

PUBLIC IMPROVEMENT PLANS FOR LOWENSTEIN DRIVE STREETS OF WEST PRYOR

LEE'S SUMMIT, MO

UTILITIES

Electric Service
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Nathan.michael@evergy.com

Gas Service
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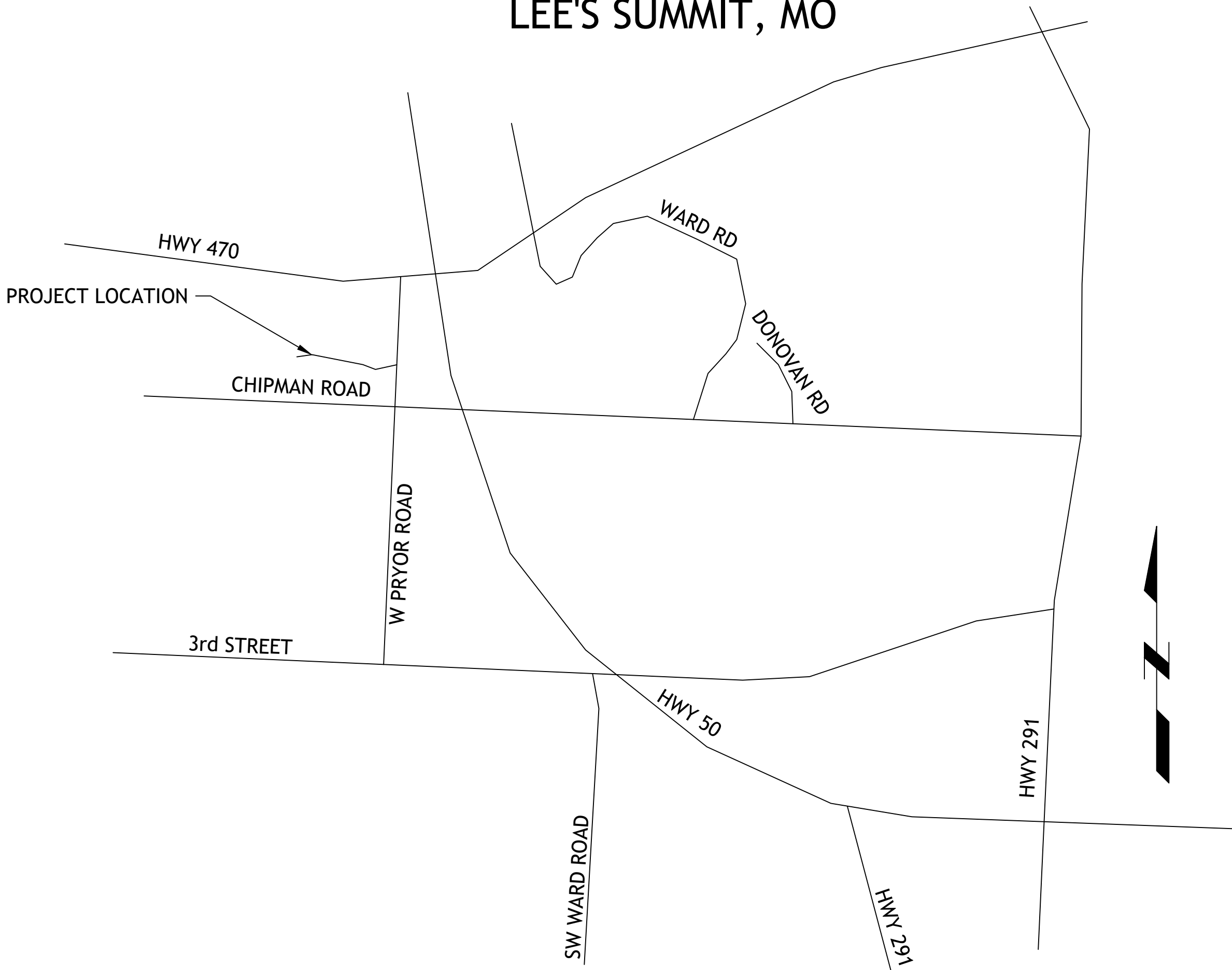
Water/Sanitary Sewer
Water Utilities Department
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Lee's Summit, Mo 64081
Jeff Thorn
816-969-1900
jeff.thorn@cityofls.net

Communication Service
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cc3527@att.com

Time Warner Cable
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913-643-1928
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Comcast
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Google Fiber
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913-725-8745
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LOCATION MAP

UTILITY STATEMENT:

THE UNDERGROUND UTILITIES SHOWN HEREON ARE FROM FIELD SURVEY INFORMATION OF ONE-CALL LOCATED UTILITIES, FIELD SURVEY INFORMATION OF ABOVE GROUND OBSERVABLE EVIDENCE, AND/OR THE SCALING AND PLOTTING OF EXISTING UTILITY MAPS AND DRAWINGS AVAILABLE TO THE SURVEYOR AT THE TIME OF SURVEY. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHERMORE, THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES BY EXCAVATION UNLESS OTHERWISE NOTED ON THIS SURVEY.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICE, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

WARRANTY/DISCLAIMER

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER SM ENGINEERING NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE SM ENGINEERING PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

CAUTION- NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

ALL EXISTING TOPOGRAPHIC DATA AND INFRASTRUCTURE IMPROVEMENTS SHOWN BASED ON INFORMATION BY KAW VALLEY ENGINEERING

BENCHMARKS:

#1 CHISELED "SQUARE" ON TOP OF CURB POINT OF INTERSECTION OF WEST PARK PARKING LOT AT EAST DRIVE ENTRANCE
ELEVATION 985.05

#2 CHISELED "SQUARE" ON NORTHWEST CORNER AREA INLET, 25' EAST OF CURB LINE AND ON-LINE WITH SOUTH CURB OF LOWENSTEIN DRIVE AT 90° BEND IN ROAD
ELEVATION 971.06

FLOODPLAIN NOTE:

SUBJECT PROPERTY IS SHOWN TO BE LOCATED IN "OTHER AREAS ZONE X" ON THE FLOOD INSURANCE RATE MAP FOR JACKSON COUNTY, MISSOURI AND INCORPORATED AREAS. COMMUNITY PANEL NO. 29095C0416G, REVISED JANUARY 20, 2017. "OTHER AREAS ZONE X" IS DEFINED AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUL CHANCE FLOODPLAIN". LOCATION DETERMINED BY A SCALED GRAPHICAL PLOT OF THE FLOOD INSURANCE RATE MAP.

NOTES

- 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 MORE STRINGENT SHALL PREVAIL.
- THERE ARE NO GAS/OIL WELLS PER MDNR DATABASE OF OIL AND GAS PERMITS.
- THE CONTRACTOR SHALL CONTACT THE CITY DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT 816-969-1200.

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DEVELOPER

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OVERLAND PARK, KS 66213
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Drawings and/or Specifications are original proprietary work and property of the Engineer and intended specifically for this project. Use of items contained herein without consent of the Engineer is prohibited. Drawings illustrate best information available to the Engineer. Field verification of actual elements, conditions, and dimensions is required.

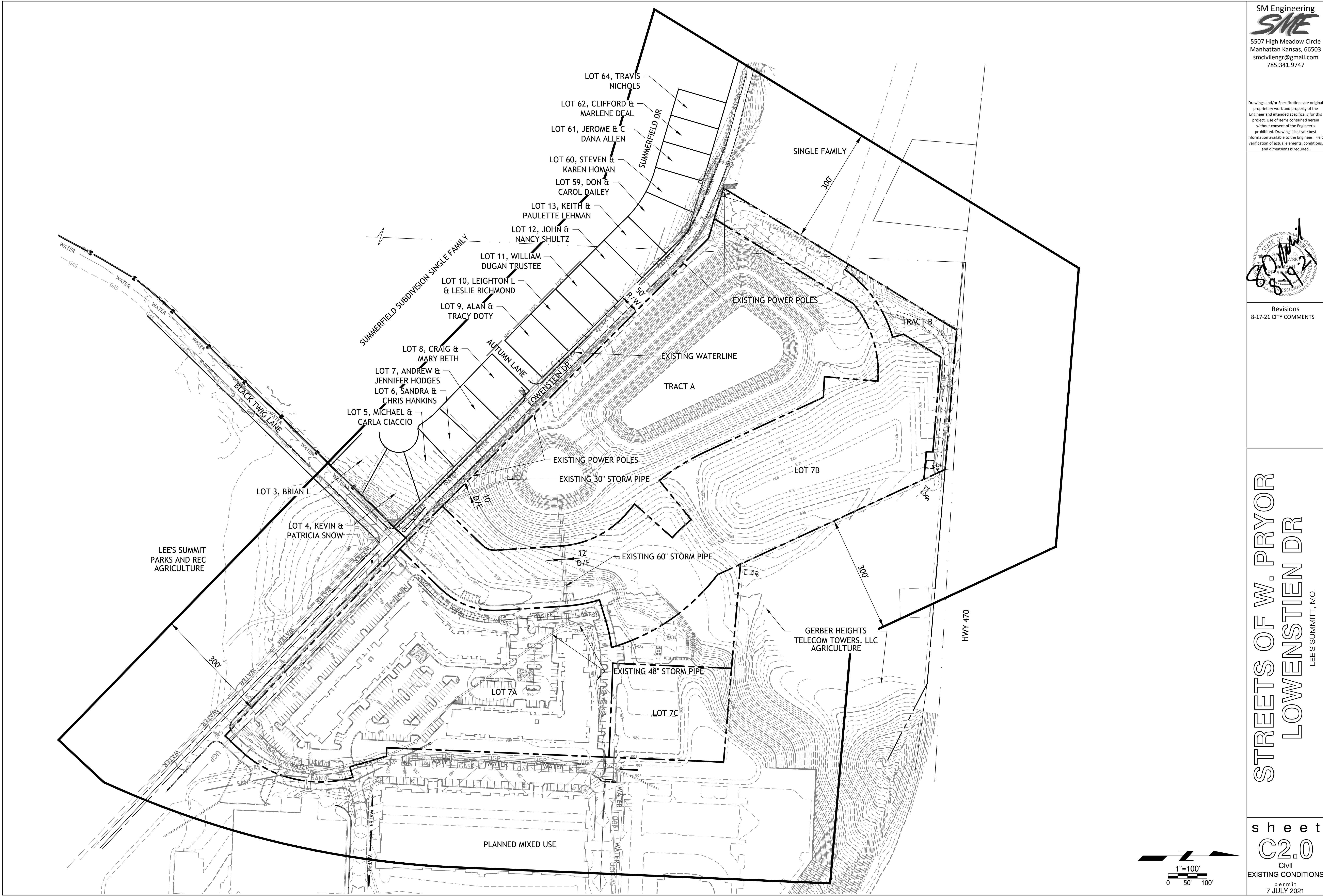
Revisions
8-17-21 CITY COMMENTS

STREETS OF W. PRYOR
LOWENSTIEN DR
LEE'S SUMMIT, MO.

s h e e t

C1.0

Civil
Site Improvement Plan
permit
7 JULY 2021



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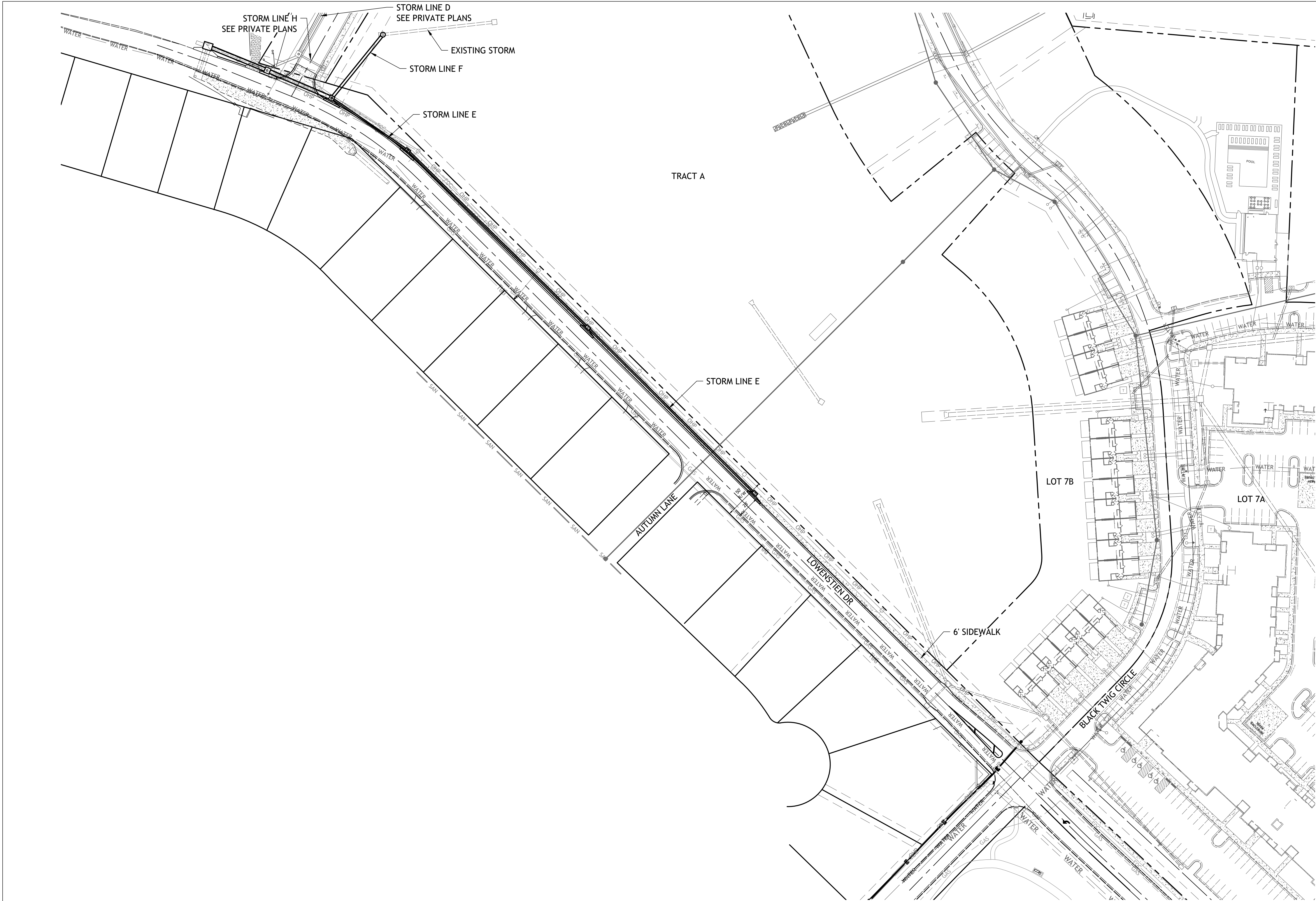
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[Signature]
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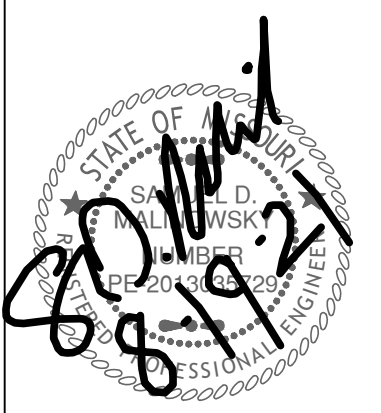
Revisions
8-17-21 CITY COMMENTS

STREETS OF W. PRYOR
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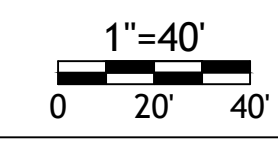


