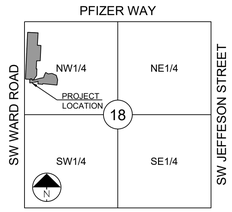
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
FOR
WOODLAND GLEN

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

LEGEND:

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

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



SECTION 18-47N-31W

LOCATION MAP
SCALE 1" = 2000'

UTILITY CONTACTS:

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

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

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

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

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

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

PUBLIC WATER SUPPLY DISTRICT
Mark Schaufler
220 SE Green Street
Lee's Summit, MO 64063
(816) 969-1900

GENERAL NOTES:

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

EARTHWORK:

1. IT IS RECOMMENDED THAT A GEOTECHNICAL ENGINEER OBSERVE AND DOCUMENT ALL EARTHWORK ACTIVITIES.
2. CONTOURS HAVE BEEN SHOWN AT 1-FOOT OR 2-FOOT INTERVALS, AS INDICATED. GRADING SHALL CONSIST OF COMPLETING THE EARTHWORK REQUIRED TO BRING THE PHYSICAL GROUND ELEVATIONS OF THE EXISTING SITE TO THE FINISHED GRADE (OR SUB-GRADE) ELEVATIONS PROVIDED ON THE PLANS AS SPOT GRADES, CONTOURS OR OTHERS MEANS AS INDICATED ON THE PLANS.
3. THE EXISTING SITE TOPOGRAPHY DEPICTED ON THE PLANS BY CONTOURING HAS BEEN ESTABLISHED BY AERIAL PHOTOGRAPHY AND FIELD VERIFIED BY G.P.S. OBSERVATION NEAR JULY 18TH, 2016. THE CONTOUR ELEVATIONS PROVIDED MAY NOT BE EXACT GROUND ELEVATIONS, BUT RATHER INTERPRETATIONS OF SUCH. ACCURACY SHALL BE CONSIDERED TO BE SUCH THAT NOT MORE THAN 10 PERCENT OF SPOT ELEVATION CHECKS SHALL BE IN ERROR BY MORE THAN ONE-HALF THE CONTOUR INTERVAL PROVIDED, AS DEFINED BY THE NATIONAL MAP ACCURACY STANDARDS. ANY QUANTITIES PROVIDED FOR EARTHWORK VOLUMES ARE ESTABLISHED USING THIS TOPOGRAPHY CONTOUR ACCURACY, AND THEREFORE THE INHERENT ACCURACY OF ANY EARTHWORK QUANTITY IS ASSUMED FROM THE TOPOGRAPHY ACCURACY.
4. PROPOSED CONTOURS ARE TO APPROXIMATE FINISHED GRADE.
5. UNLESS OTHERWISE NOTED, PAYMENT FOR EARTHWORK SHALL INCLUDE BACKFILLING OF THE CURB AND GUTTER, SIDEWALK AND FURTHER MANIPULATION OF UTILITY TRENCH SPOILS. THE SITE SHALL BE LEFT IN A MOWABLE CONDITION AND POSITIVE DRAINAGE MAINTAINED THROUGHOUT.
6. UNLESS OTHERWISE NOTED, ALL EARTHWORK IS CONSIDERED UNCLASSIFIED. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ROCK OR SHALE EXCAVATION, UNLESS SPECIFICALLY STATED OTHERWISE.
7. PRIOR TO EARTHWORK ACTIVITIES, PRE-DISTURBANCE EROSION AND SEDIMENT CONTROL DEVICES SHALL BE IN PLACE PER THE STORM WATER POLLUTION PREVENTION PLAN AND/OR THE EROSION AND SEDIMENT CONTROL PLAN PREPARED FOR THIS SITE.
8. ALL TOPSOIL SHALL BE STRIPPED FROM ALL AREAS TO BE GRADED AND STOCKPILED ADJACENT TO THE SITE AT AN AREA SPECIFIED BY THE PROJECT OWNER OR HIS APPOINTED REPRESENTATIVE. VEGETATION, TRASH, TREES, BRUSH, TREE ROOTS AND LIMBS, ROCK FRAGMENTS GREATER THEN 6-INCHES AND OTHER DELETERIOUS MATERIALS SHALL BE REMOVED AND PROPERLY DISPOSED OF OFFSITE OR AS DIRECTED BY THE OWNER OR HIS APPOINTED REPRESENTATIVE.
9. UNLESS OTHERWISE SPECIFIED IN THE GEOTECHNICAL REPORT, ALL FILLS SHALL BE PLACED IN MAXIMUM 6-INCH LIFTS AND COMPACTED TO 95-PERCENT OF MAXIMUM DENSITY AS DEFINED USING A STANDARD PROCTOR TEST (AASHTO T99/ASTM 698).
10. FILL MATERIALS SHALL BE PER GEOTECHNICAL REPORT AND SHALL NOT INCLUDE ORGANIC MATTER, DEBRIS OR TOPSOIL. ALL FILLS PLACED ON SLOPES GREATER THAN 6:1 SHALL BE BENCHED.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REDISTRIBUTING THE TOPSOIL OVER PROPOSED TURF AND LANDSCAPED AREAS TO A MINIMUM DEPTH OF 6-INCHES BELOW FINAL GRADE.
12. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. UNLESS NOTED OTHERWISE THE FOLLOWING GRADES SHALL APPLY:
    A. TURF AREAS – 2.5% MINIMUM, 4H:1V MAXIMUM
    B. PAVED AREAS – 1.2% MINIMUM, 5% MAXIMUM
13. ALL DISTURBED AREAS SHALL BE FERTILIZED, SEEDED AND MULCHED IMMEDIATELY AFTER EARTHWORK ACTIVITIES HAVE CEASED. SEEDING SHALL BE PER THE EROSION AND SEDIMENT CONTROL PLAN AND/OR LANDSCAPE PLAN. IF NOT SPECIFIED SEEDING SHALL BE PER APWA SECTION 2400, LATEST EDITION. UNLESS OTHERWISE NOTED, SEEDING SHALL BE SUBSIDIARY TO THE CONTRACT PRICE FOR EARTHWORK AND GRADING ACTIVITIES.
14. ALL DISTURBED AREAS IN THE RIGHT-OF-WAY SHALL BE SODDED.
15. UNDERDRAINS ARE RECOMMENDED FOR ALL PAVED AREAS ADJACENT TO IRRIGATED TURF AND LANDSCAPED BEDS.
16. CONTRACTOR SHALL ADHERE TO THE REPORTING REQUIREMENTS OUTLINED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROPERLY MAINTAINED AND KEPT CLEAN OF SILT AND DEBRIS AND IN GOOD WORKING ORDER. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS REQUIRED.

SUMMARY OF QUANTITIES

	ITEM	QUANTITY	UNITS
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PRELIMINARY
(TO BE COMPLETED AT SECOND SUBMITTAL)

STREET NOTES:

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

UTILITIES:

1. EXISTING UTILITIES HAVE BEEN SHOWN TO THE GREATEST EXTENT POSSIBLE BASED UPON INFORMATION PROVIDED TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES AND FIELD LOCATING UTILITIES PRIOR TO CONSTRUCTION AND IDENTIFYING ANY POTENTIAL CONFLICTS. ALL CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY REQUIRED UTILITY RELOCATIONS. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY FLOW-LINES AND STRUCTURE TOPS PRIOR TO CONSTRUCTION, AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES. PROVIDE SHOP DRAWINGS FOR ALL PRECAST AND MANUFACTURED UTILITY STRUCTURES FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE STRUCTURES.
4. UTILITY SEPARATION: WATERLINES SHALL HAVE A MINIMUM OF 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION FROM ALL SANITARY AND STORM SEWER LINES. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, CONCRETE ENCASEMENT OF THE SANITARY OR STORM SEWER LINE SHALL BE REQUIRED 10 FEET IN EACH DIRECTION OF THE CONFLICT.
5. PAYMENT FOR TRENCHING, BACKFILLING, PIPE EMBEDMENT, FLOWABLE FILL, BACKFILL MATERIALS, CLEAN UP, SEEDING, SODDING AND ANY OTHER ITEMS NECESSARY FOR THE CONSTRUCTION OF THE UTILITY LINE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE UTILITY INSTALLATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING RESPECTIVE UTILITY COMPANIES 48-HOURS IN ADVANCE FOR THE INSPECTION OF ANY PROPOSED UTILITY MAIN EXTENSION OR SERVICE LINE OR SERVICE CONNECTION TO ANY EXISTING MAIN.
7. TRENCH SPOILS SHALL BE NEATLY PLACED ONSITE ADJACENT TO THE TRENCH, AND COMPACTED TO PREVENT SATURATION AND EXCESS SEDIMENT RUNOFF. UNSUITABLE MATERIALS, EXCESS ROCK AND SHALE, ASPHALT, CONCRETE, TREES, BRUSH ETC. SHALL BE PROPERLY DISPOSED OF OFFSITE. MATERIALS MAY BE WASTED ONSITE AT THE DIRECTION OF THE OWNER OR HIS APPOINTED REPRESENTATIVE.

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	PRE-CLEARING PLAN
3	ECP CONSTRUCTION
4	ECP FINAL STABILIZATION
5	EROSION CONTROL DETAILS
6	EROSION CONTROL DETAILS
7	GENERAL LAYOUT
8	MASTER DRAINAGE PLAN GRADING PLAN
9	MASTER DRAINAGE PLAN SPOT ELEVATIONS
10	MASTER DRAINAGE PLAN DRAINAGE AREAS
11	MASTER DRAINAGE PLAN DRAINAGE CALCS
12	WINTHROP TERRACE PLAN & PROFILE
13	HEARTWOOD DRIVE PLAN & PROFILE
14	INTERSECTION DETAIL
15	TEMPORARY TURN AROUND DETAIL
16	STORM PLAN
17	EDDB 1 OUTLET STRUCTURE
18	EDDB 2 OUTLET STRUCTURE
19	EDDB 3 OUTLET STRUCTURE
20	STORM PROFILE
21	STORM PROF CONT
22	STREET AND STORM DETAILS
23	STREET AND STORM DETAILS
24	STREET AND STORM DETAILS

PREPARED AND SUBMITTED BY:

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2003007268
PROFESSIONAL ENGINEER
02.21.2020

SCHLAGEL & ASSOCIATES, P.A.

APPROVED BY:

CITY ENGINEER — DATE
APPROVED FOR ONE YEAR FROM THIS DATE

OWNER/DEVELOPER:

ABP FUNDING, LLC
JOHN
9101 W. 110TH STREET, SUITE 200
OVERLAND PARK, KANSAS 66210
p 913-208-2283

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

PROJECT BENCHMARK:

SW. CORNER NW. ¼ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41

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ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 W. 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
#E2000003800-F #LA2001005237 #LS2002008859-F

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 2-19-2020
PROJ. NUMBER: 18-017

COVER

SHEET
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LEGEND

- TEMPORARY STORAGE AREA FOR EXCESS MATERIAL
- TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
- CONCRETE WASHOUT AREA
- SILT FOAM DIKE OR STRAW WATTLE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS
- ROCK DITCH CHECK
- STRAW WATTLE OR COIL LOG STAKED & INSTALL PER MFR'S RECOMMENDATIONS
- SF1 — SILT FENCE (PRIOR TO LAND DISTURBANCE)
- SF2 — SILT FENCE (DURING CONSTRUCTION)
- SILT SOCK / ROCK SOCK / SOCK WATTLE
- LIMITS OF DISTURBANCE
- 965 — EXISTING CONTOURS
- 965 — PROPOSED CONTOURS
- GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY
- 1 — BMP PLAN REF. NO.

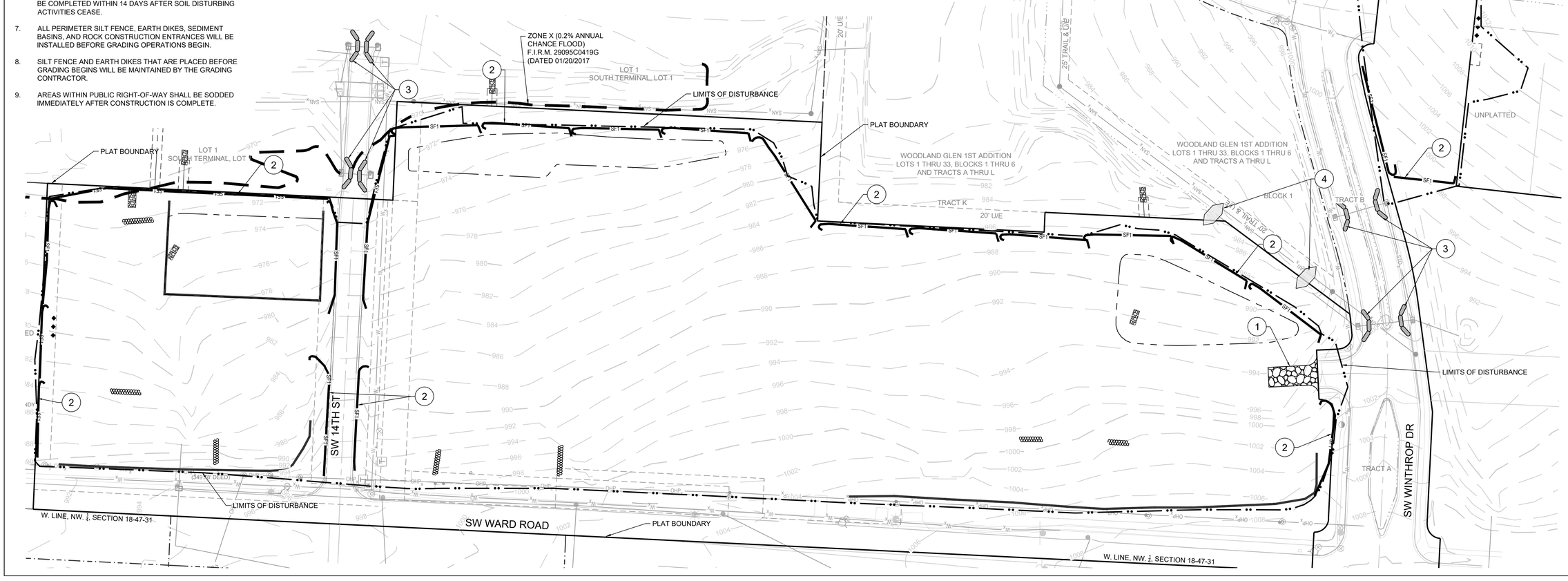
DISTURBED AREA = 9.74 A.C.

SITE SPECIFIC NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
2. THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
3. NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0419G DATED JANUARY 20, 2017.
4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
5. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
6. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPS. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
7. ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADING OPERATIONS BEGIN.
8. SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR.
9. AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

EROSION AND SEDIMENT CONTROL STAGING CHART

	PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
PRE-CLEARING PHASE	A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		2	SILT FENCE 1 (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3	EXISTING INLET PROTECTION	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		4	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AT EXISTING SWALES AND DRAINAGE COURSES
CONSTRUCTION PHASE	B - MASS GRADING	5	SILT FENCE 2 (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		6	FOAM SILT DIKE OR STRAW WATTLE/COIL LOG CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AS SOON AS SWALE IS ESTABLISHED, REPAIR OR REPLACE AS NECESSARY
	C - UTILITY CONSTRUCTION	7	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		8	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
FINAL STABILIZATION PHASE	D - AFTER PAVING OPERATIONS	9	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
		10	SILT FENCE 2 (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		11	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.



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STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

WOODLAND GLEN STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS

---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

PRE-CLEARING PLAN

SHEET 2

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LEGEND

- TEMPORARY STORAGE AREA FOR EXCESS MATERIAL
- TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
- CONCRETE WASHOUT AREA
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- GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY
- 1 — BMP PLAN REF. NO.

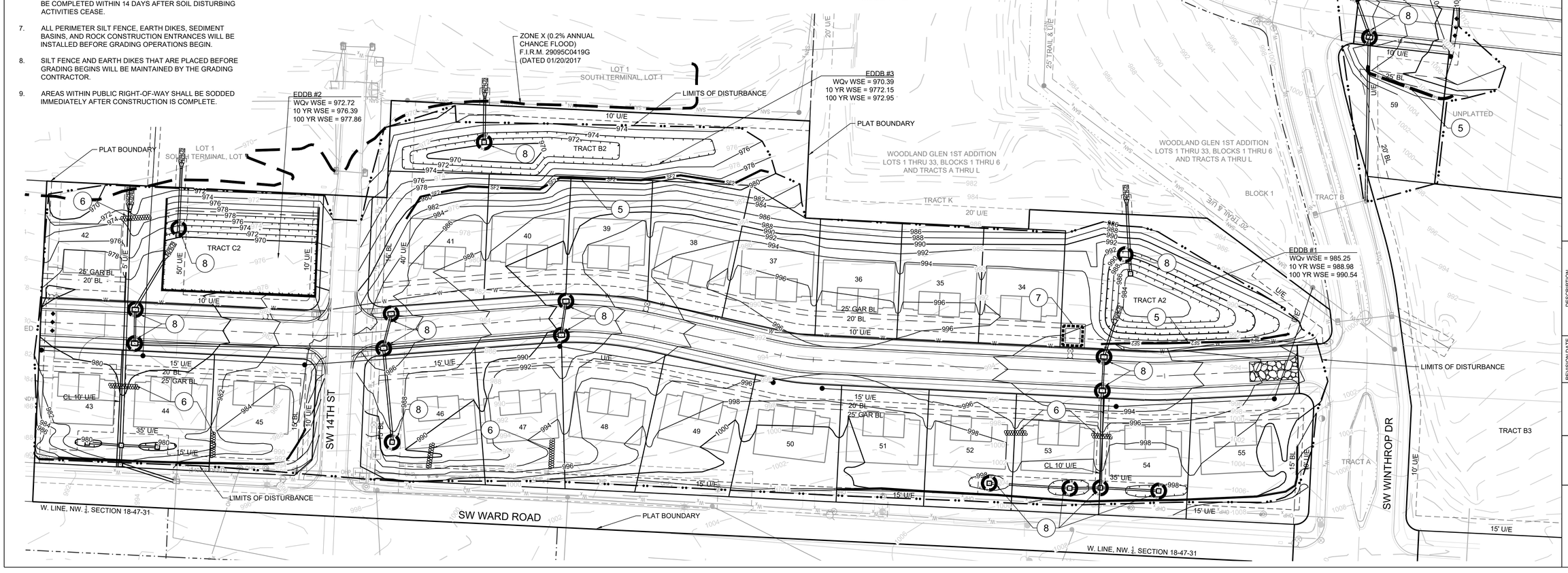
EROSION AND SEDIMENT CONTROL STAGING CHART

	PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
PRE-CLEARING PHASE	A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		2	SILT FENCE 1 (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		3	EXISTING INLET PROTECTION	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		4	FOAM SILT DIKE OR ROCK DITCH CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AT EXISTING SWALES AND DRAINAGE COURSES
CONSTRUCTION PHASE	B - MASS GRADING	5	SILT FENCE 2 (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		6	FOAM SILT DIKE OR STRAW WATTLE/COIL LOG CHECK AND SEDIMENT TRAPS	E	PLACE WHERE INDICATED AS SOON AS SWALE IS ESTABLISHED, REPAIR OR REPLACE AS NECESSARY
	C - UTILITY CONSTRUCTION	7	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
		8	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES TO HAVE SILT FENCE REMOVED ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
FINAL STABILIZATION PHASE	D - AFTER PAVING OPERATIONS	9	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
		10	SILT FENCE 2 (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
		11	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
	E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT				ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

DISTURBED AREA = 9.74 A.C.

