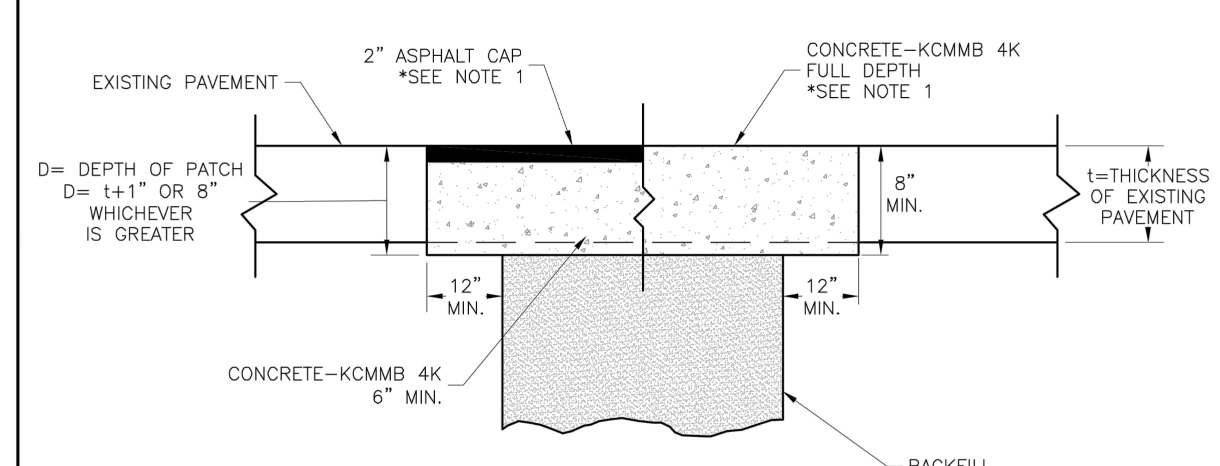
GENERAL NOTES
1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

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

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

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-4



TRENCHING/PATCHING DETAIL
NOT TO SCALE

NOTE:
1. ASPHALT CAP OR FULL DEPTH CONCRETE SHALL BE DETERMINED BY CITY INSPECTOR.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
TRENCHING/PATCHING ROADWAYS DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

GEN-5

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PREPARED BY:

STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014010495
PROFESSIONAL ENGINEER
4/21/2022

SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN

SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1 03/21/2022	PER CITY COMMENTS
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DRAWN BY: JRJ
CHECKED BY: JLL
DATE PREPARED: 02/09/2022
PROJ. NUMBER: 21-133

STREET DETAILS

SHEET
12

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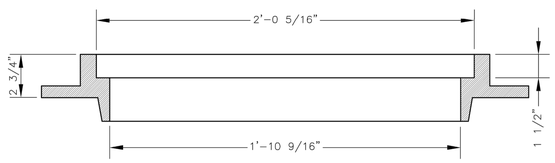
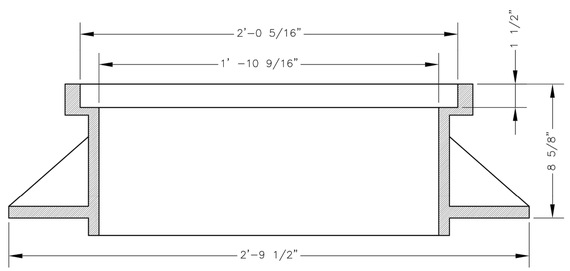


SLAB MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS103A
MINIMUM WEIGHT = 145 LB



STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB

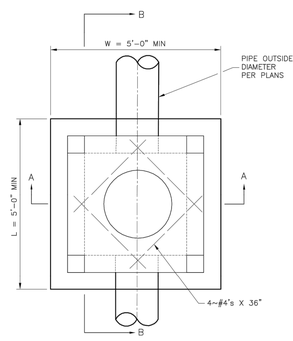
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

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

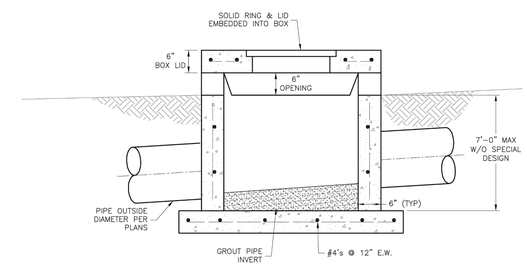
Date: 04/17
Drawn By: MJF
Checked By: DL