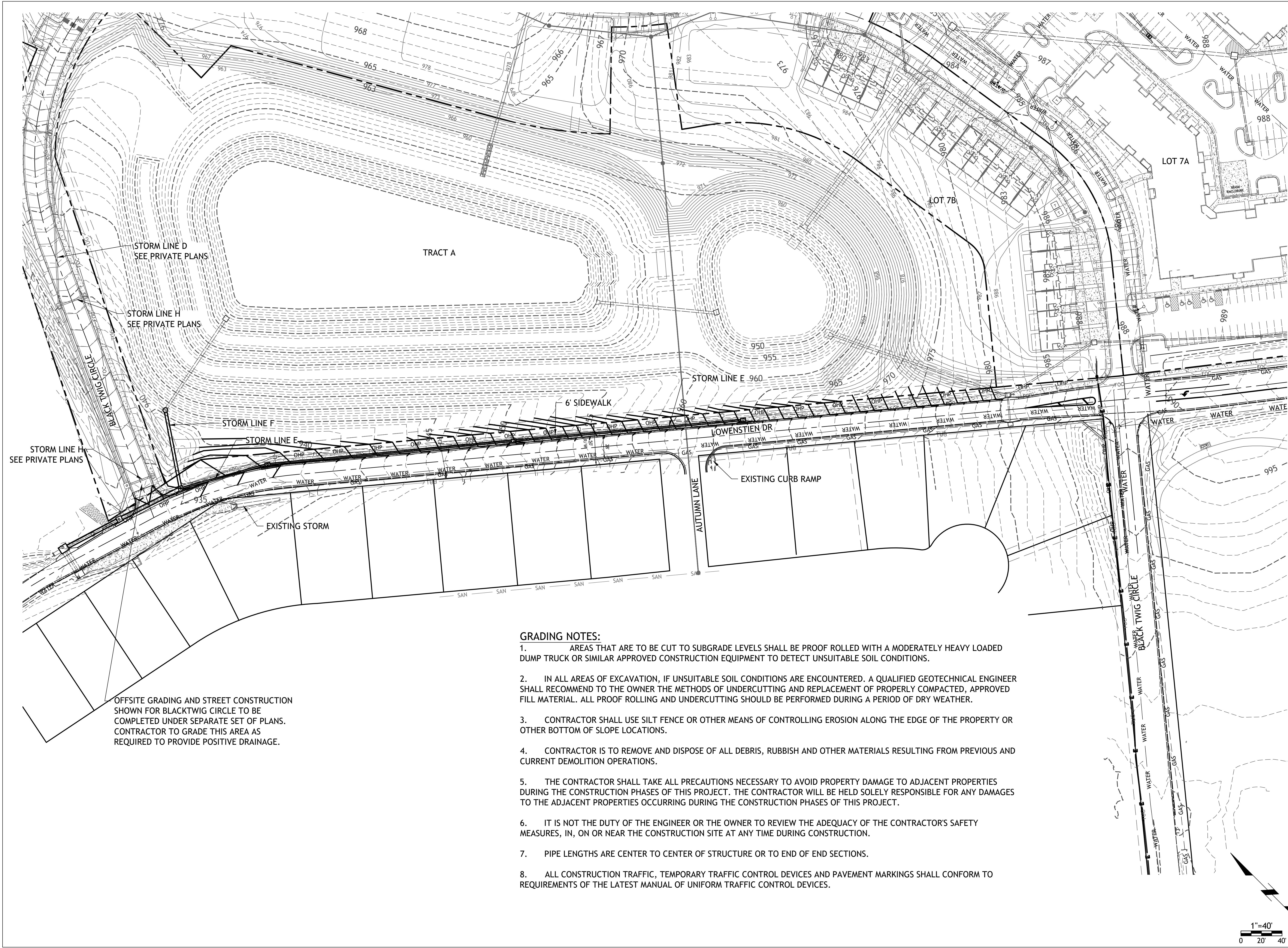
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GRADING NOTES:

1. AREAS THAT ARE TO BE CUT TO SUBGRADE LEVELS SHALL BE PROOF ROLLED WITH A MODERATELY HEAVY LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS.
2. IN ALL AREAS OF EXCAVATION, IF UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED. A QUALIFIED GEOTECHNICAL ENGINEER SHALL RECOMMEND TO THE OWNER THE METHODS OF UNDERCUTTING AND REPLACEMENT OF PROPERLY COMPACTED, APPROVED FILL MATERIAL. ALL PROOF ROLLING AND UNDERCUTTING SHOULD BE PERFORMED DURING A PERIOD OF DRY WEATHER.
3. CONTRACTOR SHALL USE SILT FENCE OR OTHER MEANS OF CONTROLLING EROSION ALONG THE EDGE OF THE PROPERTY OR OTHER BOTTOM OF SLOPE LOCATIONS.
4. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS.
5. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
6. IT IS NOT THE DUTY OF THE ENGINEER OR THE OWNER TO REVIEW THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE AT ANY TIME DURING CONSTRUCTION.
7. PIPE LENGTHS ARE CENTER TO CENTER OF STRUCTURE OR TO END OF END SECTIONS.
8. ALL CONSTRUCTION TRAFFIC, TEMPORARY TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS SHALL CONFORM TO REQUIREMENTS OF THE LATEST MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

OFFSITE GRADING AND STREET CONSTRUCTION SHOWN FOR BLACKTWIG CIRCLE TO BE COMPLETED UNDER SEPARATE SET OF PLANS. CONTRACTOR TO GRADE THIS AREA AS REQUIRED TO PROVIDE POSITIVE DRAINAGE.

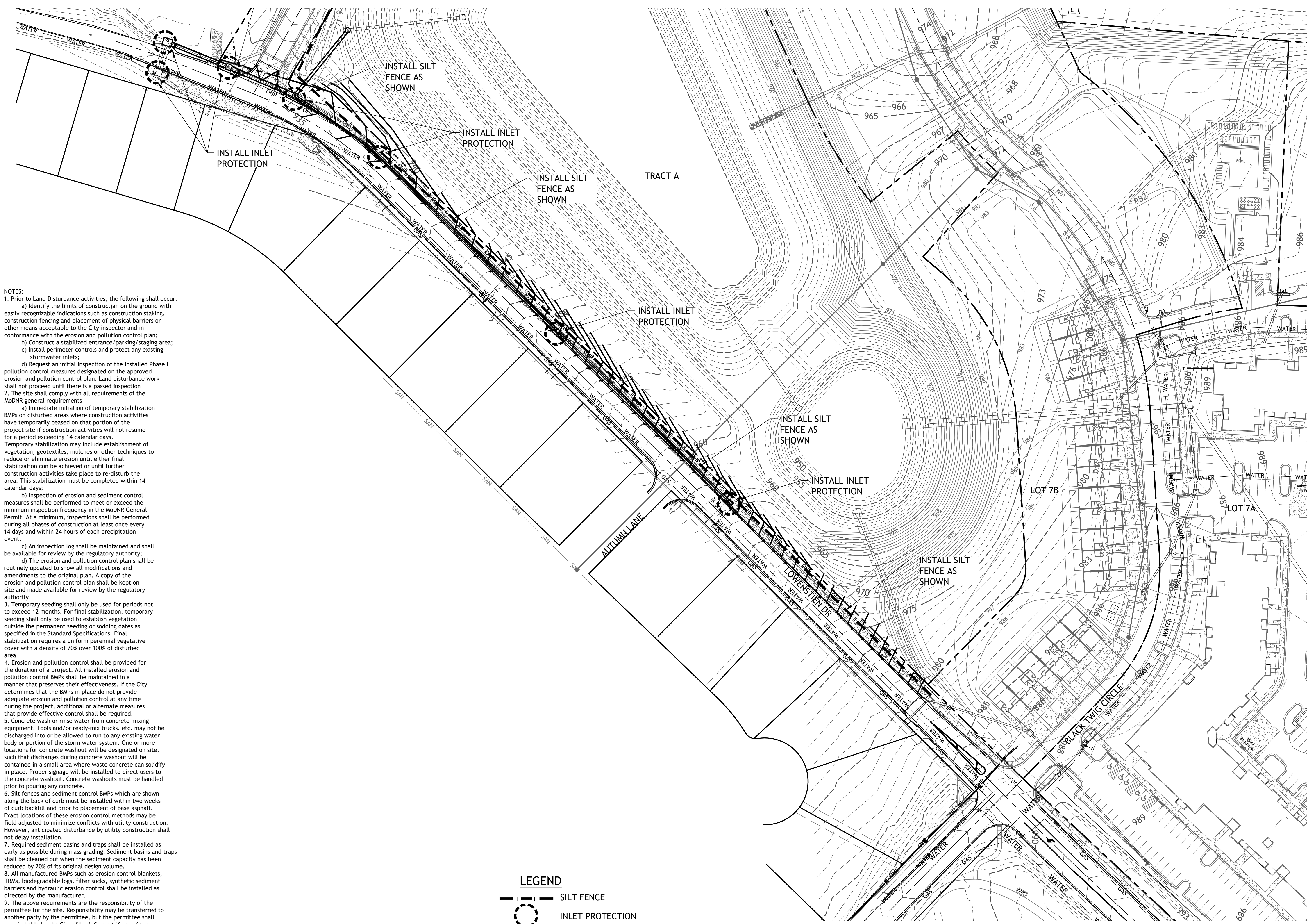
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Revisions
8-17-21 CITY COMMENTS

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GRADING PLAN
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7 JULY 2021



NOTES:

1. Prior to Land Disturbance activities, the following shall occur:

a) 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 pollution control plan;

b) Construct a stabilized entrance/parking/staging area;

c) Install perimeter controls and protect any existing stormwater inlets;

d) Request an initial inspection of the installed Phase I pollution control measures designated on the approved erosion and pollution control plan. Land disturbance work shall not proceed until there is a passed inspection

2. The site shall comply with all requirements of the MoDNR general requirements

a) Immediate initiation of temporary stabilization BMPs on disturbed areas where construction activities have temporarily ceased on that portion of the project site if construction activities will not resume for a period exceeding 14 calendar days. Temporary stabilization may include establishment of vegetation, geotextiles, mulches or other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb the area. This stabilization must be completed within 14 calendar days;

b) Inspection of erosion and sediment control measures shall be performed to meet or exceed the minimum inspection frequency in the MoDNR General Permit. At a minimum, inspections shall be performed during all phases of construction at least once every 14 days and within 24 hours of each precipitation event.

c) An inspection log shall be maintained and shall be available for review by the regulatory authority;

d) The erosion and pollution control plan shall be routinely updated to show all modifications and amendments to the original plan. A copy of the erosion and pollution control plan shall be kept on site and made available for review by the regulatory authority.

3. Temporary seeding shall only be used for periods not to exceed 12 months. For final stabilization, temporary seeding shall only be used to establish vegetation outside the permanent seeding or sodding dates as specified in the Standard Specifications. Final stabilization requires a uniform perennial vegetative cover with a density of 70% over 100% of disturbed area.

4. Erosion and pollution control shall be provided for the duration of a project. All installed erosion and pollution control BMPs shall be maintained in a manner that preserves their effectiveness. If the City determines that the BMPs in place do not provide adequate erosion and pollution control at any time during the project, additional or alternate measures that provide effective control shall be required.

5. Concrete wash or rinse water from concrete mixing equipment, Tools and/or ready-mix trucks, etc. may not be discharged into or be allowed to run to any existing water body or portion of the storm water system. One or more locations for concrete washout 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. Proper signage will be installed to direct users to the concrete washout. Concrete washouts must be handled prior to pouring any concrete.

6. Silt fences and sediment 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.

7. Required sediment basins and traps shall be installed as early as possible during mass grading. Sediment basins and traps shall be cleaned out when the sediment capacity has been reduced by 20% of its original design volume.

8. All manufactured BMPs such as erosion control blankets, TRMs, biodegradable logs, filter socks, synthetic sediment barriers and hydraulic erosion control shall be installed as directed by the manufacturer.

9. The above requirements are the responsibility of the permittee for the site. Responsibility may be transferred to another party by the permittee, but the permittee shall remain liable by the City of Lee's Summit if any of the above conditions are not met.

LEGEND

—||— SILT FENCE

○ INLET PROTECTION

1"=40'

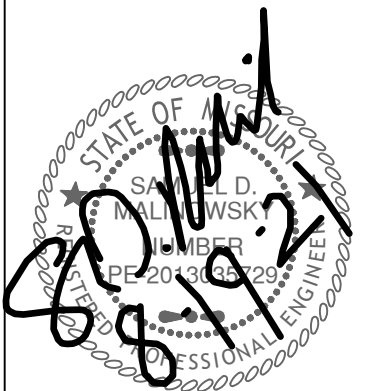
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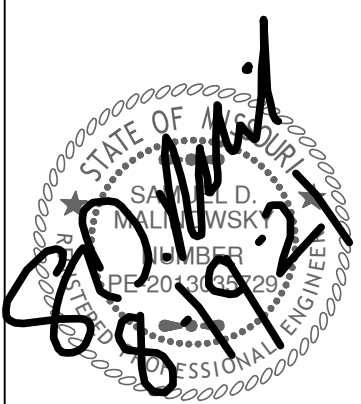
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Revisions
8-17-21 CITY COMMENTS

STREETS OF W. PRYOR
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7 JULY 2021

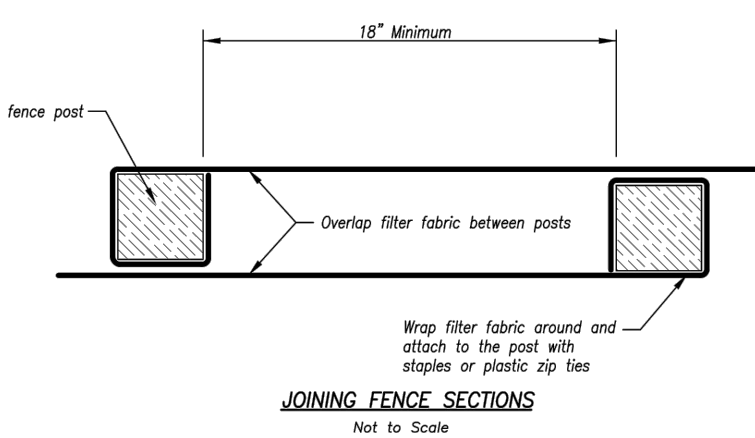

 Revisions
 8-17-21 CITY COMMENTS

Notes:

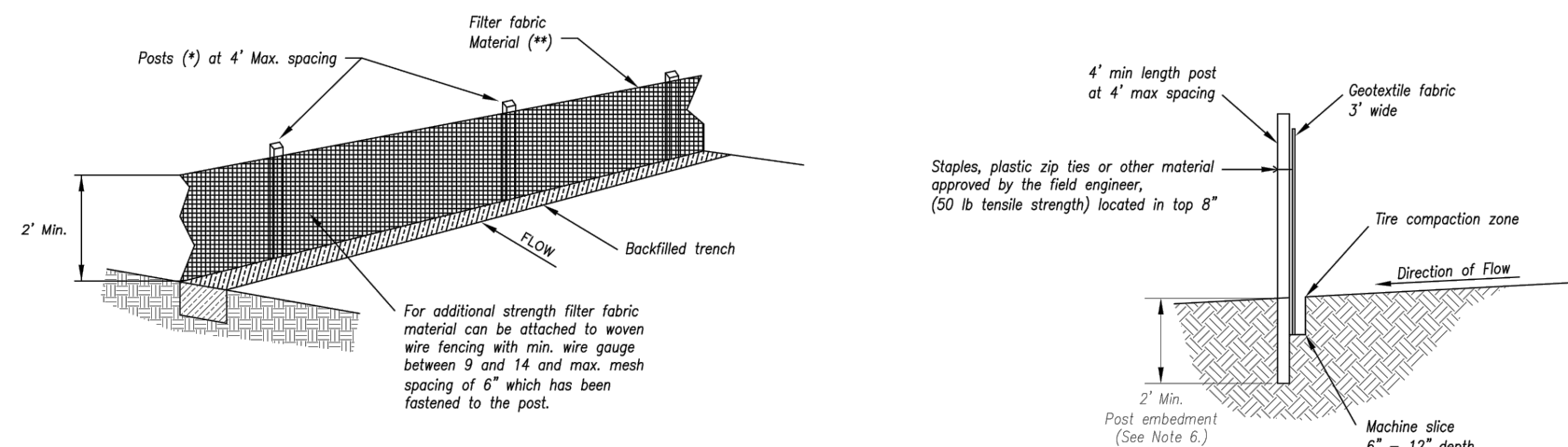
- In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
- Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
- Long slopes should be broken up with intermediate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

Maintenance:

- Remove and dispose of sediment deposits when the deposit approaches $\frac{1}{2}$ the height of silt fence.
- Repair as necessary to maintain function and structure.



