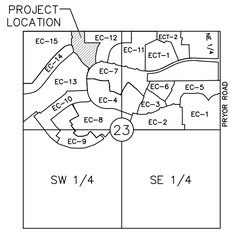
AS BUILT
DATE: 05/29/2020

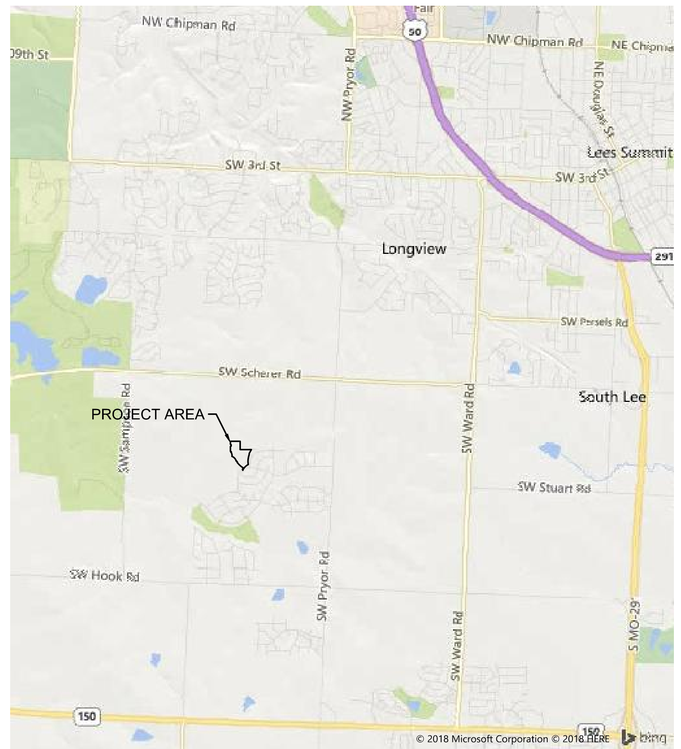
EAGLE CREEK
SIXTEENTH PLAT
STREET, STORM & EROSION CONTROL PLANS

SECTION 23, TOWNSHIP 47 N., RANGE 32 W.
IN LEE'S SUMMIT, JACKSON COUNTY, MO



LOCATION MAP
Sec. 23, Twp. 47 N., Rge. 32 W.
(N.T.S.)

PROJECT TEAM & UTILITY CONTACT LIST	
OWNER / DEVELOPER HUNT MIDWEST REAL ESTATE DEVELOPMENT, INC. 8300 NE. UNDERGROUND DRIVE KANSAS CITY, MISSOURI 64161 CONTACT: BRENNER HOLLAND PHONE: 816.455.2500 FAX: 816.455.8701 EMAIL: BHOLLAND@HUNTMIDWEST.COM	UTILITY SERVICE NUMBERS NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800 NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT PHONE: 816-969-1940 NAME: SPIRE (MGE) PHONE: 314-342-0500 NAME: AT&T PHONE: 800-286-8313 NAME: KCP&L PHONE: 816-471-5275 NAME: SPECTRUM (TWC) PHONE: 877-772-2253 NAME: GOOGLE FIBER PHONE: 877-454-6959
ENGINEER OLSSON ASSOCIATES 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: NICHOLAS D. HEISER, P.E. PHONE: 816.587.4320	
SURVEYOR OLSSON ASSOCIATES 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH, P.L.S. PHONE: 816.587.4320	



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PROPERTY DESCRIPTION:

A TRACT OF LAND IN THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHWEST QUARTER; THENCE NORTH 87°35'47" WEST, ALONG THE NORTH LINE OF SAID NORTHWEST QUARTER, 1,001.10 FEET TO THE NORTHWEST CORNER OF EAGLE CREEK–TWELFTH PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, SAID POINT ALSO BEING THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE SOUTH 02°24'13" WEST, ALONG THE WEST LINE OF SAID EAGLE CREEK–TWELFTH PLAT, 310.00 FEET; THENCE SOUTH 87°35'47" EAST, CONTINUING ALONG SAID WEST LINE, 420.00 FEET; THENCE SOUTH 31°26'22" WEST, CONTINUING ALONG SAID WEST LINE, 162.19 FEET; THENCE SOUTH 12°31'01" WEST, CONTINUING ALONG SAID WEST LINE, 50.00 FEET; THENCE SOUTH 15°32'15" WEST, CONTINUING ALONG SAID WEST LINE, 90.42 FEET; THENCE SOUTH 12°01'59" WEST, CONTINUING ALONG SAID WEST LINE, 80.68 FEET; THENCE SOUTH 05°54'26" WEST, CONTINUING ALONG SAID WEST LINE, 80.68 FEET; THENCE SOUTH 01°37'42" EAST, CONTINUING ALONG SAID WEST LINE, 117.75 FEET TO A POINT ON THE NORTH LINE OF EAGLE CREEK–SEVENTH PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT, JACKSON COUNTY, MISSOURI; THENCE SOUTHWESTERLY, ALONG SAID NORTH LINE, ON A CURVE TO THE LEFT, HAVING AN INITIAL TANGENT BEARING OF SOUTH 69°38'42" WEST WITH A RADIUS OF 480.00 FEET, A CENTRAL ANGLE OF 32°25'10" AND AN ARC DISTANCE OF 271.60 FEET; THENCE WESTERLY, CONTINUING ALONG SAID NORTH LINE, ON A CURVE TO THE RIGHT, HAVING A COMMON TANGENT WITH THE LAST DESCRIBED COURSE WITH A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 83°44'51" AND AN ARC DISTANCE OF 36.54 FEET TO A POINT ON THE EAST LINE OF EAGLE CREEK–THIRTEENTH PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT, JACKSON COUNTY, MISSOURI; THENCE NORTH 59°01'37" WEST, CONTINUING ALONG SAID EAST LINE, 1.76 FEET; THENCE NORTHWESTERLY, CONTINUING ALONG SAID EAST LINE, ON A CURVE TO THE RIGHT, BEING TANGENT TO THE LAST DESCRIBED COURSE WITH A RADIUS OF 800.00 FEET, A CENTRAL ANGLE OF 21°15'50" AND AN ARC DISTANCE OF 296.90 FEET; THENCE NORTH 08°50'31" EAST, CONTINUING ALONG SAID EAST LINE, 21.80 FEET; THENCE NORTH 34°59'09" WEST, CONTINUING ALONG SAID EAST LINE, 50.00 FEET; THENCE NORTH 80°30'22" WEST, CONTINUING ALONG SAID EAST LINE, 20.95 FEET; THENCE NORTHERLY, CONTINUING ALONG SAID EAST LINE AND EAST LINE OF EAGLE CREEK–FOURTEENTH PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, ON A CURVE TO THE RIGHT, HAVING AN INITIAL TANGENT BEARING OF NORTH 32°00'07" WEST WITH A RADIUS OF 800.00 FEET, A CENTRAL ANGLE OF 19°02'35" AND AN ARC DISTANCE OF 265.89 FEET; THENCE NORTH 30°06'38" EAST, CONTINUING ALONG SAID EAST LINE OF SAID EAGLE CREEK–FOURTEENTH PLAT, 20.49 FEET; THENCE NORTH 73°25'49" EAST, CONTINUING ALONG SAID EAST LINE, 6.78 FEET; THENCE NORTH 16°19'09" WEST, CONTINUING ALONG SAID EAST LINE, 50.16 FEET; THENCE NORTH 52°30'25" WEST, CONTINUING ALONG SAID EAST LINE, 21.37 FEET; THENCE NORTHERLY, CONTINUING ALONG SAID EAST LINE AND EAST LINE OF EAGLE CREEK–FIFTEENTH PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, ON A CURVE TO THE RIGHT, HAVING AN INITIAL TANGENT BEARING OF NORTH 07°04'47" WEST WITH A RADIUS OF 800.00 FEET, A CENTRAL ANGLE OF 09°29'00" AND AN ARC DISTANCE OF 132.41 FEET; THENCE NORTH 02°24'13" EAST, CONTINUING ALONG SAID EAST LINE OF SAID EAGLE CREEK–FIFTEENTH PLAT, 134.41 FEET; THENCE NORTH 47°24'13" EAST, CONTINUING ALONG SAID EAST LINE, 35.36 FEET; THENCE NORTH 02°24'13" EAST, CONTINUING ALONG SAID EAST LINE, 50.00 FEET; THENCE NORTH 42°35'47" WEST, CONTINUING ALONG SAID EAST LINE, 35.36 FEET; THENCE NORTH 02°24'13" EAST, CONTINUING ALONG SAID EAST LINE, 105.00 FEET TO THE NORTHEAST CORNER OF SAID EAGLE CREEK–FIFTEENTH PLAT, ALSO BEING A POINT ON THE NORTH LINE OF SAID NORTHWEST QUARTER; THENCE SOUTH 87°35'47" EAST, ALONG SAID NORTH LINE, 358.00 FEET TO THE POINT OF BEGINNING. CONTAINING 496,989 SQUARE FEET OR 11.41 ACRES, MORE OR LESS.

BENCHMARK

INTERSECTION OF S.W. LADDERBACK DRIVE AND S.W. OLD PORT ROAD, N.E. QUADRANT FIRE HYDRANT TOP FLANGE BOLT EASTERN MOST WITH "X" CHISEL ON TOP.
ELEV = 982.73

ACCEPTED:

NICHOLAS D. HEISER, P.E.
CIVIL ENGINEER
MO#2015000555
1301 BURLINGTON, SUITE 100
NORTH KANSAS CITY, MO 64116
PHONE: 816.587.4320
FAX: 816.587.1393

06/01/2020
DATE

REVIEW BY:

CITY OF LEE'S SUMMIT, MISSOURI

DATE

☐ NOT FOR CONSTRUCTION

☒ REVIEWED FOR CONSTRUCTION

CALL BEFORE YOU DIG
1-800-DIG-RITE
MISSOURI ONE CALL SYSTEM

OLSSON ASSOCIATES
MO Certificate of Authority # 000000000
1301 BURLINGTON, SUITE 100
NORTH KANSAS CITY, MO 64116
TEL 816.587.4320
FAX 816.587.1393
www.olssonassociates.com

STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

REVISIONS

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06-15-2018	CITY COMMENTS - 05/17/2018	

TITLE SHEET
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C101

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_TTL01_80847.dwg USER: bkoleci
DATE: Jul 12, 2018 7:55am

GENERAL NOTES:

1. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE LEE'S SUMMIT, MISSOURI DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.

2. ALL MANHOLES, CATCH BASINS, UTILITY VALVES, AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.

3. ALL SIGNS (I.E. STREET NAME AND STOP SIGNS) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF LEE'S SUMMIT, DESIGN AND CONSTRUCTION MANUAL, PRIOR TO SUBSTANTIAL COMPLETION. REFER TO SHEET C119 FOR SIGNAGE DETAILS.

4. THE ASPHALTIC CONCRETE SURFACES ON ALL PERMITTED STREETS SHALL BE VIRGIN MATERIAL.

5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTROL DOWNSTREAM EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION. EROSION CONTROL PLANS AND PROCEDURES SHALL BE IN PLACE PRIOR TO ANY EXCAVATION.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING ROCK ELEVATIONS AT 25 FOOT (MAXIMUM) INTERVALS WHERE ENCOUNTERED, AND FURNISHING THIS INFORMATION TO THE DESIGN ENGINEER FOR USE ON "AS-BUILT" PLANS.

7. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.

8. NO SUBSURFACE EXPLORATION FOR THE DETERMINATION OF AND/OR THE LOCATION OF EXISTING ROCK HAS BEEN MADE.

9. CONTRACTOR SHALL PROVIDE EARTHWORK AND MATERIAL TESTING TO COMPLY WITH THE STANDARD SPECIFICATIONS OF THE PUBLIC WORKS DEPARTMENT OR AS REQUIRED BY THE CITY'S FIELD REPRESENTATIVE.

10. CONTRACTOR MUST CONTACT PUBLIC WORKS INSPECTIONS AT 816-969-1827 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES.

11. P.O.S= PROPOSED OPEN SPACE.

ALL NOTES REFERENCED ON THIS PLAN SHEET MAY HAVE APPLICATIONS TO EVERY FACET OF THE CONSTRUCTION PLANS. THE NOTE HEADINGS OR TITLES ARE TO BE USED AS A GENERAL GUIDE TO APPLICABLE SITUATIONS.

SITE DISTURBANCE NOTES:

1. THE INTENT OF THIS EROSION CONTROL PLAN IS TO ASSIST THE CONTRACTOR IN HIS RESPONSIBILITY TO PROVIDE ALL MATERIALS, TOOLS, EQUIPMENT AND LABOR NECESSARY TO CONTROL EROSION, SILTATION AND DISCHARGES OF SOIL MATERIAL (SEDIMENT) INTO DOWNSTREAM SYSTEMS OR RECEIVING CHANNELS. THIS SHALL BE REQUIRED DURING ALL PHASES OF CONSTRUCTION AND UNTIL SUITABLE GROUND COVER IS ESTABLISHED FOR ALL DISTURBED AREAS. IF ANY METHOD OF CONTROL FAILS, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY, SO THAT THE OWNER OR HIS AGENT CAN REVIEW THE CONTRACTOR'S PROPOSED METHOD OF REPAIR.

   THIS PLAN INDICATES THE CRITICAL AREA(S) OF CONCERN AND THESE AREA(S) WILL BE CONTROLLED AS A MINIMUM. THE CONTROL MAY CONSIST OF TEMPORARY CONTROL MEASURES AS SHOWN ON THE PLANS OR ORDERED BY THE OWNER DURING THE LIFE OF THE CONTRACT TO CONTROL EROSION OR WATER POLLUTION, THROUGH THE USE OF BERMS, DIKES, DAMS, SEDIMENT BASINS, FIBER MATS, NETTING, STRAW BALES, GRAVEL, MULCHES, GRASSES, SLOPE DRAINS, DIVERSION SWALES OR OTHER EROSION CONTROL DEVICES OR METHODS. THE OWNER HAS THE AUTHORITY TO LIMIT THE SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY THE CONSTRUCTION OPERATIONS AND TO DIRECT THE CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS OR OTHER WATER COURSES, LAKES, PONDS, OR OTHER AREAS OF WATER IMPOUNDMENT OR CONVEYANCES.

   THE TEMPORARY POLLUTION CONTROL PROVISIONS CONTAINED HEREIN SHALL BE COORDINATED WITH ANY PERMANENT EROSION CONTROL FEATURES SPECIFIED ELSEWHERE IN THE CONTRACT TO THE EXTENT PRACTICAL TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION CONTROL THROUGHOUT THE CONSTRUCTION AND POST CONSTRUCTION PERIOD.

2. THIS SEDIMENTATION CONTROL PLAN MAKES USE OF THE FOLLOWING APPLICATIONS:
   - ___ PRESERVATION OF EXISTING VEGETATION
   - _X_ SEDIMENT BARRIERS
   - _X_ SEDIMENT TRAPS
   - _X_ INLET PROTECTION
   - ___ OUTLET PROTECTION
   - ___ SOIL RETAINING SYSTEMS
   - ___ SLOPE DRAINS
   - ___ SUBSURFACE DRAINS

   PHYSICAL DESCRIPTION OF EACH SPECIFIC SEDIMENT CONTROL DEVICE TO BE UTILIZED IS CALLED OUT ON THE PLANS WITH INSTALLATION PROCEDURES, CONSTRUCTION SPECIFICATIONS AND MAINTENANCE ARRANGEMENT AS CALLED FOR ON THE DETAIL SHEET. IN ADDITION TO THE MEASURES SPECIFIED, THE FOLLOWING GENERAL PRACTICES SHALL BE ADHERED TO WHEN APPLICABLE.

   A) CLEARING AND GRUBBING WITHIN 50' OF A DEFINED DRAINAGE COURSE SHOULD BE AVOIDED WHEN POSSIBLE. WHERE CHANGES TO A DEFINED DRAINAGE COURSE OCCUR, WORK SHOULD BE DELAYED UNTIL ALL MATERIALS AND EQUIPMENT NECESSARY TO PROTECT AND COMPLETE THE DRAINAGE CHANGE ARE ON SITE. CHANGES SHALL BE COMPLETED AS QUICKLY AS POSSIBLE ONCE THE WORK HAS BEEN INITIATED. THE AREA IMPACTED BY THE CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED OR PROTECTED FROM EROSION AS SOON AS POSSIBLE, AREAS WITHIN 50' OF A DEFINED DRAINAGE WAYS SHOULD BE RECONTOURED AS NEEDED OR OTHERWISE PROTECTED WITHIN FIVE (5) WORKING DAYS AFTER GRADING HAS CEASED.

   B) WHERE SOIL DISTURBING ACTIVITIES CEASE IN AN AREA FOR MORE THAN 14 DAYS, THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE EROSION CONTROL MEASURES. IF THE SLOPE OF THE AREA IS GREATER THAN 3:1 OR IF THE SLOPE IS GREATER THAN 3% AND GREATER THAN 150 FEET IN LENGTH, THEN THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE EROSION CONTROL MEASURES IF ACTIVITIES CEASE FOR MORE THAN SEVEN (7) DAYS.

   C) EXISTING VEGETATION SHALL BE PRESERVED TO THE EXTENT AND WHERE PRACTICAL. IN NO CASE SHALL DISTURBED AREAS REMAIN WITHOUT VEGETATIVE GROUND COVER FOR A PERIOD IN EXCESS OF 60 DAYS.

   D) ADDITIONAL SITE MANAGEMENT PRACTICES WHICH SHALL BE ADHERED TO DURING THE CONSTRUCTION PROCESS SHALL INCLUDE:

   SOLID AND HAZARDOUS WASTE MANAGEMENT INCLUDING PROVIDING TRASH CONTAINERS AND REGULAR SITE CLEAN UP FOR PROPER DISPOSAL OF SOLID WASTE SUCH AS BUILDING MATERIAL, PRODUCT/MATERIAL SHIPPING WASTE, FOOD CONTAINERS AND CUPS, AND PROVIDING CONTAINERS FOR THE PROPER DISPOSAL OF WASTE PAINTS SOLVENTS, AND CLEANING COMPOUNDS.

   PROVISIONS OF PORTABLE TOILETS FOR PROPER DISPOSAL OF SANITARY SEWAGE.

   STORAGE OF CONSTRUCTION MATERIALS AWAY FROM DRAINAGE COURSES AND LOW AREAS.

   INSTALLATION OF CONTAINMENT BERMS AND USE OF DRIP PANS AT PETROLEUM PRODUCT AND LIQUID STORAGE TANKS AND CONTAINERS.

3. ALL DISTURBED AREAS SHALL BE SEEDED, FERTILIZED AND MULCHED, OR SODDED, IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS ADOPTED BY THE REVIEWING GOVERNING AGENCY AND GOOD ENGINEERING PRACTICES. THIS SHALL BE COMPLETED WITHIN FOURTEEN (14) DAYS AFTER COMPLETING THE WORK, IN ANY AREA. IF THIS IS OUTSIDE OF THE SEEDING PERIOD, SILT BARRIERS OR OTHER SIMILARLY EFFECTIVE MEASURES SHALL BE PROVIDED UNTIL SUCH TIME THAT THE AREAS CAN BE SEEDED.

4. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO ALL CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE REVIEWING GOVERNING AGENCY. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING ALL ADDITIONAL STANDARDS, SPECIFICATIONS OR REQUIREMENTS WHICH ARE REQUIRED BY GOVERNING AGENCIES (INCLUDING LOCAL, STATE AND FEDERAL AUTHORITIES) HAVING JURISDICTION OVER THE WORK PROPOSED BY THESE CONSTRUCTION DRAWINGS.

5. ALL EROSION CONTROL MEASURES, TEMPORARY OR PERMANENT, REQUIRE MAINTENANCE TO PRESERVE THEIR EFFECTIVENESS. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED IMMEDIATELY AFTER EACH HEAVY RAINSTORM AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY. ALL COSTS ASSOCIATED WITH THE REPAIR WORK INCLUDING RELATED INCIDENTALS WILL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE INCLUDED IN THE CONTRACTOR'S BID FOR THE PROPOSED WORK.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
	STREET			
1	EXCAVATION	C.Y.	23685	
2	EMBANKMENT	C.Y.	23957	
3	2" MILL & OVERLAY	S.F.	627	
4	6" ASPHALT PAVEMENT	S.Y.	3865	
5	STABILIZED SUBGRADE	S.Y.	4715	
6	6" MODOT Type 5 Aggregate	S.Y.	4715	
7	CONCRETE CURB & GUTTER (CG-2)	L.F.	2721	
8	STOP SIGNS	EA.	1	
9	STREET NAME SIGNS	EA.	2	
10	5' WIDE CONCRETE SIDEWALK	L.F.	2418	
11	TEMPORARY CUL-DE-SAC REMOVAL	S.Y.	518	
12	CURB RAMPS WITH DETECTABLE WARNING	EA.	1	
	STORM			
13	STD. CURB INLET (5'x3' INSIDE)	EA.	~~7~~	7
14	STD. MANHOLE (4' DIA)	EA.	~~3~~	3
15	STD. FIELD INLET (4'x4' INSIDE)	EA.	~~4~~	4
16	15" HDPE	L.F.	~~551~~	552.25
17	24" HDPE	L.F.	~~725~~	726.87
18	CONNECTION TO EXISTING STRUCTURE	EA.	~~1~~	1
	LAND DISTURBANCE			
19	INLET PROTECTION	EA.	22	
20	SILT FENCE	L.F.	3080	
21	VEHICLE TRACKING CONTROL	EA.	1	
22	TREE CLEARING	AC.	0.3	
23	ROCK CHECK DAM	EA.	10	
24	SEDIMENT TRAP	EA.	1	

SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.

AS BUILT
DATE: 05/29/2020

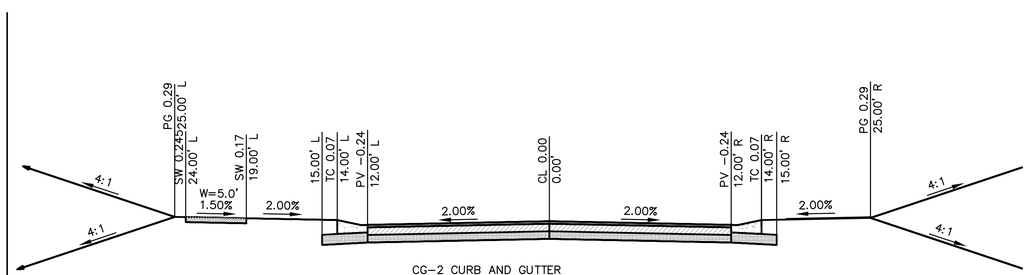
CONTROL POINT ELEVATION:

CP#200 – 8" I.B. CONTROL CAP
LOCATED AT INTERSECTION OF S.W. RIVER TRAIL ROAD AND S.W. LADDER BACK DRIVE, GO NORTH TO END OF STREET WEST SIDE OF ROAD 6.30 FEET EAST TO END OF BACK OF CURB.
N=308941.491
E=855593.297
ELEV=982.37

CP#22– 8" I.B. CONTROL CAP
LOCATED AT INTERSECTION OF S.W. LADDERBACK DRIVE AND S.W. OLD PORT ROAD. GO NORTH TO BACK SIDE OF HOUSE #2400 ON WEST SIDE OF ROAD, 3.00 FEET EAST TO BACK OF CURB, 7.70 FEET NORTH TO FIRE HYDRANT CL 14.20 FEET WEST TO SECTIONALIZER S.E. CORNER
N=308566.672
E=855581.894
ELEV=983.47

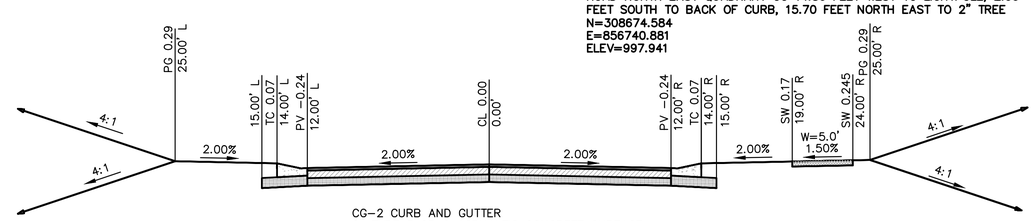
CP#202 – 8" I.B. CONTROL CAP
LOCATED AT INTERSECTION OF S.W. EAGLE VIEW DRIVE AND S.W. DEER RUN ROAD S.W. QUADRANT OF INTERSECTION. GO 6.50 FEET WEST TO CL OF MAILBOX, 2.50 FEET SOUTH TO SIDEWALK, 4.00 FEET NORTH TO BACK OF CURB, 8.00 FEET SOUTH EAST TO CL MANHOLE.
N=308014.383
E=856347.385
ELEV=977.09

CP#203 – 8" I.B. CONTROL CAP
LOCATED AT INTERSECTION OF S.W. DEER RUN ROAD AND S.W. RIVER TRAIL ROAD NORTH EAST QUADRANT GO 14.80 FEET WEST TO LIGHTPOLE, 2.00 FEET SOUTH TO BACK OF CURB, 15.70 FEET NORTH EAST TO 2" TREE
N=308674.584
E=856740.881
ELEV=997.941



CG-2 CURB AND GUTTER
2" TYPE 5 OR 6 ASPHALTIC CONCRETE SURFACE
4" TYPE 5 ASPHALTIC CONCRETE BASE COURSE
6" MIN. MODOT TYPE 5 STONE BASE
6" MIN. FLYASH STABILIZED SUBGRADE

1 NTS
RESIDENTIAL LOCAL STREET (28' BK-BK)
SW OLD PORT ROAD, SW HICKORY LANE



CG-2 CURB AND GUTTER
2" TYPE 5 OR 6 ASPHALTIC CONCRETE SURFACE
4" TYPE 5 ASPHALTIC CONCRETE BASE COURSE
6" MIN. MODOT TYPE 5 STONE BASE
6" MIN. FLYASH STABILIZED SUBGRADE

2 NTS
RESIDENTIAL LOCAL STREET (28' BK-BK)
SW. RIVER TRAIL ROAD

LEGEND	
ECTVOH	EXISTING CABLE TV, OVERHEAD
ECTV	EXISTING CABLE TV, UNDERGROUND
CTVOH	PROPOSED CABLE TV, OVERHEAD
CTV	PROPOSED CABLE TV, UNDERGROUND
FCTVOH	FUTURE CABLE TV, OVERHEAD
FCTV	FUTURE CABLE TV, UNDERGROUND
EFOOH	EXISTING FIBER OPTIC, OVERHEAD
EFO	EXISTING FIBER OPTIC, UNDERGROUND
FOOH	PROPOSED FIBER OPTIC, OVERHEAD
FO	PROPOSED FIBER OPTIC, UNDERGROUND
FFOOH	FUTURE FIBER OPTIC, OVERHEAD
FFO	FUTURE FIBER OPTIC, UNDERGROUND
EFP	EXISTING FIRE PROTECTION SYSTEM LINE
FP	PROPOSED FIRE PROTECTION SYSTEM LINE
FFP	FUTURE FIRE PROTECTION SYSTEM LINE
EFL	EXISTING FUEL LINE
FL	PROPOSED FUEL LINE
FFL	FUTURE FUEL LINE
EG	EXISTING NATURAL GAS LINE
G	PROPOSED NATURAL GAS LINE
FG	FUTURE NATURAL GAS LINE
ETELOH	EXISTING TELEPHONE LINE, OVERHEAD
ETEL	EXISTING TELEPHONE LINE, UNDERGROUND
TELOH	PROPOSED TELEPHONE LINE, OVERHEAD
TEL	PROPOSED TELEPHONE LINE, UNDERGROUND
FTELOH	FUTURE TELEPHONE LINE, OVERHEAD
FTEL	FUTURE TELEPHONE LINE, UNDERGROUND
EEOH	EXISTING POWER\ELECTRIC LINE, OVERHEAD
EE	EXISTING POWER\ELECTRIC LINE, UNDERGROUND
EOH	PROPOSED POWER\ELECTRIC LINE, OVERHEAD
E	PROPOSED POWER\ELECTRIC LINE, UNDERGROUND
FEOH	FUTURE POWER\ELECTRIC LINE, OVERHEAD
FE	FUTURE POWER\ELECTRIC LINE, UNDERGROUND
ESS	EXISTING SANITARY SEWER
SS	PROPOSED SANITARY SEWER
FSS	FUTURE SANITARY SEWER
ESL	EXISTING STEAM LINE
SL	PROPOSED STEAM LINE
FSL	FUTURE STEAM LINE
EST	EXISTING STORM SEWER
ST	PROPOSED STORM SEWER
FST	FUTURE STORM SEWER
EW	EXISTING WATER LINE
W	PROPOSED WATER LINE
FW	FUTURE WATER LINE

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1301 BURLINGTON, SUITE 100
NORTH KANSAS CITY, MO 64116

STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2013000555
PROFESSIONAL ENGINEER
06/01/2020

REVISIONS

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06-15-2018	CITY COMMENTS - 05/17/2018	
2	07/12/2018	CITY COMMENTS - 07/10/2018	
3	07/31/2018	CITY COMMENTS - 07/31/2018	

GENERAL NOTES
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C102

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_GEN01_80847.dwg USER: nheiser
DATE: Jul 31, 2018 3:51pm

NOT AS BUILT

EAGLE CREEK 12TH PLAT

EAGLE CREEK 16TH PLAT

S.W. RIVER TRAIL ROAD

S.W. OLD PORT ROAD

S.W. HICKORY LANE

S.W. HAWK VIEW ROAD

S.W. LADDERBACK DRIVE

TRACT A

TRACT K

TRACT L

TEMPORARY CUL-DE-SAC TO BE REMOVED

CONTRACTOR TO INSTAL 284 L.F. OF 5' CONCRETE SIDEWALK

PT: 17+96.11

PC: 15+44.12

PT: 12+71.57

S19°42'20"E 583.66'

S06°37'19"E 156.72'

221.12' N07°39'38"E

154.74' N13°00'37"W

CP#200 CP#203 CP#202 CP#22

C.I. 1–12 C.I. 1–11 C.I. 1–10 C.I. 1–8 C.I. 1–7 C.I. 1–3 C.I. 1–2

F.I. 1–9 F.I. 1–5 F.I. 2–1 F.I. 2–2

M.H. 1–6 M.H. 1–4 M.H. 1–1

E.X. C.I. 30294 E.X. C.I. 32931 E.X. E.S.

N

0' 25' 50' 100'
SCALE IN FEET

OLSSON ASSOCIATES

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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER

06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	
2	07/12/2018	CITY COMMENTS - 07/10/2018	

REVISIONS

GENERAL LAYOUT
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K.
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C103

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_GEN02_80847.dwg USER: bkoleci
DATE: Jul 18, 2018 8:46am

GENERAL NOTES:

1. CONTRACTOR SHALL ADHERE TO THE "DESIGN AND CONSTRUCTION MANUAL" SECTION 2100 AS ADOPTED BY THE CITY OF LEE'S SUMMIT (LATEST EDITION), FOR EXCAVATION AND EMBANKMENT WORK WITHIN THE PROPOSED RIGHT-OF-WAY.

2. AREAS OF CONSTRUCTION SHALL BE STRIPPED OF ALL VEGETATION, ORGANIC MATTER AND TOPSOIL TO A DEPTH AS RECOMMENDED BY GEOTECHNICAL ENGINEER AND OR TESTING AGENCY. SOILS REMOVED DURING SITE STRIPPING SHOULD BE EVALUATED TO DETERMINE IF PORTIONS OF THE TOPSOIL STRATUM MAY BE UTILIZED AS STRUCTURAL FILL WITHIN PAVEMENT AREAS. ANY MATERIAL NOT DEEMED AS SUITABLE FILL MATERIAL BY THE GEOTECHNICAL ENGINEER AND OR TESTING AGENCY SHALL BE REMOVED FROM THE JOB SITE BY THE CONTRACTOR AT HIS EXPENSE.

3. CONTRACTOR SHALL ADHERE TO THE SITE PREPARATION AND STRUCTURAL FILL RECOMMENDATIONS AS CALLED OUT IN THE GEOTECHNICAL REPORT AND ENGINEERING EVALUATION AS PROVIDED BY THE GEOTECHNICAL ENGINEER.

4. ALL EMBANKMENT OUTSIDE OF RIGHT-OF-WAY SHOULD BE PLACED IN CONTROLLED LIFTS HAVING A MAXIMUM LOOSE LIFT THICKNESS OF 8". EMBANKMENT SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR COMPACTION). MOISTURE CONTENT OF THE FILL AT THE TIME OF COMPACTION SHALL BE WITHIN A RANGE OF -0 TO +4 PERCENT OF OPTIMUM MOISTURE CONTENT.

EARTHWORK QUANTITIES		
LOCATION	CUT (C.Y.)	FILL (C.Y.)
STREET	2038	2612
SITE	21647	21345
TOTAL	23685	23957

EARTHWORK QUANTITIES NOTES:
1. EARTHWORK QUANTITIES BASED ON FINISHED GRADE SURFACE AND DO NOT INCLUDE ADJUSTMENTS FOR TOPSOIL AND SHRINKAGE.

2. EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION EXCAVATION, REMOVAL AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE BY A GEOTECHNICAL ENGINEER. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR EXCAVATION, REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL AND FOR REPLACING IT WITH SUITABLE MATERIAL.

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

NOT AS BUILT

N

0' 25' 50' 100'
SCALE IN FEET

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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	05/17/2018	CITY COMMENTS - 05/17/2018	

REVISIONS

GRADING PLAN
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

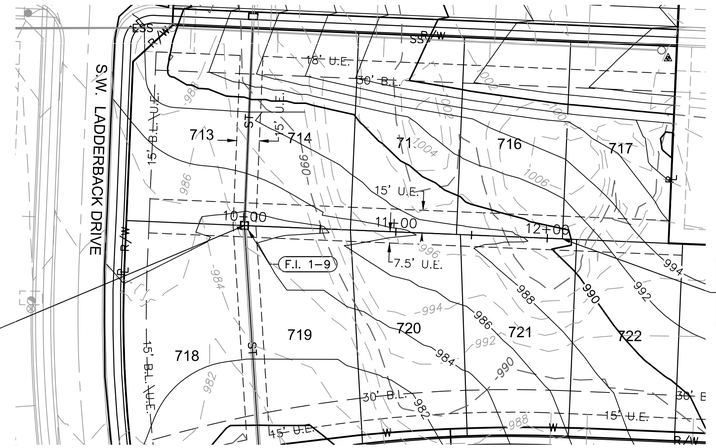
drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

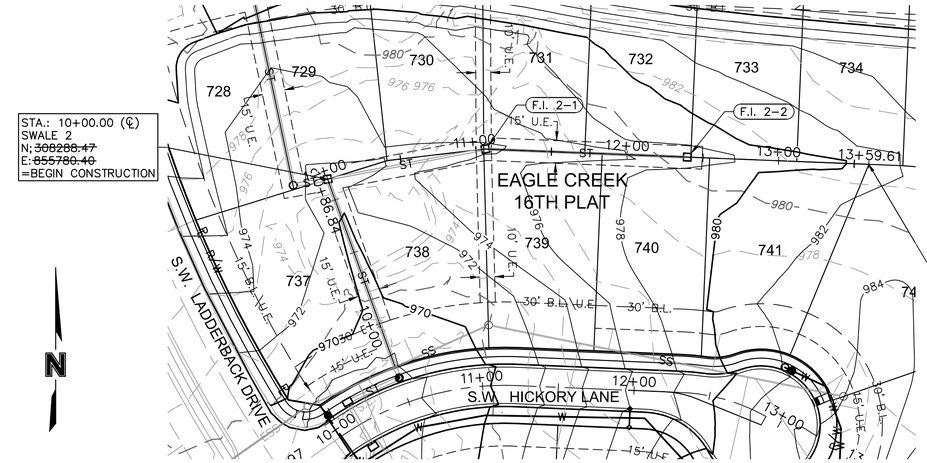
SHEET
C104

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_GRD01_80847.dwg USER: bkoleci
DATE: Jul 18, 2018 8:48am

AS BUILT

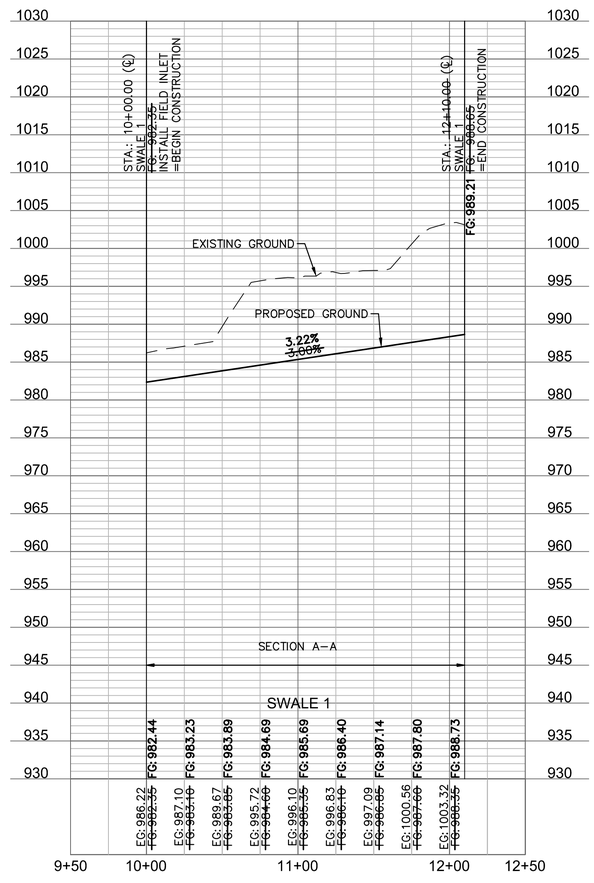
DATE: 05/29/2020



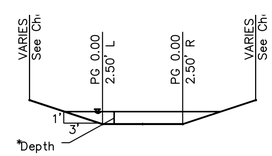


SWALE DESIGN TABLE (100-YEAR RETURN FREQUENCY)

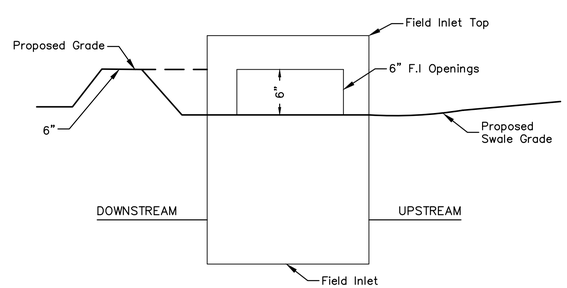
SECTION DATA								RESULTS						
SECTION	Mannings Coefficient	Channel Slope (%)	Minimum Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft2)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft3)
A-A	0.03	3.00%	1.35	3:1	3:1	5	7.70	0.35	2.12	3.64	7.21	7.10	0.56	0.55
B-B	0.03	2.70%	1.31	3:1	3:1	5	5.86	0.31	1.84	3.19	6.96	6.86	0.47	0.44
C-C	0.03	2.70%	1.23	3:1	3:1	5	3.42	0.23	1.31	2.61	6.45	6.38	0.34	0.34
D-D	0.03	2.70%	1.25	3:1	3:1	5	4.01	0.25	1.44	2.79	6.58	6.50	0.37	0.37



SWALE GRADING NOTES:
1. CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.
2. AS-BUILT SURVEY IS REQUIRED/APPROVED BY CITY FOR ALL SWALES AND PRIOR TO APPROVAL FOR ANY BUILDING FOUNDATION PERMIT. CONTRACTOR SHALL BE REQUIRED TO REGRADE SWALES AT CONTRACTOR'S EXPENSE IF ABOVE REQUIREMENTS ARE NOT MET.

