

TACO BELL-WOODS CHAPEL WATER MAIN ELEVATION MODIFICATION 851 NE WOODS CHAPEL ROAD

LOT 7B-1, CHAPEL RIDGE
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

UTILITY CONTACTS CITY OF LEE'S SUMMIT, MO

DEVELOPMENT SERVICES
CITY HALL
220 SE GREEN STREET
LEE'S SUMMIT, MO 64063
TEL: (816) 969-1200
FAX: (816) 969-1201
Contact: Mike Wisenborn

WATER UTILITIES
CITY HALL
1200 SE HAMBLIN RD
LEE'S SUMMIT, MO 64063
TEL: (816) 969-1900
FAX: (816) 969-1935

PUBLIC WORKS
CITY HALL
220 SE GREEN STREET
LEE'S SUMMIT, MO 64063
TEL: (816) 969-1800
FAX: (816) 969-1809

ELECTRIC COMPANY
KANSAS CITY POWER &
LIGHT
TEL: (888) 471-5275
Contact: Nathan Michael

LEE'S SUMMIT FIRE
DEPARTMENT
207 SE DOUGLAS ROAD
LEE'S SUMMIT, MO 64063
TEL: (816) 969-1300

GAS COMPANY
SPIRE ENERGY
TEL: (816) 756-5252
Contact: Bobbie Saulsberry

TELEPHONE COMPANY
AT&T
TEL: (800) 464-7928



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APPROVED BY:

MISSOURI DEPARTMENT OF
NATURAL RESOURCES

AUTHORIZING POSITION DATE

APPROVED BY:

CITY OF LEE'S SUMMIT, MISSOURI

AUTHORIZING POSITION DATE

PREPARED & SUBMITTED BY:

BHC RHODES
Overland Park, Kansas

MARK S. SHERFY, P.E. - Project Engineer
Missouri P.E. No. 2017010253

BENCHMARKS

MILITARY GRID REFERENCE SYSTEM
(MGRS) BENCHMARK
BENCHMARK NUMBER: JA-134
ELEVATION= 969.81
DATUM: NAVD88

CIVIL ENGINEER

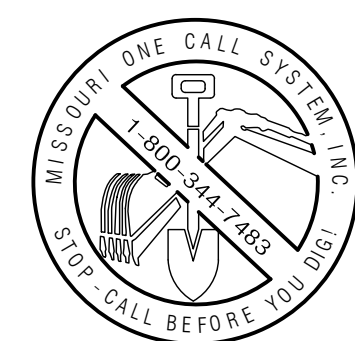
BHC RHODES
7101 COLLEGE BOULEVARD, SUITE 400
OVERLAND PARK, KANSAS 66210
P (913) 663-1900
F (913) 663-1633
CONTACT: MARK S. SHERFY, P.E.
EMAIL: MARK.SHERFY@BHC.COM

DEVELOPER

FIRST STREET DEVELOPMENT
2929 E CAMELBACK ROAD, SUITE 116
PHOENIX, AZ 85016
PH: (602) 714-3099
CONTACT: CHRIS CZYZ

SURVEYOR OF RECORD

MCLAUGHLIN MUELLER, INC.
218 WEST MILL STREET
LIBERTY, MO 64068
CORP. L.S.: 1999141096
P (816) 407-0002
F (816) 407-0003
CONTACT: MARTIN MUELLER, PLS 2487



Rev.	Date	Description	By	App.
2	9/16/19	Sheet Re-issued	MGG	MSS
1	8/21/19	City Comments		



Prepared For:
FIRST STREET DEVELOPMENT
4455 E CAMELBACK ROAD
BUILDING C241
PHOENIX, AZ 85018
602-714-3099

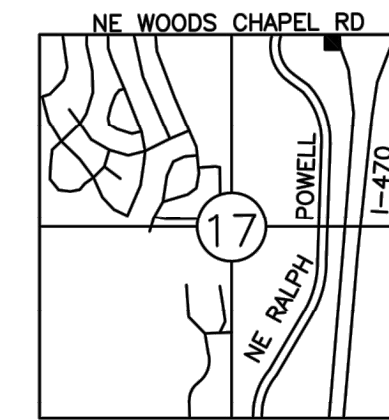
WATER MAIN IMPROVEMENTS
851 NE WOODS CHAPEL ROAD
LEE'S SUMMIT, MO
COVER

Design: MGG Drawn: MGG
Checked: MSS
Issue Date: 07/01/2019
Project Number: 26040.08

UTILITIES:
THE INFORMATION CONCERNING LOCATIONS OF UNDERGROUND UTILITIES SHOWN HEREON WHICH ARE NOT VISIBLE FROM THE SURFACE, HAS BEEN TAKEN FROM THE RECORDS AND FIELD LOCATIONS OF THE VARIOUS UTILITY COMPANIES AND HAS NOT BEEN FIELD VERIFIED BY THIS COMPANY. THESE LOCATIONS ARE NOT TO BE CONSTRUED AS ACCURATE OR EXACT.

ALTA/NSPS LAND TITLE SURVEY

CRYSTAL CLEAR INVESTMENTS, LLC
PO BOX 608
BLUE SPRINGS MO 64013
850 NE WOODS CHAPEL RD



VICINITY MAP
SECTION 17-48-31
LEE'S SUMMIT,
JACKSON COUNTY, MISSOURI
1"=2640'

RESERVED FOR THE RECORDER OF DEEDS

Project No. 19017

Sht. No.

1

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Date

By

Revision

No.

MCLAUGHLIN MUELLER, INC.
Professional Land Surveyors
218 West Mill Street
Liberty, MO 64068
PH 816-407-0002 FX 816-407-0003
Corporation LS 1999141096

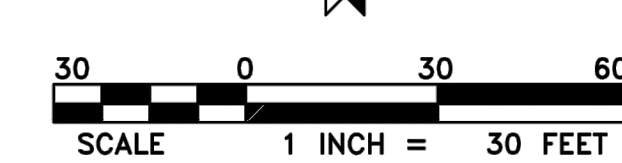
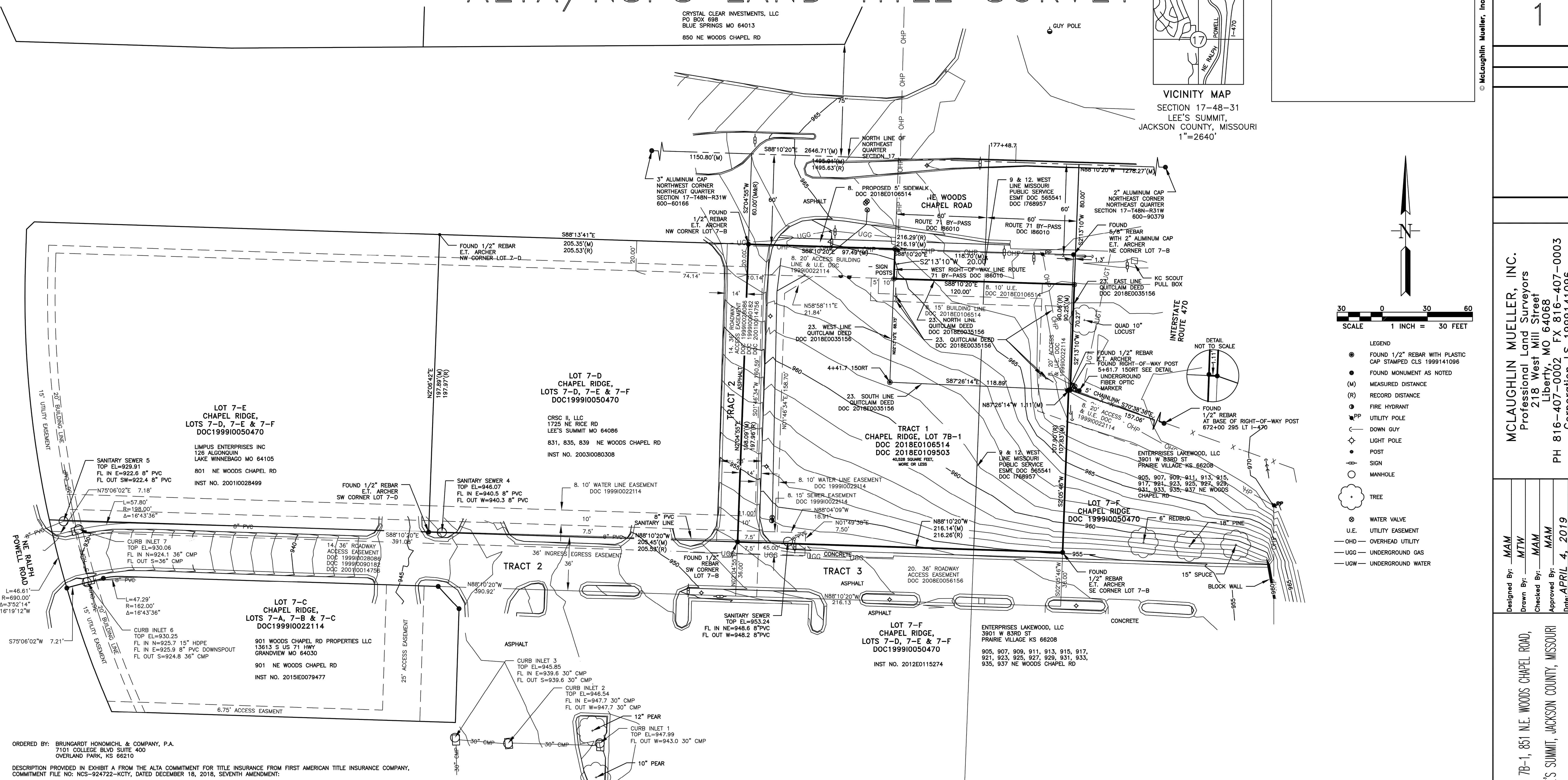
Designed By: MAM
Drawn By: MTW
Checked By: MAM
Approved By: MAM
Date: APRIL 4, 2019

ALTA/NSPS, CHAPEL RIDGE, LOT 7B-1, 851 N.E. WOODS CHAPEL ROAD,
SECTION 17, T48N, R31W, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

BY MCLAUGHLIN MUELLER, INC.

PRELIMINARY
THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED DOCUMENT.

MARTIN MUELLER, PLS 2467



- LEGEND
- FOUND 1/2" REBAR WITH PLASTIC CAP STAMPED CLS 1999141096
 - FOUND MONUMENT AS NOTED
 - (M) MEASURED DISTANCE
 - (R) RECORD DISTANCE
 - FIRE HYDRANT
 - UTILITY POLE
 - DOWN GUY
 - LIGHT GUY
 - SIGN
 - MANHOLE
 - TREE
 - WATER VALVE
 - U.E. UTILITY EASEMENT
 - O.H.D. OVERHEAD UTILITY
 - U.G.G. UNDERGROUND GAS
 - U.G.W. UNDERGROUND WATER

ORDERED BY: BRUNGARDT HONOMICHL & COMPANY, P.A.
7101 COLLEGE BLVD SUITE 400
OVERLAND PARK, KS 66210

DESCRIPTION PROVIDED IN EXHIBIT A FROM THE ALTA COMMITMENT FOR TITLE INSURANCE FROM FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT FILE NO: NCS-924722-KCTY, DATED DECEMBER 18, 2018, SEVENTH AMENDMENT:

TRACT 1
CHAPEL RIDGE, LOT 7B-1, CHAPEL RIDGE, LOT 7B-1, A SUBDIVISION OF LAND IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, ACCORDING TO THE PLAT RECORDED IN BOOK 180, PAGE 49, AS DOCUMENT NO. 2018E0106514, AS AMENDED BY AFFIDAVIT RECORDED AS DOCUMENT NO. 2018E0109503.

TRACT 2
NON-EXCLUSIVE EASEMENT FOR INGRESS AND EGRESS AS SET FORTH IN DEDICATION OF ROADWAY/ACCESS EASEMENT FILED APRIL 16, 1999 AS DOCUMENT NO. 1999I0028086 AMENDED BY DOCUMENT NO. 1999I0090182 AND RE-RECORDED AS DOCUMENT NO. 2001I014756.

TRACT 3
NON-EXCLUSIVE ACCESS EASEMENT FOR VEHICULAR AND PEDESTRIAN INGRESS AND EGRESS AS SET FORTH IN ACCESS EASEMENT FILED MAY 22, 2008 AS DOCUMENT NO. 2008E0056156.

ITEMS 8, 9, 12, 13, 14, 15, 18, 19 AND 23 FROM THE SCHEDULE B, PART II EXCEPTIONS FROM THE ALTA COMMITMENT FOR TITLE INSURANCE FROM FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT FILE NO: NCS-924722-KCTY, DATED DECEMBER 18, 2018, SEVENTH AMENDMENT:

8. EASEMENTS, RESTRICTIONS AND SETBACK LINES, AS PER PLAT, RECORDED AS DOCUMENT NO. 1999I0022114. SHOWN HEREON.
- EASEMENTS, RESTRICTIONS AND SETBACK LINES, AS SET FORTH ON THE RECORDED PLAT FILED DECEMBER 14, 2018 AS DOCUMENT NO. 2018E0106514 IN BOOK 180, PAGES 49-50. SHOWN HEREON.
- AS AMENDED BY AFFIDAVIT RECORDED DECEMBER 27, 2018 AS DOCUMENT NO. 2018E0109503. SHOWN HEREON.
9. EASEMENT GRANTED TO MISSOURI PUBLIC SERVICE CORPORATION, A DELAWARE CORPORATION, BY THE INSTRUMENT RECORDED AS DOCUMENT NO. 565541 IN BOOK 862, PAGE 453. SHOWN HEREON.
10. EASEMENT GRANTED TO MISSOURI PUBLIC SERVICE CORPORATION, A DELAWARE CORPORATION, BY THE INSTRUMENT RECORDED AS DOCUMENT NO. 1768957 IN BOOK 11673, PAGE 1422. SHOWN HEREON.
13. TERMS AND PROVISIONS OF THE RESTRICTIONS CONTAINED IN THE INSTRUMENT RECORDED AS DOCUMENT NO. 98-1-44075 IN BOOK 13213, PAGE 914 CORRECTED BY DOCUMENT NO. 2002I0087160. LIES WITHIN THE BOUNDARY DESCRIBED.
14. DEDICATION OF ROADWAY/ACCESS EASEMENT FILED APRIL 16, 1999 AS DOCUMENT NO. 1999I0028086 AMENDED BY DOCUMENT NO. 1999I0090182 AND RE-RECORDED AS DOCUMENT NO. 2001I014756. SHOWN HEREON.