STORM MANHOLE FRAME DETAIL

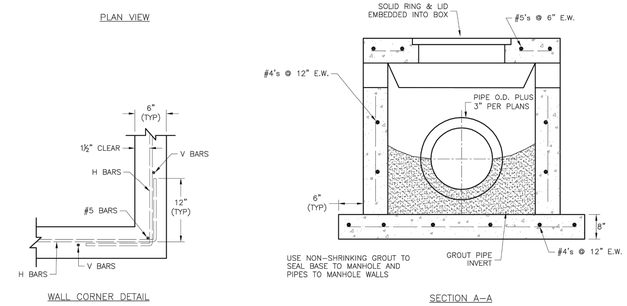
STM-7



PLAN VIEW



SECTION B-B



SECTION A-A

WALL CORNER DETAIL

GENERAL NOTES:

1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3' ON BLANK WALL IF POSSIBLE.
5. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE.
6. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
7. SHOW FIELD INLET ORIENTATION ON PLANS PLUS NUMBER AND SIDE OF OPENINGS.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
FIELD INLET DETAIL

Project:
Sheet Name:

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STM-2

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ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
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Missouri State Certificates of Authority
#E2000200380-F #LA2001005237 #LS2002008859-F

PREPARED BY:

STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014010195
PROFESSIONAL ENGINEER

4/21/2022

SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN

SE BAILEY ROAD AND SE RANSON ROAD LEE'S SUMMIT, MISSOURI

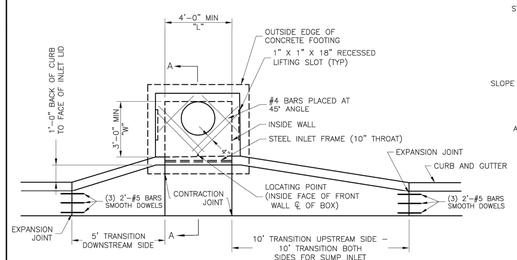
REVISION DATE	DESCRIPTION
1 03/21/2022	PER CITY COMMENTS
2 04/20/2022	PER CITY COMMENTS DATED 02/25/2022
3	
4	
5	
6	
7	
8	

DRAWN BY: JRJ	CHECKED BY: JLL
DATE PREPARED: 02/09/2022	PROJ. NUMBER: 21-133

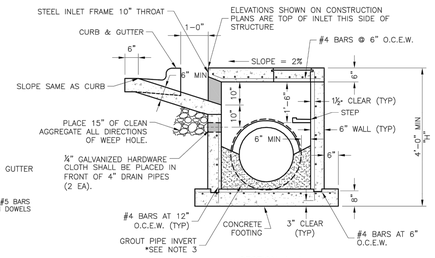
STORM DETAILS

SHEET
13

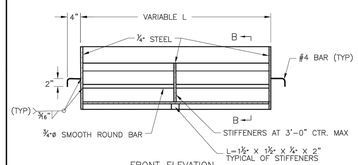
I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-DET.dwg



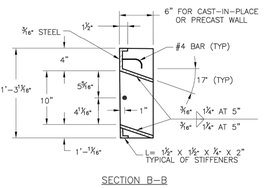
PLAN VIEW



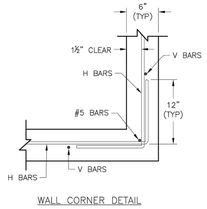
SECTION A–A



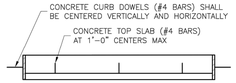
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



PLAN VIEW

STEEL FRAME NOTES:
1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM–PRIME #37H–78 PRIMER (GRAY) OR EQUAL.