SITE SPECIFIC NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
2. THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
3. NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0419G DATED JANUARY 20, 2017.
4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
5. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
6. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPS. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
7. ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADING OPERATIONS BEGIN.
8. SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR.
9. AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.



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STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

ECP CONSTRUCTION

SHEET 3

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LEGEND

- TEMPORARY STORAGE AREA FOR EXCESS MATERIAL
- TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
- CONCRETE WASHOUT AREA
- SILT FOAM DIKE OR STRAW WATTLE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS
- ROCK DITCH CHECK
- STRAW WATTLE OR COIL LOG STAKED & INSTALL PER MFR'S RECOMMENDATIONS
- SF1 — SILT FENCE (PRIOR TO LAND DISTURBANCE)
- SF2 — SILT FENCE (DURING CONSTRUCTION)
- SILT SOCK / ROCK SOCK / SOCK WATTLE
- LIMITS OF DISTURBANCE
- 965 — EXISTING CONTOURS
- 965 — PROPOSED CONTOURS
- GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY
- 1 — BMP PLAN REF. NO.

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EROSION AND SEDIMENT CONTROL STAGING CHART

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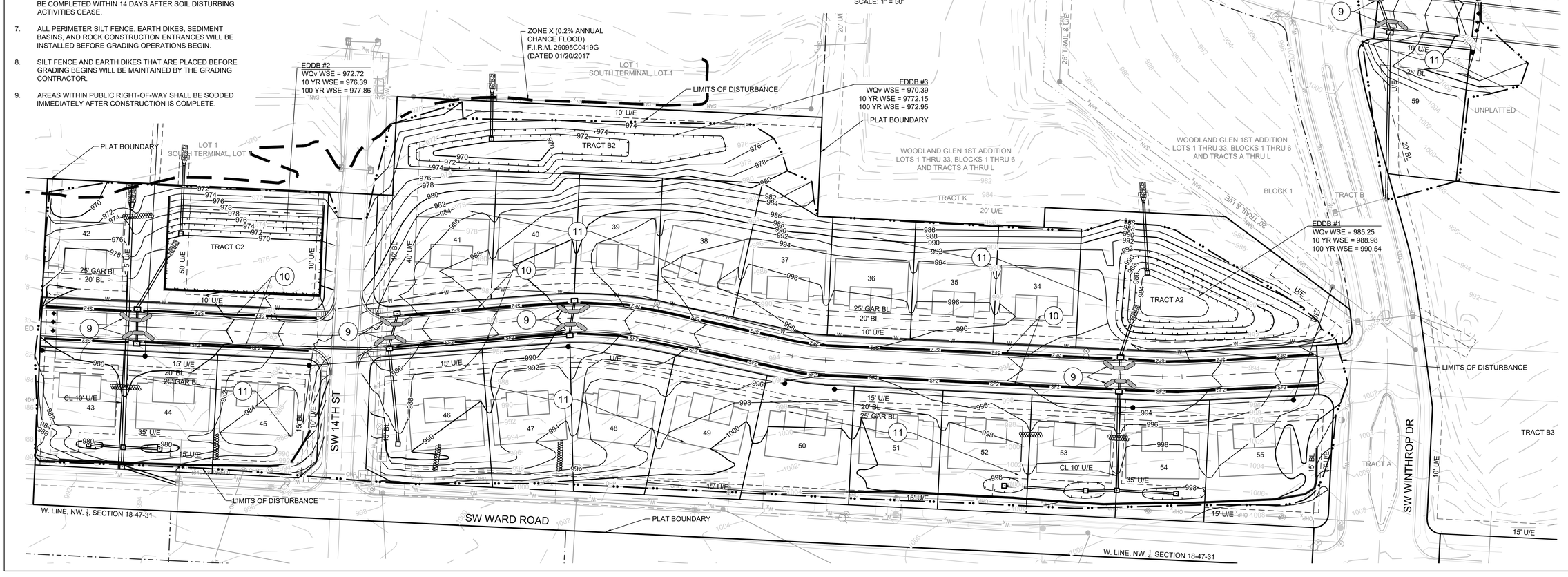

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STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
1		
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7		

DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 2-19-2020
PROJ. NUMBER: 18-017

ECP FINAL STABILIZATION

SHEET 4

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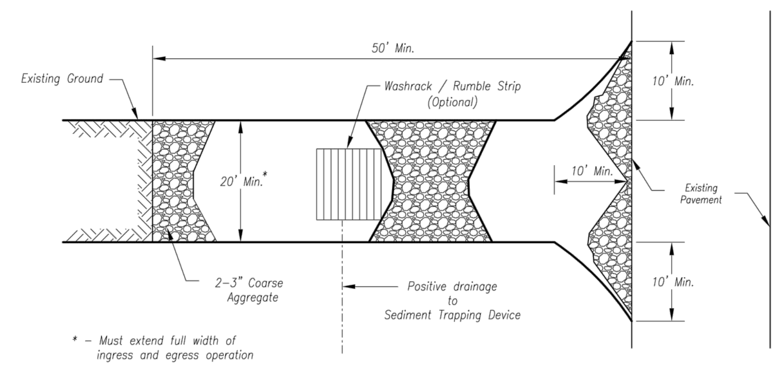
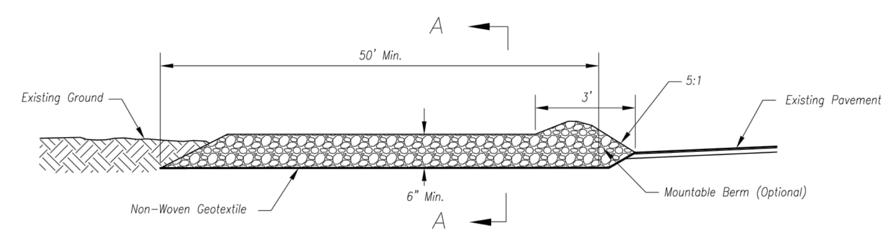
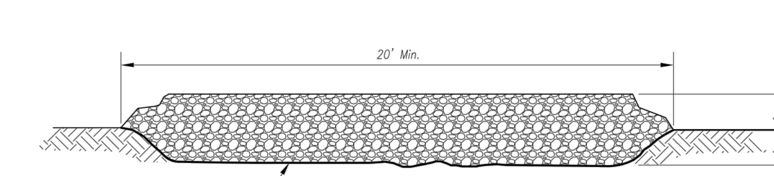


Plan View
Not to Scale



Side Elevation
Not to Scale



Section A-A
Not to Scale

Notes for Construction Entrance:

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

Maintenance for Construction Entrance:

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

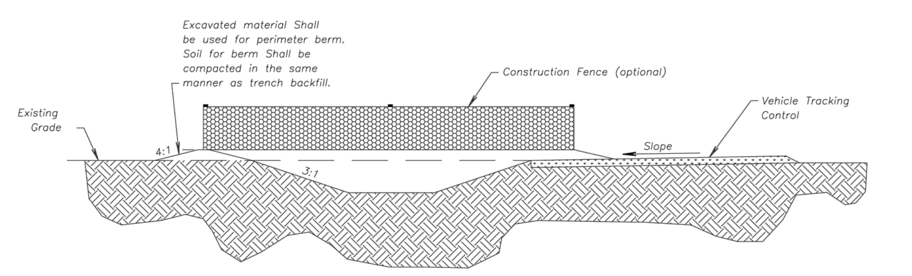
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

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

Maintenance for Concrete Washout:

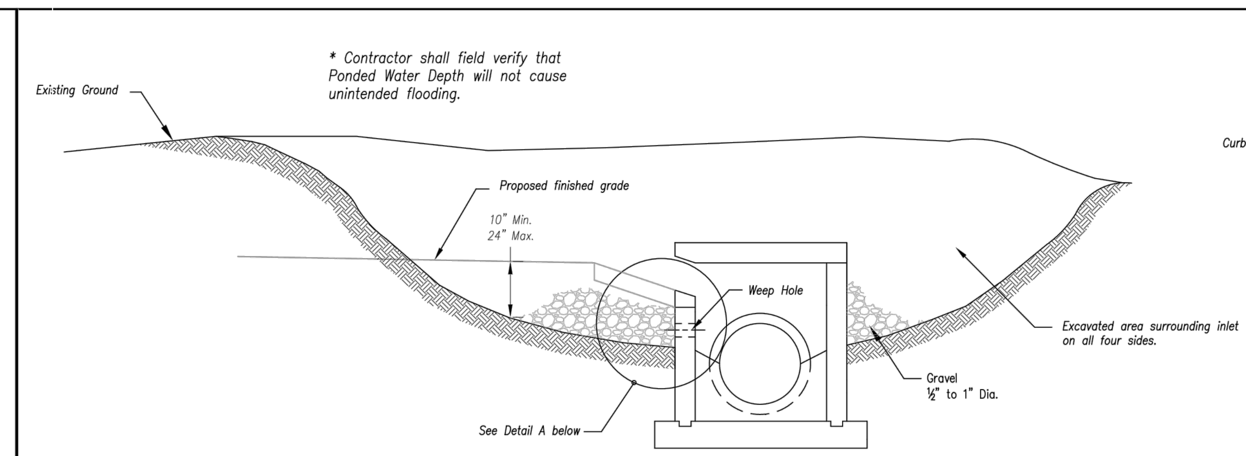
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface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

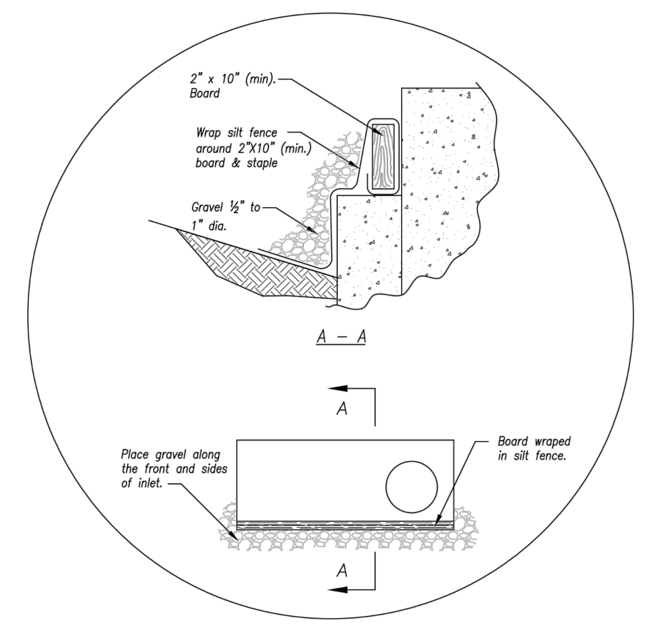


CONCRETE WASHOUT

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

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





Detail A

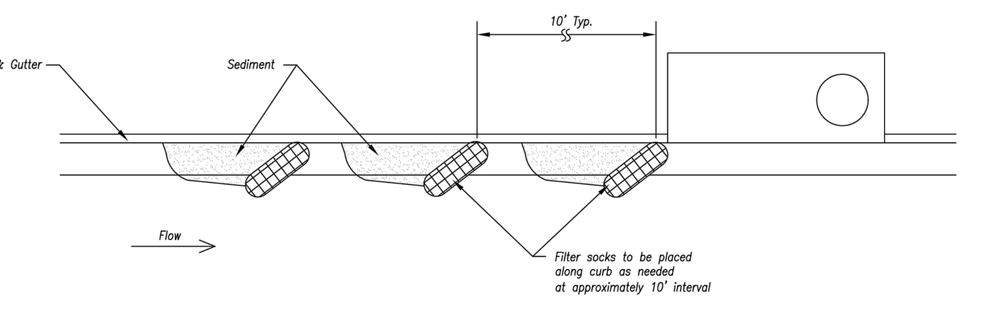
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

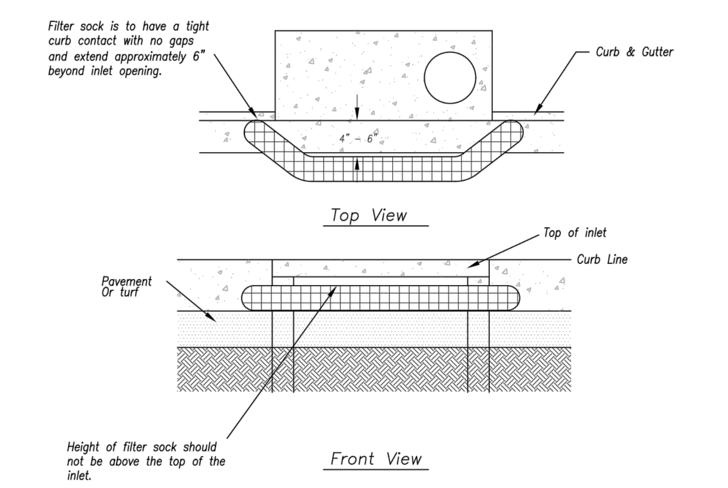
1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When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

Maintenance:

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



On Grade Curb Inlet Protection

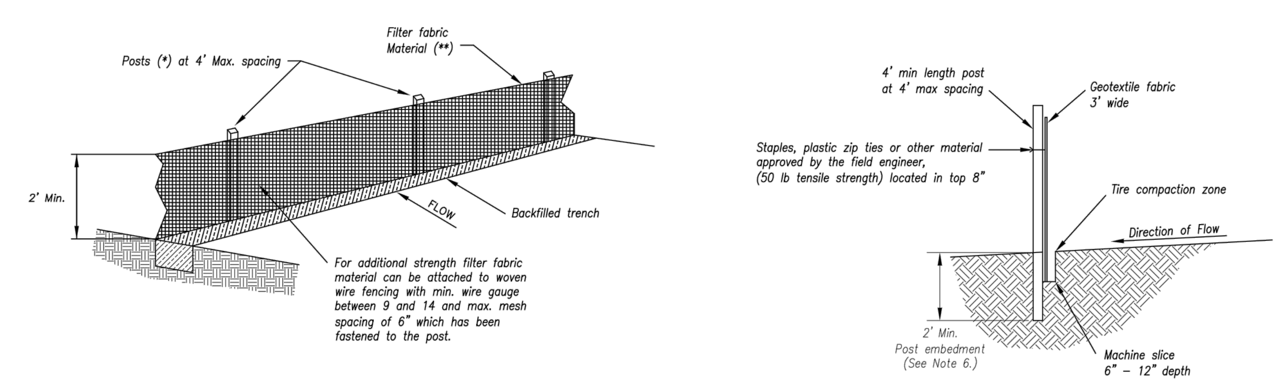


Sump Inlet Sediment Filter

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

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

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



(*) POSTS
- MIN, LENGTH 4'
- HARDWOOD 1 3/16" x 1 3/16"
- NO.2 SOUTHERN PINE 2 5/8" x 2 5/8"
- STEEL 1.33 LB/FT

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

SILT FENCE DETAILS
Not to Scale

Notes:

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

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ⅓ the height of silt fence.
2. Repair as necessary to maintain function and structure.

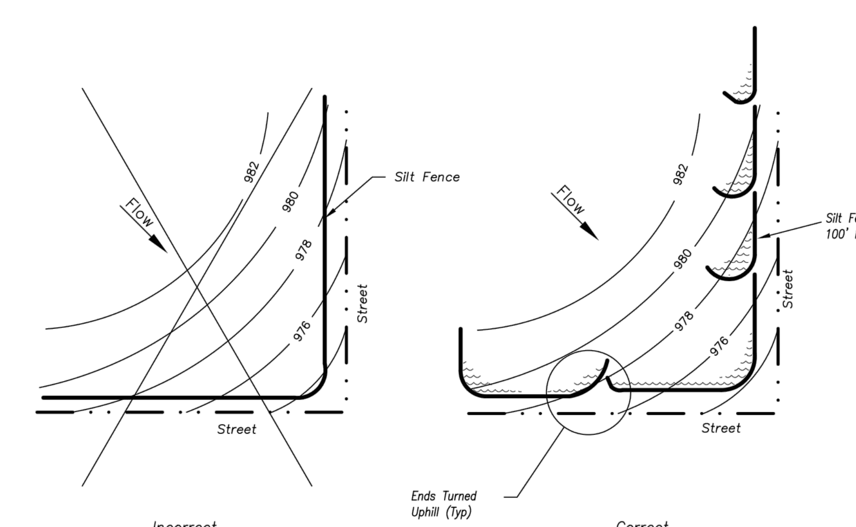
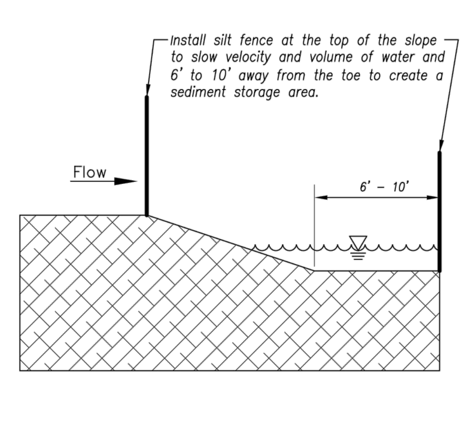
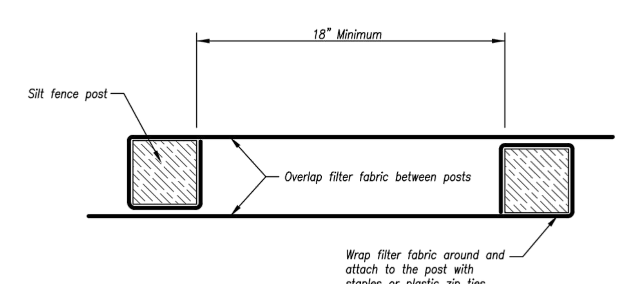


Figure A



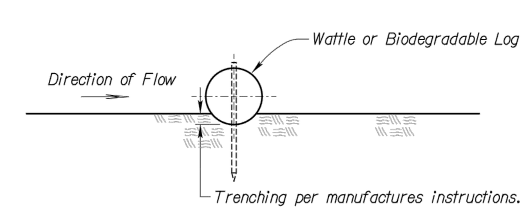
SILT FENCE LAYOUT
Not to Scale



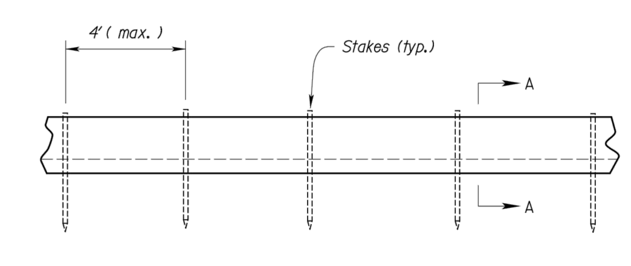
JOINING FENCE SECTIONS
Not to Scale

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

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



Section A-A



Typical Elevation

WATTLES AND BIODEGRADABLE LOG

Notes for Wattles and Biodegradable Log Slope Protection:

1. The Slope barriers shall be placed along contour lines, with a short section turned upgrade at each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends need to be staggered.
2. Install wattles and biodegradable logs per manufacturer's instructions.
3. Spacing of stakes per manufacturer's instructions with 4' max. spacing. Length of stakes shall be a minimum of 2 times the diameter of the log with minimum of 24".