15. RESTRICTIONS AS SET FORTH IN THE RESTRICTIVE COVENANT AGREEMENT RECORDED AS DOCUMENT NO. 1999I0018754. LIES WITHIN THE BOUNDARY DESCRIBED.
 18. TERMS AND PROVISIONS OF AN ACCESS EASEMENT FILED MAY 22, 2008 AS DOCUMENT NO. 2008E0056156. SHOWN HEREON.
 19. RESERVATION IN AND TO THE OIL, GAS AND OTHER MINERALS OF EVERY NATURE ON, IN AND UNDER OR THAT BE PRODUCED FROM THE LAND AND THE TERMS AND PROVISIONS RELATED THERETO, ALL AS SET FORTH IN A SPECIAL WARRANTY DEED FROM N3 DEVELOPMENT, LTD., A TEXAS LIMITED PARTNERSHIP TO M&I MARSHALL & LISLEY BANK, A WISCONSIN STATE CHARTERED BANK, FILED MAY 22, 2008, AS DOCUMENT NO. 2008E0056157. LIES WITHIN THE BOUNDARY DESCRIBED.
 23. ABUTTER'S RIGHT OF ACCESS RESERVED IN QUITCLAIM DEED BY THE STATE OF MISSOURI, ACTING BY AND THROUGH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION RECORDED APRIL 24, 2018 AS DOCUMENT NO. 2018E0035156. SHOWN HEREON. SEE NOTE.
- TABLE A:
1. MONUMENTS HAVE BEEN PLACED OR FOUND AT ALL MAJOR CORNERS OF THE BOUNDARY OF THE PROPERTY.
 2. ADDRESSES SHOWN HEREON HAVE BEEN TAKEN FROM THE JACKSON COUNTY ASSESSOR.
 3. THIS PROPERTY IS DESIGNATED AS ZONE X, ACCORDING TO THE FLOOD INSURANCE RATE MAP, COMMUNITY-PANEL NUMBER 29095C0430G, DATE JANUARY 20, 2017.
 4. THE GROSS LAND AREA OF CHAPEL RIDGE, LOT 7B-1 CONTAINS 0.93 ACRES, MORE OR LESS.
 5. VERTICAL RELIEF BASED ON MGRS STATION JA-134, EL=969.81 NAVD 1988.
 - 7A. NO BUILDINGS OBSERVED.
 8. SUBSTANTIAL FEATURES ARE SHOWN HEREON.
 9. NO PARKING SPACES WERE OBSERVED.
 11. OBSERVED EVIDENCE OF UTILITIES TOGETHER WITH EVIDENCE FROM PLANS FROM APPROPRIATE SOURCES HAS BEEN SHOWN HEREON. MISSOURI ONE-CALL WAS CONTACTED, TICKET NUMBER 190092705 INDICATING THAT SPIRE MO WEST, THE CITY OF LEE'S SUMMIT AND CENTURYLINK FIBER WERE MARKED, ALL OTHERS NOTED AS CLEAR.
 13. NAMES OF ADJOINING OWNERS OF PLATTED LANDS SHOWN HEREON HAVE BEEN TAKEN FROM THE JACKSON COUNTY ASSESSOR.
 16. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS WERE OBSERVED DURING THE PROCESS OF CONDUCTING THE FIELDWORK.

NOTES:

ITEM NUMBER 23 IN THE SCHEDULE B, PART II EXCEPTIONS DISCLOSED DOCUMENT 2018E0035156 A QUITCLAIM DEED, WHICH RESERVES ABUTTER'S RIGHT OF NO ACCESS TO ROUTE I-470 AND WOODS CHAPEL ROAD AND FOR KNOWN OR UNKNOWN UTILITY FACILITIES CURRENTLY LOCATED WITHIN THE AREA OF THE QUITCLAIM DEED.

THE EASEMENT THAT DESCRIBES TRACT 2 PURPORTS TO DEDICATE AN EASEMENT TO FUTURE OWNERS FROM THE OWNER.

BEARINGS SHOWN HEREON ARE BASED ON MISSOURI STATE PLANE COORDINATES 1983 FROM MGRS STATION JA-134. N=312470.096M E=862368.275M GRID FACTOR=0.9999018 DATE OF ADJUSTMENT=2003

THIS ALTA/NSPS LAND TITLE SURVEY WAS MADE FOR THE EXCLUSIVE USE OF BRUNGARDT HONOMICHL & COMPANY, P.A. AND FIRST AMERICAN TITLE INSURANCE COMPANY.

THIS CERTIFICATION DOES NOT EXTEND TO ANY UNNAMED PERSONS OR LEGAL ENTITIES WITHOUT WRITTEN CERTIFICATION EXPRESSLY NAMING THOSE PERSONS OR LEGAL ENTITIES.

THIS SURVEY WAS BASED ON THE COMMITMENT FOR TITLE INSURANCE FROM FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT FILE NO: NCS-924722-KCTY, DATED DECEMBER 18, 2018, SEVENTH AMENDMENT.

TO: BRUNGARDT HONOMICHL & COMPANY, P.A. AND FIRST AMERICAN TITLE INSURANCE COMPANY.
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 7A, 8, 9, 11, 13 AND 16 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON MARCH 20, 2019. THIS SURVEY WAS EXECUTED IN ACCORDANCE WITH THE CURRENT MISSOURI STANDARDS FOR PROPERTY BOUNDARY SURVEYS. TYPE URBAN. DIGITAL MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT. ONLY A SIGNED AND SEALED DRAWING IS TO BE CONSIDERED THE ORIGINAL DOCUMENT.

19017.dwg

LEGEND

Proposed Line Types and Symbols shown. Existing Line Types and Symbols shall be the same, but screened, unless designated otherwise by the inclusion of a survey by others.

<ul style="list-style-type: none"> ● Set Survey Monument ■ Set Survey Monument (in concrete) ○ Found Survey Monument □ Found Survey Monument in Box (O.U.) Origin Unknown △ Found Right-of-Way Marker ▲ Control Point ◆ Benchmark ■ Set Hub --- OHC Overhead Utility Line(s) --- UEL Underground Electric Line --- UELM Underground Electric Line Marker --- UGEL Underground Electric Line --- UGKRL Underground KCR&L Line (e.g.) ○ Utility Pole ○ Utility Pole with Transformer ○ Guy Anchor ○ Utility Pole w/Light & arm ○ Street Light Pole w/ arm ○ Street Light Pole (14') ○ Electric Pedestal (above ground) ○ Electric Meter ○ Electric Access Vault (underground) ○ Electric Access Box (mounted) ○ Electric Manhole ○ Electric Pull Box (underground) ○ Transformer (pad mounted) ○ Yard Light ○ Air Conditioner Unit --- W Water Line --- WSL Water Service Line --- UGWL Underground Water Line Marker ○ Water Valve ○ Fire Hydrant ○ Fire Hydrant Assembly ○ Water Meter ○ Water Manhole ○ Water Vault (underground) ○ Sprinkler Control Box ○ Sprinkler Head ○ Yard Hydrant ○ Backflow Valve (BFV) ○ Backflow Preventer (BFP) ○ Blow-Off Assembly --- GAS Gas Line --- GS Gas Service Line --- SPIRE Underground Spire Line (e.g.) --- UGGL Underground Gas Line Marker ○ Gas Manhole or Access Lid ○ Gas Valve ○ Regulator Unit ○ Gas Meter ○ Casing Vent --- UGHP Underground Pipe Line (High Capacity) --- UGHPM Underground Pipe Line Marker --- UGTL Underground Telephone Line --- UGTLAT Underground AT&T Line (e.g.) --- UGTLM Underground Telephone Line Marker ○ Telephone Pedestal (above ground) ○ Telephone Manhole ○ Telephone Access Vault (underground) ○ Telephone Access Box (mounted) --- FO Underground Fiber Optic Line --- FOPM Underground Fiber Optic Line Marker ○ Fiber Optic Pedestal ○ Fiber Optic Manhole ○ Fiber Optic Vault (underground) ○ Fiber Optic Pedestal on top of Vault ■ [36] Traffic Signal Post w/ Mast Arm ○ Pedestrian Signal Pole ○ Traffic Control Manhole ○ Traffic Control Cabinet ○ Traffic Control Vault (underground) --- UGTV Underground Cable TV Line --- UGTVM Underground Spectrum Line (e.g.) --- UGTVM Underground Cable TV Marker ○ Cable TV Pedestal (above ground) ○ Manhole-Unknown Purpose ○ Grease Trap Access Lid ○ Monitoring Well ○ Bore Hole ○ Fill Lid (for Underground Tank) --- SWS Sanitary Sewer Line --- SSS Sanitary Sewer Service Line ○ Sanitary Sewer Manhole ○ Clean-out ○ Vitrified Clay Pipe ○ Ductile Iron Pipe ○ Polyvinyl Chloride Pipe ○ Cast Iron Pipe --- UGULM Underground Utility Line Marker ○ Metal Guard Rail or Handrail ○ Flag Pole ○ Satellite Dish ○ Mailbox ○ Concrete or Metal Bollard ○ Wood Bollard or Wood Post 	<ul style="list-style-type: none"> ○ Storm Sewer Line ○ Storm Sewer Manhole ○ Curb Inlet ○ Field Inlet ○ Junction Box ○ Grate Inlet ○ Grate Inlet (Round/Domed) ○ End Section ○ Headwall ○ Down Spout ○ Roof Drain ○ CMP Corrugated Metal Pipe ○ CMAP Corrugated Metal Arch Pipe ○ CPP Corrugated Plastic Pipe ○ HDPE High Density Polyethylene Pipe ○ RCP Reinforced Concrete Pipe ○ RCAP Reinforced Concrete Arch Pipe ○ RCB Reinforced Concrete Box ○ FES Flared End Section ○ Pipe Continues-Outlet or Source Not Found or Not Surveyed ○ Wood Fence ○ Chain Link Fence ○ Wire Fence (with or without barb) ○ Barbed Wire Fence ○ Plastic Fence ○ Iron or Metal Fence ○ Gate Post ○ Retaining Wall ○ Single Pole Sign ○ Double Pole Sign ○ Railroad Crossing Gate ○ Railroad Switch Machine ○ Railroad Tracks ○ Wheel Stop ○ ADA Parking Stall ○ ADA Detection Warning Pad ○ Bush ○ Deciduous Tree and Size (Scaled for Size) ○ Coniferous Tree and Size (Scaled for Size) ○ Tree Stump ○ Foliage Drip Line/Edge of Timber Hedge ○ Center Line ○ PL Property Line ○ R/W Right-of-Way Line ○ R= Radius ○ L= Arc Length ○ CB Chord Bearing ○ CD Chord Distance ○ Δ Interior Angle (Delta) ○ I.T.B. Initial Tangent Bearing ○ R/W Right-of-Way ○ (M) Monumented ○ (m) Measured ○ (D) Deeded ○ (P) Platted ○ (C) Calculated ○ (CR) Calculated from Record Dimensions ○ (CM) Calculated from Found Monuments ○ (PR) Proportioned ○ BK. Book ○ PG. Page ○ DOC. Document Number ○ INS. Instrument Number ○ VOL. Volume ○ ESMT. Easement ○ B/L Building Setback Line ○ U/E Utility Easement ○ D/E Drainage Easement ○ ST/E Storm Sewer Easement ○ S/E Sanitary Sewer Easement ○ IE/E Ingress/Egress Easement ○ TC/E Temporary Construction Easement ○ SQ. FT. Square Feet ○ AC. Acres ○ CY Cubic Yard ○ LF Linear Feet ○ CO. Company ○ L/S Landscaping (Bushes, Trees, Flowers, Border, Mulch, any or all of them) ○ ASPH Asphalt ○ CONC Concrete ○ COR Corner ○ R.WALL Retaining Wall ○ STA. Station ○ Lt Left ○ Rt Right ○ PI Point of Intersection ○ PC Point of Curve ○ PT Point of Tangent ○ NT Not To Scale ○ NTS Not To Scale
---	--

WATER LINE LEGEND

—	SOLID SLEEVE CONNECTION
↘	BEND WITH THRUST BLOCK
⊥	TEE CONNECTION WITH THRUST BLOCK
—	PROPOSED WATER LINE
—	EXISTING WATER LINE
⊕	PROPOSED FIRE HYDRANT
⊕	EXISTING FIRE HYDRANT
↔	REDUCER

FLOOD STATEMENT

THE SUBJECT PROPERTY LIES WITHIN FLOOD ZONE X, AS SHOWN ON THE JACKSON COUNTY, MISSOURI FLOOD INSURANCE RATE MAP (F.I.R.M.).
 MAP NUMBER: 29095C0430G
 EFFECTIVE DATE: 1/20/2017

NOTE: THIS STATEMENT IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND SHALL IN NO WAY CONSTITUTE A BASIS FOR A FLOOD CERTIFICATE. NO FIELD WORK WAS PERFORMED TO ESTABLISH THE BOUNDARIES OF THIS ZONE. THE INFORMATION WAS DERIVED BY SCALING THE SUBJECT PROPERTY ON THE ABOVE REFERENCED MAP.

LEGAL DESCRIPTION

LOT 7B-1, CHAPEL RIDGE, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROJECT SPECIFICATIONS

- CURRENT SPECIFICATIONS OF THE CITY OF LEE'S SUMMIT, MISSOURI.
 THE SPECIFICATION FOR THIS PROJECT SHALL BE THOSE REQUIREMENTS CURRENTLY IN EFFECT BY THE CITY OF LEE'S SUMMIT, MISSOURI.
- CURRENT STANDARDS PUBLISHED BY THE AMERICAN WATER WORKS ASSOCIATION (AWWA).
 SHOULD THERE BE A CONFLICT BETWEEN THE ABOVE REQUIREMENTS, NOTIFY THE ENGINEER

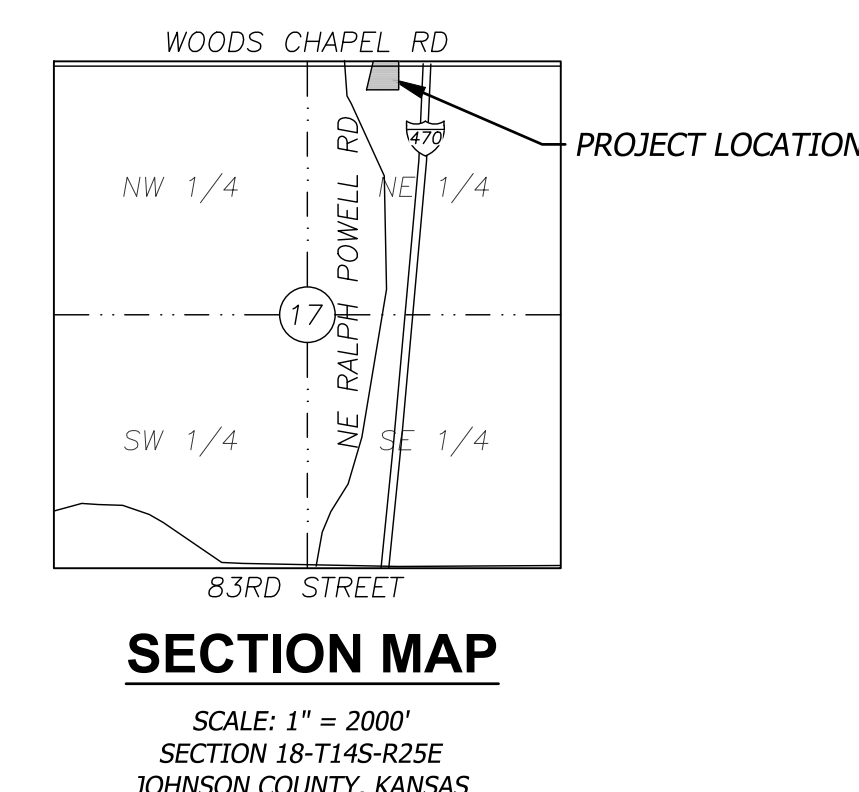
SUMMARY OF QUANTITIES

DISCLAIMER: CONTRACTOR NEEDS TO OBTAIN OWN QUANTITIES AND SHOULD NOT USE THESE QUANTITIES FOR BIDDING PURPOSES.