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.


(*) POSTS	
MIN. LENGTH 4'	
HARDWOOD 1 3/4" x 1 3/4"	
NOLZ SOUTHERN PINE 2 1/4" x 2 1/4"	
STEEL 1.33 LB/FT	

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

SILT FENCE DETAILS

Not to Scale

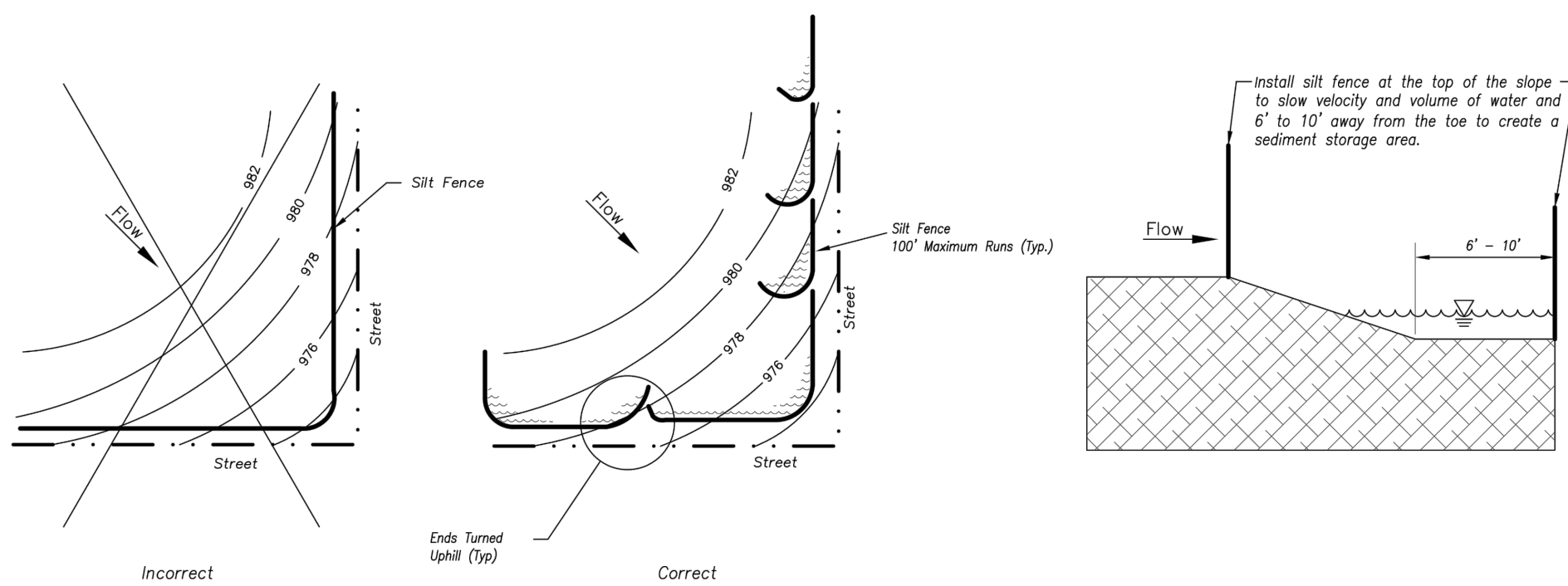


Figure A

SILT FENCE LAYOUT

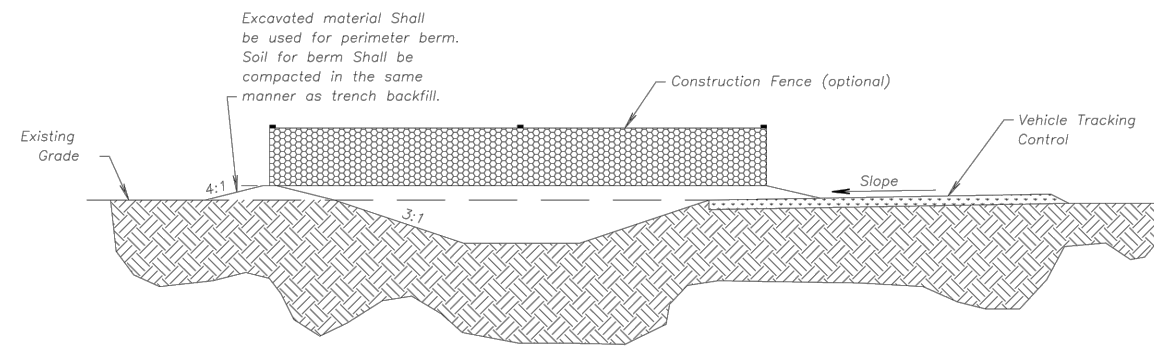
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Notes for Concrete Washout:

- Concrete washout areas shall be installed prior to any concrete placement on site.
- 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.
- Vehicle tracking control is required of the access point to all concrete washout areas.
- 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.
- A one-piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

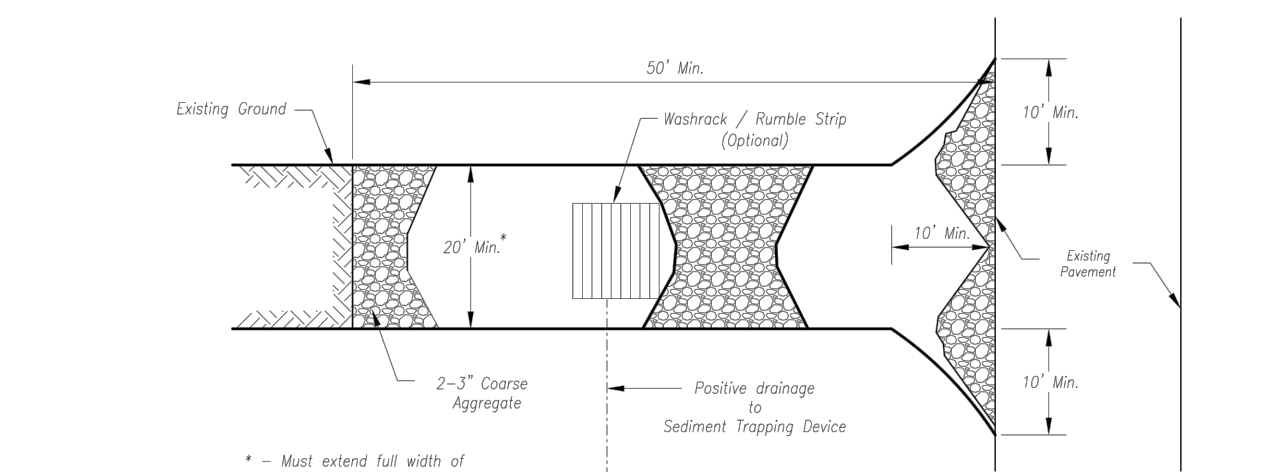
Maintenance for Concrete Washout:

- Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
- Concrete washout areas shall be enlarged as necessary to maintain capacity for washed concrete.
- Concrete washout water, washed 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.
- Concrete washout areas shall remain in place until all concrete for the project is placed.
- 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.



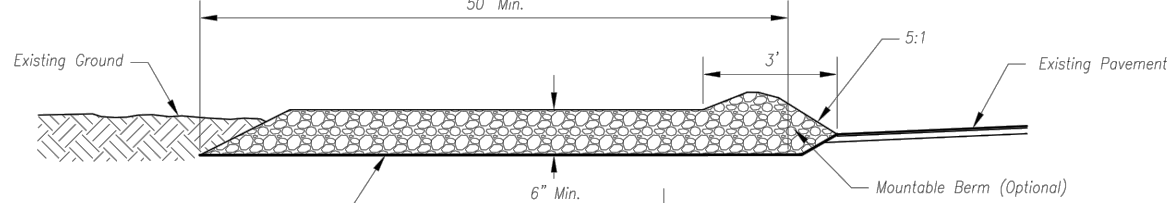
CONCRETE WASHOUT

AMERICAN PUBLIC WORKS ASSOCIATION	
	KANSAS CITY METRO CHAPTER
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.


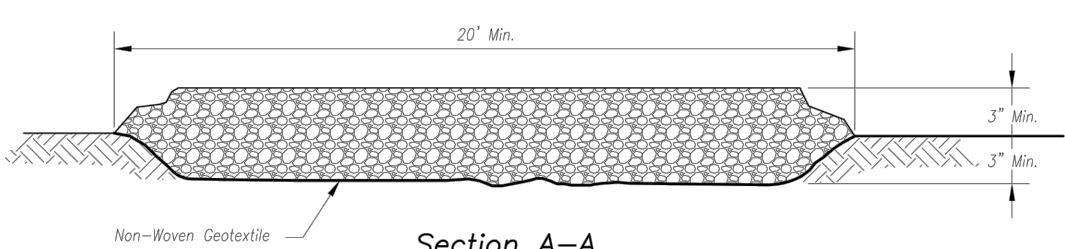
Plan View

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Side Elevation

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Section A-A

Not to Scale

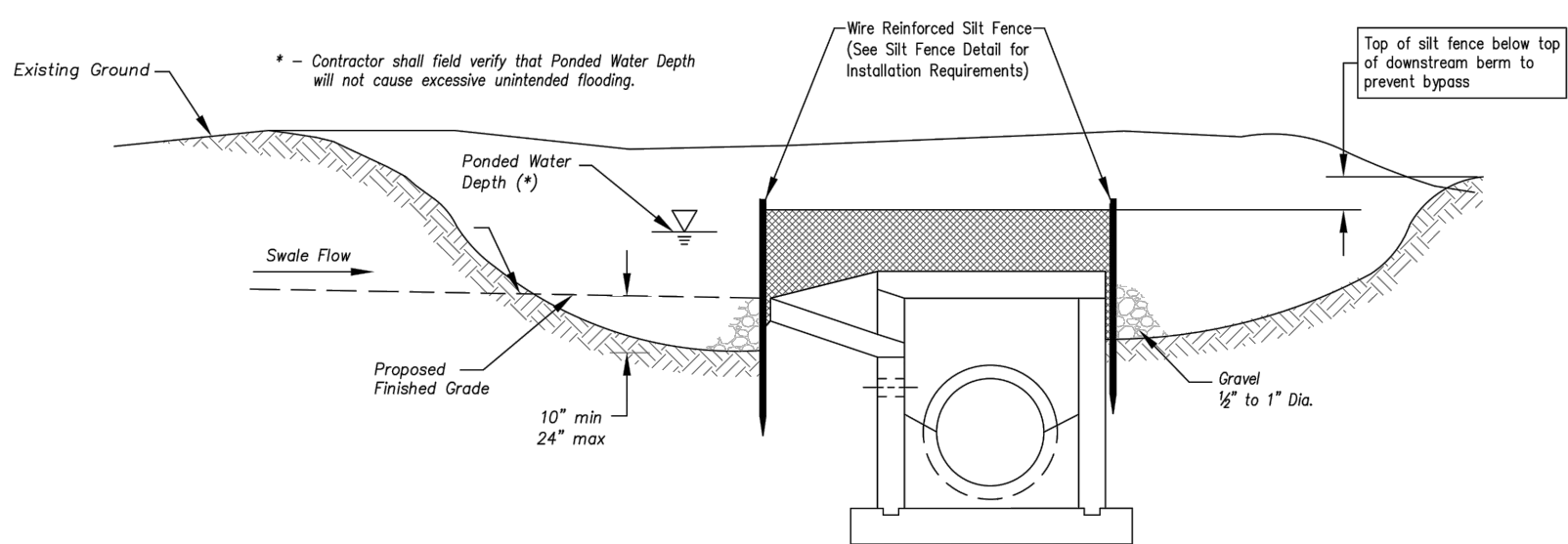
Notes for Construction Entrance:

- Avoid locating on steep slopes, at curves on public roads, or adjacent to disturbed area.
- Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
- 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.
- Install pipe under the entrance if needed to maintain drainage ditches along public roads.
- Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
- Divert all surface runoff and drainage from the entrance to a sediment device.
- If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

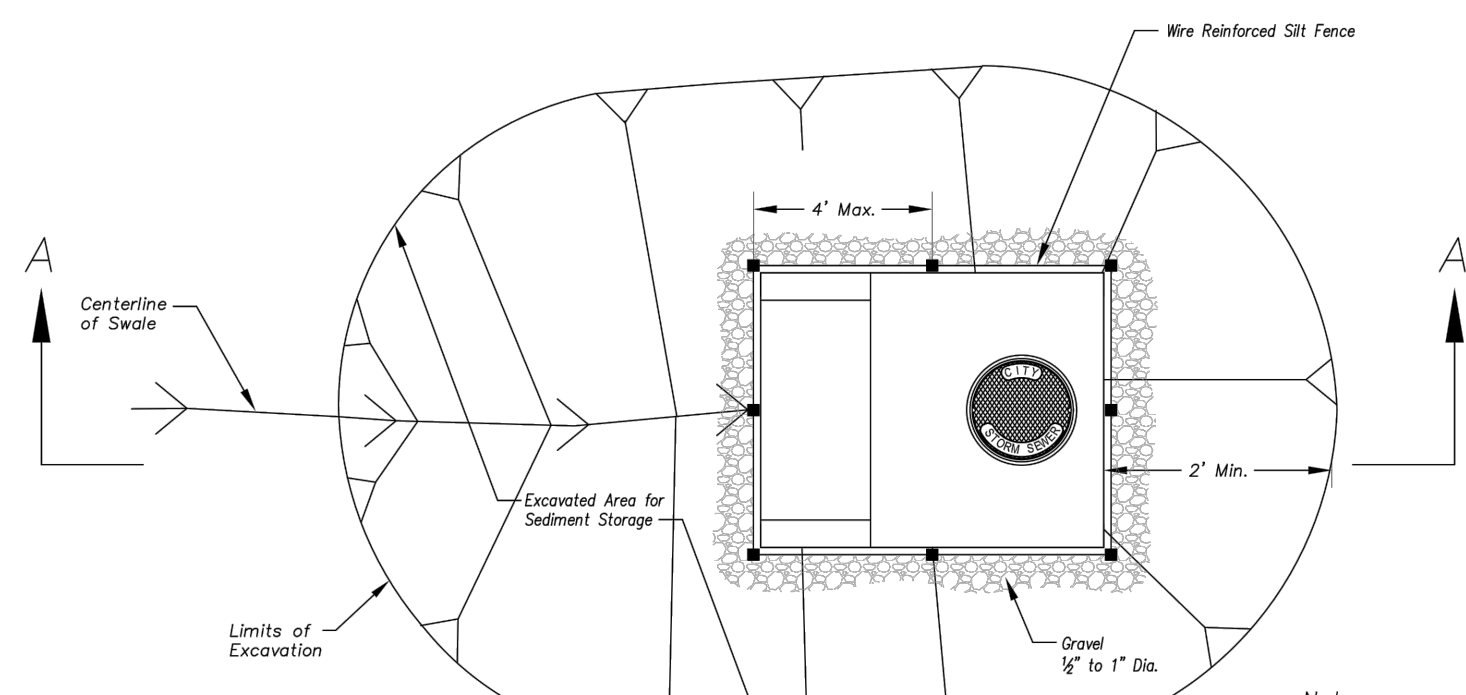
- Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