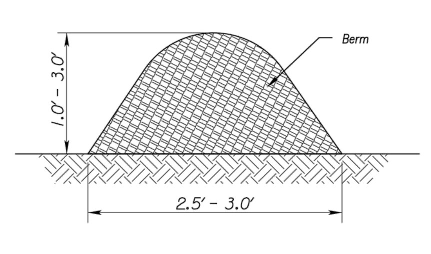


Figure 1
(Perimeter Control)

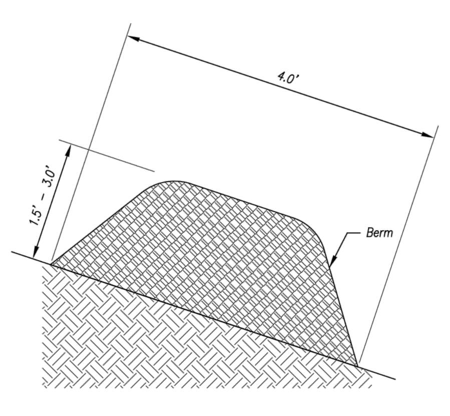


Figure 2
(Steep Slopes)

MULCH OR COMPOST FILTER BERMS

Notes for Mulch and Compost Filter Beam:

1. The sediment control berm shall be placed uncompacted in a windrow at locations shown on the plans or as directed by the engineer.
2. Parallel to the base of the slope, or around the perimeter of other affected areas, construct a 1 to 3 foot high by 2.5 to 3 foot wide berm (see Figure 1). For maximum water treatment ability or for steep slopes, construct a 1.5 to 3 foot high trapezoidal berm that is a minimum of 4 feet wide at the base (see Figure 2). In extreme conditions, or where specified by the engineer, a second berm shall be constructed at the top of the slope. Engineer will specify berm requirements.
3. If berm is to be left as permanent or part of the natural landscape, the compost berm may be seeded during application for permanent vegetation.
4. Do not use compost or wood mulch berms in any runoff channels or concentrated flow areas.
5. Wood mulch shall consist of tree and shrub debris resulting from clearing and grubbing and shall be ground by the mechanical means such as a chipper, hammermill, tub grinder or other approved method. Mulch sizing varies with a maximum width of 2" and a maximum length of 10".

Maintenance for Mulch and Compost Filter Beam:

1. Berm shall be reshaped and material added as necessary to maintain function and dimensions.
2. Breaches in the berm shall be repaired promptly.

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

AMERICAN PUBLIC WORKS ASSOCIATION	
KANSAS CITY METRO CHAPTER	
WATTLES/BIODEGRADABLE LOG AND MULCH/COMPOST FILTER BERM	STANDARD DRAWING NUMBER ESC-04 ADOPTED: 10/24/2016

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PREPARED BY:

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2009007268
PROFESSIONAL ENGINEER
02.21.2020

SCHLAGEL & ASSOCIATES, P.A.

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STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 2-19-2020
PROJ. NUMBER: 18-017

EROSION CONTROL DETAILS

SHEET
5

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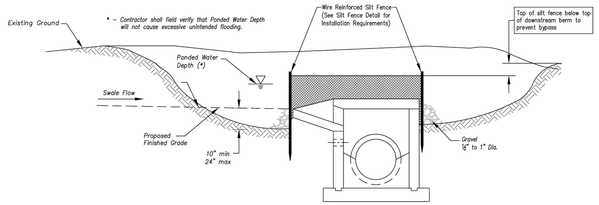
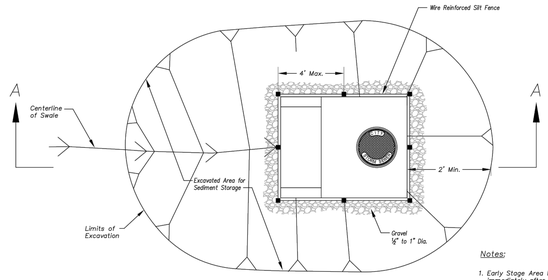


Section A–A
Not to Scale

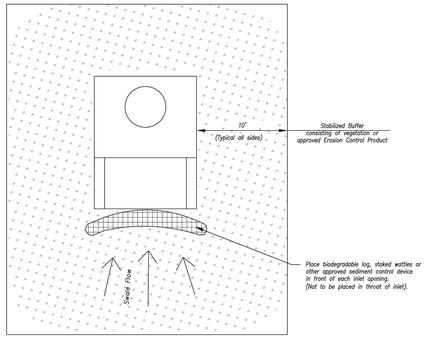


Plan
Not to Scale

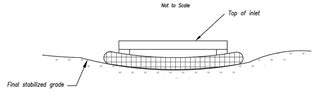
EARLY STAGE AREA INLET
(All open boxes and inlets not at final grade)

Notes:

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



Plan
Not to Scale



Front View

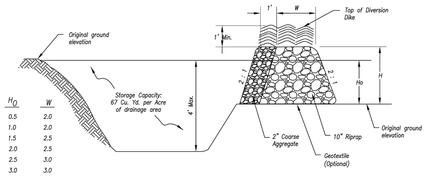
LATE STAGE AREA INLET
(Area inlets at final grade and existing inlets)

Maintenance:

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

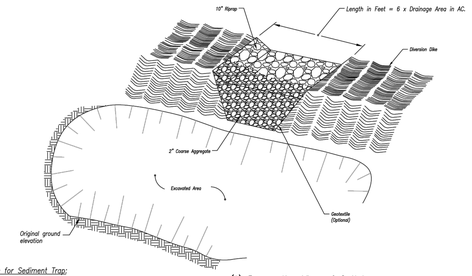
Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

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



H	H/2	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
3.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

(*) Cross Section of Outlet
Not to Scale



(*) Perspective View of Outlet
Not to Scale

(*) – The perspective view and cross section are schematic in nature. Construction plans must provide specific site construction arrangements.

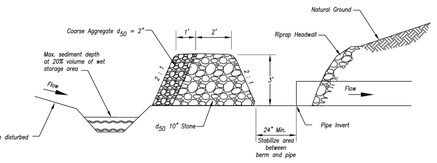
Notes for Sediment Trap:

1. The area under the embankment shall be cleared, grubbed, and stripped of any vegetation and root mat.
2. Fill material for the embankment shall be free of roots or other woody vegetation, organic material, large stones, and other objectionable material. The embankment should be compacted in 6–inch layers by traversing with construction equipment.
3. The earthen embankment shall be stabilized immediately after installation.
4. Construction operations shall be carried out to minimize erosion and water pollution.
5. The structure shall be removed and the area stabilized when the upslope drainage area has been stabilized.
6. All cut and fill slopes shall be 2H : 1V or flatter, except for excavated, wet storage areas which may be at a maximum 1H : 1V grade.

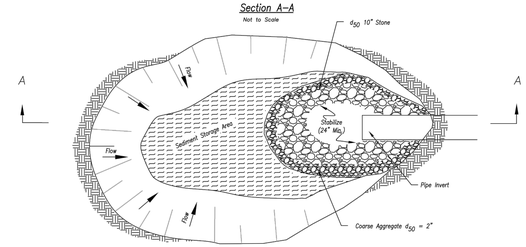
Maintenance for Sediment Trap:

1. Check sediment traps after periods of significant runoff.
2. Remove sediment and restore the trap to its original dimensions when sediment accumulates to 20% of the storage capacity.
3. Immediately repair any erosion damage to the embankment and outlet.
4. Keep outlet and pool area free of all trash and other debris.

SEDIMENT TRAP



Section A–A
Not to Scale



Plan View
Not to Scale

Notes for Sediment Trap at Culvert Opening:

1. The inlet protection device shall be constructed in a manner that will facilitate clean–out and disposal of trapped sediment and minimize interference with construction activities.
2. The inlet protection devices shall be constructed in such manner that any resultant ponding stormwater will not cause excessive inconvenience or damage to adjacent areas or structures.
3. Geometry of the design will be a horseshoe shape around the culvert inlet.
4. The toe of the riprap shall be no closer than 24" from the culvert opening to provide an acceptable emergency outlet for flows from larger storm events.
5. Storage requirements equivalent to that of temporary sediment trap.
6. 67 CY./Acre wet storage below base of stone.
7. 67 CY./Acre dry storage from base of stone to top of stone berm.

Maintenance for Sediment Trap at Culvert Opening:

1. Check sediment traps after periods of significant runoff.
2. Remove sediment and restore the trap to its original dimensions when sediment accumulates to 20% of the storage capacity.
3. Immediately repair any erosion damage to the embankment and outlet.
4. Keep outlet and pool area free of all trash and other debris.

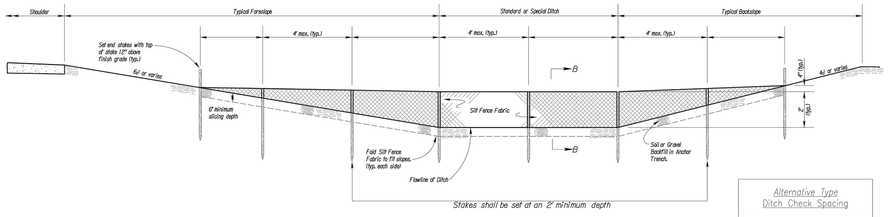
SEDIMENT TRAP AT CULVERT OPENING

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

AMERICAN PUBLIC WORKS ASSOCIATION
Kansas City Metro Chapter
KANSAS CITY METRO CHAPTER
SEDIMENT TRAPS
STANDARD DRAWING NUMBER ESC-08
ADOPTED: 10/24/2016

Notes for Silt Fence Ditch Check:

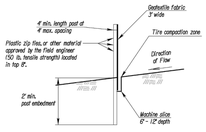
1. Stakes shall be 4" (min.) long and one of the following materials:
   a. Hardwood – 1 ½" x 1 ½";
   b. Southern Pine (No. 2) – 2 ½" x 2 ½";
   c. Steel U, T, L, or C Section – .95 lbs. per 1'–0";
   d. Synthetic – same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.
6. Use support fencing when tributary area is greater than 2.4 acres or when ditch gradient is greater than 2 percent.
7. Silt fence sliced in to a 6" minimum depth.
8. Elevation at tie in points shall be a minimum of 4" higher than the center.



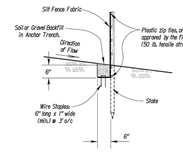
Stakes shall be set at an 2' minimum depth

TYPICAL ELEVATION

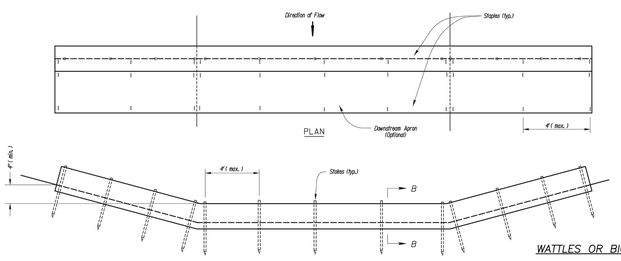
Alternative Type Ditch Check Spacing	
Ditch Centerline Slope (%)	Spacing Interval (Feet)
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	33
Note: Use this spacing for all except Rock Ditch Checks.	



SECTION B–B



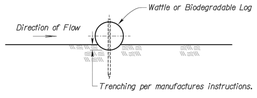
SILT FENCE DITCH CHECK
NO SCALE



TYPICAL ELEVATION

Notes for Wattles and Biodegradable Log Ditch Check:

1. Use as many biodegradable log sections as necessary to ensure water does not flow around end of ditch check.
2. Overlap sections a minimum of 18"
3. Stakes shall be per manufacturer's instructions. Length of stakes shall be a minimum of 2 times the diameter of the log or 24" minimum.
4. Use Erosion Control (Class 1) (Type C) as the downstream apron when directed by the Engineer.
5. Use 9" diameter logs when used with Erosion Control (Class 2) (Any Type) channel lining. Smaller diameter logs may be used with Erosion Control (Class 2) (Any Type) channel lining as directed by the Engineer.



SECTION B – B

WATTLES OR BIODEGRADABLE LOG DITCH CHECKS
OR Filter Sock Ditch Check
NO SCALE

Modified from Kansas Department of Transportation Standard Details for Erosion Control and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION
Kansas City Metro Chapter
KANSAS CITY METRO CHAPTER
SILT FENCE AND WATTLE/ BIODEGRADABLE LOG DITCH CHECKS
STANDARD DRAWING NUMBER ESC-09
ADOPTED: 10/24/2016

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PREPARED BY:

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

SCHLAGEL & ASSOCIATES, P.A.

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY: BAL
CHECKED BY: MAB
DATE PREPARED: 2-19-2020
PROJ. NUMBER: 18-017

EROSION CONTROL DETAILS

SHEET 6

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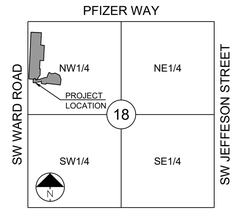
PROJECT BENCHMARK:

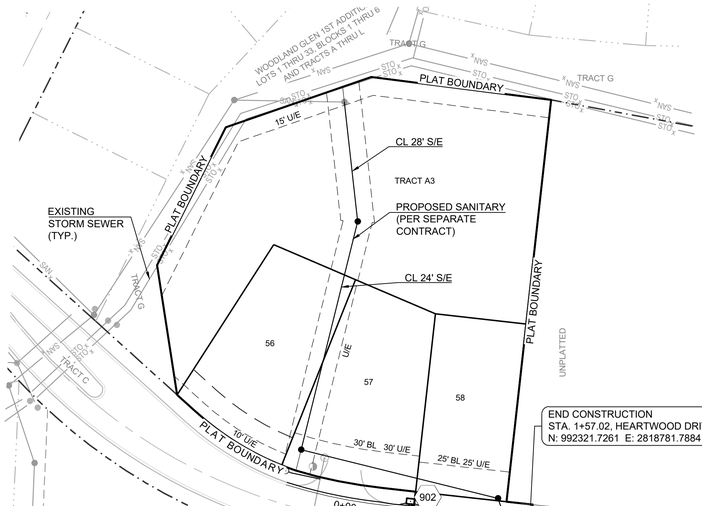
SW. CORNER NW. ¼ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
M.D.N.R. DOC. NO. 600-65374

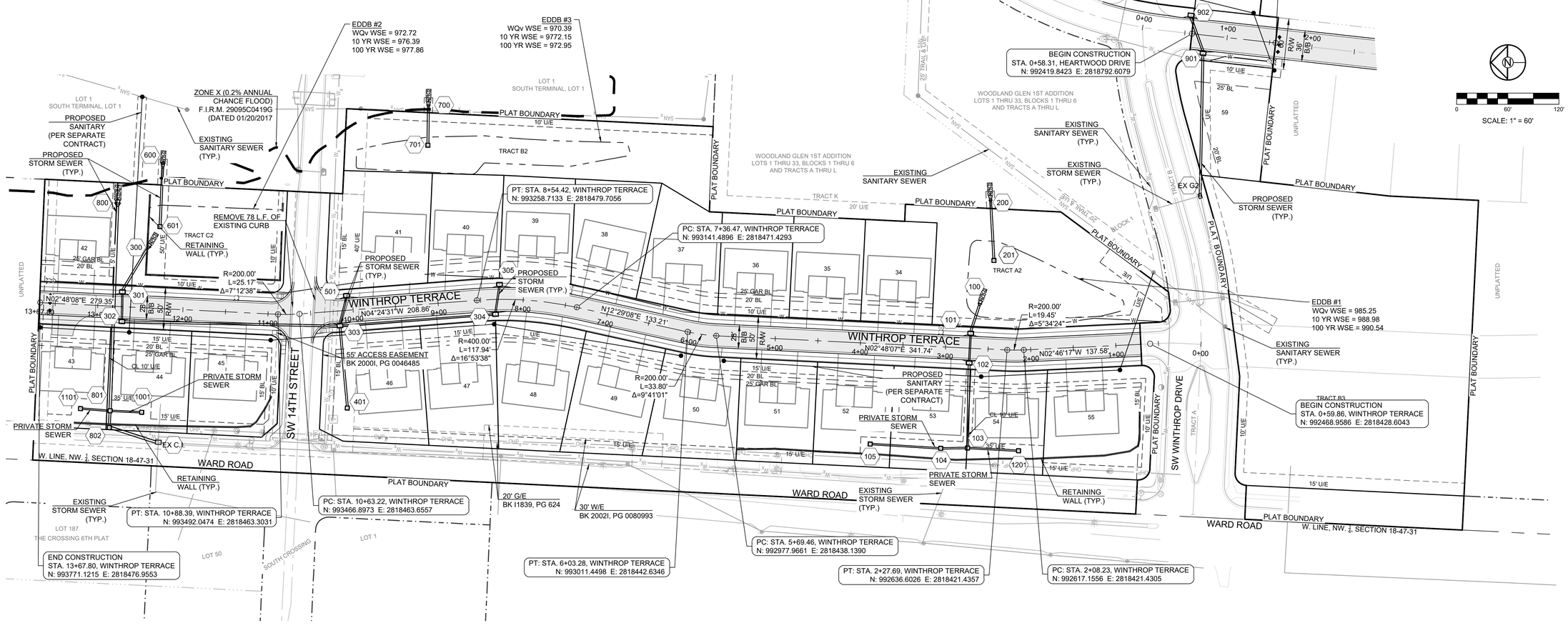
ELEV. 1036.41



SECTION 18-47N-31W

LOCATION MAP
SCALE 1" = 2000'





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STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

GENERAL LAYOUT

SHEET
7

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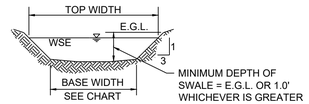
NOTES:

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



100 YR OVERFLOW SWALE SECTIONS
SECTION 1-2

100 YEAR OVERFLOW SWALES												
SECTION	DRAINAGE AREA (AC.)	Q100 (CFS)	Q10 (CFS)	DESIGN OVERFLOW (CFS)	BED SLOPE (%)	BASE WIDTH (FT.)	SIDE SLOPE	TOP WIDTH (FT.)	NORMAL DEPTH (FT.)	VELOCITY (FPS)	VELOCITY HEAD (FT.)	EGL (FT.)
A-A	0.32	2.11	-	2.11	2.52	5	3:1	6.02	0.17	2.26	0.08	0.25
B-B	3.54	23.29	-	23.29	7.93	5	3:1	7.91	0.49	7.44	0.86	1.35
C-C	0.93	6.12	-	6.12	6.50	5	3:1	6.44	0.24	4.46	0.31	0.55
D-D	2.65	17.44	-	17.44	5.93	5	3:1	7.69	0.45	6.13	0.58	1.03