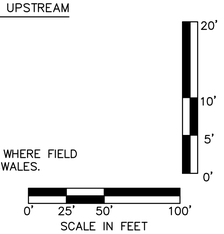


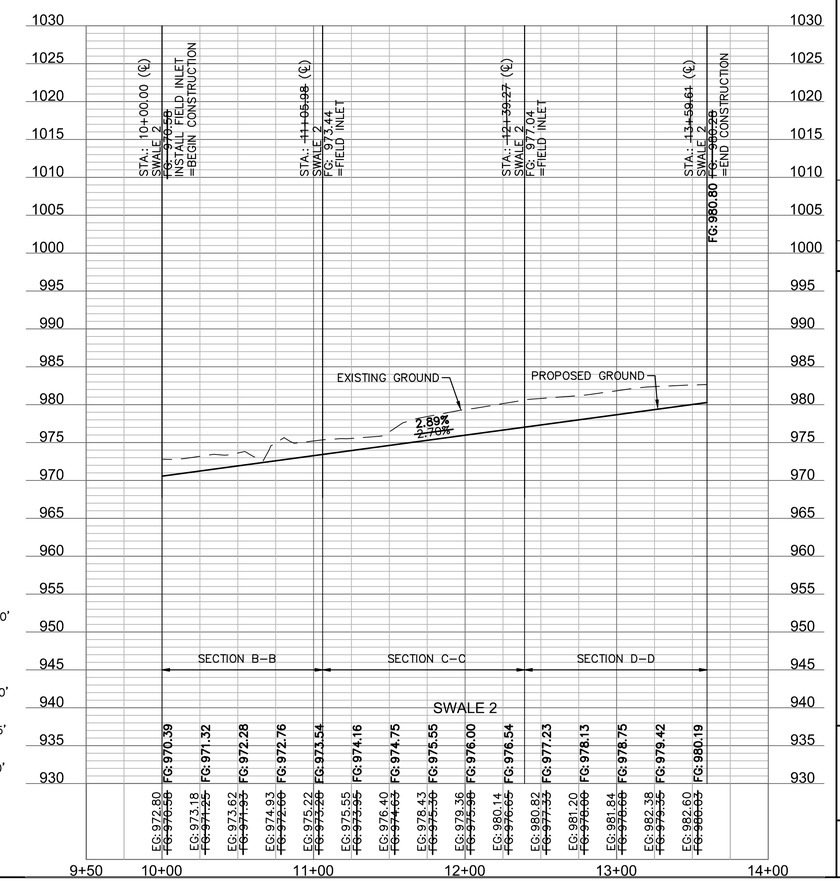
Swale Typical Section
*See table for swale depth
NTS



F.I SUMP DETAIL
NOT TO SCALE

NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE FIELD INLETS ARE LOCATED ON GRADE WITHIN SWALES.





USER: nheiser

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DATE: Jun 01, 2020 6:47am

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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	

REVISIONS

SWALE PLAN & PROFILE
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C105

AS BUILT

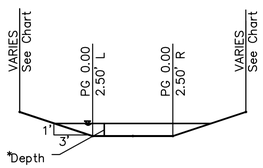
DATE: 05/29/2020

SWALE GRADING NOTES:

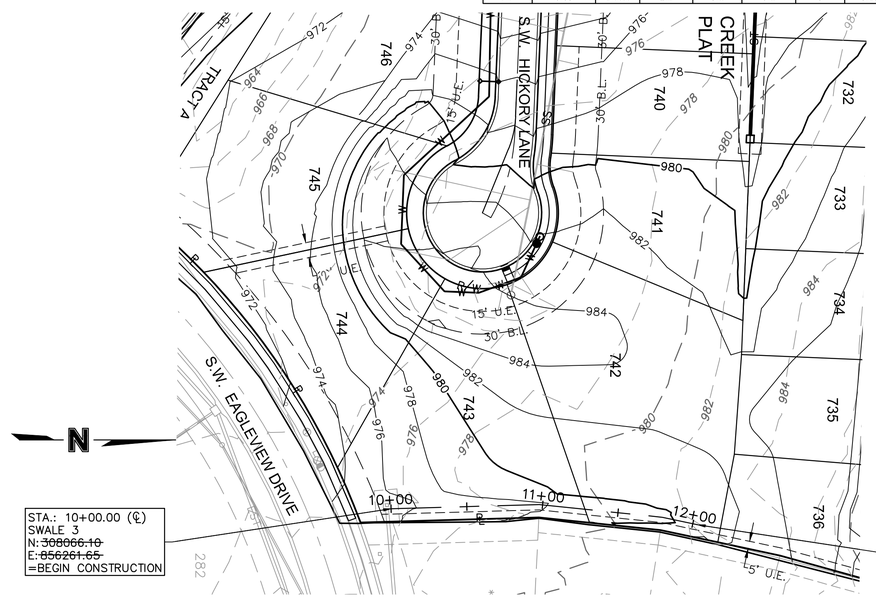
1. CONTRACTOR SHALL CONSTRUCT SWALES WITH MINIMUM SLOPE, WIDTH AND DEPTH AS SHOWN IN THE SWALE DESIGN TABLES.
2. AS-BUILT SURVEY IS REQUIRED/APPROVED BY CITY FOR ALL SWALES AND PRIOR TO APPROVAL FOR ANY BUILDING FOUNDATION PERMIT. CONTRACTOR SHALL BE REQUIRED TO REGRADE SWALES AT CONTRACTOR'S EXPENSE IF ABOVE REQUIREMENTS ARE NOT MET.

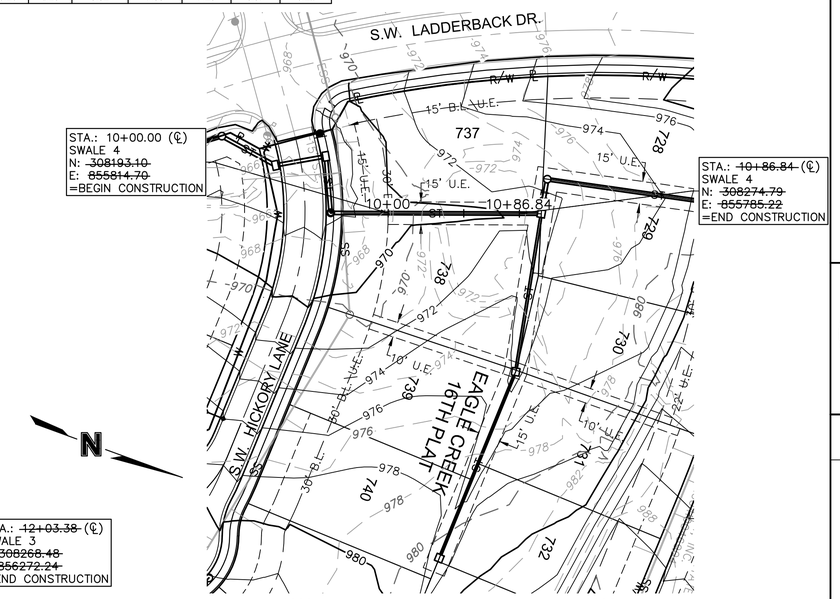
SWALE DESIGN TABLE (100-YEAR RETURN FREQUENCY)

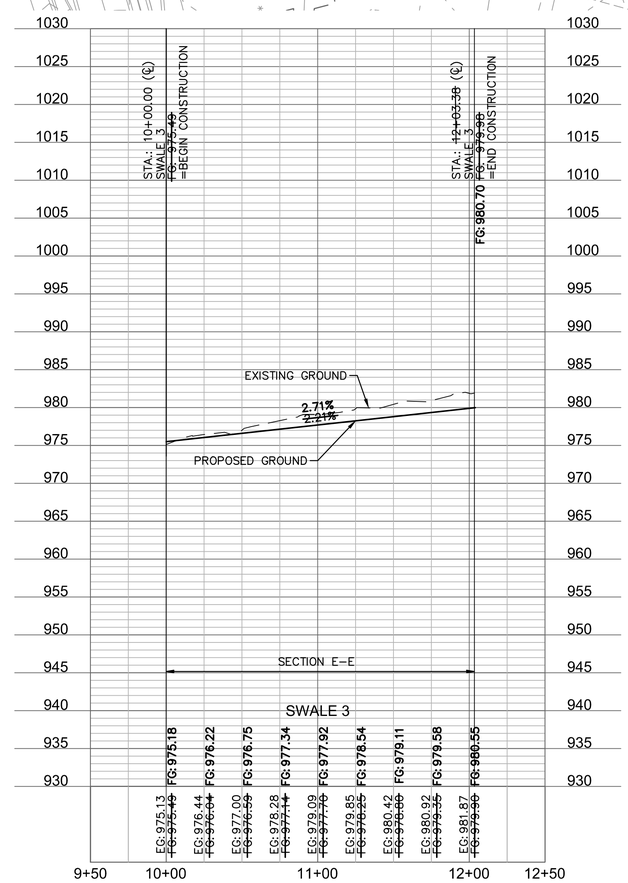
SECTION DATA								RESULTS						
SECTION	Mannings Coefficient	Channel Slope (%)	Minimum Swale Depth (ft)	Left Side Slope (H:V)	Right Side Slope (H:V)	Bottom Width (ft)	Discharge (cfs)	Water Depth (ft)	Flow Area (ft2)	Velocity (ft/sec)	Wetted Perimeter (ft)	Top Width (ft)	Specific Energy (ft)	Shear Stress (lbs/ft3)
E-E	0.03	2.21%	1.41	3:1	3:1	5	8.75	0.41	2.55	3.43	7.59	7.46	0.59	0.46
F-F	0.03	2.00%	1.4	3:1	3:1	5	8.28	0.40	2.48	3.34	7.53	7.40	0.57	0.41

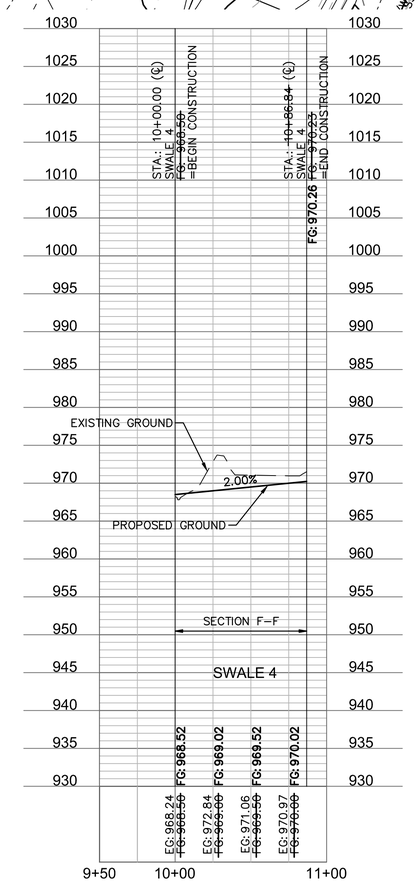


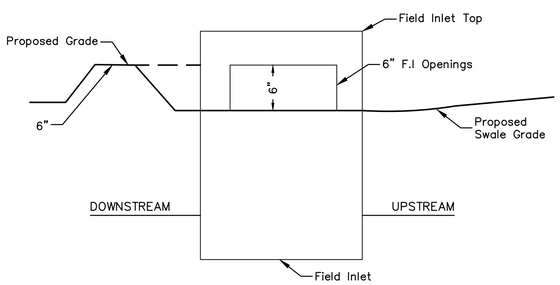
Swale Typical Section
*See table for swale depth
NTS





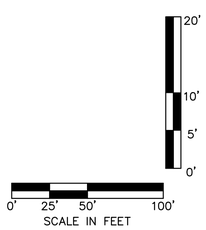






F.I SUMP DETAIL
NOT TO SCALE

NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE FIELD INLETS ARE LOCATED ON GRADE WITHIN SWALES.



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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 06/15/2018	

REVISIONS

SWALE PLAN & PROFILE
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

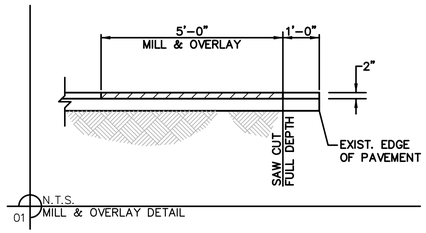
drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

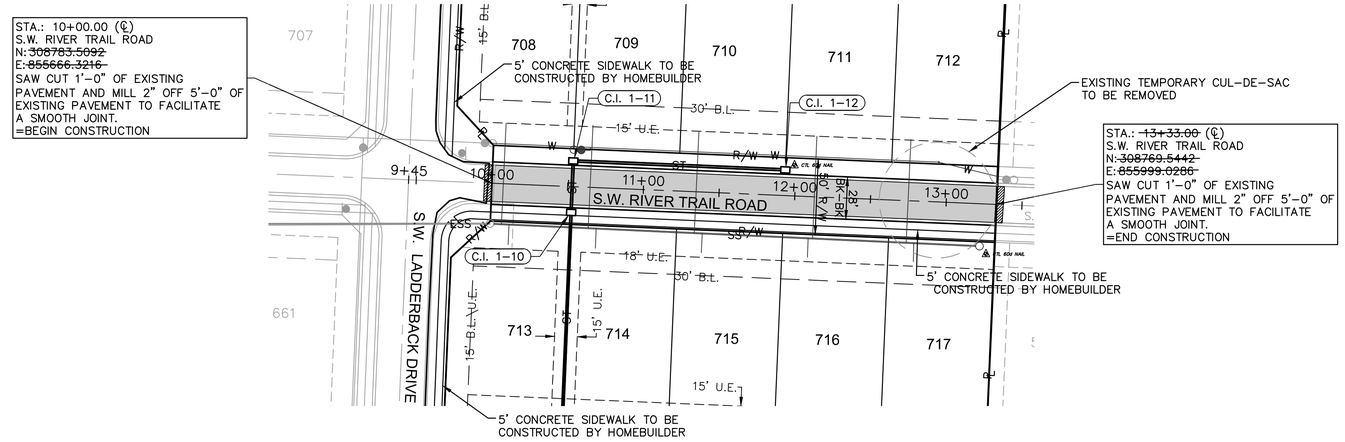
SHEET
C106

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_SWL02_80847.dwg USER: nheiser
DATE: Jun 01, 2020 6:48am

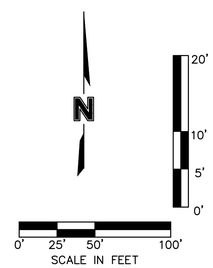
AS BUILT

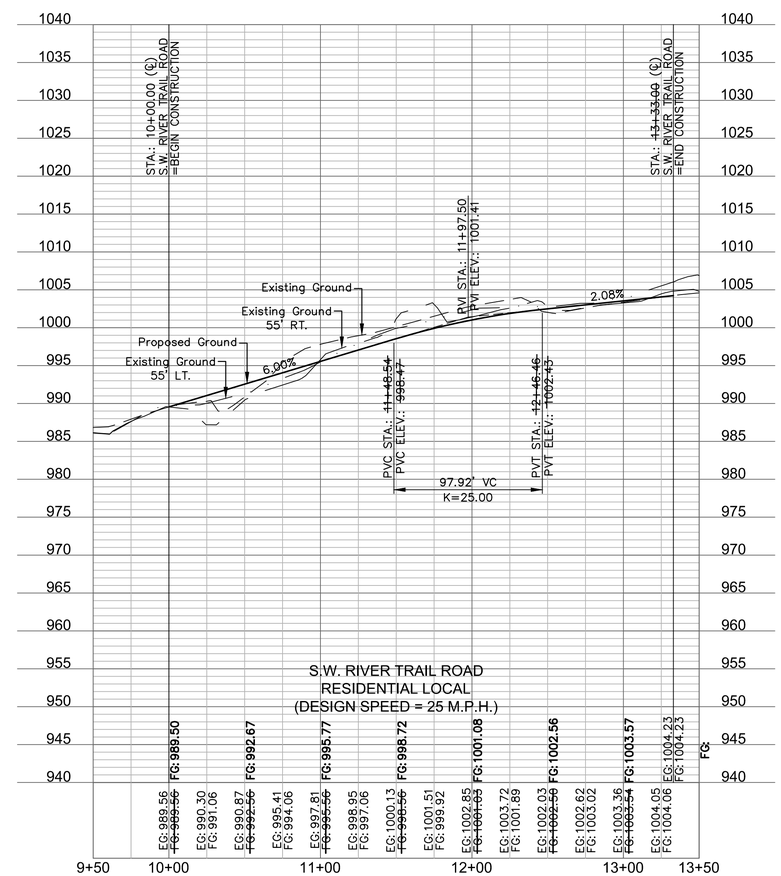
DATE: 05/29/2020





LEGEND	
	MILL & OVERLAY
	CONCRETE SIDEWALK
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER (See Detail Sheet)





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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2012000555
PROFESSIONAL ENGINEER
06/01/2020

REVISIONS

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/18/2018	CITY COMMENTS - 05/17/2018	
2	07/12/2018	CITY COMMENTS - 07/10/2018	
3	07/31/2018	CITY COMMENTS - 07/31/2018	

ROADWAY PLAN & PROFILE
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

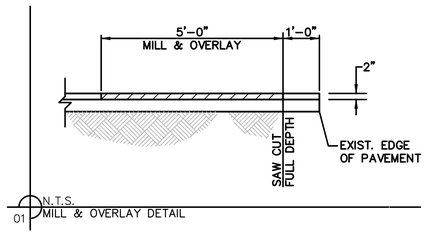
SHEET
C107

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_RPP01_80847.dwg USER: nheiser
DATE: Jun 01, 2020 6:27am

