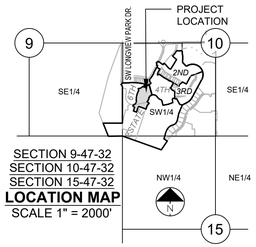
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
FOR
PERGOLA PARK 5TH PLAT
IN THE CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI

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
- CO — 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



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

EVERGY
Ron Dejarnette
1300 SE Hamblin Road
Lee's Summit, MO 64081
Office: (816) 347-4316
Cell: (816) 810-5234
ron.dejarnette@evergy.com

CITY OF LEES SUMMIT PUBLIC WORKS
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 THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200
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	CLEANING, GRUBBING, AND DISPOSAL	1	L.S.
2	GRADING	1	L.S.
3	SUBGRADE STABILIZATION (PUBLIC STREETS)	6494	S.Y.
4	6" ASPHALT	4770	S.Y.
5	6" CONCRETE	1103	S.Y.
6	DRIVABLE PAVERS	162	SY
7	TYPE CG-2 CURB	2256	L.F.
8	TYPE CG-2 DRY CURB	267	L.F.
9	TYPE CG-1 DRY CURB	342	L.F.
10	TYPE C1 CURB	517	L.F.
11	5' SIDEWALK	2504	L.F.
12	SIDEWALK RAMPS	11	EA.
13	15" HDPE	245	L.F.
14	18" HDPE	179	L.F.
15	24" HDPE	117	L.F.
16	30" HDPE	643	L.F.
17	36" HDPE	135	L.F.
18	36" RCP	243	L.F.
19	4' x 4' GRATE INLET	5	EA.
20	6' x 4' CURB INLET	6	EA.
21	6' x 5' CURB INLET	5	EA.
22	6' x 6' CURB INLET	1	EA.
23	7' x 4' CURB INLET	1	EA.
24	36" RCP END SECTION	1	EA.
25	UNDERDRAIN	35	L.F.
26	EROSION CONTROL	1	L.S.
27	SEEDING/MULCHING	1	L.S.
28	BONDS	1	L.S.

RECORD DRAWING

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Date: 5/22/2023
Certified by: BAL
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

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 then 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

OWNER/DEVELOPER:

NLV DEVELOPMENT COMPANY LLC
RUSSELL PEARSON
3152 SW GRANDSTAND CIRCLE
LEE'S SUMMIT, MO 64081
p 816-589-4415
f ----
RPEARSON@BOXDEVCO.COM

MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

PROJECT BENCHMARK:

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413
ELEV. 1004.09

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
#E2002003800-F #LA2001005237 #LS2002008859-F

PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
2-4-22	CITY COMMENTS
3-30-22	CITY COMMENTS
11-9-22	STREET TIE INS
5-22-23	AS-BUILTS

DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

COVER SHEET

SHEET 1

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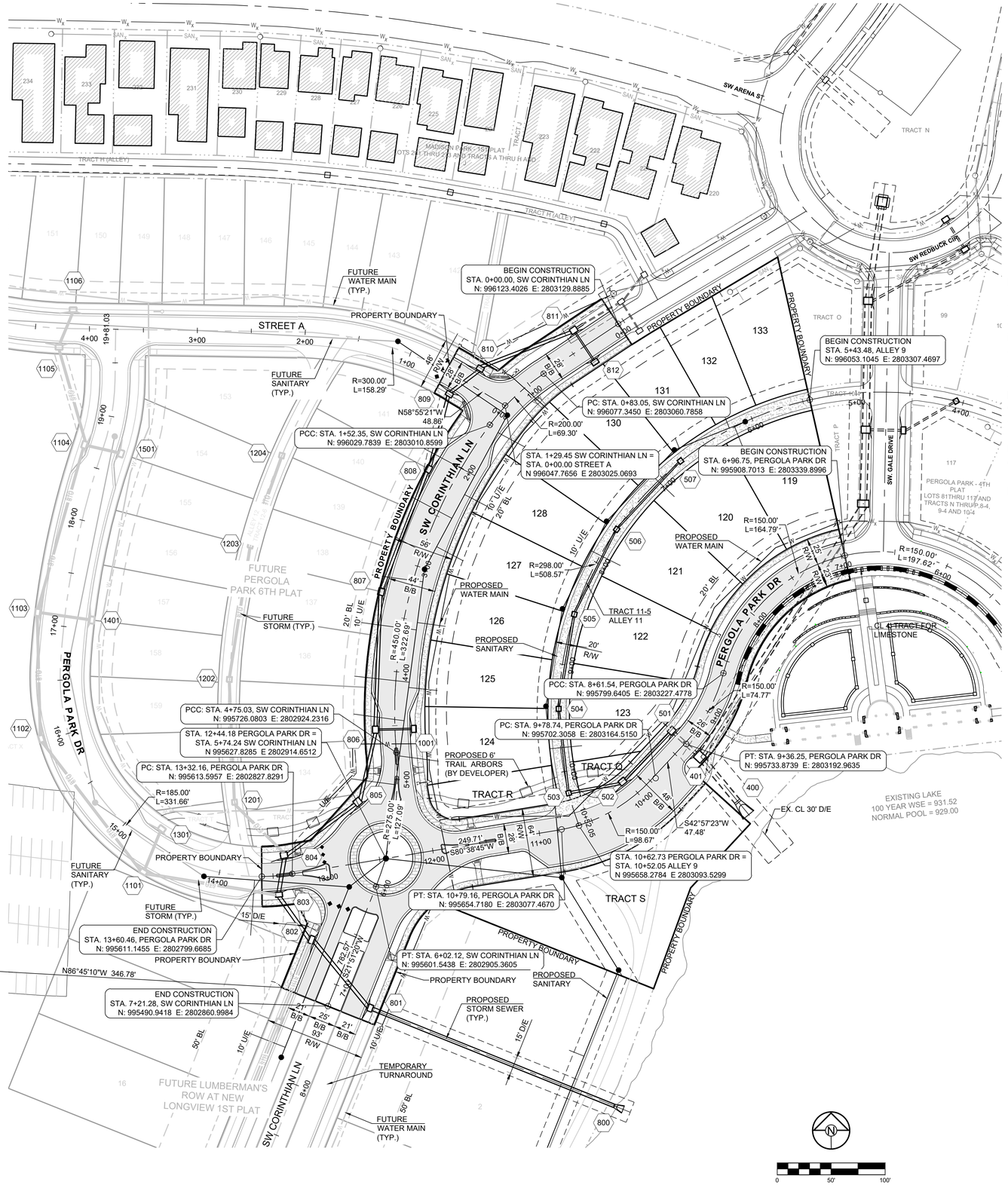

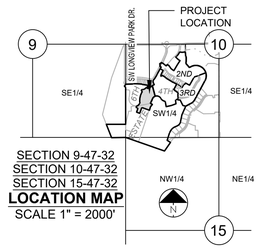

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Date: 5/22/2023
Certified by: BAL
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

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SURVEY NOTES

The bases of bearing and coordinates are base on the Missouri Coordinate System of 1983, West Zone (2003 Adjustment) with a Grid Factor of 0.9999020.

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PREPARED BY:

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2009007268
06.09.2023
PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY:	BAL
CHECKED BY:	MAB
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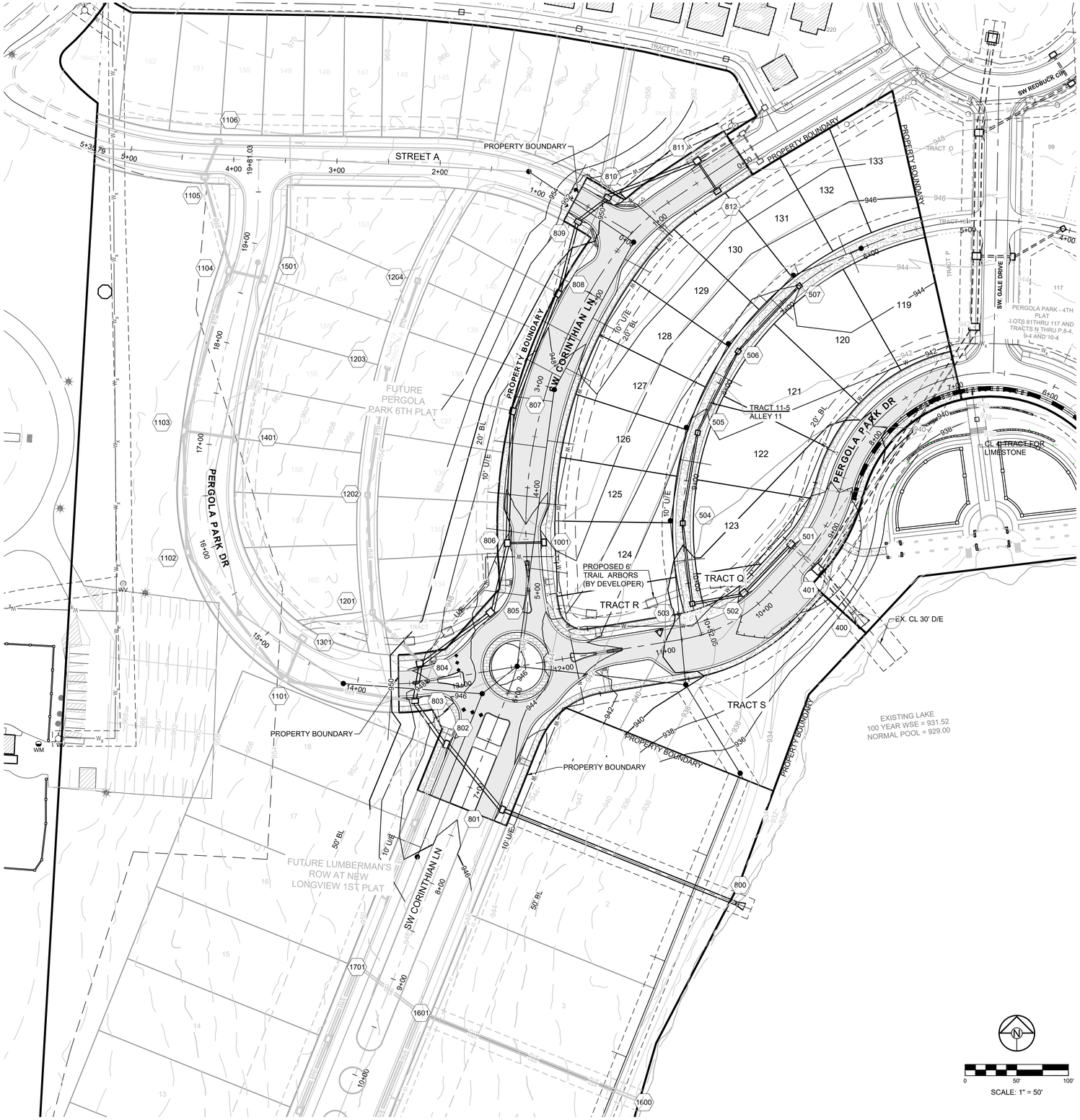
GENERAL LAYOUT

SHEET 2



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NOTE:

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- DENOTES PROPOSED MAJOR CONTOUR
- DENOTES PROPOSED MINOR CONTOUR
- DENOTES EXISTING MAJOR CONTOUR
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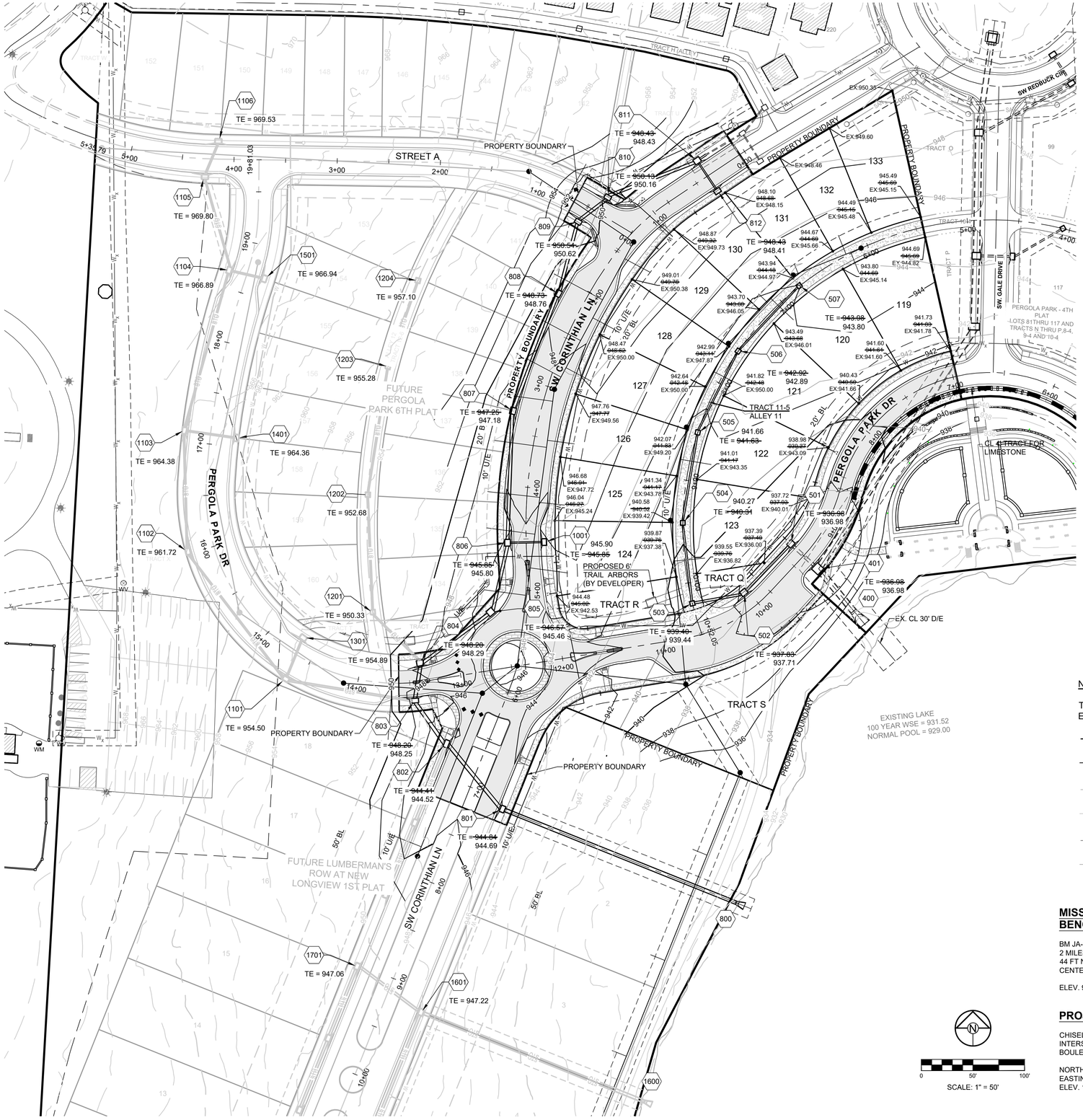
5-22-23	AS-BUILTS

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	11-18-2021
PROJ. NUMBER:	20-169

MASTER DRAINAGE PLAN - GRADING PLAN

SHEET 3



LOT TYPE TABLE					
LOT #	BASEMENT TYPE	FRONT MBOE	REAR MBOE	AS-BUILT FRONT MBOE	AS-BUILT REAR MBOE
119	STANDARD	942.35	945.60	942.25	945.20
120	STANDARD	942.10	945.60	942.10	944.30
121	STANDARD	941.00	944.20	940.90	944.00
122	STANDARD	939.80	943.00	939.50	942.30
123	STANDARD	940.50	943.85	938.50	941.50
124	STANDARD	946.80	941.00	946.55	941.10
125	STANDARD	947.40	941.65	947.20	941.85
126	STANDARD	948.30	942.35	948.30	942.60
127	STANDARD	949.50	943.00	949.00	943.20
128	STANDARD	950.20	943.60	949.55	943.50
129	STANDARD	950.20	944.20	949.40	944.20
130	STANDARD	949.75	944.70	948.60	944.50
131	STANDARD	949.10	945.20	949.10	945.20
132	STANDARD	950.10	945.65	950.10	945.00
133	STANDARD	950.85	946.20	950.85	946.00

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NOTE:

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- DENOTES EXISTING MINOR CONTOUR
- DENOTES AS-BUILT MAJOR CONTOUR
- DENOTES AS-BUILT MINOR CONTOUR

MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

PROJECT BENCHMARK:

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413
ELEV. 1004.09

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
1462 SW 17th Street • Lees Summit, MO 64081
(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
MARK ALLEN BREUER
NUMBER PE-2009007268
06.09.2023
PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
2-4-22	CITY COMMENTS
3-30-22	CITY COMMENTS
11-9-22	STREET TIE INS
5-22-23	AS-BUILTS

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

MASTER DRAINAGE PLAN - LOT INFO

SHEET 4

RECORD DRAWING

The information provided on this drawing conforms to construction records; it is not intended for construction, implementation or recording purposes; and it is solely based on information obtained by Schlagel and Associates.

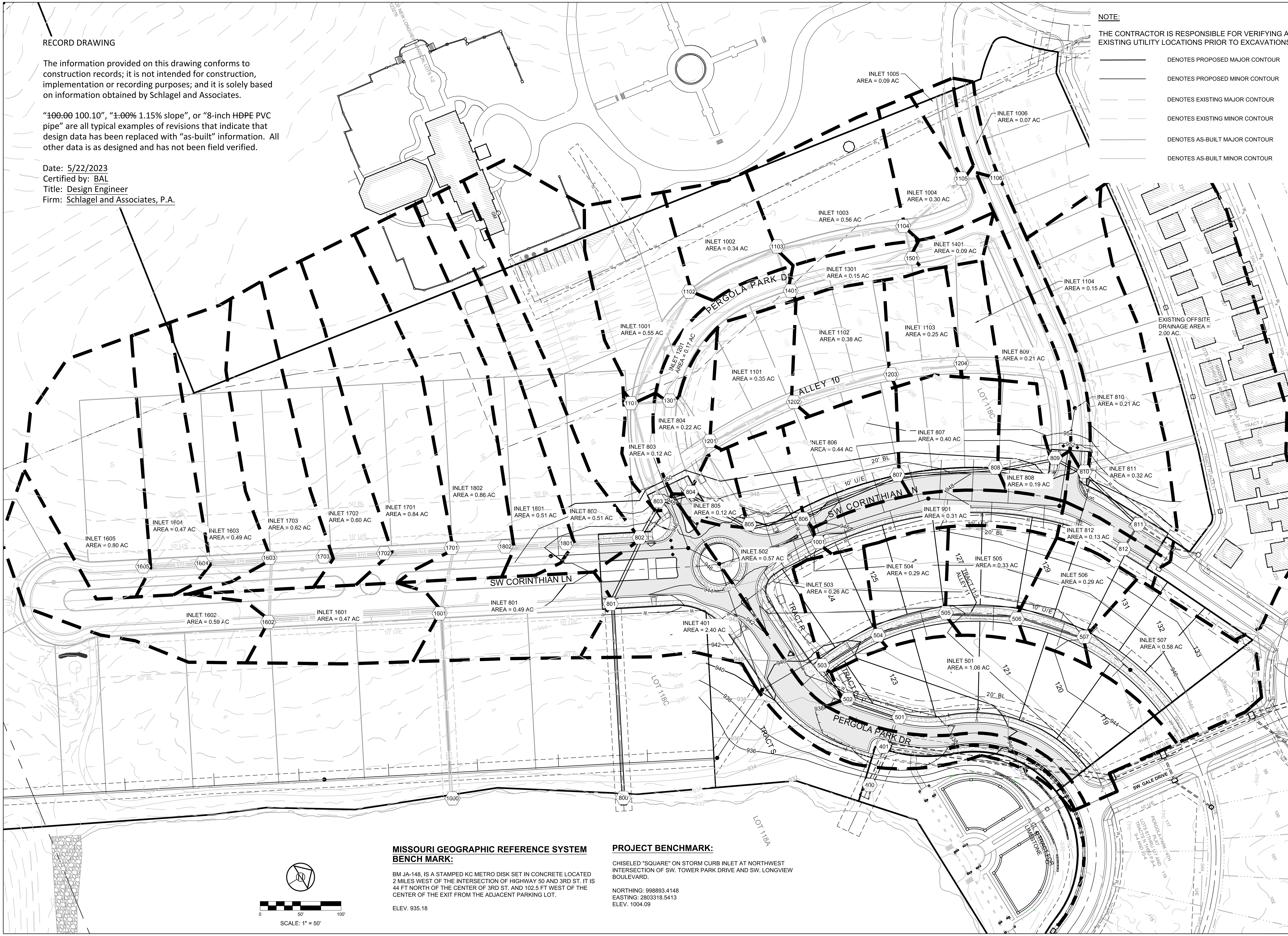
"~~100.00~~ 100.10", "~~1.00%~~ 1.15% slope", or "8-inch ~~HD~~PE PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 5/22/2023
Certified by: BAL
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

NOTE:

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

DENOTES PROPOSED MAJOR CONTOUR
DENOTES PROPOSED MINOR CONTOUR
DENOTES EXISTING MAJOR CONTOUR
DENOTES EXISTING MINOR CONTOUR
DENOTES AS-BUILT MAJOR CONTOUR
DENOTES AS-BUILT MINOR CONTOUR



INLET 1005 AREA = 0.09 AC
INLET 1006 AREA = 0.07 AC
INLET 1004 AREA = 0.30 AC
INLET 1003 AREA = 0.56 AC
INLET 1002 AREA = 0.34 AC
INLET 1401 AREA = 0.09 AC
INLET 1301 AREA = 0.15 AC
INLET 1104 AREA = 0.15 AC
EXISTING OFFSITE DRAINAGE AREA = 2.00 AC.
INLET 1001 AREA = 0.55 AC
INLET 1102 AREA = 0.38 AC
INLET 1103 AREA = 0.25 AC
INLET 809 AREA = 0.21 AC
INLET 1201 AREA = 0.17 AC
INLET 1101 AREA = 0.35 AC
INLET 810 AREA = 0.21 AC
INLET 804 AREA = 0.22 AC
INLET 807 AREA = 0.40 AC
INLET 803 AREA = 0.12 AC
INLET 806 AREA = 0.44 AC
INLET 811 AREA = 0.32 AC
INLET 808 AREA = 0.19 AC
INLET 1802 AREA = 0.86 AC
INLET 805 AREA = 0.12 AC
INLET 901 AREA = 0.31 AC
INLET 1701 AREA = 0.84 AC
INLET 1801 AREA = 0.51 AC
INLET 802 AREA = 0.51 AC
INLET 1702 AREA = 0.60 AC
INLET 1703 AREA = 0.62 AC
INLET 1604 AREA = 0.47 AC
INLET 1603 AREA = 0.49 AC
INLET 812 AREA = 0.13 AC
INLET 1605 AREA = 0.80 AC
INLET 502 AREA = 0.57 AC
INLET 505 AREA = 0.33 AC
INLET 504 AREA = 0.29 AC
INLET 506 AREA = 0.29 AC
INLET 503 AREA = 0.26 AC
INLET 801 AREA = 0.49 AC
INLET 1602 AREA = 0.59 AC
INLET 1601 AREA = 0.47 AC
INLET 401 AREA = 2.40 AC
INLET 507 AREA = 0.58 AC
INLET 501 AREA = 1.06 AC
PERGOLA PARK DR
ALLEY 10
SW CORINTHIAN LN
SW GALE DRIVE
TRACT R
TRACT S
TRACT Q
TRACT P
LOT 118C
LOT 118A
20' BL
10' U/E
50' BL

MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

PROJECT BENCHMARK:

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413
ELEV. 1004.09

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

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14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
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PREPARED BY:
STATE OF MISSOURI MARK ALLEN BREUER NUMBER PE-2009007268 PROFESSIONAL ENGINEER
06.09.2023
SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSION AND SEDIMENT CONTROL - LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1 2-4-22	CITY COMMENTS
2 3-30-22	CITY COMMENTS
3 11-9-22	STREET TIE INS
4 5-22-23	AS-BUILTS
5	
6	
7	
8	
9	

DRAWN BY:	CHECKED BY:	DATE PREPARED:	PROJ. NUMBER:
BAL	MAB	11-18-2021	20-189

MASTER DRAINAGE PLAN - DRAINAGE MAP

SHEET
5

RECORD DRAWING

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“~~100.00~~ 100.10”, “~~1.00%~~ 1.15% slope”, or “8-inch ~~HDPE~~ PVC pipe” are all typical examples of revisions that indicate that design data has been replaced with “as-built” information. All other data is as designed and has not been field verified.