CONSTRUCTION ENTRANCE



Section A-A

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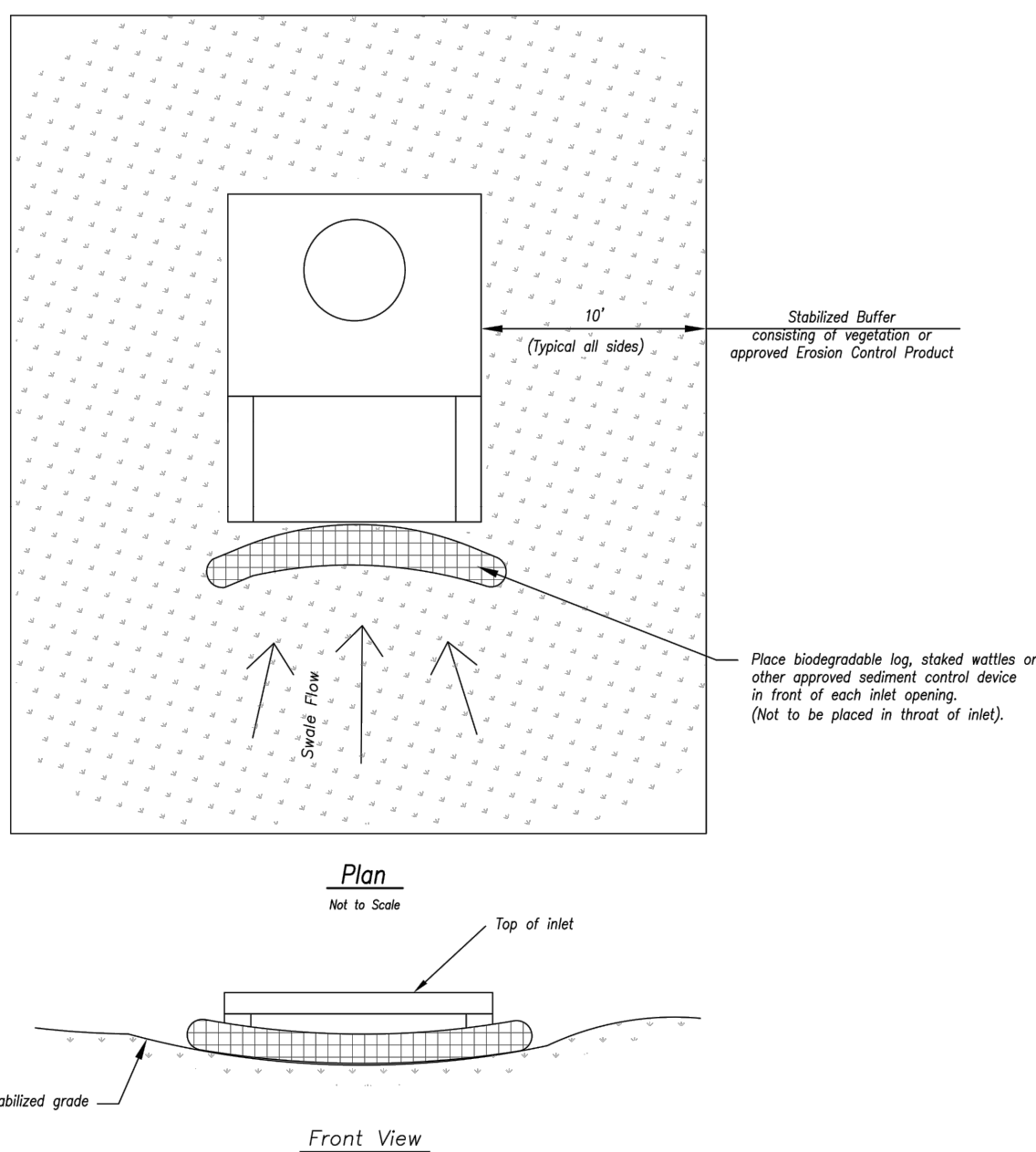
Plan

Not to Scale

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

Notes:

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

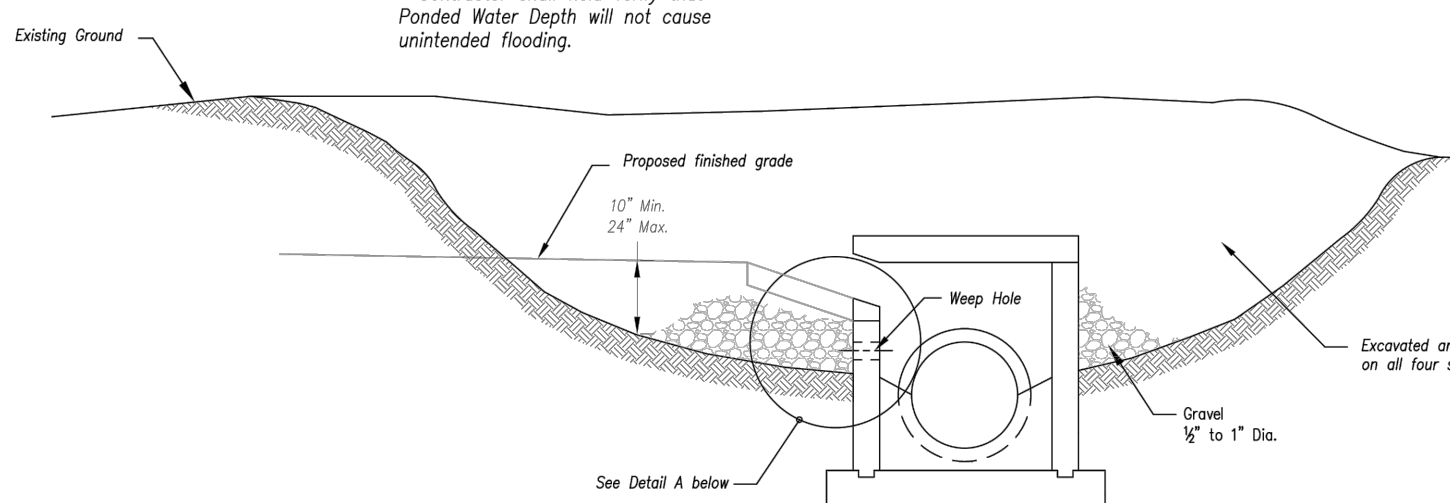


LATE STAGE AREA INLET (Area inlets at final grade and existing inlets)

Maintenance:

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

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

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


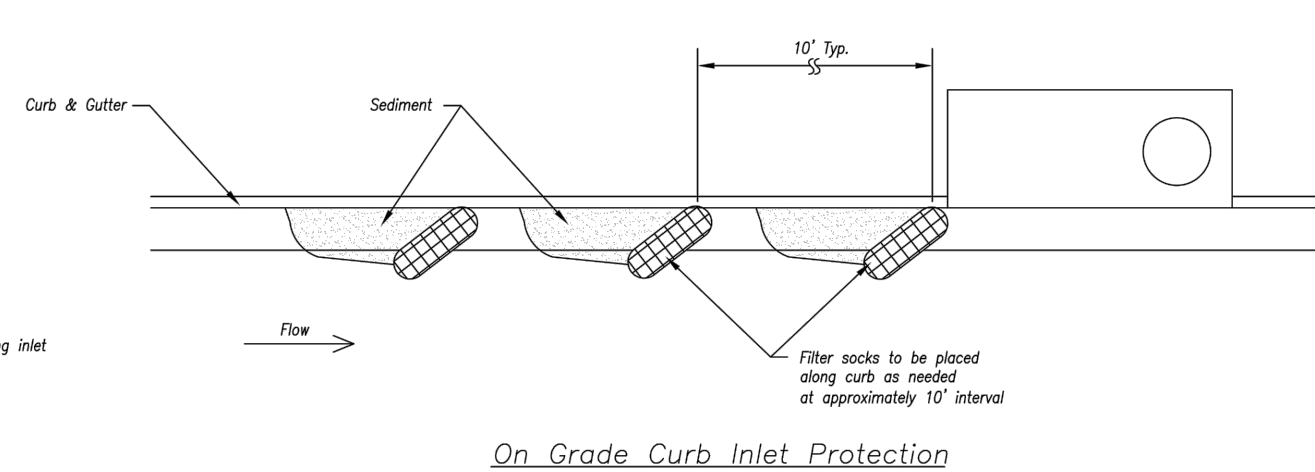
EARLY STAGE CURB INLET (Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

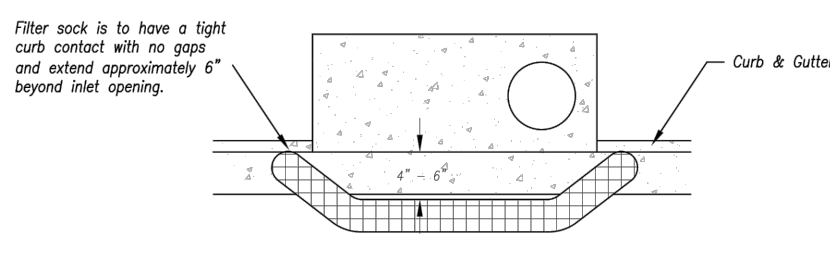
- Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2' x 10' (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
- When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

Maintenance:

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



On Grade Curb Inlet Protection



Top View

Not to Scale

Not to Scale

Not to Scale

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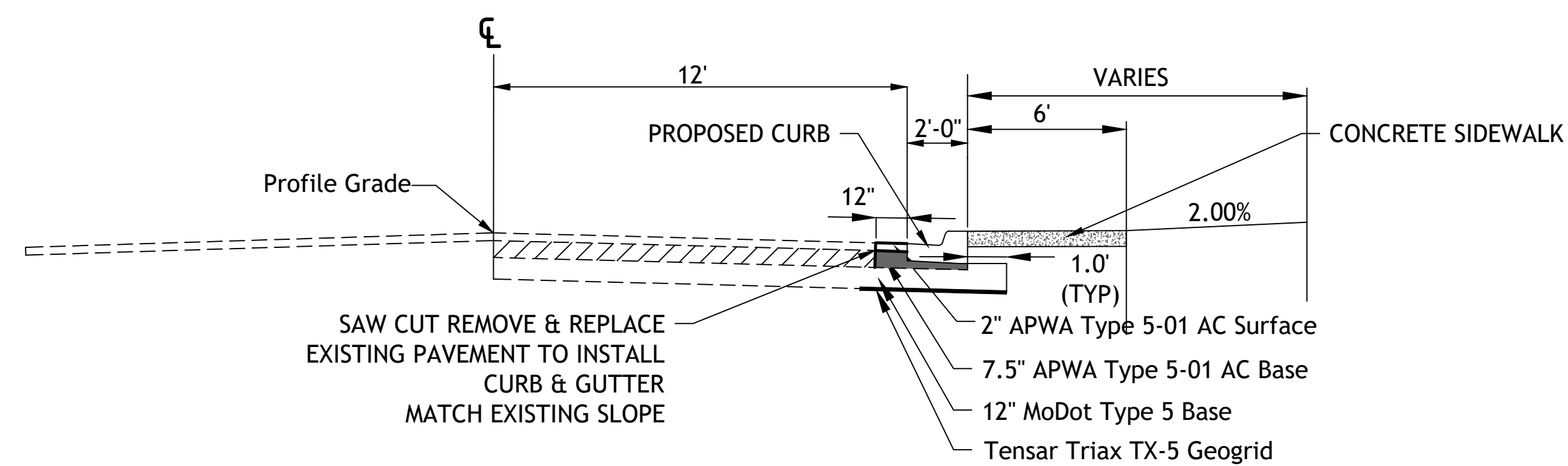
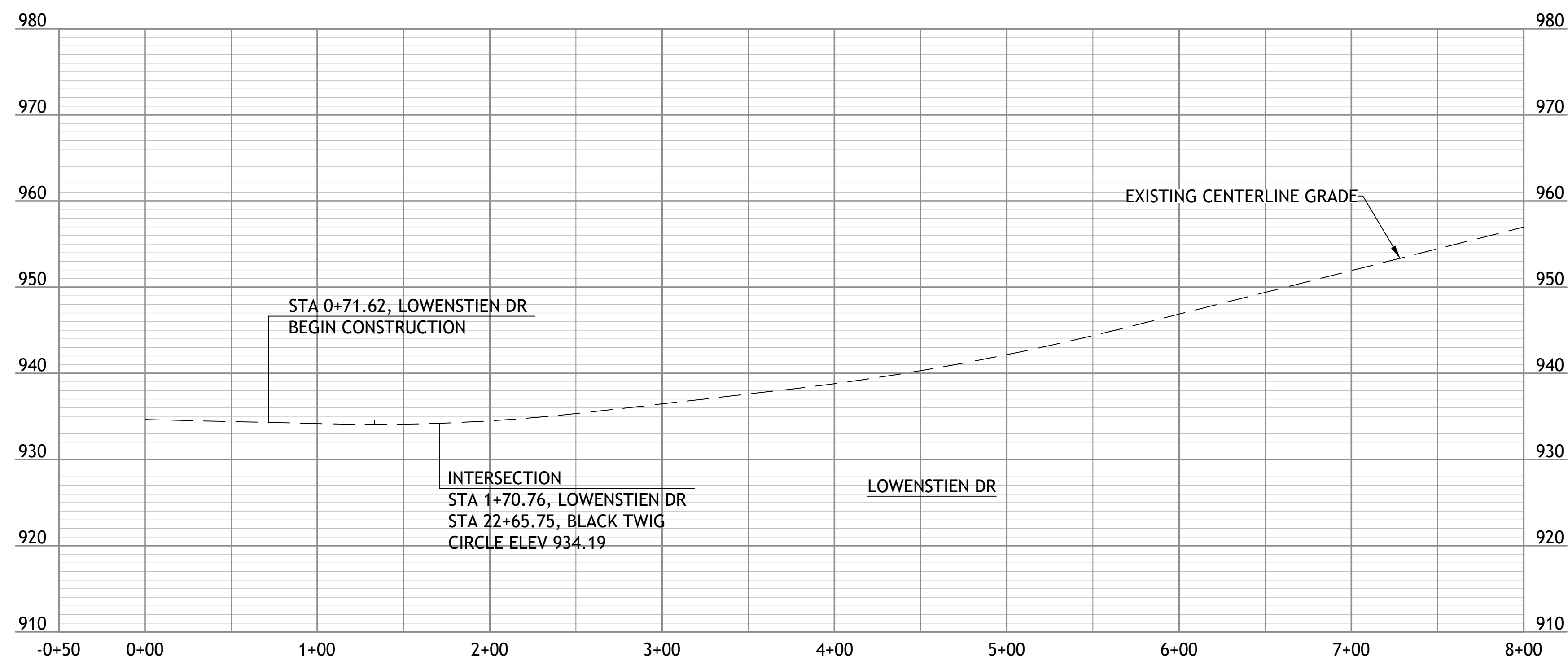
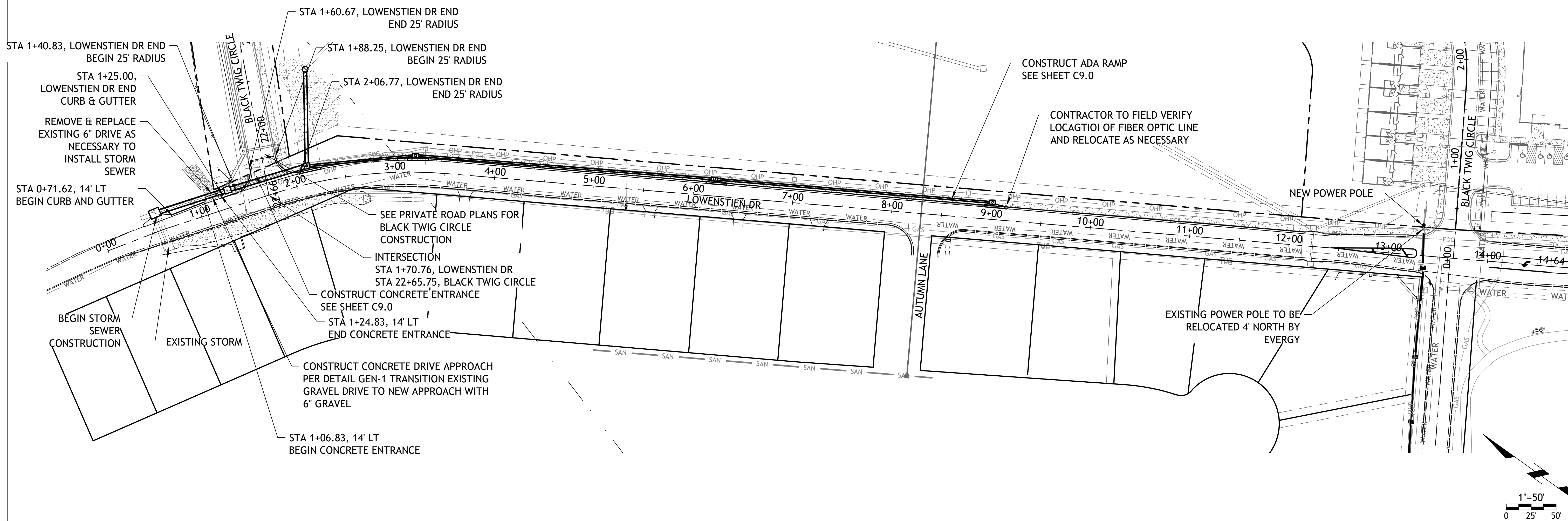
AMERICAN PUBLIC WORKS ASSOCIATION	
	KANSAS CITY METRO CHAPTER
CURB INLET PROTECTION	STANDARD DRAWING NUMBER ESC-06 ADOPTED: 10/24/2016

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

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 LOWENSTIEN DR
 LEES SUMMITT, MO.

