Stormwater Pollution Prevention Plan (SWPPP)

For Construction Activities At:

Lee's Summit Fire Station No. 5
801 Missouri Highway 150
Lee's Summit, MO 64082
GLMV Project: 18225R21001

SWPPP Prepared For:

City of Lee's Summit, MO
220 SE Green
Lee's Summit, MO 64063
(816) 969-1000

SWPPP Prepared By:

GLMV Architecture
9229 Ward Parkway, Suite 285
Kansas City, MO 64114
Office: 816-444-4200

SWPPP Preparation Date:

Revision 0: November 22, 2022

Estimated Project Dates:

Project Start Date: December 2022

Project Completion Date: December 2023

Contents

SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES

1.1 General Contractor

Chloe Huxol, Project Manager, McCownGordon
850 Main St
Kansas City, MO 64105
816-547-0068

Emergency 24-Hour Contact:

Chloe Huxol
816-547-0068

1.2 Stormwater Team

Derick Holmes, PE, GLMV Architecture
Civil Engineer
816-444-4200
derick.holmes@glmv.com

SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING

2.1 Project/Site Information

Project Name and Address

Lee's Summit Fire Station No. 5
801 Missouri Highway 150
Lee's Summit, MO 64082
Jackson County

Project Latitude/Longitude

Latitude:	Longitude:
38°51'10" N	94°23'45" W

Method for determining latitude/longitude:
☐ USGS topographic map (specify scale: _____) ☐ EPA Web site ☐ GPS
☒ Other (please specify): Google Maps

Horizontal Reference Datum:
See Survey – Appendix A

2.2 Discharge Information

Does your Project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)? ☒ Yes ☐ No
MS4 Name: Lee's Summit Phase II MS4

Are there any surface waters that are located within 50 feet of your construction disturbances?
☐ Yes ☒ No

There is one outfall structure for the project. This a manhole named 1000.JB located southeast of the property, within the right-of-way.

Table 1 – Names of Receiving Waters

Name(s) of the first surface water that receives stormwater directly from your site and/or from the MS4 (note: multiple rows provided where your site has more than one point of discharge that flows to different surface waters)

1. Raintree Lake
2.
3.
4.
5.
6.

2.3 Nature of the Construction Activity

General Description of Project

This Project consists of a new fire station facility consisting of an 12, 189 square-foot building with accompanying site improvements.

Size of Construction Project

Size of Property (in Acres): 1.0 acres

Total Area of Construction Disturbances (in Acres): 1.21 acres

Maximum Area to be Disturbed at Any One Time (in Acres): 1.21 acres

2.4 Sequence and Estimated Dates of Construction Activities

The Project site will be constructed generally following the sequence indicated below:

1. Install stabilized construction entrance.
2. Install silt fencing around site perimeter or at downstream Project perimeter.
3. Install inlet protection for existing stormwater inlets.
4. Site clearing of only areas required for construction of the Project.
5. Install underground utilities.
6. Bring Project site to proposed grade by on-site excavation and compaction.
7. Install storm sewer, curb and gutter, and concrete/asphalt paving. Install inlet protection for new storm structures after installation.
8. Finish site grading and construct final surface courses other than concrete paving.
9. Install erosion control blankets.
10. Stabilize disturbed areas with permanent seeding and mulching.

Note: Location of site material, borrow or equipment storage areas and stockpiles will be within the Project's boundaries.

SECTION 3: DOCUMENTATION OF COMPLIANCE WITH OTHER FEDERAL REQUIREMENTS

Type of Allowable Non-Stormwater Discharge	**Likely to be Present at Your Site?**
Discharges from emergency fire-fighting activities	☐ YES ☒ NO
Fire hydrant flushings	☒ YES ☐ NO
Landscape irrigation	☒ YES ☐ NO
Waters used to wash vehicles and equipment	☒ YES ☐ NO
Water used to control dust	☒ YES ☐ NO
Potable water, including uncontaminated water line flushings	☒ YES ☐ NO
Routine external building wash down	☒ YES ☐ NO
Pavement wash waters	☒ YES ☐ NO
Uncontaminated air conditioning or compressor condensate	☒ YES ☐ NO
Uncontaminated, non-turbid discharges of ground water or spring water	☒ YES ☐ NO
Foundation or footing drains	☒ YES ☐ NO
Construction dewatering water	☒ YES ☐ NO

3.1 Endangered Species Protection

Missouri Department of Conservation indicates that the Project will not impact currently listed threatened or endangered species or species in need of conservation. See Appendix I.

SECTION 4: EROSION AND SEDIMENT CONTROLS

4.1 Perimeter Controls

Sediment controls will be installed along perimeter areas of the site that will receive stormwater due to earth-disturbing activities.

Silt fence shall be constructed in accordance with Kansas City Metro Chapter of the American Public Works Association standard details (see Appendix A). Silt fence will be used to prevent soil from being washed off into natural water bodies.

The Contractor shall remove all sediment before it has accumulated to one-half of the above-ground height of any perimeter control.

4.2 Stabilized Construction Entrance (SCE)

The Contractor shall minimize the track-out of sediment from vehicles exiting the construction site onto off-site streets, other paved areas, and sidewalks by installing a stabilized construction entrance at the points that exit onto paved roads so that sediment removal occurs prior to vehicle exit.

The Contractor will install gravel construction entrances at all points that exit onto paved roads. The gravel construction entrance will consist of aggregate stone with an underlying geotextile or non-woven filter fabric, or turf mats.

All construction entrance(s) shall be maintained by the Contractor in a condition that will prevent tracking or flowing of sediment onto public right-of-ways and paved streets. This may include periodic top dressing with additional crushed stone as conditions warrant. Repair of entrance(s) and cleaning of right-of-ways and paved streets that have been soiled by construction activities shall be the Contractor's responsibility.

4.3 Stockpiled Sediment or Soil

During all soil-disturbing activities, the Contractor will take appropriate steps using accepted construction methods to minimize the time of exposure of unprotected soil and other construction materials to rainfall. Care must be exercised when dealing with stockpiles of topsoil or fill materials and with soil on slopes.

The Contractor will protect stockpile sediment or soil from contact with stormwater using a temporary perimeter sediment barrier such as ditch checks. Any stockpile after 14 days must be stabilized with mulch.