Date: 5/22/2023
Certified by: BAL
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

10-YEAR RUNOFF CALCULATIONS

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

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	HGL Elev.
Runoff Calculations															Pipe Properties											
EXISTING LINE 400																									DS TAILWATER @ STR #400	929.00
401	2.40	0.66	46.76	30.86	5.7	7.13	11.29	220.00	220.20	9.27	501		3.38	2.23	401	400	RCP	0.013	66	53.87	0.43	0.50	927.98	927.75	936.98	933.27
402	0.04	0.66	40.98	27.05	5.4	7.24	0.19	195.88	286.92	12.08			0.00	0.00	402	401	RCP	0.013	66	279.37	0.73	0.50	930.42	928.38	941.97	935.25
403	0.07	0.66	40.94	27.02	5.3	7.27	0.34	196.43	300.36	12.64	601		0.90	0.59	403	402	RCP	0.013	66	68.66	0.80	0.50	931.17	930.62	944.37	936.00
404	0.06	0.66	39.97	26.38	5.1	7.32	0.29	193.18	270.74	11.40	701		1.41	0.93	404	403	RCP	0.013	66	119.40	0.65	1.00	932.35	931.57	948.40	937.14
405	38.50	0.66	38.50	25.41	5.0	7.35	186.84	186.84	251.06	15.79			0.00	0.00	405	404	RCP	0.013	54	92.89	1.63	N/A	934.86	933.35	947.96	940.04
EXISTING LINE 600																				Drop in Inlet 403		4.00				
601	0.36	0.66	0.90	0.59	5.1	7.33	1.74	4.35	19.45	11.00			0.00	0.00	601	403	HDPE	0.012	18	36.00	2.92	0.50	936.02	934.97	944.39	937.04
602	0.54	0.66	0.54	0.36	5.0	7.35	2.62	2.62	13.70	11.16			0.00	0.00	602	601	HDPE	0.012	15	55.86	3.83	N/A	938.53	936.39	946.23	939.31
EXISTING LINE 700																				Drop in Inlet 404		4.25				
701	1.14	0.66	1.41	0.93	5.1	7.32	5.51	6.82	9.26	7.54			0.00	0.00	701	404	PEP	0.012	15	102.48	1.75	0.50	941.69	939.90	949.19	943.04
702	0.27	0.66	0.27	0.18	5.0	7.35	1.31	1.31	7.10	5.79			0.00	0.00	702	701	PEP	0.012	15	33.00	1.03	N/A	942.48	942.14	949.13	943.04
LINE 500																				Drop in Inlet 401		3.00				
501	1.06	0.66	3.38	2.23	6.2	7.01	4.90	15.64	28.10	5.73			0.00	0.00	501	401	PEP	0.012	30	35.50	0.40	0.45	931.12	930.98	936.98	933.39
502	0.57	0.66	2.32	1.53	6.0	7.05	2.65	10.79	24.51	7.80			0.00	0.00	502	501	PEP	0.012	24	65.53	1.00	0.50	932.23	931.57	937.83	933.65
503	0.26	0.66	1.75	1.16	5.9	7.08	1.22	8.18	24.51	7.80			0.00	0.00	503	502	PEP	0.012	24	51.05	1.00	0.50	933.24	932.73	939.40	934.46
504	0.29	0.66	1.49	0.98	5.7	7.13	1.37	7.02	12.47	7.05			0.00	0.00	504	503	PEP	0.012	18	78.60	1.20	0.50	934.68	933.74	940.30	935.94
505	0.33	0.66	1.20	0.79	5.5	7.20	1.57	5.70	11.38	6.44			0.00	0.00	505	504	PEP	0.012	18	88.86	1.00	0.50	936.07	935.18	941.62	937.19
506	0.29	0.66	0.87	0.57	5.3	7.28	1.39	4.18	7.34	5.98			0.00	0.00	506	505	PEP	0.012	15	87.96	1.10	0.50	937.54	936.57	942.92	938.55
507	0.58	0.66	0.58	0.38	5.0	7.35	2.81	2.81	7.00	5.70			0.00	0.00	507	506	PEP	0.012	15	86.70	1.00	N/A	938.90	938.04	943.98	939.71
LINE 800																									DS TAILWATER @ STR #800	929.00
801	0.49	0.51	7.40	4.60	6.6	6.89	1.72	31.72	66.70	9.44			0.00	0.00	801	800	RCP	0.013	36	243.24	1.00	2.50	930.93	928.50	944.84	933.14
802	1.38	0.51	6.91	4.35	6.5	6.93	4.88	30.17	68.55	9.70			0.00	0.00	802	801	PEP	0.012	36	83.38	0.90	0.50	934.18	933.43	944.41	936.33
803	0.12	0.66	5.53	3.65	6.3	6.96	0.55	25.41	51.09	7.23	1101		2.32	1.53	803	802	PEP	0.012	36	51.75	0.50	0.50	934.94	934.68	948.20	936.90
804	0.22	0.66	3.09	2.04	6.2	6.99	1.01	14.25	31.42	6.40	1201		1.13	0.75	804	803	PEP	0.012	30	36.23	0.50	0.50	935.62	935.44	948.20	937.14
805	0.12	0.66	1.74	1.15	6.0	7.05	0.56	8.10	31.42	6.40			0.00	0.00	805	804	PEP	0.012	30	84.51	0.50	0.50	936.55	936.12	946.57	937.67
806	0.40	0.66	1.62	1.07	5.8	7.10	1.88	7.59	31.42	6.40	1001		0.31	0.20	806	805	PEP	0.012	30	69.15	0.50	0.50	937.39	937.05	945.85	938.48
807	0.40	0.66	0.91	0.60	5.5	7.20	1.90	4.32	31.42	6.40			0.00	0.00	807	806	PEP	0.012	30	127.94	0.50	0.50	938.53	937.89	947.25	939.34
808	0.19	0.66	0.51	0.34	5.2	7.30	0.91	2.46	31.42	6.40			0.00	0.00	808	807	PEP	0.012	30	121.88	0.50	0.50	939.64	939.03	948.73	940.24
809	0.32	0.66	0.32	0.21	5.0	7.35	1.55	1.55	31.42	6.40			0.00	0.00	809	808	PEP	0.012	30	72.14	0.50	0.50	940.50	940.14	950.54	940.98
810	0.21	0.66	0.21	0.14	5.0	7.35	1.02	1.02	31.42	6.40			0.00	0.00	810	809	PEP	0.012	30	37.09	0.50	0.50	941.19	941.00	950.13	941.57
811	2.32	0.66	2.63	1.74	5.1	7.31	11.19	12.69	31.42	6.40			0.00	0.00	811	810	PEP	0.012	30	93.67	0.50	1.25	942.15	941.69	948.43	943.58
812	0.13	0.66	0.13	0.09	5.0	7.35	0.63	0.63	4.95	4.03			0.00	0.00	812	811	PEP	0.012	15	35.50	0.50	N/A	943.58	943.40	948.43	943.94
LINE 1000																				Drop in Inlet 806		1.25				
1001	0.31	0.66	0.31	0.20	5.0	7.35	1.50	1.50	4.95	4.03			0.00	0.00	1001	806	PEP	0.012	15	35.00	0.50	N/A	938.82	938.64	945.85	939.39
LINE 1100																				Drop in Inlet 803		1.50				
1101	0.55	0.66	2.32	1.53	6.0	7.05	2.56	10.79	30.32	17.16	1301		0.17	0.11	1101	803	PEP	0.012	18	127.32	7.10	0.50	945.48	936.44	954.50	947.10
1102	0.34	0.66	1.60	1.06	5.8	7.11	1.60	7.51	13.28	10.82			0.00	0.00	1102	1101	PEP	0.012	15	155.72	3.60	0.50	951.59	945.98	961.72	953.01
1103	0.56	0.66	1.26	0.83	5.6	7.17	2.65	5.96	12.12	9.88	1401		0.15	0.10	1103	1102	PEP	0.012	15	117.18	3.00	0.50	955.60	952.09	964.38	956.85
1104	0.30	0.66	0.55	0.36	5.3	7.26	1.44	2.63	11.61	9.46	1501		0.09	0.06	1104	1103	PEP	0.012	15	161.35	2.75	0.50	960.54	956.10	966.89	961.31
1105	0.09	0.66	0.16	0.11	5.1	7.32	0.43	0.77	9.26	7.54			0.00	0.00	1105	1104	PEP	0.012	15	93.36	1.75	0.50	962.67	961.04	969.80	963.07
1106	0.07	0.66	0.07	0.05	5.0	7.35	0.34	0.34	7.00	5.70			0.00	0.00	1106	1105	PEP	0.012	15	37.07	1.00	N/A	963.54	963.17	969.53	963.81
LINE 1200																				Drop in Inlet 804		1.25				
1201	0.35	0.66	1.13	0.75	5.6	7.18	1.66	5.35	18.52	15.09			0.00	0.00	1201	804	PEP	0.012	15	67.70	7.00	0.50	941.61	936.87	950.33	942.78
1202	0.38	0.66	0.78	0.51	5.4	7.23	1.81	3.72	13.09	10.67			0.00	0.00	1202	1201	PEP	0.012	15	113.91	3.50	0.50	946.10	942.11	952.68	947.04
1203	0.25	0.66	0.40	0.26	5.2	7.30	1.20	1.93	11.06	9.02			0.00	0.00	1203	1202	PEP	0.012	15	125.72	2.50	0.50	949.74	946.60	955.28	950.40
1204	0.15	0.66	0.15	0.10	5.0	7.35	0.73	0.73	11.06	9.02			0.00	0.00	1204	1203	PEP	0.012	15	88.30	2.50	N/A	952.45	950.24	957.10	952.84
LINE 1300																				Drop in Inlet 1101		0.50				
1301	0.17	0.66	0.17	0.11	5.0	7.35	0.83	0.83	15.65	12.75			0.00	0.00	1301	1101	PEP	0.012	15	43.48	5.00	N/A	948.16	945.98	954.89	948.57
LINE 1400																				Drop in Inlet 1103		0.50				
1401	0.15	0.66	0.15	0.10	5.0	7.35	0.73	0.73	14.00	11.41			0.00	0.00	1401	1103	PEP	0.012	15	51.01	4.00	N/A	958.14	956.10	964.36	958.53
LINE 1500																				Drop in Inlet 1104		0.50				
1501	0.09	0.66	0.09	0.06	5.0	7.35	0.44	0.44	4.95	4.03			0.00	0.00	1501	1104	PEP	0.012	15	35.13	0.50	N/A	961.22	961.04	966.94	#VALUE!
LINE 1600																									DS TAILWATER @ STR #	929.00
1601	0.47	0.51	2.82	1.44	6.0	7.06	1.69	10.15	31.67	10.08			0.00	0.00	1601		RCP	0.013	24	232.77	1.96	6.00	933.06	928.50	947.22	934.44
1602	0.59	0.51	2.35	1.20	5.6	7.17	2.16	8.60	16.09	9.11			0.00	0.00	1602	1601	PEP	0.012	18	212.51	2.00	0.50	943.31	939.06	949.60	944.73
1603	0.49	0.51	1.76	0.90	5.4	7.23	1.81	6.49	11.66	6.60			0.00	0.00	1603	1602	PEP	0.012	18	74.29	1.05	0.50	944.59	943.81	949.60	945.79
1604	0.47	0.51	1.27	0.65	5.2	7.29	1.75	4.72	11.38	6.44			0.00	0.00	1604	1603	PEP	0.012	18	75.00	1.00	0.50	945.84	945.09	950.44	946.85
1605	0.80	0.51	0.80	0.41	5.0	7.35	3.00	3.00	7.00	5.70			0.00	0.00	1605	1604	PEP	0.012	15	73.20	1.00	N/A	947.07	946.34	951.26	947.91
LINE 1700																				Drop in Inlet 1601		6.00				
1701	0.62	0.51	2.06	1.05	5.4	7.23	2.29	7.59	19.71	11.15			0.00	0.00	1701	1601	PEP	0.012	18	76.39	3.00	0.50	941.35	939.06	947.08	942.67
1702	0.60	0.51	1.44	0.73	5.2	7.29	2.23	5.35	11.38	6.44			0.00	0.00	1702	1701	PEP	0.012	18	75.00	1.00	0.50	942.60	941.85	947.92	943.68
1703	0.84	0.51	0.84	0.43	5.0	7.35	3.15	3.15	7.00	5.70			0.00	0.00	1703	1702	PEP	0.012	15	75.00	1.00	N/A	943.85	943.10	948.76	944.72
LINE 1800																				Drop in Inlet 802		1.50				
1801	0.51	0.51	1.37	0.70	5.2	7.29	1.90	5.09	11.38	6.44			0.00	0.00	1801	802	PEP	0.012	18	82.38	1.00	0.50	936.51	935.68	945.40	937.55
1802	0.86	0.51	0.86	0.44	5.0	7.35	3.23	3.23	7.00	5.70			0.00	0.00	1802	1801	PEP	0.012	15	75.00	1.00	N/A	937.76	937.01	946.24	938.63

FUTURE (LINE 1100 – LINE 1800)

100-YEAR RUNOFF CALCULATIONS

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

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	HGL Elev.
Runoff Calculations															Pipe Properties											
EXISTING LINE 400																									DS TAILWATER @ STR #400	931.52
401	2.40	0.66	46.76	30.86	5.7	10.02	19.84	386.54	220.20	9.27	501		3.38	2.23	401	400	RCP	0.013	66	53.87	0.43	0.50	927.98	927.75	936.98	935.88
402	0.04	0.66	40.98	27.05	5.4	10.17	0.34	343.95	286.92	12.08			0.00	0.00	402	401	RCP	0.013	66	279.37	0.73	0.50	930.42	928.38	941.97	940.44
403	0.07	0.66	40.94	27.02	5.3	10.21	0.59	344.86	300.36	12.64	601		0.90	0.59	403	402	RCP	0.013	66	68.66	0.80	0.50	931.17	930.62	944.37	942.80
404	0.06	0.66	39.97	26.38	5.1	10.28	0.51	339.05	270.74	11.40	701		1.41	0.93	404	403	RCP	0.013	66	119.40	0.65	1.00	932.35	931.57	948.40	945.61
405	38.50	0.66	38.50	25.41	5.0	10.32	327.87	327.87	251.06	15.79			0.00	0.00	405	404	RCP	0.013	54	92.89	1.63	N/A	934.86	933.35	947.96	#VALUE!
EXISTING LINE 600																				Drop in Inlet 403		4.00				
601	0.36	0.66	0.90	0.59	5.1	10.29	3.06	7.64	19.45	11.00			0.00	0.00	601	403	HDPE	0.012	18	36.00	2.92	0.50	936.02	934.97	944.39	943.11
602	0.54	0.66	0.54	0.36	5.0	10.32	4.60	4.60	13.70	11.16			0.00	0.00	602	601	HDPE	0.012	15	55.86	3.83	N/A	938.53	936.39	946.23	943.46
EXISTING LINE 700																				Drop in Inlet 404		4.25				
701	1.14	0.66	1.41	0.93	5.1	10.28	9.67	11.96	9.26	7.54			0.00	0.00	701	404	PEP	0.012	15	102.48	1.75	0.50	941.69	939.90	949.19	949.33
702	0.27	0.66	0.27	0.18	5.0	10.32	2.30	2.30	7.10	5.79			0.00	0.00	702	701	PEP	0.012	15	33.00	1.03	N/A	942.48	942.14	949.13	949.26
LINE 500																				Drop in Inlet 401		3.00				
501	1.06	0.66	3.38	2.23	6.2	9.86	8.62	27.49	28.10	5.73			0.00	0.00	501	401	PEP	0.012	30	35.50	0.40	0.45	931.12	930.98	936.98	936.26
502	0.57	0.66	2.32	1.53	6.0	9.91	4.66	18.97	24.51	7.80			0.00	0.00	502	501	PEP	0.012	24	65.53	1.00	0.50	932.23	931.57	937.83	936.94
503	0.26	0.66	1.75	1.16	5.9	9.96	2.14	14.37	24.51	7.80			0.00	0.00	503	502	PEP	0.012	24	51.05	1.00	0.50	933.24	932.73	939.40	937.28
504	0.29	0.66	1.49	0.98	5.7	10.03	2.40	12.33	12.47	7.05			0.00	0.00	504	503	PEP	0.012	18	78.60	1.20	0.50	934.68	933.74	940.30	938.58
505	0.33	0.66	1.20	0.79	5.5	10.12	2.75	10.02	11.38	6.44			0.00	0.00	505	504	PEP	0.012	18	88.86	1.00	0.50	936.07	935.18	941.62	939.52
506	0.29	0.66	0.87	0.57	5.3	10.22	2.44	7.33	7.34	5.98			0.00	0.00	506	505	PEP	0.012	15	87.96	1.10	0.50	937.54	936.57	942.92	940.76
507	0.58	0.66	0.58	0.38	5.0	10.32	4.94	4.94	7.00	5.70			0.00	0.00	507	506	PEP	0.012	15	86.70	1.00	N/A	938.90	938.04	943.98	941.32
LINE 800																									DS TAILWATER @ STR #800	931.52
801	0.49	0.51	7.40	4.60	6.6	9.70	3.03	55.81	66.70	9.44			0.00	0.00	801	800	RCP	0.013	36	243.24	1.00	2.50	930.93	928.50	944.84	934.00
802	1.38	0.51	6.91	4.35	6.5	9.75	8.58	53.07	68.55	9.70			0.00	0.00	802	801	PEP	0.012	36	83.38	0.90	0.50	934.18	933.43	944.41	937.16
803	0.12	0.66	5.53	3.65	6.3	9.80	0.97	44.69	51.09	7.23	1101		2.32	1.53	803	802	PEP	0.012	36	51.75	0.50	0.50	934.94	934.68	948.20	937.72
804	0.22	0.66	3.09	2.04	6.2	9.83	1.78	25.06	31.42	6.40	1201		1.13	0.75	804	803	PEP	0.012	30	36.23	0.50	0.50	935.62	935.44	948.20	938.03
805	0.12	0.66	1.74	1.15	6.0	9.92	0.98	14.23	31.42	6.40			0.00	0.00	805	804	PEP	0.012	30	84.51	0.50	0.50	936.55	936.12	946.57	938.19
806	0.40	0.66	1.62	1.07	5.8	9.99	3.30	13.35	31.42	6.40	1001		0.31	0.20	806	805	PEP	0.012	30	69.15	0.50	0.50	937.39	937.05	945.85	938.86
807	0.40	0.66	0.91	0.60	5.5	10.12	3.34	7.59	31.42	6.40			0.00	0.00	807	806	PEP	0.012	30	127.94	0.50	0.50	938.53	937.89	947.25	939.62
808	0.19	0.66	0.51	0.34	5.2	10.24	1.61	4.31	31.42	6.40			0.00	0.00	808	807	PEP	0.012	30	121.88	0.50	0.50	939.64	939.03	948.73	940.45
809	0.32	0.66	0.32	0.21	5.0	10.32	2.73	2.73	31.42	6.40			0.00	0.00	809	808	PEP	0.012	30	72.14	0.50	0.50	940.50	940.14	950.54	941.13
810	0.21	0.66	0.21	0.14	5.0	10.32	1.79	1.79	31.42	6.40			0.00	0.00	810	809	PEP	0.012	30	37.09	0.50	0.50	941.19	941.00	950.13	941.70
811	2.32	0.66	2.63	1.74	5.1	10.26	19.64	22.27	31.42	6.40			0.00	0.00	811	810	PEP	0.012	30	93.67	0.50	1.25	942.15	941.69	948.43	944.11
812	0.13	0.66	0.13	0.09	5.0	10.32	1.11	1.11	4.95	4.03			0.00	0.00	812	811	PEP	0.012	15	35.50	0.50	N/A	943.58	943.40	948.43	944.15
LINE 1000																				Drop in Inlet 806		1.25				
1001	0.31	0.66	0.31	0.20	5.0	10.32	2.64	2.64	4.95	4.03			0.00	0.00	1001	806	PEP	0.012	15	35.00	0.50	N/A	938.82	938.64	945.85	939.60
LINE 1100																				Drop in Inlet 803		1.50				
1101	0.55	0.66	2.32	1.53	6.0	9.91	4.50	18.96	30.32	17.16	1301		0.17	0.11	1101	803	PEP	0.012	18	127.32	7.10	0.50	945.48	936.44	954.50	947.88
1102	0.34	0.66	1.60	1.06	5.8	10.00	2.81	13.20	13.28	10.82			0.00	0.00	1102	1101	PEP	0.012	15	155.72	3.60	0.50	951.59	945.98	961.72	954.32
1103	0.56	0.66	1.26	0.83	5.6	10.08	4.66	10.48	12.12	9.88	1401		0.15	0.10	1103	1102	PEP	0.012	15	117.18	3.00	0.50	955.60	952.09	964.38	957.52
1104	0.30	0.66	0.55	0.36	5.3	10.19	2.52	4.63	11.61	9.46	1501		0.09	0.06	1104	1103	PEP	0.012	15	161.35	2.75	0.50	960.54	956.10	966.89	961.61
1105	0.09	0.66	0.16	0.11	5.1	10.28	0.76	1.36	9.26	7.54			0.00	0.00	1105	1104	PEP	0.012	15	93.36	1.75	0.50	962.67	961.04	969.80	963.21
1106	0.07	0.66	0.07	0.05	5.0	10.32	0.60	0.60	7.00	5.70			0.00	0.00	1106	1105	PEP	0.012	15	37.07	1.00	N/A	963.54	963.17	969.53	963.97
LINE 1200																				Drop in Inlet 804		1.25				
1201	0.35	0.66	1.13	0.75	5.6	10.09	2.91	9.41	18.52	15.09			0.00	0.00	1201	804	PEP	0.012	15	67.70	7.00	0.50	941.61	936.87	950.33	943.26
1202	0.38	0.66	0.78	0.51	5.4	10.16	3.19	6.54	13.09	10.67			0.00	0.00	1202	1201	PEP	0.012	15	113.91	3.50	0.50	946.10	942.11	952.68	947.41
1203	0.25	0.66	0.40	0.26	5.2	10.26	2.12	3.38	11.06	9.02			0.00	0.00	1203	1202	PEP	0.012	15	125.72	2.50	0.50	949.74	946.60	955.28	950.64
1204	0.15	0.66	0.15	0.10	5.0	10.32	1.28	1.28	11.06	9.02			0.00	0.00	1204	1203	PEP	0.012	15	88.30	2.50	N/A	952.45	950.24	957.10	952.98
LINE 1300																				Drop in Inlet 1101		0.50				
1301	0.17	0.66	0.17	0.11	5.0	10.32	1.45	1.45	15.65	12.75			0.00	0.00	1301	1101	PEP	0.012	15	43.48	5.00	N/A	948.16	945.98	954.89	948.72
LINE 1400																				Drop in Inlet 1103		0.50				
1401	0.15	0.66	0.15	0.10	5.0	10.32	1.28	1.28	14.00	11.41			0.00	0.00	1401	1103	PEP	0.012	15	51.01	4.00	N/A	958.14	956.10	964.36	958.67
LINE 1500																				Drop in Inlet 1104		0.50				
1501	0.09	0.66	0.09	0.06	5.0	10.32	0.77	0.77	4.95	4.03			0.00	0.00	1501	1104	PEP	0.012	15	35.13	0.50	N/A	961.22	961.04	966.94	961.65
LINE 1600																									DS TAILWATER @ STR #	931.52
1601	0.47	0.51	2.82	1.44	6.0	9.93	2.97	17.85	31.67	10.08			0.00	0.00	1601		RCP	0.013	24	232.77	1.96	6.00	933.06	928.50	947.22	934.96
1602	0.59	0.51	2.35	1.20	5.6	10.08	3.79	15.10	16.09	9.11			0.00	0.00	1602	1601	PEP	0.012	18	212.51	2.00	0.50	943.31	939.06	949.60	945.38
1603	0.49	0.51	1.76	0.90	5.4	10.16	3.17	11.39	11.66	6.60			0.00	0.00	1603	1602	PEP	0.012	18	74.29	1.05	0.50	944.59	943.81	949.60	946.45
1604	0.47	0.51	1.27	0.65	5.2	10.23	3.07	8.29	11.38	6.44			0.00	0.00	1604	1603	PEP	0.012	18	75.00	1.00	0.50	945.84	945.09	950.44	947.23
1605	0.80	0.51	0.80	0.41	5.0	10.32	5.26	5.26	7.00	5.70			0.00	0.00	1605	1604	PEP	0.012	15	73.20	1.00	N/A	947.07	946.34	951.26	948.22
LINE 1700																				Drop in Inlet 1601		6.00				
1701	0.62	0.51	2.06	1.05	5.4	10.15	4.01	13.33	19.71	11.15			0.00	0.00	1701	1601	PEP	0.012	18	76.39	3.00	0.50	941.35	939.06	947.08	943.20
1702	0.60	0.51	1.44	0.73	5.2	10.23	3.91	9.39	11.38	6.44			0.00	0.00	1702	1701	PEP	0.012	18	75.00	1.00	0.50	942.60	941.85	947.92	944.09
1703	0.84	0.51	0.84	0.43	5.0	10.32	5.53	5.53	7.00	5.70			0.00	0.00	1703	1702	PEP	0.012	15	75.00	1.00	N/A	943.85	943.10	948.76	945.04
LINE 1800																				Drop in Inlet 802		1.50				
1801	0.51	0.51	1.37	0.70	5.2	10.23	3.33	8.94	11.38	6.44			0.00	0.00	1801	802	PEP	0.012	18	82.38	1.00	0.50	936.51	935.68	945.40	937.95
1802	0.86	0.51	0.86	0.44	5.0	10.32	5.66	5.66	7.00	5.70			0.00	0.00	1802	1801	PEP	0.012	15	75.00	1.00	N/A	937.76	937.01	946.24	938.96