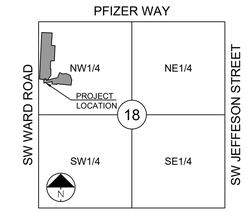
RUNOFF CALCULATIONS:
Q = K * C * I * A
K_{10} = 1.0 K_{100} = 1.25 C = 0.51 I = INTENSITY
DESIGN OVERFLOW=$Q_{OVERFLOW}$ = Q_{100} - Q_{10}
MANNINGS "n" = .030 FOR SWALES

A A
DENOTES OVERFLOW SWALE

PROJECT BENCHMARK:

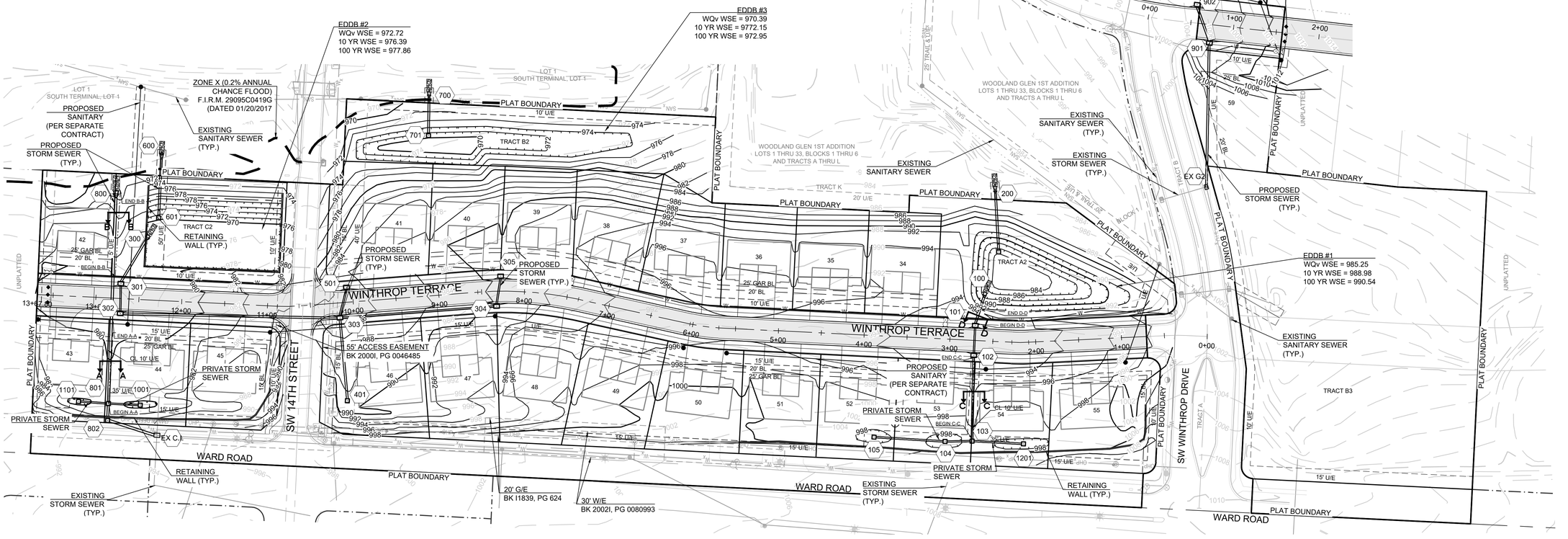
SW. CORNER NW. ¼ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41



SECTION 18-47N-31W

LOCATION MAP
SCALE 1" = 2000'



SCALE: 1" = 60'

02.21.2020

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WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

MASTER DRAINAGE PLAN
GRADING PLAN

SHEET
8

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T TYPE TABLE	
LOT #	BASEMENT TYPE
34	DAYLIGHT
35	DAYLIGHT
36	DAYLIGHT
37	DAYLIGHT
38	DAYLIGHT
39	DAYLIGHT
40	DAYLIGHT
41	DAYLIGHT
42	DAYLIGHT
43	STANDARD
44	STANDARD
45	STANDARD
46	STANDARD
47	STANDARD
48	STANDARD
49	STANDARD
50	STANDARD
51	STANDARD
52	STANDARD
53	STANDARD
54	STANDARD
55	STANDARD
56	WALKOUT
57	WALKOUT
58	WALKOUT
59	WALKOUT

NOTE:

1. DAYLIGHT BASED ON ADJACENT GRADE 4 FT BELOW TOP OF FOUNDATION WHILE MAINTAINING 2.5% (MIN) GRADE TO LOT CORNERS.
2. WALKOUT BASED ON ADJACENT GRADE AT BASEMENT FLOOR ELEVATION WHILE MAINTAINING 2.5% (MIN) GRADE TO LOT CORNERS.

NOTES:

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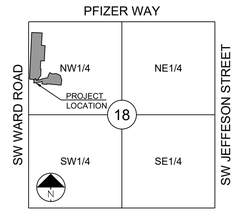
933.38 — DENOTES FINISHED GRADE ELEVATION
EX: 936.48 — DENOTES EXISTING GRADE ELEVATION

DENOTES CONCEPTUAL BUILDING FOOTPRINT

PROJECT BENCHMARK:

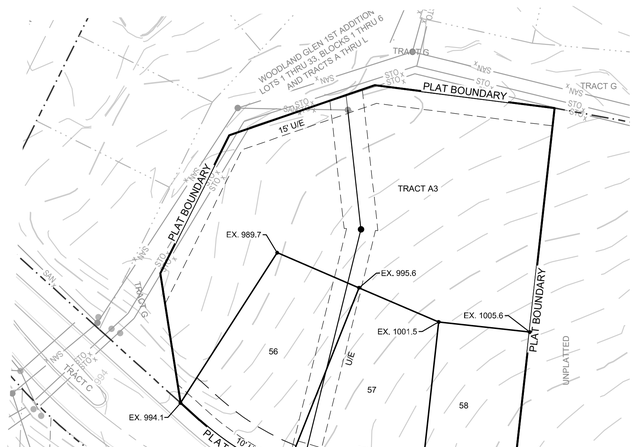
SW. CORNER NW. ¼ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41

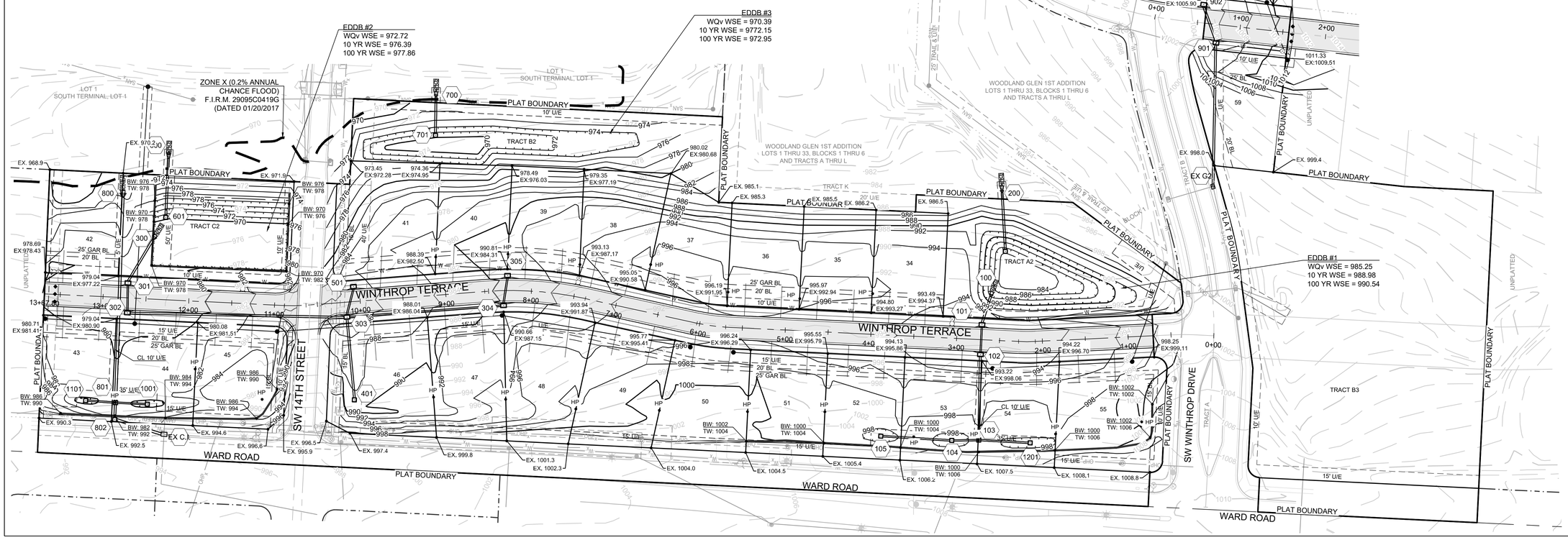


SECTION 18-47N-31W

LOCATION MAP
SCALE 1" = 2000'



SCALE: 1" = 60'



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MASTER DRAINAGE PLAN SPOT ELEVATIONS

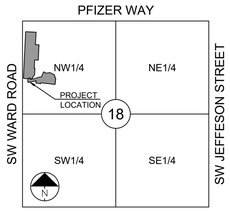
SHEET
9

I:\PROJECTS\2018\18-017\3.0 Design\3.0 DWG Plans\6.0 SS\18-017 SS GL AND GP.dwg, 2/21/2020 9:40:19 AM, 1:1

PROJECT BENCHMARK:

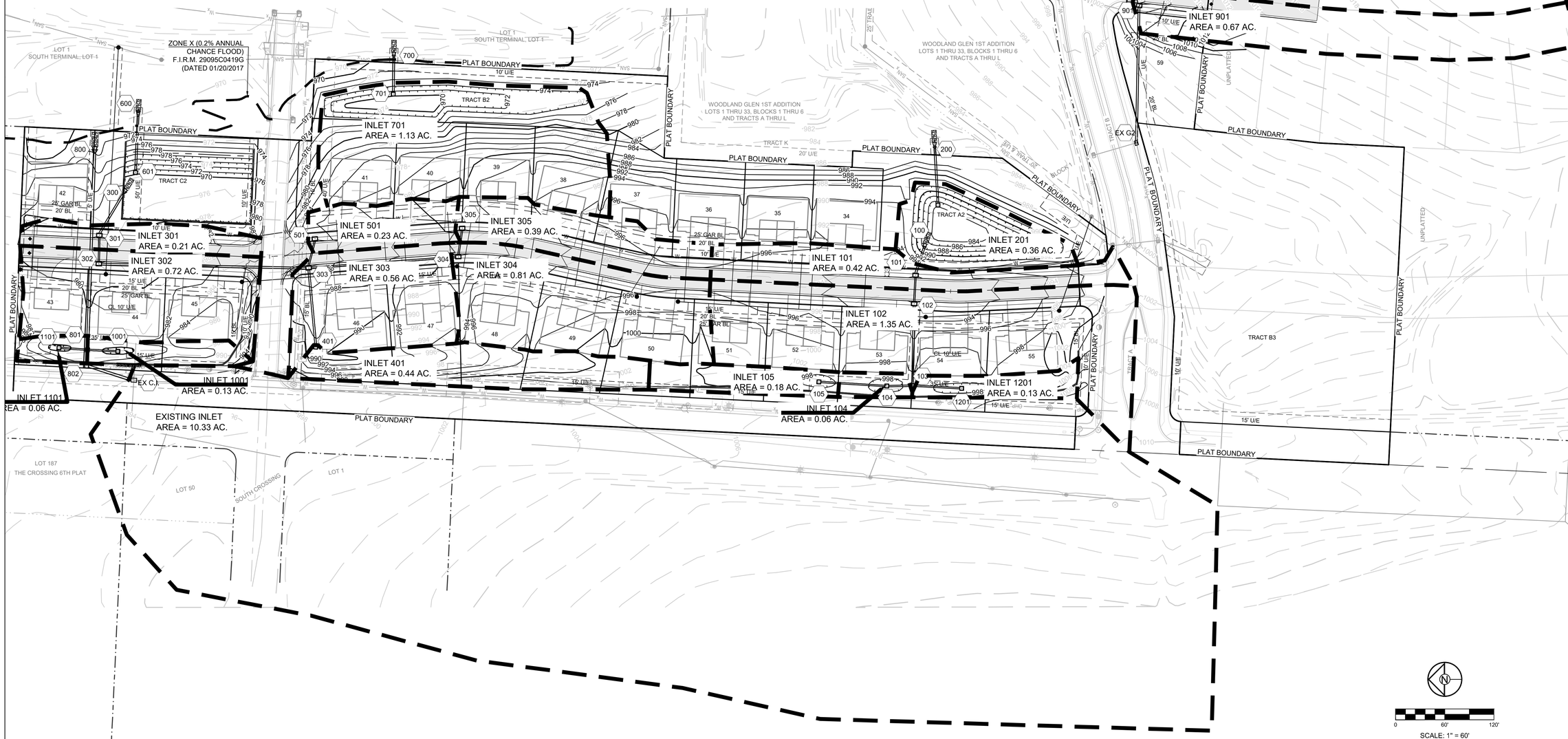
SW. CORNER NW. $\frac{1}{4}$ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41



SECTION 18-47N-31W

LOCATION MAP
SCALE 1" = 2000'



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STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

MASTER DRAINAGE PLAN DRAINAGE AREAS

SHEET
10

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10 YR STORM SEWER DESIGN CALCULATIONS

Runoff Calculations															Pipe Properties												
Inlet #	Area (acres)	"C" Value	Cumul. Area (acres)	Cumul. CxA	Tc	Intensity	Runoff To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area (acres)	Up CxA	Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top	HGL Elev.
LINE 100																							DS TAILWATER @ STR #100			FREE
101	0.42	0.60	2.65	1.59	5.6	7.18	1.81	11.41	12.47	7.05			0.00	0.00	101	100	HDPE	0.012	18	34.17	1.20	0.50	986.89	986.48	992.99	988.57
102	1.35	0.60	2.23	1.34	5.5	7.20	5.84	9.64	11.38	6.44			0.00	0.00	102	101	HDPE	0.012	18	35.00	1.00	0.50	987.74	987.39	992.99	989.25
103	0.51	0.60	0.88	0.53	5.3	7.25	2.22	3.83	13.09	10.67	1201		0.13	0.08	103	102	HDPE	0.012	15	99.73	3.50	0.50	991.73	988.24	999.50	992.69
104	0.06	0.60	0.24	0.14	5.2	7.28	0.26	1.05	7.00	5.70			0.00	0.00	104	103	HDPE	0.012	15	31.46	1.00	0.50	992.55	992.23	997.50	993.09
105	0.18	0.60	0.18	0.11	5.0	7.35	0.79	0.79	7.00	5.70			0.00	0.00	105	104	HDPE	0.012	15	82.88	1.00	N/A	993.87	993.05	997.50	994.28
LINE 200																							DS TAILWATER @ STR #200			FREE
201	0.00	0.60	0.00	0.00	5.0	7.35	0.00	0.00	9.04	7.37			0.00	0.00	201	200	HDPE	0.012	15	68.80	1.67	N/A	984.00	982.85	990.50	#VALUE!
*SEE FINAL STORMWATER REPORT FOR DETAILED POND CALCULATIONS																											
LINE 300																							DS TAILWATER @ STR #300			FREE
301	0.21	0.60	3.36	2.02	6.1	7.02	0.88	14.15	17.33	5.52			0.00	0.00	301	300	HDPE	0.012	24	58.76	0.50	0.50	970.29	970.00	978.76	971.96
302	0.72	0.60	3.15	1.89	6.0	7.05	3.05	13.33	15.50	4.93			0.00	0.00	302	301	HDPE	0.012	24	35.01	0.40	0.50	970.93	970.79	978.75	972.59
303	0.56	0.60	2.43	1.46	5.4	7.24	2.43	10.56	11.66	6.60	401	501	0.67	0.40	303	302	HDPE	0.012	18	255.88	1.05	4.00	974.12	971.43	985.05	975.72
304	0.81	0.60	1.20	0.72	5.1	7.34	3.57	5.28	12.28	10.01			0.00	0.00	304	303	HDPE	0.012	15	182.99	3.08	0.50	983.76	978.12	990.43	984.91
305	0.39	0.60	0.39	0.23	5.0	7.35	1.72	1.72	13.09	10.67			0.00	0.00	305	304	HDPE	0.012	15	35.39	3.50	N/A	985.50	984.26	990.58	986.11
LINE 400																				Drop in Inlet 303		4.00				
401	0.44	0.60	0.44	0.26	5.0	7.35	1.94	1.94	15.25	12.43			0.00	0.00	401	303	HDPE	0.012	15	96.83	4.75	N/A	982.72	978.12	988.88	983.38
LINE 500																				Drop in Inlet 303		4.00				
501	0.23	0.60	0.23	0.14	5.0	7.35	1.01	1.01	14.00	11.41			0.00	0.00	501	303	HDPE	0.012	15	36.50	4.00	N/A	979.58	978.12	985.36	980.05
LINE 600																							DS TAILWATER @ STR #600			FREE
601	0.29	0.60	0.29	0.17	5.0	7.35	1.28	1.28	16.84	9.53			0.00	0.00	601	600	HDPE	0.012	18	68.55	2.19	N/A	971.50	970.00	977.00	972.00
*SEE FINAL STORMWATER REPORT FOR DETAILED POND CALCULATIONS																											
LINE 700																							DS TAILWATER @ STR #603			FREE
701	1.13	0.60	1.13	0.68	5.0	7.35	4.99	4.99	20.89	11.82			0.00	0.00	701	603	HDPE	0.012	18	45.00	3.37	N/A	969.50	967.98	974.13	971.59
*SEE FINAL STORMWATER REPORT FOR DETAILED POND CALCULATIONS																											
LINE 800																							DS TAILWATER @ STR #800			FREE
801	0.00	0.60	10.52	6.31	5.1	7.33	0.00	46.25	54.60	11.12	1001	1101	0.19	0.11	801	800	HDPE	0.012	30	240.01	1.51	0.50	973.67	970.05	981.50	976.69
802	0.00	0.60	10.33	6.20	5.0	7.34	0.00	45.48	50.86	10.36			0.00	0.00	802	801	HDPE	0.012	30	19.80	1.31	0.50	974.43	974.17	993.08	977.55
803	10.33	0.60	10.33	6.20	5.0	7.35	45.57	45.57	99.36	20.24			0.00	0.00	803	802	HDPE	0.012	30	60.04	5.00	7.00	977.94	974.93	994.02	980.92
LINE 900																							DS TAILWATER @ STR #EX G2			FREE
901	0.67	0.60	1.41	0.85	5.1	7.33	2.95	6.20	11.52	9.39			0.00	0.00	901	EX G2	HDPE	0.012	15	167.35	2.71	0.50	998.13	993.59	1005.92	999.40
902	0.74	0.60	0.74	0.44	5.0	7.35	3.26	3.26	11.06	9.02			0.00	0.00	902	901	HDPE	0.012	15	47.05	2.50	N/A	999.80	998.63	1005.18	1000.68
LINE 1000																				Drop in Inlet 801		1.25				
1001	0.13	0.60	0.13	0.08	5.0	7.35	0.57	0.57	7.00	5.70			0.00	0.00	1001	801	HDPE	0.012	15	37.11	1.00	N/A	975.30	974.92	979.50	976.70
LINE 1100																				Drop in Inlet 801		1.25				
1101	0.06	0.60	0.06	0.04	5.0	7.35	0.26	0.26	7.00	5.70			0.00	0.00	1101	801	HDPE	0.012	15	34.86	1.00	N/A	975.27	974.92	979.50	976.69
LINE 1200																				Drop in Inlet 103		0.50				
1201	0.13	0.60	0.13	0.08	5.0	7.35	0.57	0.57	7.00	5.70			0.00	0.00	1201	103	HDPE	0.012	15	59.97	1.00	N/A	992.83	992.23	997.50	993.25