The Contractor will install silt fence downhill of soil stockpiled for more than 7 days to trap sediment. Erosion controls shall be inspected and maintained by the Contractor not less than weekly and within 24 hours after a rainfall event of 0.5-inch or more. Maintenance shall include, but not be limited to, sediment removal and silt fence barrier repair and/or replacement.

4.4 Minimize Dust

The Contractor will take appropriate steps using accepted construction methods to minimize the generation of dust during the entire construction period. If required, the

Contractor shall apply the appropriate amount of water at least three times a day, depending on atmospheric conditions, to minimize dust.

4.5 Soil Compaction

Vehicles and the use of equipment will be restricted in all locations within the site where final vegetative stabilization will occur or where infiltration practices will be installed.

The Contractor shall use techniques that condition the soils to support vegetative growth when necessary and feasible before compacting, seeding or planting areas of exposed soil.

4.6 Storm Drain Inlets

Drain protection shall be installed at all storm drain inlets that are on the site.

Drain protection measures such as fabric filters and filter socks will be installed at all storm drain inlets that are on the site.

The Contractor shall clean or remove and replace the drain protection as sediment accumulates. When there is evidence of sediment accumulation adjacent to the inlet protection measure, the Contractor shall remove the deposited sediment by the end of the same workday it is found, or by the end of the following workday if removal by the same workday is not feasible.

4.7 Site Stabilization

Disturbed portions of the site where construction activities have permanently ceased shall be stabilized with permanent seed no later than 14 days after the last construction activity. Straw mulch with crimping will be applied with the seed until vegetation is established. **The permanent seed mix shall be in accordance with Specifications and the Landscape Plan.**

For soil disturbing activities that have been temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days the permittee shall construct BMPs to establish interim stabilization. Stabilization must be initiated immediately and completed within 14 calendar days.

Until stabilization is complete, interim sediment control shall consist of well-established and maintained BMPs that are reasonably certain to protect waters of the state from sediment pollution over an extended period of time. This may require adding more BMPs to an area than is normally used during daily operations. The types of BMPs used must be suited to the area disturbed, taking into account the number of acres exposed and the steepness of the slopes. If the slope of the area is greater than 3:1 (three feet horizontal to one foot vertical) or if the slope is greater than 3% and greater than 150 feet in length, then the permittee shall establish interim stabilization within seven days of ceasing operations on that part of the site.

SECTION 5: SPILL POLLUTION PREVENTION AND RESPONSE OF CONSTRUCTION SITE POLLUTANTS

5.1 Waste Disposal

The Contractor will maintain regulated waste disposal procedures associated with construction activities. This function will take place within the property boundaries and surrounding silt fences. The appropriate dumpsters and oil/chemical drums will be provided and regulated under close scrutiny for the tank and pipeline closure proceedings. All waste material will be collected and stored in a securely covered metal dumpster provided by a licensed solid waste management company. The dumpster will meet all local, State, and Federal regulations. All trash and construction debris will be deposited in the dumpster. The dumpster will be emptied as necessary to prevent overflow. Trash will be hauled to the local dump. All personnel will be instructed regarding the correct procedure for waste disposal.

5.2 Sanitary Waste

A licensed sanitary waste company will collect all sanitary waste from potable units on the regulated time frame as required by local regulations.

5.3 Equipment and Concrete Truck Wash Areas

Large equipment and concrete trucks will be allowed to discharge wash water in the Project area in such a manner that prevents contact with stormwaters discharged from the site. Dikes, barriers, or a shallow excavation may be constructed to contain the wash waters. Materials collected in such areas will be disposed of in an acceptable manner.

5.4 Storage, Handling, and Disposal of Construction Products, Materials, and Wastes

All toxic substance containers will be tightly sealed and properly stored to prevent leaks or spills. Storage will be in a rain-protected facility. Unused paints, cleaners, or other toxic substance will be disposed of according to local and/or State regulations, or manufacturer's recommendations. All construction personnel will be instructed regarding the correct procedure for hazardous waste handling and disposal. The Construction Site Manager will be responsible for overall compliance with these procedures.

5.5 Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials

In the event fertilizers, herbicides and pesticides are required on the construction site, they will be applied by a State-licensed applicator. Fertilizers are only to be applied at the minimum rate recommended by the manufacturer to establish and maintain vegetation.

SECTION 6: INSPECTION AND CORRECTIVE ACTION

6.1 Inspection Personnel and Procedures

Personnel Responsible for Inspections
To be filled out on site

Note: All personnel conducting inspections must be considered a "qualified person." A "qualified person" is a person knowledgeable in the principles and practices of erosion and sediment controls and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

Inspection Schedule
Specific Inspection Frequency

Rainfall totals used to establish when a construction site inspection is required shall be determined from local weather station reports of daily rainfall totals from the rain gauge noted below or closer. A site inspection is required at least once every seven (7) calendar days and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased during a normal work day or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.

Rain Gauge Location:

STATION DETAILS	
Name	LEE S SUMMIT 1.4 WSW, MO US
Network:ID	GHCND:US1MOJC0042
Latitude/Longitude	38.907166°, -94.405697°
Elevation	295.4 m

PERIOD OF RECORD	
Start Date[1]	2018-11-07
End Date[1]	2022-11-14
Data Coverage[2]	83%

ADD TO CART

https://www.ncdc.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:US1MOJC0042/detail

Inspection Report Forms
See Appendix C

6.2 Corrective Action

Personnel Responsible for Corrective Actions
To be filled out on site

Corrective Action Forms
See Appendix C

6.3 Delegation of Authority

Identify the individual(s) or positions within the company who have been delegated authority to sign inspection reports.

Attach a copy of the signed delegation of authority (see example in Appendix H of the Template).

For more on this topic, see Subsection 11 of EPA's CGP.

Duly Authorized Representative(s) or Position(s):
Company Name:
Authorized Representative:
Position:
Address:
City, State, Zip:
Mobile Number:
Email:

SECTION 7: TRAINING

Complete the table below to provide documentation that the personnel required to be trained in CGP Part 6 completed the appropriate training.

The following personnel, at a minimum, must receive training, and therefore should be listed out individually in the table below:

- Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention measures).
- Personnel responsible for the application and storage of treatment chemicals (if applicable).
- Personnel who are responsible for conducting inspections as required in Part 4.1.1; and
- Personnel who are responsible for taking corrective actions as required in Part 5.