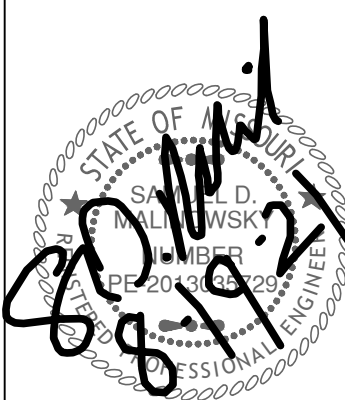
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 EROSION DETAILS
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 7 JULY 2021



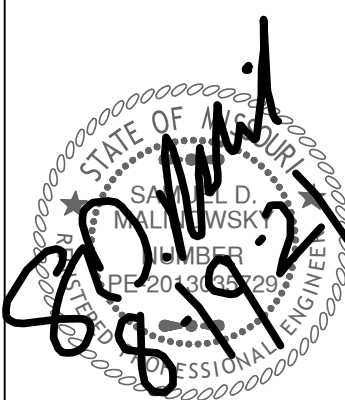
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TYPICAL SECTION
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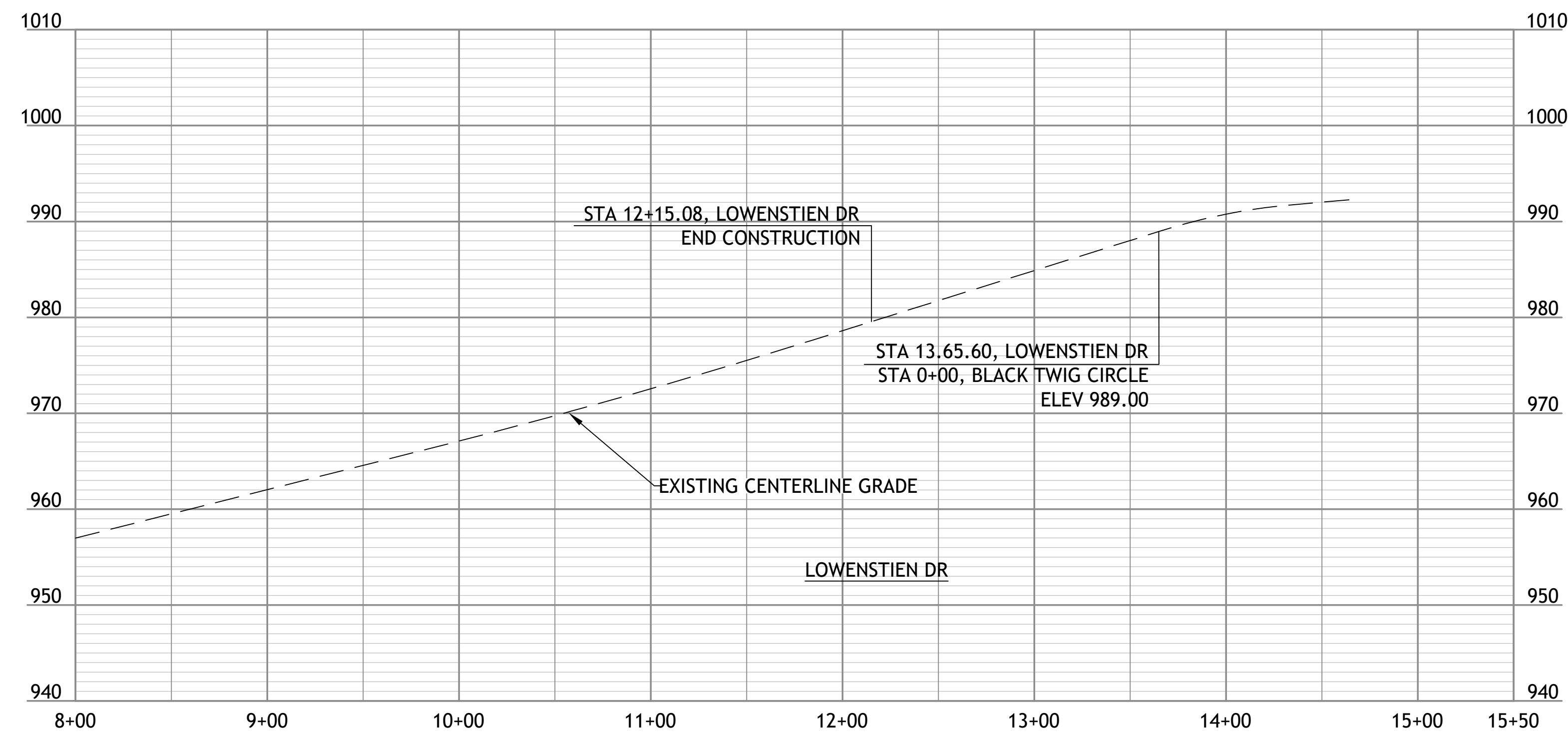
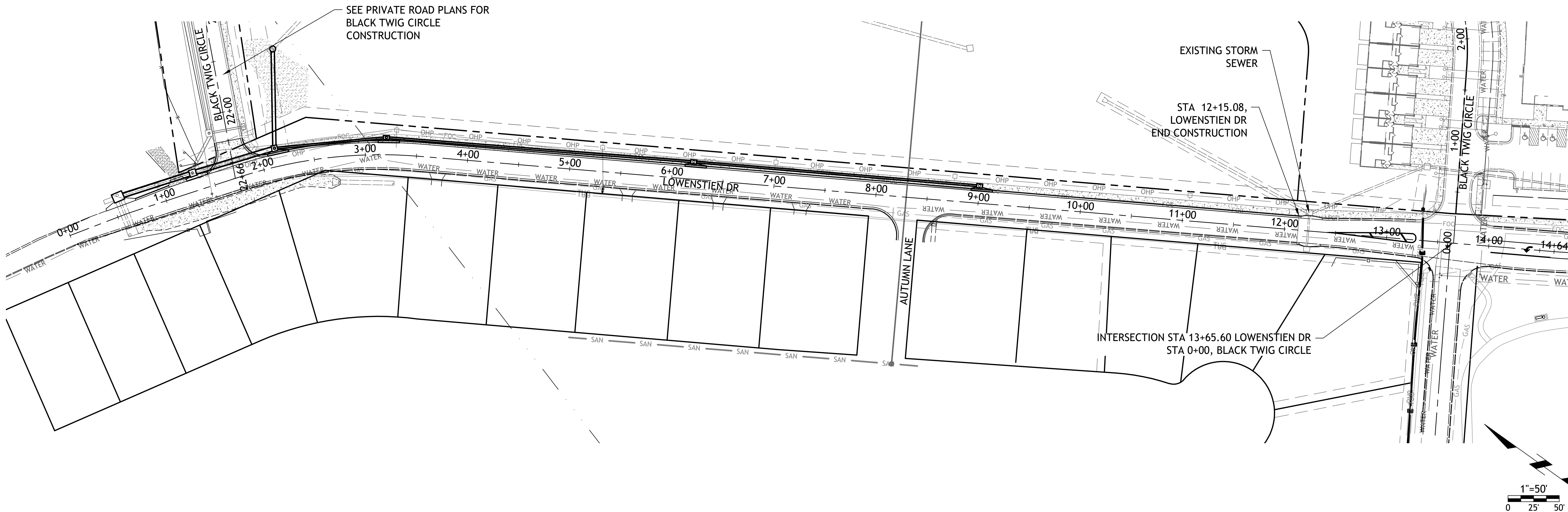


Revisions
8-17-21 CITY COMMENTS

STREETS OF W. PRYOR
LOWENSTIEN DR
LEES SUMMITT, MO.



STREETS OF W. PRYOR
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LEES SUMMITT, MO.



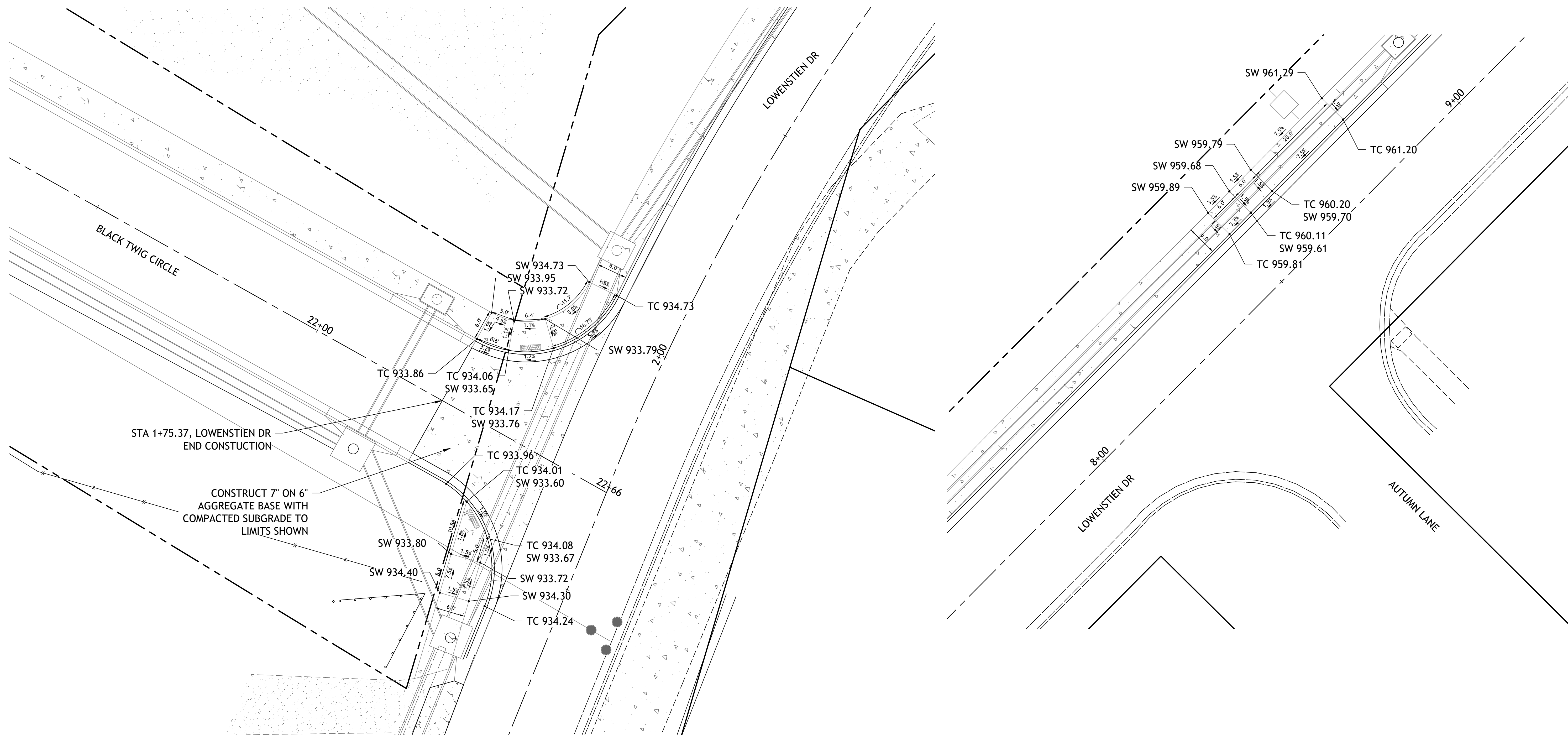
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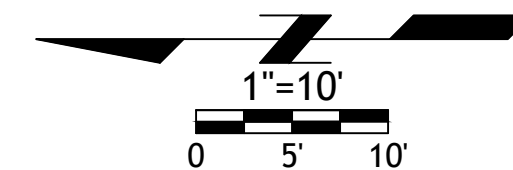
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8-17-21 CITY COMMENTS

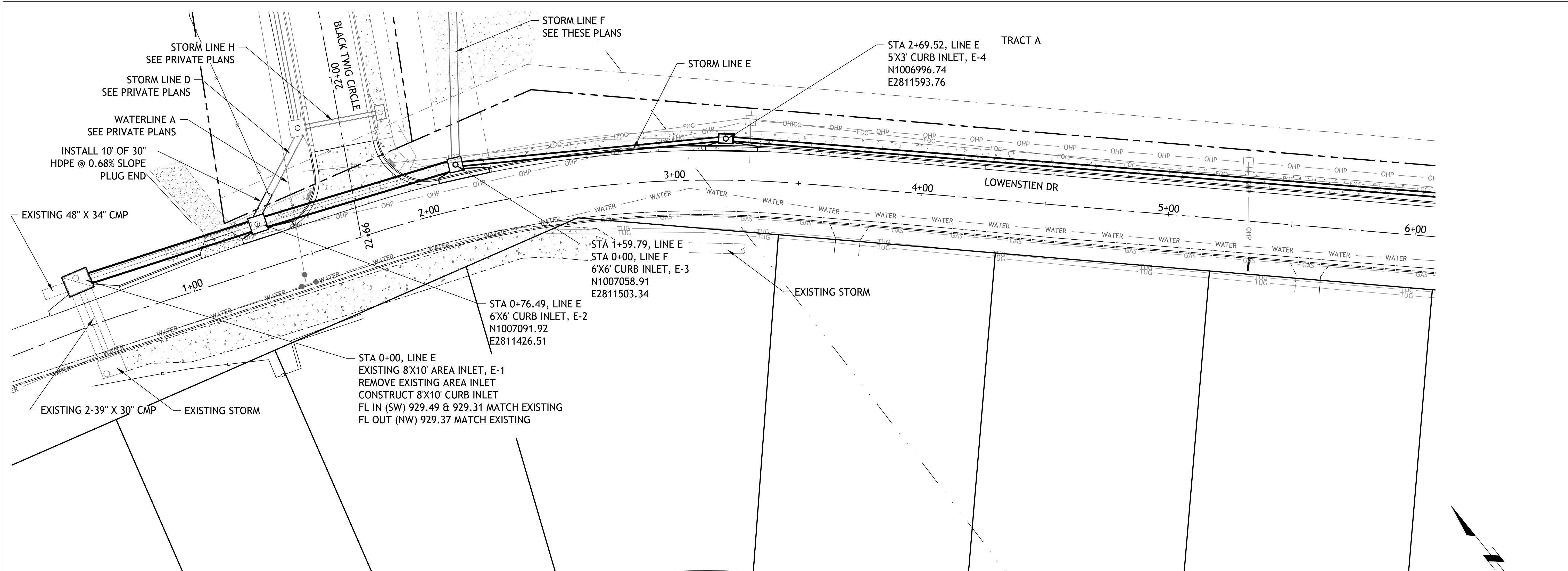
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LOWENSTIEN DR
LEES SUMMITT, MO.