100 YR STORM SEWER DESIGN CALCULATIONS

Runoff Calculations															Pipe Properties												
Inlet #	Area (acres)	"C" Value	Cumul. Area (acres)	Cumul. CxA	Tc	Intensity	Runoff To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area (acres)	Up CxA	Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top	HGL Elev.
LINE 100																							DS TAILWATER @ STR #100			FREE
101	0.42	0.60	2.65	1.59	5.6	10.09	3.18	20.05	12.47	7.05			0.00	0.00	101	100	HDPE	0.012	18	34.17	1.20	0.50	986.89	986.48	992.99	990.04
102	1.35	0.60	2.23	1.34	5.5	10.12	10.25	16.93	11.38	6.44			0.00	0.00	102	101	HDPE	0.012	18	35.00	1.00	0.50	987.74	987.39	992.99	991.53
103	0.51	0.60	0.88	0.53	5.3	10.19	3.90	6.72	13.09	10.67	1201		0.13	0.08	103	102	HDPE	0.012	15	99.73	3.50	0.50	991.73	988.24	999.50	993.07
104	0.06	0.60	0.24	0.14	5.2	10.22	0.46	1.84	7.00	5.70			0.00	0.00	104	103	HDPE	0.012	15	31.46	1.00	0.50	992.55	992.23	997.50	993.18
105	0.18	0.60	0.18	0.11	5.0	10.32	1.39	1.39	7.00	5.70			0.00	0.00	105	104	HDPE	0.012	15	82.88	1.00	N/A	993.87	993.05	997.50	994.43
LINE 200																							DS TAILWATER @ STR #200			FREE
201	0.00	0.60	0.00	0.00	5.0	10.32	0.00	0.00	9.04	7.37			0.00	0.00	201	200	HDPE	0.012	15	68.80	1.67	N/A	984.00	982.85	990.50	#VALUE!
*SEE FINAL STORMWATER REPORT FOR DETAILED POND CALCULATIONS																											
LINE 300																							DS TAILWATER @ STR #300			FREE
301	0.21	0.60	3.36	2.02	6.1	9.87	1.56	24.88	17.33	5.52			0.00	0.00	301	300	HDPE	0.012	24	58.76	0.50	0.50	970.29	970.00	978.76	972.98
302	0.72	0.60	3.15	1.89	6.0	9.92	5.36	23.44	15.50	4.93			0.00	0.00	302	301	HDPE	0.012	24	35.01	0.40	0.50	970.93	970.79	978.75	973.74
303	0.56	0.60	2.43	1.46	5.4	10.17	4.27	18.54	11.66	6.60	401	501	0.67	0.40	303	302	HDPE	0.012	18	255.88	1.05	4.00	974.12	971.43	985.05	981.39
304	0.81	0.60	1.20	0.72	5.1	10.30	6.26	9.27	12.28	10.01			0.00	0.00	304	303	HDPE	0.012	15	182.99	3.08	0.50	983.76	978.12	990.43	985.39
305	0.39	0.60	0.39	0.23	5.0	10.32	3.02	3.02	13.09	10.67			0.00	0.00	305	304	HDPE	0.012	15	35.39	3.50	N/A	985.50	984.26	990.58	986.34
LINE 400																				Drop in Inlet 303		4.00				
401	0.44	0.60	0.44	0.26	5.0	10.32	3.41	3.41	15.25	12.43			0.00	0.00	401	303	HDPE	0.012	15	96.83	4.75	N/A	982.72	978.12	988.88	983.62
LINE 500																				Drop in Inlet 303		4.00				
501	0.23	0.60	0.23	0.14	5.0	10.32	1.78	1.78	14.00	11.41			0.00	0.00	501	303	HDPE	0.012	15	36.50	4.00	N/A	979.58	978.12	985.36	981.43
LINE 600																							DS TAILWATER @ STR #600			FREE
601	0.29	0.60	0.29	0.17	5.0	10.32	2.25	2.25	16.84	9.53			0.00	0.00	601	600	HDPE	0.012	18	68.55	2.19	N/A	971.50	970.00	977.00	972.17
*SEE FINAL STORMWATER REPORT FOR DETAILED POND CALCULATIONS																											
LINE 700																							DS TAILWATER @ STR #603			FREE
701	1.13	0.60	1.13	0.68	5.0	10.32	8.75	8.75	20.89	11.82			0.00	0.00	701	603	HDPE	0.012	18	45.00	3.37	N/A	969.50	967.98	974.13	972.63
*SEE FINAL STORMWATER REPORT FOR DETAILED POND CALCULATIONS																											
LINE 800																							DS TAILWATER @ STR #800			FREE
801	0.00	0.60	10.52	6.31	5.1	10.29	0.00	81.18	54.60	11.12	1001	1101	0.19	0.11	801	800	HDPE	0.012	30	240.01	1.51	0.50	973.67	970.05	981.50	982.69
802	0.00	0.60	10.33	6.20	5.0	10.30	0.00	79.82	50.86	10.36			0.00	0.00	802	801	HDPE	0.012	30	19.80	1.31	0.50	974.43	974.17	993.08	984.19
803	10.33	0.60	10.33	6.20	5.0	10.32	79.97	79.97	99.36	20.24			0.00	0.00	803	802	HDPE	0.012	30	60.04	5.00	7.00	977.94	974.93	994.02	988.20
LINE 900																							DS TAILWATER @ STR #EX G2			FREE
901	0.67	0.60	1.41	0.85	5.1	10.29	5.17	10.88	11.52	9.39			0.00	0.00	901	EX G2	HDPE	0.012	15	167.35	2.71	0.50	998.13	993.59	1005.92	999.99
902	0.74	0.60	0.74	0.44	5.0	10.32	5.73	5.73	11.06	9.02			0.00	0.00	902	901	HDPE	0.012	15	47.05	2.50	N/A	999.80	998.63	1005.18	1001.02
LINE 1000																				Drop in Inlet 801		1.25				
1001	0.13	0.60	0.13	0.08	5.0	10.32	1.01	1.01	7.00	5.70			0.00	0.00	1001	801	HDPE	0.012	15	37.11	1.00	N/A	975.30	974.92	979.50	981.52
LINE 1100																				Drop in Inlet 801		1.25				
1101	0.06	0.60	0.06	0.04	5.0	10.32	0.46	0.46	7.00	5.70			0.00	0.00	1101	801	HDPE	0.012	15	34.86	1.00	N/A	975.27	974.92	979.50	981.50
LINE 1200																				Drop in Inlet 103		0.50				
1201	0.13	0.60	0.13	0.08	5.0	10.32	1.01	1.01	7.00	5.70			0.00	0.00	1201	103	HDPE	0.012	15	59.97	1.00	N/A	992.83	992.23	997.50	993.29

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STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
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CHECKED BY: MAB
DATE PREPARED: 2-19-2020
PROJ. NUMBER: 18-017

MASTER DRAINAGE PLAN
DRAINAGE CALCS

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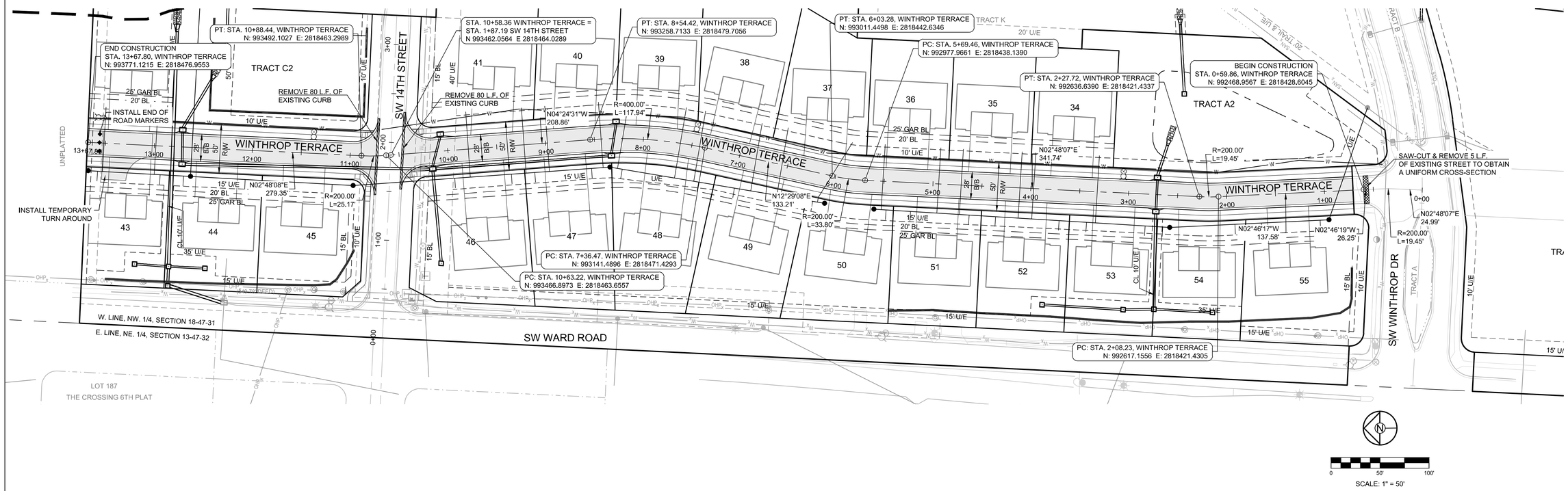
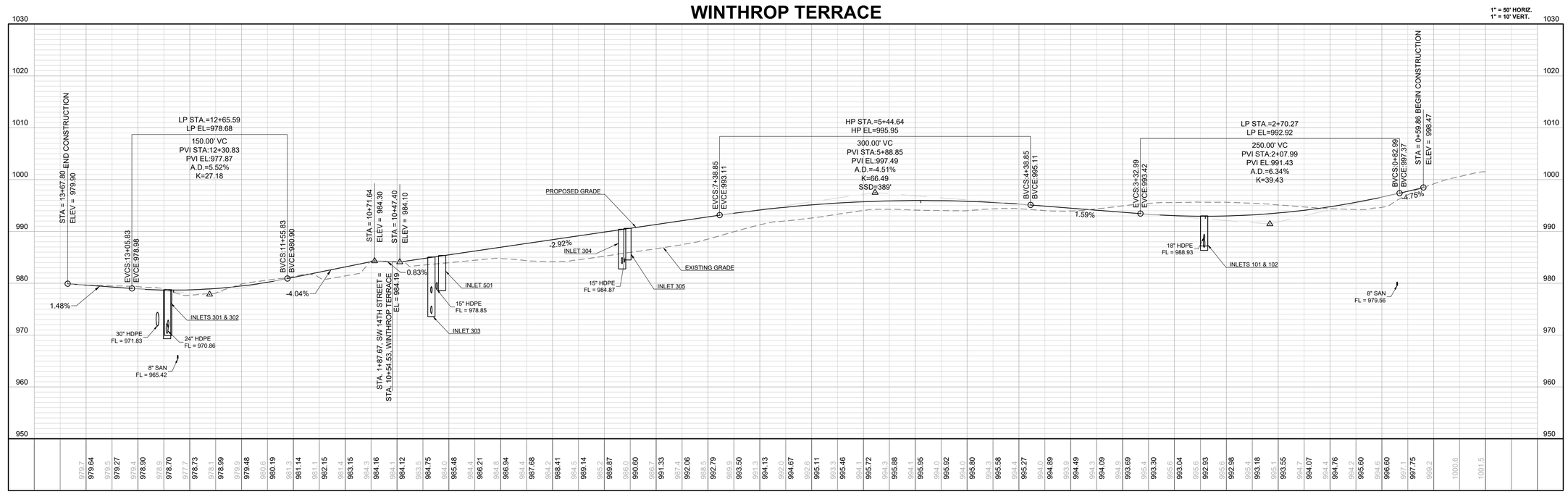
PROJECT BENCHMARK:

SW. CORNER NW. ¼ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41





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STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

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DATE PREPARED: 2-19-2020
PROJ. NUMBER: 18-017

WINTHROP TERRACE PLAN & PROFILE

SHEET 12

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PROJECT BENCHMARK:

SW. CORNER NW. ¼ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
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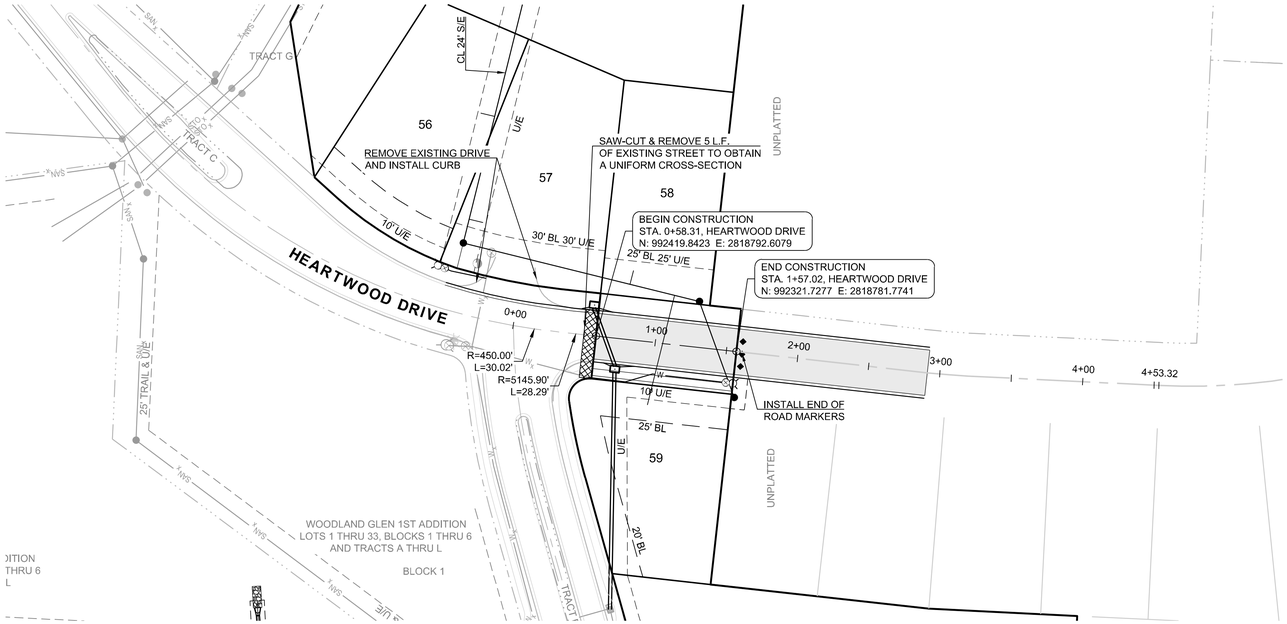

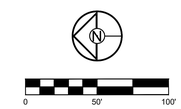

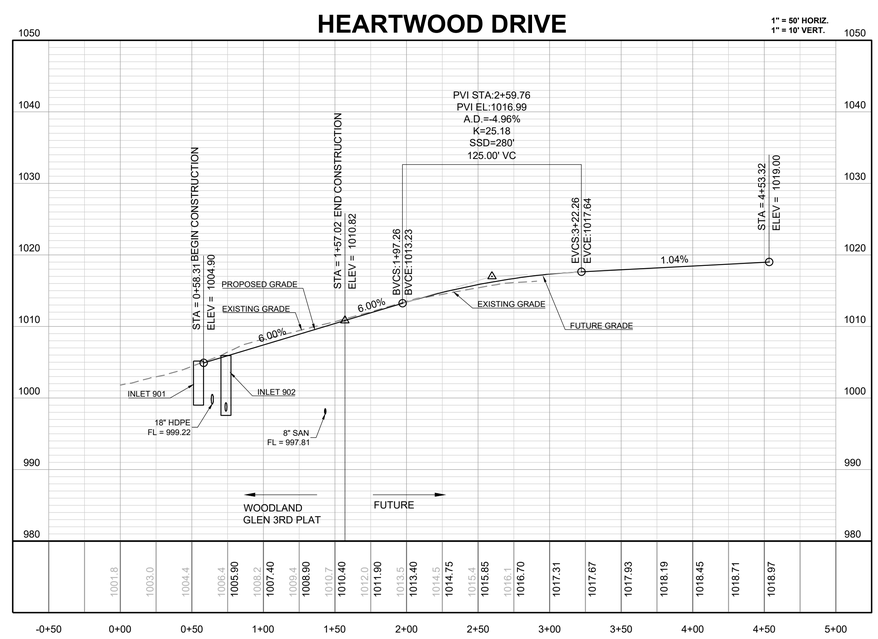

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MARK ALLEN BREUER
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WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

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CHECKED BY:	#####
DATE PREPARED:	2-19-2020
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HEARTWOOD DRIVE PLAN & PROFILE

SHEET

13

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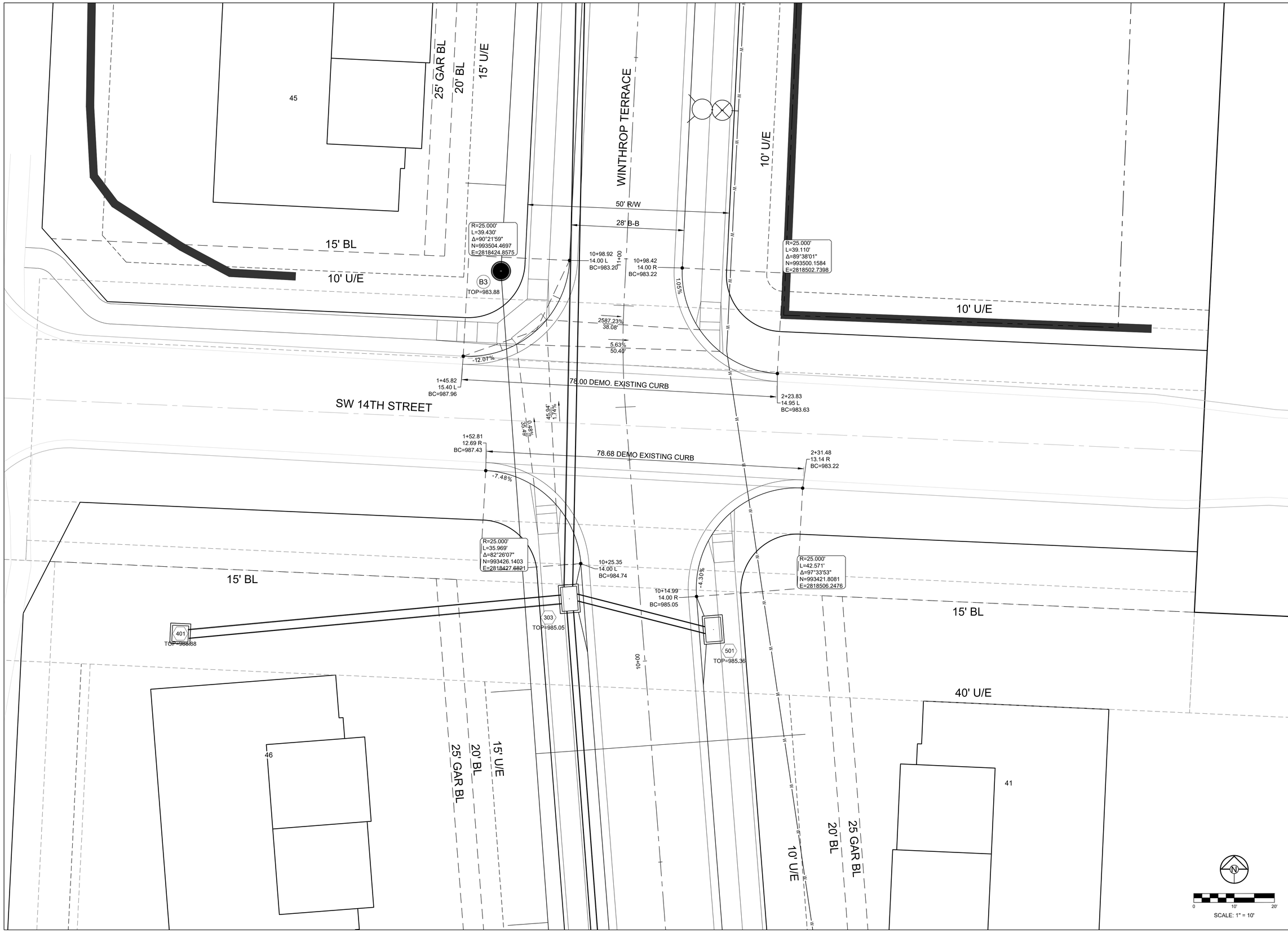

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Missouri State Certificates of Authority
#E2000003800-F #LA2001005237 #LS2000008859-F

PREPARED BY:

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

02.21.2020

SCHLAGEL & ASSOCIATES, P.A.