AS BUILT

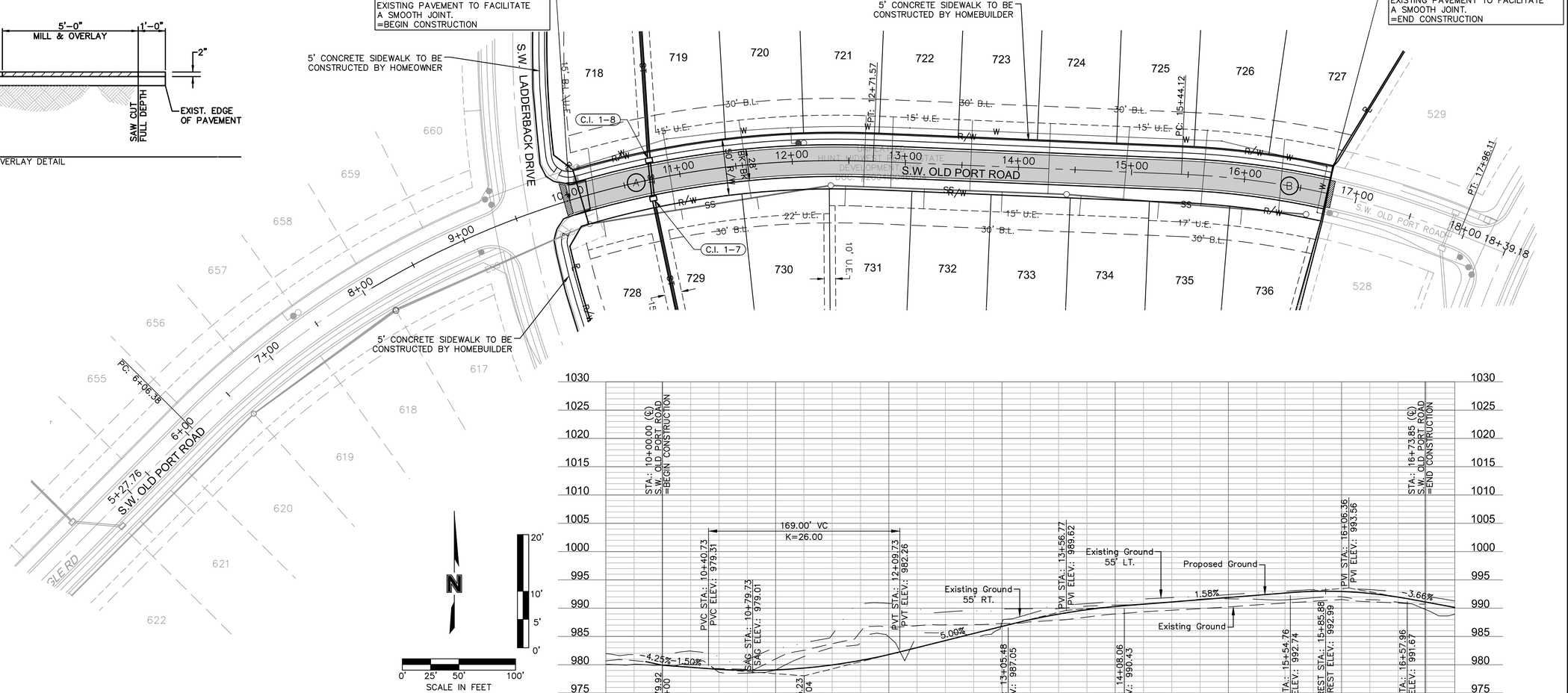
DATE: 05/29/2020

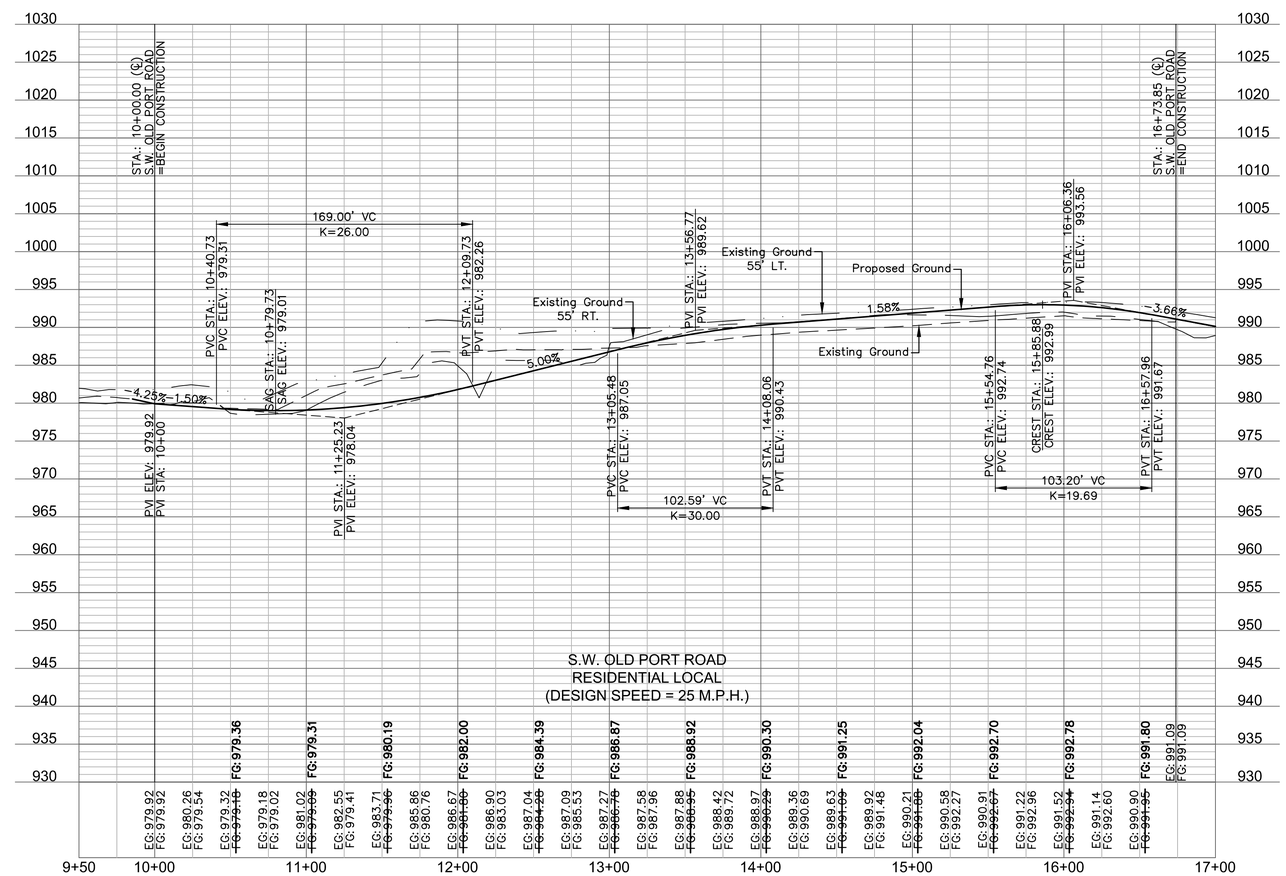
CURVE	RADIUS	LENGTH	TANGENT	P.I. STA. (BK.)
A	800	665.20	353.19	9+18.38
B	735	252.00	127.24	16+68.87



STA.: 10+00.00 (℄)
S.W. OLD PORT ROAD
N: 308428.0880
E: 855653.2998
SAW CUT 1'-0" OF EXISTING PAVEMENT AND MILL 2" OFF 5'-0" OF EXISTING PAVEMENT TO FACILITATE A SMOOTH JOINT.
=BEGIN CONSTRUCTION

STA.: 16+73.85 (℄)
S.W. OLD PORT ROAD
N: 308434.2787
E: 856322.1408
SAW CUT 1'-0" OF EXISTING PAVEMENT AND MILL 2" OFF 5'-0" OF EXISTING PAVEMENT TO FACILITATE A SMOOTH JOINT.
=END CONSTRUCTION





LEGEND	
	MILL & OVERLAY
	CONCRETE SIDEWALK
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER (See Detail Sheet)

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06/01/2020

REVISIONS

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ROADWAY PLAN & PROFILE
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

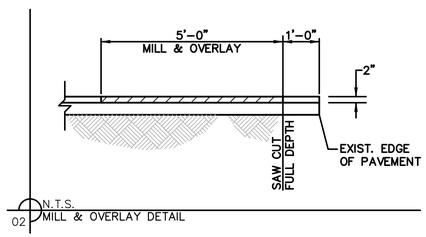
2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

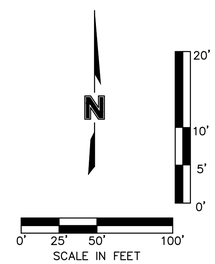
SHEET
C108

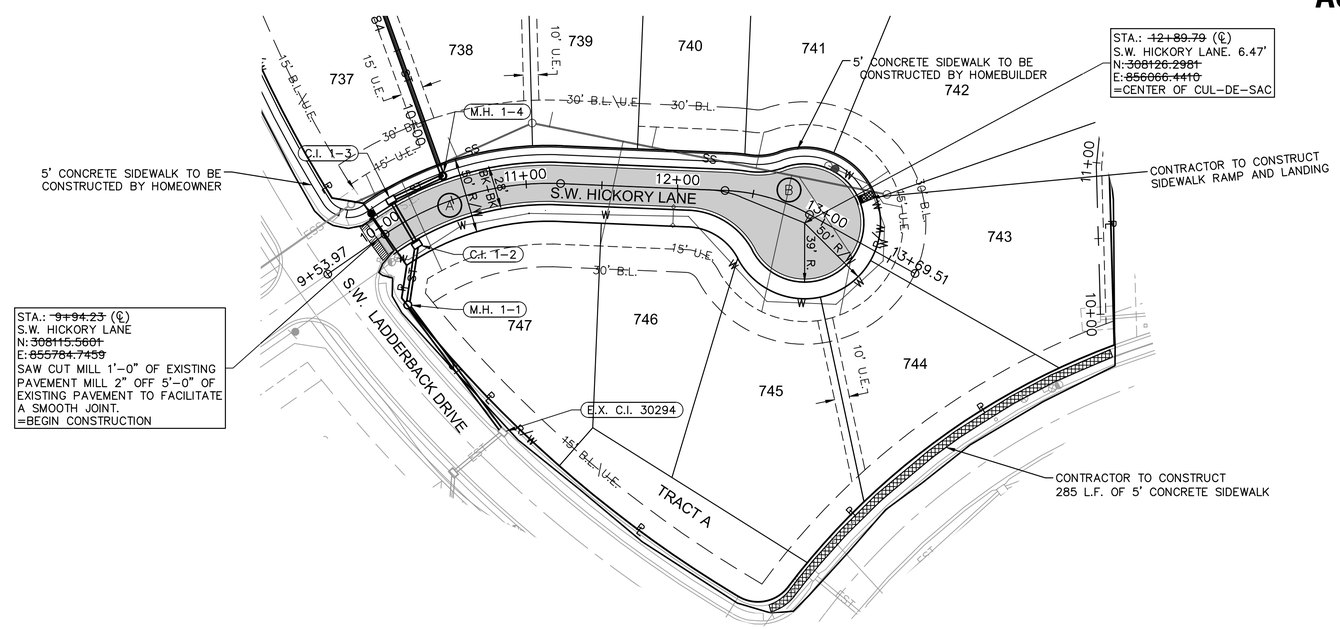
DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_RPP02_80847.dwg
DATE: Jun 01, 2020 6:27am USER: nheiser

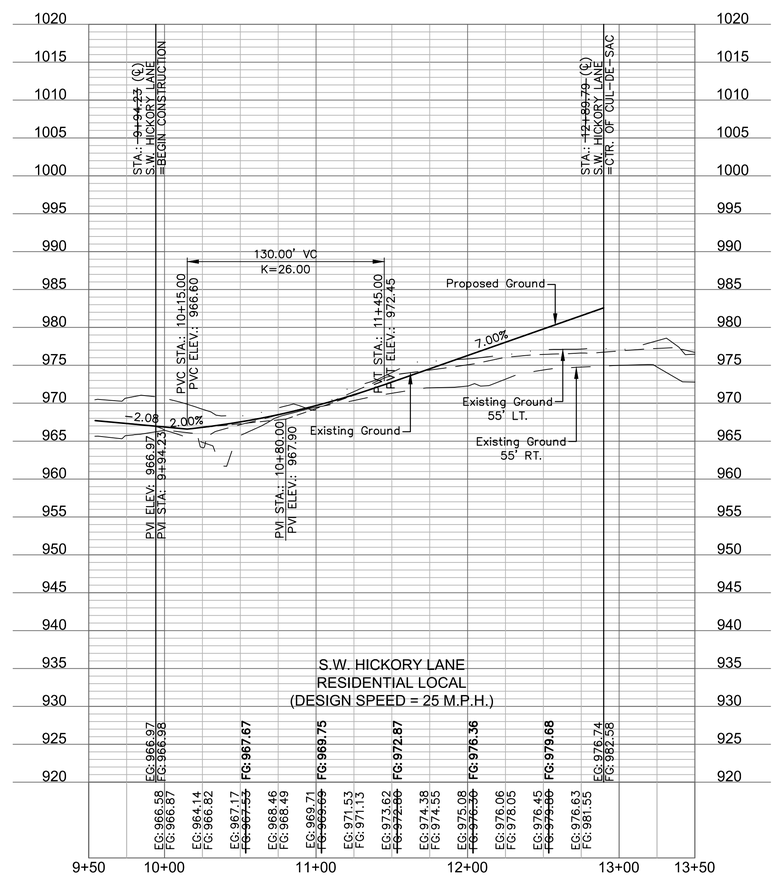
CURVE	RADIUS	LENGTH	TANGENT	P.I. STA. (BK.)
A	190	122.68	63.57	10+57.48
B	125	56.48	29.79	12+60.00



LEGEND	
	MILL & OVERLAY
	CONCRETE SIDEWALK
	ASPHALT PAVEMENT
	CG-2 CURB & GUTTER (See Detail Sheet)







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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

REVISIONS

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	
2	07/16/2018	CITY COMMENTS - 07/10/2018	
3	07/31/2018	CITY COMMENTS - 07/31/2018	

ROADWAY PLAN & PROFILE
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

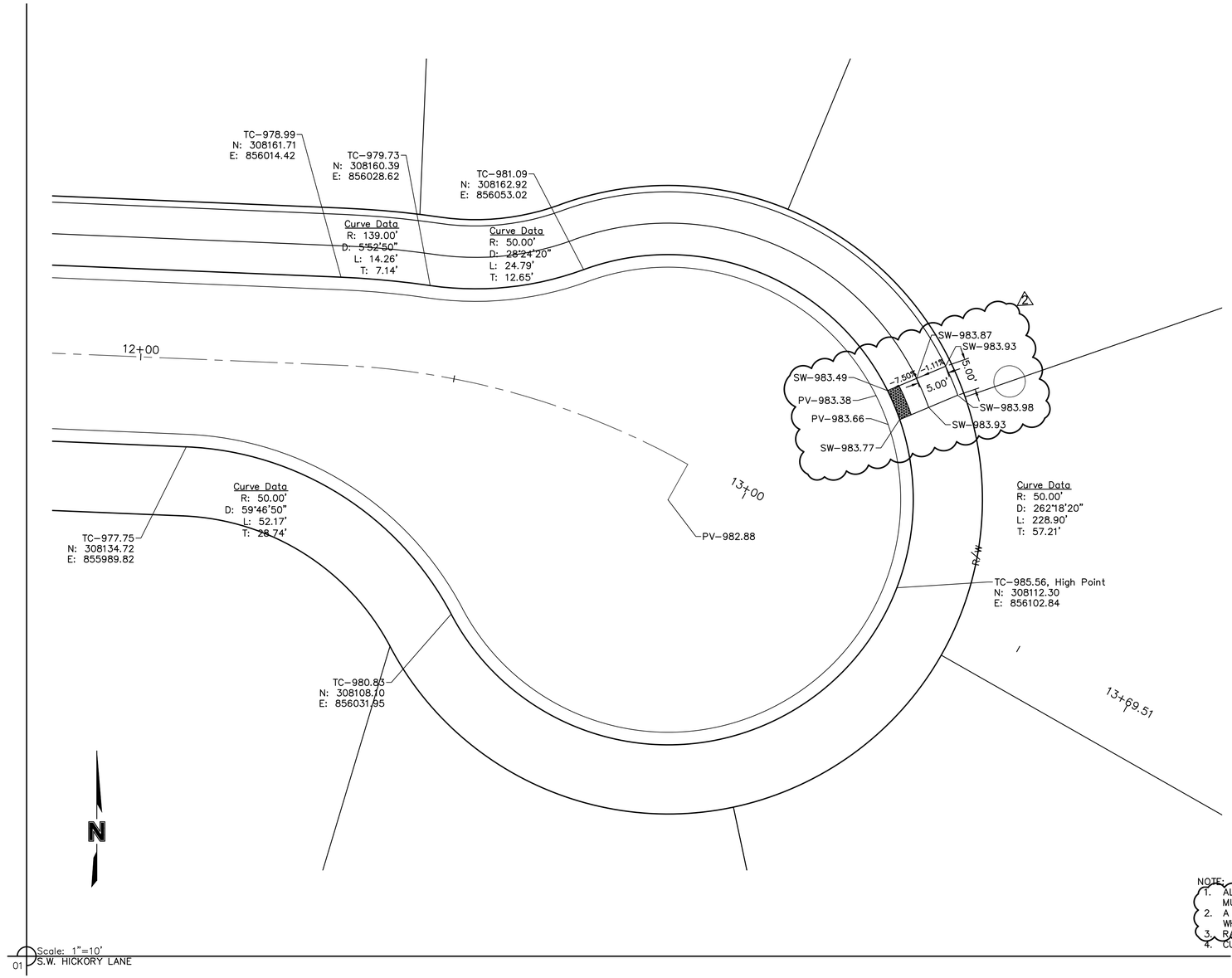
2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C109

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_RPP03_80847.dwg USER: nheiser
DATE: Jun 01, 2020 6:28am

NOT AS BUILT



Scale: 1"=10'
01 S.W. HICKORY LANE

NOTE:
1. ALL ADA CURB RAMPS SHALL BE BUILT PER CURRENT MUNICIPALITY ADOPTED ADA STANDARDS.
2. A TURNING SPACE IS REQUIRED AT ALL DIRECTIONAL CHANGES, WHICH SHALL NOT HAVE A SLOPE GREATER THAN 2%.
3. RAMP RUNS SHALL HAVE A MAXIMUM RUNNING SLOPE OF 1:12
4. CURVE DATA IS FOR BACK OF CURBS.