CGP Part 6 requires that the required personnel must be trained to understand the following if related to the scope of their job duties:

- The location of all stormwater controls on the site required by this permit, and how they are to be maintained.
- The proper procedures to follow with respect to the permit's pollution prevention requirements.
- When and how to conduct inspections, record applicable findings, and take corrective actions.

Table 7-1: Documentation for Completion of Training

Name	Date Training Completed

SECTION 8: CERTIFICATION AND NOTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: DERICK HOLMES, PE Title: CIVIL ENGINEER

Signature: Derick Holmes Date: NOVEMBER 22, 2022

[Repeat as needed for multiple construction operators at the site.]

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Appendix A – Project Drawings

Appendix B – Land Disturbance Permit

Appendix C – Inspection and Corrective Action Form

Appendix D – SWPPP Amendment Log

Appendix E – Subcontractor Certifications/Agreements

Appendix F – Grading and Stabilization Activities Log

Appendix G – SWPPP Training Log

Appendix H – Delegation of Authority

Appendix I – Endangered Species Documentation

Appendix A – Drawings

DRAWING NUMBER	DRAWING NAME
GS001	ALTA/NSPS LAND TITLE SURVEY
C-103	EROSION CONTROL PLAN
C-104	GRADING & DRAINAGE PLAN
C-230	STORMWATER PLAN
C-231	STORMWATER PROFILES
C-510	EROSION CONTROL DETAILS
C-511	EROSION CONTROL DETAILS
C-530	STORMWATER DETAILS
C-531	STORMWATER DETAILS
C-532	STORMWATER DETAILS
L-100	LANDSCAPE SCHEDULE
L-101	LANDSCAPE PLAN

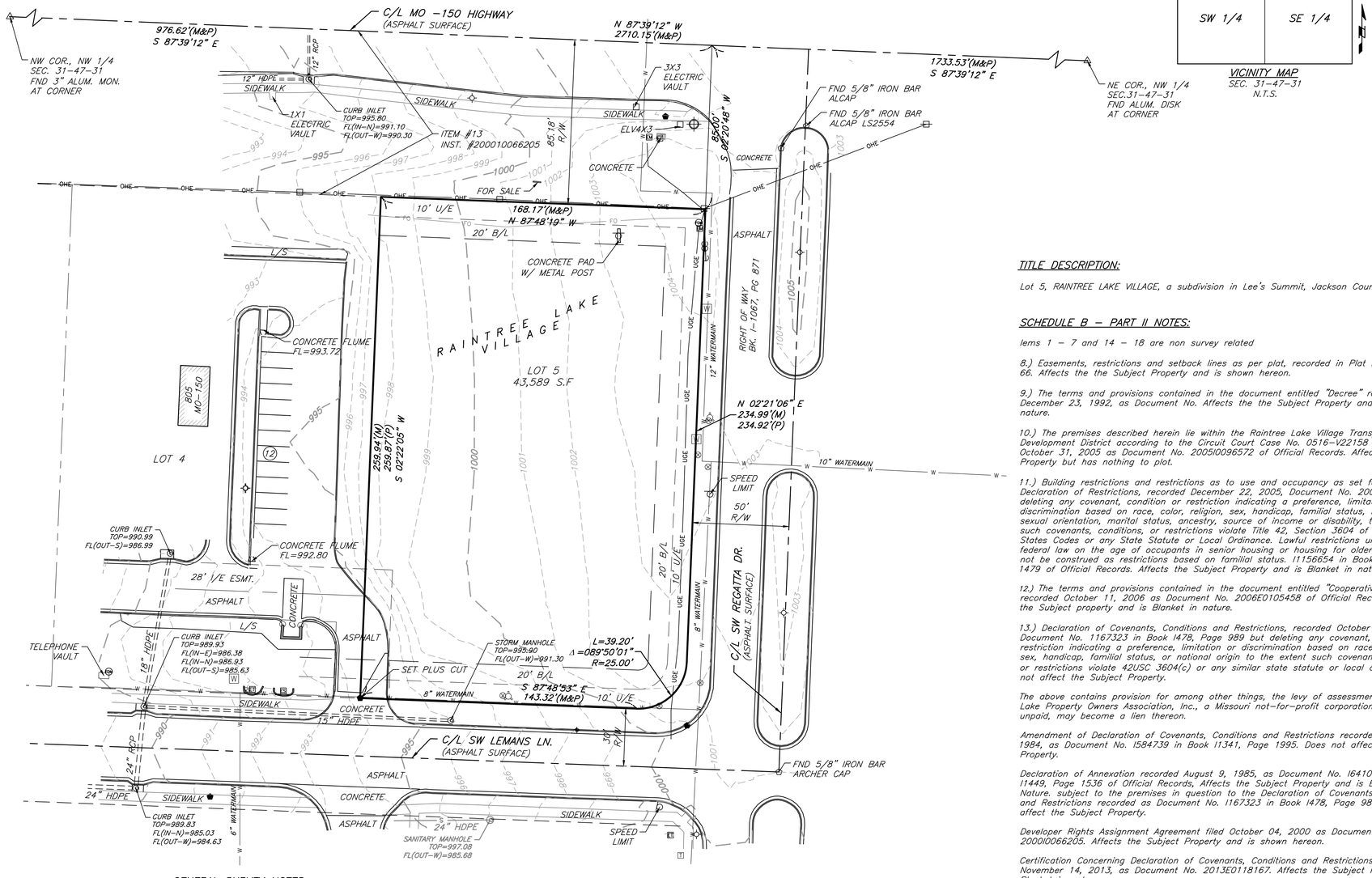
ALTA/NSPS LAND TITLE SURVEY

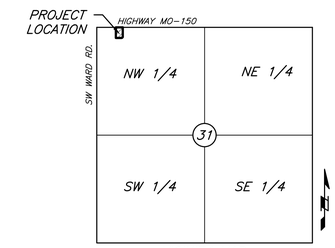
NW 1/4, SECTION 31, TOWNSHIP 47 NORTH, RANGE 31 WEST
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

SCALE
0' 30' 60'