WATER ITEMS	UNITS	QUANTITY
8" PVC C900 PRESSURE CLASS 235	LF	129
11.25" BEND	EA	1
22.5" BEND	EA	4
45" BEND	EA	2
VERTICAL BEND	EA	2
1" SERVICE TAP	EA	3
2" SERVICE TAP	EA	1

GENERAL NOTES

- PRIOR TO THE LAYING OF PIPE OR SETTING OF HYDRANTS, THE CONTRACTOR SHALL EXPOSE ALL UTILITIES AT PIPE CROSSINGS AND VERIFY ELEVATIONS TO DETERMINE ANY CONFLICTS THAT MAY EXIST. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER OF ANY SUCH CONFLICTS.
- THE CONTRACTOR MUST SUPPORT ALL UTILITIES DURING THIS CONSTRUCTION TO THE SATISFACTION OF THE RESPECTIVE UTILITY COMPANY. ALL SHORING AND TEMPORARY SUPPORTS ARE TO BE INCLUDED IN THE CONTRACT PRICE.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL FITTINGS REQUIRED TO PROVIDE PROPER HORIZONTAL AND VERTICAL ALIGNMENT FOR NEW WATER MAINS. CONNECTIONS TO EXISTING WATER MAINS AND INSTALLATION OF FIRE HYDRANTS AT THE PROPER LOCATION AND ELEVATION, WHETHER OR NOT THE FITTINGS ARE CALLED OUT ON THESE DRAWINGS.
- ALL JOINTS SHALL BE RESTRAINED WITH A CERTA-LOK RESTRAINED JOINT. THE CONTRACTOR SHALL CONSTRUCT THRUST BLOCKS PER THE CITY OF LEE'S SUMMIT SPECIFICATIONS WHEN CONNECTING TO THE EXISTING WATER MAIN.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GRAVEL FOR DRAINAGE, AND OTHER ITEMS PERTAINING TO THE INSTALLATION OF PIPE AND HYDRANTS. RESTRAINED JOINTING SHALL BE SUBSIDIARY TO OTHER ITEMS OF THE CONTRACT.
- EACH SECTION OF PIPE BEDDED IN TRENCHES ON SOIL, SAND, OR GRAVEL, SHALL REST UPON THE PIPE BED FOR THE FULL LENGTH OF ITS BARREL. RECESSES SHALL BE EXCAVATED TO ACCOMMODATE BELLS AND JOINTS.
- WATER MAINS ARE TO BE INSTALLED IN TRENCH CONDITIONS. STREETS AND PARKING AREAS ARE TO BE TO GRADE PRIOR TO CONSTRUCTION OF WATER MAINS. WATER MAINS SHALL BE INSTALLED WITH A MINIMUM GROUND COVER OF 42 INCHES BELOW FINISHED GRADE TO TOP OF PIPE.
- WHEN POTABLE WATER MAINS AND SANITARY SEWERS ARE LAID PARALLEL TO EACH OTHER, THE HORIZONTAL DISTANCE BETWEEN THEM SHALL NOT BE LESS THAN 10 FEET. WATER MAINS AND SANITARY SEWERS SHALL BE LAID IN SEPARATE TRENCHES WITH UNDISTURBED EARTH BETWEEN THEM. THE CONTRACTOR SHALL REFERENCE THE SPECIFICATIONS FOR ADDITIONAL LAYING REQUIREMENTS.
- PRIOR TO PLACING THE WATER MAIN IN SERVICE, THE CONTRACTOR SHALL PERFORM ALL BACTERIOLOGICAL TESTING AND DISINFECTION AS REQUIRED BY THE SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS ON ALL MATERIAL USED FOR APPROVAL BY THE ENGINEER.
- THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT STANDARD SPECIFICATION SECTIONS 3900.
- THE CONTRACTOR SHALL NOT OPERATE ANY VALVES CURRENTLY IN SERVICE IN THE EXISTING WATER SUPPLY SYSTEM. THE CITY SHALL SUPPLY AN INDIVIDUAL TO OPERATE ALL VALVES.
- ALL PIPE SHALL BE PVC AND SHALL COMPLY WITH EITHER ANSI/AWWA C900 OR ANSI/AWWA C905, MINIMUM PRESSURE CLASS 235.
- PIPE BEDDING SHALL BE 3/4" CLEAN GRANULAR BEDDING PER THE CITY OF LEE'S SUMMIT STANDARD SPECIFICATIONS SECTION 2100.
- UTILITY INFORMATION SHOWN ON THESE PLANS WAS TAKEN FROM UTILITY MAPS PROVIDED TO THIS ENGINEER BY VARIOUS UTILITY COMPANIES, AND LOCATES PROVIDED BY VARIOUS UTILITY LOCATING COMPANIES. EVERY EFFORT WAS MADE TO HAVE ANY AND ALL ACTIVE UTILITIES LOCATED. THIS ENGINEER DOES NOT WARRANT OR GUARANTEE THE LOCATION OR SIZE OF ANY UNDERGROUND UTILITY SHOWN HEREON. THIS ENGINEER DOES NOT WARRANT OR GUARANTEE THAT ALL UTILITY LINES, CABLES, PIPES, OR WIRES (ACTIVE OR INACTIVE) ARE SHOWN ON THESE DRAWINGS. SUE QUALITY LEVEL = C
- ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.
- COMPACTED FILL SHALL BE PLACED TO A MINIMUM 18" ABOVE THE TOP OF THE PIPE PRIOR TO INSTALLATION.

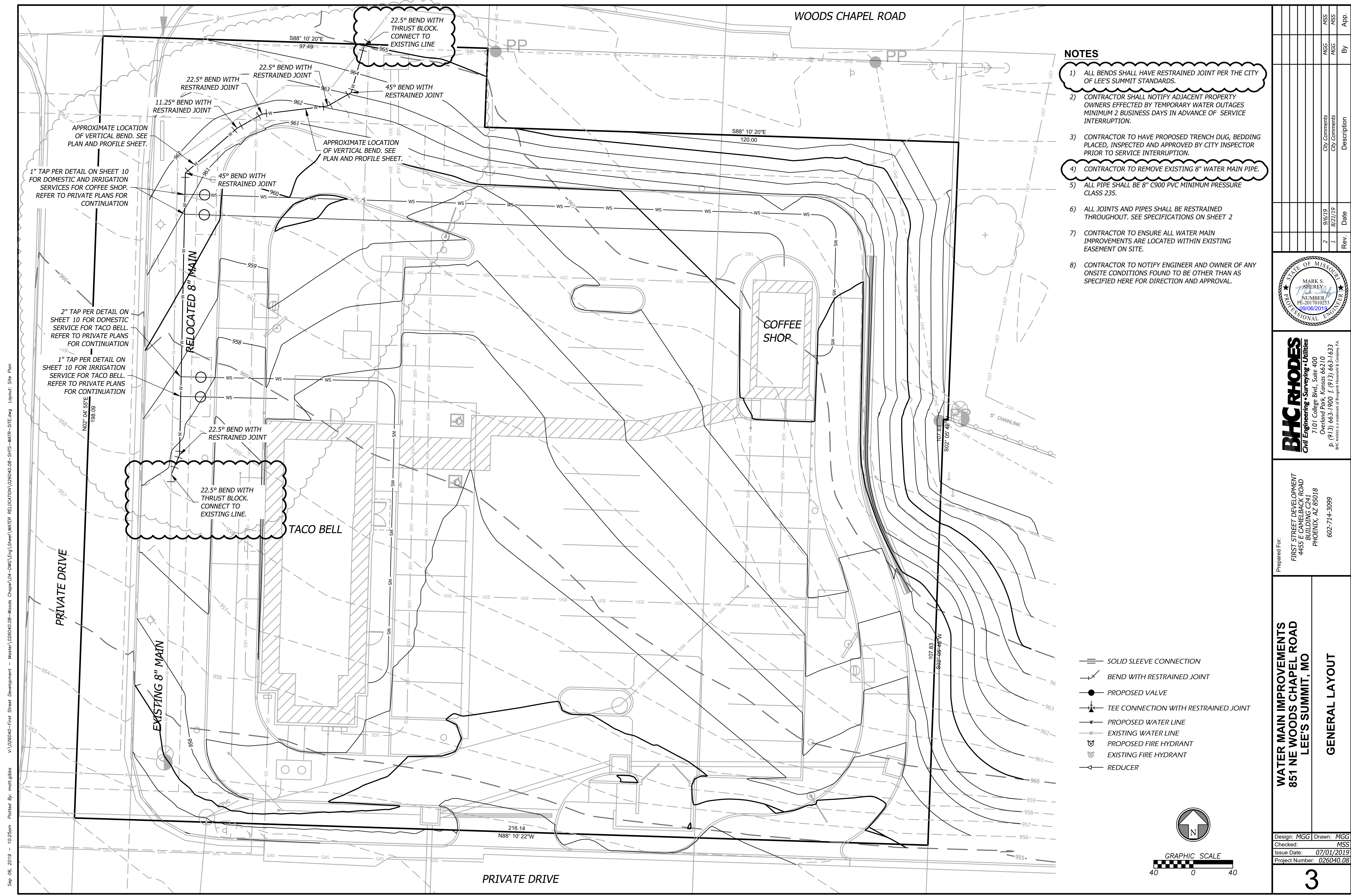


Design: JDO	Drawn: JDO
Checked: MGG	
Issue Date: 9/6/2019	
Project Number:	
2	

Prepared For:
 FIRST STREET DEVELOPMENT
 4455 E CAMELBACK ROAD
 BUILDING C241
 PHOENIX, AZ 85018
 602-714-3099

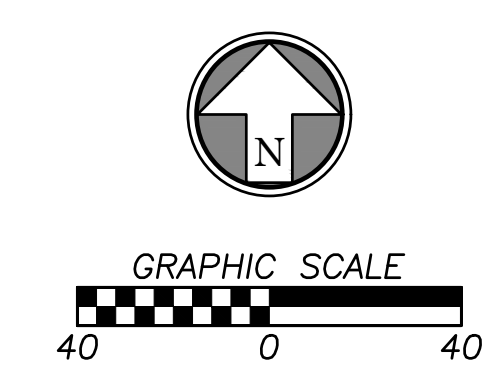
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STATE OF MISSOURI
 MARK S. RHEEY
 PROFESSIONAL ENGINEER
 NUMBER: PE-2017010253
 EXPIRES: 09/06/2019



- NOTES**
- 1) ALL BENDS SHALL HAVE RESTRAINED JOINT PER THE CITY OF LEE'S SUMMIT STANDARDS.
 - 2) CONTRACTOR SHALL NOTIFY ADJACENT PROPERTY OWNERS EFFECTED BY TEMPORARY WATER OUTAGES MINIMUM 2 BUSINESS DAYS IN ADVANCE OF SERVICE INTERRUPTION.
 - 3) CONTRACTOR TO HAVE PROPOSED TRENCH DUG, BEDDING PLACED, INSPECTED AND APPROVED BY CITY INSPECTOR PRIOR TO SERVICE INTERRUPTION.
 - 4) CONTRACTOR TO REMOVE EXISTING 8" WATER MAIN PIPE.
 - 5) ALL PIPE SHALL BE 8" C900 PVC MINIMUM PRESSURE CLASS 235.
 - 6) ALL JOINTS AND PIPES SHALL BE RESTRAINED THROUGHOUT. SEE SPECIFICATIONS ON SHEET 2
 - 7) CONTRACTOR TO ENSURE ALL WATER MAIN IMPROVEMENTS ARE LOCATED WITHIN EXISTING EASEMENT ON SITE.
 - 8) CONTRACTOR TO NOTIFY ENGINEER AND OWNER OF ANY ONSITE CONDITIONS FOUND TO BE OTHER THAN AS SPECIFIED HERE FOR DIRECTION AND APPROVAL.

- SOLID SLEEVE CONNECTION
- BEND WITH RESTRAINED JOINT
- PROPOSED VALVE
- TEE CONNECTION WITH RESTRAINED JOINT
- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- REDUCER



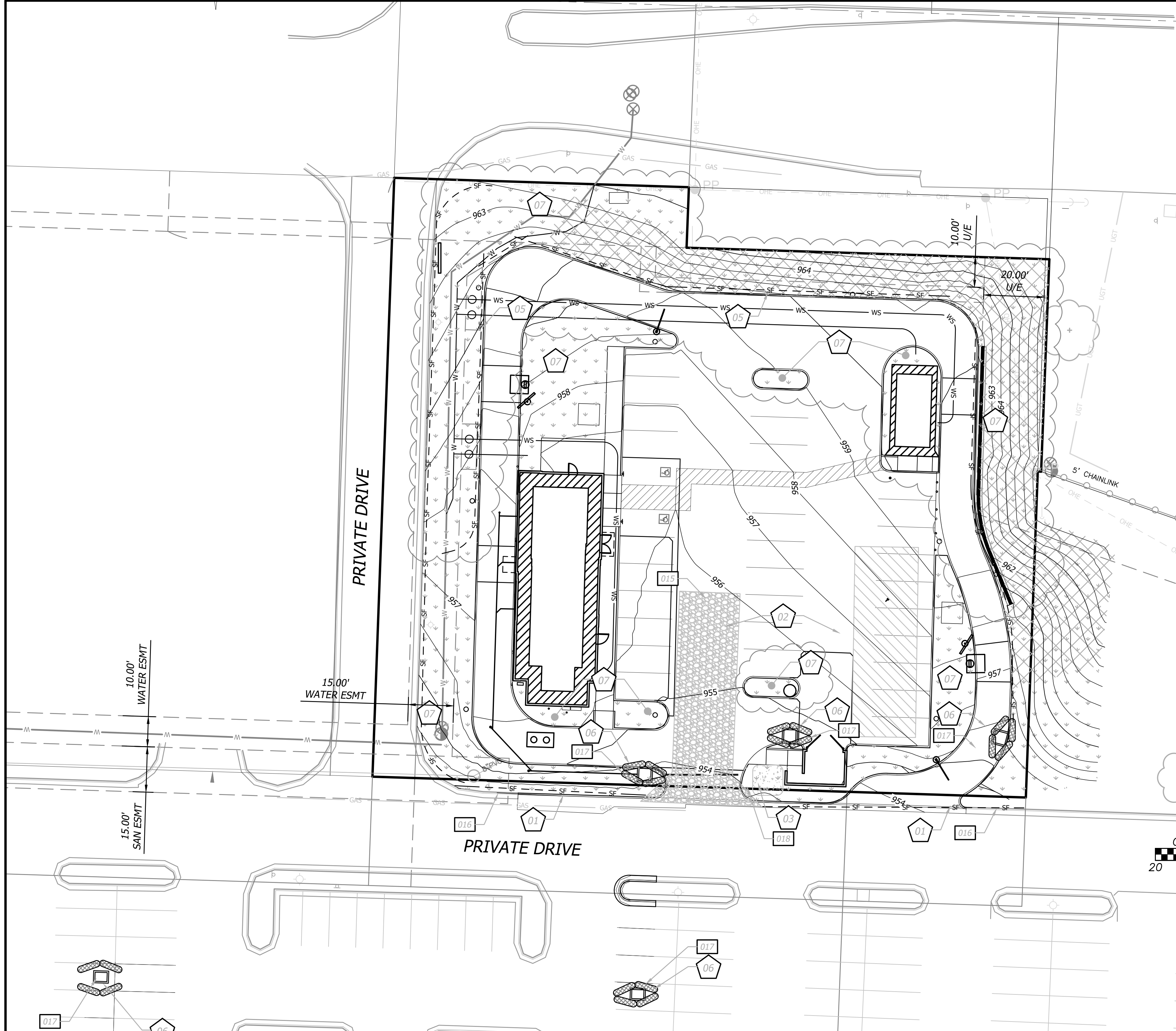
BHC RHODES Civil Engineering • Surveying • Utilities 7101 College Blvd., Suite 400 Overland Park, Kansas 66210 P: (913) 662-1900 F: (913) 662-1633 <small>BHC Rhodes is a trademark of Fluergent HomeModal & Company, P.A.</small>							
Prepared For: FIRST STREET DEVELOPMENT 4455 E CAMELBACK ROAD BUILDING C241 PHOENIX, AZ 85018 602-714-3099							
WATER MAIN IMPROVEMENTS 851 NE WOODS CHAPEL ROAD LEE'S SUMMIT, MO							
GENERAL LAYOUT							
Design: MGG Drawn: MGG Checked: MSS Issue Date: 07/01/2019 Project Number: 026040.08							
3							