LEGEND	
TC–	TOP OF CURB
PV–	TOP OF PAVEMENT

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STATE OF MISSOURI
NICHOLAS D. HEISER
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06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	
2	07/12/2018	CITY COMMENTS - 07/10/2018	

REVISIONS

INTERSECTION DETAILS
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

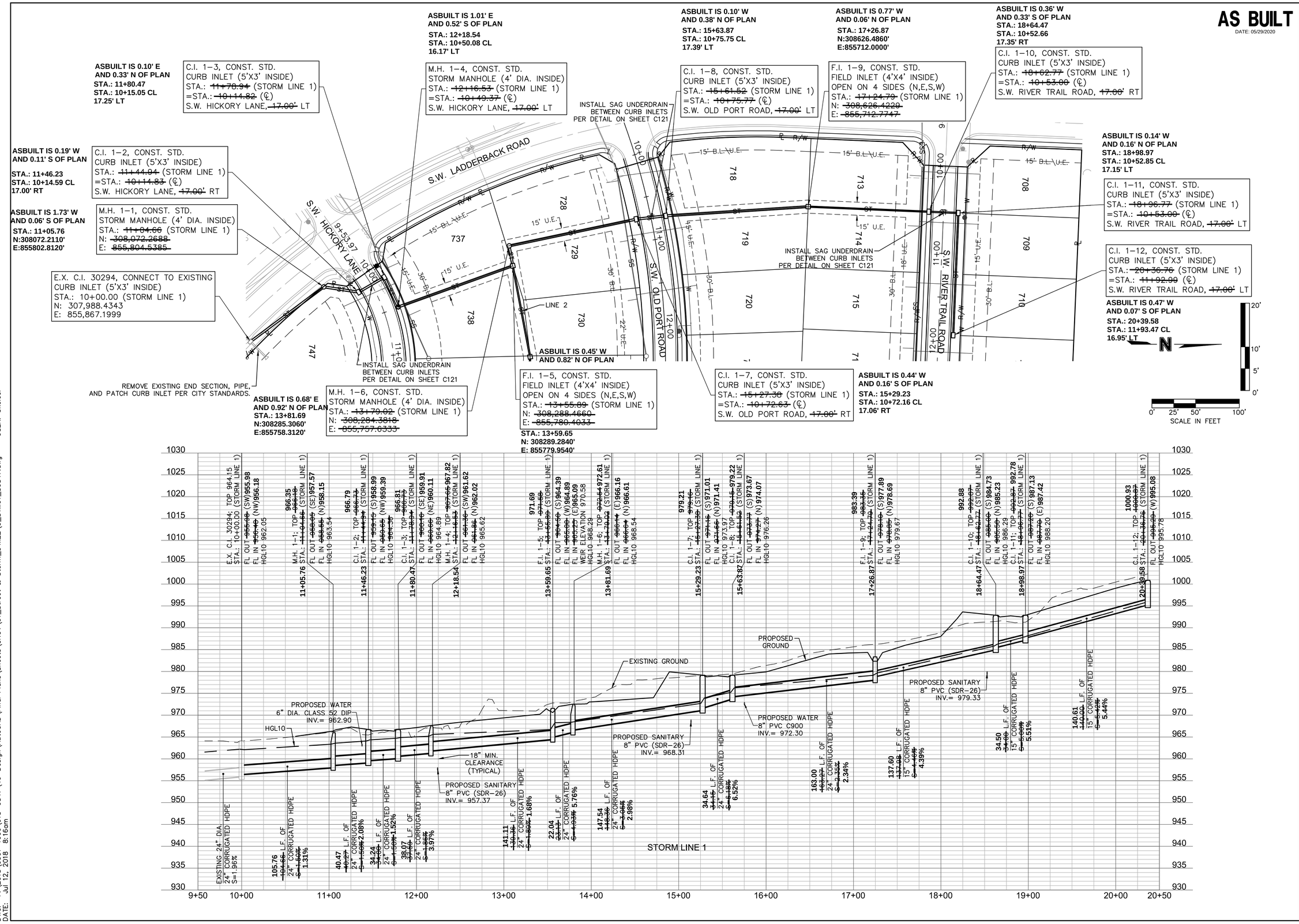
drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C110

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_SPT01_80847.dwg USER: bkoleci
DATE: Jul 19, 2018 10:58am

AS BUILT

DATE: 05/29/2020



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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2013000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	

REVISIONS

STORM SEWER PLAN & PROFILE
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

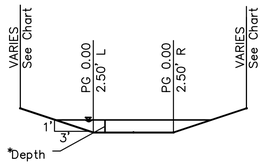
drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C111

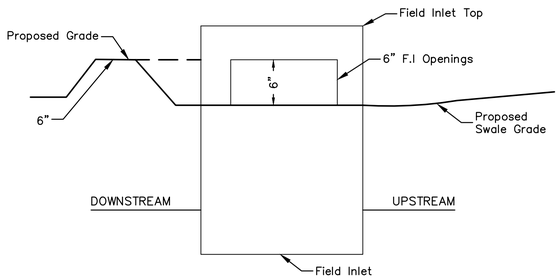
DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C-STM01_80847.dwg
DATE: Jul 12, 2018 8:16am
USER: bkoleci

AS BUILT

DATE: 05/29/2020

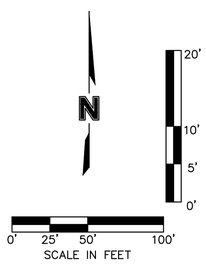


Swale Typical Section
*See table for swale depth
NTS



F.I SUMP DETAIL
NOT TO SCALE

NOTE: INCLUDE SUMP PER ABOVE DETAIL WHERE FIELD INLETS ARE LOCATED ON GRADE WITHIN SWALES.



NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.

ASBUILT IS 0.45' W AND 0.82' N OF PLAN
STA.: 13+59.65
N: 308289.2840'
E: 855779.9540'

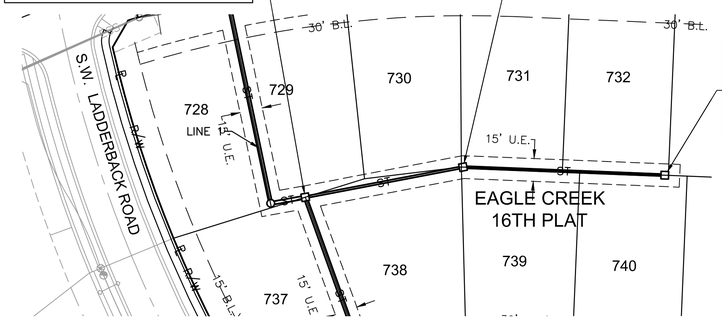
F.I. 1–5, CONST. STD.
FIELD INLET (4'X4' INSIDE)
OPEN ON 4 SIDES (N,E,S,W)
STA.: 10+00.00 (STORM LINE 2)
=STA.: ~~13+55.89~~ (STORM LINE 1)
N: ~~308,288.4660~~
E: ~~855,780.4033~~

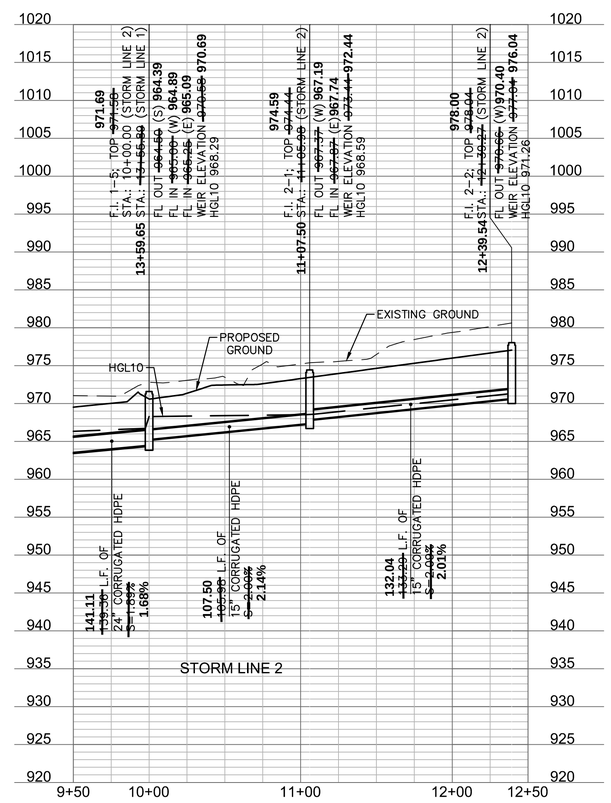
ASBUILT IS 1.17' E AND 0.45' N OF PLAN
STA.: 11+07.50
N:308308.7790'
E:855885.6720'

F.I. 2–1, CONST. STD.
FIELD INLET (4'X4' INSIDE)
OPEN ON 4 SIDES (N,E,S,W)
STA.: ~~11+05.98~~ (STORM LINE 2)
N: ~~308,308.3266~~
E: ~~855,884.5048~~

F.I. 2–2, CONST. STD.
FIELD INLET (4'X4' INSIDE)
OPEN ON 4 SIDES (N,E,S,W)
STA.: ~~12+39.27~~ (STORM LINE 2)
N: ~~308,303.0077~~
E: ~~856,017.6917~~

ASBUILT IS 0.07' W AND 0.98' N OF PLAN
STA.: 12+39.54
N:308303.9840'
E:856017.6210'





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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2012000551
PROFESSIONAL ENGINEER
06/01/2020

REVISIONS

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	

STORM SEWER PLAN & PROFILE
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C112

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_STM02_80847.dwg USER: bkoleci
DATE: Jul 12, 2018 8:18am

NOT AS BUILT

NOTES:
1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.

2. PLAT IS LOCATED IN ZONE X, "AREAS OUTSIDE THE 1–PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1–PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1–PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1–PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"

3. PLAT IS LOCATED OUTSIDE OF ANY REQUIRED BUFFER ZONES FOR NATURAL STREAMS.

LEGEND	
100	FINISHED INDEX CONTOURS
100	FINISHED INTERMEDIATE CONTOURS
— —	RIDGE LINE
A	DRAINAGE AREA
C	RUNOFF COEFFICIENT
(C.I. 0–0)	STORM STRUCTURE NUMBER

N

0' 25' 50' 100'
SCALE IN FEET

OLSSON ASSOCIATES
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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	

REVISIONS

DRAINAGE PLAN
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C113

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_DRN01_80847.dwg USER: bkoleci
DATE: Jul 18, 2018 10:17am

NOT AS BUILT

Inlet Design Table

10 Year Return Frequency

Inlet ID	Inlet Location	Peak Flow (cfs)	Upstream Bypass (cfs)	Total Flow (cfs)	Clogging Factor	Inlet Capacity (cfs)	Sag Inlet Capacity (Note 1) (cfs)	Captured Flow (cfs)	Bypass Flow (cfs)	Inlet Efficiency (Note 2) (%)	Gutter Depth (ft)	Gutter Spread (ft)	Ponding Depth (ft)
E.X. C.I. 30294	SAG	3.14	0.00	3.14	0.80	19.40	15.52	3.14	0.00	100.00%	...	...	...
C.I. 1-2	SAG	1.87	0.00	1.87	0.80	19.40	15.52	1.87	0.00	100.00%	...	...	...
C.I. 1-3	SAG	4.09	0.00	4.09	0.80	19.40	15.52	4.09	0.00	100.00%	...	...	...
F.I. 1-5	SAG	3.34	0.00	3.34	0.80	18.67	14.93	3.34	0.00	100.00%	...	...	0.16
C.I. 1-7	SAG	2.47	0.00	2.47	0.80	23.28	18.63	2.47	0.00	100.00%	...	...	...
C.I. 1-8	SAG	7.77	0.45	8.22	0.80	23.28	18.63	8.22	0.00	100.00%	...	...	...
F.I. 1-9	SAG	4.39	0.00	4.39	0.80	18.67	14.93	4.39	0.00	100.00%	...	...	0.19
C.I. 1-10	GRADE	1.70	0.00	1.70	1.00	1.25	1.25	1.25	0.45	73.44%	0.12	6.07	...
C.I. 1-11	GRADE	0.56	0.82	1.39	1.00	1.08	1.08	1.08	0.31	77.68%	0.11	5.63	...
C.I. 1-12	GRADE	2.37	0.00	2.37	1.00	1.55	1.55	1.55	0.82	65.29%	0.14	6.88	...
F.I. 2-1	SAG	1.95	0.00	1.95	1.80	97.00	174.60	1.95	0.00	100.00%	...	...	0.11
F.I. 2-2	SAG	2.29	0.00	2.29	2.80	208.71	584.39	2.29	0.00	100.00%	...	...	0.12

Notes:
1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600.
Both theoretical capacity and reduced capacity are shown.
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

Inlet Design Table

100 Year Return Frequency

Inlet ID	Inlet Location	Peak Flow (cfs)	Upstream Bypass (cfs)	Total Flow (cfs)	Clogging Factor	Inlet Capacity (cfs)	Sag Inlet Capacity (Note 1) (cfs)	Captured Flow (cfs)	Bypass Flow (cfs)	Inlet Efficiency (Note 2) (%)	Gutter Depth (ft)	Gutter Spread (ft)	Ponding Depth (ft)
E.X. C.I. 30294	SAG	5.56	0.00	5.56	0.80	19.40	15.52	5.56	0.00	100.00%	...	...	...
C.I. 1-2	SAG	3.28	0.00	3.28	0.80	19.40	15.52	3.28	0.00	100.00%	...	...	...
C.I. 1-3	SAG	7.19	0.00	7.19	0.80	19.40	15.52	7.19	0.00	100.00%	...	...	...
F.I. 1-5	SAG	5.86	0.00	5.86	0.80	18.67	14.93	5.86	0.00	100.00%	...	...	0.23
C.I. 1-7	SAG	4.35	0.00	4.35	0.80	23.28	18.63	4.35	0.00	100.00%	...	...	...
C.I. 1-8	SAG	13.78	1.23	15.01	0.80	23.28	18.63	15.01	0.00	100.00%	...	...	...
F.I. 1-9	SAG	7.70	0.00	7.70	0.80	18.67	14.93	7.70	0.00	100.00%	...	...	0.28
C.I. 1-10	GRADE	2.99	0.00	2.99	1.00	1.76	1.76	1.76	1.23	58.94%	0.15	7.51	...
C.I. 1-11	GRADE	0.99	2.14	3.13	1.00	1.80	1.80	1.80	1.33	57.65%	0.15	7.64	...
C.I. 1-12	GRADE	4.20	0.00	4.20	1.00	2.05	2.05	2.05	2.14	48.94%	0.17	8.52	...
F.I. 2-1	SAG	3.42	0.00	3.42	1.80	97.00	174.60	3.42	0.00	100.00%	...	...	0.16
F.I. 2-2	SAG	4.01	0.00	4.01	2.80	208.71	584.39	4.01	0.00	100.00%	...	...	0.18

Notes:
1. Inlet capacity at sag location has been reduced by a clogging factor of 0.80, reducing theoretical capacity to 80% capacity, as required per APWA Section 5600.
Both theoretical capacity and reduced capacity are shown.
2. Inlet efficiency shown in the tables is Captured Flow/Total Flow, denoting the actual percentage of flow captured after the capacity has been reduced to 80% of theoretical capacity.

Drainage Area Design Table

10 Year Return Frequency

Inlet ID	Drainage Area (ac)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
EX. C.I. 30294 (L)	0.20	0.51	5.00	7.35	1.00	0.75
EX. C.I. 30294 (R)	0.39	0.51	9.57	6.17	1.00	1.22
E.X. C.I. 30294	1.02	0.51	10.15	6.05	1.00	3.14
C.I. 1-2(L)	0.33	0.51	5.05	7.34	1.00	1.25
C.I. 1-2(R)	0.00	0.51	5.00	7.35	1.00	0.00
C.I. 1-2(B)	0.17	0.51	5.00	7.35	1.00	0.62
C.I. 1-2	0.50	0.51	5.05	7.34	1.00	1.87
C.I. 1-3(L)	0.27	0.51	5.36	7.24	1.00	1.00
C.I. 1-3(R)	0.52	0.51	6.07	7.04	1.00	1.86
C.I. 1-3B)	0.35	0.51	5.00	7.35	1.00	1.32
C.I. 1-3	1.14	0.51	6.07	7.04	1.00	4.09
F.I. 1-5	0.89	0.51	5.00	7.35	1.00	3.34
C.I. 1-7(L)	0.54	0.51	8.09	6.51	1.00	1.80
C.I. 1-7(R)	0.03	0.51	5.00	7.35	1.00	0.10
C.I. 1-7(B)	0.17	0.51	5.00	7.35	1.00	0.65
C.I. 1-7	0.74	0.51	8.09	6.51	1.00	2.47
C.I. 1-8(L)	0.49	0.51	6.59	6.89	1.00	1.72
C.I. 1-8(R)	1.89	0.51	13.86	5.36	1.00	5.18
C.I. 1-8(B)	0.46	0.51	5.28	7.27	1.00	1.70
C.I. 1-8	2.84	0.51	13.86	5.36	1.00	7.77
F.I. 1-9	1.17	0.51	5.00	7.35	1.00	4.39
C.I. 1-10	0.51	0.51	8.02	6.53	1.00	1.70
C.I. 1-11	0.15	0.51	5.00	7.35	1.00	0.56
C.I. 1-12	0.77	0.51	10.15	6.05	1.00	2.37
F.I. 2-1	0.52	0.51	5.00	7.35	1.00	1.95
F.I. 2-2	0.61	0.51	5.00	7.35	1.00	2.29

Drainage Area Design Table

100 Year Return Frequency

Inlet ID	Drainage Area (ac)	C	Tc (min)	i (in/hr)	K	Peak Flow (cfs)
EX. C.I. 30294 (L)	0.20	0.51	5.00	10.32	1.25	1.31
EX. C.I. 30294 (R)	0.39	0.51	9.57	8.72	1.25	2.15
E.X. C.I. 30294	1.02	0.51	10.15	8.55	1.25	5.56
C.I. 1-2(L)	0.33	0.51	5.05	10.30	1.25	2.19
C.I. 1-2(R)	0.00	0.51	5.00	10.32	1.25	0.00
C.I. 1-2(B)	0.17	0.51	5.00	10.32	1.25	1.10
C.I. 1-2	0.50	0.51	5.05	10.30	1.25	3.28
C.I. 1-3(L)	0.27	0.51	5.36	10.17	1.25	1.76
C.I. 1-3(R)	0.52	0.51	6.07	9.90	1.25	3.26
C.I. 1-3B)	0.35	0.51	5.00	10.32	1.25	2.31
C.I. 1-3	1.14	0.51	6.07	9.90	1.25	7.19
F.I. 1-5	0.89	0.51	5.00	10.32	1.25	5.86
C.I. 1-7(L)	0.54	0.51	8.09	9.18	1.25	3.17
C.I. 1-7(R)	0.03	0.51	5.00	10.32	1.25	0.18
C.I. 1-7(B)	0.17	0.51	5.00	10.32	1.25	1.15
C.I. 1-7	0.74	0.51	8.09	9.18	1.25	4.35
C.I. 1-8(L)	0.49	0.51	6.59	9.70	1.25	3.03
C.I. 1-8(R)	1.89	0.51	13.86	7.61	1.25	9.19
C.I. 1-8(B)	0.46	0.51	5.28	10.21	1.25	2.98
C.I. 1-8	2.84	0.51	13.86	7.61	1.25	13.78
F.I. 1-9	1.17	0.51	5.00	10.32	1.25	7.70
C.I. 1-10	0.51	0.51	8.02	9.20	1.25	2.99
C.I. 1-11	0.15	0.51	5.00	10.32	1.25	0.99
C.I. 1-12	0.77	0.51	10.15	8.55	1.25	4.20
F.I. 2-1	0.52	0.51	5.00	10.32	1.25	3.42
F.I. 2-2	0.61	0.51	5.00	10.32	1.25	4.01

STORM SEWER DESIGN CALCULATION (10-YR)