LEGEND

- △ – SECTION CORNER AS NOTED
- ⬠ – MONUMENT FOUND AS NOTED
- ⬟ – SET MONUMENT AS NOTED
- ○ – FOUND 1/2" IRON BAR AT CORNER UNLESS OTHERWISE NOTED
- ● – SET 1/2" IRON BAR AT CORNER W/ J & J CAP
- (P) – PLATTED DISTANCE
- (M) – MEASURED DISTANCE
- L/S – LANDSCAPED AREA
- B/L – BUILDING SETBACK LINE
- I/E – INGRESS– EGRESS EASEMENT
- U/E – UTILITY EASEMENT
- – POWER POLE
- – LIGHT POLE
- – GUY WIRE
- EM – ELECTRIC METER
- ES – ELECTRIC SECTIONALIZER
- ET – ELECTRIC TRANSFORMER
- – TRAFFIC SIGNAL POLE
- W – WATER METER
- ⊗ – WATER VALVE
- – FIRE HYDRANT
- S – SANITARY MANHOLE
- S – STORM MANHOLE
- T – TELEPHONE PEDESTAL
- – BOLLARD
- (8) – PARKING STALL
- – SIGN AS NOTED
- FOM – FIBER OPTIC MARKER
- OHE – OVERHEAD ELECTRIC
- FO – FIBER OPTIC LINE
- W – UNDERGROUND WATER





CERTIFICATION:

To: First American Title Insurance Company, Assured Quality Title Company and Raintree Investors, LLC, a Missouri limited liability company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 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, 11b, 13 and 16 of Table A thereof. The field work was completed on the 16th day of July, 2021.

STATE OF MISSOURI ★ JOHN B. YOUNG NUMBER LS-2006016647 ★ PROFESSIONAL LAND SURVEYOR

8–12–21
Date

John B. Young PLS–2006016647

CLIENT:
GLMV Architecture
Attn: Paul J. Michell
9229 Ward Parkway Ste. 210
Kansas City, Mo 64082

PROPERTY ADDRESS:
801 SW MO–150 HIGHWAY
Lee's Summit, Mo 64082

TITLE DESCRIPTION:

Lot 5, RAINTREE LAKE VILLAGE, a subdivision in Lee's Summit, Jackson County, Missouri.

SCHEDULE B – PART II NOTES:

Iems 1 – 7 and 14 – 18 are non survey related

8.) Easements, restrictions and setback lines as per plat, recorded in Plat Book 89, Page 66. Affects the the Subject Property and is shown hereon.

9.) The terms and provisions contained in the document entitled "Decree" recorded December 23, 1992, as Document No. Affects the the Subject Property and is Blanket in nature.

10.) The premises described herein lie within the Raintree Lake Village Transportation Development District according to the Circuit Court Case No. 0516–V22158 recorded October 31, 2005 as Document No. 2005I0096572 of Official Records. Affects the Subject Property but has nothing to plot.

11.) Building restrictions and restrictions as to use and occupancy as set forth in Declaration of Restrictions, recorded December 22, 2005, Document No. 2005I0112172, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status, national origin, sexual orientation, marital status, ancestry, source of income or disability, to the extent such covenants, conditions, or restrictions violate Title 42, Section 3604 of the United States Codes or any State Statute or Local Ordinance. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status. I1156654 in Book I2335, Page 1479 of Official Records. Affects the Subject Property and is Blanket in nature.

12.) The terms and provisions contained in the document entitled "Cooperative Agreement" recorded October 11, 2006 as Document No. 2006E0105458 of Official Records. Affects the Subject property and is Blanket in nature.

13.) Declaration of Covenants, Conditions and Restrictions, recorded October 29, 1973, Document No. 1167323 in Book I478, Page 989 but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status, or national origin to the extent such covenants, conditions or restrictions violate 42USC 3604(c) or any similar state statute or local ordinance. Does not affect the Subject Property.

The above contains provision for among other things, the levy of assessments by Raintree Lake Property Owners Association, Inc., a Missouri not–for–profit corporation, which if unpaid, may become a lien thereon.

Amendment of Declaration of Covenants, Conditions and Restrictions recorded August 16, 1984, as Document No. I584739 in Book I1341, Page 1995. Does not affect the Subject Property.

Declaration of Annexation recorded August 9, 1985, as Document No. I641018 in Book I1449, Page 1536 of Official Records, Affects the Subject Property and is Blanket in Nature. subject to the premises in question to the Declaration of Covenants, Conditions and Restrictions recorded as Document No. 1167323 in Book I478, Page 989. Does not affect the Subject Property.

Developer Rights Assignment Agreement filed October 04, 2000 as Document No. 2000I0066205. Affects the Subject Property and is shown hereon.

Certification Concerning Declaration of Covenants, Conditions and Restrictions recorded November 14, 2013, as Document No. 2013E0118167. Affects the Subject Property and is Blanket in nature.

14.) The Premises described herein may lie within the boundaries of a public sewer district, Pursuant to 249.255 and 249.645 Rsmo Supp. 1991. Does not affect the Subject Property.

15.) Rights of parties in possession under unrecorded leases. Does not affect the Subject Property.

16.) Any lien or right to lien by any Real Estate Brokers or Real Estate Appraisers. Does not affect the Subject Property.

17.) If there has been construction, improvements or repairs to or on the property in the last 12 months, or a portion or all of the loan proceeds will be used for such, then unrecorded mechanics lien coverage will not be furnished unless arrangements are made prior to closing. If the property is 1–4 family residential and we are being asked to extend mechanic's lien coverage (through date downs or otherwise) on a construction loan, a Mechanic's Lien Indemnity Agreement secured by a satisfactory Letter of Credit will need to be furnished to the company. If the transaction is not a residential construction loan, either the aforesaid secured indemnity or satisfactory financial statements, indemnities, affidavits and possibly lien waivers, will need to be furnished to the company. Failure to notify the company in writing before closing will invalidate any mechanic's lien coverage given in the policy. Does not affect the Subject Property.

UTILITY NOTE:

The utilities on this survey are shown based on source information from plans and markings and were combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation and/or a private utility locate request may be necessary.

GENERAL SURVEY NOTES:

1.) The plat of RAINTREE LAKE VILLAGE is recorded in Plat Book I–89 at Page 66 in the Recorder of Deeds Office in Jackson County, Missouri.

2.) Title Report No. MJ117076 dated April 12, 2021 at 8:00 am provided by First American Title Insurance Company.

3.) Bearings used on this survey are based on the Missouri State Plane coordinate system from GPS observation.

4.) The subject property is located in Zone X, areas determined to be outside the 0.2% annual chance floodplain, as shown on Flood Insurance Rate Map (FIRM) 29095C0532G, effective January 20, 2017.