FUTURE (LINE 1100 – LINE 1800)

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 West 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
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PREPARED BY:
STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2009007268
06.09.2023
PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1	2-4-22	CITY COMMENTS
2	3-30-22	CITY COMMENTS
3	11-9-22	STREET TIE INS
4	5-22-23	AS-BUILTS
5		
6		
7		
8		
9		

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

MASTER DRAINAGE PLAN - DRAINAGE CALCS

SHEET 6

I:\PROJECTS\2020\20-189\3.0 Design\3.0 DWG Plans\6.0 SS\20-189-DRAINAGE MAPS.dwg, DRAINAGE CALCS, 1:1

GUTTER SPREAD AND INLET CAPACITY CALCULATIONS - PERGOLA PARK 4TH 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	EFFICTIVE LENGTH 80% CAP	INLET INTERCEPTION	BYPASS TO DOWNSTREAM INLET	STREET GRADE	STREET CROSS SLOPE	DEPTH AT CURB	SPREAD OF FLOW
EXISTING LINE 4																						
401	0.66	2.40	5	7.35	11.64	801	802	803		0.93	12.57	SUMP	2.08	A	8	6.4	17.92	0.00	SUMP	2.08	< 0.21	**< 10.50**
402	0.66	0.04	5	7.35	0.19	403				0.02	0.21	3.24	2.08	A	6	4.8	0.20	0.00	3.24	2.08	0.06	**3.48**
403	0.66	0.07	5	7.35	0.34	404				0.01	0.35	3.24	2.08	A	6	4.8	0.33	0.02	3.24	2.08	0.08	**4.12**
404	0.66	0.06	5	7.35	0.29					0.00	0.29	3.24	2.08	A	6	4.8	0.28	0.01	3.24	2.08	0.07	**3.88**
LINE 5																						
501	0.66	1.06	5	7.35	5.14	402	502			1.09	6.24	SUMP	2.08	A	6	4.8	13.44	0.00	SUMP	2.08	< 0.21	**< 10.50**
502	0.66	0.57	5	7.35	2.77	804	503	806	901	0.84	3.61	1.95	2.08	A	6	4.8	2.52	1.09	1.95	2.08	0.20	**10.05**
503	0.66	0.26	5	7.35	1.26	504				0.33	1.59	1.49	2.08	A	4	3.2	1.33	0.26	1.49	2.08	0.15	**7.89**
504	0.66	0.29	5	7.35	1.41	505				0.40	1.81	1.49	2.08	A	4	3.2	1.48	0.33	1.49	2.08	0.16	**8.25**
505	0.66	0.33	5	7.35	1.60	506				0.41	2.01	1.49	2.08	A	4	3.2	1.61	0.40	1.49	2.08	0.17	**8.57**
506	0.66	0.29	5	7.35	1.41	507				0.63	2.03	1.49	2.08	A	4	3.2	1.63	0.41	1.49	2.08	0.17	**8.60**
507	0.66	0.58	5	7.35	2.81					0.00	2.81	1.13	2.08	A	4	3.2	2.19	0.63	1.13	2.08	0.20	**10.14**
LINE 8																						
801	0.51	0.49	5	7.35	1.84	1601				0.12	1.96	1.12	2.08	A	6	4.8	1.77	0.20	1.12	2.08	0.18	**8.93**
802	0.51	0.51	5	7.35	1.91	1701	1801			0.25	2.16	1.12	2.08	A	6	4.8	1.92	0.24	1.12	2.08	0.18	**9.24**
803	0.66	0.12	5	7.35	0.58	1101				1.61	2.19	3.00	2.08	A	6	4.8	1.70	0.49	3.00	2.08	0.15	**7.81**
804	0.66	0.22	5	7.35	1.07	1301	1201			0.67	1.74	3.00	2.08	A	6	4.8	1.43	0.31	3.00	2.08	0.14	**7.20**
805	0.66	0.12	5	7.35	0.58					0.00	0.58	3.00	2.08	A	6	4.8	0.55	0.03	3.00	2.08	0.09	**4.94**
806	0.66	0.40	5	7.35	1.94	807				0.23	2.17	1.28	2.08	A	6	4.8	1.90	0.27	1.28	2.08	0.18	**9.04**
807	0.66	0.40	5	7.35	1.94	808				0.07	2.01	1.28	2.08	A	6	4.8	1.78	0.23	1.28	2.08	0.17	**8.80**
808	0.66	0.19	5	7.35	0.92	809				0.24	1.16	1.28	2.08	A	6	4.8	1.09	0.07	1.28	2.08	0.14	**7.25**
809	0.66	0.32	5	7.35	1.55					0.00	1.55	2.75	2.08	A	6	4.8	1.32	0.24	2.75	2.08	0.14	**7.03**
810	0.66	0.21	5	7.35	1.02	1106				0.00	1.02	2.75	2.08	A	6	4.8	0.92	0.10	2.75	2.08	0.12	**6.08**
811	0.66	2.32	5	7.35	11.25	810				0.10	11.35	SUMP	2.08	A	6	4.8	16.80	0.00	SUMP	2.08	< 0.21	**< 10.50**
812	0.66	0.13	5	7.35	0.63					0.00	0.63	SUMP	2.08	A	6	4.8	16.80	0.00	SUMP	2.08	< 0.21	**< 10.50**
LINE 1000																						
1001	0.66	0.31	5	7.35	1.50					0.00	1.50	1.28	2.08	A	6	4.8	1.38	0.12	1.28	2.08	0.15	**7.94**
LINE 1100																						
1101	0.66	0.55	5	7.35	2.67	1102				0.77	3.44	6.02	2.08	A	6	4.8	1.83	1.61	6.02	2.08	0.16	**8.09**
1102	0.66	0.34	5	7.35	1.65	1103				0.59	2.24	6.02	2.08	A	6	4.8	1.47	0.77	6.02	2.08	0.13	**6.97**
1103	0.66	0.56	5	7.35	2.72	1104				0.15	2.87	1.80	2.08	A	6	4.8	2.28	0.59	1.80	2.08	0.19	**9.40**
1104	0.66	0.30	5	7.35	1.46	1105				0.01	1.46	1.80	2.08	A	6	4.8	1.31	0.15	1.80	2.08	0.14	**7.41**
1105	0.66	0.09	5	7.35	0.44					0.00	0.44	1.50	2.08	A	6	4.8	0.43	0.01	1.50	2.08	0.09	**5.04**
1106	0.66	0.07	5	7.35	0.34					0.00	0.34	1.50	2.08	A	6	4.8	0.34	0.00	1.50	2.08	0.09	**4.64**
LINE 1200																						
1201	0.66	0.35	5	7.35	1.70	1202				0.49	2.19	2.45	2.08	A	4	3.2	1.64	0.55	2.45	2.08	0.16	**8.08**
1202	0.66	0.38	5	7.35	1.84	1203				0.20	2.05	2.45	2.08	A	4	3.2	1.56	0.49	2.45	2.08	0.15	**7.90**
1203	0.66	0.25	5	7.35	1.21	1204				0.07	1.28	2.45	2.08	A	4	3.2	1.08	0.20	2.45	2.08	0.13	**6.71**
1204	0.66	0.15	5	7.35	0.73					0.00	0.73	2.45	2.08	A	4	3.2	0.66	0.07	2.45	2.08	0.10	**5.52**
LINE 1300																						
1301	0.66	0.17	5	7.35	0.82	1401				0.03	0.86	6.02	2.08	A	6	4.8	0.73	0.12	6.02	2.08	0.09	**5.01**
LINE 1400																						
1401	0.66	0.15	5	7.35	0.73	1501				0.01	0.74	1.80	2.08	A	6	4.8	0.70	0.03	1.80	2.08	0.11	**5.84**
LINE 1500																						
1501	0.66	0.09	5	7.35	0.44					0.00	0.44	1.80	2.08	A	6	4.8	0.43	0.01	1.80	2.08	0.09	**4.89**
LINE 1600																						
1601	0.51	0.47	5	7.35	1.76	1602				0.25	2.01	1.12	2.08	A	6	4.8	1.81	0.21	1.12	2.08	0.18	**9.01**
1602	0.51	0.59	5	7.35	2.21					0.00	2.21	1.12	2.08	A	6	4.8	1.96	0.25	1.12	2.08	0.18	**9.32**
1603	0.51	0.49	5	7.35	1.84	1604				0.26	2.09	1.12	2.08	A	6	4.8	1.87	0.22	1.12	2.08	0.18	**9.14**
1604	0.51	0.47	5	7.35	1.76	1605				0.47	2.23	1.12	2.08	A	6	4.8	1.97	0.26	1.12	2.08	0.18	**9.35**
1605	0.51	0.80	5	7.35	3.00					0.00	3.00	1.12	2.08	A	6	4.8	2.53	0.47	1.12	2.08	0.21	**10.39**
LINE 1700																						
1701	0.51	0.84	5	7.35	3.15	1702				0.35	3.50	1.12	2.08	A	6	4.8	2.86	0.64	1.12	2.08	0.22	**10.97**
1702	0.51	0.60	5	7.35	2.25	1703				0.34	2.59	1.12	2.08	A	6	4.8	2.24	0.35	1.12	2.08	0.19	**9.85**
1703	0.51	0.62	5	7.35	2.32	1603				0.22	2.55	1.12	2.08	A	6	4.8	2.21	0.34	1.12	2.08	0.19	**9.80**
LINE 1800																						
1801	0.51	0.51	5	7.35	1.91	1802				0.77	2.68	1.12	2.08	A	6	4.8	2.31	0.37	1.12	2.08	0.20	**9.98**
1802	0.51	0.86	5	7.35	3.22	1701				0.64	3.86	1.12	2.08	A	6	4.8	3.09	0.77	1.12	2.08	0.23	**11.37**

FUTURE

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

RECORD DRAWING

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PREPARED BY:

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2009007268
06.09.2022
PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
2-4-22	CITY COMMENTS
3-30-22	CITY COMMENTS
11-9-22	STREET TIE INS
5-22-23	AS-BUILTS

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

MASTER DRAINAGE PLAN - DRAINAGE CALCS

SHEET 7

EROSION AND SEDIMENT CONTROL STAGING CHART

	PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
PRE-CLEARING PHASE	A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		2	SILT FENCE WITH WOVEN WIRE FENCING	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3	EXISTING INLET PROTECTION	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
CONSTRUCTION PHASE	B - MASS GRADING	4	SILT FENCE (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	C - UTILITY CONSTRUCTION	5	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		6	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
FINAL STABILIZATION PHASE	D - AFTER PAVING OPERATIONS	7	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
		8	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

LEGEND

- TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
- CONCRETE WASHOUT AREA
- SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS
- BMP PLAN REF. NO.
- SILT FENCE FOR INLET PROTECTION PRIOR TO STRUCTURE TOP
- SF — SILT FENCE WITH WOVEN WIRE FENCING
- SF1 — SILT FENCE (PRIOR TO LAND DISTURBANCE)
- SF2 — SILT FENCE (DURING CONSTRUCTION)
- LIMITS OF DISTURBANCE
- 965 EXISTING CONTOURS
- 965 PROPOSED CONTOURS
- GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY

DISTURBED AREA = 6.27 A.C.

SITE SPECIFIC NOTES:

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4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
5. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
6. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPS. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
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9. AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

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BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

PROJECT BENCHMARK:

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413
ELEV. 1004.09

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REVISION DATE	DESCRIPTION
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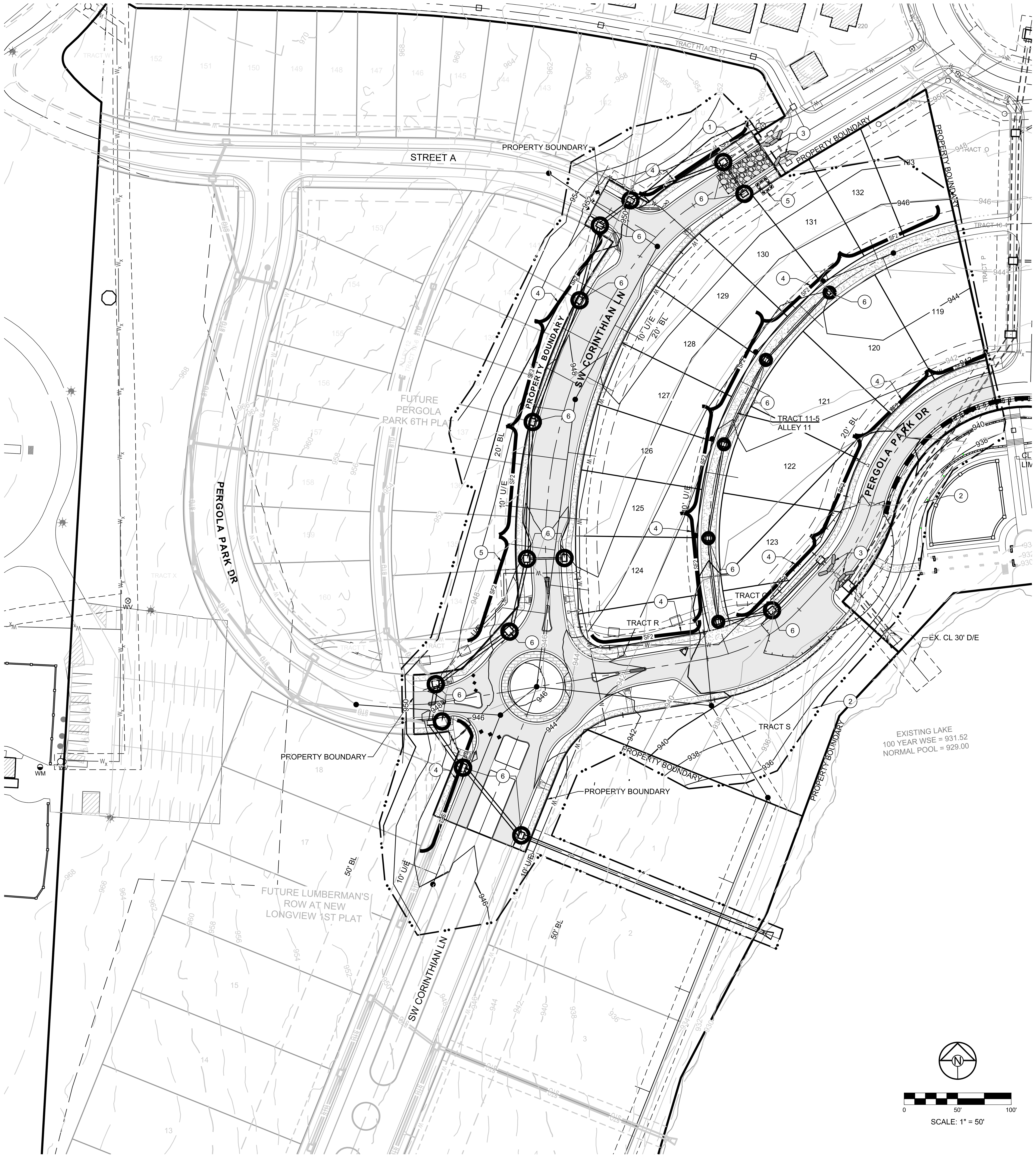
PRE CONSTRUCTION EROSION CONTROL PLAN

SHEET 8



EROSION AND SEDIMENT CONTROL STAGING CHART

	PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
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		2	SILT FENCE WITH WOVEN WIRE FENCING	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3	EXISTING INLET PROTECTION	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
CONSTRUCTION PHASE	B - MASS GRADING	4	SILT FENCE (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	C - UTILITY CONSTRUCTION	5	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		6	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
FINAL STABILIZATION PHASE	D - AFTER PAVING OPERATIONS	7	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
		8	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED AT ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

LEGEND

TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA	SUPER SEDIMENT SILT FENCE (PRIOR TO LAND DISTURBANCE)
CONCRETE WASHOUT AREA	SILT FENCE (PRIOR TO LAND DISTURBANCE)
SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS	SILT FENCE (DURING CONSTRUCTION)
BMP PLAN REF. NO.	LIMITS OF DISTURBANCE
SILT FENCE FOR INLET PROTECTION PRIOR TO STRUCTURE TOP	EXISTING CONTOURS
	PROPOSED CONTOURS
	GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY

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MARK ALLEN BREUER
NUMBER PE-2005007208
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6	
7	
8	
9	

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
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EROSION CONTROL PLAN

SHEET
9

I:\PROJECTS\2020\20-189\3.0 Design\3.0 DWG Plans\6.0 SS\20-189-SS-EROS.dwg, EROSION, 1:1

EROSION AND SEDIMENT CONTROL STAGING CHART

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CONSTRUCTION PHASE	B - MASS GRADING	4	SILT FENCE (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	C - UTILITY CONSTRUCTION	5	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
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		8	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

LEGEND

- TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
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9. AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

RECORD DRAWING

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Date: 5/22/2023
Certified by: BAL
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

MISSOURI GEOGRAPHIC REFERENCE SYSTEM BENCH MARK:

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

PROJECT BENCHMARK:

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413
ELEV. 1004.09

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#E2000030800-F #LA2001005237 #LS2000008859-F

PREPARED BY:

STATE OF MISSOURI — MARK ALLEN BREUER — NUMBER PE-2005007268 — 06.09.2023 — PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

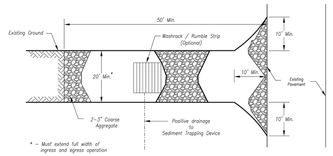
PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
2-4-22	CITY COMMENTS
3-30-22	CITY COMMENTS
11-9-22	STREET TIE INS
5-22-23	AS-BUILTS

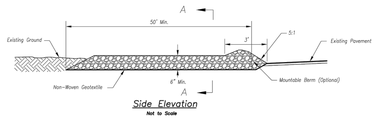
DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

POST CONSTRUCTION EROSION CONTROL

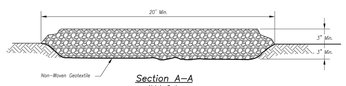
SHEET 10



Plan View
Not to Scale



Side Elevation
Not to Scale



Section A-A
Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6- to 8-inch high ridge with 3H:1V side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

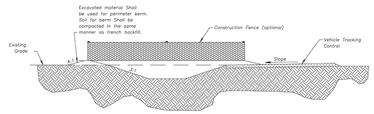
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking control is required at the access point to all concrete washout areas.
4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
5. A one-piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

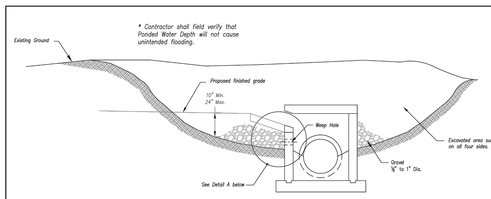
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water-tight container and disposed of properly.
4. Concrete washout areas shall remain in place until all concrete for the project is placed.
5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.