Upstream Structure	Downstream Structure	Line Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Pipe Slope (%)	Pipe Size (in)	Manning's n	Total Flow (cfs)	Upstream Velocity (ft/s)	Downstream Velocity (ft/s)	Pipe Capacity (cfs)	Upstream Depth (ft)	Downstream Depth (ft)	Upstream Struct. HGL (ft)	Downstream Struct. HGL (ft)	Upstream Top Elev. (ft)
EX. C.I. 32931	EX. F.E.S.	58.700	954.75	953.78	1.65	24	0.01	36.59	11.77	11.68	37.80	1.93**	1.97	956.68 j	955.75	964.13
EX. C.I. 30294	EX. C.I. 32931	42.218	955.98	955.15	1.97	24	0.01	35.19	11.20	11.20	41.23	2.00	2.00	961.93	961.32	964.15
MH 1-1	EX. C.I. 30294	104.665	958.05	956.48	1.50	24	0.01	32.05	10.20	10.20	36.01	2.00	2.00	963.30	962.05	966.18
C.I. 1-2	MH 1-1	40.273	959.15	958.55	1.49	24	0.01	32.05	10.20	10.20	35.89	2.00	2.00	964.02	963.54	966.73
C.I. 1-3	C.I. 1-2	34.002	960.16	959.65	1.50	24	0.01	30.18	9.61	9.61	36.01	2.00	2.00	964.72	964.36	966.73
MH. 1-4	C.I. 1-3	37.586	961.36	960.66	1.86	24	0.01	26.09	8.30	8.31	40.13	2.00	2.00	965.19	964.89	967.65
F.I. 1-5	MH. 1-4	139.359	964.50	961.86	1.89	24	0.01	26.09	8.30	8.31	40.47	2.00	2.00	966.72	965.62	971.58
MH. 1-6	F.I. 1-5	23.133	966.14	965.00	4.93	24	0.01	18.51	5.89	5.89	65.27	2.00	2.00	968.38	968.29	972.54
C.I. 1-7	MH. 1-6	148.357	971.16	966.64	3.05	24	0.01	18.51	7.10	6.00	51.32	1.55**	1.90	972.71 j	968.54	979.16
C.I. 1-8	C.I. 1-7	34.146	973.77	971.66	6.18	24	0.01	16.04	6.61	5.11	73.09	1.44**	2.00	975.21 j	973.97	979.15
F.I. 1-9	C.I. 1-8	163.268	978.10	974.27	2.35	24	0.01	8.27	5.11	2.63	45.03	1.02**	1.99	979.12 j	976.26	983.35
C.I. 1-10	F.I. 1-9	137.977	985.00	978.85	4.46	15	0.01	3.88	4.71	4.56	17.72	0.80**	0.82	985.80 j	979.67	992.87
C.I. 1-11	C.I. 1-10	34.000	987.20	985.50	5.00	15	0.01	2.63	4.08	3.20	18.77	0.65**	0.79	987.85 j	986.29	992.87
C.I. 1-12	C.I. 1-11	139.998	995.29	987.70	5.42	15	0.01	1.55	3.45	3.39	19.55	0.49**	0.50	995.78 j	988.20	1000.87
F.I. 2-1	C.I. 1-12	105.979	967.37	965.25	2.00	15	0.01	4.24	3.57	3.46	11.87	1.16	1.25	968.53	968.29	974.44
F.I. 2-2	F.I. 2-1	133.293	970.66	967.87	2.09	15	0.01	2.29	3.90	3.14	12.15	0.60**	0.72	971.26 j	968.59	978.04

Notes: j - Line contains hyd. jump; ** - critical depth

STORM SEWER DESIGN CALCULATION (100-YR)

Upstream Structure	Downstream Structure	Line Length (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Pipe Slope (%)	Pipe Size (in)	Manning's n	Total Flow (cfs)	Upstream Velocity (ft/s)	Downstream Velocity (ft/s)	Pipe Capacity (cfs)	Upstream Depth (ft)	Downstream Depth (ft)	Upstream Struct. HGL (ft)	Downstream Struct. HGL (ft)	Upstream Top Elev. (ft)
EX. C.I. 32931	EX. F.E.S.	58.700	954.75	953.78	1.65	24	0.01	63.96	20.36	20.37	37.80	2.00**	1.99	958.49	955.77	964.13
EX. C.I. 30294	EX. C.I. 32931	42.218	955.98	955.15	1.97	24	0.01	61.99	19.73	19.74	41.23	2.00**	2.00	974.39	972.51	964.15
MH 1-1	EX. C.I. 30294	104.665	958.05	956.48	1.50	24	0.01	56.43	17.96	17.97	36.01	2.00	2.00	980.67	976.82	966.18
C.I. 1-2	MH 1-1	40.273	959.15	958.55	1.49	24	0.01	56.43	17.96	17.97	35.89	2.00	2.00	982.91	981.43	966.73
C.I. 1-3	C.I. 1-2	34.002	960.16	959.65	1.50	24	0.01	53.15	16.92	16.92	36.01	2.00	2.00	985.53	984.42	966.73
MH. 1-4	C.I. 1-3	37.586	961.36	960.66	1.86	24	0.01	45.96	14.63	14.63	40.13	2.00	2.00	988.23	987.31	967.65
F.I. 1-5	MH. 1-4	139.359	964.50	961.86	1.89	24	0.01	45.96	14.63	14.63	40.47	2.00	2.00	992.97	989.56	971.58
MH. 1-6	F.I. 1-5	23.133	966.14	965.00	4.93	24	0.01	32.67	10.40	10.40	65.27	2.00	2.00	994.58	994.30	972.54
C.I. 1-7	MH. 1-6	148.357	971.16	966.64	3.05	24	0.01	32.67	10.40	10.40	51.32	2.00	2.00	997.09	995.26	979.16
C.I. 1-8	C.I. 1-7	34.146	973.77	971.66	6.18	24	0.01	28.32	9.01	9.02	73.09	2.00	2.00	997.66	997.34	979.15
F.I. 1-9	C.I. 1-8	163.268	978.10	974.27	2.35	24	0.01	13.31	4.24	4.24	45.03	2.00	2.00	998.18	997.85	983.35
C.I. 1-10	F.I. 1-9	137.977	985.00	978.85	4.46	15	0.01	5.61	4.57	4.57	17.72	1.25	1.25	998.84	998.22	992.87
C.I. 1-11	C.I. 1-10	34.000	987.20	985.50	5.00	15	0.01	3.85	3.14	3.14	18.77	1.25	1.25	998.96	998.89	992.87
C.I. 1-12	C.I. 1-11	139.998	995.29	987.70	5.42	15	0.01	2.05	1.67	1.67	19.55	1.25	1.25	999.11	999.02	1000.87
F.I. 2-1	C.I. 1-12	105.979	967.37	965.25	2.00	15	0.01	7.43	6.05	6.06	11.87	1.25	1.25	995.13	994.30	974.44
F.I. 2-2	F.I. 2-1	133.293	970.66	967.87	2.09	15	0.01	4.01	3.27	3.27	12.15	1.25	1.25	995.60	995.30	978.04

Notes: j - Line contains hyd. jump; ** - critical depth

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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	
2	07/12/2018	CITY COMMENTS - 07/10/2018	

REVISIONS

DRAINAGE TABLES
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C114

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_TAB01_B0847.dwg USER: bkoleci
DATE: Jul 12, 2018 10:27am

AS BUILT

DATE: 05/29/2020

NOTES:

1. INDIVIDUAL LOT OWNERS SHALL NOT CHANGE OR OBSTRUCT THE DRAINAGE FLOW LINES OR PATHS ON THE LOTS, AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.

2. PLAT IS LOCATION IN ZONE X, "AREAS OUTSIDE THE 1–PERCENT ANNUAL CHANCE FLOODPLAINS, AREAS OF 1–PERCENT ANNUAL CHANCE SHEET FLOW FLOODING WHERE THE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1–PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1–PERCENT ANNUAL CHANCE FLOOD BY LEVEES. NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE"

3. PLAT IS LOCATED OUTSIDE OF ANY REQUIRED BUFFER ZONES FOR NATURAL STREAMS.

4. MBOE ELEVATIONS HAVE BEEN PROVIDED PER LOT LINES. INTERPOLATION WILL BE ALLOWED BETWEEN THE RIGHT AND LEFT SIDE MBOES SHOWN ON THE MASTER DRAINAGE PLAN, DEPENDING ON THE LOCATION OF THE LOWEST OPENING ON THE PROPOSED STRUCTURE.

5. NO BUILDING PERMITS WILL BE ISSUED UNTIL AN AS–GRADED MASTER DRAINAGE PLAN HAS BEEN SUBMITTED TO THE CITY AND APPROVED BY THE CITY.

RMBOE – REAR MINIMUM BUILDING OPENING ELEVATION
FMBOE – FRONT MINIMUM BUILDING OPENING ELEVATION

LOT TYPES:
S – STANDARD
DL – DAYLIGHT
WO – WALKOUT

LEGEND	
100	FINISHED INDEX CONTOURS
100	FINISHED INTERMEDIATE CONTOURS
	RIDGE LINE
A	DRAINAGE AREA
C	RUNOFF COEFFICIENT
(C.I. 0–0)	STORM STRUCTURE NUMBER

Lot	Rear Left MLO	Rear Right MLO	Front Left MLO	Front Right MLO
708	984.14	991.23	990.46	993.63
709	991.23	995.31	993.63	997.83
710	995.31	999.43	997.83	1001.63
711	999.43	1003.97	1001.63	1003.67
712	1003.97	1007.53	1003.67	1005.12
713	984.70	985.26	993.62	990.45
714	986.80	984.70	997.81	993.62
715	988.90	986.80	1001.60	997.81
716	991.00	988.90	1003.62	1001.60
717	996.10	991.00	1005.06	1003.62
718	984.70	984.70	982.65	980.91
719	984.70	984.70	980.91	980.68
720	986.80	985.89	980.68	983.21
721	985.89	988.63	983.21	986.45
722	988.63	991.86	986.45	989.68
723	991.86	993.62	989.68	991.44
724	993.62	994.73	991.44	992.55
725	994.73	995.80	992.55	993.62
726	995.80	995.80	993.62	993.62
727	995.80	994.69	993.62	992.51
728	973.15	974.60	979.92	980.66
729	974.20	973.15	980.93	979.92
730	975.77	974.20	984.30	980.93
731	977.50	975.77	988.01	984.30
732	979.36	977.50	990.66	988.01
733	981.25	979.36	991.93	990.66
734	984.48	981.25	993.04	991.93
735	983.35	984.48	993.88	993.04
736	982.41	983.35	991.98	993.88
737	974.60	973.01	971.12	970.22
738	973.01	975.77	970.22	970.86
739	975.77	977.78	970.86	975.26
740	977.78	979.70	975.26	979.75
741	979.70	984.48	979.75	982.89
742	984.48	982.41	982.89	984.66
743	980.94	977.93	984.66	985.88
744	974.21	971.44	985.88	983.98
745	971.44	972.44	983.98	981.05
746	972.44	971.18	981.05	973.74
747	971.18	965.58	973.74	967.82

MLO elevations have been provided per lot lines, facing the lot from the street. Interpolation will be allowed between the right and left side MLO's provided, depending on the location of the lowest opening on the proposed structure.

0' 25' 50' 100'
SCALE IN FEET

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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

REVISIONS

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	
2	07/16/2018	CITY COMMENTS - 07/10/2018	
3	07/31/2018	CITY COMMENTS - 07/31/2018	
4	08/07/2018	UPDATE MLO TABLE & ADD BERM ELEVATIONS	

MASTER DRAINAGE PLAN
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C115

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_DRN02_80847.dwg USER: nheiser
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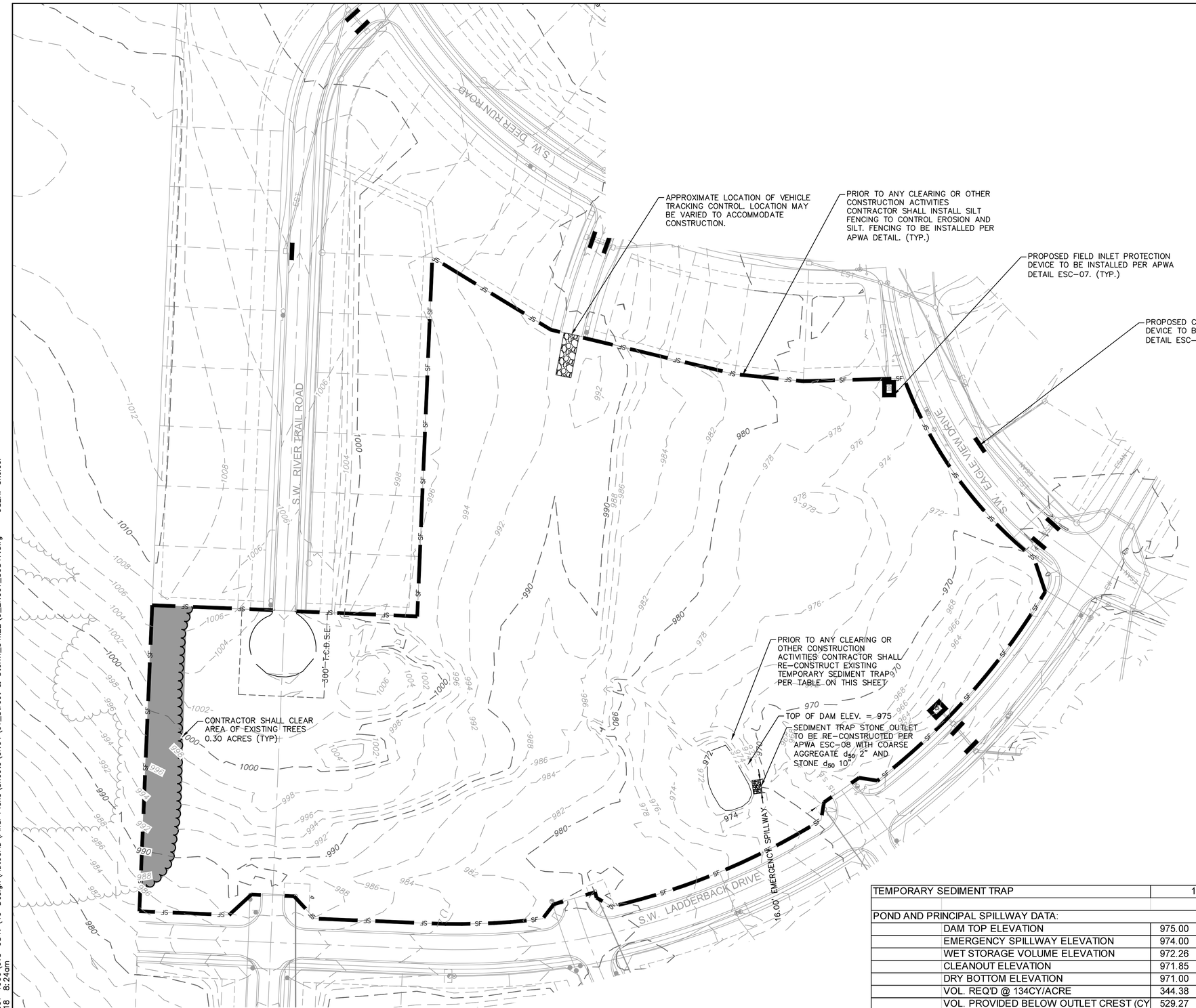

TEMPORARY SEDIMENT TRAP	1
POND AND PRINCIPAL SPILLWAY DATA:	
DAM TOP ELEVATION	975.00
EMERGENCY SPILLWAY ELEVATION	974.00
WET STORAGE VOLUME ELEVATION	972.26
CLEANOUT ELEVATION	971.85
DRY BOTTOM ELEVATION	971.00
VOL. REQ'D @ 134CY/ACRE	344.38
VOL. PROVIDED BELOW OUTLET CREST (CY	529.27
STONE OUTLET DATA:	
LENGTH (L.) FT.	16.00
WIDTH (W.) FT.	10
DRAINAGE AREA (AC)	2.57

N

0' 30' 60' 120'
SCALE IN FEET

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

LEGEND	
PHASE 1	
SF	SILT FENCE
	TEMPORARY STONE CONSTRUCTION ENTRANCE

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STATE OF MISSOURI
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REVISIONS

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS 05/17/2015	

EROSION CONTROL PLAN - PHASE 1
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C116

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_ERC01_80847.dwg USER: bkoleci
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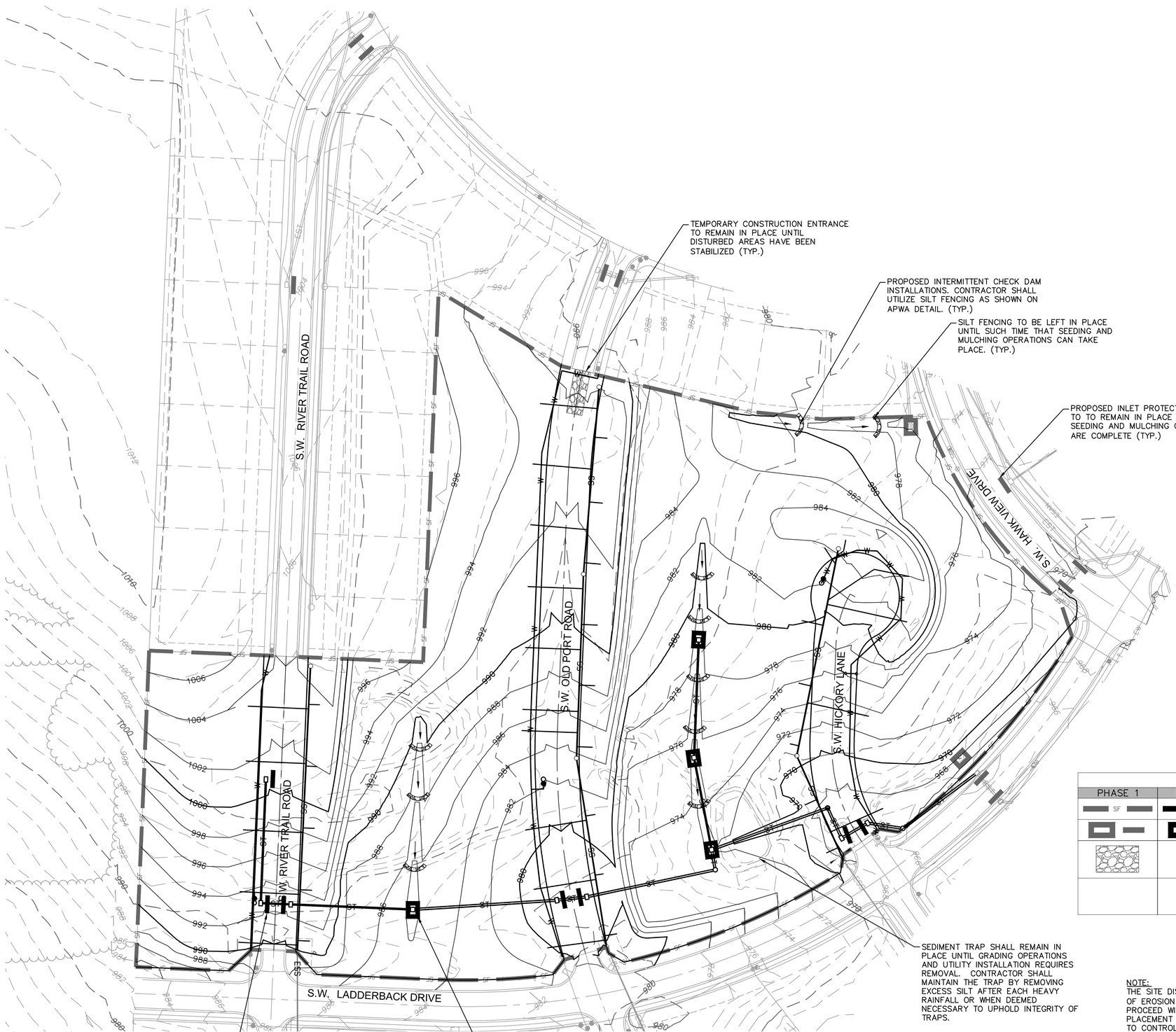