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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DRAWN BY:	#####
CHECKED BY:	#####
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

INTERSECTION DETAIL

SHEET

14

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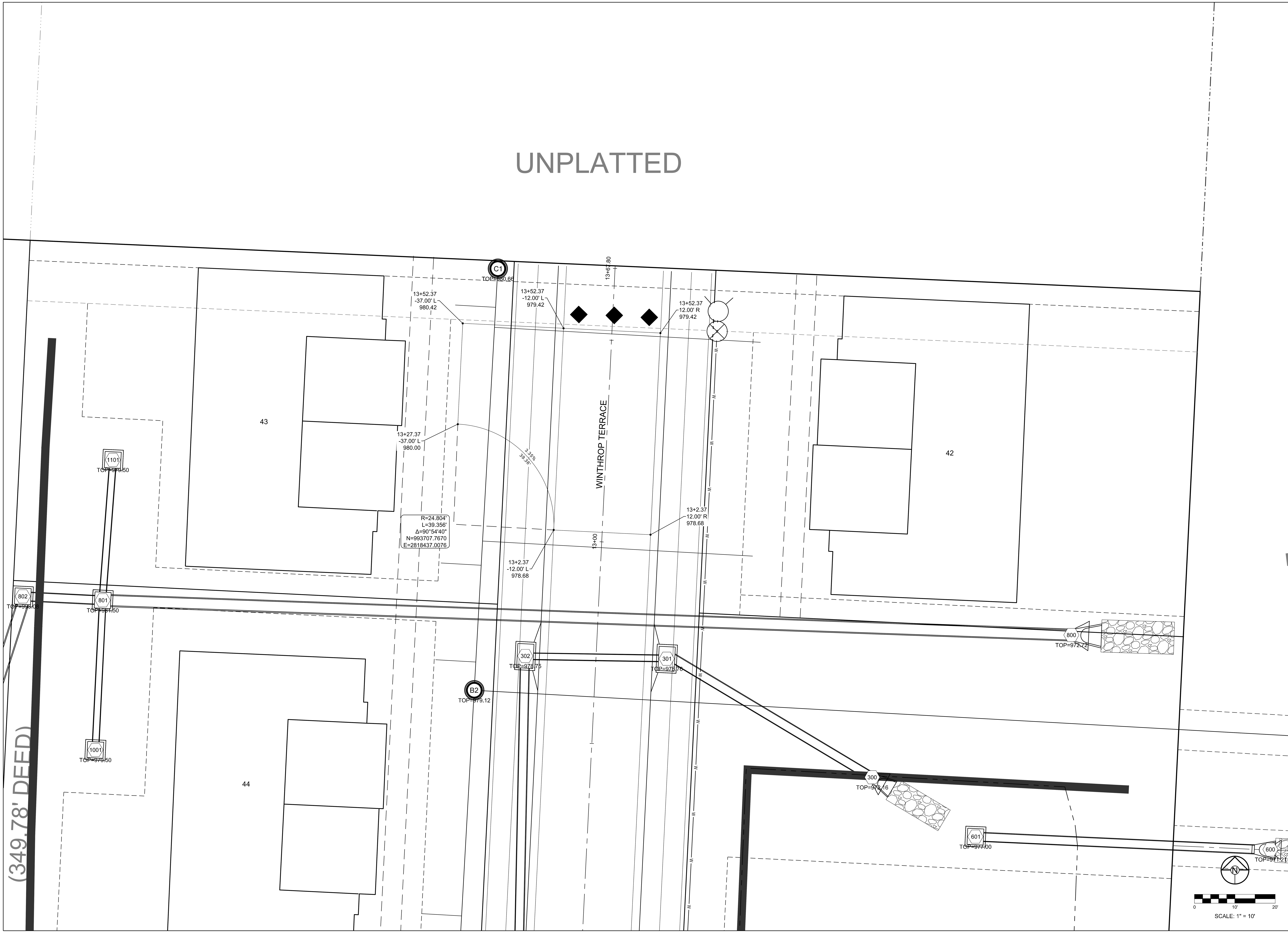

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NUMBER PE-2009007268
PROFESSIONAL ENGINEER
02.21.2020

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--- LEE'S SUMMIT, MISSOURI

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TEMPORARY TURN AROUND DETAIL

SHEET
15

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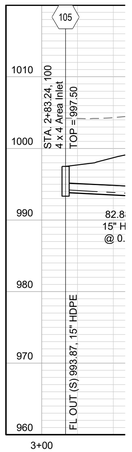
Storm Sewer Construction Notes	
Structure	Notes
100	STA 0+00.00, 100 INSTALL 18" END SECTION 342°49'15" N 992669.2728 E 2818473.6957
101	STA 0+34.17, 100 INSTALL 6 X 4 CURB INLET 87°11'53" N 992679.3667 E 2818441.0459
102	STA 0+69.17, 100 INSTALL 6 X 4 CURB INLET 87°11'53" N 992681.0777 E 2818406.0877
103	STA 1+68.90, 100 INSTALL 4 X 4 JUNCTION BOX 358°53'41" N 992683.0605 E 2818306.3812
104	STA 2+00.36, 100 INSTALL 4 X 4 AREA INLET 0°00'00" N 992714.5182 E 2818305.9879
105	STA 2+83.24, 100 INSTALL 4 X 4 AREA INLET 86°30'58" N 992797.2487 E 2818311.0247
200	STA -0+00.04, 200 INSTALL 15" END SECTION 3°14'20" N 992655.8760 E 2818595.2227

Storm Sewer Construction Notes	
Structure	Notes
201	STA 0+68.76, 200 INSTALL 4 X 4 JUNCTION BOX 180°00'00" N 992652.0986 E 2818526.5222
300	STA -0+00.00, 300 INSTALL 24" END SECTION 330°00'32" N 993645.0883 E 2818540.6336
301	STA 0+58.76, 300 INSTALL 6 X 4 CURB INLET 87°11'52" N 993674.4582 E 2818489.7451
302	STA 0+93.77, 300 INSTALL 6 X 4 CURB INLET 87°11'52" N 993675.1476 E 2818454.7370
303	STA 3+49.65, 300 INSTALL 6 X 4 CURB INLET 94°24'31" N 993419.3181 E 2818449.7719
304	STA 5+32.64, 300 INSTALL 6 X 4 CURB INLET 91°42'05" N 993236.8248 E 2818463.2865
305	STA 5+68.04, 300 INSTALL 6 X 4 CURB INLET 90°54'54" N 993232.1336 E 2818498.3682

Storm Sewer Construction Notes	
Structure	Notes
401	STA 0+96.83, 400 INSTALL 4 X 4 AREA INLET 357°17'49" N 993410.6806 E 2818353.3299
501	STA 0+36.50, 500 INSTALL 6 X 4 CURB INLET 94°24'31" N 993411.6806 E 2818485.4645
600	STA -0+00.04, 600 INSTALL 18" END SECTION 357°33'16" N 993627.2204 E 2818639.2364
601	STA 0+73.07, 600 INSTALL OUTLET STRUCTURE 357°23'29" N 993630.3926 E 2818566.1938
700	STA -0+00.04, 700 INSTALL 15" END SECTION 359°14'36" N 993315.5187 E 2818706.8141
701	STA 0+44.96, 700 INSTALL OUTLET STRUCTURE 0°00'00" N 993316.1131 E 2818661.8180
800	STA -0+00.04, 800 INSTALL 30" END SECTION 357°01'58" N 993680.3317 E 2818589.9535

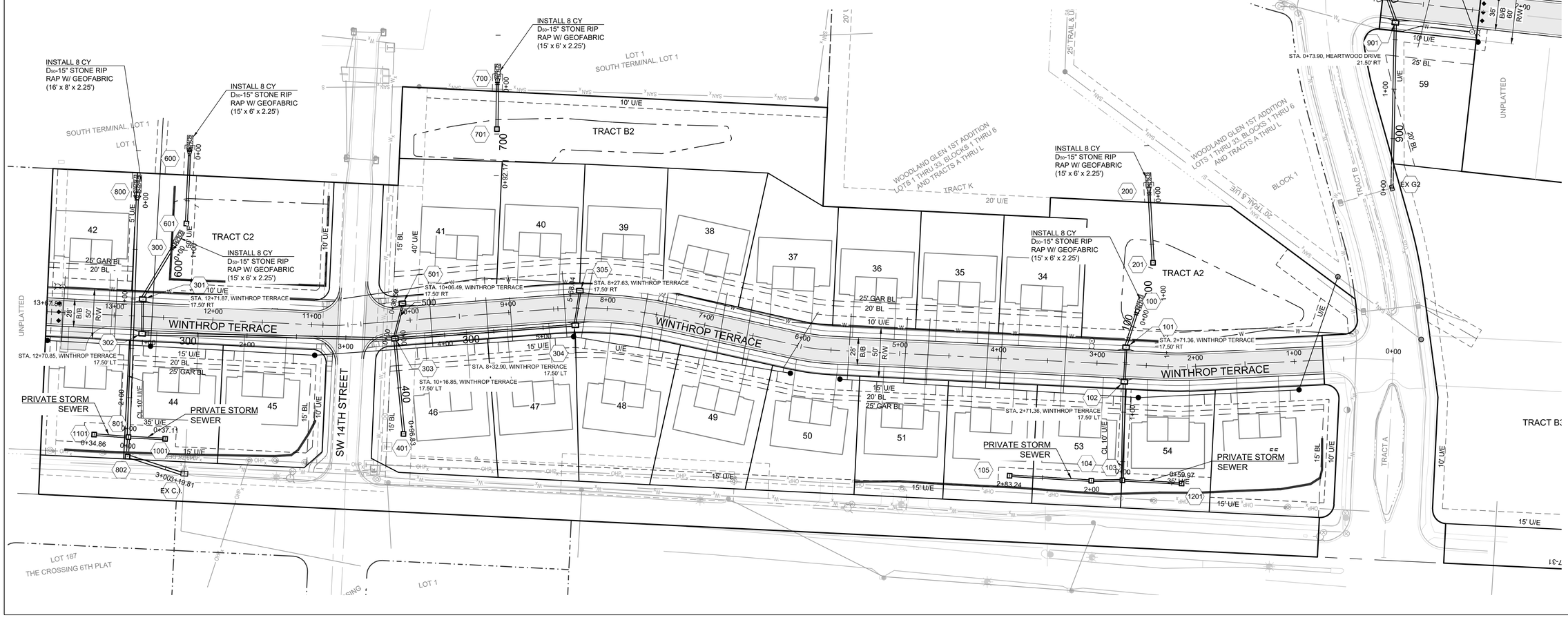
Storm Sewer Construction Notes	
Structure	Notes
801	STA 2+39.97, 800 INSTALL 4 X 4 JUNCTION BOX 357°11'47" N 993688.9438 E 2818350.0998
802	STA 2+59.77, 800 INSTALL 4 X 4 JUNCTION BOX 87°17'49" N 993689.9098 E 2818330.3205
901	STA 1+67.35, 900 INSTALL 6 X 4 CURB INLET 263°40'45" N 992406.7121 E 2818769.5220
902	STA 2+14.40, 900 INSTALL 6 X 4 CURB INLET 83°35'37" N 992420.9665 E 2818814.3651
1001	STA 0+37.11, 1000 INSTALL 4 X 4 AREA INLET 357°17'49" N 993651.8762 E 2818348.2826
1101	STA 0+34.86, 1100 INSTALL 4 X 4 AREA INLET 357°17'49" N 993723.7142 E 2818352.6103
1201	STA 0+59.97, 1200 INSTALL 4 X 4 AREA INLET 0°00'00" N 992623.1728 E 2818303.1652



PROJECT BENCHMARK:

SW. CORNER NW. ¼ SEC. 18-47N-31W, JACKSON COUNTY, MO.
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX
M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41



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02.21.2020

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STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

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CHECKED BY:	MAB
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PROJ. NUMBER:	18-017

STORM PLAN

SHEET
16

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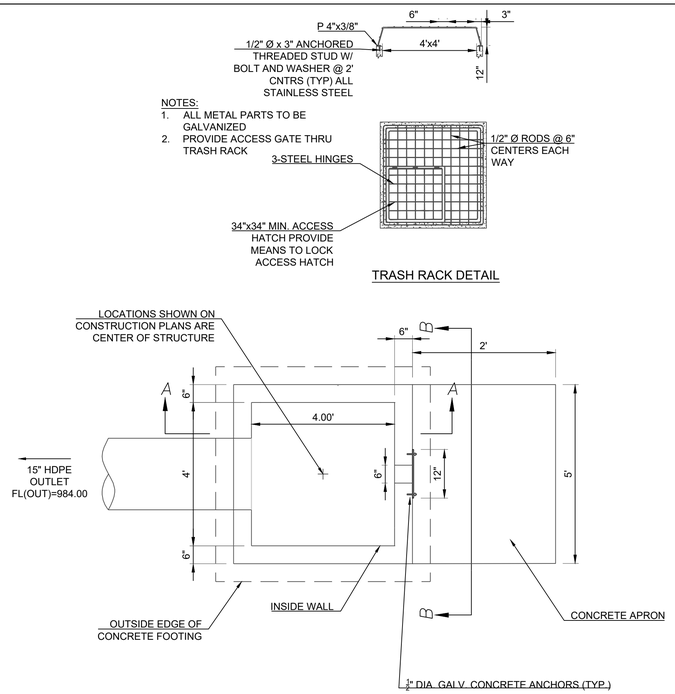

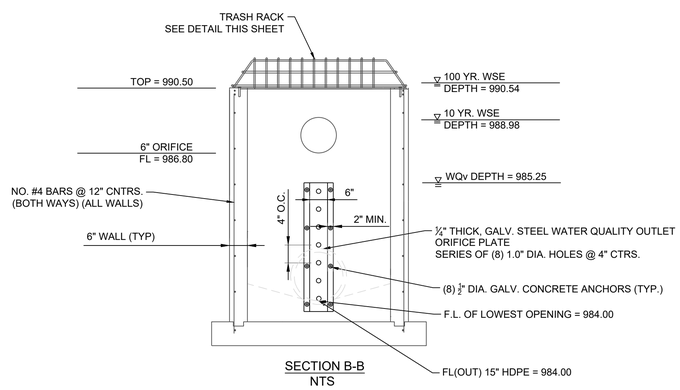

SECTION B-B
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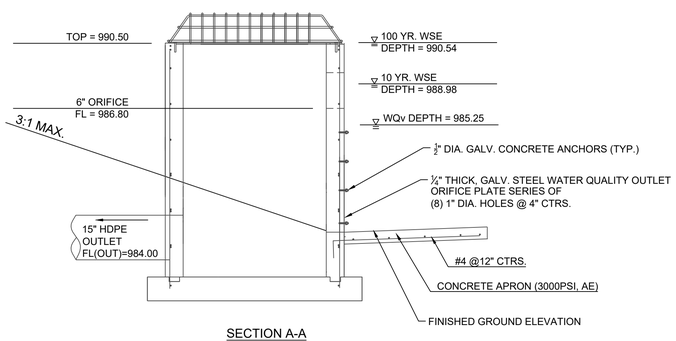

SECTION A-A
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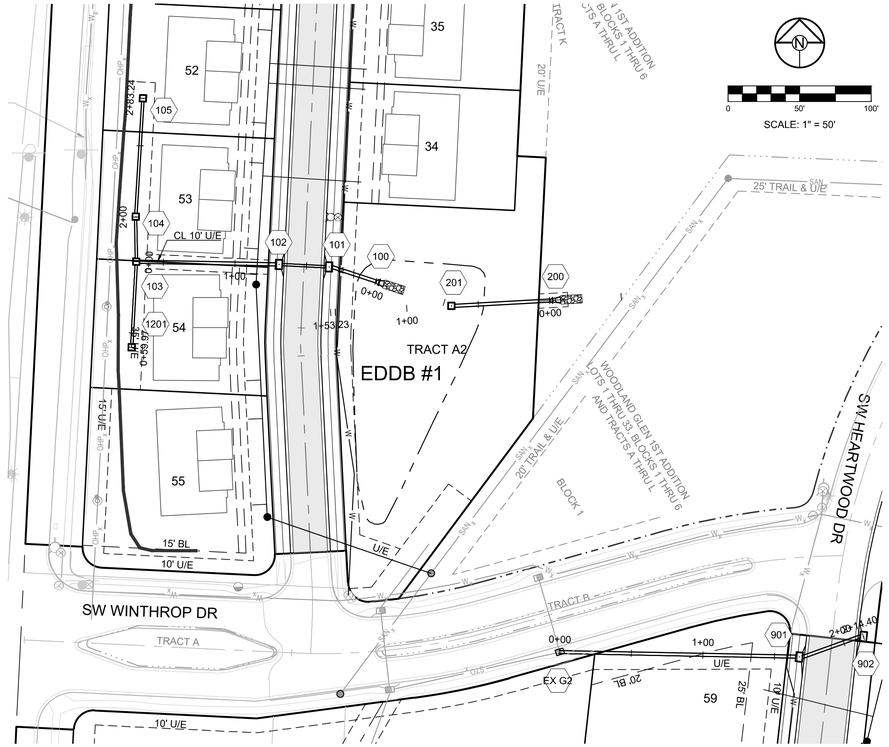