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ADA RAMP GRADES
7 JULY 2021

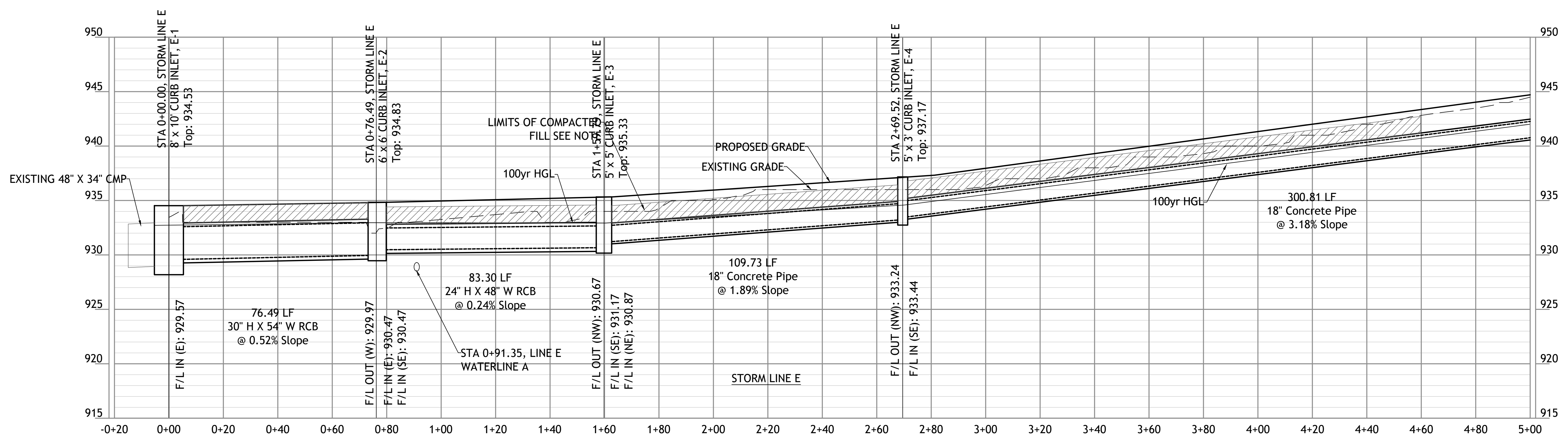


LEGEND
TC TOP OF CURB ELEVATION
TE TOP ELEVATION OF STRUCTURE
TP TOP OF PAVEMENT ELEVATION
SW TO OF SIDEWALK ELEVATION
R RAMP
L LANDING





NOTE
COMPACTED FILL SHALL BE PLACED TO A MINIMUM OF
18" ABOVE THE TOP OF PIPE PRIOR TO INSTALLATION



SM Engineering
SM E
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Manhattan Kansas, 66503
smcivilengr@gmail.com
785.341.9747

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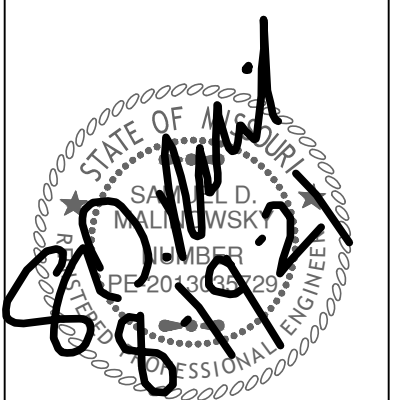
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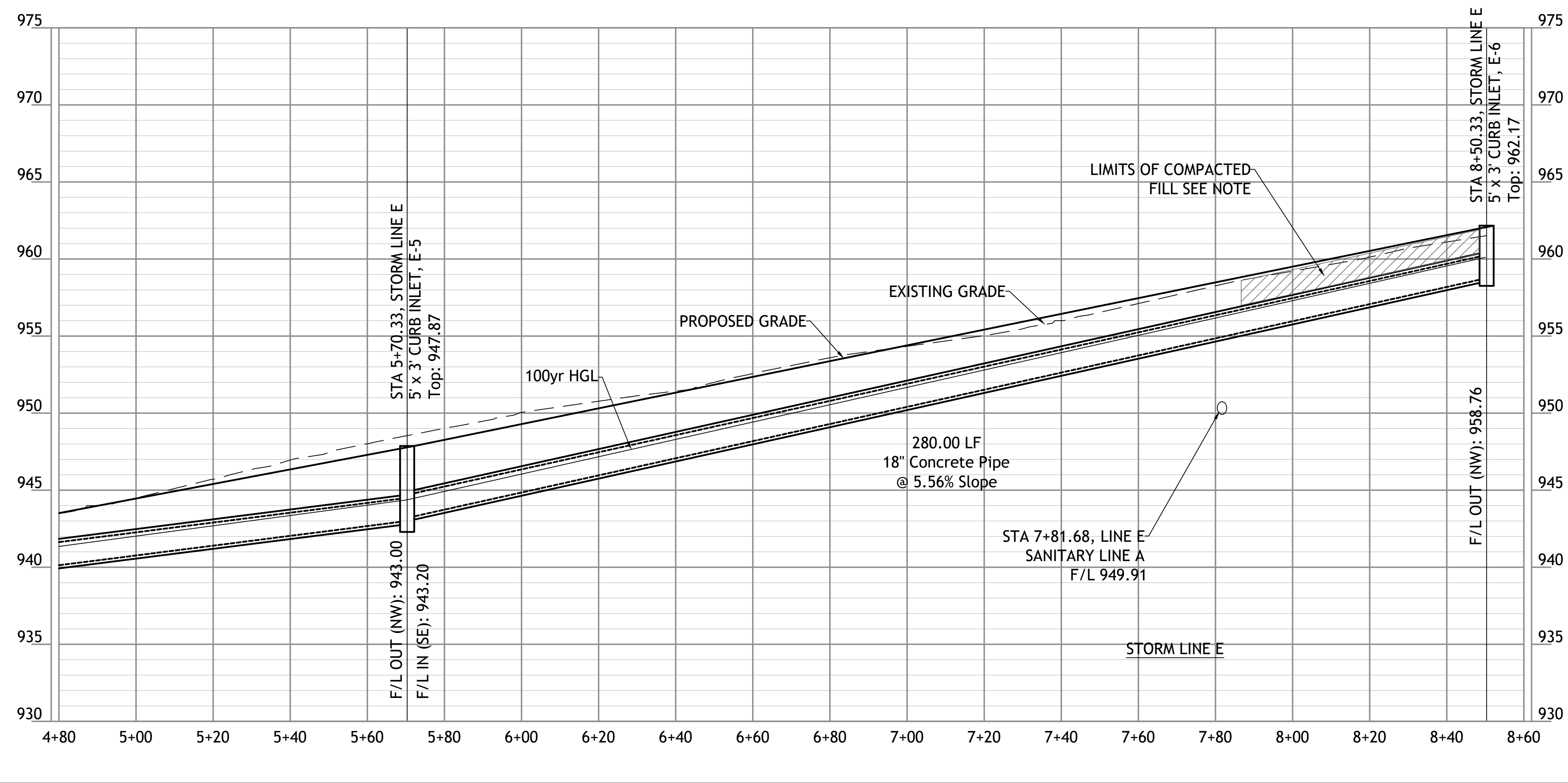
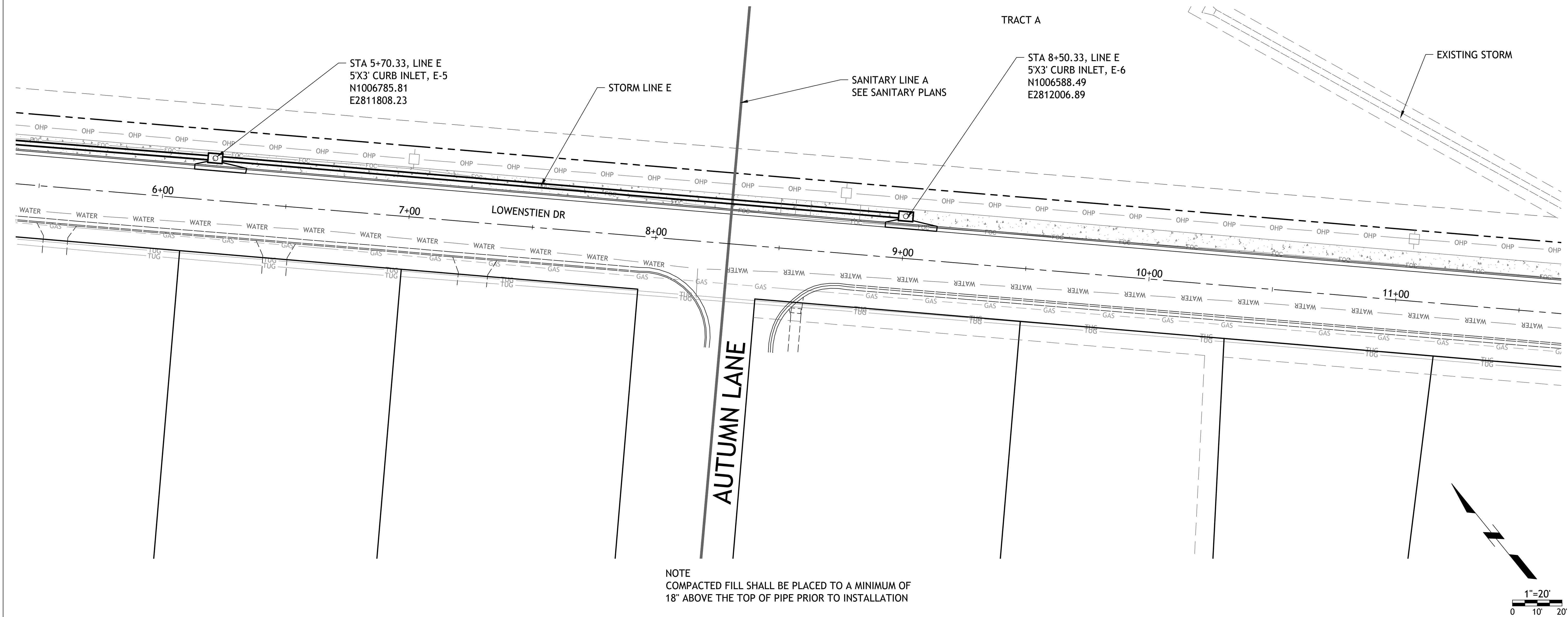
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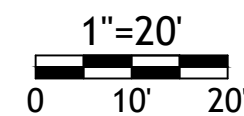
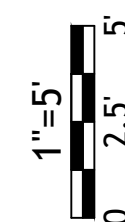
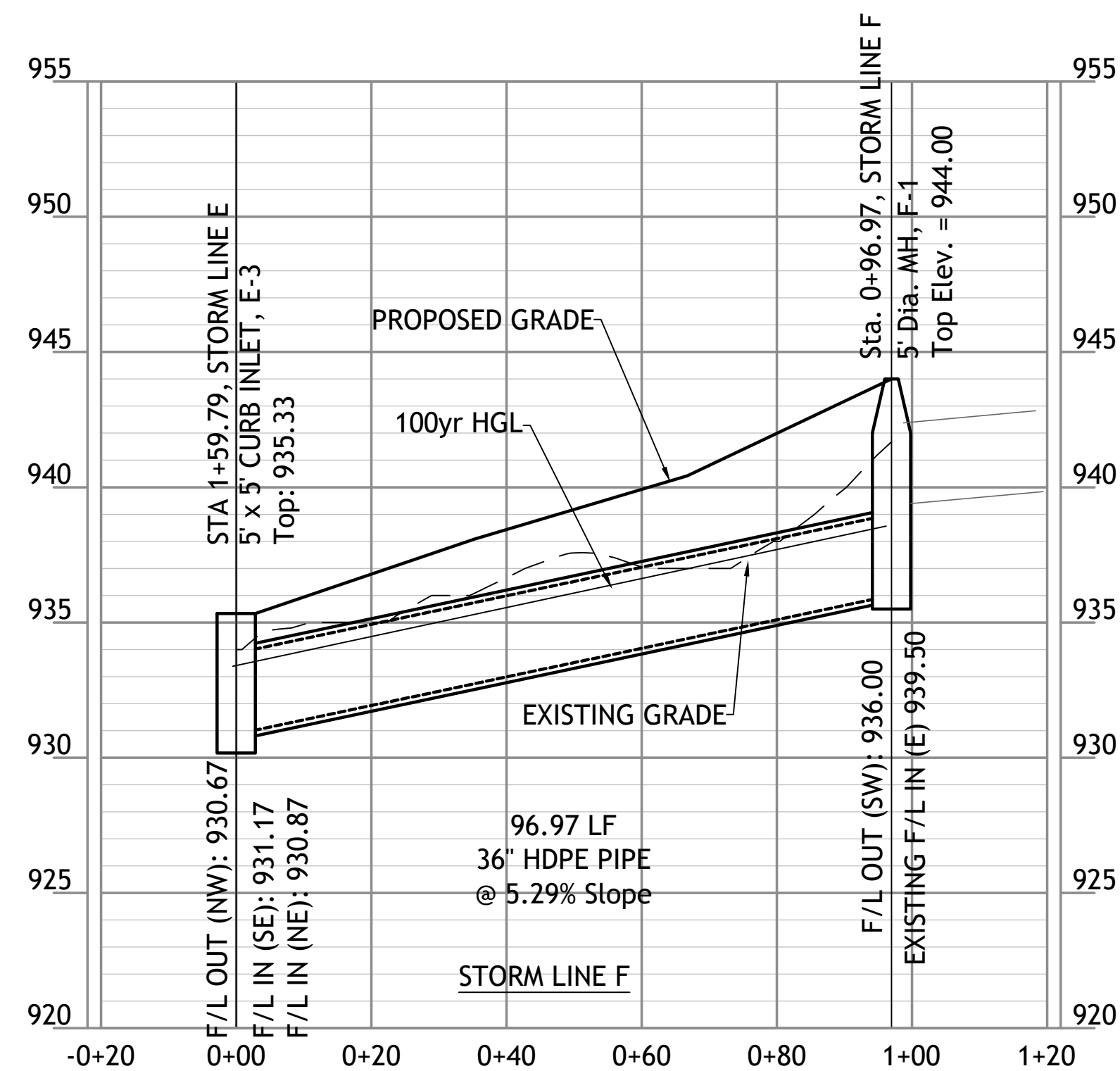
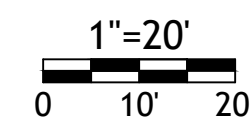
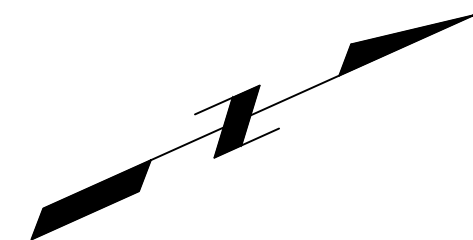
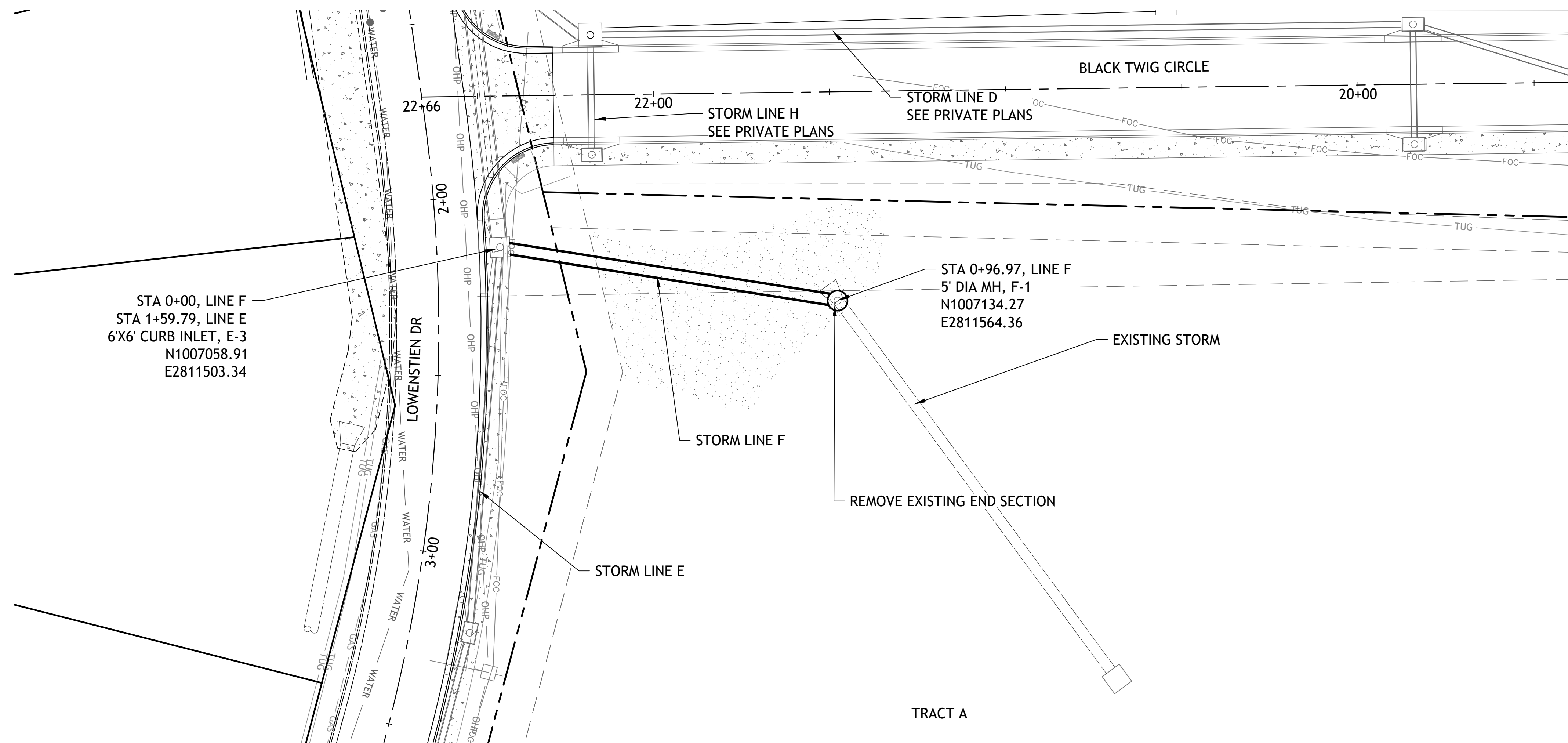