N

0' 30' 60' 120'
SCALE IN FEET

LEGEND		
PHASE 1	PHASE 2	
SF	SF	SILT FENCE
		STORM DRAIN INLET PROTECTION
		TEMPORARY STONE CONSTRUCTION ENTRANCE
		ROCK CHECK DAMS

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

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STATE OF MISSOURI
NICHOLAS D. HEISER
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PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	

REVISIONS

EROSION CONTROL PLAN - PHASE 2
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C117

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_ERC02_80847.dwg USER: bkoleci
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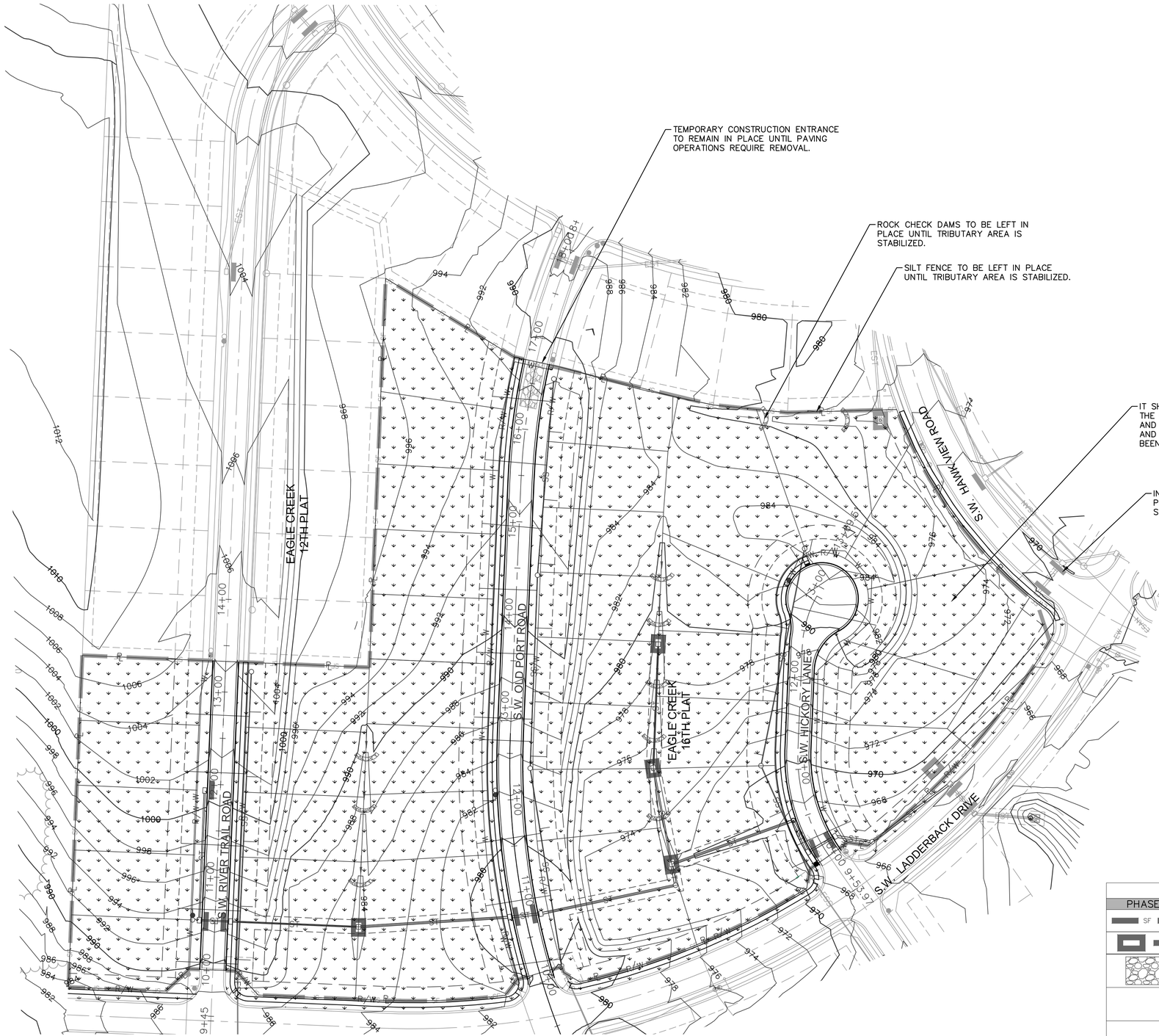

GENERAL NOTES:

NOT AS BUILT

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

SEED & FERTILIZER RATE:
MIX I – RYE GRASS / BLUE GRASS -----100 LBS. PER. ACRE
MIX II – TALL FESCUE / BLUE GRASS ----195 LBS. PER ACRE
LIME ----------2000 LBS. PER ACRE
(50 LBS. PER 1000 SQ. FT.)
FERTILIZER ----------800 TO 1200 LBS.
PER ACRE (25 LBS. PER 1000 SQ. FT.)

DURING THE DATES DECEMBER 15TH THROUGH MAY 31 ALL LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED TO FINISHED SLOPES OF DISTURBED AREAS. DURING THE MONTHS OF JUNE, JULY, OCTOBER, AND NOVEMBER 1ST THROUGH DECEMBER 15TH, LIME, FERTILIZER, SEED, AND MULCH SHALL BE APPLIED AT THE FOLLOWING RATES:
LIME – 100 % OF SPECIFIED QUANTITY
FERTILIZER – 75 % OF THE SPECIFIED QUANTITY
SEED – 50 % OF THE SPECIFIED QUANTITY
MULCH – 100 % OF THE SPECIFIED QUANTITY
MULCH SHALL BE VEGETATIVE TYPE, CEREAL STRAW FROM STALKS OF OATS, RYE, OR BARLEY, OR APPROVED EQUAL. THE STRAW SHALL BE FREE OF PROHIBITED WEED SEED AND RELATIVELY FREE OF ALL OTHER NOXIOUS AND UNDESIRABLE SEED. MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE, (70 TO 90 LBS. PER 1000 SQ. FT.). MULCH SHALL BE EMBEDDED BY A MULCH ANCHORING TOOL OR DISK TYPE ROLLER HAVING FLAT SERRATED DISKS SPACED NOT MORE THAN 10 INCHES APART AND CLEANING SCRAPERS SHALL BE PROVIDED.

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

LEGEND

PHASE 1	PHASE 2	PHASE 3	
SF	SF	SF	SILT FENCE
			STORM DRAIN INLET PROTECTION
			TEMPORARY STONE CONSTRUCTION ENTRANCE
			SEED AND MULCH
			ROCK CHECK DAMS

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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000557
PROFESSIONAL ENGINEER
06/01/2020

REVISIONS

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	

EROSION CONTROL PLAN - PHASE 3
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K.
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

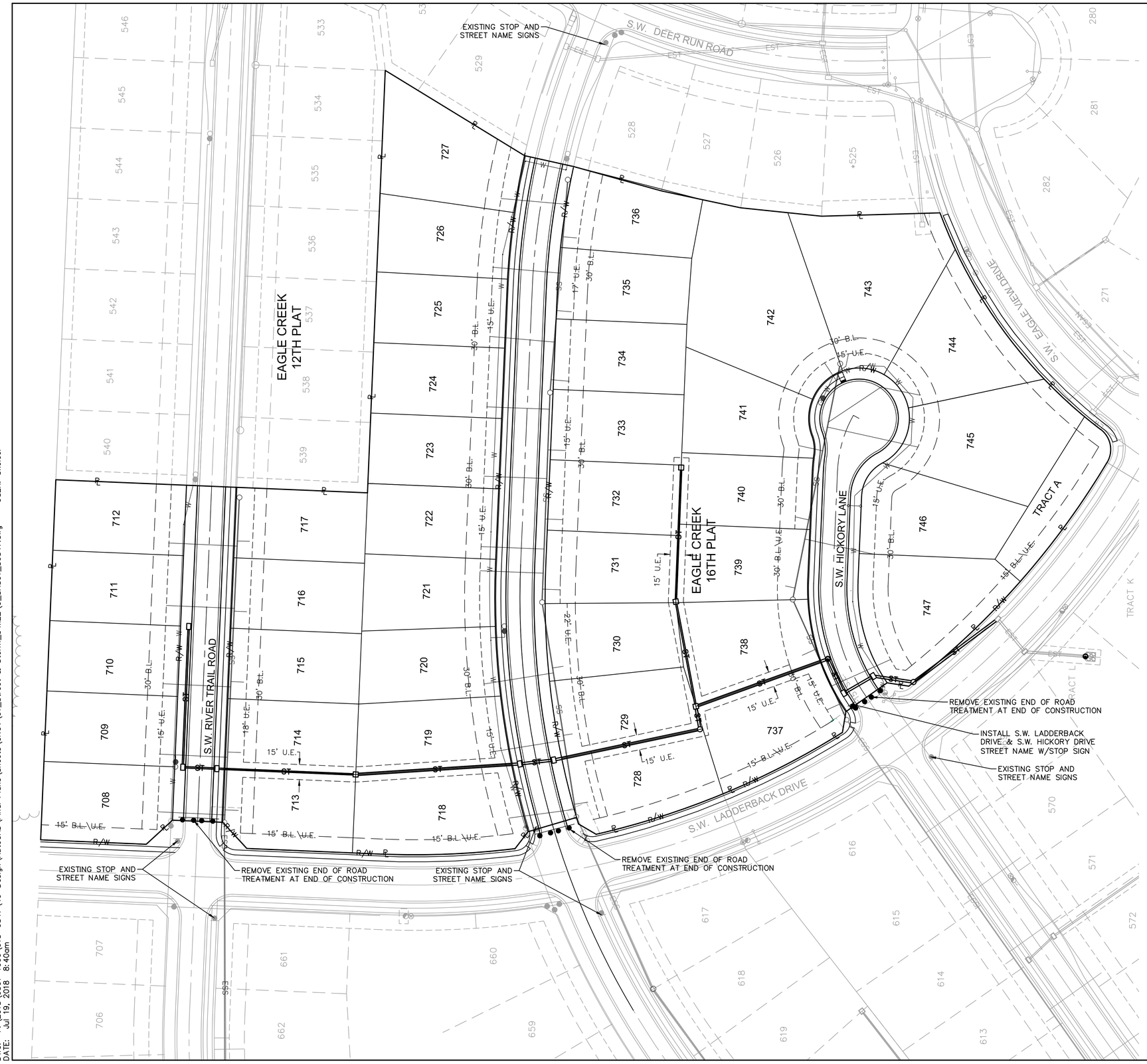
SHEET
C118

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_ERC03_80847.dwg USER: bkoleci
DATE: Jul 18, 2018 10:22am

NOT AS BUILT

PLAN NOTES:
1. ALL TEMPORARY TRAFFIC CONTROL AND DETOUR SIGNS SHALL BE PLACED ON BREAKAWAY SIGN POSTS.

2. SIGNS SHALL BE INSTALLED PER MUTCD STANDARDS AND GUIDELINES



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www.olssonassociates.com

STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2015000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	

REVISIONS

SIGNAGE PLAN
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

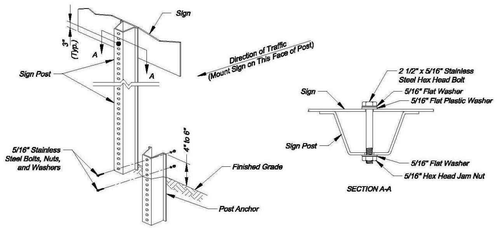
2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C119

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_SA501_80847.dwg USER: bkoleci
DATE: Jul 19, 2018 8:40am

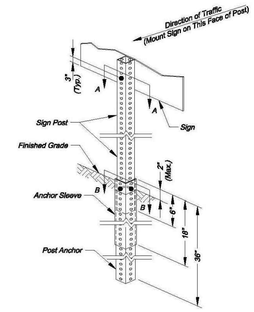
NOT AS BUILT



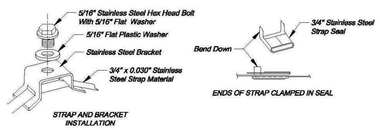
U-STEEL POST DETAILS

U-STEEL POST NOTES:
1. Splice shall be positioned entirely between finished grade line and 16" 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.

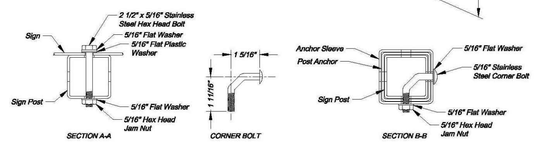


SQUARE STEEL POST INSTALLATION SEQUENCE:
1. Sign post anchor driven partially into the ground using a drive cap with a sledge or power equipment.
2. Anchor sleeve slipped over anchor and drive into the ground together with the sign post anchor.
3. Insert sign post into the post anchor and bolt in place.



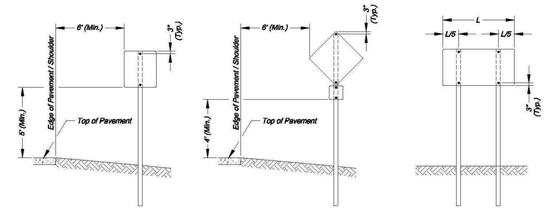
STRAP TYPE SIGN SUPPORT DETAILS

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



SQUARE STEEL POST DETAILS

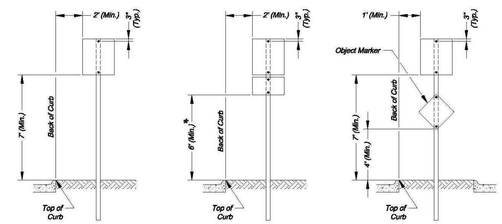
SQUARE STEEL POST NOTES:
1. Square steel sign posts and break-away anchor shall consist of the following materials:
   - Sign Post - 14 Ga. 2" x 2" Square Steel Post
   - Post Anchor - 12 Ga. 2 1/4" x 2 1/4" x 36" Square Steel Post
   - Anchor Sleeve - 12 Ga. 2 1/2" x 2 1/2" x 18" Square Steel Post
2. 14 Gauge posts must meet a certified minimum yield strength of 80,000 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.



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

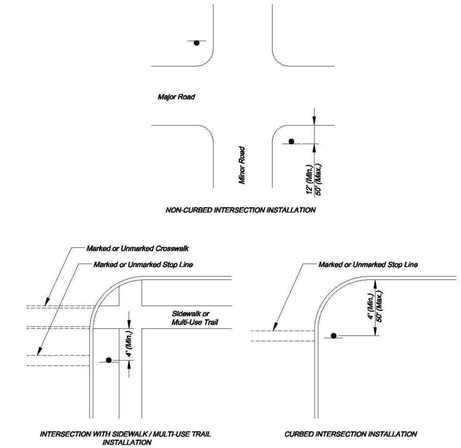
SIGN INSTALLATION WITH AUXILARY SIGN FOR CURBED STREET

SIGN INSTALLATION FOR RAISED MEDIANS

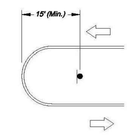
SIGN MOUNTING DETAILS

* 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.



CONTROL 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.

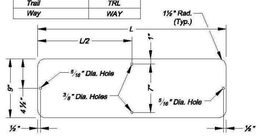
STANDARD ABBREVIATION LISTS

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

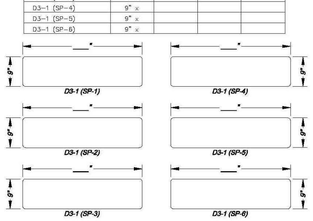
STREET NAME SIGN QUANTITIES

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

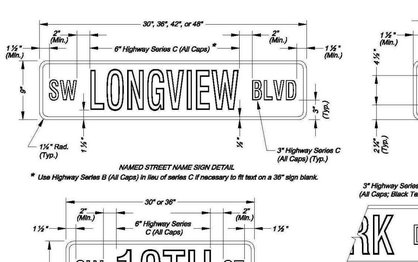


STREET NAME SIGN BLANK DETAILS

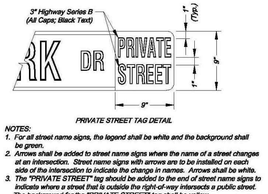
For Mounting on Square Steel Posts



PROJECT SIGN DETAILS

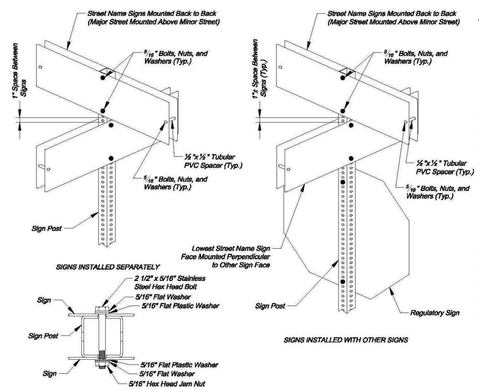


* Use Highway Series B (All Caps) in lieu of series C if necessary to fit text on a 36" sign blank.