Sep 06, 2019 - 10:25am Plotted By: mott.dibbs V:\026040-First Street Development - Master\026040.08-Woods Chapel\04-DWG\Eng\Sheet\WATER_RELOCATION\026040.08-SRFS-WATR-SITE.dwg Layout: Site Plan

Sep 06, 2019 - 10:26am Plotted By: mchd.gibbs V:\026040-First Street Development - Master\026040.08-Woods Chapel\04-DWG\Eng\Sheet\WATER_RELOCATION\026040.08-SPTS-WATR-EROS.dwg Layout: Eran-Pre

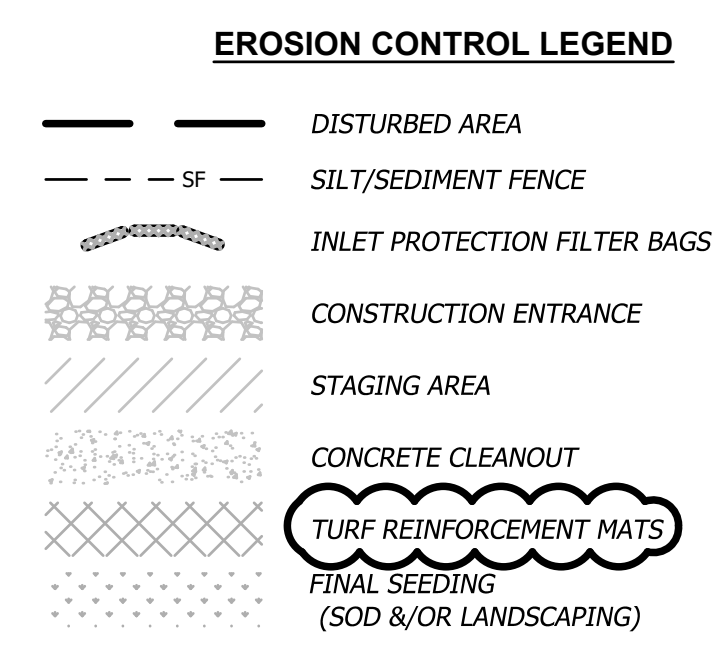
EROSION AND SEDIMENT CONTROL GENERAL NOTES

- Prior to Land Disturbance activities, the contractor shall:
 - Delineate the outer limits of any natural stream corridor designated with construction fencing.
 - Install perimeter controls and request the inspection of the pre-construction erosion and sediment control measures designated on the approved erosion and sediment control plan. Land disturbance work shall not proceed until there is a satisfactory inspection.
 - Identify the limits of construction on the ground with easily recognizable indications such as construction staking, construction fencing, and placement of physical barriers or other means acceptable to the City Inspector and in conformance with the erosion and sediment control plan.
- The contractor shall comply with all requirements of the Storm Water Pollution Prevention Plan, including but not limited to:
 - The contractor shall seed, mulch, or otherwise stabilize any disturbed area where the land disturbance activity has ceased for more than 14 days.
 - The contractor shall perform inspections of erosion and sediment control measures at the following minimum intervals:
 - During active construction phases - at least once per week
 - During periods of inactivity - at least once per 14 days
 - After each rainfall event of 1/2 inch or more - within 24 hours of the rain event
 - The contractor shall maintain an inspection log including the inspector's name, date of inspection, observations as to the effectiveness of the erosion and sediment control measures, actions necessary to correct deficiencies, when the deficiencies were corrected, and the signature of the person performing the inspection. The inspection log shall be available for review by the regulatory authority.
 - The contractor shall have the erosion and sediment control plan routinely updated to show all changes and amendments to the plan. A copy of the erosion and sediment control plan shall be kept on site and made available for review by the regulatory authority.
- Unless otherwise noted in the plans, all seeding must conform to Division II-Construction and Materials Specification-Section 2150 published by the Kansas City Metropolitan Chapter of the American Public Works Association dated May 21, 2008. Permanent seeding shall be installed after completion of final grading except when seeding will occur outside of the acceptable seeding season as specified in Section 2150. When temporary seeding is installed, permanent seeding shall be installed at the next seeding season. Temporary seeding shall not be used as a stabilization measure for a period exceeding 12 months. The Permit will not be closed until permanent seeding has been established to a minimum of 70% density over the entire disturbed area.
- The contractor shall maintain installed erosion and sediment control devices in a manner that preserves their effectiveness for preventing sediment from leaving the site or entering a sensitive area such as a natural stream corridor, areas of the site intended to be left undisturbed, a storm sewer, or an on-site drainage channel.
- The contractor is responsible for providing erosion and sediment control for the duration of a project. If the City determines that the BMPs in place do not provide adequate erosion and sediment control at any time during the project, the contractor shall install additional or alternate measures that provide effective control.
- Concrete wash or rinse water from concrete mixing equipment, tools and/or ready-mix trucks, tools, etc. may not be discharged into or be allowed to run directly into any existing water body or storm inlet. One or more locations for concrete wash out will be designated on site, such that discharges during concrete washout will be contained in a small area where waste concrete can solidify in place.
- Chemicals or materials capable of causing pollution may only be stored onsite in their original container. Materials stored outside must be in closed and sealed water-proof containers and located outside of drainage ways or areas subject to flooding. Locks and other means to prevent or reduce vandalism shall be used. Spills will be reported as required by law and immediate actions taken to contain them.
- Silt fences and erosion control BMPs which are shown along the back of curb must be installed within two weeks of curb backfill and prior to placement of base asphalt. Exact locations of these erosion control methods may be field adjusted to minimize conflicts with utility construction; however, anticipated disturbance by utility construction shall not delay installation.
- Interior Silt Fence as necessary during construction. Portions may be limited as vegetation is established and hardscape is installed. Entire length may be installed at the contractor's option to aid in stabilizing slopes.
- Private Erosion & Sediment Control inspections are required in accordance with NPDES schedule and requirements. After inspections, provide the City of Lee's Summit with reports and documentation.



EROSION & SEDIMENT CONTROL STAGING CHART

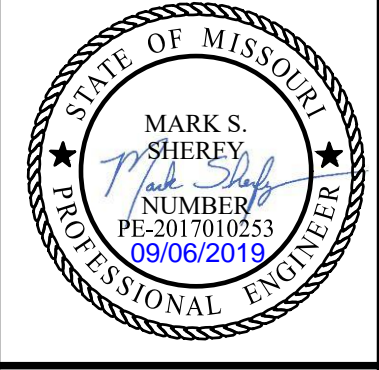
Phase	Project Stage	BMP Plan Ref. No.	BMP Description	Remove After Stage:	Notes:
Phase I (PRE-CON)	A - Place BMP's Prior to Land Disturbance	01	Perimeter Silt Fence	E	Place as shown on plan
		02	Concrete Entrance & Staging Area	E	Place as shown on plan
		03	Concrete Wash-Out	E	Place as shown on plan
		04	Existing Inlet Protection	E	Place as shown on plan
Phase II (MID-CON)	B - After Stripping, Grubbing, & Mass Grading	05	Interior Silt Fence (See Note 9)	E	Place as shown on plan
	C - After Utility Storm Sewer Construction	06	Storm Inlet Protection	E	Place as shown on plan
Phase III (POST-CON)	E - Final Grading, Paving & Landscaping	07	Final Seeding, Sod, and Landscaping	N/A	Silt fencing & inlet protect may be removed once seed & sodded areas are established on 80% of site. (RE: L1.1 Landscape Plan for the stormwater treatment facility)



DETAILS

- SEE EROSION CONTROL DETAIL SHEETS FOR THE FOLLOWING
- 015 CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT (SHEET C8.1)
- 016 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS (SHEET C8.2)
- 017 CURB INLET PROTECTION (SHEET C8.3)
- 018 FILTER FABRIC SILT FENCE (SHEET C9.1)

Rev.	Date	Description	By	App.
3	9/6/19	City Comments	MGG	MSS
2	8/21/2019	Sheet Re-issued	MGG	MSS
1	8/13/19	Land Disturbance Comments	MGG	MSS



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 4455 E CAMELBACK ROAD
 BUILDING C 241
 PHOENIX, ARIZONA 85018
 602-714-3099

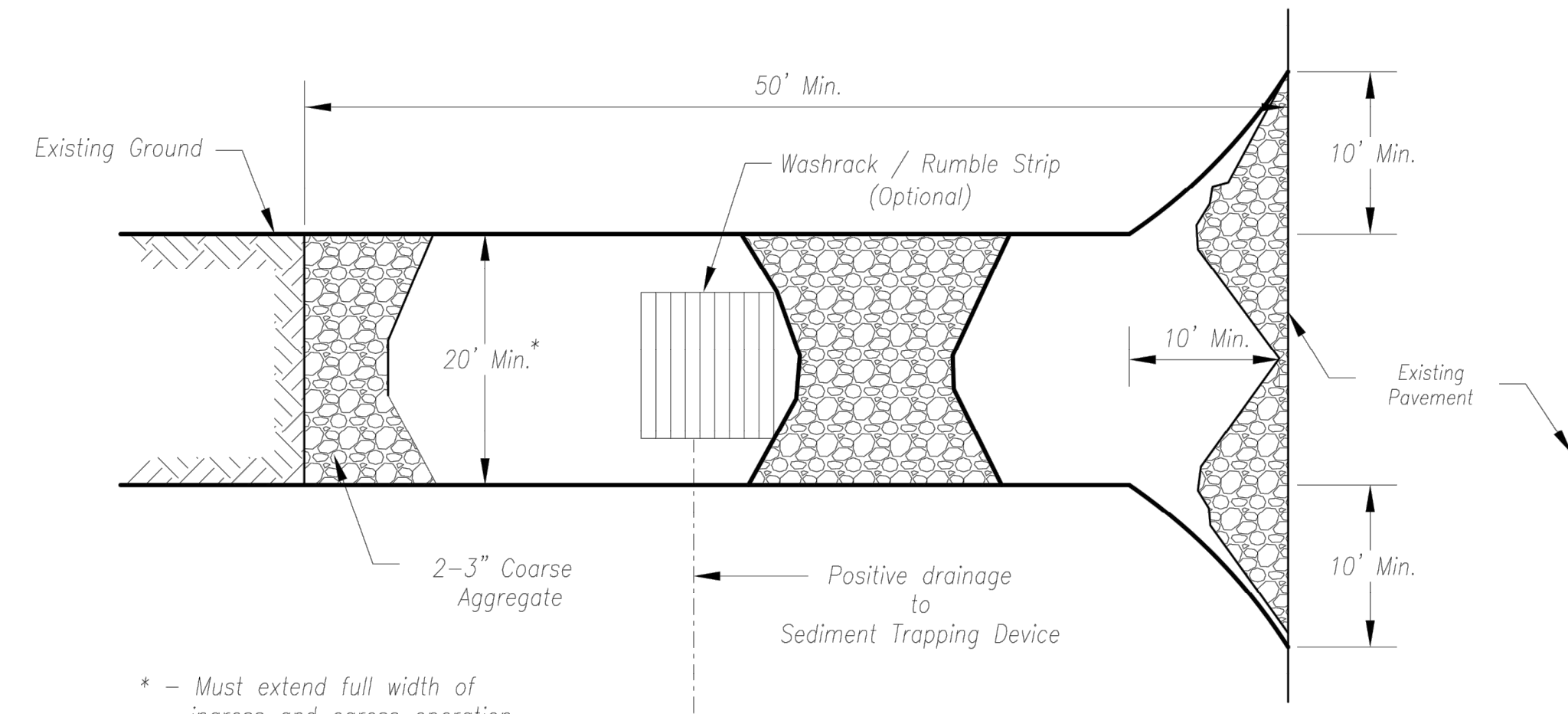
WATER MAIN IMPROVEMENTS
851 NE WOODS CHAPEL RD
LEE'S SUMMIT, MISSOURI

EROSION CONTROL

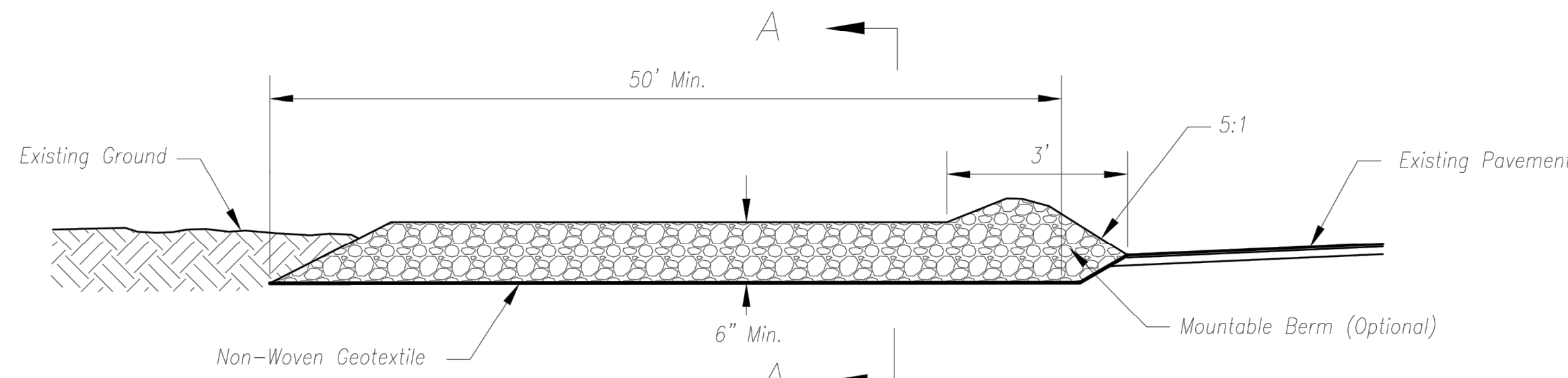
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 Issue Date: 04/23/2019
 Project Number: 026040.08

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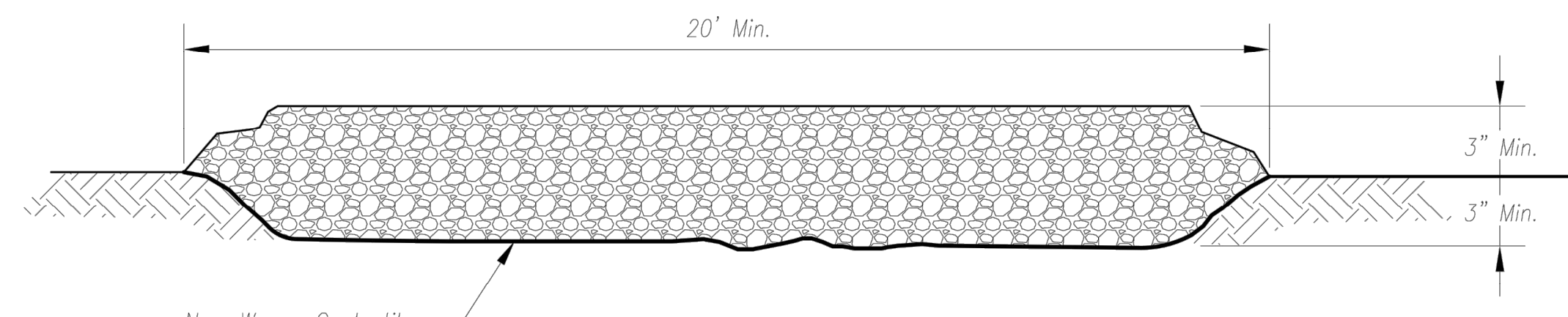
Sep 06, 2019 - 10:26am - Plotted By: matt.gibbs
 V:\026040-First Street Development - Master\026040.08-Woods Chapel\04-DWG\Eng\Sheet\WATER_RELOCATION\026040.08-SRITS-WATR-EROS-DTLS.dwg - Layout: Construction Entrance



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.