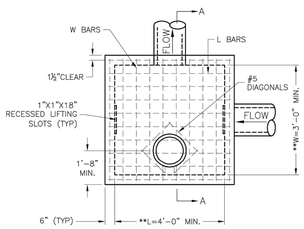
GENERAL NOTES:
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'–4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR ½" TOOLED EDGE.
7. ON–GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON–SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

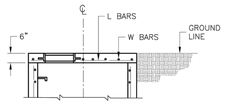
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
CURB INLET DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STM-1



PLAN

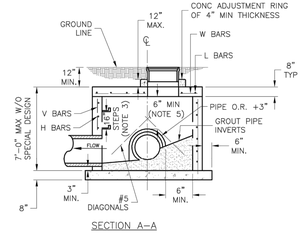


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

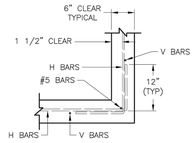
** INCREASE IN MULTIPLES OF 6" (7'–0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6



SECTION A–A



WALL CORNER DETAIL

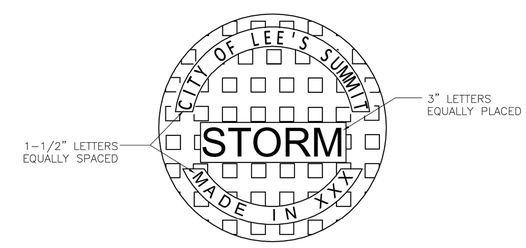
GENERAL NOTES:
1. LOCATE RING AND COVER ON BLANK WALL.
2. USE ¾" CHAMFER STRIP OR ½" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6".
5. THE MINIMUM REINFORCING SHALL BE 1 H–BAR OVER A CAST–IN–PLACE PIPE AND 2 H–BARS OVER A PRECAST BOXOUT.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

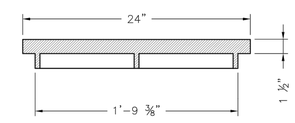
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
JUNCTION BOX DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STM-3





STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

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

STORM MANHOLE COVER DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

STM-6

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14920 West 107th Street • Lenexa, Kansas 66215
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Missouri State Certificate of Authority
#E2002000380-F #LA2001005237 #LS2002000859-F

PREPARED BY:
STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014016195
PROFESSIONAL ENGINEER
4/21/2022
SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER
DRAINAGE PLAN

SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1 03/21/2022	PER CITY COMMENTS
2 04/20/2022	PER CITY COMMENTS DATED 02/25/2022
3	
4	
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6	
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8	
9	
10	

DRAWN BY: JRJ
CHECKED BY: JLL
DATE PREPARED: 02/09/2022
PROJ. NUMBER: 21-133

STORM DETAILS

SHEET 14

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-DET.dwg

MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCHMARK:

BM JA-45, IS A KC METRO ALUMINUM GRS DISK SET IN CONCRETE AND ABOUT 3 INCHES BELOW THE PAVEMENT ON THE SHOULDER OF SE RANSON ROAD. IT IS STAMPED JA45, 1987.