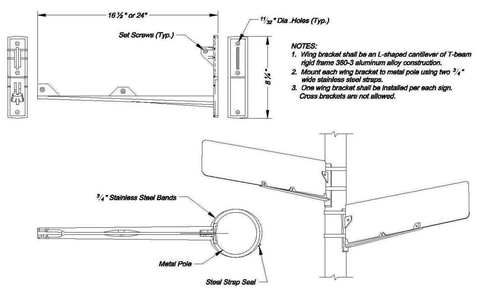


NOTES:
1. For all street name signs, the legend shall be white and the background shall be green.
2. Arrows shall be added to street name signs where the name of a street changes at an intersection. Street name signs with arrows are to be installed on each side of the intersection to indicate the change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

STREET NAME SIGN FACE DETAILS

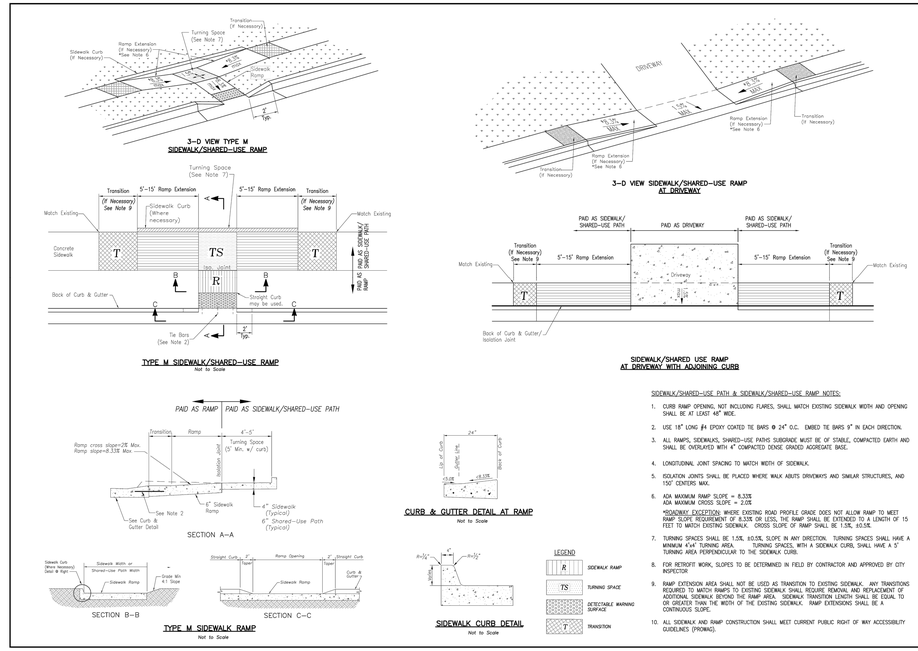


SQUARE STEEL POST MOUNTING DETAILS



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

WING BRACKET MOUNTING DETAILS



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

LEE'S SUMMIT MISSOURI
PUBLIC WORKS/ENGINEERING DIVISION 220 SE DETER 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: 04/17
Proj. #:

GEN-3B

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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2012000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	
	07/12/2018	CITY COMMENTS - 07/10/2018	

REVISIONS

DETAIL SHEET
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
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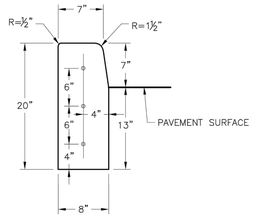
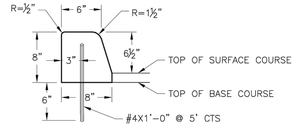
SHEET
C120

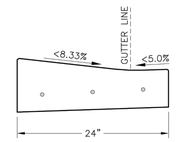
DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_DTL02_ Storm Sewer Details.dwg USER: bkoleci
DATE: Jul 12, 2018 10:27am



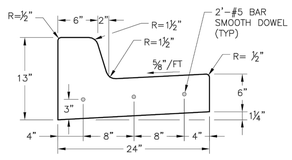
STRAIGHT CURB
(TYPE C-1)



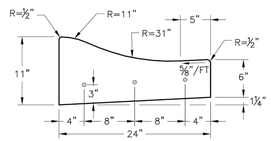
DOWELLED CURB
(TYPE DC)



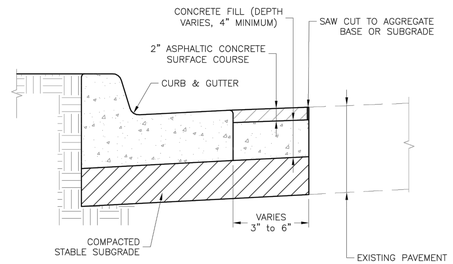
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



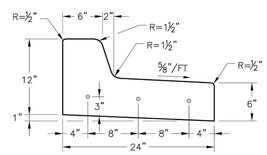
STRAIGHT BACK CURB &
GUTTER
(TYPE CG-1)



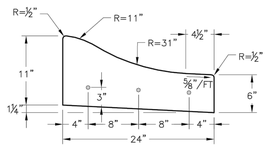
ROLL BACK CURB &
GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



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



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

GENERAL NOTES

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

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

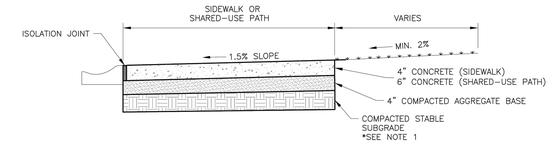
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Project:
Sheet Name: CURB & GUTTER DETAIL

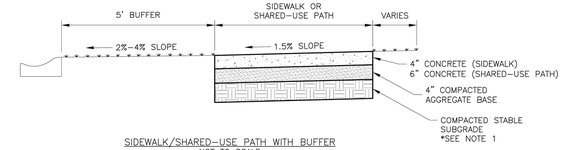
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-4

NOT AS BUILT



SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

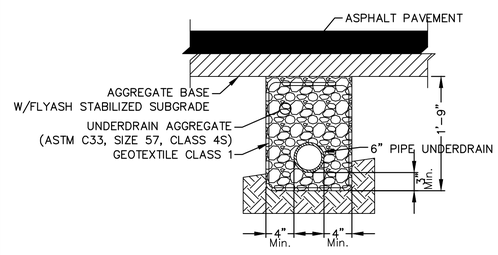
1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS AND SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALKS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN EXPANSION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK, BUT NO GREATER THAN 10 FT.
6. SHARED-USE PATH WIDTH SHALL BE 10 FT. WIDE.
7. SIDEWALK FINISHING (NO PICTURE FRAMING) AS DIRECTED BY CITY INSPECTOR.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

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

SIDEWALK/SHARED-USE PATH DETAIL

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

GEN-2



PIPE UNDERDRAIN LATERAL
N.T.S.

NOTES:

1. Where Pipe Underdrains are used, all Underdrain Outlet Pipes shall be solid wall with watertight joints. All Outlets Pipes shall be tied into the nearest storm sewer inlets at roadway sag locations as indicated in the street profile.
2. All Underdrain Pipes shall be installed at a minimum slope of 1%.
3. Underdrain Pipe shall be installed with the perforations placed down.
4. Blanket Underdrain Aggregate, Pipe Underdrain Aggregate, Pipe Underdrain, Edge Underdrain and Outlet Pipe shall conform to City of Lee's Summit Specifications.
5. Overlap geotextile at top of trench a minimum of 12".

Scale: 1"=50'
01 PIPE UNDERDRAIN LATERAL

OLSSON ASSOCIATES
MO Certificate of Authority # 000000000000
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STATE OF MISSOURI
NICHOLAS D. HEISER
NUMBER PE-2012000555
PROFESSIONAL ENGINEER
06/01/2020

NO. REV.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2018	CITY COMMENTS - 05/17/2018	

REVISIONS

STORM DETAIL
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

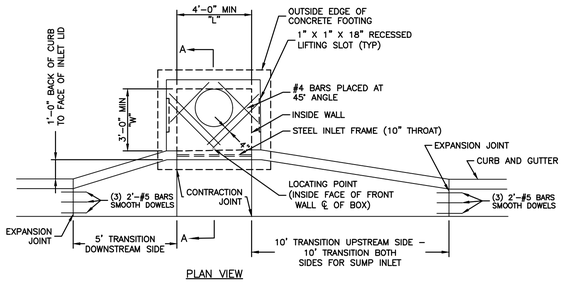
LEE'S SUMMIT, MO

2018

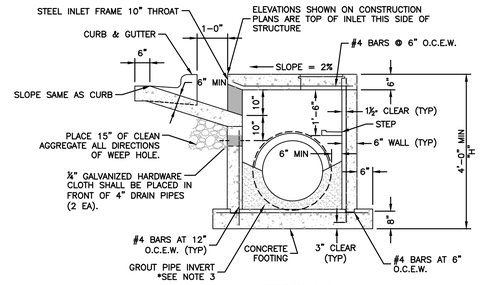
drawn by: B.P.K
checked by: N.D.H.
designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C121

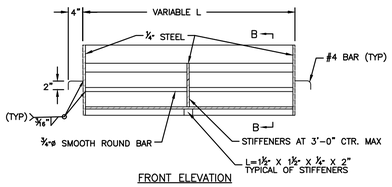
DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_DTL03_80847.dwg USER: bkoleci
DATE: Jul 12, 2018 8:30am



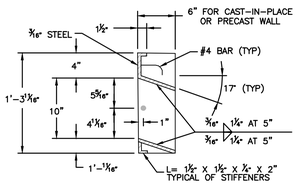
PLAN VIEW



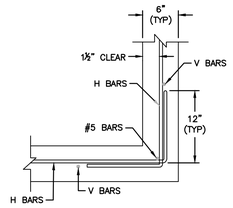
SECTION A–A



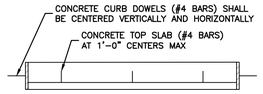
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



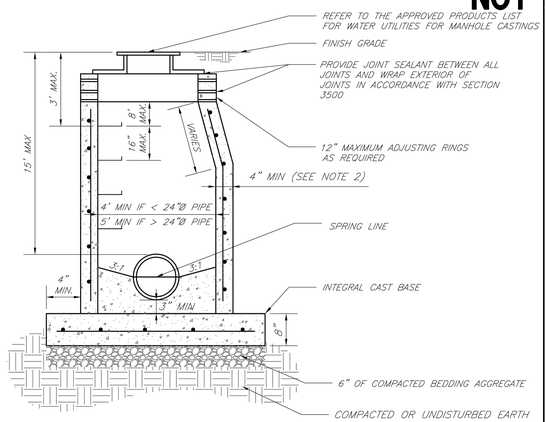
PLAN VIEW

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.

N.T.S.
01 CURB INLET DETAIL

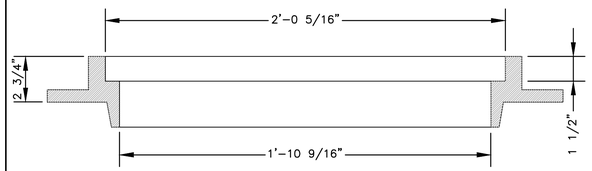
NOT AS BUILT



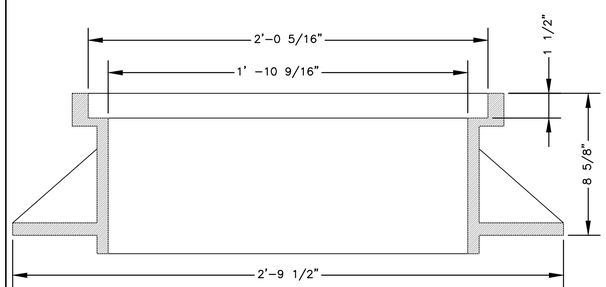
NOTES:
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE–TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THEN 15'.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
4. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
6. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
7. REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

LS
LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
STANDARD PRECAST MANHOLE – SANITARY SEWER

Date: 02/13	
Drawn By: JN	
Checked By: DL	
FILE: SAN–2	
Rev: 1/14	
Rev:	



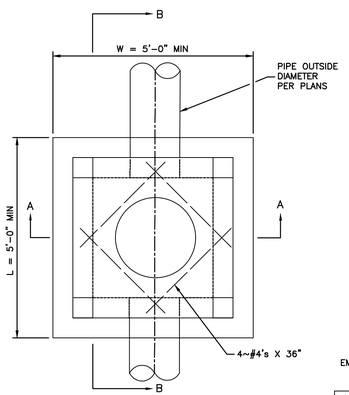
SLAB MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS103A
MINIMUM WEIGHT = 145 LB



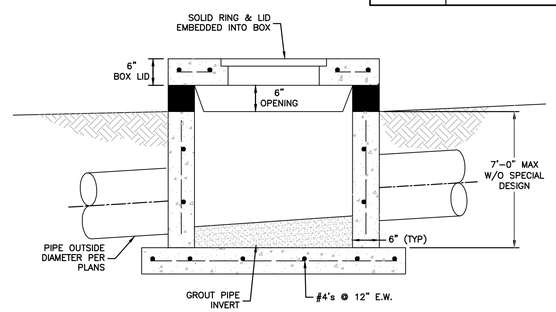
STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO. LS101A
MINIMUM WEIGHT = 250 LB

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

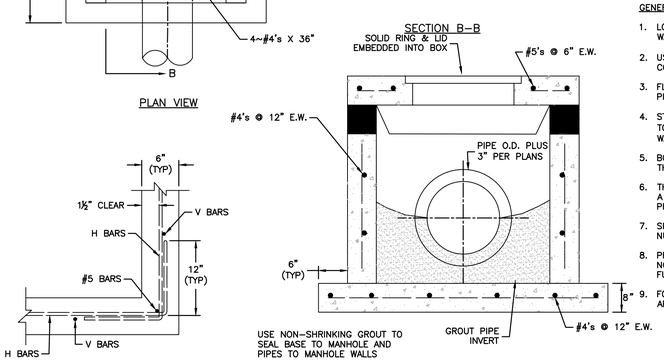
N.T.S.
03 STORM MANHOLE FRAME DETAIL



PLAN VIEW



SECTION B–B

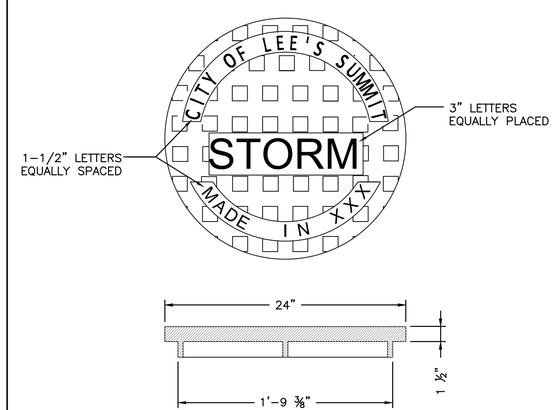


SECTION A–A

WALL CORNER DETAIL

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

N.T.S.
04 FIELD INLET DETAIL



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.

N.T.S.
02 STORM MANHOLE COVER DETAIL

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NUMBER PE-2015000555
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06/01/2020

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REVISIONS

STORM DETAIL
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

drawn by: B.P.K
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designed by: B.P.K.
QA/QC by: M.G.D.
project no.: 018-0847
date: 2018.04.20

SHEET
C122

DWG: F:\2018\0501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_DTL01_ Storm Sewer Details.dwg USER: bkoleci
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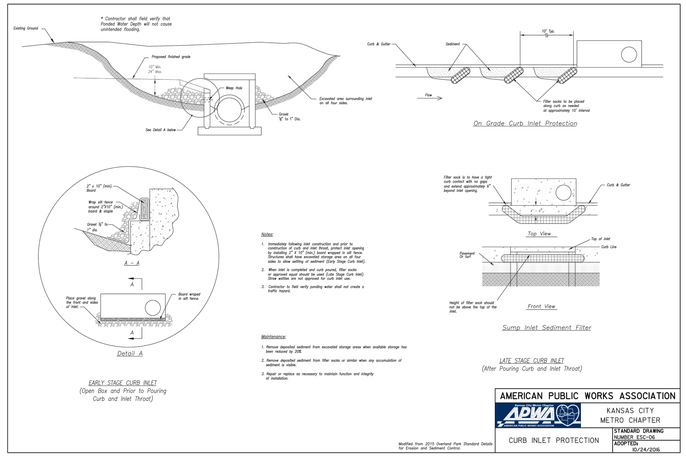

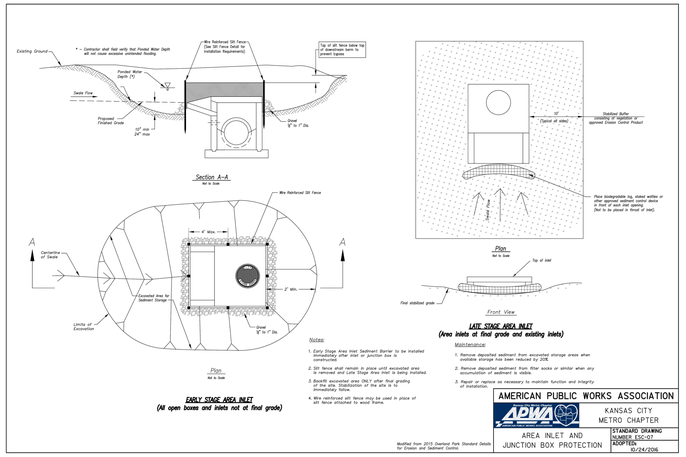

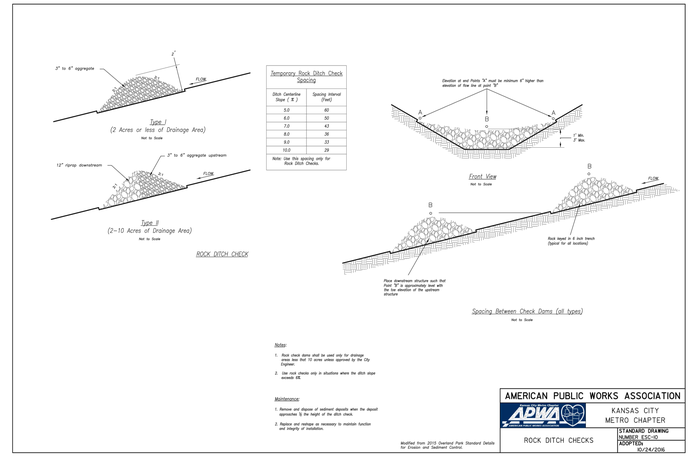

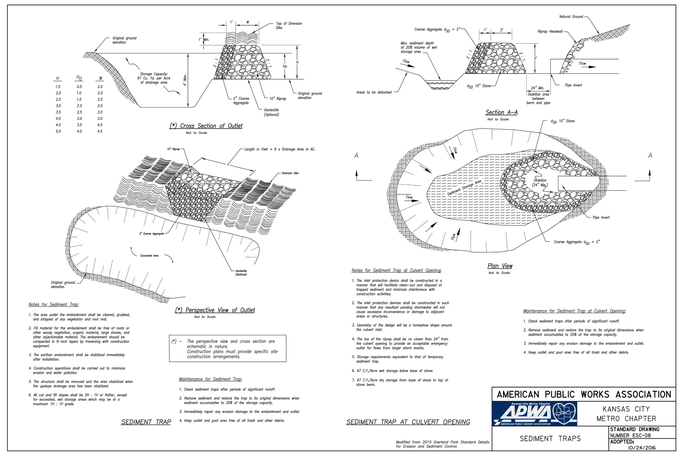

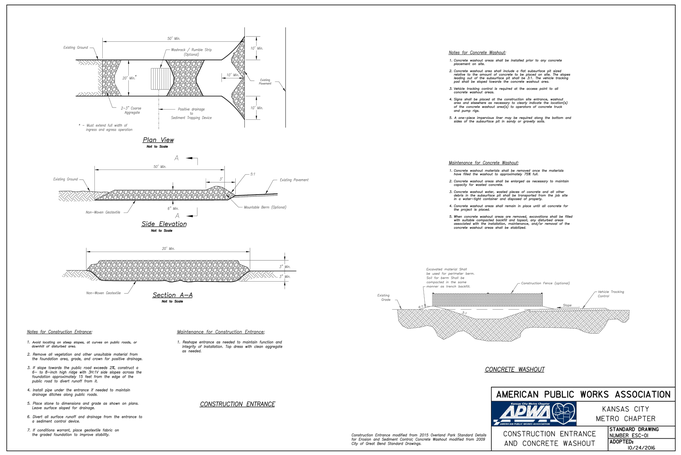

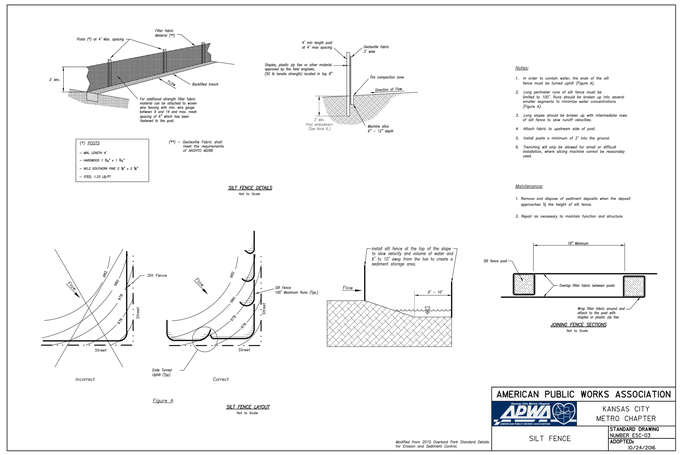

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06/01/2020

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REVISIONS

EROSION CONTROL DETAILS
STREET, STORM & EROSION CONTROL PLANS

EAGLE CREEK
SIXTEENTH PLAT

LEE'S SUMMIT, MO

2018

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project no.: 018-0847
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SHEET
C123

DWG: F:\2018\501-1000\018-0847\40-Design\AutoCAD\Final Plans\Sheets\GNCV\01_Street & Storm_34x22\C_DTL03_Erosion_
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