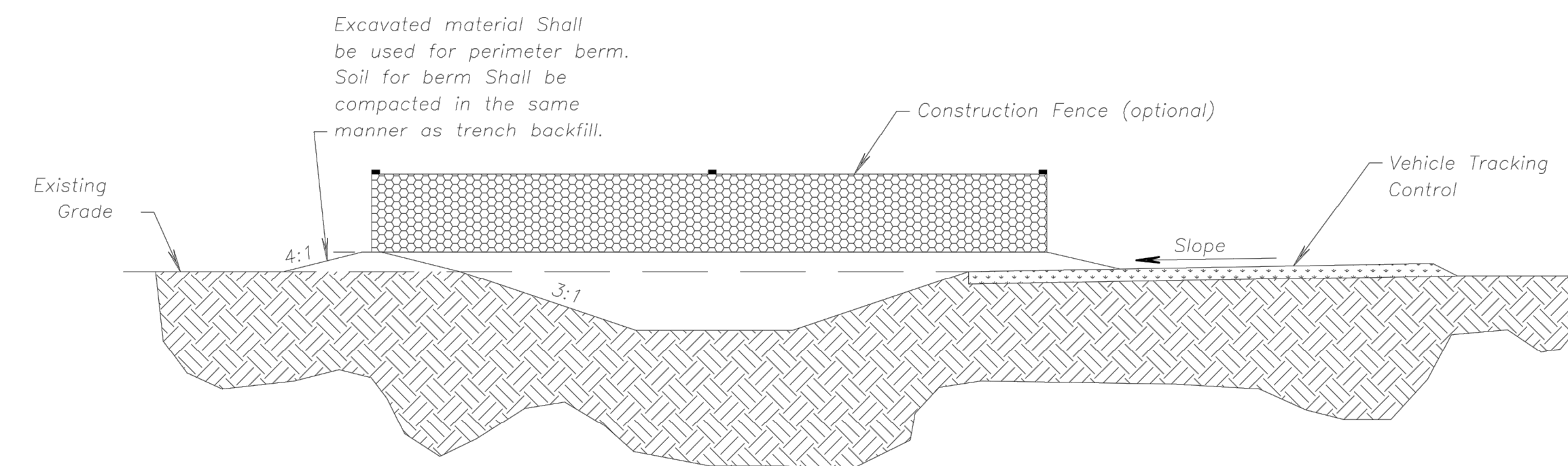
CONSTRUCTION ENTRANCE

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

AMERICAN PUBLIC WORKS ASSOCIATION

Kansas City Metro Chapter

KANSAS CITY METRO CHAPTER

CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT

STANDARD DRAWING NUMBER ESC-01 ADOPTED: 10/24/2016

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.

Rev.	Date	Description	By	App.
2	9/6/19	Sheet Re-issued		



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PHOENIX, AZ 85018
602-714-3099

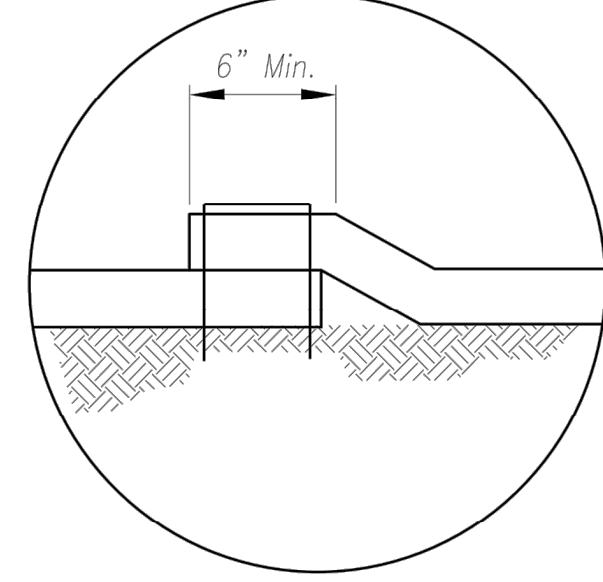
WATER MAIN IMPROVEMENTS
851 NE WOODS CHAPEL ROAD
LEE'S SUMMIT, MO

EROSION CONTROL DETAILS

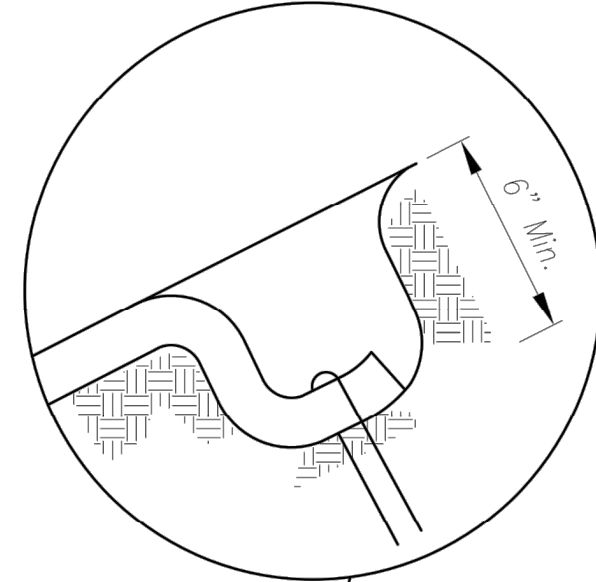
Design: MGG Drawn: MGG
Checked: MSS
Issue Date: 04/23/2019
Project Number: 026040.08

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Longitudinal Seam



Anchor Slot

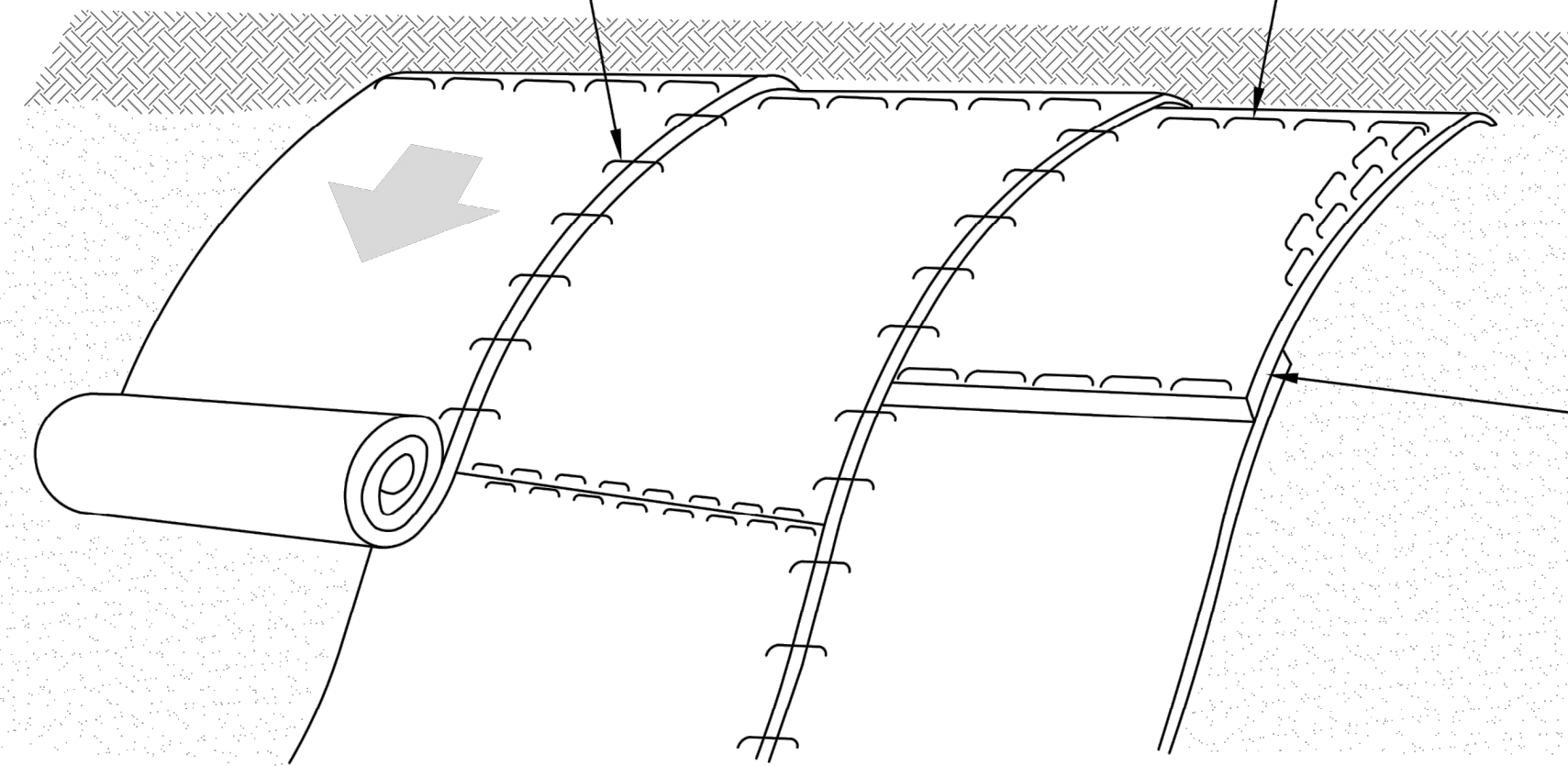


General Notes:

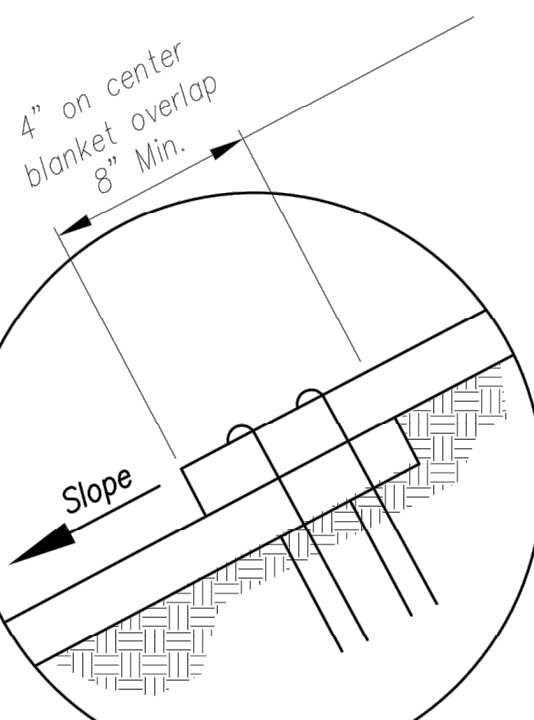
1. APWA Specifications 2150 and Design Guidance 5100 shall be referenced to select type of blanket or mat to be used.
2. Typical anchors and pattern/spacing shall be installed according to the manufacturers instructions.
3. **LONGITUDINAL SEAMS:** The edges of the blanket or mat should overlap each other a minimum of 6 inches, with anchors catching the edges of both blankets.

Maintenance:

1. Torn or degraded product shall be repaired or replaced, unless such degradation is within the functional longevity specified by the manufacturer.
2. Edges or seams that are loose or frayed shall be secured.