ELEV. = 1046.25

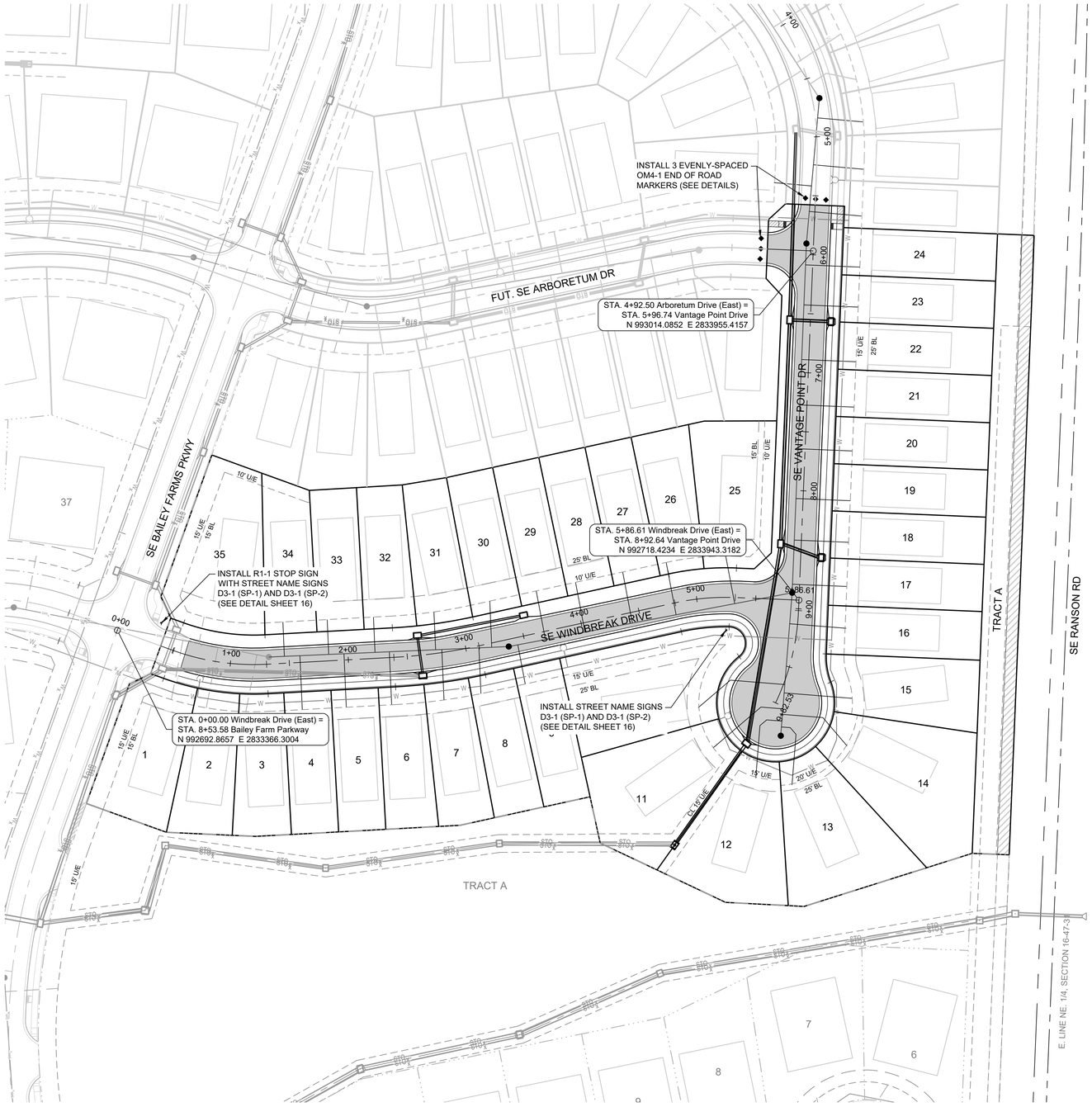
BASIS OF BEARINGS:

MISSOURI STATE PLANE COORDINATE SYSTEM
(NAD) 1983, MISSOURI, WEST ZONE

NOTES:

ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE CITY OF LEES SUMMIT TECHNICAL SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.



0 50' 100'
SCALE: 1" = 50'

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#E2000200380-F #LA2001005237 #LS2000200859-F

PREPARED BY:

STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014016195
PROFESSIONAL ENGINEER

4/21/2022

SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT
STREET, STORMWATER, AND MASTER DRAINAGE PLAN
SE BAILEY ROAD AND SE RANSON ROAD
LEE'S SUMMIT, MISSOURI

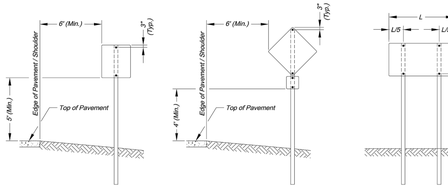
REVISION DATE	DESCRIPTION
1 03/21/2022	PER CITY COMMENTS
2 04/20/2022	PER CITY COMMENTS DATED 02/25/2022
3	
4	
5	
6	
7	
8	

DRAWN BY:	JRJ
CHECKED BY:	JLL
DATE PREPARED:	02/09/2022
PROJ. NUMBER:	21-133

SIGN PLAN

SHEET
15

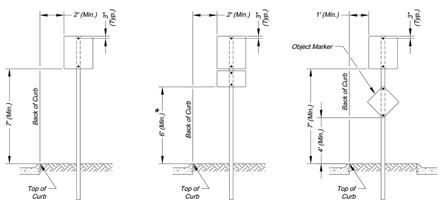
I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-SIGN.dwg