5.) There are NO parking stalls identified on Subject Property at the time of this survey.

6.) There were no Wetland delineation at the time of survey.

7.) This property is Zoned CP–2, Planned Community Commercial

8.) Water utilities are based on the City Map image provided by City of Lee's Summit, Missouri, GIS department.

SURVEY CONTROL POINTS

Point #	Northing	Easting	Elevation	Description
1	974540.74	2824139.37	993.44	JA137
41	977854.30	2818488.69	998.56	CHLSD SQ
50	978172.10	2818534.58	1002.12	CP +
51	977856.50	2818545.74	1001.18	CP +
52	977819.61	2818298.73	991.45	CP +

BENCHMARKS:

STATION JA 137: Alum Disk, Located about 0.7 miles South of the intersection of highway 150 and highway 291 of Lee's Summit.

ELEVATION = 993.44

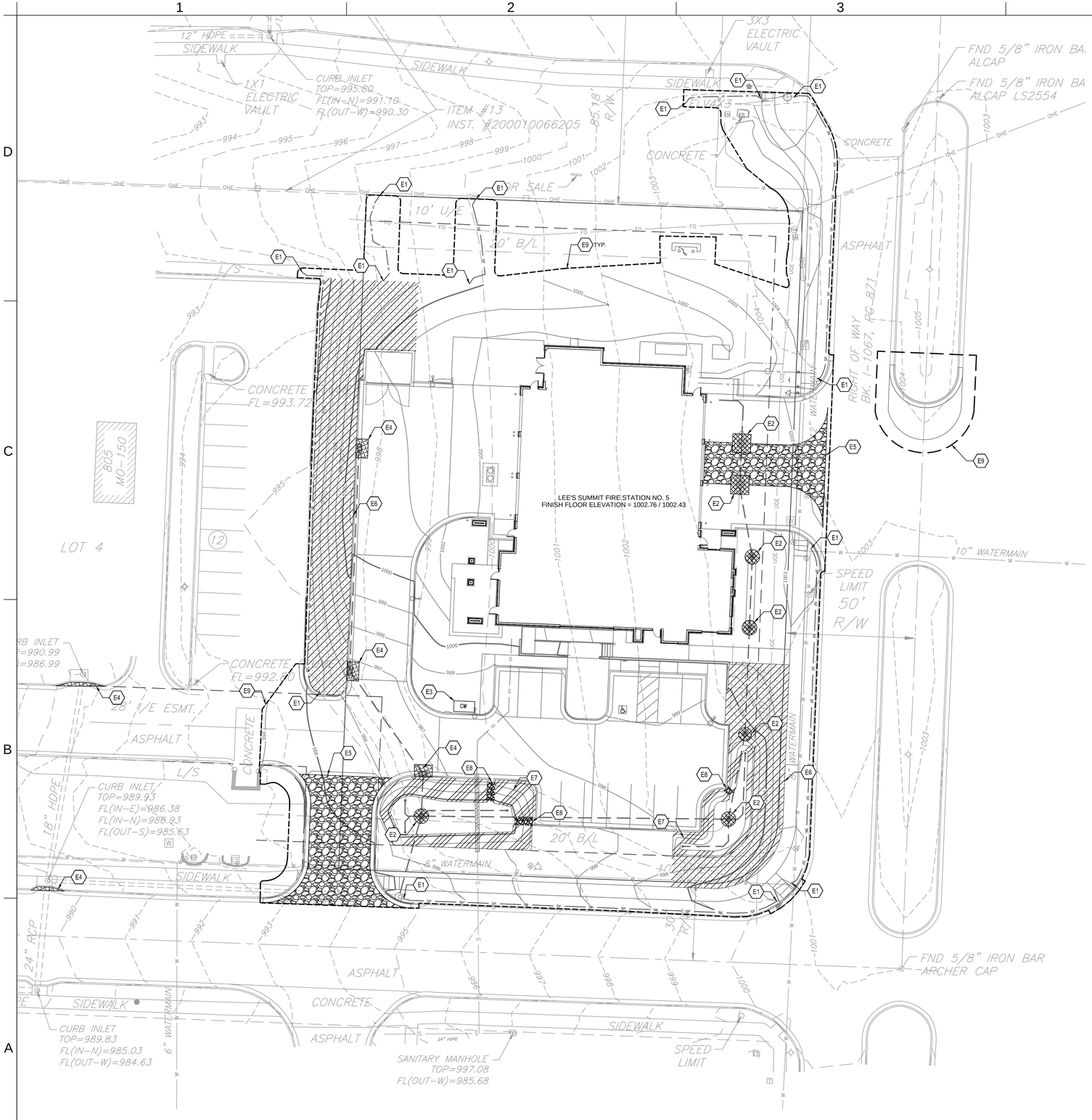
J & J SURVEY LLC
6500 NW TOWER DR., SUITE 102 • PLATTE WOODS, MO 64151
PHONE (816)741-1017 • FAX (816)741-1018

Location: S:\21.071 – Lees Summit Fire Stations\DRAWINGS\3726 REGATTA\8-6-21 revisions\ALTA 8-6-21 Regatta.dwg–Aug 12, 2021–11:23am

1	INITIAL SUBMITTAL	08–04–21
2	REVISED PER COMMENTS	08–12–21

SHEET 1 OF 1

GS001



1 EROSION CONTROL PLAN

1" = 20'-0"

GRAPHIC SCALE 20'

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

THIS SHEET OUTLINES MINIMUM STORMWATER PRACTICES TO BE FOLLOWED BY THE CONTRACTOR DURING ALL PHASES OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREVENTION OF SOIL OR SEDIMENT LOSS FROM THE CONSTRUCTION SITE. THE CONTRACTOR SHALL SUBMIT A SITE-SPECIFIC SEDIMENT AND EROSION CONTROL SCHEDULE. THESE NOTES ARE TO BE USED AS A GUIDELINE ONLY. THE PROJECT IS NOT CONSIDERED COMPLETE UNTIL ALL PERMANENT EROSION AND SEDIMENT CONTROLS AND STORMWATER MANAGEMENT PRACTICES ARE IN PLACE TO THE SATISFACTION OF THE OWNER AND ENGINEER. ALL TEMPORARY PRACTICES MUST BE PROPERLY REMOVED.

IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS PURSUANT TO THE GENERAL NPDES PERMIT FOR CONSTRUCTION STORMWATER, A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED FOR THIS SITE. THE PLAN WAS DEVELOPED TO MINIMIZE THE EFFECTS OF SOIL EROSION AND RESULTING SEDIMENT LOSS. PREVENTION WILL BE PROVIDED THROUGH THE USE OF PROPER CONSTRUCTION TECHNIQUES. THESE TECHNIQUES WILL INCLUDE BOTH TEMPORARY AND PERMANENT MANAGEMENT PRACTICES. TO PREVENT EROSION AND SEDIMENT FROM LEAVING THE CONSTRUCTION SITE, THE FOLLOWING STEPS SHALL BE TAKEN DURING CONSTRUCTION:

1. PRIOR TO STARTING ANY SOIL DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES AND GRAVEL CONSTRUCTION ENTRANCES.
2. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE KANSAS CITY METRO CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION. INSTALL SILT FENCE AT INDICATED LOCATIONS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER TO CONTROL SOIL EROSION. SILT FENCE SHALL BE KEPT IN PLACE UNTIL THE PROJECT IS STABILIZED.
3. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS AND PAVED STREETS. THIS MAY INCLUDE PERIODIC TOP DRESSING WITH ADDITIONAL CRUSHED STONE AS CONDITIONS WARRANT. REPAIR OF ENTRANCE(S) AND CLEANING OF RIGHT-OF-WAYS AND PAVED STREETS THAT HAVE BEEN SOILED BY CONSTRUCTION ACTIVITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
4. DURING ALL SOIL DISTURBING ACTIVITIES, THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS USING ACCEPTED CONSTRUCTION METHODS TO MINIMIZE THE TIME OF EXPOSURE OF UNPROTECTED SOIL AND OTHER CONSTRUCTION MATERIALS TO RAINFALL. PARTICULAR CARE MUST BE EXERCISED WHEN DEALING WITH STOCKPILES OF TOPSOIL OR FILL MATERIALS AND WITH SOIL ON SLOPES.
5. SOIL STOCKPILED FOR MORE THAN 7 DAYS WILL HAVE SILT FENCE PLACED ON THE DOWNHILL SIDE TO TRAP SEDIMENT.
6. NO GROUND SHALL BE LEFT DISTURBED FOR MORE THAN 14 DAYS OF NON-ACTIVITY WITHOUT BEING TEMPORARILY MULCHED AND/OR SEEDED.
7. EROSION CONTROLS SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR NOT LESS THAN WEEKLY AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR MORE. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO SEDIMENT REMOVAL AND SILT FENCE REPAIR AND/OR REPLACEMENT.
8. WHENEVER DIRT, ROCK, OR OTHER MATERIALS ARE EXPORTED FOR PLACEMENT IN AREAS OFF THE PRIMARY CONSTRUCTION SITE, THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THAT ALL JURISDICTIONAL AUTHORITY REQUIREMENTS ARE MET. PRIOR TO THE REMOVAL OF ANY MATERIALS FROM THE SITE THE CONTRACTOR WILL FURNISH THE ENGINEER WITH A WRITTEN AGREEMENT, SIGNED BY EACH LANDOWNER WHO WILL RECEIVE EXPORTED MATERIALS, STATING THAT THE RECEIVING SITE WILL BE PROPERLY PERMITTED, WHEN REQUIRED.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND EXPENSES OF PROVIDING EROSION AND SEDIMENT CONTROL MEASURES.
10. CONTRACTOR SHALL KEEP A WRITTEN LOG OF WHEN CONSTRUCTION ACTIVITIES BEGIN, EROSION AND SEDIMENT CONTROLS ARE INSTALLED, INSPECTED, AND REPAIRED. COPIES OF LOG SHALL BE FURNISHED TO THE ENGINEER.
11. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED UPON STABILIZATION OF DISTURBED AREAS.

EROSION AND SEDIMENT CONTROL PHASING SCHEDULE	
PRIOR TO CONSTRUCTION	1. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES. 2. INSTALL TEMPORARY PERIMETER SILT FENCE. 3. INSTALL TEMPORARY EXISTING CURB INLET PROTECTION.
DURING CONSTRUCTION	1. INSTALL THE FOLLOWING AS SITE IMPROVEMENTS ARE COMPLETED: A. TEMPORARY CURB AND AREA INLET PROTECTION. B. TEMPORARY EROSION AND SEDIMENT CONTROL BLANKETS. C. PERMANENT TURF REINFORCEMENT MATS. 2. TEMPORARY SEED AREAS OF SITE, AS REQUIRED (SEE NOTE 6).
AFTER CONSTRUCTION	1. SEED, FERTILIZE, AND MULCH ALL SLOPES AND DISTURBED AREAS. 2. PERFORM SITE CLEANUP. 3. REMOVE TEMPORARY PRACTICES AND PERIMETER CONTROLS ONCE FINAL STABILIZATION HAS BEEN ACHIEVED.

EROSION CONTROL KEYNOTES

- E1 SILT FENCE — REF: 3 / C-510
- E2 AREA INLET AND JUNCTION BOX PROTECTION — REF: 1 / C-511
- E3 CONCRETE WASHOUT — REF: 1 / C-510
- E4 CURB INLET PROTECTION — REF: 4 / C-510
- E5 CONSTRUCTION ENTRANCE — REF: 1 / C-510
- E6 TEMPORARY EROSION CONTROL BLANKET — REF: 2 / C-510
- E7 PERMANENT TURF REINFORCEMENT MAT — REF: 2 / C-510
- E8 RIPRAP — REF: C-100
- E9 LIMITS OF DISTURBANCE

LEGEND

- LIMITS OF DISTURBANCE
- SF — SILT FENCE
- AREA INLET PROTECTION
- CW — CONCRETE WASHOUT
- CURB INLET PROTECTION
- CONSTRUCTION ENTRANCE
- TEMPORARY EROSION CONTROL BLANKET
- PERMANENT TURF REINFORCEMENT MAT
- RIPRAP

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FIRE STATION #5
CITY OF LEE'S SUMMIT

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LEE'S SUMMIT, MISSOURI 64082