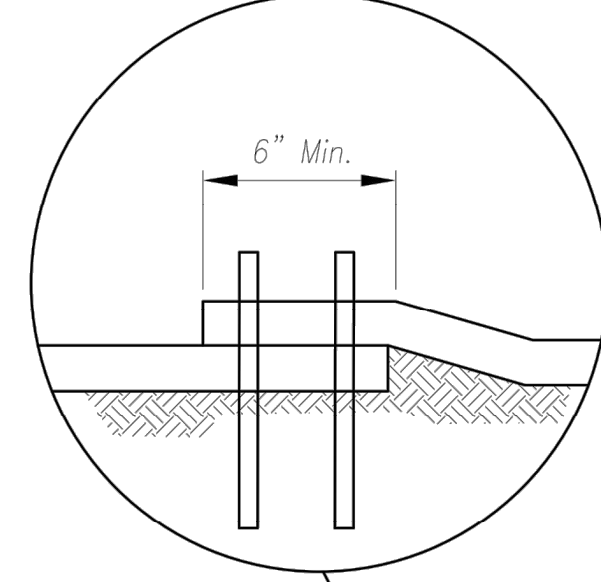


Installation on Slopes

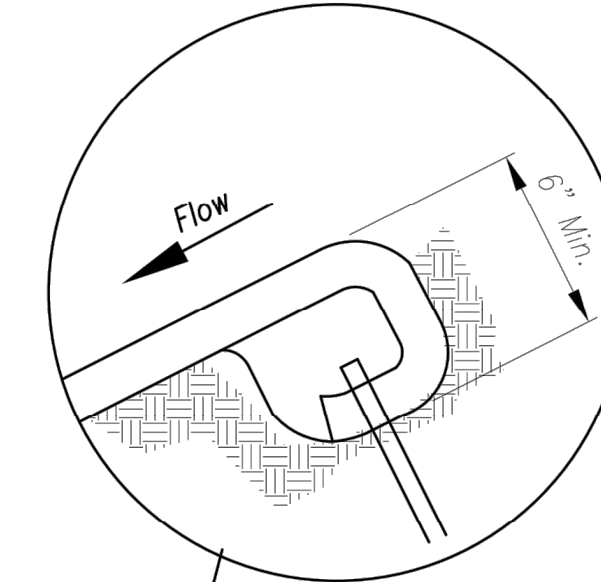


Splice Seam

Longitudinal Seam

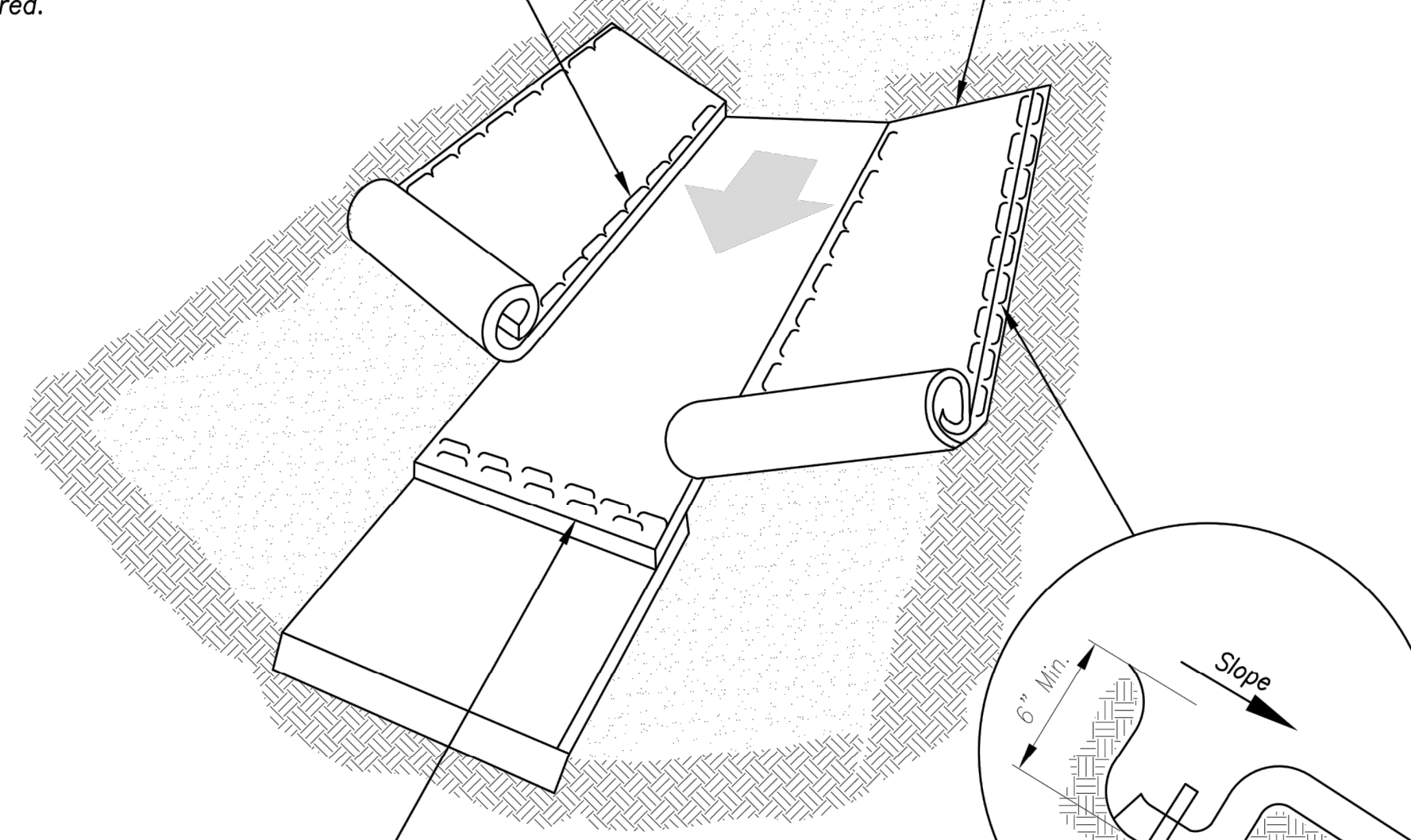


Anchor Fold

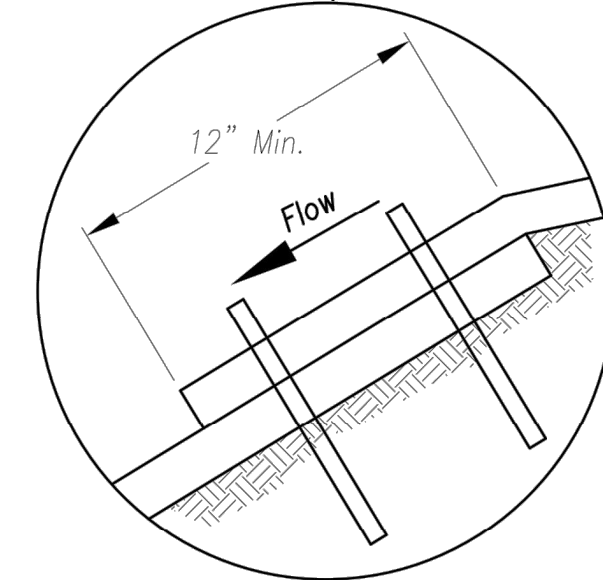


Notes for Installation in Channels:

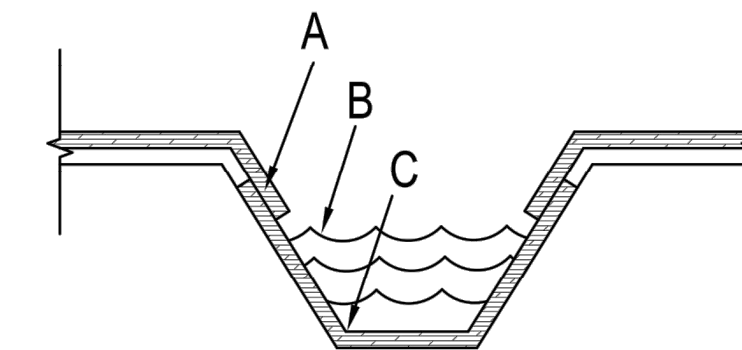
1. Erosion Control Blankets and TRMs shall be laid in the direction of the flow, with the first course at the centerline of channel, where applicable. In order for the mat to be in contact with the soil, lay the mat loosely, avoiding stretching.
2. **ANCHOR FOLD:** The top of the mat should be folded under, buried and secured with wood or other approved anchors placed 6 inches apart. The top edge of the mat should be buried in a slot 6 inches wide x 6 inches deep, anchored in the bottom of the slot, backfilled, and the mat folded over the top as shown in detail.
3. **SPLICE SEAM:** When splices are necessary, overlap end a minimum of 12 inches in direction of water flow. Stagger splice seams.
4. **CHECK SLOTS:** Establish check slots transverse to slope every 30 feet. The slots should be 6 inches wide x 6 inches deep. The mat shall be cut to a length 12 inches beyond the slot. The top of the downstream mat shall be slotted in, secured and buried similar to the edge anchor fold. The upstream mat shall then cover the slot and be anchored as shown.
5. **EDGE ANCHORS:** Lay outside edge of mat into trench at top of the slope and anchor.
6. **TERMINUS:** The bottom edge of the mat shall be anchored.



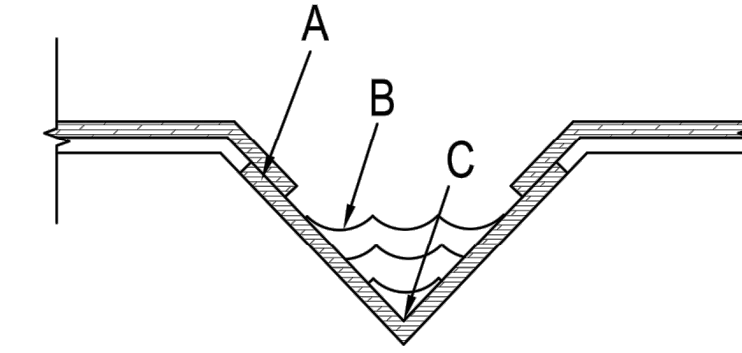
Edge Anchor



Splice Seam



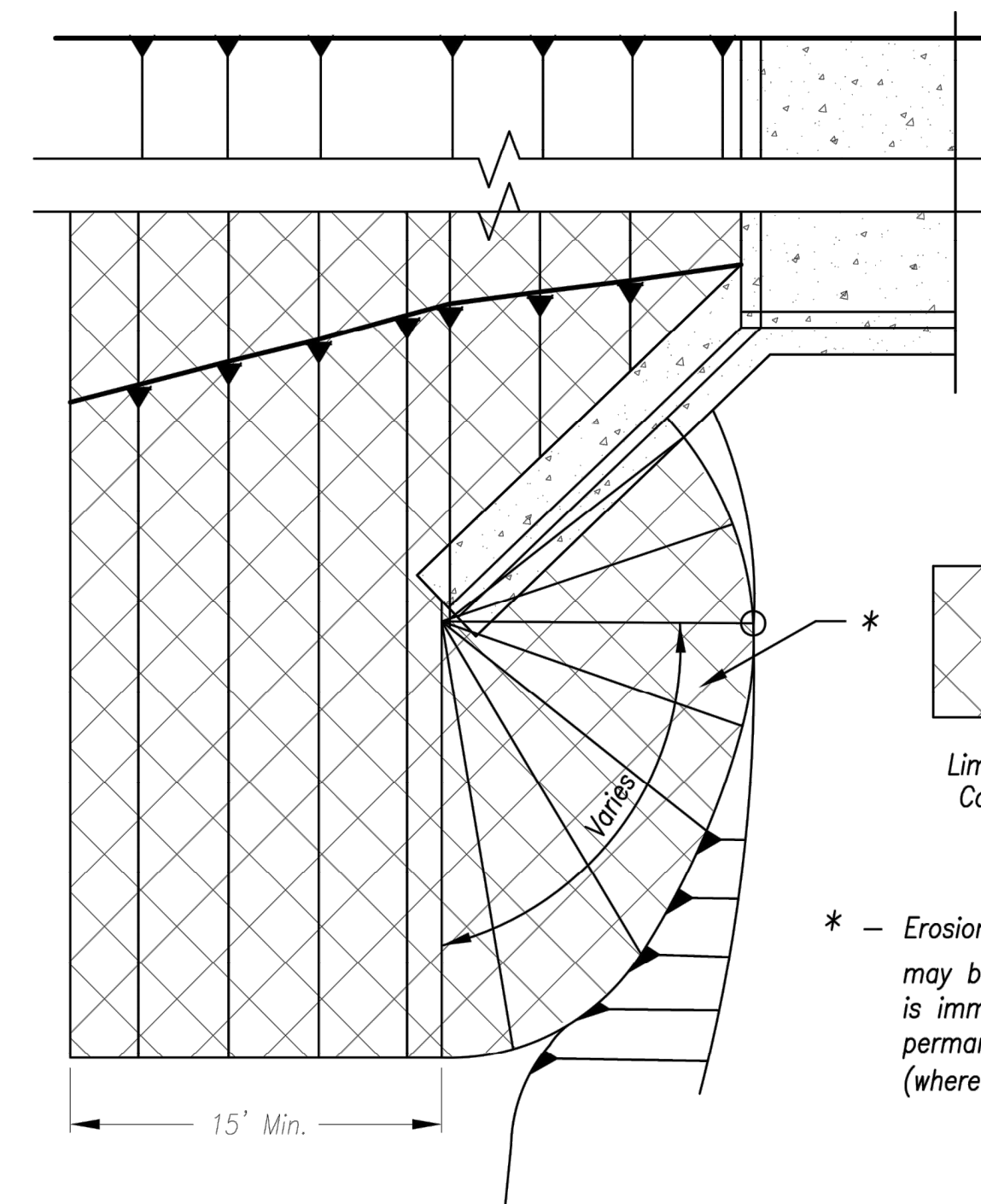
Trapezoidal Channel



V Channel

Critical Points:

- A - Overlaps and seams;
- B - Projected water line;
- C - Channel bottom / side slope vertices;

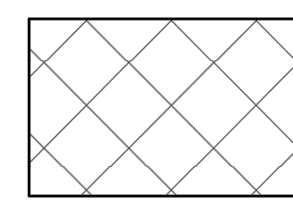


Partial Box Culvert Plan
Not to Scale

Installation Around Culvert Slope

Notes for Installation on Slopes:

1. Erosion Control Blankets and TRMs shall be laid in the direction of the slope. In order for blanket to be in contact with the soil, lay blanket loosely, avoiding stretching.
2. **ANCHOR SLOTS:** The top of the blanket should be "slotted in" at the top of the slope and anchored in place with anchors 6 inches apart. The slots should be 6 inches wide x 6 inches deep with the blanket anchored in the bottom of the slot, then backfilled, tamped and seeded.
3. **SPLICE SEAM:** When splices are necessary, overlap end a minimum of 8 inches in direction of water flow. Stagger splice seams.
4. **TERMINAL FOLD:** The bottom edge of the blanket shall be turned under a minimum of 4 inches, then anchored in place with anchors 9 inches apart.



Limits of Erosion Control Blanket

* - Erosion Control Blanket or TRM may be omitted if the area is immediately covered by permanent slope protection (where directed by the plans)

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

AMERICAN PUBLIC WORKS ASSOCIATION



KANSAS CITY METRO CHAPTER

EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS

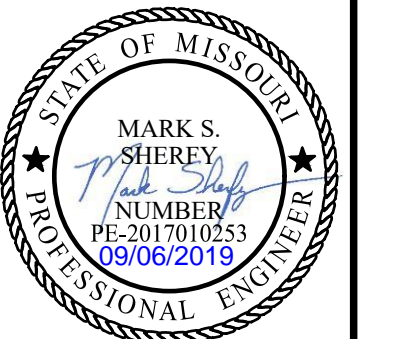
STANDARD DRAWING NUMBER ESC-02 ADOPTED: 10/24/2016

WATER MAIN IMPROVEMENTS
 851 NE WOODS CHAPEL ROAD
 LEE'S SUMMIT, MO

EROSION CONTROL DETAILS

Design: MGG | Drawn: MGG
 Checked: MSS
 Issue Date: 04/23/2019
 Project Number: 026040.08

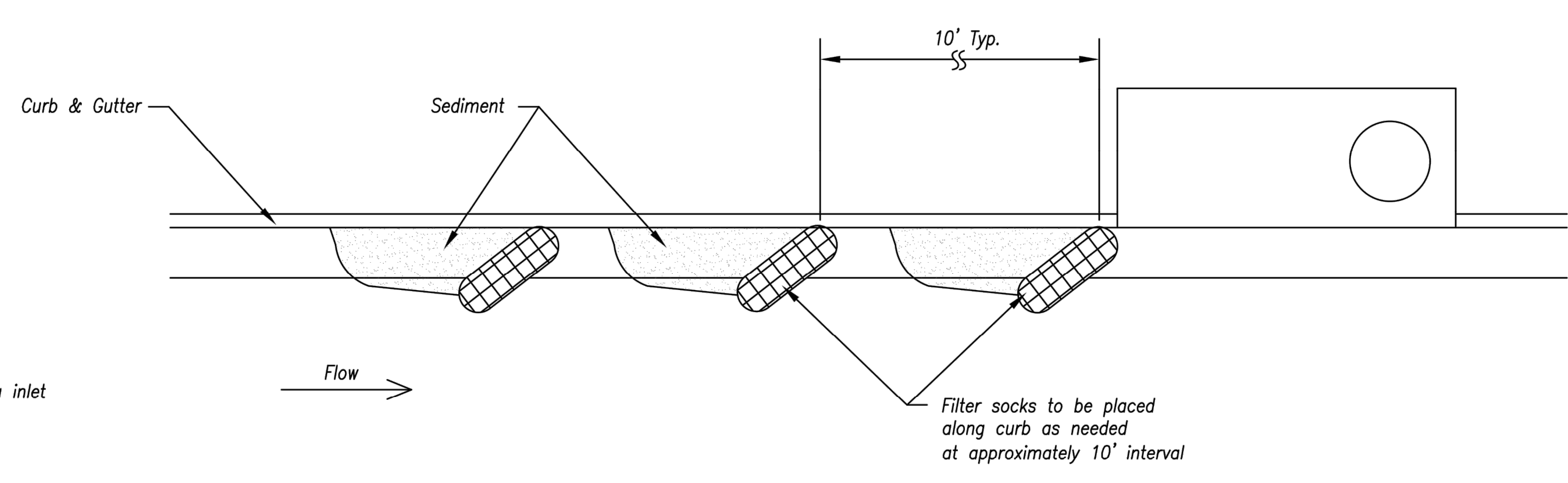
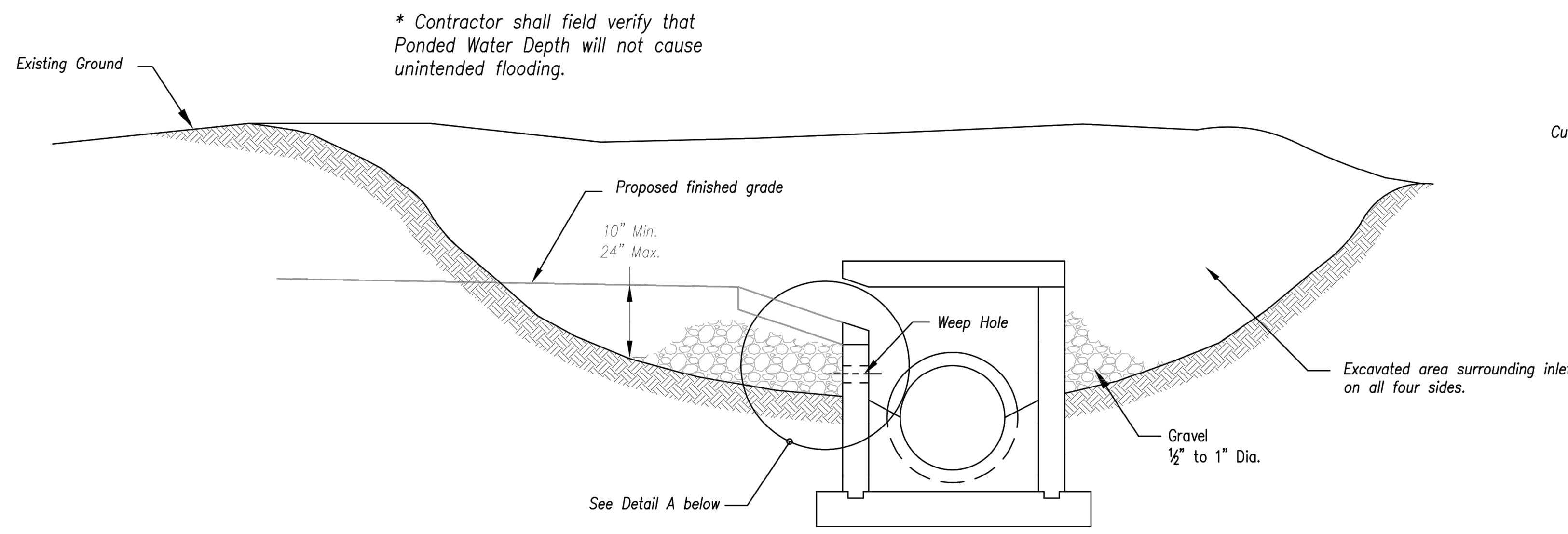
Rev.	Date	Description
2	9/6/19	Sheet Re-issued