SIGN INSTALLATION FOR NON-CURBED STREET

SIGN INSTALLATION WITH AUXILARY SIGN FOR NON-CURBED STREET

SIGN INSTALLATION WITH TWO SIGN POSTS



SIGN INSTALLATION FOR CURBED STREET

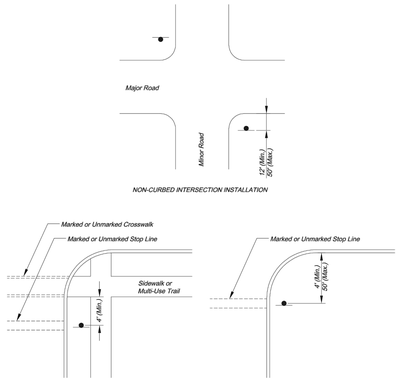
SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

SIGN INSTALLATION FOR RAISED MEDIANS

SIGN MOUNTING DETAILS

* The height to the bottom of a sign when it is located in a pedestrian walkway or extends into a walkway shall be a minimum of 80 inches above the walkway.

NOTE:
1. Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.

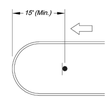


NON-CURBED INTERSECTION INSTALLATION

INTERSECTION WITH SIDEWALK / MULTI-USE TRAIL INSTALLATION

CURBED INTERSECTION INSTALLATION

CONTROL SIGN LOCATION



TYPICAL MEDIAN SIGN LOCATION

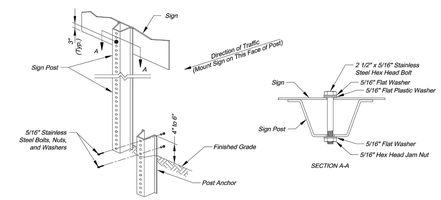
MEDIAN SIGN LOCATION

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

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

Project:
SIGN MOUNTING DETAILS
Sheet Name:
STANDARD DRAWING SN-1

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

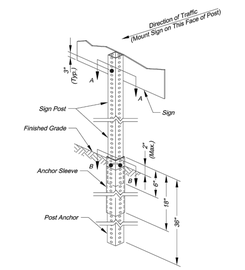


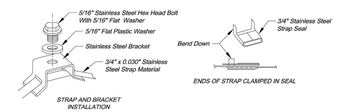
U-STEEL POST DETAILS

U-STEEL POST NOTES:
1. Splice shall be positioned entirely between finished grade line and 18" above finished grade line. Only one splice will be allowed per post.
2. U-Steel post shall be 3 lb./ft., galvanized according to ASTM A123.
3. U-Steel post can be used for installation of signs with an area of less than 2.5 square feet.
4. All posts shall be embedded a minimum of 3 feet.

PERMANENT SIGNING GENERAL NOTES:
1. All signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. The Contractor is responsible for avoiding any and all utilities when installing sign posts, whether the utility is indicated on the plans or not.
3. All workmanship and materials shall be subject to the inspection and approval of the Public Works Department of the City of Lee's Summit.
4. The Contractor shall stake the location of all sign posts to be installed. The City Inspector shall inspect the staking prior to installation. Minor relocation to avoid conflict may be allowed with the approval of the City Traffic Engineer or designee.
5. Signs shown to be installed on the side of metal poles shall be mounted with stainless steel straps or wing brackets as detailed. No signs are to be installed on wood poles. See Traffic Signal Standard Drawings for the installation of signs on mast arms.
6. All post mounted signs shall be installed with breakaway anchors according to the Standard Drawings.
7. All existing signs will be used in place during construction and protected from damage unless otherwise indicated in the plans. If the Contractor damages any existing sign or posts during construction, the Contractor will be required to replace the damaged materials with new signs or posts of the same type and size at the Contractor's expense. The Contractor shall be responsible for removing and storing any signs that are to be reinstalled on the project. All equipment shall be reinstalled in good condition.
8. Existing permanent signs and posts removed by the Contractor for construction purposes which are not to be reinstalled shall be delivered to the City's Public Works Maintenance Facility (1971 SE Hamblen Road). The Contractor shall be responsible for removing and storing equipment in good condition and is fully responsible for the equipment until it is delivered.
9. All Stop, Yield, or street name signs shall be maintained in a conspicuous location for the driving public. All Stop and Yield signs removed for construction purposes can be temporarily erected in reflectorized drums (no less than 7 feet above the pavement surface) until they can be reinstalled. Any temporary Stop or Yield sign installation to be left in place overnight will require prior approval from the City Inspector.