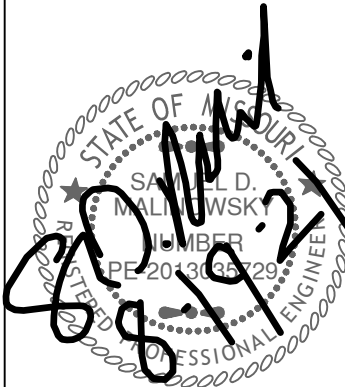
Revisions
8-17-21 CITY COMMENTS

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LOWENSTIEN DR
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STORM LINE F
PLAN AND PROFILE
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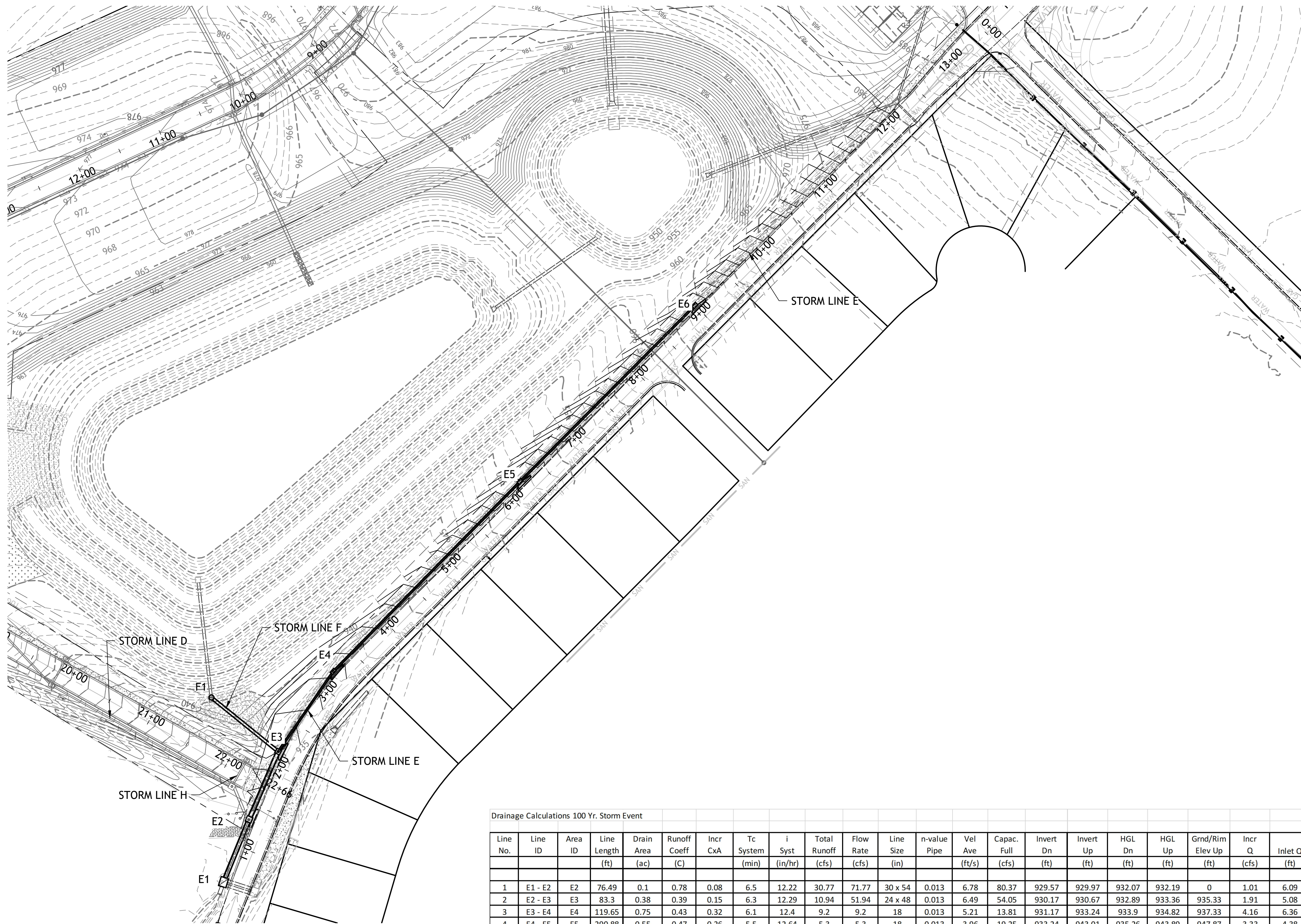


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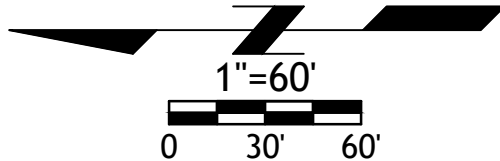
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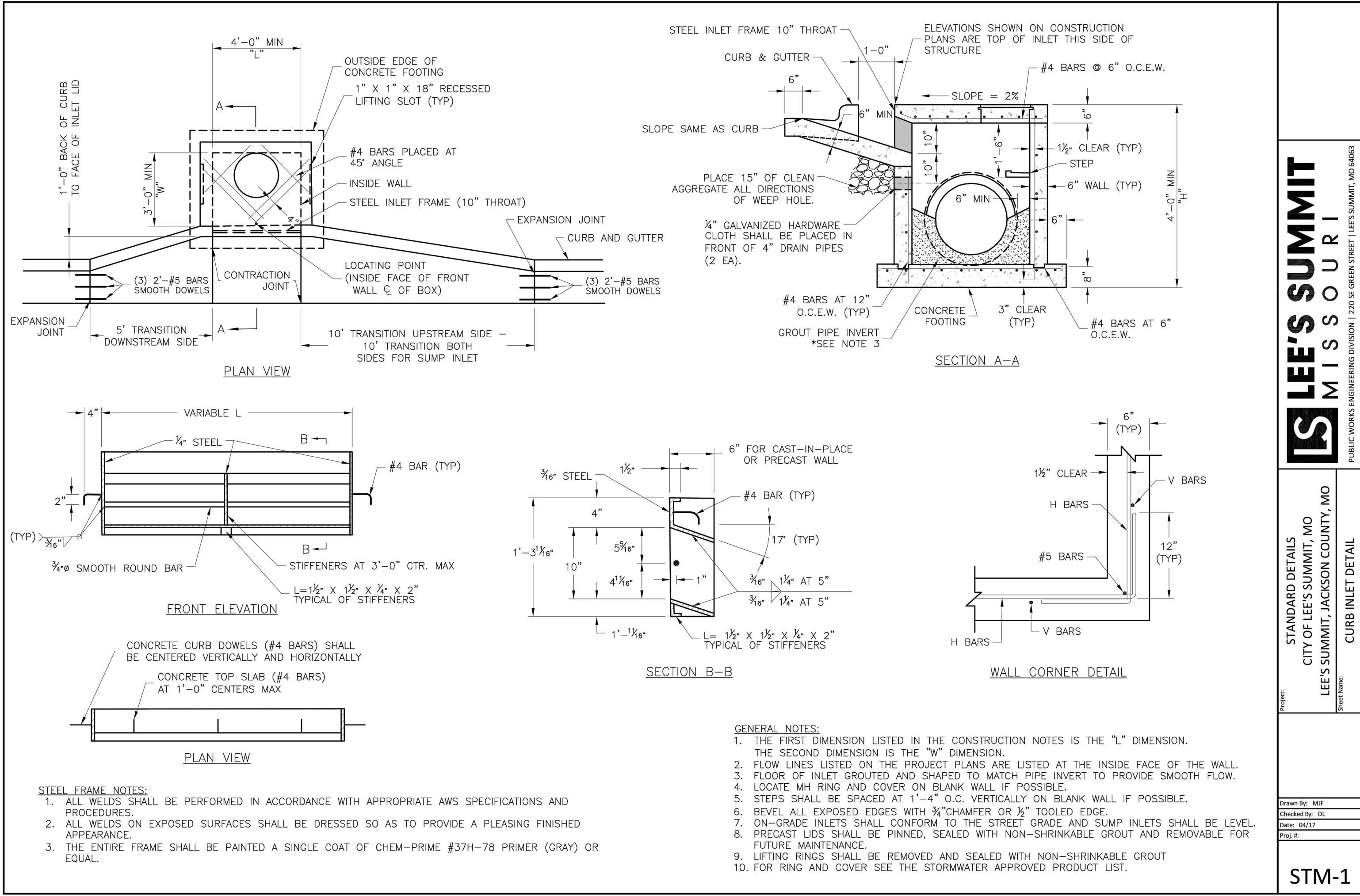


Drainage Calculations 100 Yr. Storm Event																							
Line No.	Line ID	Area ID	Line Length	Drain Area	Runoff Coeff	Incr CxA	Tc System	i Syst	Total Runoff	Flow Rate	Line Size	n-value Pipe	Vel Ave	Capac. Full	Invert Dn	Invert Up	HGL Dn	HGL Up	Grnd/Rim Elev Up	Incr Q	Inlet Q	Q Bypass	Gutter Spread
			(ft)	(ac)	(C)		(min)	(in/hr)	(cfs)	(cfs)	(in)		(ft/s)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(ft)	(cfs)	(ft)
1	E1 - E2	E2	76.49	0.1	0.78	0.08	6.5	12.22	30.77	71.77	30 x 54	0.013	6.78	80.37	929.57	929.97	932.07	932.19	0	1.01	6.09	0	6
2	E2 - E3	E3	83.3	0.38	0.39	0.15	6.3	12.29	10.94	51.94	24 x 48	0.013	6.49	54.05	930.17	930.67	932.89	933.36	935.33	1.91	5.08	2.54	6.3
3	E3 - E4	E4	119.65	0.75	0.43	0.32	6.1	12.4	9.2	9.2	18	0.013	5.21	13.81	931.17	933.24	933.9	934.82	937.33	4.16	6.36	3.18	5.2
4	E4 - E5	E5	290.88	0.55	0.47	0.26	5.5	12.64	5.3	5.3	18	0.013	3.96	19.25	933.24	943.01	935.26	943.89	947.87	3.33	4.38	2.19	4.1
5	E5 - E6	E6	280	0.26	0.62	0.16	5	12.9	2.08	2.08	18	0.013	5.93	24.76	943.2	958.76	943.5	959.31	962.17	2.08	2.08	1.04	3.1
6	E3 - F1	F1	96.97	0	0	0	0	0	0	41 *	36	0.013	7.22	148.85	931.17	936	933.71	938.04	944	41
7	E2 - D1	D1	41.62	2.72	0.57	1.55	5	12.9	19.99	19.99	30	0.013	4.23	46.22	930.47	931	933.13	933.19	935	19.99	0.54	0	23.94

* Flowrate in line 6 is the 100 year release rate from the existing detention pond.

* Flowrate in line 6 is the 100 year release rate from the existing detention pond.