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
2	ASI 02	11.22.2022

STATE OF MISSOURI — DERICK M. HOLMES NUMBER PE-2022005196 — PROFESSIONAL ENGINEER

11/22/2022

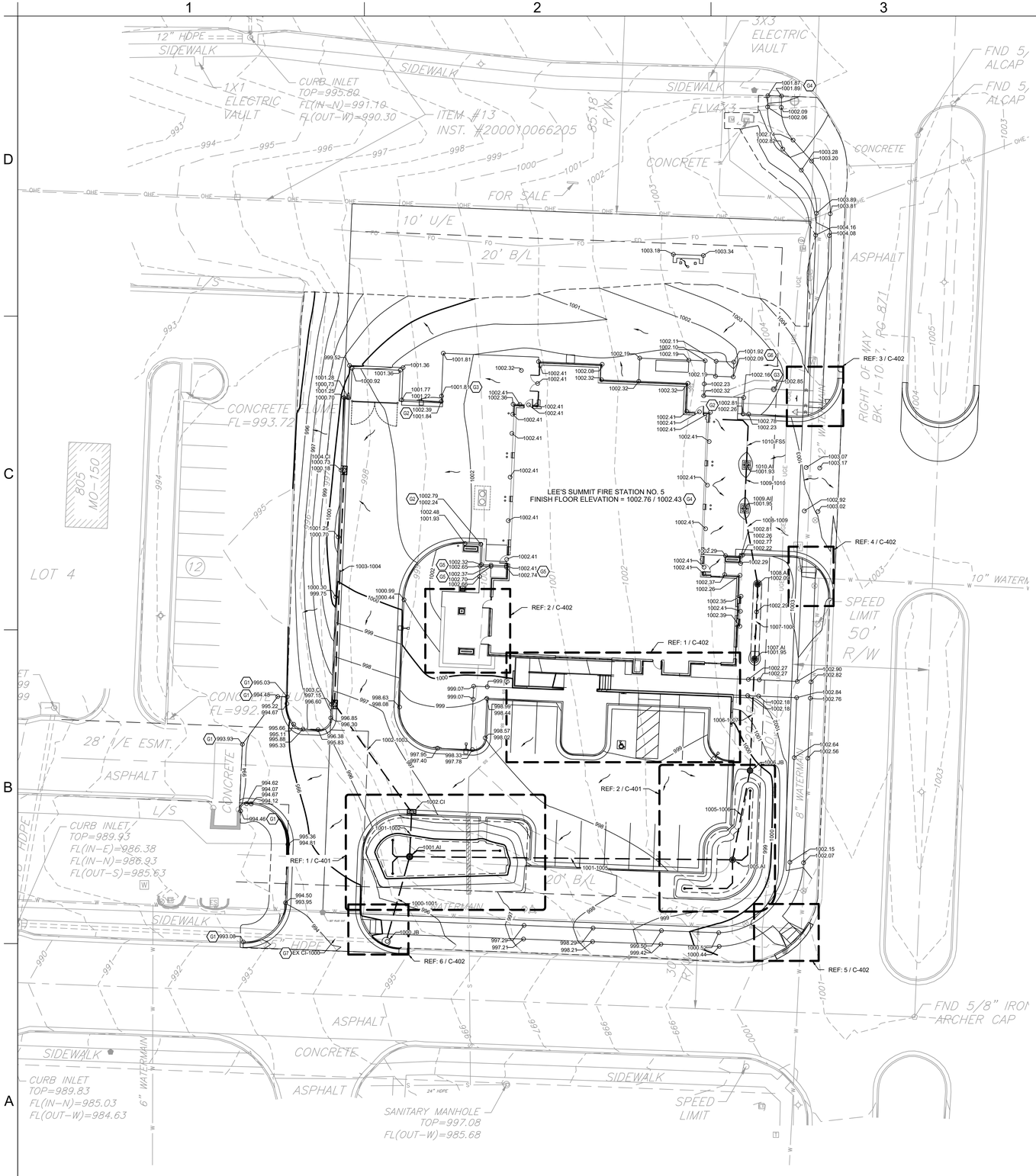
DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	SJB
CHK'D BY:	DMH

EROSION CONTROL PLAN

C-103

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS



1 GRADING & DRAINAGE PLAN

1" = 20'-0"

GRAPHIC SCALE 20'

GENERAL GRADING & DRAINAGE NOTES:

1. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AS REFERENCED IN THIS PLAN SET. 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. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
2. ALL PROPOSED CONTOUR LINES AND SPOT ELEVATIONS SHOWN ARE FINISH GROUND ELEVATIONS. CONTRACTOR SHALL ACCOUNT FOR PAVEMENT DEPTHS, BUILDING PADS, LOW VOLUME CHANGE MATERIAL, TOPSOIL, ETC. WHEN GRADING THE SITE.
3. ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED (GREEN SPACES) SHALL BE FINISH GRADED WITH A MINIMUM OF SIX INCHES OF TOPSOIL.
4. ALL EXCAVATIONS AND EMBANKMENTS SHALL COMPLY WITH THE RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER.
5. FINISHED GRADES SHALL NOT BE STEEPER THAN 3:1, UNLESS NOTED OTHERWISE ON THE PLANS.
6. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ELEVATIONS OF CONNECTION POINTS AS SHOWN ON GRADING PLANS. NOTIFY ENGINEER IF DISCREPANCY EXISTS FOR DIRECTION.
7. ALL GRADES SHALL BE CONTOURED SMOOTHLY WITH GENTLE ROUNDING/SHAPING OF ALL AFFECTED LAND SURFACES. ABRUPT TRANSITIONS AT THE TOP OF SLOPES WHERE PROPOSED GRADES MEET EXISTING ARE NOT ACCEPTABLE. GRADING SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO THE ADDITION OF THE TOPSOIL LAYER.
8. SEE DRAWINGS C-230 AND C-231 FOR STORMWATER INFORMATION.