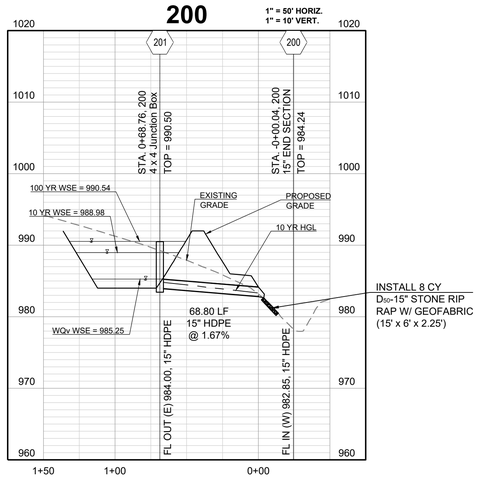

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ELEV. 1036.41

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02.21.2020

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---- LEE'S SUMMIT, MISSOURI

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PROJ. NUMBER:	18-017

EDDB 1 OUTLET STRUCTURE

SHEET
17

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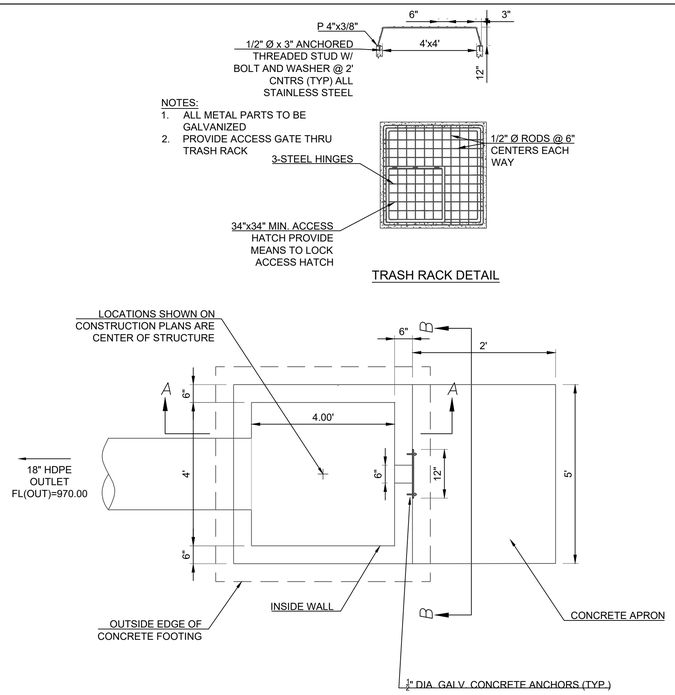

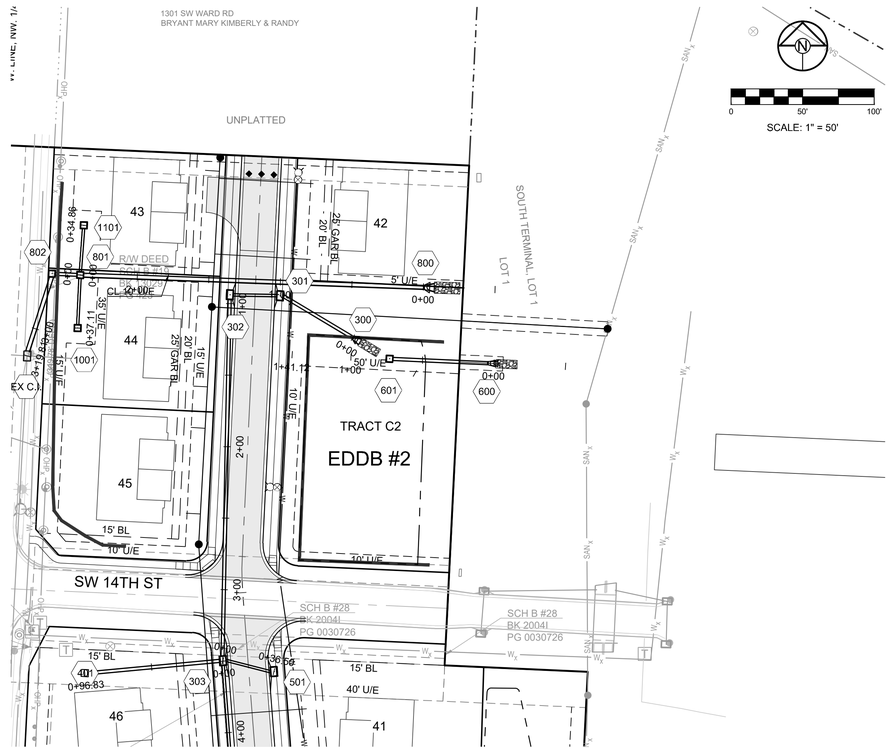

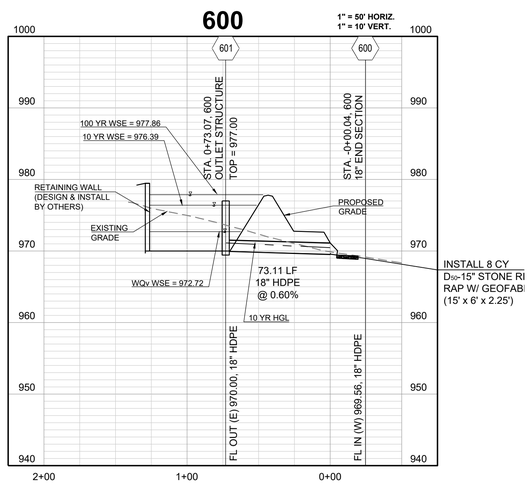

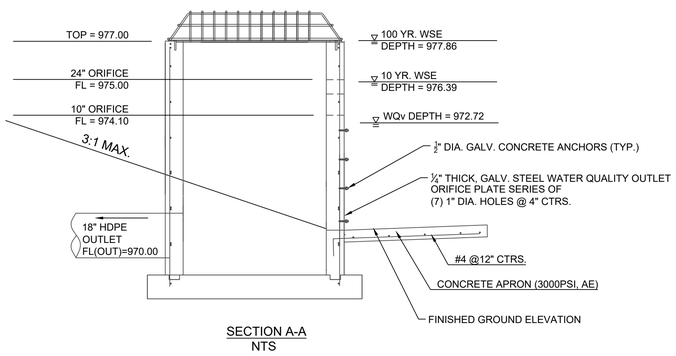

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STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

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EDDB 2 OUTLET STRUCTURE

SHEET
18

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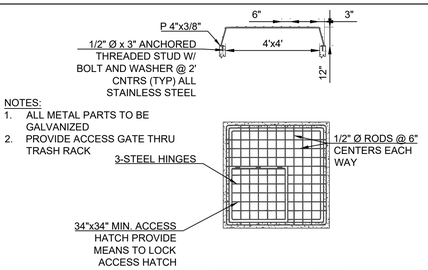
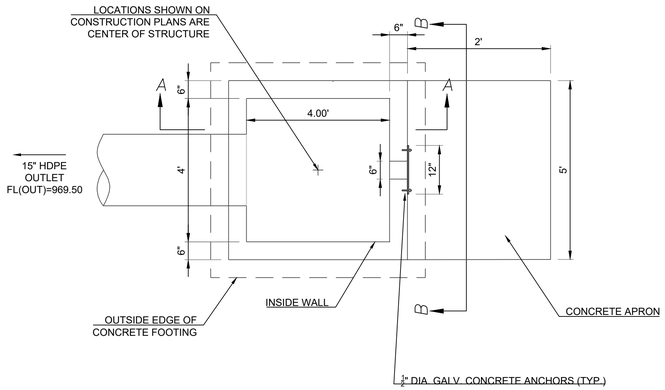
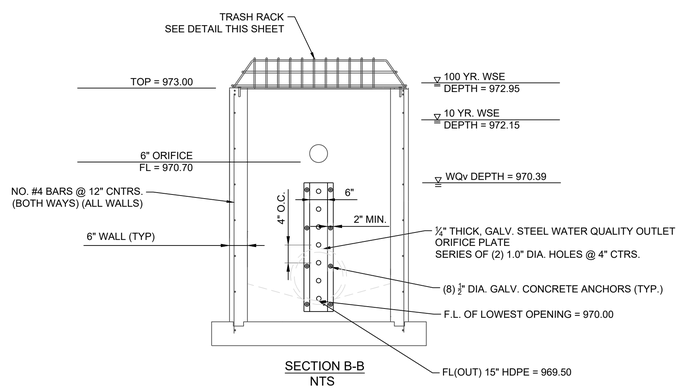


NOTES:
1. ALL METAL PARTS TO BE GALVANIZED
2. PROVIDE ACCESS GATE THRU TRASH RACK

TRASH RACK DETAIL





SECTION B-B
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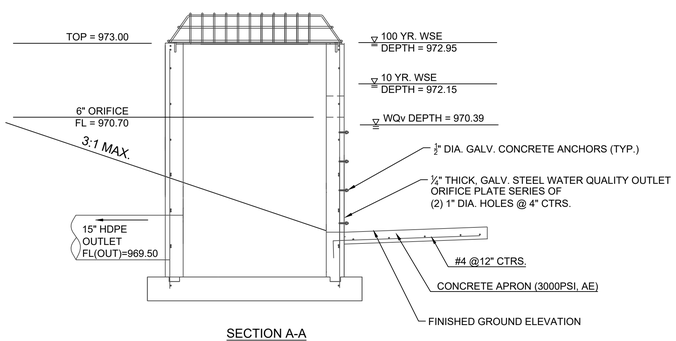

SECTION A-A
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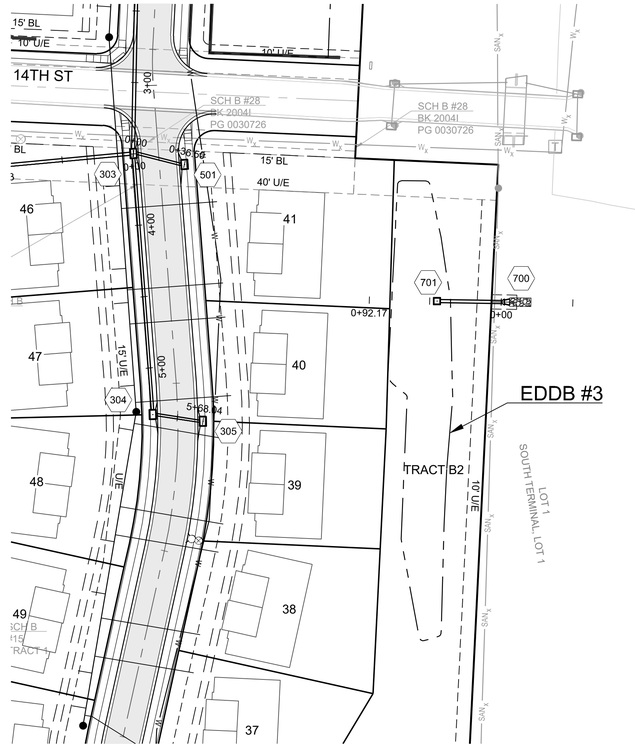

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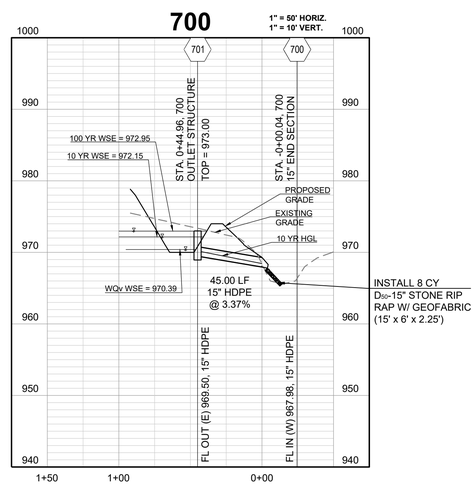

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EDDB 3 OUTLET STRUCTURE

SHEET
19

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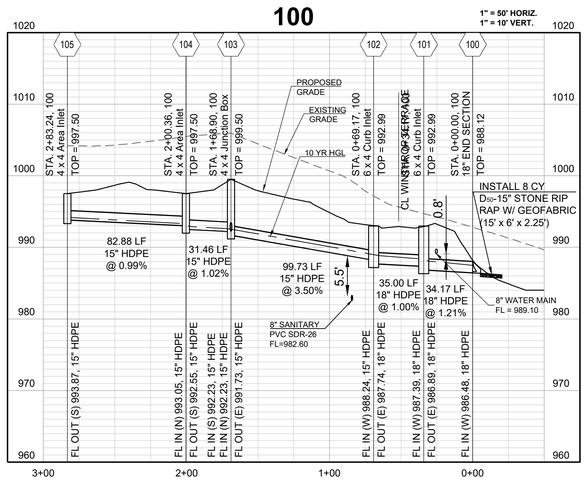

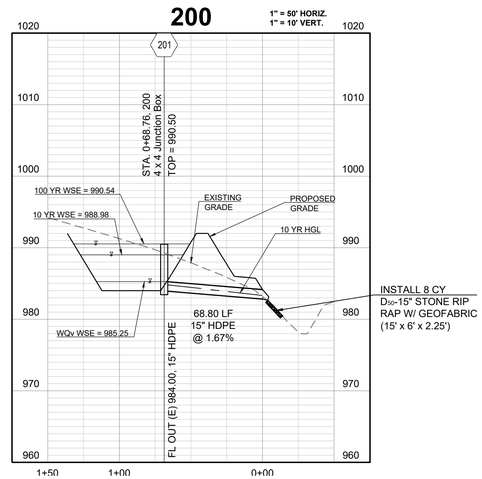

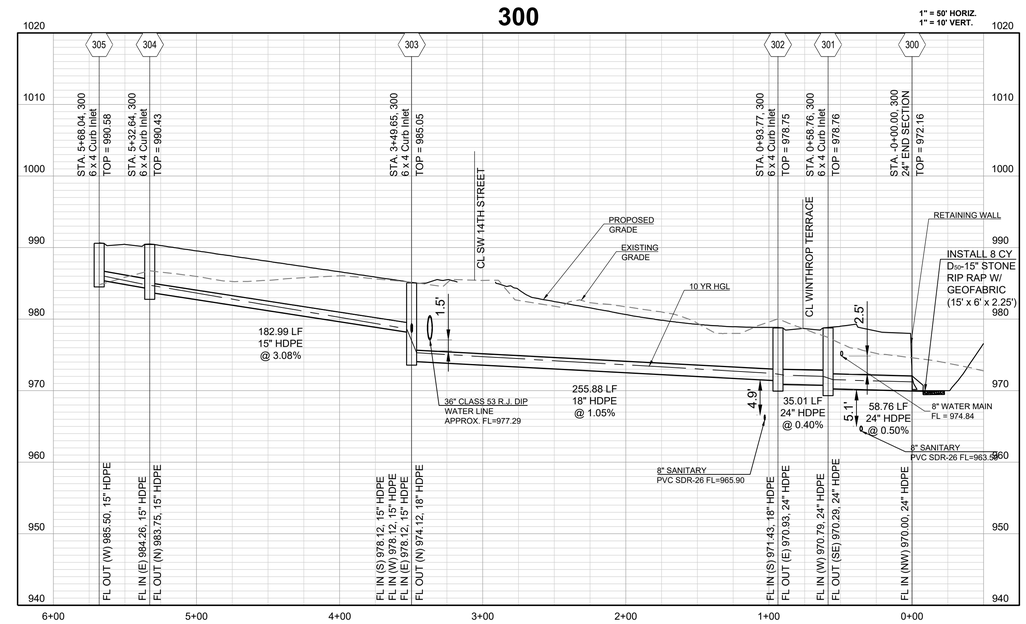

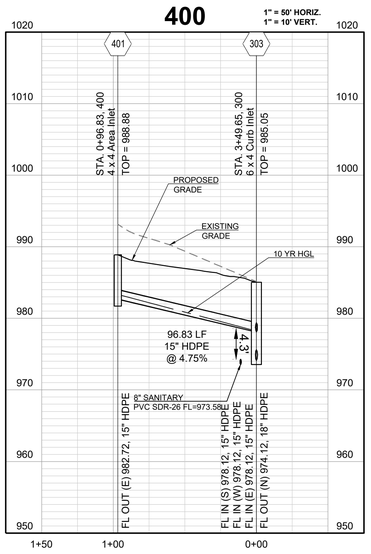

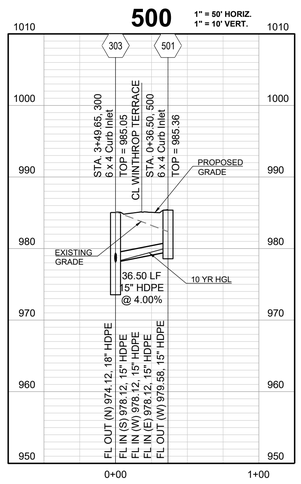

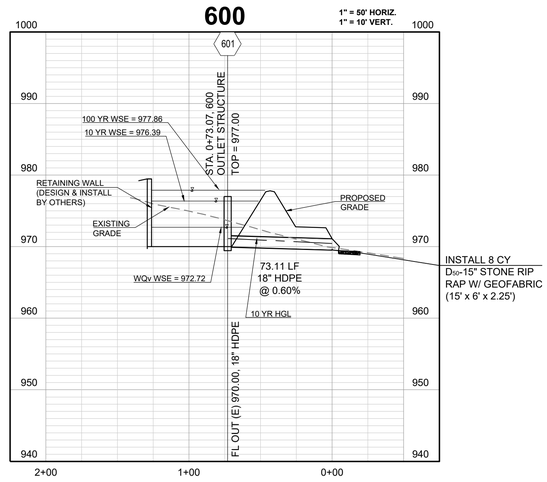

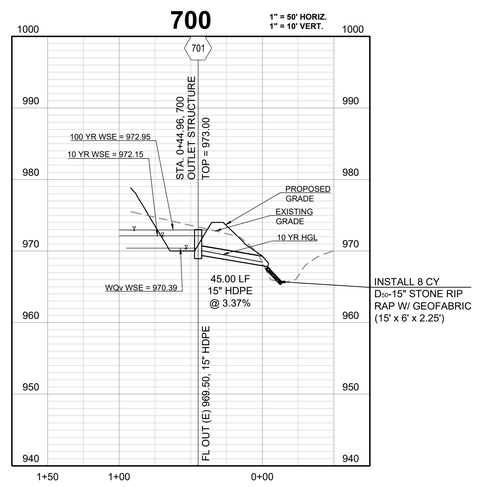

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STORM PROFILE

SHEET
20

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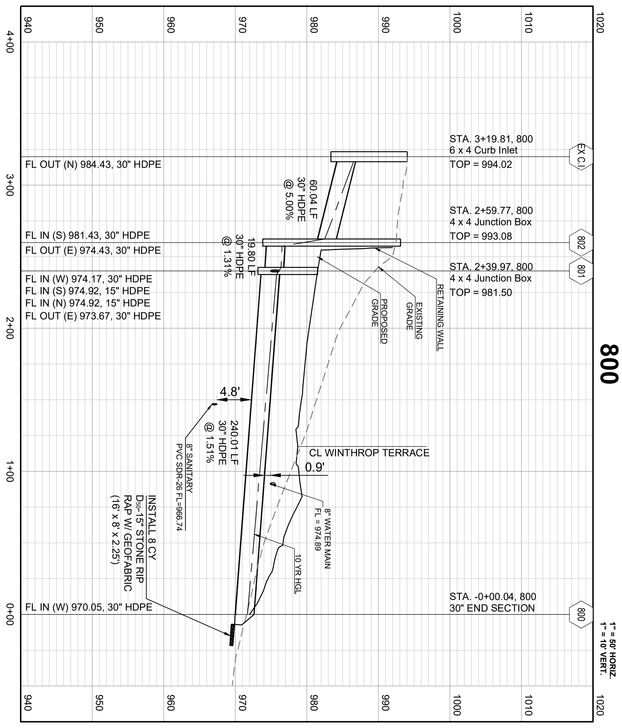