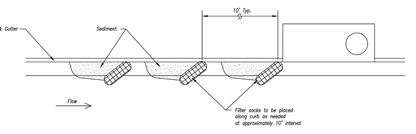


CONCRETE WASHOUT

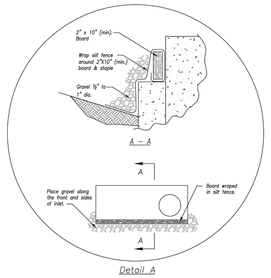
Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

AMERICAN PUBLIC WORKS ASSOCIATION	
	KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01
	ADOPTED: 10/24/2016





On Grade Curb Inlet Protection



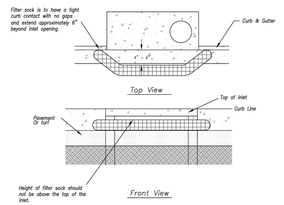
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

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

Maintenance:

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

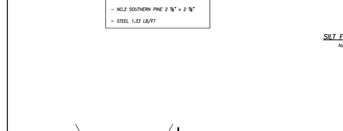


Sump Inlet Sediment Filter

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

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

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



Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

(*) POSTS
- MIN. LENGTH 4'
- HARDWOOD 1 ¾" x 1 ¾"
- NO.2 SOUTHERN PINE 2 ¾" x 2 ¾"
- STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288

SILT FENCE DETAILS
Not to Scale

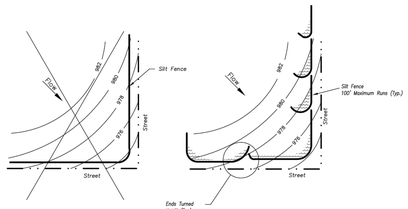
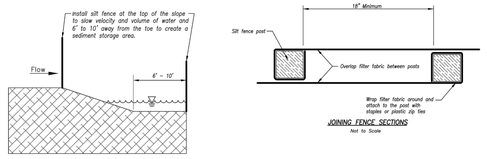


Figure A

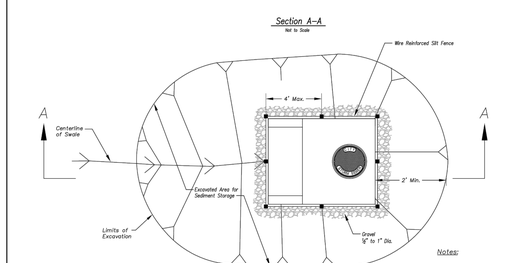


JOINING FENCE SECTIONS
Not to Scale

SILT FENCE LAYOUT
Not to Scale

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

AMERICAN PUBLIC WORKS ASSOCIATION	
	KANSAS CITY METRO CHAPTER
SILT FENCE	STANDARD DRAWING NUMBER ESC-03
	ADOPTED: 10/24/2016



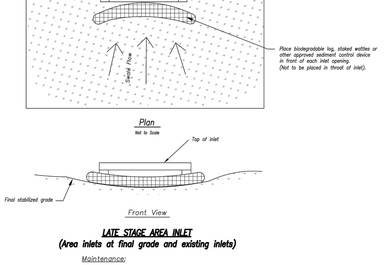
Section A-A
Not to Scale

Plan
Not to Scale

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

Notes:

1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.



Plan
Not to Scale

Front View

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

Maintenance:

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

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

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

RECORD DRAWING

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Title: Design Engineer
Firm: Schlagel and Associates, P.A.

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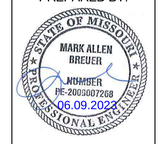

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
2-4-22	CITY COMMENTS
3-30-22	CITY COMMENTS
11-9-22	STREET TIE INS
5-22-23	AS-BUILTS

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

EROSION CONTROL DETAILS

SHEET 11

I:\PROJECTS\2020\20-189\3.0 Design\3.0 DWG Plans\6.0 SS\20-189-SS-EROS.dwg, EROSION DETAILS, 1:1

NOTE:

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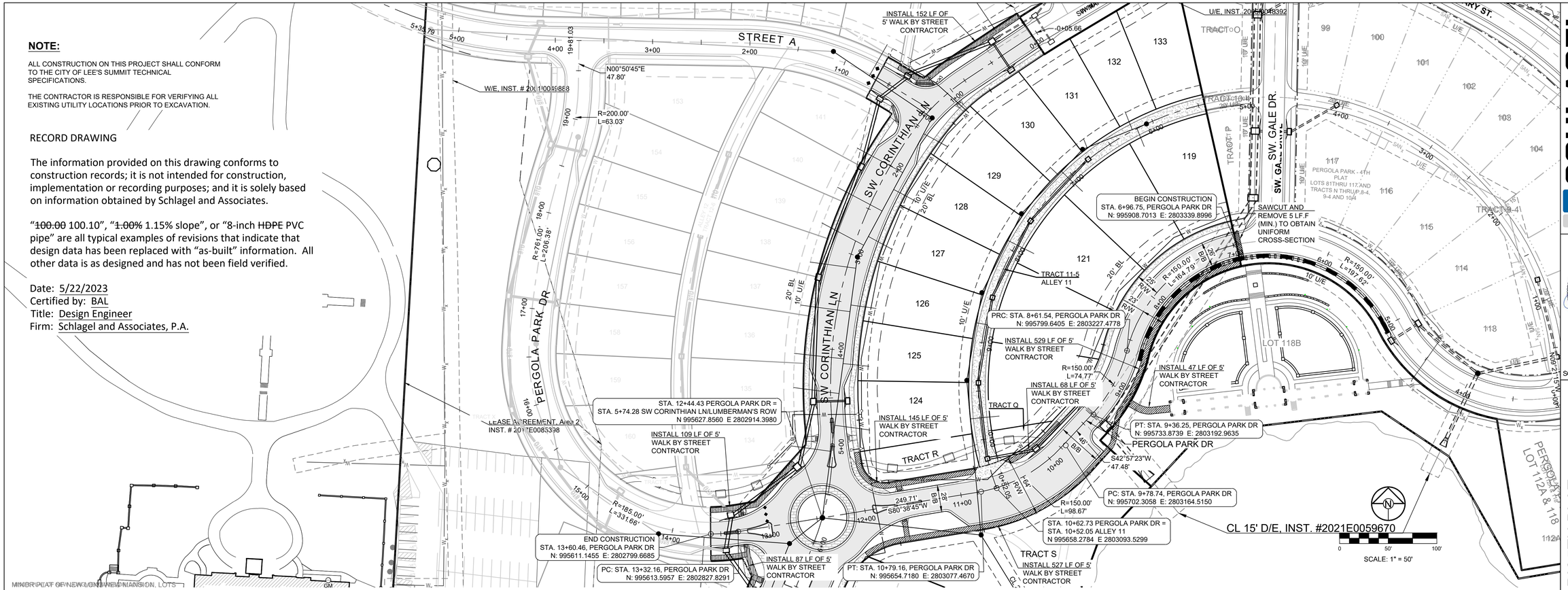

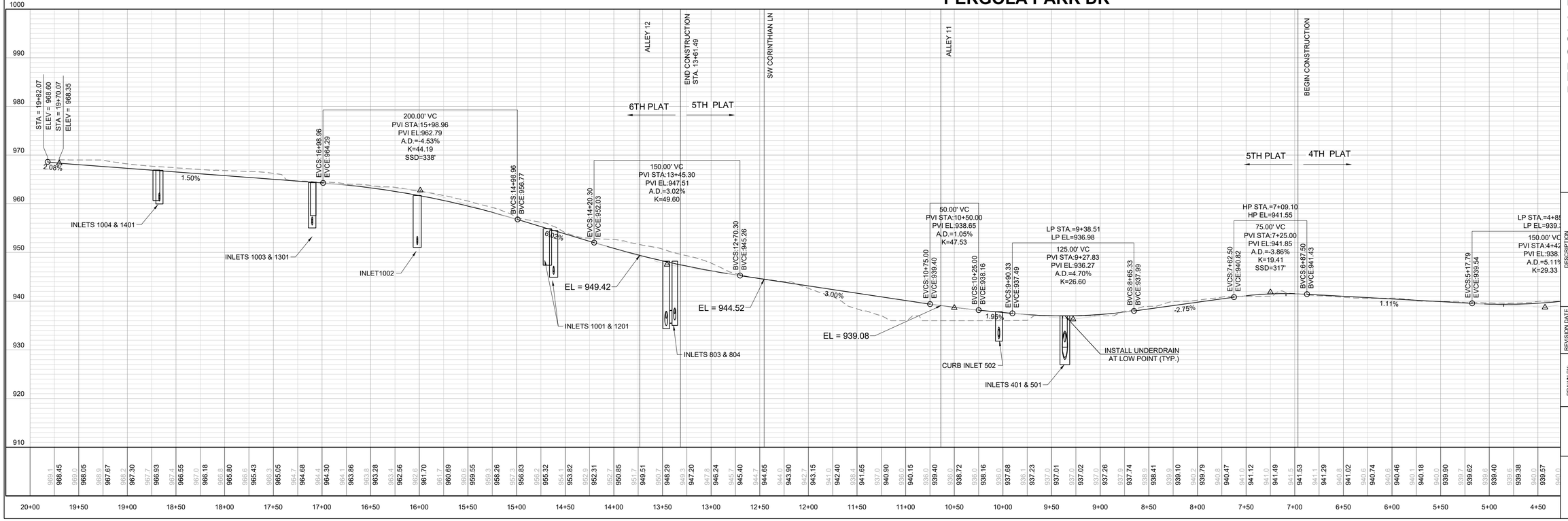

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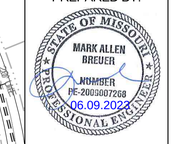

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1	2-4-22	CITY COMMENTS
2	3-30-22	CITY COMMENTS
3	11-9-22	STREET TIE INS
4	5-22-23	AS-BUILTS
5		
6		
7		

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-16-2021
PROJ. NUMBER: 20-189

PERGOLA PARK DR PLAN & PROFILE

SHEET 12

I:\PROJECTS\2020\20-189\3.0 Design\3.0 DWG Plans\6.0 SS\20-189-SS-ST STREET PP.dwg, PERGOLA PARK DR, 1:1

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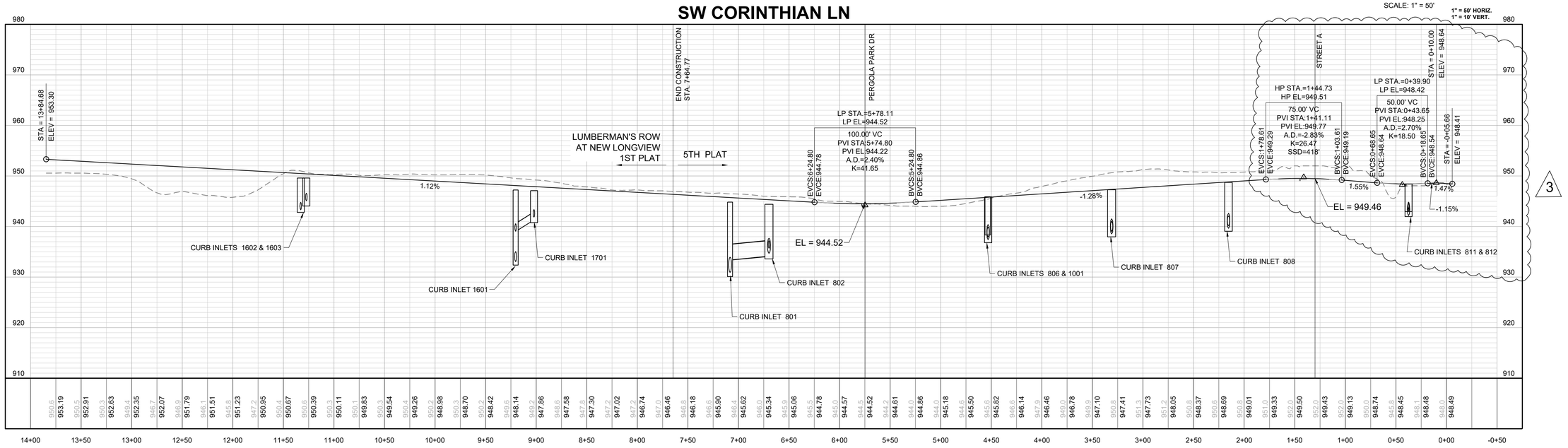
SCALE: 1" = 50'

SW CORINTHIAN LN

1" = 50' HORIZ.
1" = 10' VERT.



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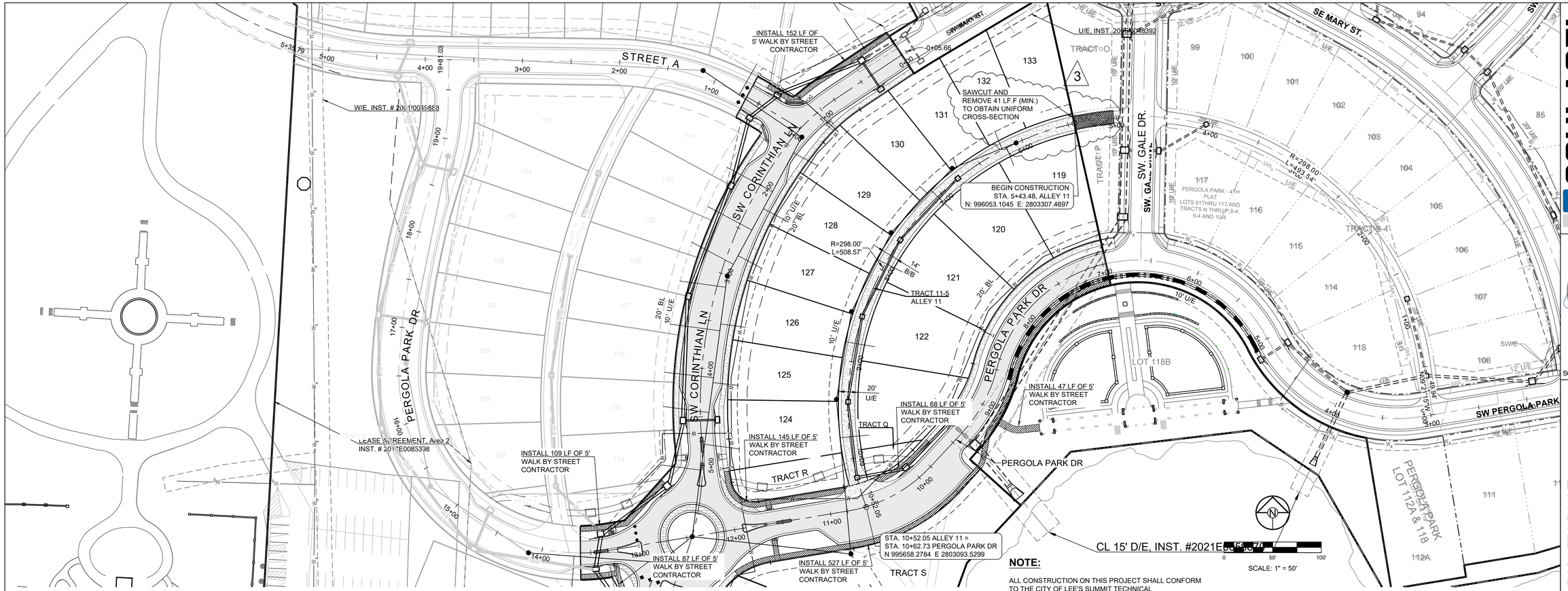
DRAWN BY:	CHECKED BY:	DATE PREPARED:	PROJ. NUMBER:
BAL	MAB	11-18-2021	20-189

SW CORINTHIAN LN PLAN & PROFILE

SHEET 13



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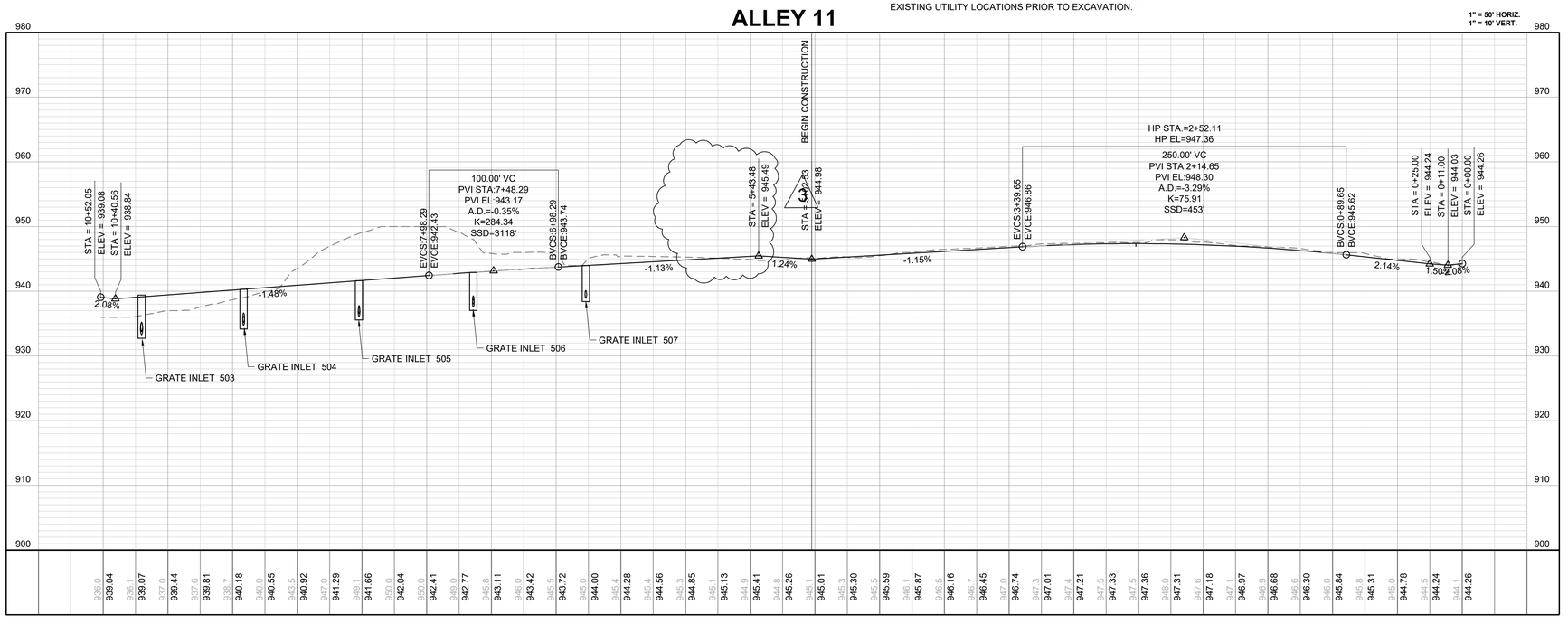
ALLEY 11



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MARK ALLEN BREUER NUMBER PE-2003007268 06.09.2022

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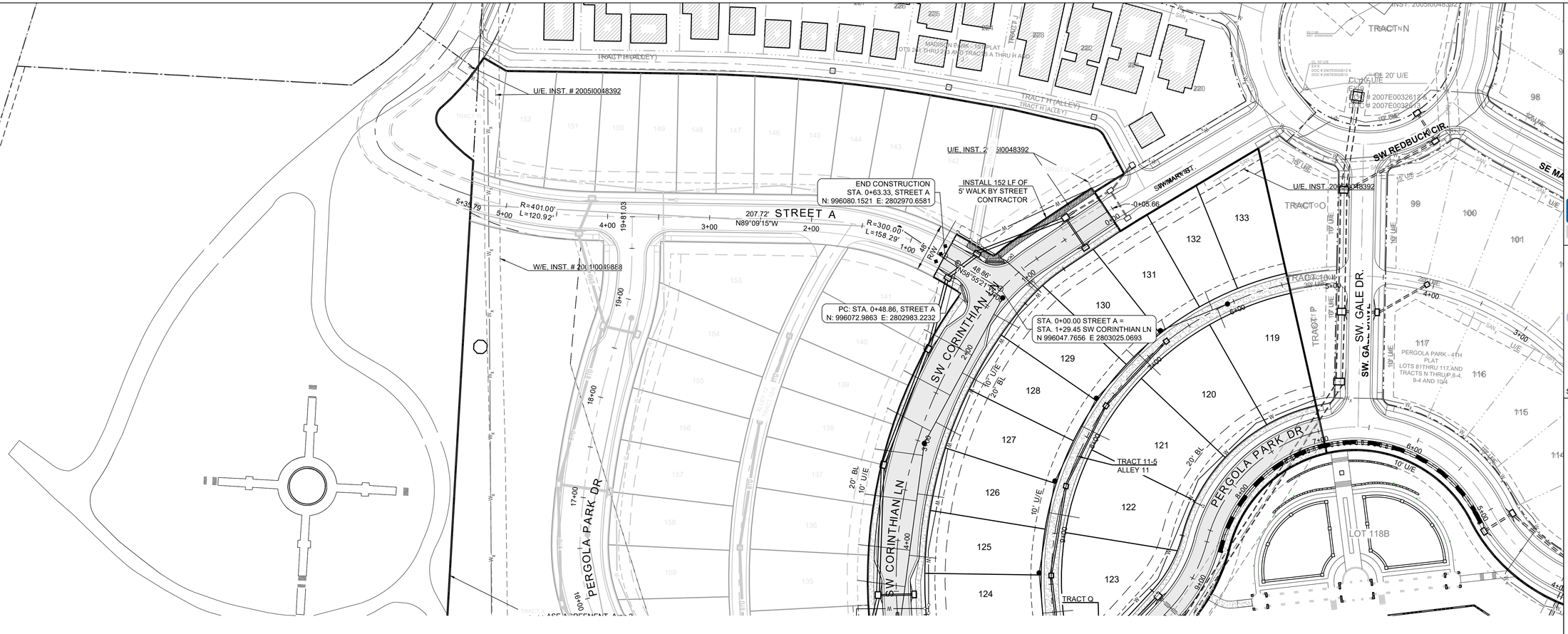
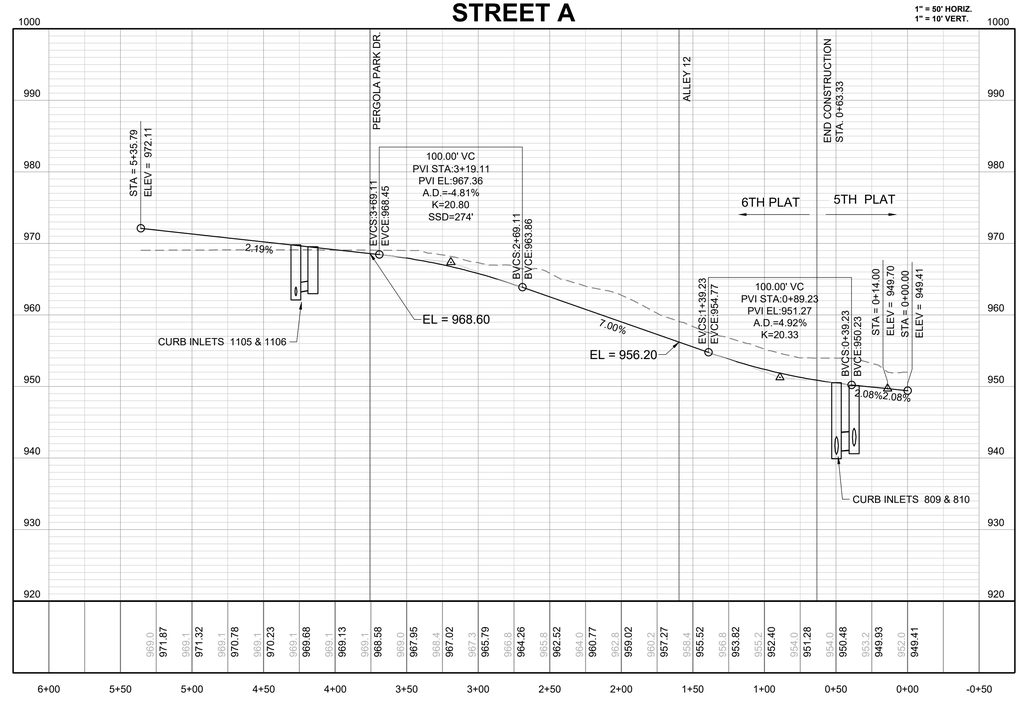
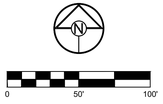
ALLEY 11 PLAN & PROFILE