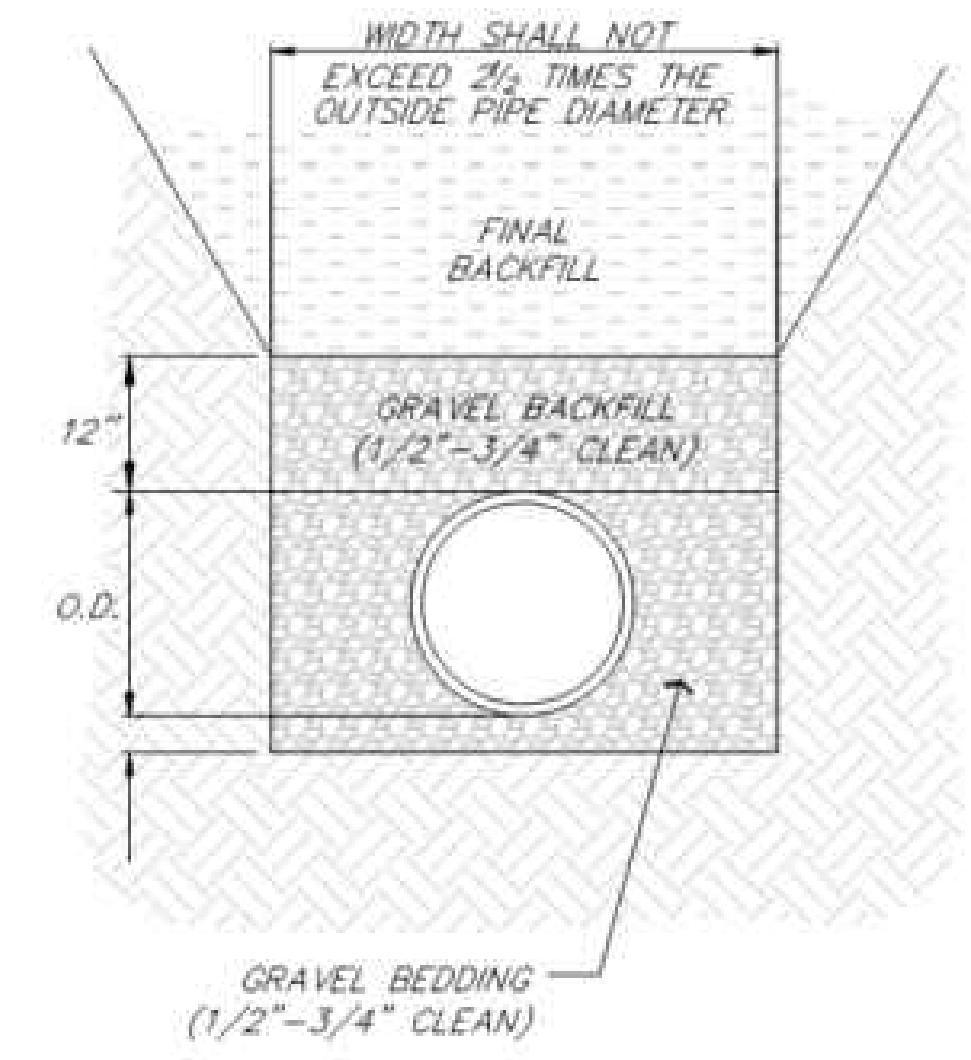




BEDDING
1/2"-3/4" CLEAN AGGREGATE, HAND TAMPED OR MECHANICALLY COMPACTED IN MAX. 4" LIFTS

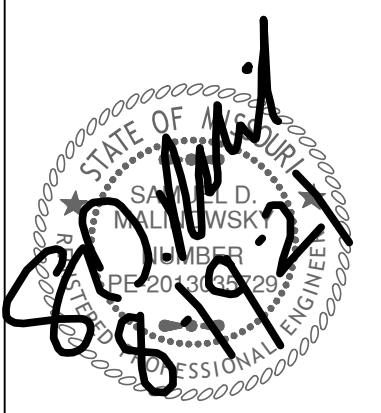
INITIAL BACKFILL
-UNDER PAVED AREAS OR WITHIN 4' HORIZONTAL OF PAVED AREAS
1/2"-3/4" CLEAN AGGREGATE, HAND TAMPED OR MECHANICALLY COMPACTED IN MAX. 4" LIFTS
-UNDER OPEN AREAS
1/2"-3/4" CLEAN AGGREGATE, HAND TAMPED OR MECHANICALLY COMPACTED IN MAX. 4" LIFTS

FINAL BACKFILL
-UNDER PAVED AREAS OR WITHIN 4' HORIZONTAL OF PAVED AREAS
ON-SITE OR IMPORTED MATERIAL FREE OF MUCK, FROZEN MATERIAL, EXCESS MOISTURE, ORGANICS, TOPSOIL, RUBBISH, CONSTRUCTION DEBRIS, ROCK OR BRICK LARGER THAN 8", COMPACTED TO 95% OF STANDARD DENSITY PER ASTM D-698
-UNDER OPEN AREAS
ON-SITE OR IMPORTED MATERIAL FREE OF MUCK, FROZEN MATERIAL, EXCESS MOISTURE, ORGANICS, TOPSOIL, RUBBISH, CONSTRUCTION DEBRIS, ROCK OR BRICK LARGER THAN 8", COMPACTED TO 90% OF STANDARD DENSITY PER ASTM D-698

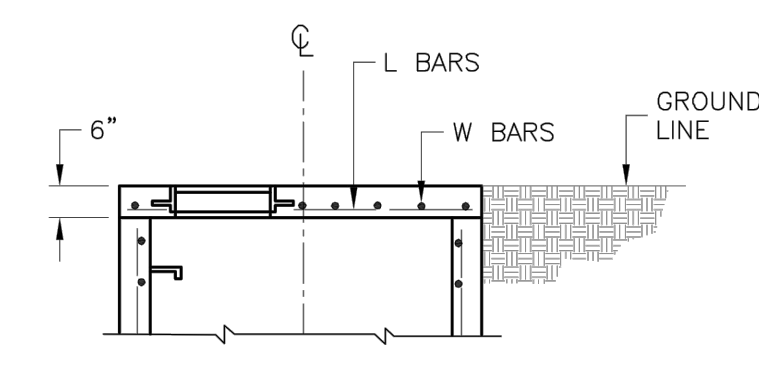
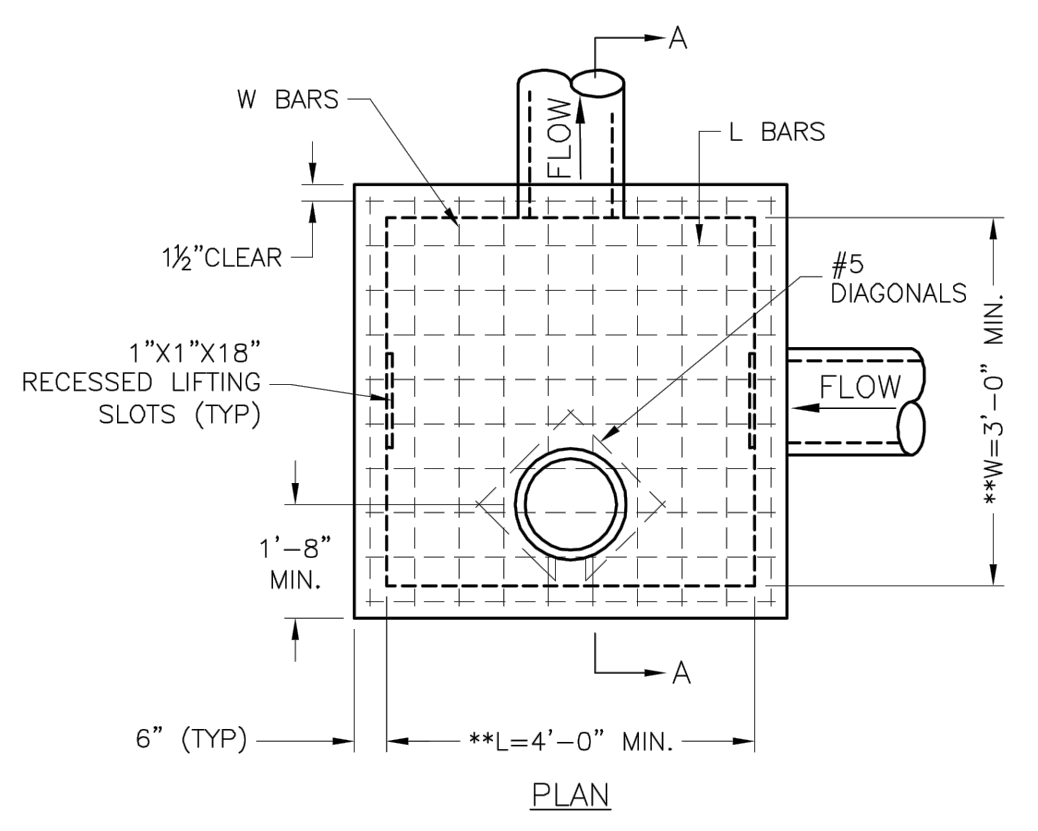
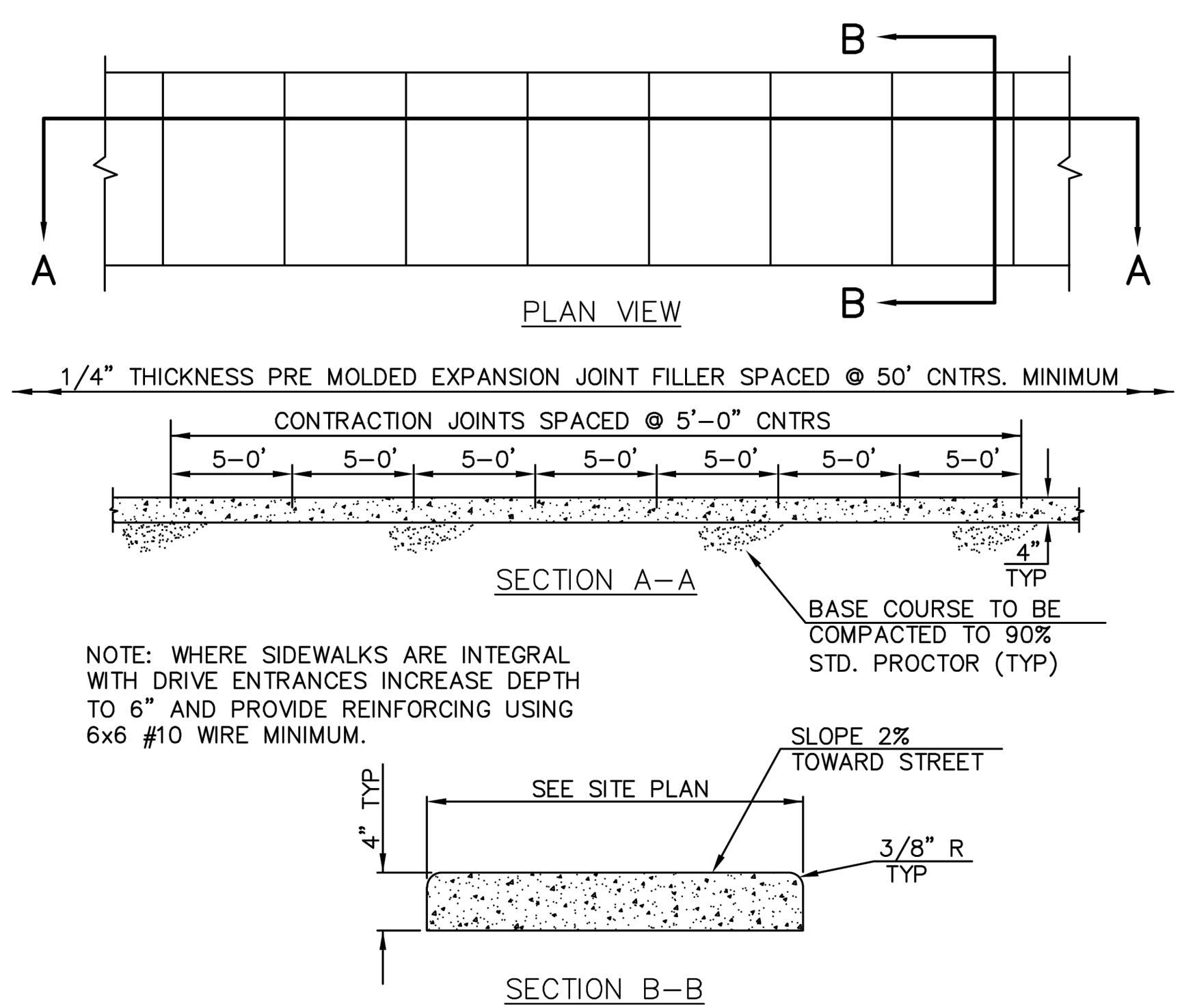


PIPE BEDDING DETAIL
NOT TO SCALE

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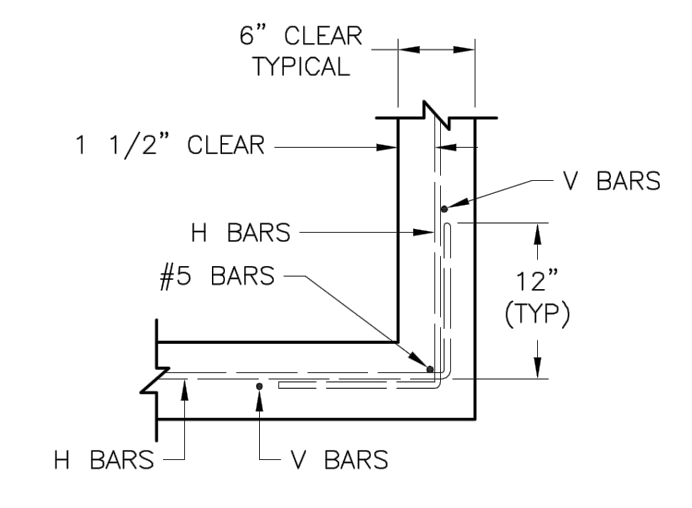
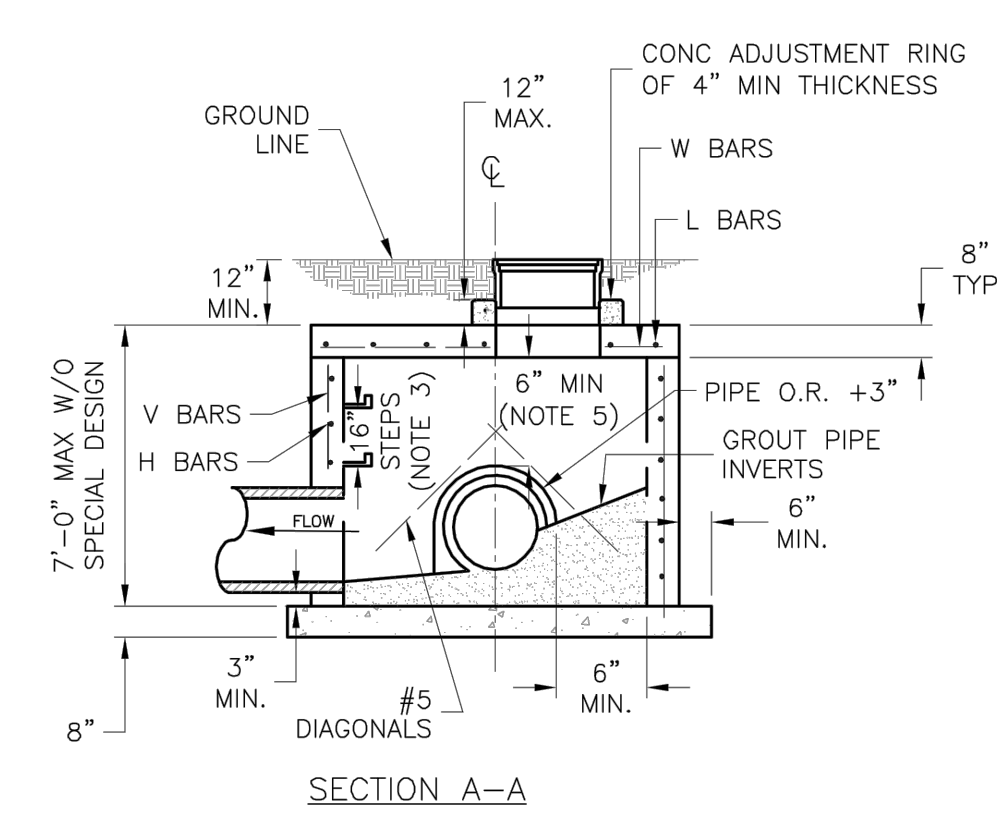


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

NOTE:
FOR ALL JUNCTION BOXES EXCEEDING 7'-0" IN DEPTH, THE PRECAST BOX MANUFACTURER SHALL PROVIDE AN ENGINEERED DESIGN.

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

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



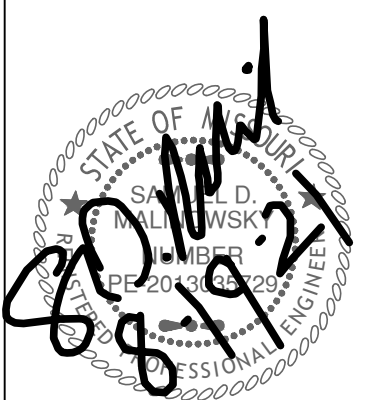
WALL CORNER DETAIL

GENERAL NOTES:

1. LOCATE RING AND COVER ON BLANK WALL.
2. USE 3/4" CHAMFER STRIP OR 1/2" 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.
6. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
7. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
8. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

STREETS OF W. PRYOR LOWENSTIEN DR
LEE'S SUMMIT, MO.

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