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





STRAP AND BRACKET INSTALLATION

ENDS OF STRAP CLAMPED IN SEAL

STRAP TYPE SIGN SUPPORT DETAILS

METAL POLE SIGN MOUNTING NOTES:
1. Signs on metal poles shall be attached with two brackets and stainless steel bands.
2. Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2 inches from the edge of the sign.
3. Holes in sign shall be located such that the sign is level.
4. All strap, bracket, and seal materials should be Type 201 stainless steel.

SQUARE STEEL POST DETAILS

SQUARE STEEL POST NOTES:
1. Square steel sign posts and break-away anchor shall consist of the following materials:
   Sign Post - 14 Ga. 2" x 2" Square Steel Post
   Post Anchor - 12 Ga. 2 1/2" x 2 1/2" x 36" Square Steel Post
   Anchor Sleeve - 12 Ga. 2 1/2" x 2 1/2" x 18" Square Steel Post
2. 14 Gauge posts must meet a certified minimum yield strength of 60,000 psi.
3. In all installations the first hole above the finished grade line on the sign post, anchor, and anchor sleeve must be in line for the insertion of the corner bolt.
4. The maximum area for one sign post is 9.0 square feet. A sign or combination of signs with an area greater than 9.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 36" x 36" diamond shaped signs) will require two posts.

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

Project:
SIGN POST DETAILS
Sheet Name:
STANDARD DRAWING SN-2

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#
2 OF 3
2

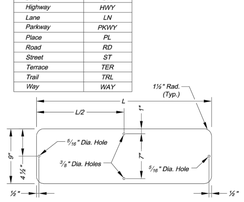
STANDARD ABBREVIATION LISTS

Named Streets	
Avenue	AVE
Boulevard	BLVD
Circle	CIR
Creek	CR
Court	CT
Crossing	XING
Drive	DR
Highway	HWY
Lane	LN
Parkway	PKWY
Place	PL
Road	RD
Street	ST
Terrace	TER
Trail	TRL
Way	WAY

Numbered Streets	
First	ST
Second	ND
Third	RD
Fourth to Tenth	TH

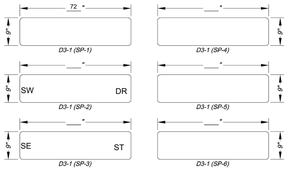
STREET NAME SIGN QUANTITIES

Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1)	9" x 72"	4.50	2	9.00
D3-1 (SP-2)	9" x 54"	3.38	1	3.38
D3-1 (SP-3)	9" x			
D3-1 (SP-4)	9" x			
D3-1 (SP-5)	9" x			
D3-1 (SP-6)	9" x			



STREET NAME SIGN BLANK DETAILS

For Mounting on Square Steel Posts

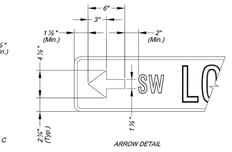


PROJECT SIGN DETAILS

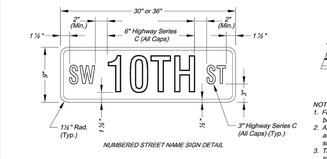
Refer to Street Names in Exhibit B this Sheet

NAMED STREET NAME SIGN DETAIL

* Use Highway Series B (All Caps) in lieu of series C if necessary to fit text on a 36" sign blank.