SHEET 14







SCALE: 1" = 50'

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STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
06.09.2023
REGISTERED ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

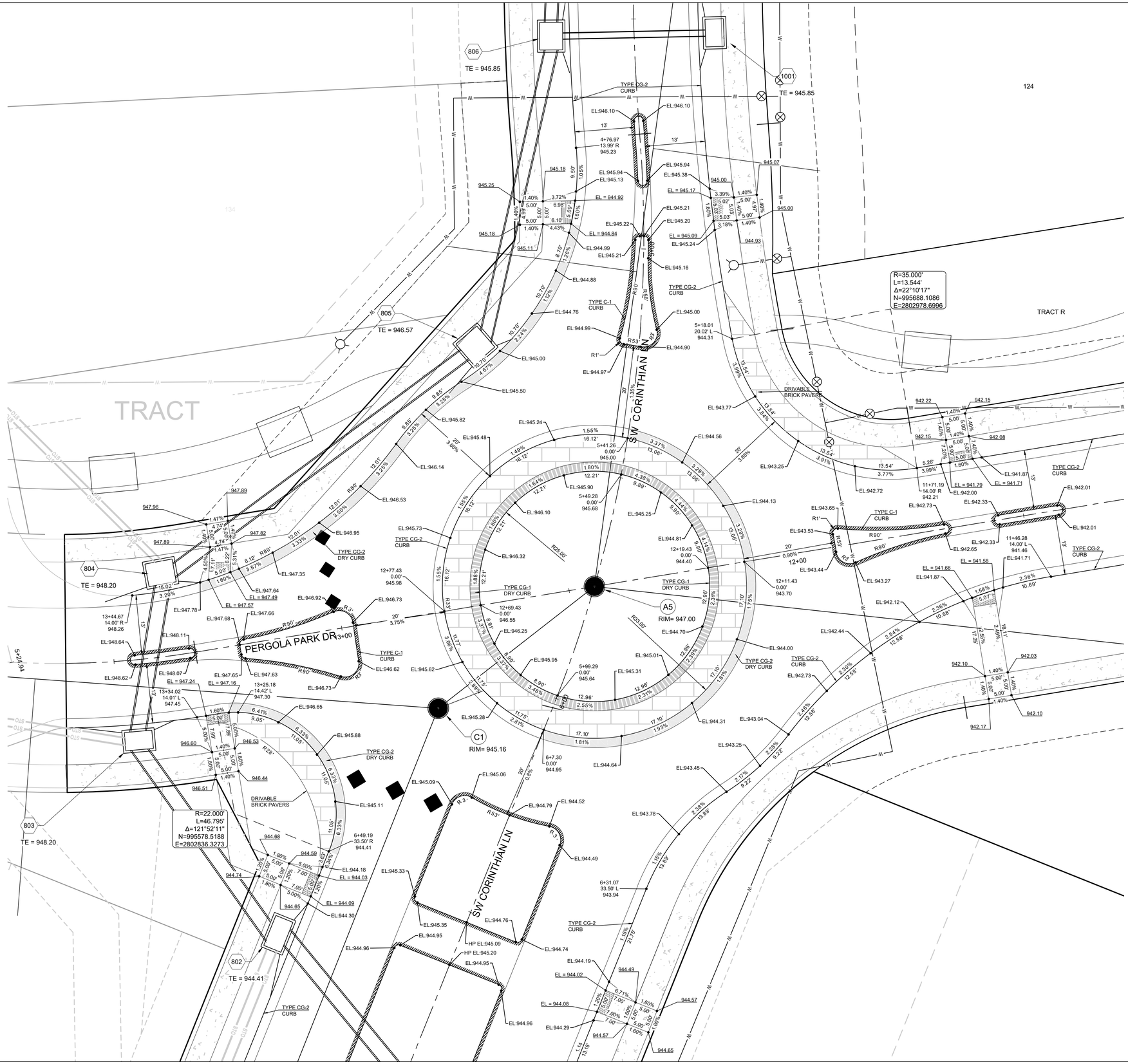
PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
2-4-22	CITY COMMENTS
3-30-22	CITY COMMENTS
11-9-22	STREET TIE INS
5-22-23	AS-BUILTS

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

STREET A PLAN & PROFILE

SHEET 15



RECORD DRAWING

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Date: 5/22/2023
Certified by: BAL
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

SCALE: 1" = 10'

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Missouri State Certificates of Authority
#E2002003800-F #LA2001005237 #LS2002008859-F

PREPARED BY:

MARK ALLEN BREUER
NUMBER PE-2009007268
06.09.2023
STATE OF MISSOURI
PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-16-2021
PROJ. NUMBER: 20-189

ROUNDABOUT INTERSECTION DETAIL

SHEET 16

CURB LEGEND

- TYPE "CG-2" CURB & GUTTER
- TYPE "CG-2" DRY CURB & GUTTER
- TYPE "CG-1" DRY CURB AND GUTTER
- TYPE C-1 CURB
- DRIVABLE BRICK PAVERS

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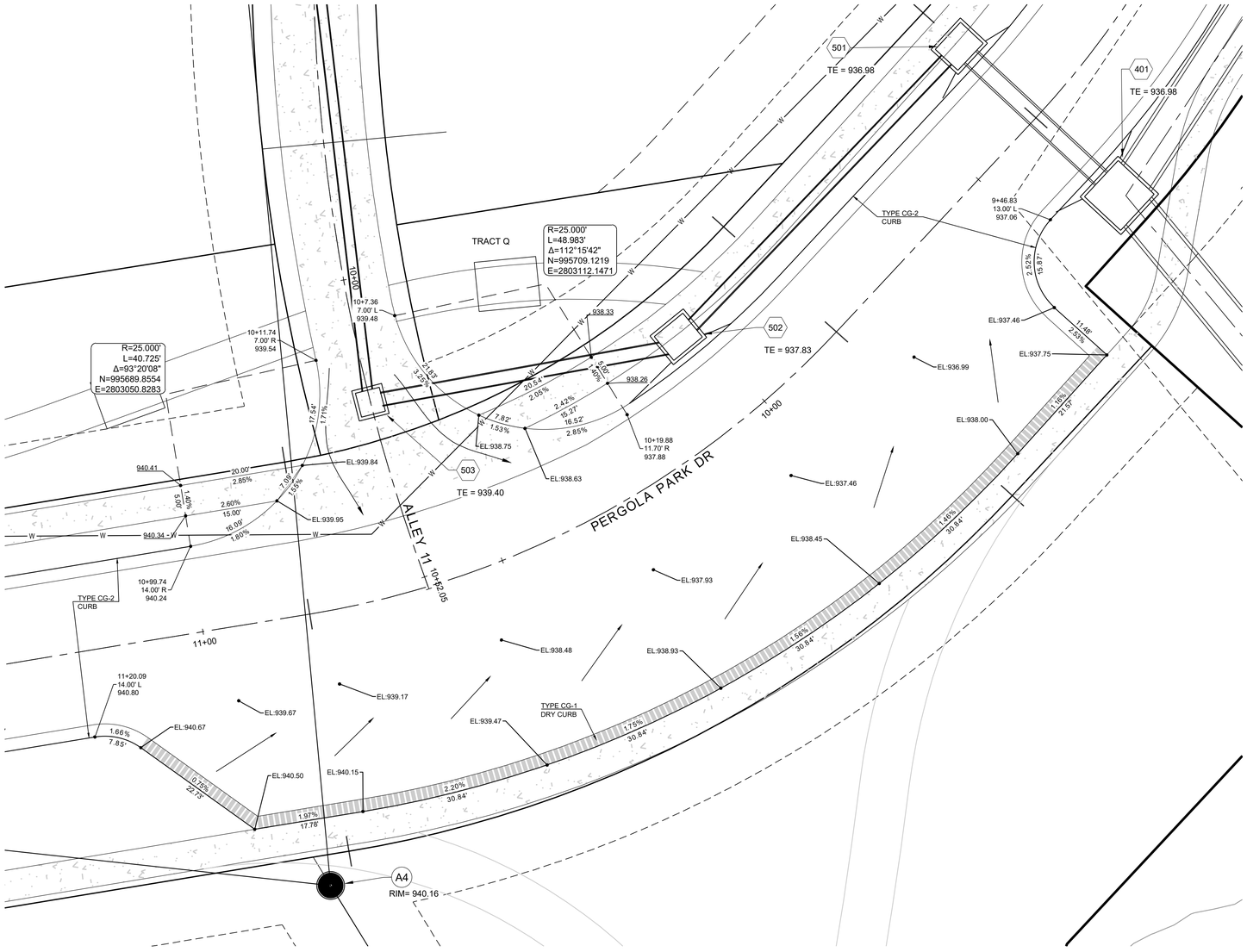

SCALE: 1" = 10'

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PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY: BAL
CHECKED BY: MAB
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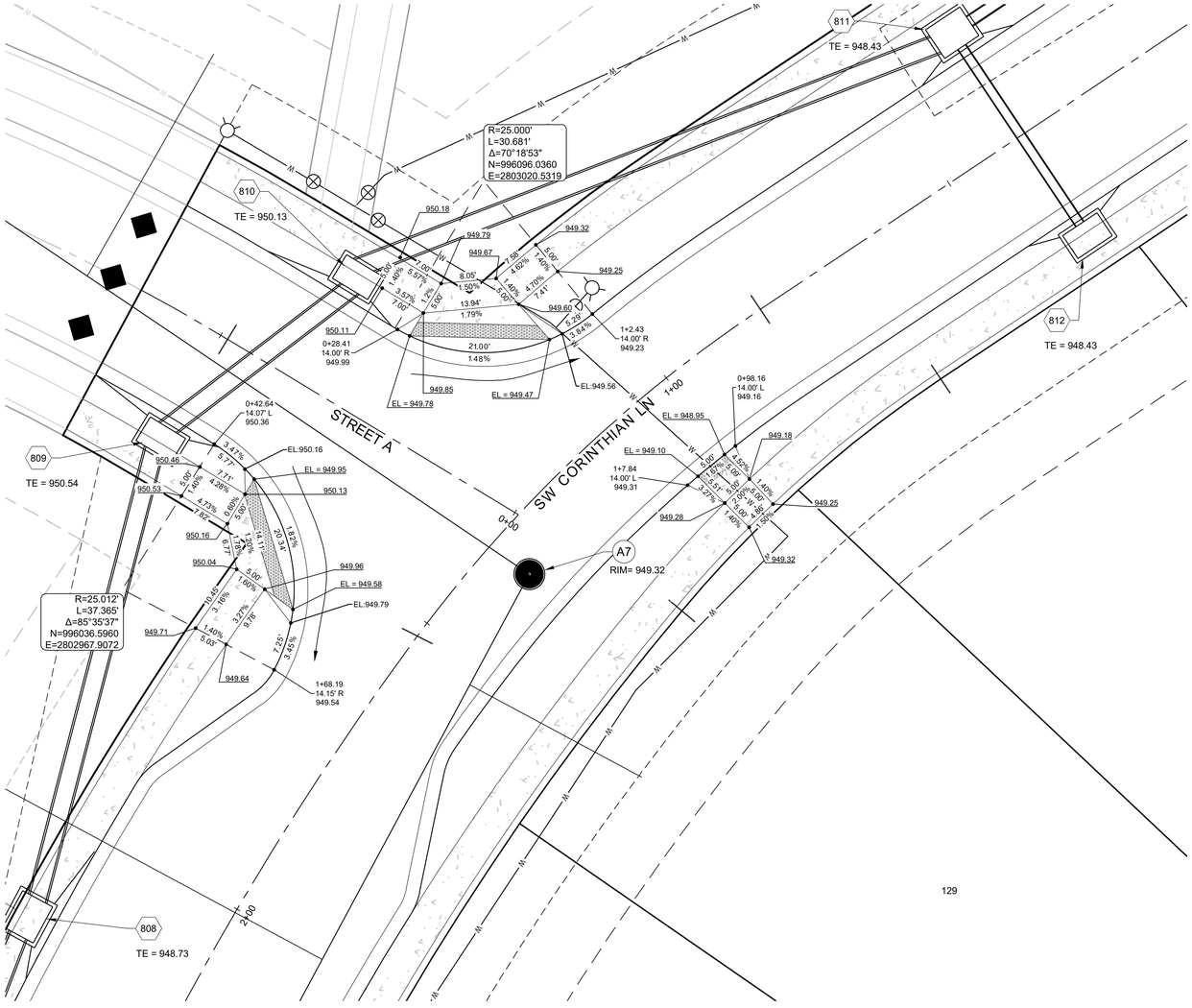
PROJ. NUMBER: 20-189

ALLEY 11 INTERSECTION DETAIL

SHEET 17



CURB LEGEND

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- TYPE "CG-2" DRY CURB & GUTTER
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0 10' 20'
SCALE: 1" = 10'

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CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

STREET A INTERSECTION DETAIL SHEET

SHEET 18

Storm Sewer Construction Notes	
Structure	Notes
401	STA 0+53.83, LINE 400 INSTALL 8 X 8 CURB INLET N 995722.1112 E 2803205.5082
501	STA 0+35.50, LINE 500 INSTALL 6 X 4 CURB INLET N 995746.3024 E 2803179.5267
502	STA 1+01.03, LINE 500 INSTALL 6 X 4 CURB INLET N 995699.1897 E 2803133.9805
503	STA 1+52.08, LINE 500 INSTALL 4 X 4 GRATE INLET N 995688.5615 E 2803084.0469
504	STA 2+30.68, LINE 500 INSTALL 4 X 4 GRATE INLET N 995766.6140 E 2803074.7983
505	STA 3+19.54, LINE 500 INSTALL 4 X 4 GRATE INLET N 995854.2820 E 2803089.3037
506	STA 4+07.50, LINE 500 INSTALL 4 X 4 GRATE INLET N 995933.0288 E 2803128.4901
507	STA 4+94.20, LINE 500 INSTALL 4 X 4 GRATE INLET N 995996.3583 E 2803187.7061
800	STA 0+00.00, LINE 800 INSTALL 36" FLARED END SECTION N 995398.6491 E 2803125.9269
801	STA 2+43.24, LINE 800 INSTALL 6 X 4 CURB INLET N 995489.2335 E 2802900.1785
802	STA 3+26.63, LINE 800 INSTALL 7 X 4 CURB INLET N 995552.4466 E 2802845.8024

Storm Sewer Construction Notes	
Structure	Notes
803	STA 3+78.38, LINE 800 INSTALL 6 X 4 CURB INLET N 995594.4159 E 2802815.5195
804	STA 4+14.61, LINE 800 INSTALL 6 X 5 CURB INLET N 995630.3217 E 2802820.3332
805	STA 4+99.11, LINE 800 INSTALL 6 X 6 CURB INLET N 995680.1823 E 2802888.5615
806	STA 5+68.27, LINE 800 INSTALL 6 X 5 CURB INLET N 995747.3510 E 2802905.0096
807	STA 6+96.21, LINE 800 INSTALL 6 X 5 CURB INLET N 995875.1812 E 2802910.3347
808	STA 8+18.09, LINE 800 INSTALL 6 X 5 CURB INLET N 995988.9163 E 2802954.1484
809	STA 8+90.23, LINE 800 INSTALL 6 X 4 CURB INLET N 996058.4070 E 2802973.5092
810	STA 9+27.32, LINE 800 INSTALL 6 X 4 CURB INLET N 996082.0500 E 2803002.0864
811	STA 10+20.99, LINE 800 INSTALL 6 X 5 CURB INLET N 996117.6105 E 2803088.7430
812	STA 10+56.49, LINE 800 INSTALL 6 X 4 CURB INLET N 996088.0705 E 2803108.4317
1001	STA 0+35.50, LINE 1000 INSTALL 6 X 4 CURB INLET N 995748.0739 E 2802940.5033

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Date: 5/22/2023
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Title: Design Engineer
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SCALE: 1" = 50'

EXISTING LAKE
100 YEAR WSE = 931.52
NORMAL POOL = 929.00

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DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-16-2021
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STORM PLAN

SHEET 19

RECORD DRAWING

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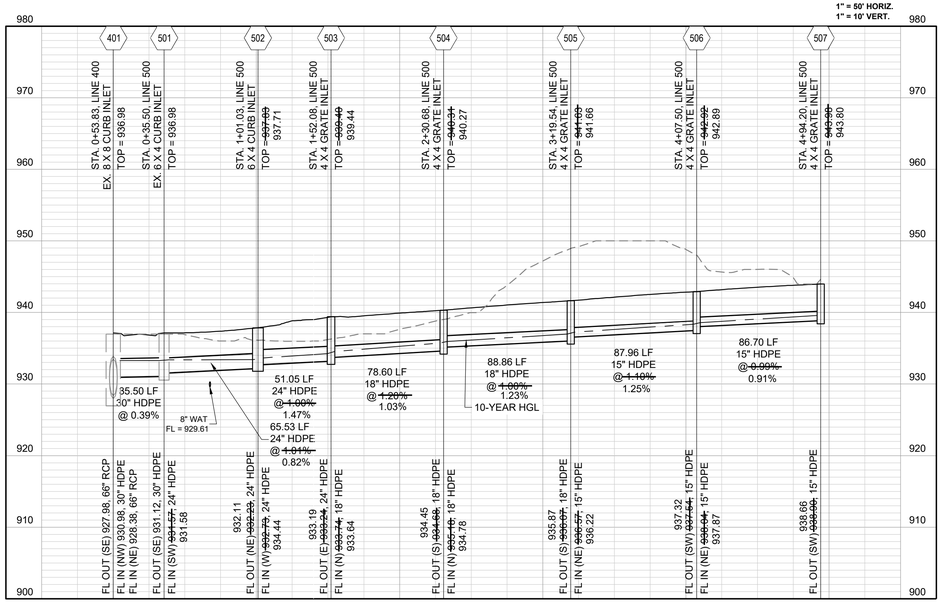
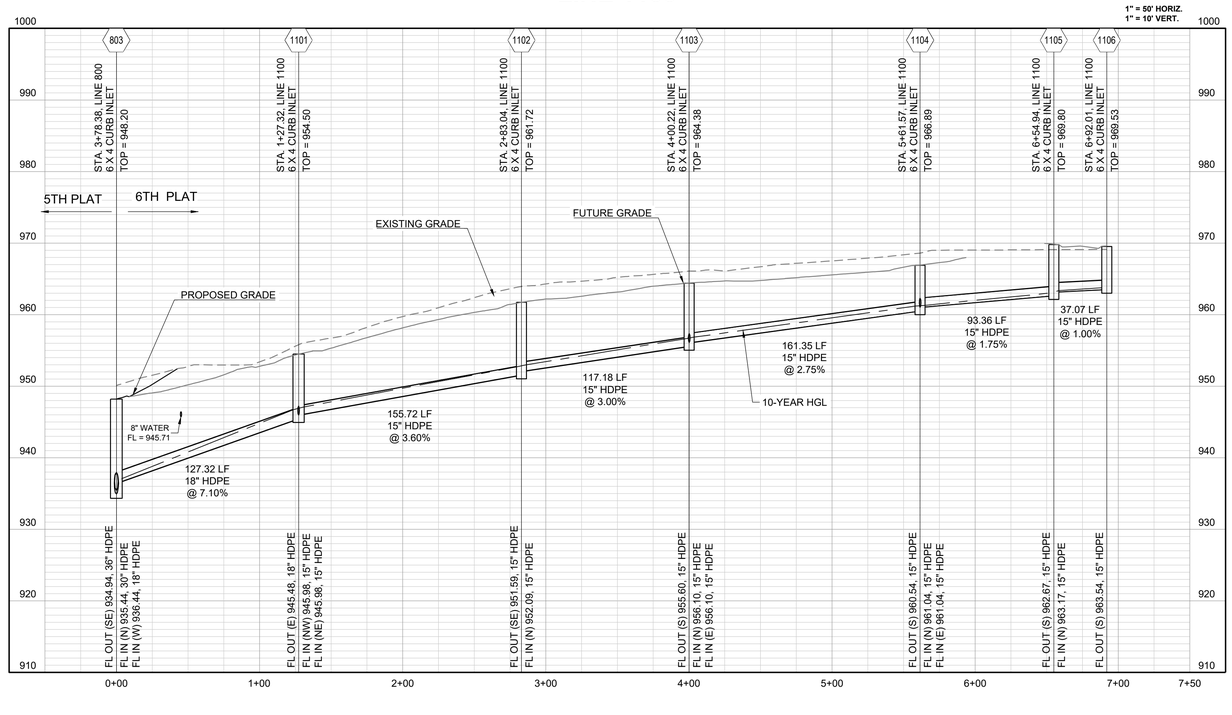
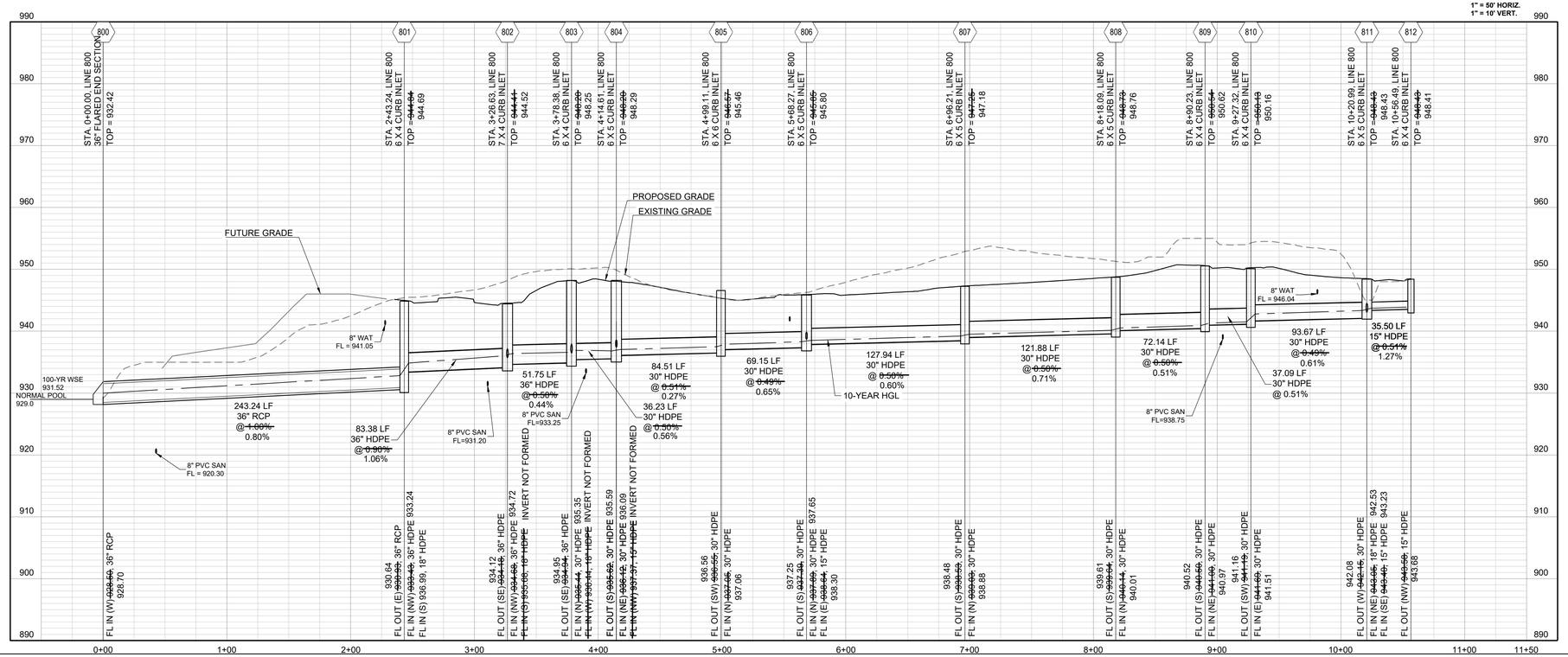
LINE 500