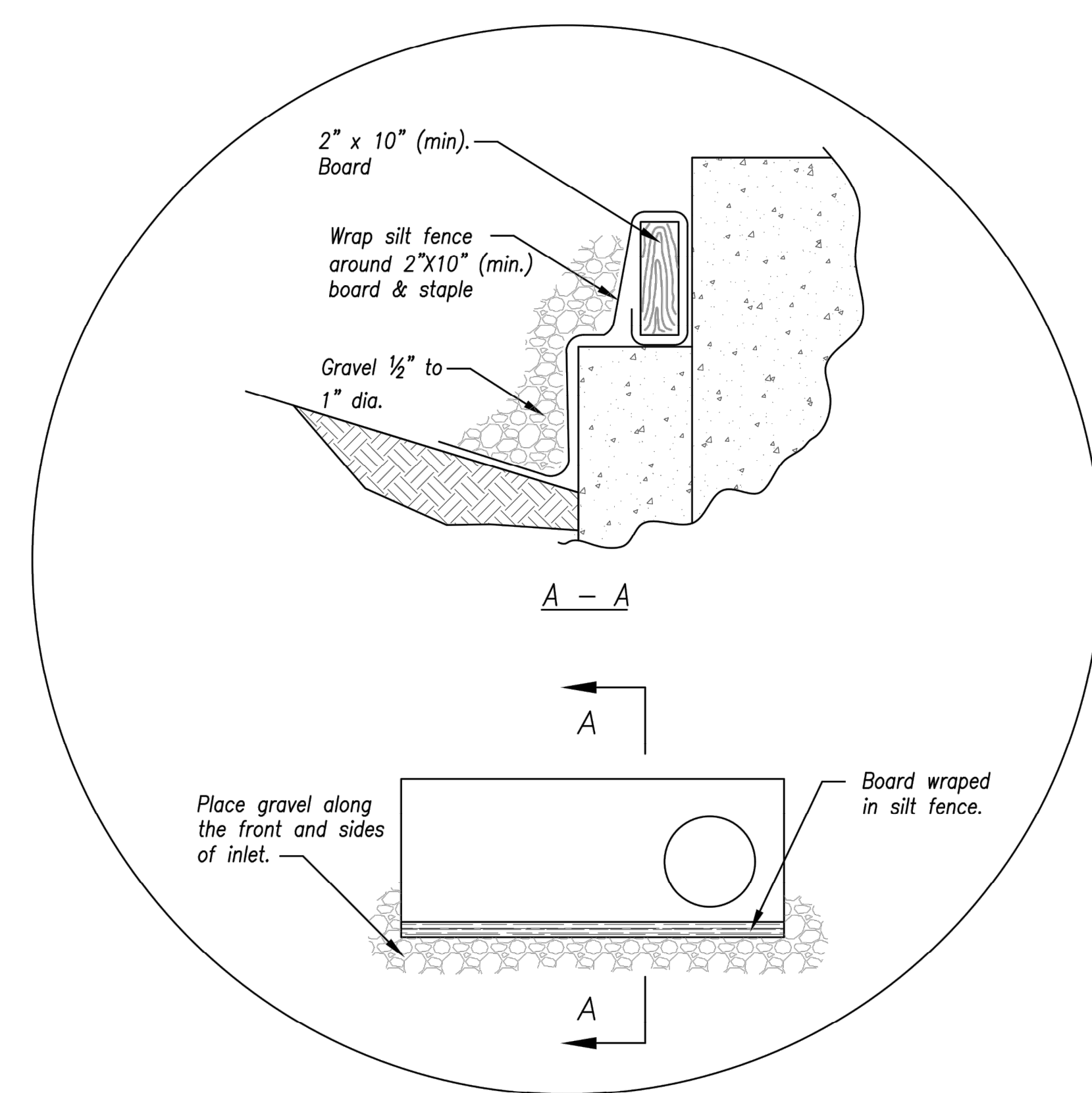
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On Grade Curb Inlet Protection

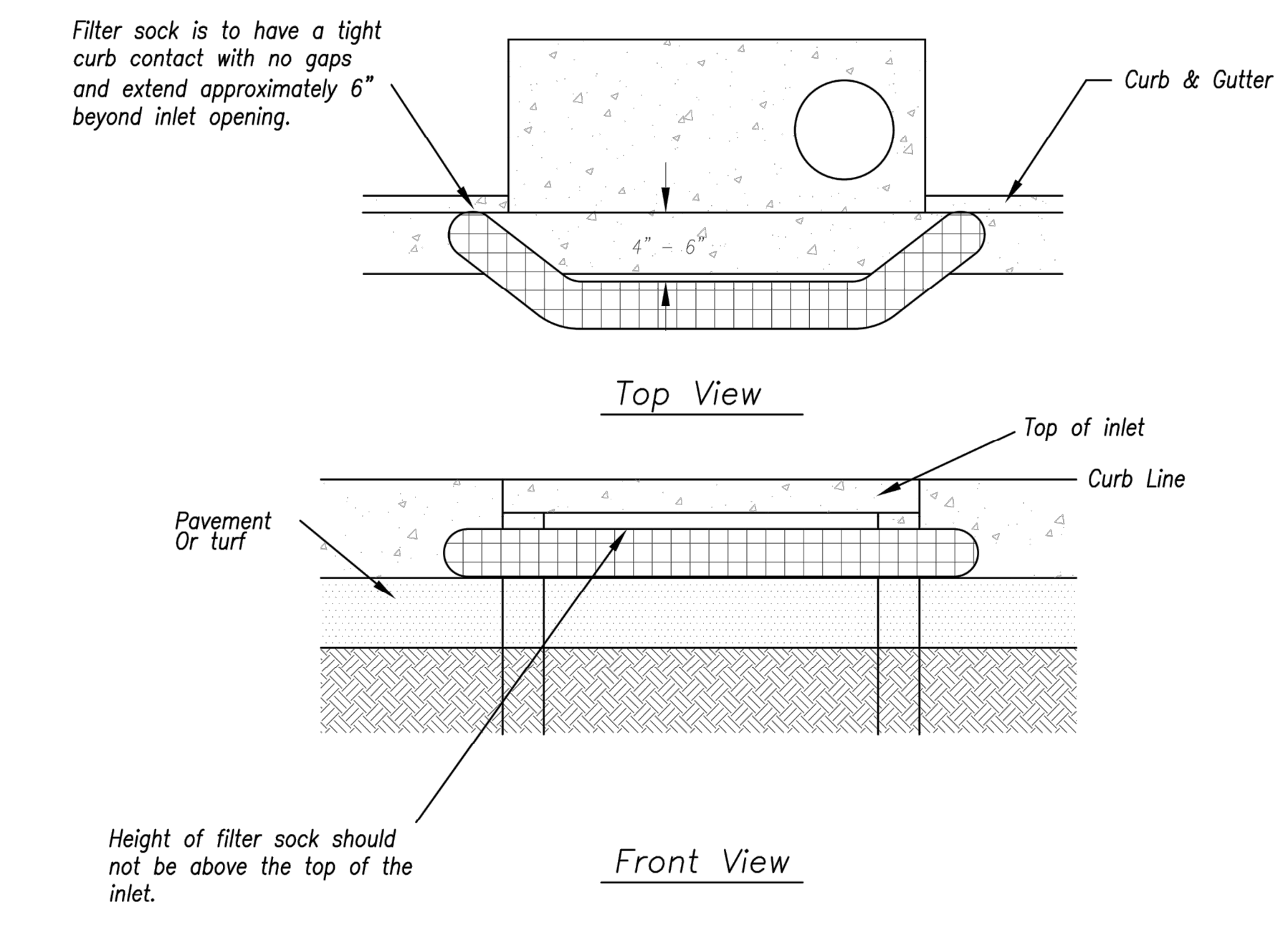


Detail A

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

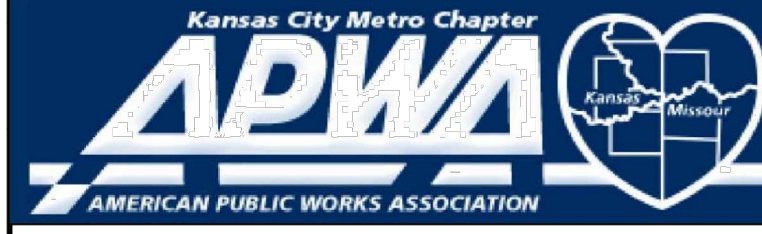
- Notes:**
1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
 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.




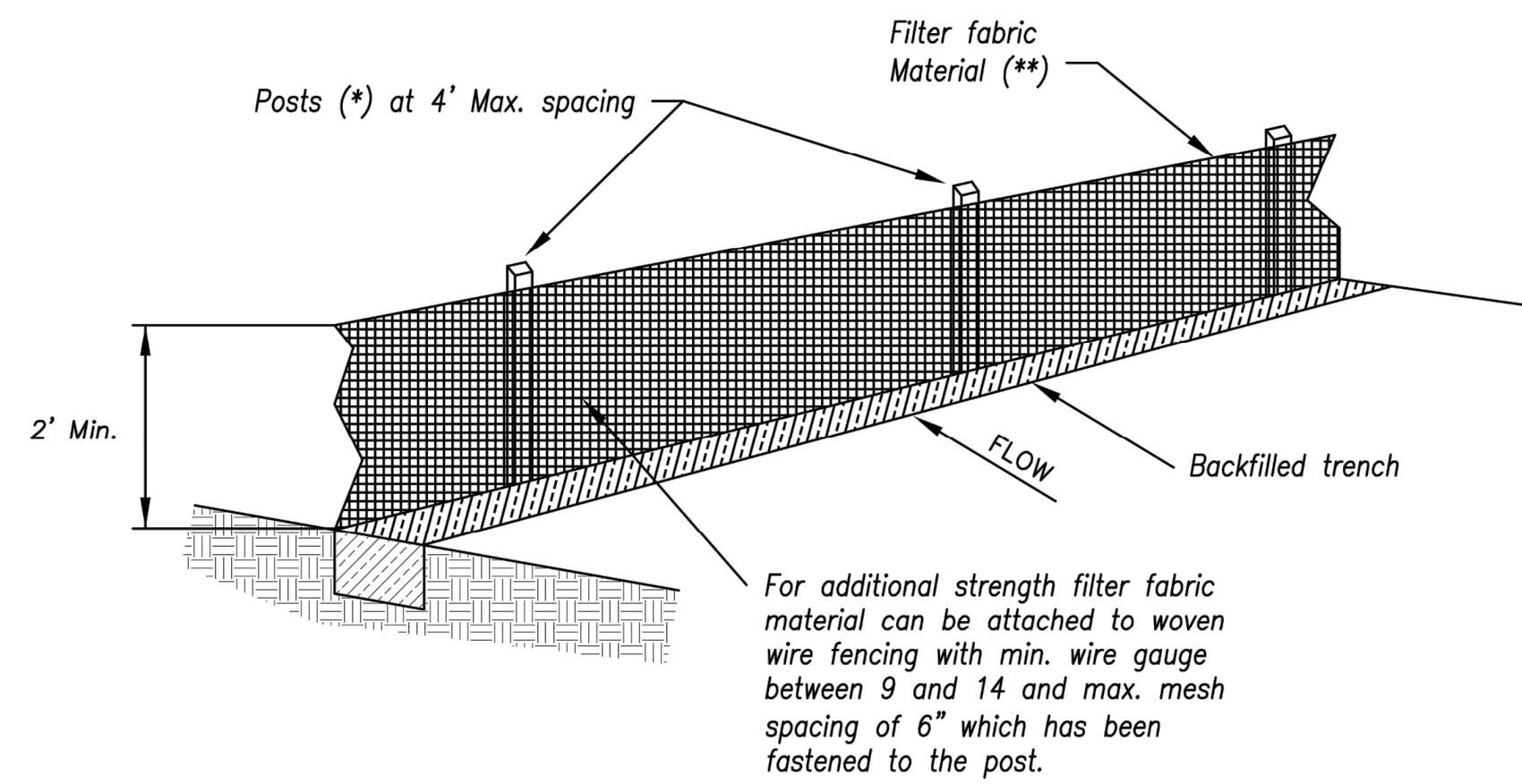
Sump Inlet Sediment Filter

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

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

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

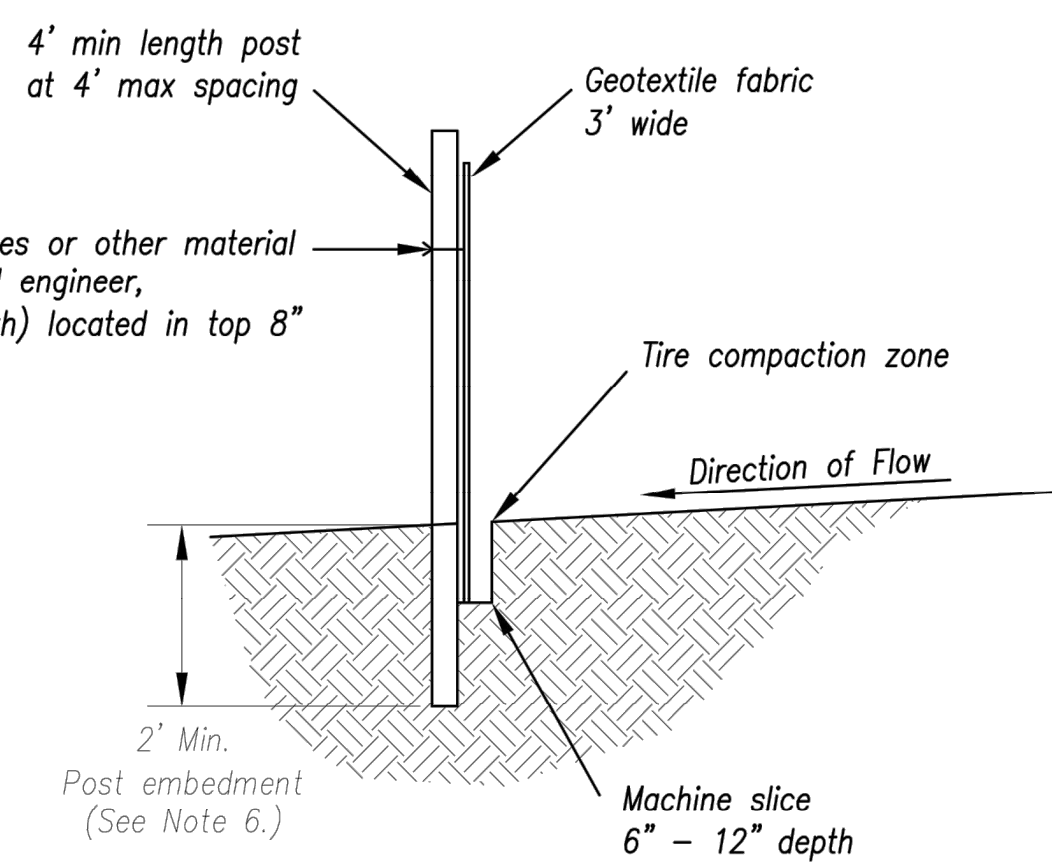
	BHC RHODES Civil Engineering • Surveying • Utilities 7101 College Blvd., Suite 400 Overland Park, Kansas 66210 P. (913) 663-1900 F. (913) 663-1633 <small>BHC RHODES is a trademark of Fluigent Homestead & Company, P.A.</small>										
Prepared For: FIRST STREET DEVELOPMENT 4455 E CAMELBACK ROAD BUILDING C241 PHOENIX, AZ 85018 602-714-3099	EROSION CONTROL DETAILS										
WATER MAIN IMPROVEMENTS 851 NE WOODS CHAPEL ROAD LEE'S SUMMIT, MO	Design: MGG Drawn: JDO Checked: MSS Issue Date: 04/23/2019 Project Number: 026040.08										
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Rev.	Date	Description	By	App.							
2	9/6/19	Sheet Re-issued									
	<div style="font-size: 2em; font-weight: bold; margin: 0;">8</div>										



- (*) **POSTS**
- MIN. LENGTH 4'
 - HARDWOOD 1 3/8" x 1 3/8"
 - 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 1/3 the height of silt fence.
2. Repair as necessary to maintain function and structure.