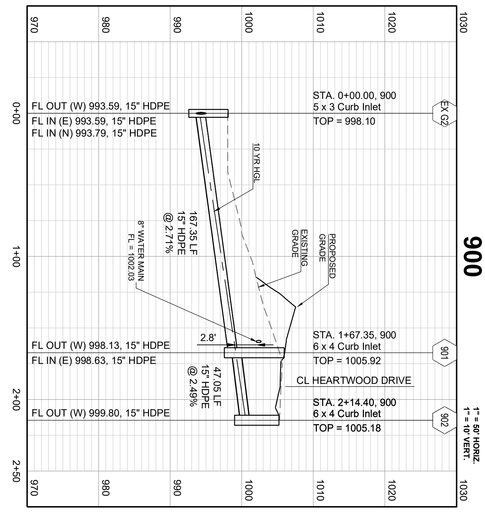

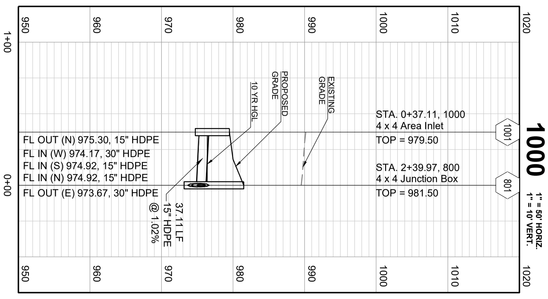

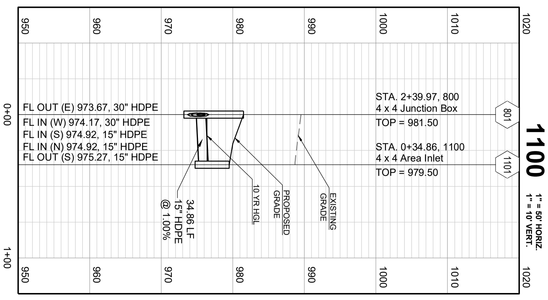

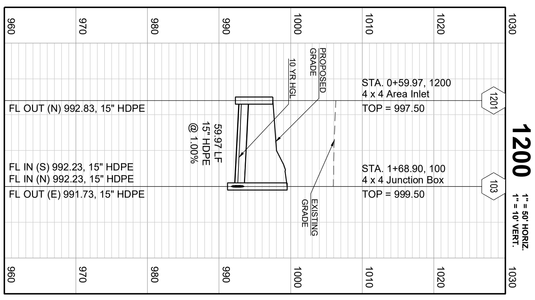

SHEET 21	STORM PROF CONT	DRAWN BY: BAL	REVISION DATE / DESCRIPTION
		CHECKED BY: MAB	
		DATE PREPARED: 2-19-2020	
		PROJ. NUMBER: 18-017	

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

STATE OF MISSOURI — PROFESSIONAL ENGINEER — MARK ALLEN BREDER — NUMBER PE-2002000772008 — 02-21-2020

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ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
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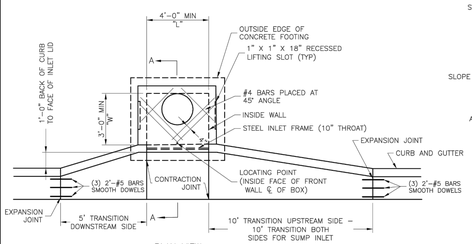
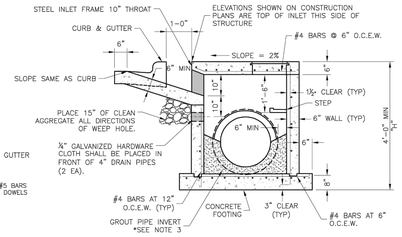
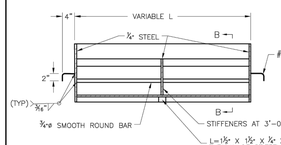
#E2002003800-F #LAC2001005237 #LS2002008859-F



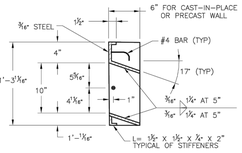
PLAN VIEW



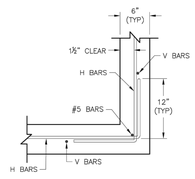
SECTION A–A



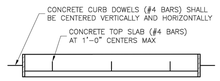
FRONT ELEVATION



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.

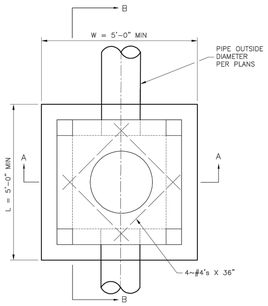
GENERAL NOTES:
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
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 ¾" TOOLED EDGE.
7. ON–GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON–SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

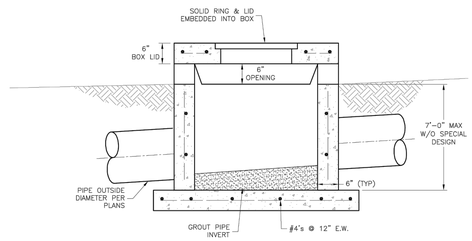
Project:
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name:
CURB INLET DETAIL

Drawn By: MJF
Checked By: DL
Date: 06/17
Proj. #:

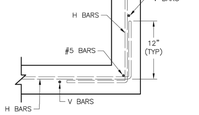
STM-1



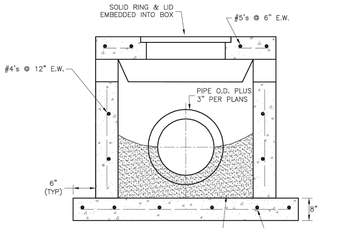
PLAN VIEW



SECTION B–B



WALL CORNER DETAIL



SECTION A–A

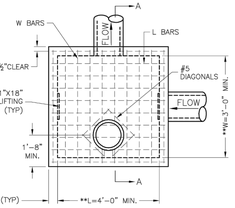
GENERAL NOTES:
1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3" ON BLANK WALL IF POSSIBLE.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

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

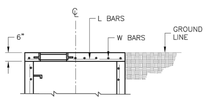
Project:
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name:
FIELD INLET DETAIL

Drawn By: MJF
Checked By: DL
Date: 06/17
Proj. #:

STM-2



PLAN

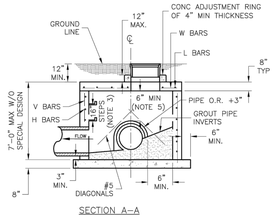


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

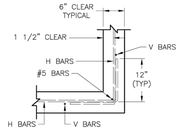
** INCREASE IN MULTIPLES OF 6" (7'–0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

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



SECTION A–A



WALL CORNER DETAIL

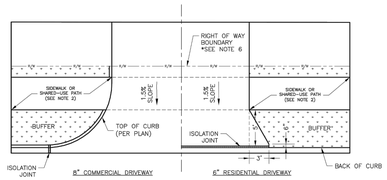
GENERAL NOTES:
1. LOCATE RING AND COVER ON BLANK WALL.
2. USE ¾" CHAMFER STRIP OR ½" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS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

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

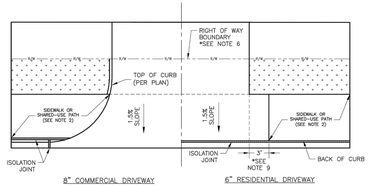
Project:
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name:
JUNCTION BOX DETAIL

Drawn By: MJF
Checked By: DL
Date: 06/17
Proj. #:

STM-3

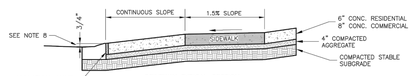


DRIVEWAY WITH BUFFER
NOT TO SCALE

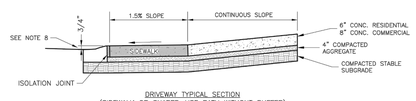


DRIVEWAY WITHOUT BUFFER
NOT TO SCALE

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



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



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

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

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

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

Drawn By: MJF
Checked By: DL
Date: 06/17
Proj. #:

GEN-1

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#E2002000380-F #LA2001005237 #LS2002000859-F

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

DRAWN BY:	DGF
CHECKED BY:	DGF
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

STREET AND STORM DETAILS

SHEET
22

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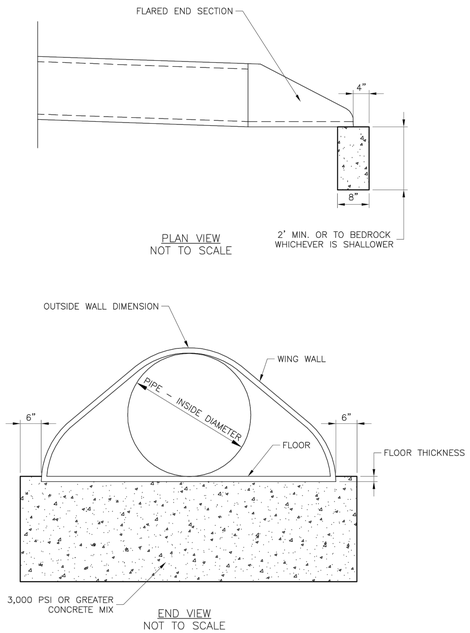
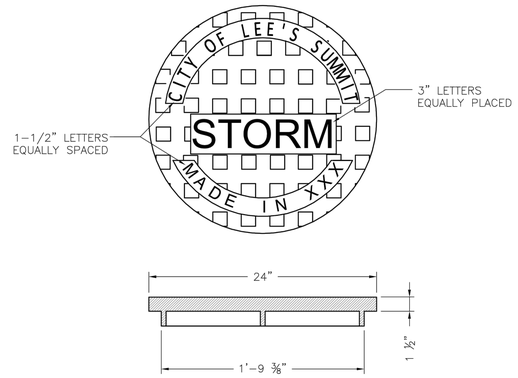


LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

FLARED END SECTION SUPPORT DETAIL

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

STM-5



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

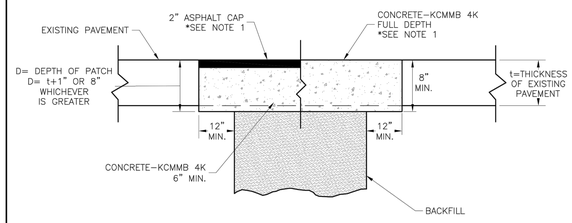
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

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

STORM MANHOLE COVER DETAIL

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

STM-6



TRENCHING/PATCHING DETAIL
NOT TO SCALE

NOTE:

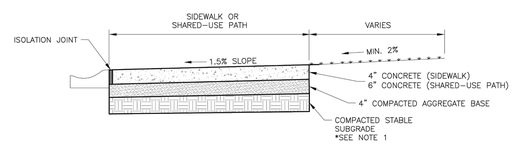
1. ASPHALT CAP OR FULL DEPTH CONCRETE SHALL BE DETERMINED BY CITY INSPECTOR.

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

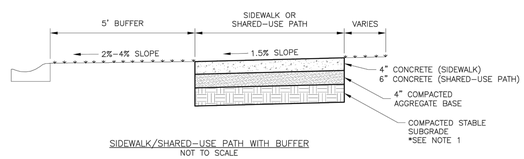
TRENCHING/PATCHING ROADWAYS DETAIL

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

GEN-5



SIDEWALK/SHARED–USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED–USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

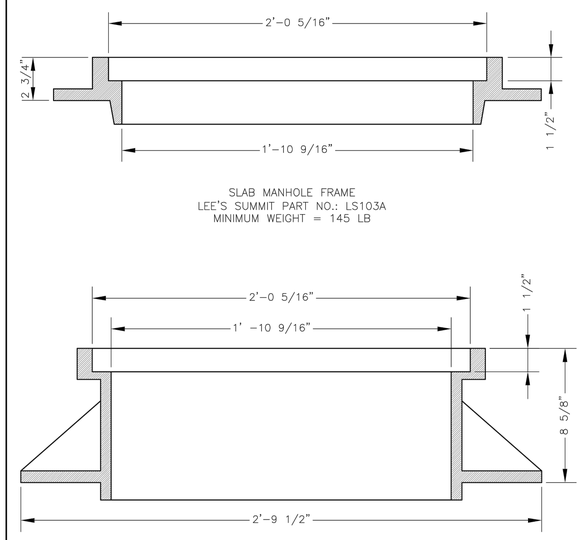
1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS AND SHARED–USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL 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



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

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

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

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

STORM MANHOLE FRAME DETAIL

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

STM-7

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 W. 107TH STREET • LENEXA, KANSAS 66215
(913) 492-5158 • Fax: (913) 492-8400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
#E2000003800-F #LA2001005237 #LS2002008859-F

STATE OF MISSOURI
MARK ALLEN BREUER
NUMBER PE-2005007268
PROFESSIONAL ENGINEER
02.21.2020

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE, AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
A	
A	
A	
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A	
A	
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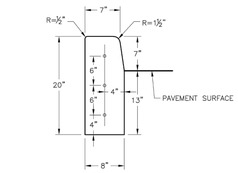
DRAWN BY:	DGF
CHECKED BY:	DGF
DATE PREPARED:	2-19-2020
PROJ. NUMBER:	18-017

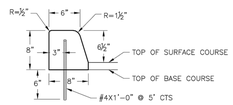
STREET AND STORM DETAILS

SHEET
23

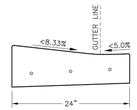
I:\PROJECTS\2018\18-017\3.0 Design\3.0 DWG Plans\6.0 SS\18-017 SS DETAILS.dwg, 2/21/2020 9:44:59 AM, 1:1



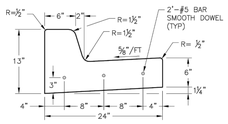
STRAIGHT CURB
(TYPE C-1)



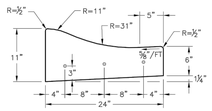
DOWELLED CURB
(TYPE DC)



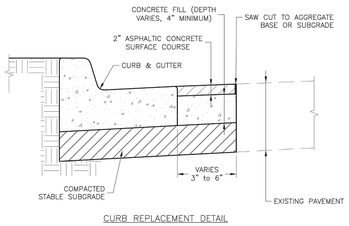
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



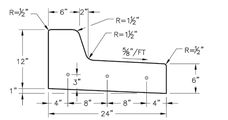
STRAIGHT BACK CURB &
GUTTER
(TYPE CG-1)



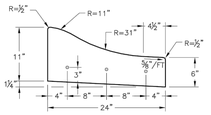
ROLL BACK CURB &
GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



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



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

GENERAL NOTES

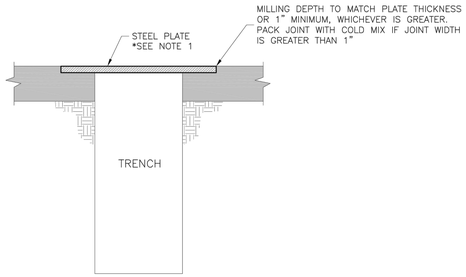
1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS 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

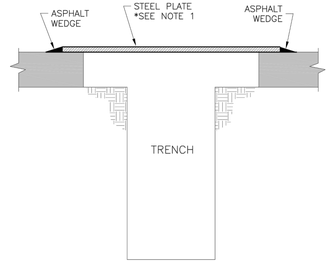
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
CURB & GUTTER DETAIL

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

GEN-4



TYPE "A" PLATING
NOT TO SCALE
(CITY POSTED SPEEDS OF
35 MPH AND GREATER)



TYPE "B" PLATING
NOT TO SCALE
(CITY POSTED SPEEDS OF
30 MPH OR LESS)

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE ADEQUATE OVERLAP OF PLATE ON ASPHALT TO ASSURE NO SLIPPAGE OF PLATE AND NO COLLAPSING OF TRENCH.
2. ALL PLATES SHALL BE ANCHORED SO PLATES DO NOT MOVE OR SHIFT UNDER TRAFFIC.

LEE'S SUMMIT
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TRENCHING PLATE DETAIL

Date: 04/17
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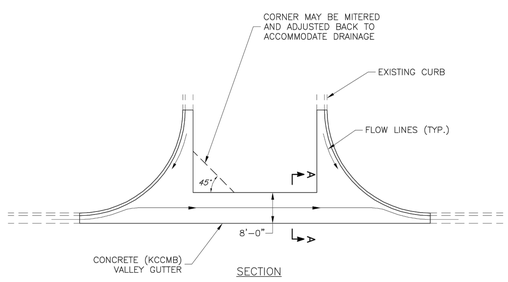
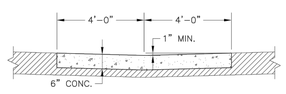
Checked By: DL

GEN-6



SECTION



SECTION
Scale: 1" = 1'-0"

VALLEY GUTTER DETAIL
Intersection of Two Public Streets

LEE'S SUMMIT
MISSOURI
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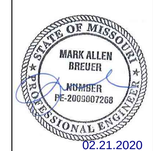
VALLEY GUTTER DETAIL

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

GEN-7

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



02.21.2020

WOODLAND GLEN
STREET, STORMWATER, MASTER DRAINAGE,
AND EROSION CONTROL PLANS
---- LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
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CHECKED BY:	DGF
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STREET AND
STORM DETAILS

SHEET
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