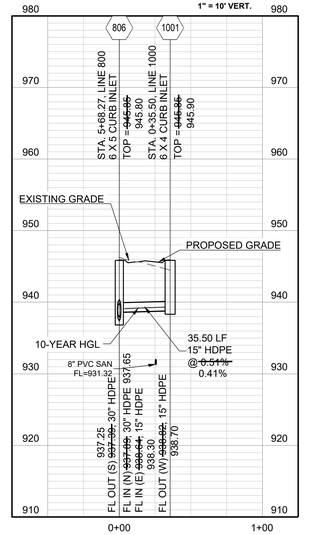
FUTURE LINE 1100



LINE 800



LINE 1000



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DATE PREPARED: 11-18-2021
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STORM PROFILES

SHEET 20

RECORD DRAWING

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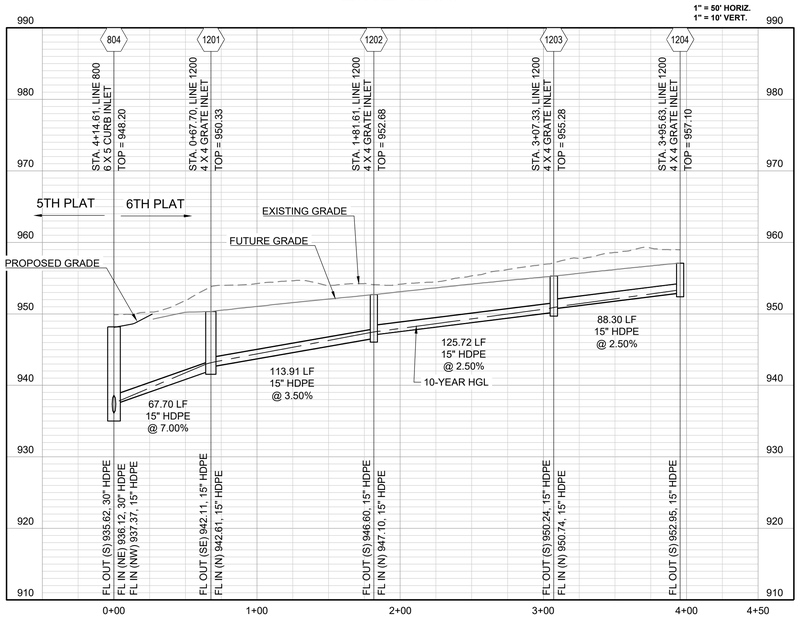
LINE 1200



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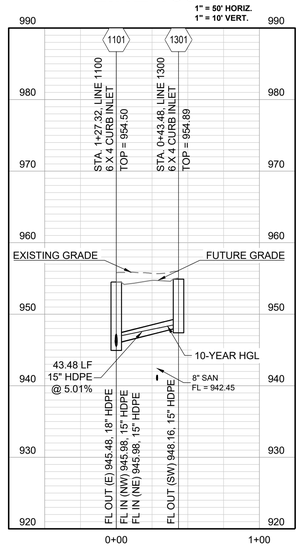

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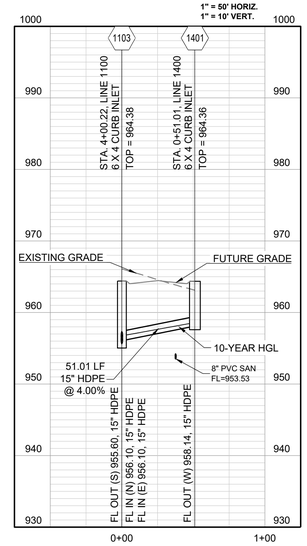
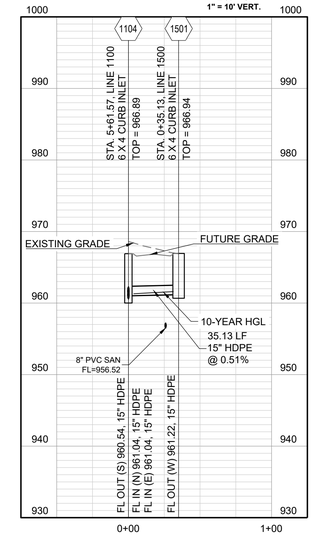
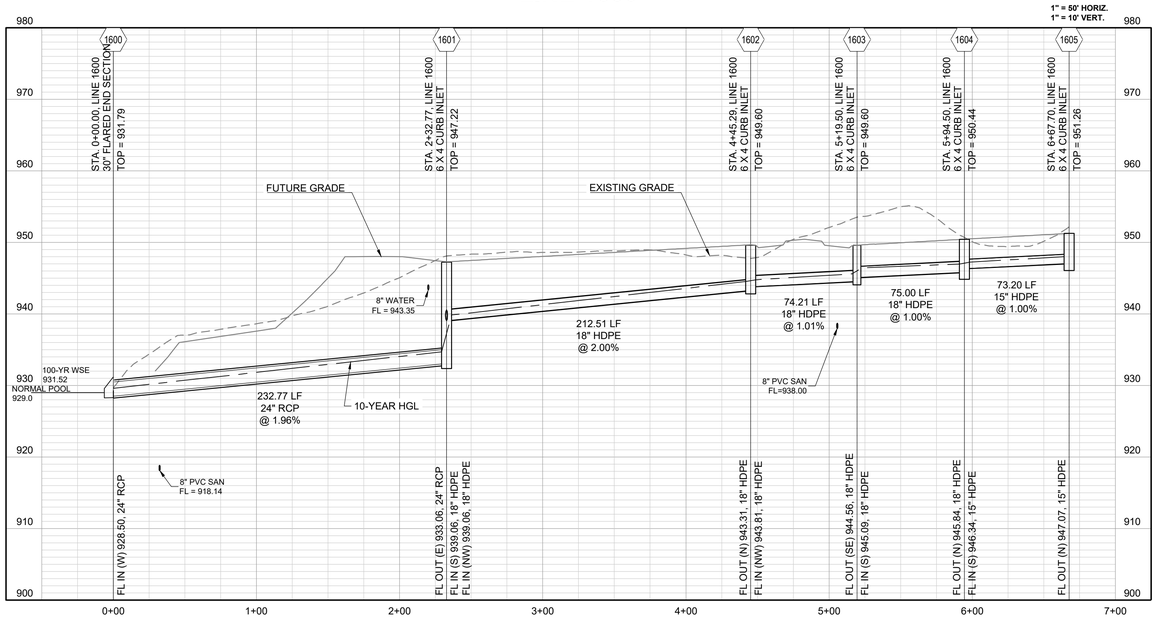


LINE 1500



LINE 1600



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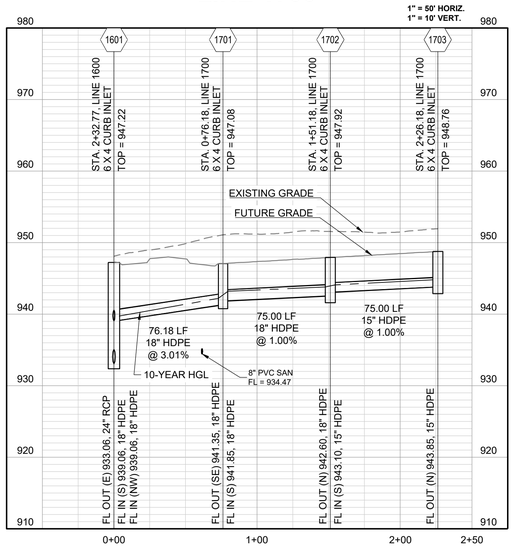
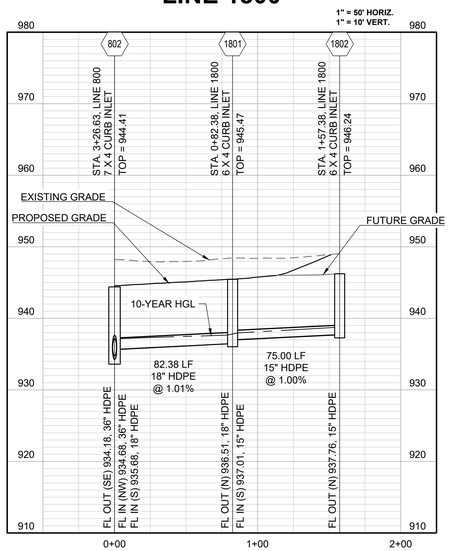


LINE 1800



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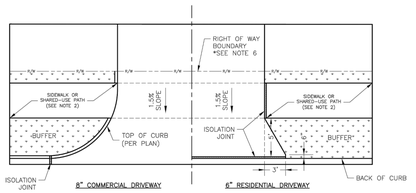
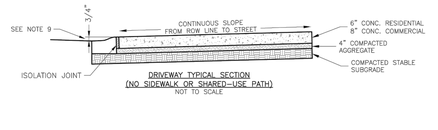
STORM PROFILES CONT

SHEET 21

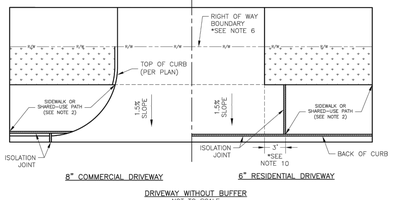


8" COMMERCIAL DRIVEWAY — 6" RESIDENTIAL DRIVEWAY

DRIVEWAY WITH BUFFER
NOT TO SCALE

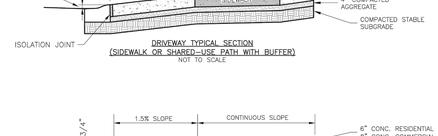


DRIVEWAY TYPICAL SECTION
(NO SIDEWALK OR SHARED-USE PATH)
NOT TO SCALE

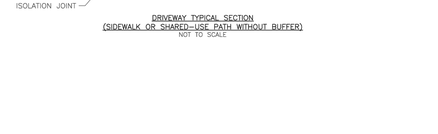


8" COMMERCIAL DRIVEWAY — 6" RESIDENTIAL DRIVEWAY

DRIVEWAY WITHOUT BUFFER
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

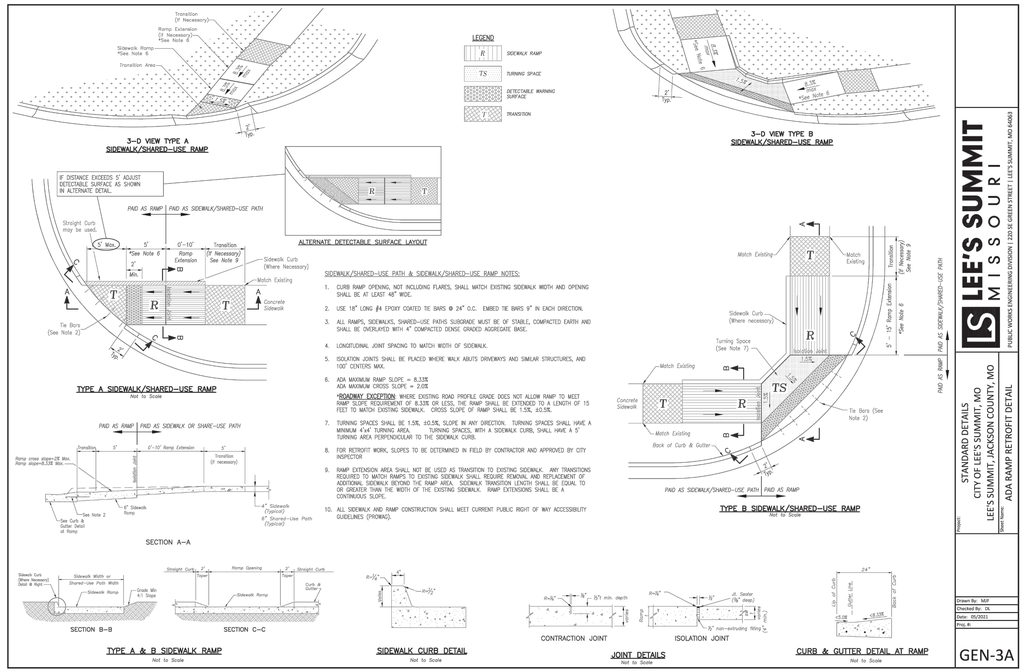
GENERAL NOTES:
1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL GEN-3B, SIDEWALK/SHARED USE PATH RAMP AT DRIVEWAY 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, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KCMMB 4K CONCRETE MIX IS RECOMMENDED. OTHER CONCRETE MIXES NEEDS TO BE APPROVED BY CITY INSPECTOR.
7. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
9. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CC-1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
10. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
11. 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

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

Drawn By: MJF
Checked By: DL
Date: 09/17
Pm185

GEN-1



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
ADA RAMP RETROFIT DETAIL

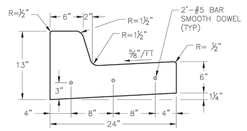
Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

GEN-3A

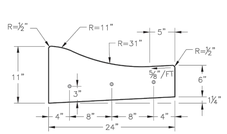
STRAIGHT CURB
(TYPE C-1)

DOWELLED CURB
(TYPE DC)

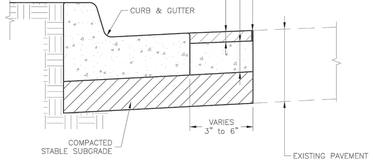
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)



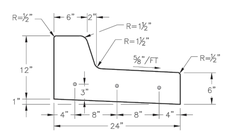
ROLL BACK CURB & GUTTER
(TYPE CG-2)



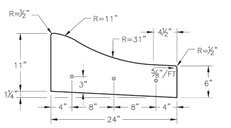
CURB REPLACEMENT DETAIL

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 APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
8. ALL DOWELS & TIE BARS SHALL BE EPOXY COATED.



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



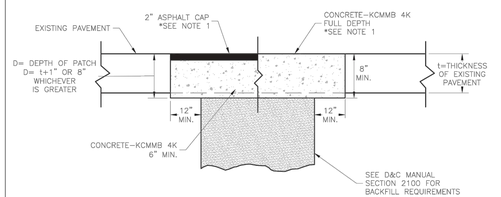
ROLL BACK DRY CURB & GUTTER
(TYPE CG-2 DRY)

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 & GUTTER DETAIL

Drawn By: MJF
Checked By: DL
Date: 05/2021
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: 05/2021
Drawn By: MJF
Checked By: DL

GEN-5

RECORD DRAWING

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Date: 5/22/2023
Certified by: BAL
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

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PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

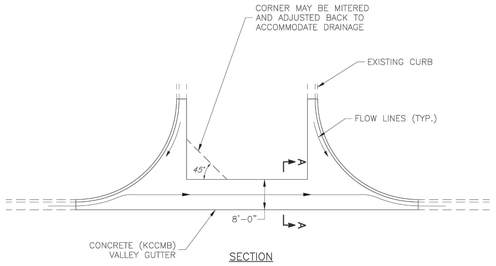
REVISION DATE	DESCRIPTION
2-4-22	CITY COMMENTS
3-30-22	CITY COMMENTS
11-9-22	STREET TIE INS
5-22-23	AS-BUILTS

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

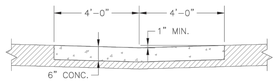
STREET DETAIL SHEET

SHEET 22

I:\PROJECTS\2020\20-189\3.0 Design\3.0 DWG Plans\6.0 SS\20-189-SS-DET.dwg, STREET DETAIL SHEET, 1:1



SECTION



SECTION
Scale: 1" = 1'-0"

VALLEY GUTTER DETAIL
Intersection of Two Public Streets

LS	**LEE'S SUMMIT** MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063 VALLEY GUTTER DETAIL	Date: 05/2021 Drawn By: MJF Checked By: DL GEN-7

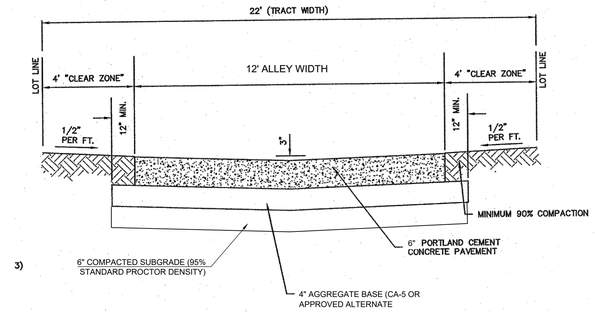
TABLE LS-2: MINIMUM ASPHALT PAVEMENT THICKNESSES

Street Classification	Pavement Option	AC Surface (in.)	AC Base (in.)	MoDOT Type 5 Base (in.)	Geogrid(1)	Chemical Subgrade Stabilization(2) (in.)
Residential Local/Access	A	2	4	6	--	6
USE FOR RESIDENTIAL STREETS →	B	2	4	10	Geogrid	--
Residential Collector	A	2	5.5	6	--	9
	B	2	5.5	12	Geogrid	--
Commercial Industrial Local/Collector	A	2	7.5	6	--	9
	B	2	7.5	12	Geogrid	--

TABLE LS-3: MINIMUM PCC PAVEMENT THICKNESSES

Street Classification	PCC (in.)	Aggregate Base (in.)	Subgrade Stabilization[1] (in.)
USE FOR PRIVATE ALLEYS → **Residential Local/Access**	6	4	--
Residential Collector	6	4	6
Commercial Industrial Local/Collector	8	4	9

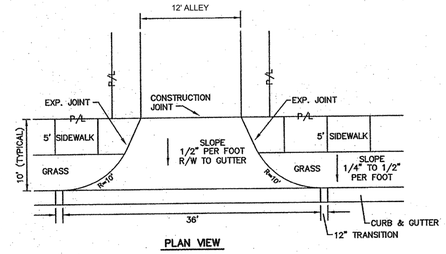
(1) Subgrade Stabilization and 4" aggregate base may be replaced by approved geogrid and 6" of aggregate base



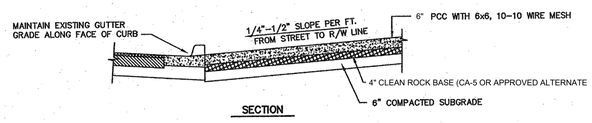
TYPICAL ALLEY SECTION

NOTES

1. COMPACTION JOINTS TO BE SAWED AT INTERVALS OF 20 FEET MAXIMUM. JOINTS SHALL BE FILLED WITH BITUMINOUS COMPOUND IMMEDIATELY FOLLOWING SAWING.
2. DOWELED EXPANSION JOINTS SHALL BE LOCATED EVERY 100 FEET MAXIMUM.
3. REINFORCE CONCRETE WITH 6x6x6 WOVEN WIRE MESH.
4. USE ADDITIONAL REINFORCEMENT AROUND DRAINAGE STRUCTURES AS NECESSARY.