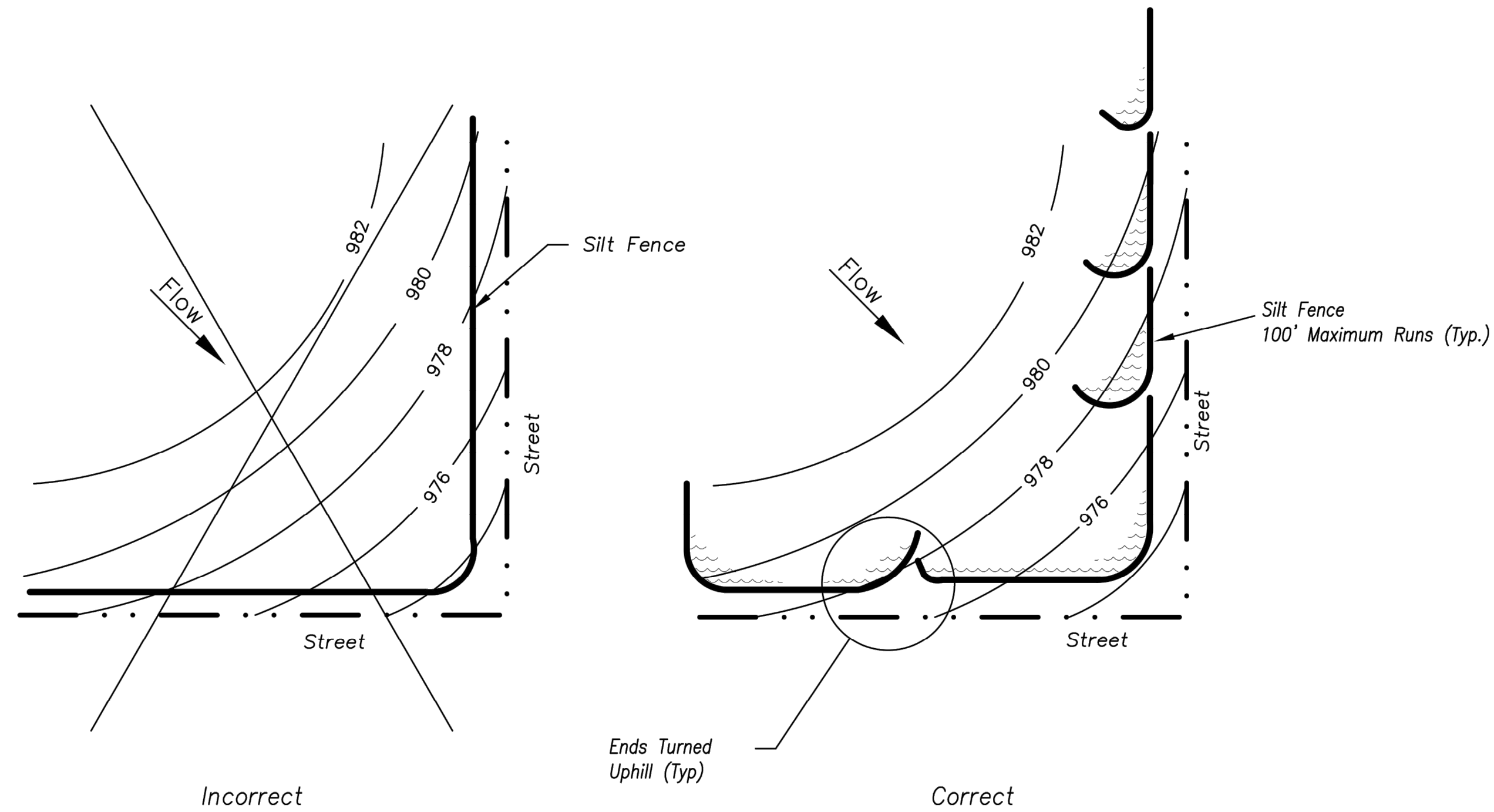
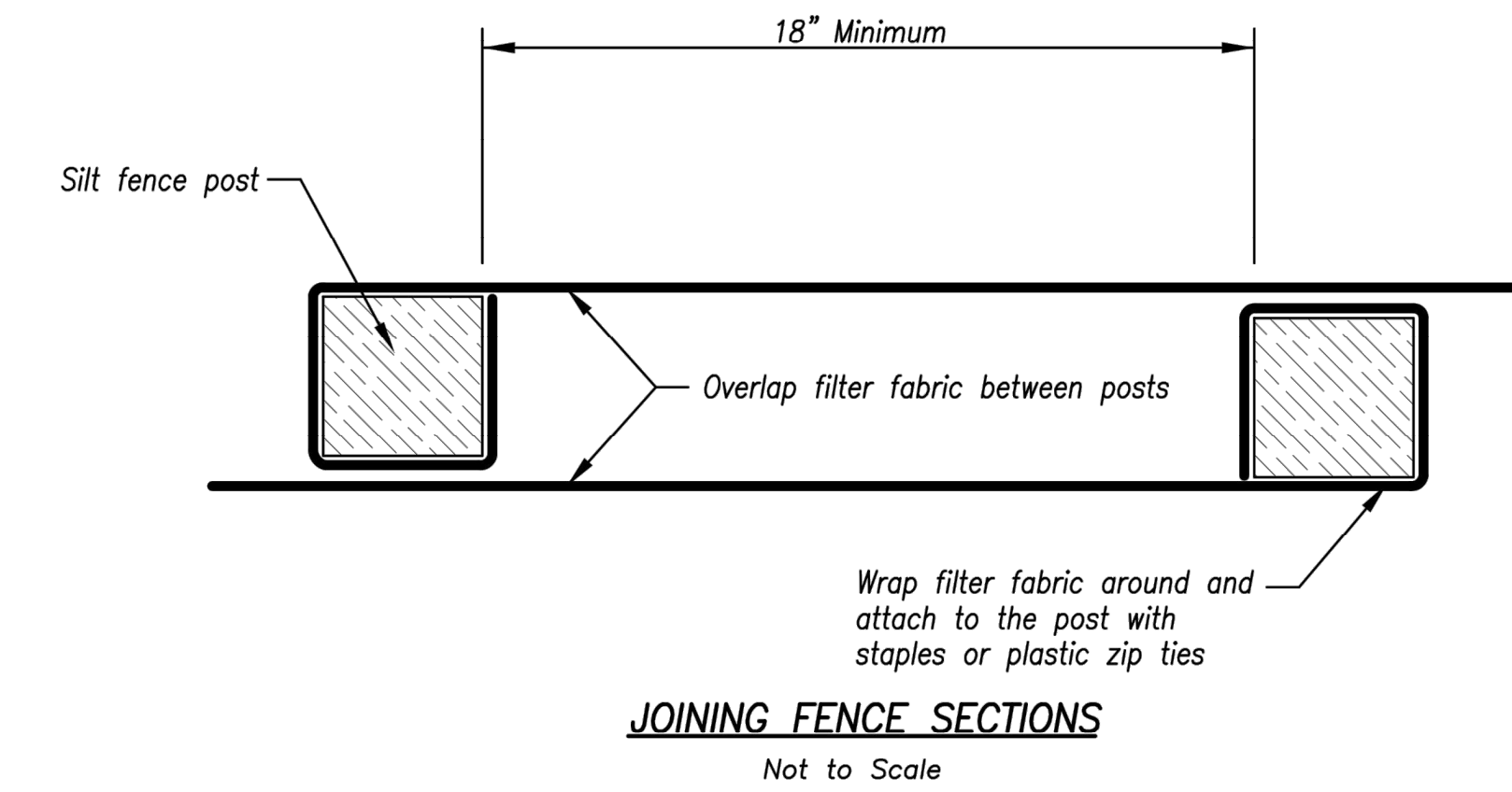
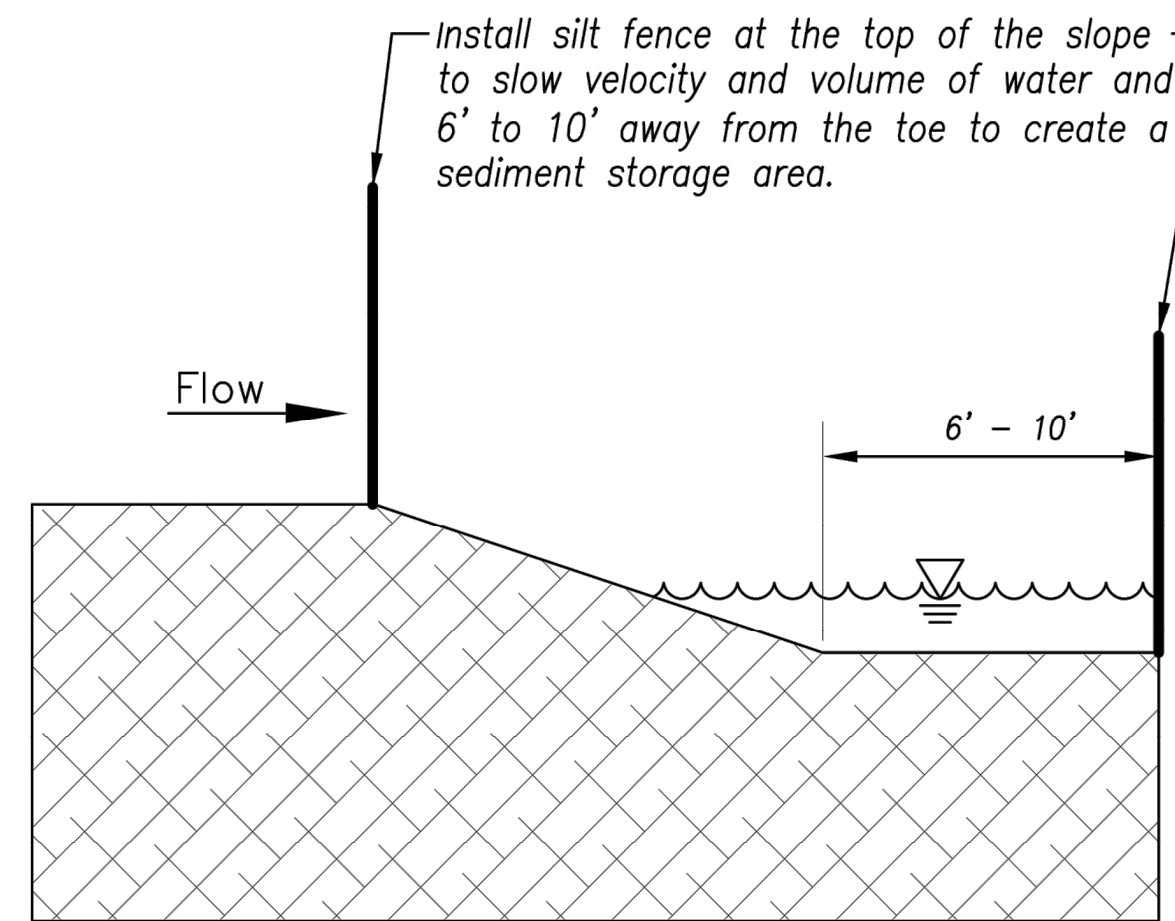


Figure A

SILT FENCE LAYOUT
Not to Scale



AMERICAN PUBLIC WORKS ASSOCIATION



KANSAS CITY METRO CHAPTER

SILT FENCE

STANDARD DRAWING NUMBER ESC-03
ADOPTED: 10/24/2016

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

Rev.	Date	Description	By	App.
2	9/6/19	Sheet Re-issued		



BHC RHODES
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Prepared For:
FIRST STREET DEVELOPMENT
4455 E CAMELBACK ROAD
BUILDING C241
PHOENIX, AZ 85018
602-714-3099

WATER MAIN IMPROVEMENTS
851 NE WOODS CHAPEL ROAD
LEE'S SUMMIT, MO

EROSION CONTROL DETAILS

Design: MGG | Drawn: MGG
Checked: MSS
Issue Date: 04/23/2019
Project Number: 026040.08

NOM. DIA. (INCHES)	180	90	45	22.5	11.25
TEE, PLUG	50.5	71.4	38.6	19.7	9.9
BEND	89.8	126.9	68.7	35.0	17.6
REST. JT.	140.2	198.3	107.3	54.7	27.5
REST. JT.	202.0	287.4	154.6	78.8	39.6
REST. JT.	278.8	398.7	210.4	107.3	53.9
REST. JT.	360.6	510.0	271.7	140.1	70.4
REST. JT.	447.4	631.3	333.0	177.3	89.1
REST. JT.	534.2	752.6	394.3	210.4	110.0
REST. JT.	621.0	873.9	455.6	243.5	131.8
REST. JT.	707.8	995.2	516.9	276.6	153.6

NOTES:
 1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
 2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
 3. BEARING MUST BE AGAINST UNDISTURBED SOIL.
 4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

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

Date: 02/13
 Drawn By: JN
 Checked By: DL
 FILE: WAT-2
 Rev: 1/14
 Rev:

NOM. DIA. (INCHES)	180	90	45	22.5	11.25
TEE, PLUG	4.7	6.7	4.0	4.0	4.0
BEND	8.4	11.8	6.4	4.0	4.0
REST. JT.	13.1	18.5	10.0	5.1	4.0
REST. JT.	18.8	26.7	14.4	7.4	4.0
REST. JT.	25.7	36.3	19.6	10.0	5.0
REST. JT.	33.5	47.4	25.6	13.1	6.6
REST. JT.	42.4	59.1	32.5	16.5	8.3
REST. JT.	51.3	70.8	40.1	20.4	10.3
REST. JT.	60.2	82.5	48.0	24.3	12.3

NOTES:
 1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
 2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
 3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
 4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

LEE'S SUMMIT MISSOURI
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 Rev: 1/14
 Rev:

NOTES:
 1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
 2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
 3. CITY TO FURNISH ITEMS A-K.
 4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
 5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
 6. EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
 7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
 8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
 9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
 10. CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

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Date: 02/13
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 Rev: 1/14
 Rev:

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Date: 02/13
 Drawn By: JN
 Checked By: DL
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 Rev: 1/14
 Rev:

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<p>Design: MGG Drawn: MGG Checked: MSS Issue Date: 9/6/2019 Project Number: 026040.08</p>	
<p style="font-size: 2em; font-weight: bold;">10</p>	