ARROW DETAIL

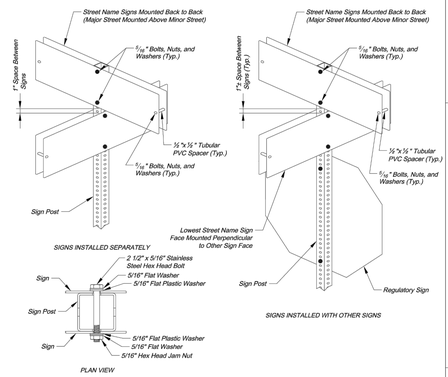


NUMBERED STREET NAME SIGN DETAIL

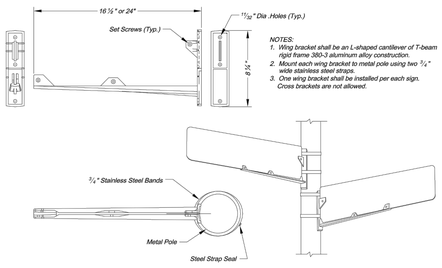
PRIVATE STREET TAG DETAIL

NOTES:
1. For all street name signs, the legend shall be white and the background shall be green.
2. Arrows shall be added to street name signs where the name of a street changes at an intersection. Street name signs with arrows are to be installed on each side of the intersection to indicate the change in names. Arrows shall be white.
3. The "PRIVATE STREET" tag should be added to the end of street name signs to indicate where a street that is outside the right-of-way intersects a public street. The background for the "PRIVATE STREET" tag shall be yellow.

STREET NAME SIGN FACE DETAILS



SQUARE STEEL POST MOUNTING DETAILS



NOTES:
1. Wing bracket shall be an L-shaped cantilever of T-beam rigid frame 380-3 aluminum alloy construction.
2. Mount each wing bracket to metal pole using two 3/4" wide stainless steel straps.
3. One wing bracket shall be installed per each sign. Cross brackets are not allowed.

WING BRACKET MOUNTING DETAILS

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

Project:
STREET NAME SIGN DETAILS
Sheet Name:
STANDARD DRAWING SN-3

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

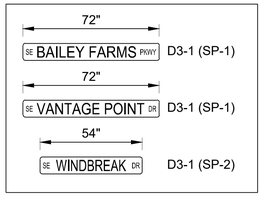
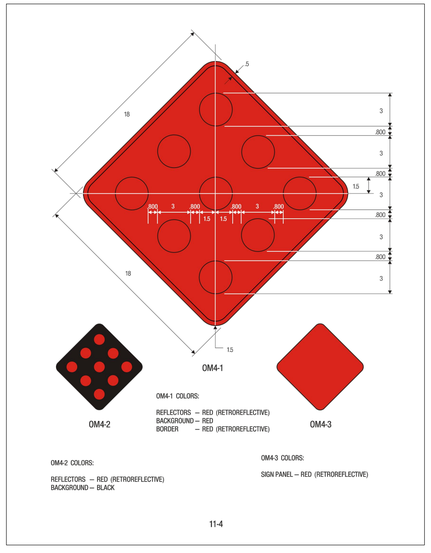


Exhibit B



11-4

30"

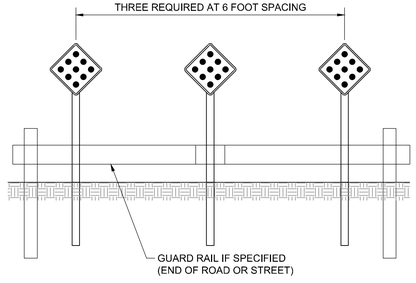
30"

R1-1

STOP SIGN

OM4-1
(3)

NOTE:
THICKNESS OF FLAT SHEET FOR END OF ROAD MARKERS SHALL BE 0.0063". RED REFLECTORS ON RED BACKGROUND.



SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 W 107th STREET • LENEXA, KS 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM

PREPARED BY:

STATE OF MISSOURI
JAMES L. LONG
NUMBER PE-2014010495
PROFESSIONAL ENGINEER

4/21/2022

SCHLAGEL & ASSOCIATES, P.A.

RETREAT AT BAILEY FARMS, FIRST PLAT STREET, STORMWATER, AND MASTER DRAINAGE PLAN

SE BAILEY ROAD AND SE RANSOM ROAD
LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1	03/21/2022	PER CITY COMMENTS
2	04/20/2022	PER CITY COMMENTS DATED 02/25/2022
3		
4		
5		
6		
7		
8		
9		
10		

DRAWN BY:	JRJ
CHECKED BY:	JLL
DATE PREPARED:	02/09/2022
PROJ. NUMBER:	21-133

SIGN DETAILS

SHEET 16

I:\PROJECTS\2021\21-133\3.0 Design\3.0 DWG Plans\6.0 SS\21-133-SS-SIGN DET.dwg, 4/21/2022 5:18:53 PM, 1:1