PLAN VIEW



SECTION

ALLEY APRON

RECORD DRAWING

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PREPARED BY:

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2009007268
06.09.2022
PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

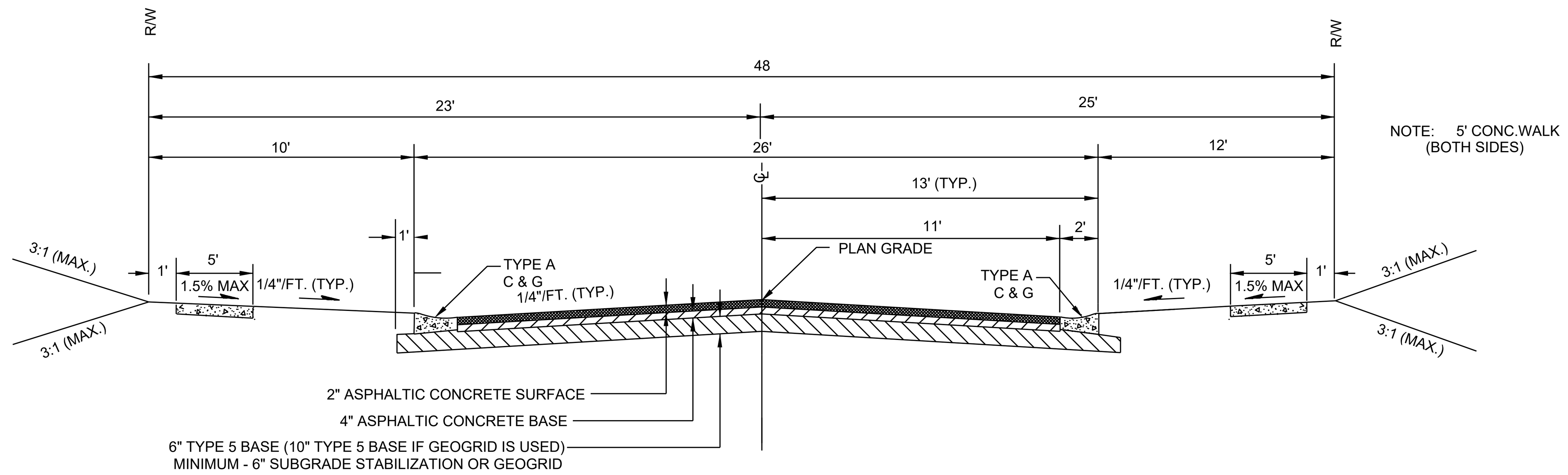
PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1	2-4-22	CITY COMMENTS
2	3-30-22	CITY COMMENTS
3	11-9-22	STREET TIE INS
4	5-22-23	AS-BUILTS
5		
6		
7		
8		

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-169

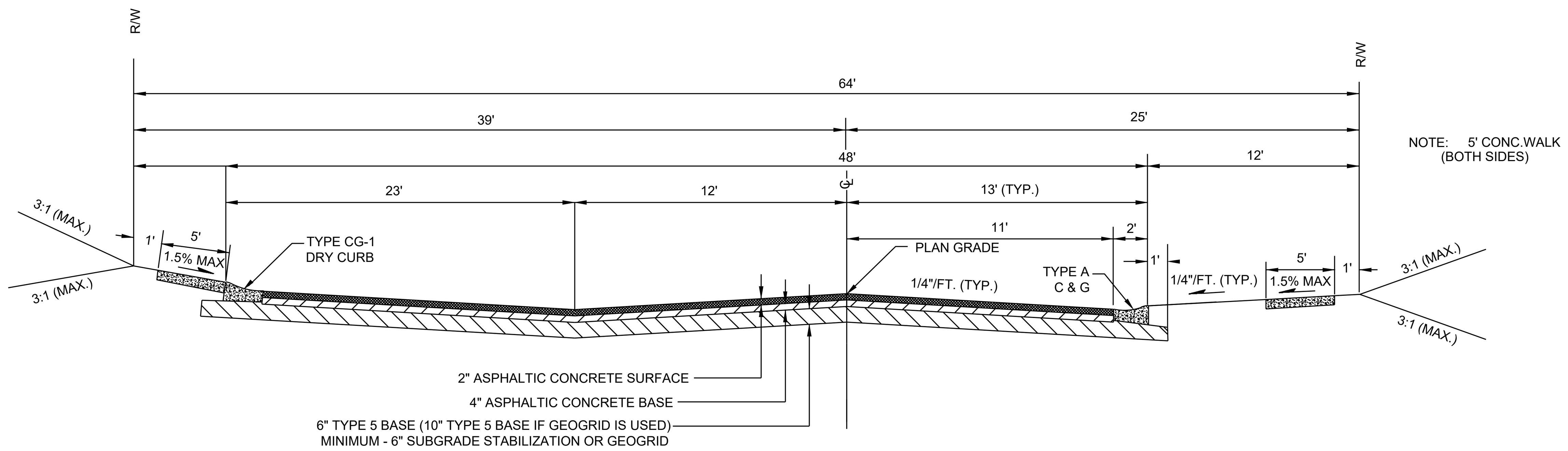
STREET DETAIL SHEET CONT

SHEET 23



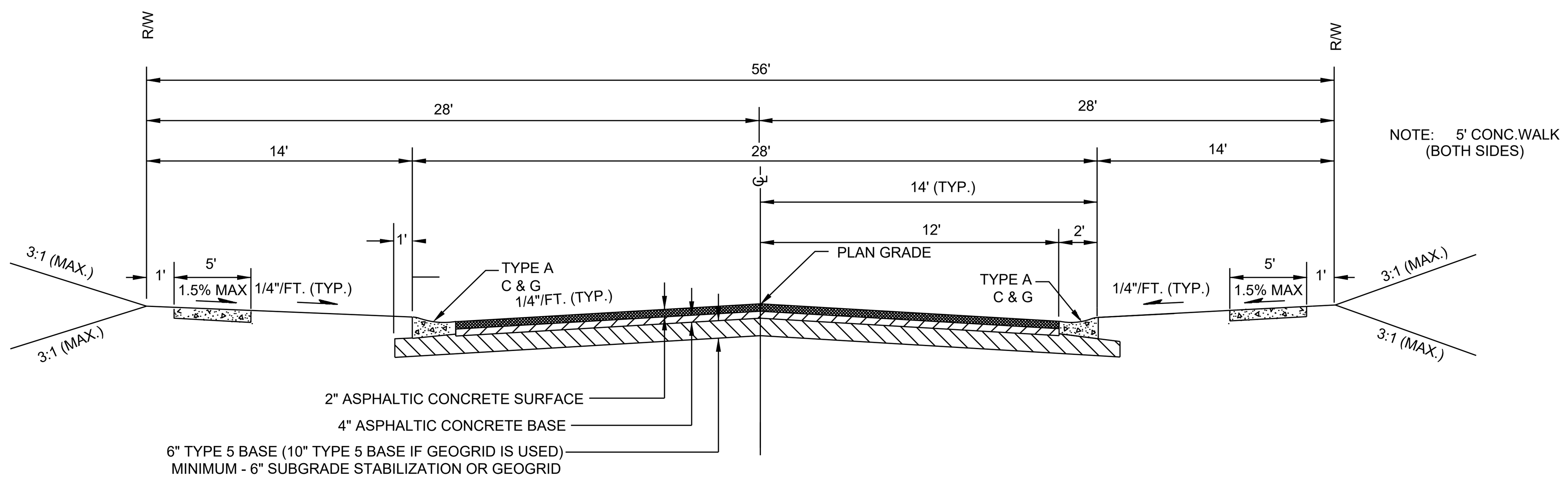
PERGOLA PARK DR 26' B/B STA. 6+97 TO 9+57

NTS



PERGOLA PARK DR PERPENDICULAR PARKING STA. 9+57 TO 10+97

NTS



BLUE RIBBON LN 28' B/B STA. 4+40 TO 4+75

NTS

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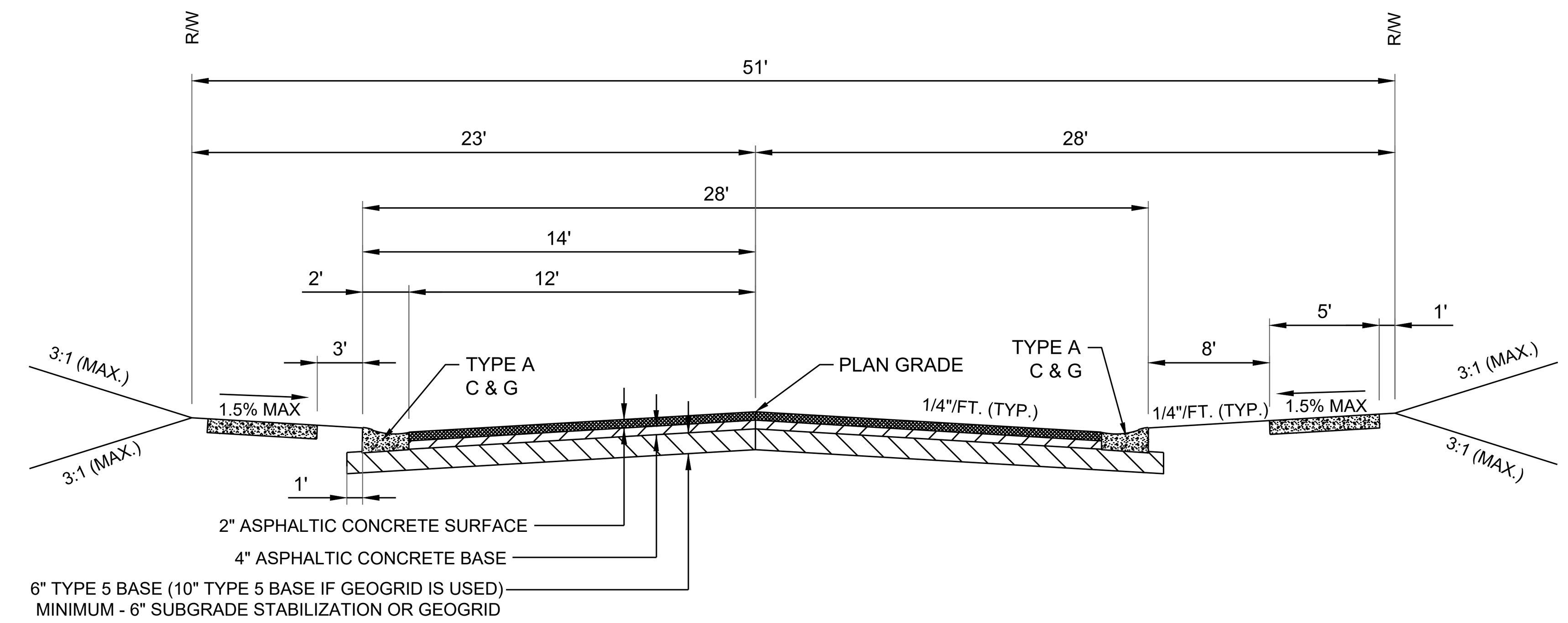
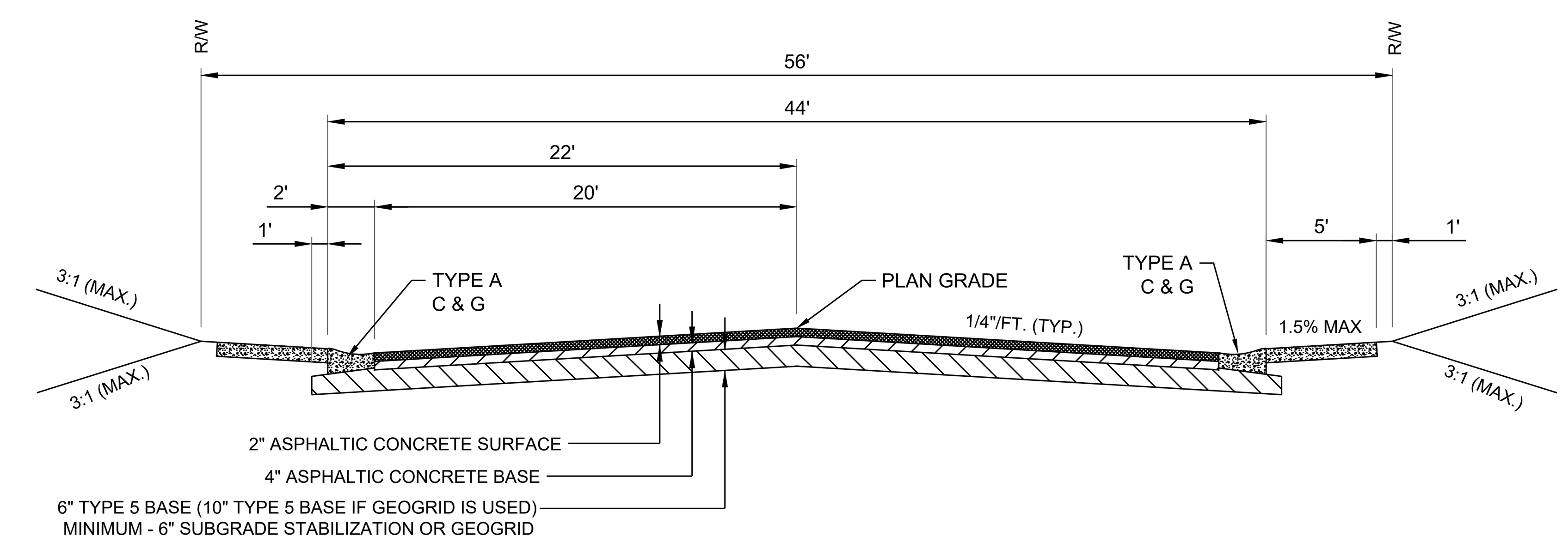


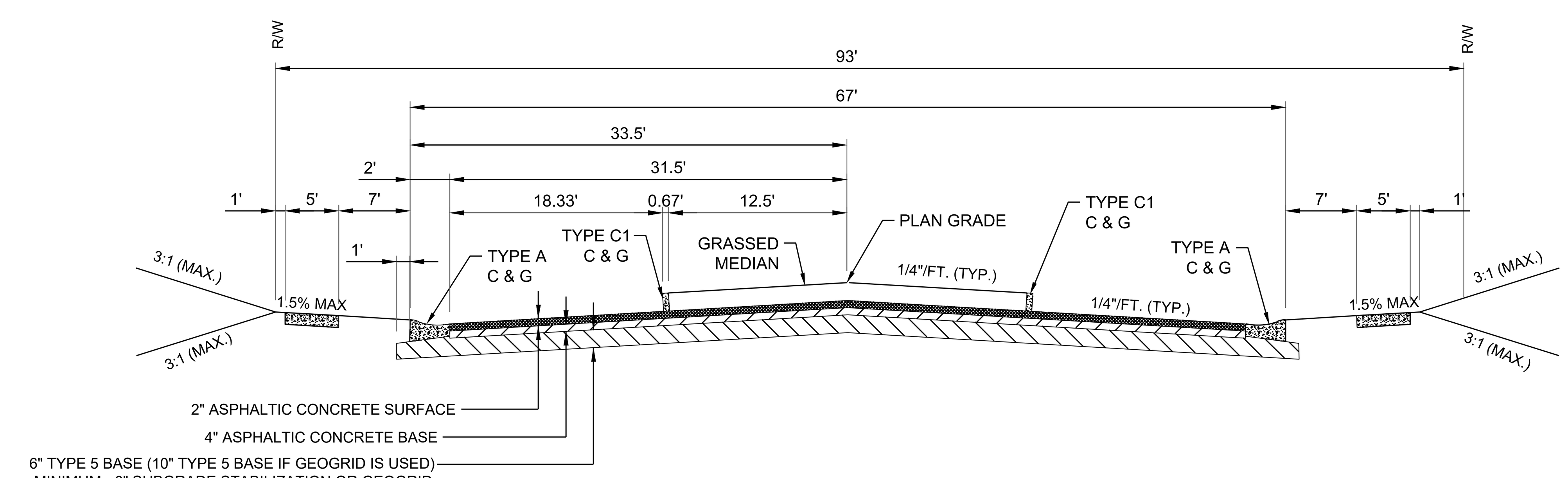
BLUE RIBBON 28' B/B STA. 0+00 TO 0+67

NTS



BLUE RIBBON PARALLEL PARKING BOTH SIDES STA. 1+65 TO 4+40

NTS



BLUE RIBBON DIVIDED STREET STA. 6+30 TO 7+21

NTS

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#E2002003800-F #LAC2001005237 #LS2002008859-F

PREPARED BY:

MARK ALLEN BREUER
NUMBER PE-2006007208
06.09.2023
STATE OF MISSOURI PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

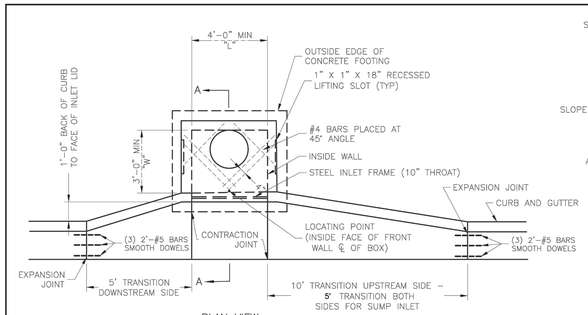
PERGOLA PARK 5TH PLAT STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL - LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1	2-4-22	CITY COMMENTS
2	3-30-22	CITY COMMENTS
3	11-9-22	STREET TIE INS
4	5-22-23	AS-BUILTS
5		
6		
7		
8		
9		

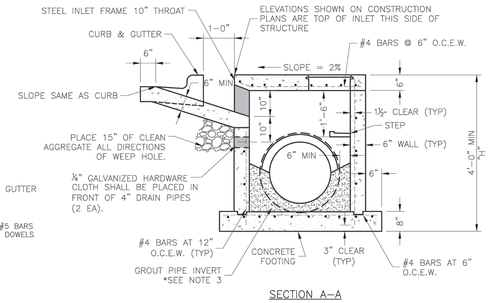
DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

STREET DETAIL SHEET

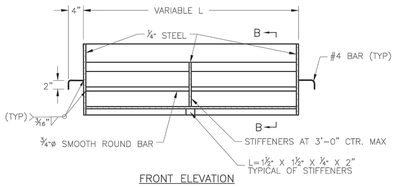
SHEET



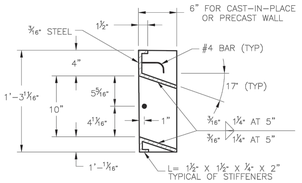
PLAN VIEW



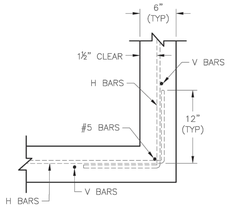
SECTION A–A



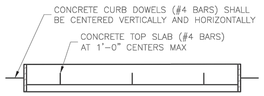
FRONT ELEVATION



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.

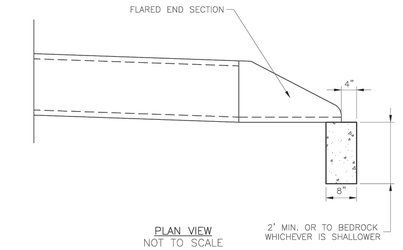
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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

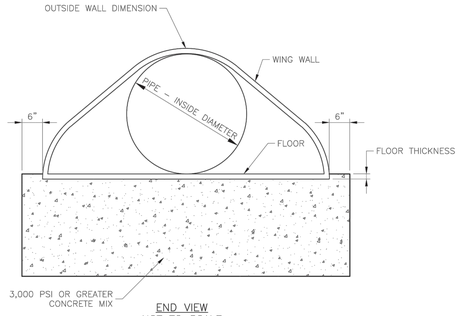
Project:
District Name:
CURB INLET DETAIL

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

STM-1



PLAN VIEW
NOT TO SCALE



END VIEW
NOT TO SCALE

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

FLARED END SECTION SUPPORT DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

STM-5

RECORD DRAWING

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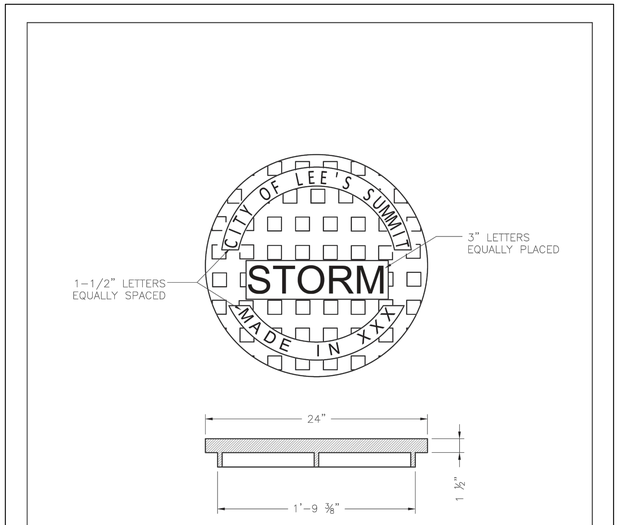
Title: Design Engineer
Firm: Schlagel and Associates, P.A.



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

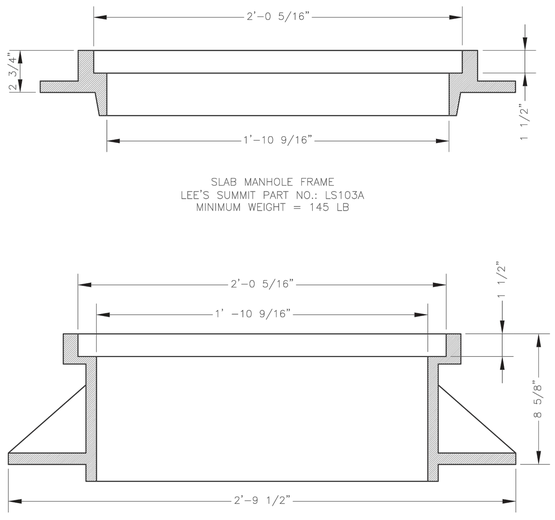
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

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

STORM MANHOLE COVER DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

STM-6



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

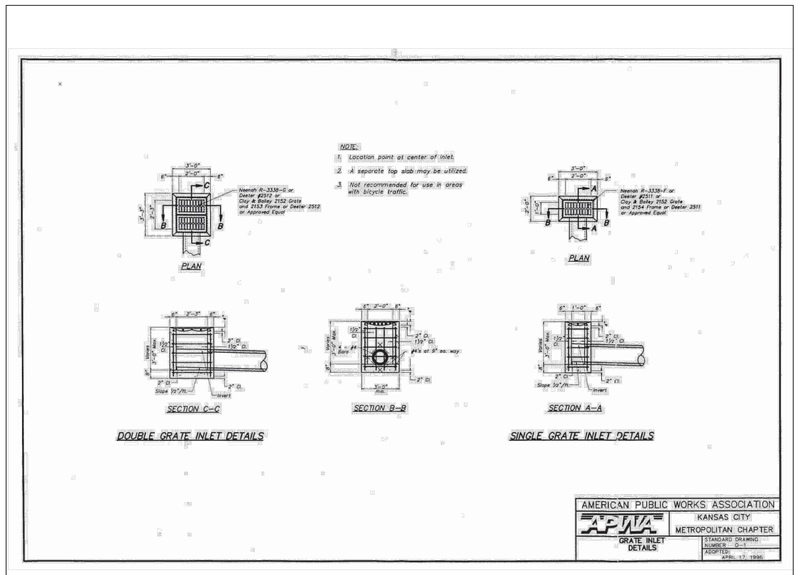
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

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

STORM MANHOLE FRAME DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

DWG-7



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PREPARED BY:

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PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE
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- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
2-4-22	CITY COMMENTS
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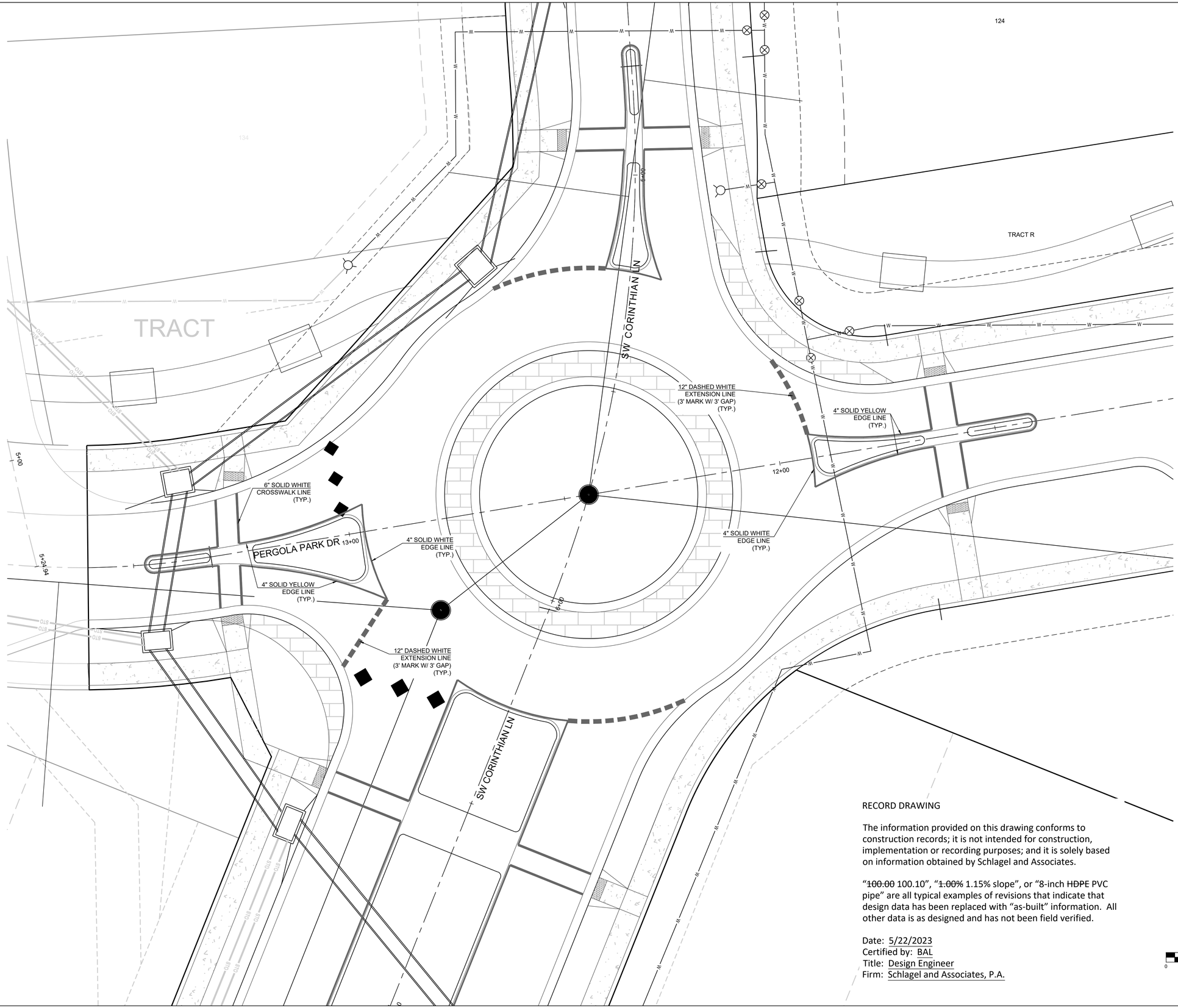
11-9-22	STREET TIE INS
5-22-23	AS-BUILTS

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

STORM DETAIL SHEET

SHEET 25



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0 10' 20'
SCALE: 1" = 10'

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#E2000038O0-F #LA2001005237 #LS2000088S9-F

PREPARED BY:

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2009007268
06.09.2022
REGISTERED PROFESSIONAL ENGINEER

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
STREET, STORMWATER, MASTER DRAINAGE PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1 2-4-22	CITY COMMENTS
2 3-30-22	CITY COMMENTS
3 11-9-22	STREET TIE INS
4 5-22-23	AS-BUILTS
5	
6	
7	
8	

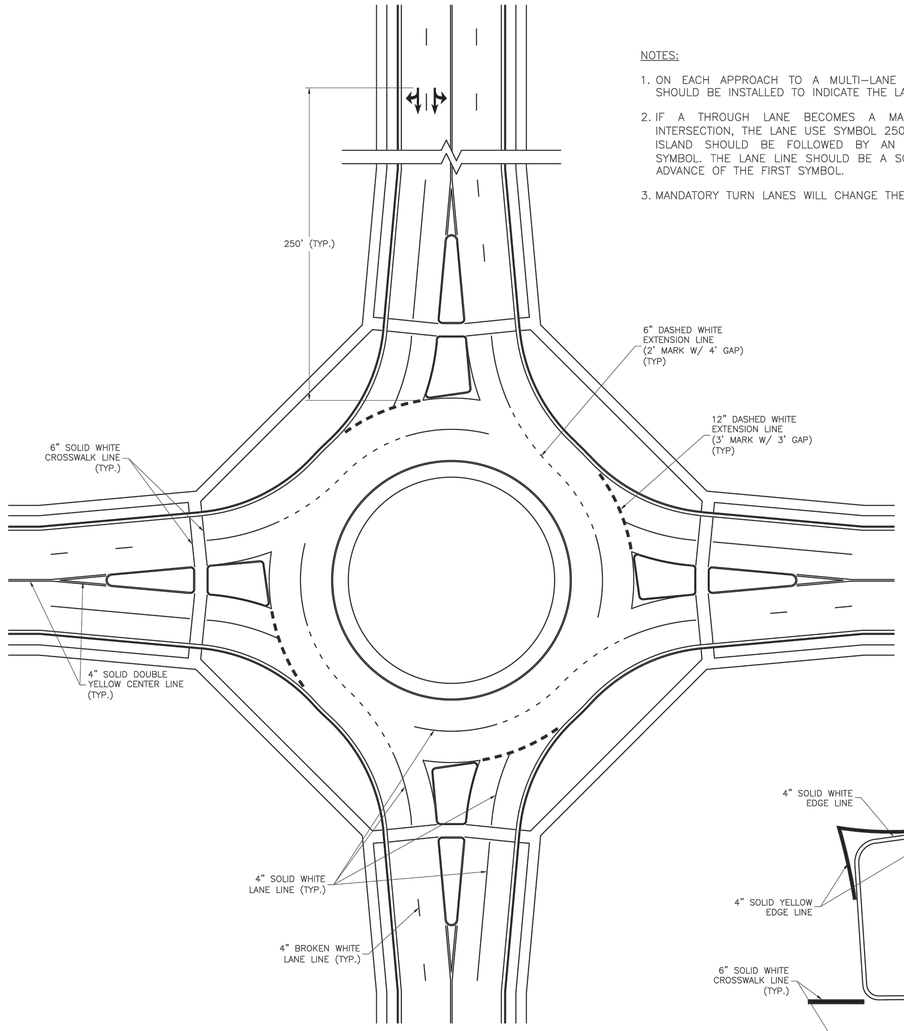
DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

ROUNDABOUT PAVEMENT MARKING

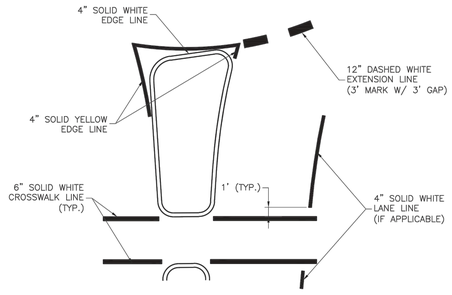
SHEET 26

NOTES:

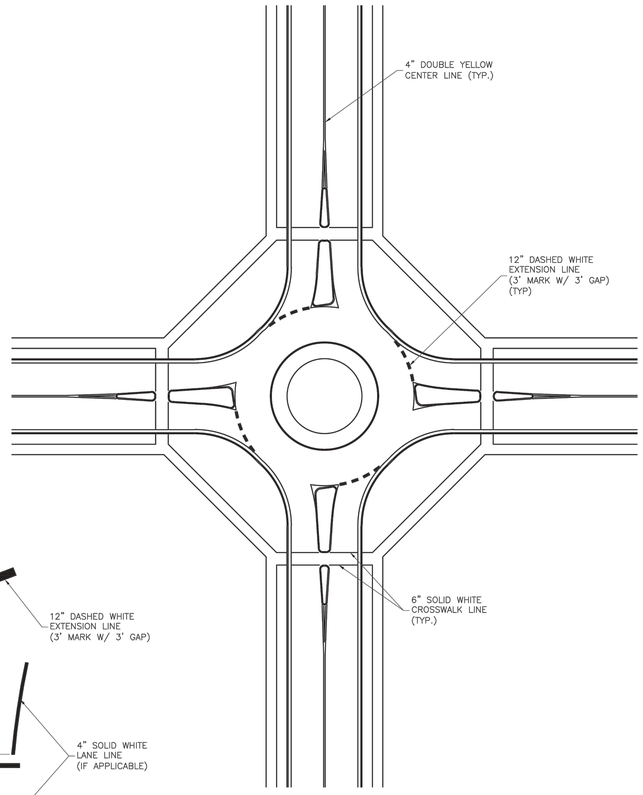
1. ON EACH APPROACH TO A MULTI–LANE ROUNDABOUT, PAVEMENT MARKING SYMBOLS SHOULD BE INSTALLED TO INDICATE THE LANE USE CONFIGURATION.
2. IF A THROUGH LANE BECOMES A MANDATORY TURN LANE AT A ROUNDABOUT INTERSECTION, THE LANE USE SYMBOL 250' IN ADVANCE OF THE END OF THE SPLITTER ISLAND SHOULD BE FOLLOWED BY AN "ONLY" SYMBOL AND ANOTHER LANE USE SYMBOL. THE LANE LINE SHOULD BE A SOLID WHITE LINE FOR A DISTANCE OF 10' IN ADVANCE OF THE FIRST SYMBOL.
3. MANDATORY TURN LANES WILL CHANGE THE MARKINGS WITHIN THE CIRCULAR ROADWAY.



TYPICAL MULTI–LANE ROUNDABOUT MARKINGS



TYPICAL SPLITTER ISLAND DETAIL



TYPICAL SINGLE LANE ROUNDABOUT MARKINGS

RECORD DRAWING

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"~~100.00~~ 100.10", "~~1.00%~~ 1.15% slope", or "8-inch ~~HDPE~~ PVC pipe" are all typical examples of revisions that indicate that design data has been replaced with "as-built" information. All other data is as designed and has not been field verified.

Date: 5/22/2023
Certified by: BAL
Title: Design Engineer
Firm: Schlagel and Associates, P.A.

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, MISSOURI
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name:
ROUNDABOUT MARKING DETAILS

Drawn By: BWC
Checked By: MP
Date: 01/2020
Proj. #:

PM-3

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:

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STREET, STORMWATER, MASTER DRAINAGE
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DRAWN BY: BAL
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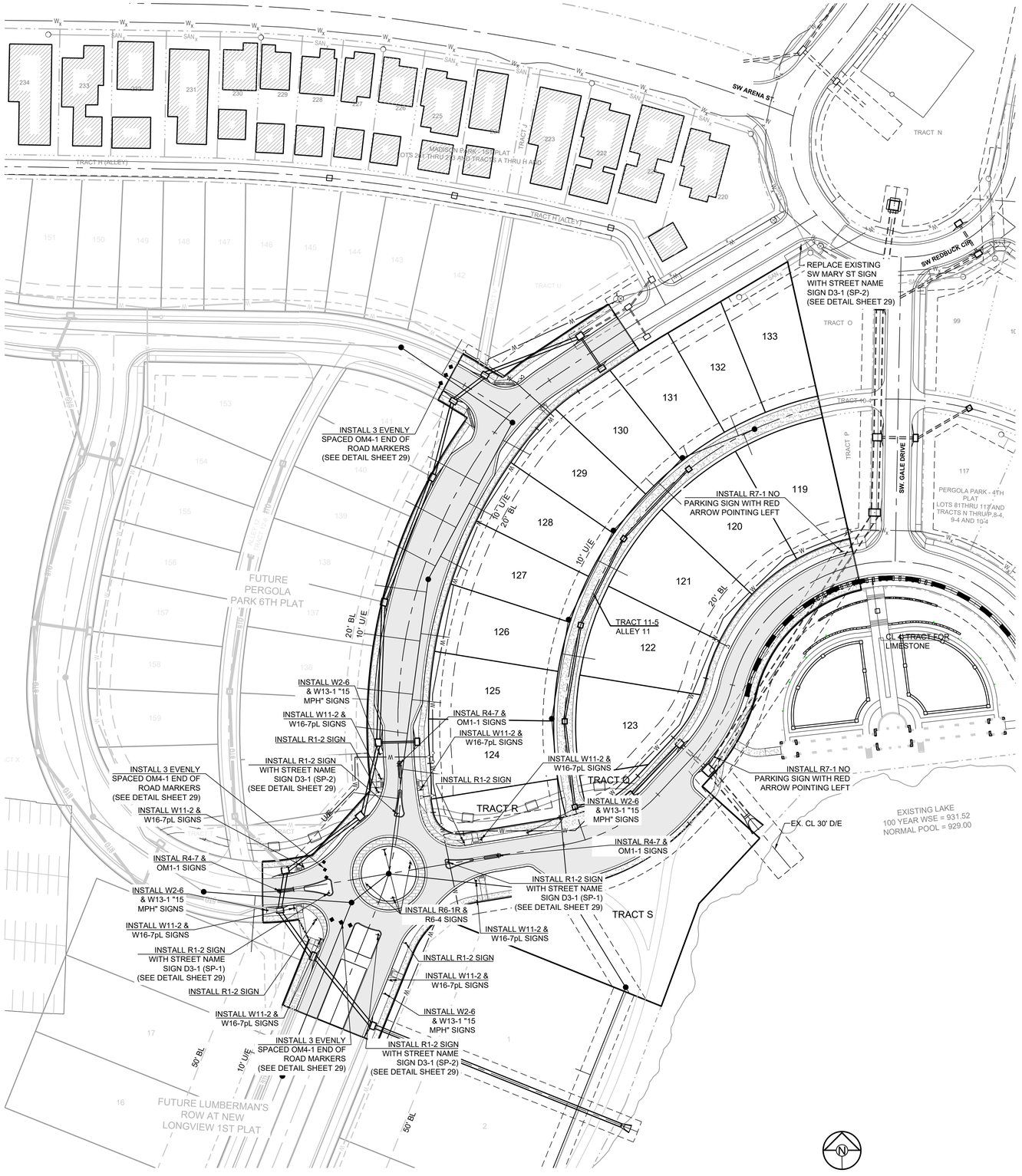
DATE PREPARED: 11-18-2021
PROJ. NUMBER: 20-189

PAVEMENT MARKING DETAIL

SHEET 27



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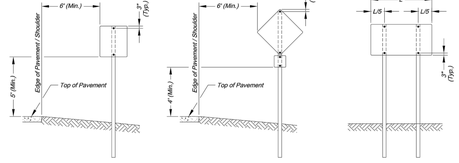
STREET SIGN PLAN

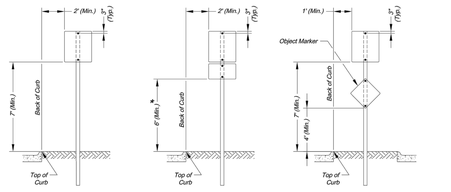
SHEET 28



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

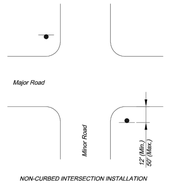
SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

SIGN INSTALLATION FOR RAISED MEDIANS

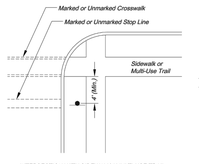
SIGN MOUNTING DETAILS

* 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.

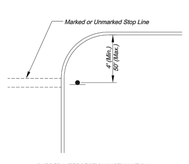
NOTE:
1. Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.



NON-CURBED INTERSECTION INSTALLATION

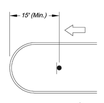


INTERSECTION WITH SIDEWALK / MULT-USE TRAIL INSTALLATION



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

Project#

SIGN MOUNTING DETAILS

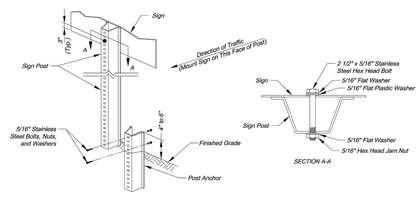
STANDARD DRAWING SN-1

Sheet Name

Drawn By: AS
Checked By: JW
Date: 08/28/2009
Project#

1 OF 3

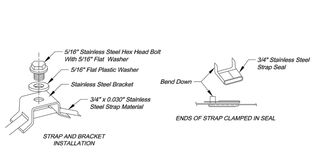
1



U-STEEL POST DETAILS

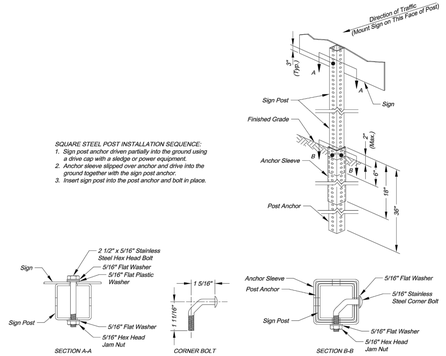
U-STEEL POST NOTES:
1. Splice shall be positioned entirely between finished grade line and 18" above finished grade line. Only one splice will be allowed per post.
2. U-Steel post shall be 3 lb./ft., galvanized according to ASTM A123.
3. U-Steel post can be used for installation of signs with an area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



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

SQUARE STEEL POST 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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Project#

SIGN POST DETAILS

STANDARD DRAWING SN-2

Sheet Name

Drawn By: AS
Checked By: JW
Date: 08/28/2009
Project#

2 OF 3

2

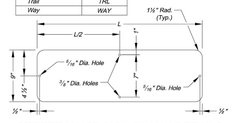
STANDARD ABBREVIATION LISTS

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

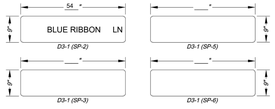
Numbered Streets	
First	ST
Second	ND
Third	RD
Fourth to Tenth	TH

STREET NAME SIGN QUANTITIES

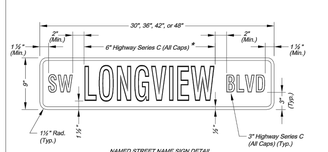
Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1)	9" x 72"	4.50	2	9.00
D3-1 (SP-2)	9" x 54"	3.38	3	10.14
D3-1 (SP-3)	9" x			
D3-1 (SP-4)	9" x			
D3-1 (SP-5)	9" x			
D3-1 (SP-6)	9" x			



STREET NAME SIGN BLANK DETAILS
For Mounting on Square Steel Posts

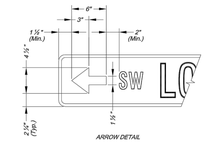


PROJECT SIGN DETAILS

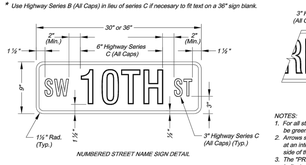


NAMED STREET NAME SIGN DETAIL

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



ARROW DETAIL

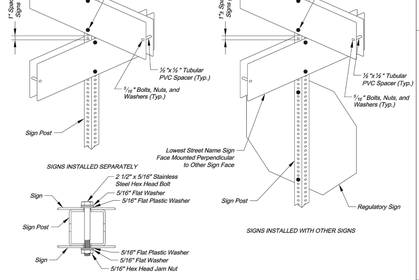


NUMBERED STREET NAME SIGN DETAIL

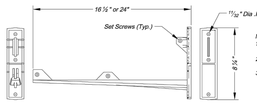
PRIVATE STREET TAG DETAIL

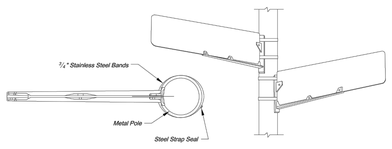
NOTES:
1. For all street name signs, the legend shall be white and the background shall be green.
2. Arrows shall be added to street name signs where the name of a street changes at an intersection. Street name signs with arrows are to be installed on each side of the intersection to indicate the change 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





WING BRACKET MOUNTING DETAILS

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STREET NAME SIGN DETAILS

STANDARD DRAWING SN-3

Sheet Name

Drawn By: AS
Checked By: JW
Date: 08/28/2009
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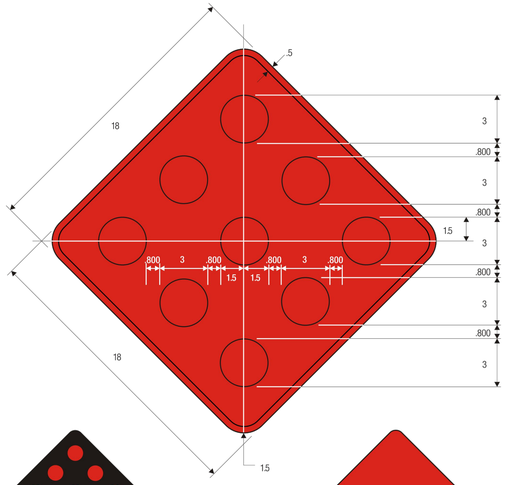
3 OF 3

3



OM4-1

OM4-2

OM4-3

OM4-1 COLORS:

REFLECTORS – RED (RETROREFLECTIVE)
BACKGROUND – RED
BORDER – RED (RETROREFLECTIVE)

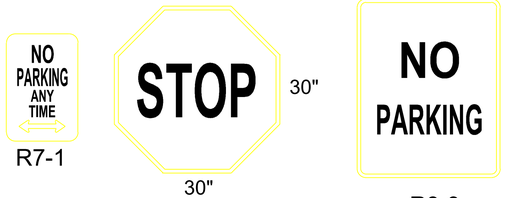
OM4-2 COLORS:

REFLECTORS – RED (RETROREFLECTIVE)
BACKGROUND – BLACK

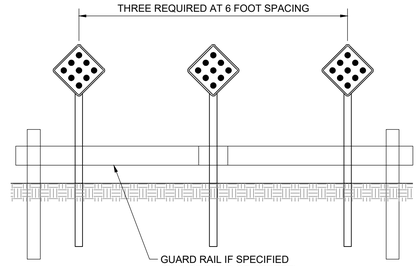
OM4-3 COLORS:

SIGN PANEL – RED (RETROREFLECTIVE)

11-4



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



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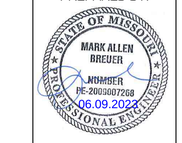
PREPARED BY:



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PLAN & EROSIOIN AND SEDIMENT CONTROL
- LEE'S SUMMIT, MISSOURI

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STREET SIGN DETAILS

SHEET
29