ADA NOTES:

1. ALL ACCESSIBLE (A.K.A. ADA) COMPONENTS AND ACCESSIBLE ROUTES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF: (A) THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 ET SEQ. AND 42 U.S.C. § 4151 ET SEQ.); AND (B) ANY APPLICABLE LOCAL AND STATE GUIDELINES, AND ANY AND ALL AMENDMENTS TO BOTH, WHICH ARE IN EFFECT WHEN THESE PLANS WERE COMPLETED.
2. THE CONTRACTOR MUST REVIEW ALL DOCUMENTS REFERENCED IN THESE NOTES FOR ACCURACY, COMPLIANCE, AND CONSISTENCY WITH INDUSTRY GUIDELINES.
3. THE CONTRACTOR MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ACCESSIBLE (ADA) COMPONENTS AND ACCESSIBLE ROUTES FOR THE SITE. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACES, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, AND INTER-BUILDING ACCESS TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EXIT MUST COMPLY WITH THE ACCESSIBLE GUIDELINES AND REQUIREMENTS WHICH INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   - 3.1. ACCESSIBLE PARKING SPACES AND ACCESS AISLE SLOPES MUST NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION.
   - 3.2. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE MUST PROVIDE A 48-INCHES MINIMUM WIDTH. UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS) MUST NOT REDUCE THIS MINIMUM WIDTH. THE SLOPE MUST NOT EXCEED 1:20 (5.0%) IN THE DIRECTION OF TRAVEL AND MUST NOT EXCEED 1:50 (2.0%) IN CROSS SLOPE. WHERE ACCESSIBLE PATH OF TRAVEL IS GREATER THAN 1:20 (5.0%), AN ACCESSIBLE RAMP MUST BE PROVIDED. ALONG THE ACCESSIBLE PATH OF TRAVEL, OPENINGS MUST NOT EXCEED 1/2-INCH IN WIDTH. VERTICAL CHANGES OF UP TO 1/2-INCH ARE PERMITTED ONLY IF THEY INCLUDE A 1/4-INCH BEVEL AT A SLOPE NOT STEEPER THAN 1:2. NO VERTICAL CHANGES OVER 1/4-INCH ARE PERMITTED.
   - 3.3. ACCESSIBLE RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%) AND A RISE OF 30-INCHES. LEVEL LANDINGS MUST BE PROVIDED AT EACH END OF ACCESSIBLE RAMPS. LANDING MUST PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES, AND MUST NOT EXCEED 1:50 (2.0%) SLOPE IN ANY DIRECTION. RAMPS THAT CHANGE DIRECTION BETWEEN RUNS AT LANDINGS MUST HAVE A CLEAR LANDING OF A MINIMUM OF 60-INCHES BY 60-INCHES. HANDRAILS ON BOTH SIDES OF THE RAMP MUST BE PROVIDED ON AN ACCESSIBLE RAMP WITH A RISE GREATER THAN 6-INCHES.
   - 3.4. ACCESSIBLE CURB RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%). WHERE FLARED SIDES ARE PROVIDED, THEY MUST NOT EXCEED 1:10 (10%) SLOPE. LEVEL LANDING MUST BE PROVIDED AT RAMP'S TOP AT A MINIMUM OF 36-INCHES LONG (48-INCHES PREFERRED). IN ALTERATIONS, WHEN THERE IS NO LANDING AT THE TOP, FLARE SIDES SLOPES MUST NOT EXCEED A SLOPE OF 1:12 (8.3%).
   - 3.5. DOORWAY LANDING AREAS MUST BE PROVIDED ON THE EXTERIOR SIDE OF ANY DOOR LEADING TO AN ACCESSIBLE PATH OF TRAVEL. THIS LANDING MUST BE SLOPED AWAY FROM THE DOOR NO MORE THAN 1:50 (2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA MUST BE NO FEWER THAN 60-INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE CLEARLY PERMITTED BY ACCESSIBLE STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS. (SEE ICC/ANSI A117.1-2009 AND OTHER REFERENCES INCORPORATED BY CODE).
   - 3.6. WHEN THE PROPOSED CONSTRUCTION INVOLVES RECONSTRUCTION, MODIFICATION, REVISION OR EXTENSION OF OR TO ACCESSIBLE COMPONENTS FROM EXISTING DOORWAYS OR SURFACES, THE CONTRACTOR MUST VERIFY ALL EXISTING ELEVATIONS SHOWN ON THE PLAN. NOTE THAT TABLE 405.2 OF THE DEPARTMENT OF JUSTICE'S ADA STANDARDS FOR ACCESSIBLE DESIGN ALLOWS FOR STEEPER RAMP SLOPES IN RARE CIRCUMSTANCES. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCIES AND/OR FIELD CONDITIONS THAT DIFFER IN ANY WAY OR IN ANY RESPECT FROM WHAT IS SHOWN ON THE PLANS BEFORE COMMENCING. ANY CONSTRUCTED IMPROVEMENTS MUST FALL WITHIN THE MAXIMUM AND MINIMUM LIMITATIONS IMPOSED BY THE BARRIER FREE REGULATIONS AND THE ACCESSIBLE GUIDELINES.
   - 3.7. THE CONTRACTOR MUST VERIFY ALL OF THE SLOPES OF THE CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-CONFORMANCE EXISTS OR IS OBSERVED OR DISCOVERED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, PRIOR TO POURING CONCRETE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND/OR REPLACE NON-CONFORMING CONCRETE AND/OR PAVEMENT SURFACES.
4. IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION TO ENSURE SAME IS CONSISTENT WITH THE LOCAL BUILDING CODE PRIOR TO COMMENCING CONSTRUCTION.

2

GRADING & DRAINAGE KEYNOTES:

- G1 (+/-) MATCH EXISTING ELEVATION. NOTIFY ENGINEER IF SIGNIFICANT DISCREPANCY EXISTS.
- G2 START TRANSITION FROM FULL-DEPTH CURB
- G3 FLUSH CURB
- G4 FINISH GRADE AT DOORS SET 1" BELOW FINISH FLOOR ELEVATIONS TO ACCOUNT FOR THRESHOLDS.
- G5 4" CURB
- G6 SPOT ELEVATION DENOTES FINISH GRADE AT PAD EDGE AND NOT TOP OF PAD ELEVATION.
- G7 PUBLIC STORMWATER LINE. STORMWATER LINES NOT DENOTED WITH KEYNOTE G7 SHALL BE PRIVATE LINES.

LEGEND

1289.00	SPOT ELEVATION
1289.00 / 1288.45	TOP OF CURB ELEVATION FLOWLINE ELEVATION
1289.00 TW / 1279.00 BW	TOP OF RETAINING WALL BOTTOM OF RETAINING WALL
430	PROPOSED MAJOR CONTOUR
429	PROPOSED MINOR CONTOUR
430	EXISTING CONTOUR
	FLOWLINE ARROW
	PROPOSED STORM SEWER
	PROPOSED CURB INLET
	PROPOSED AREA INLET
	BIORETENTION BASIN / SWALE EDGE

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100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
2	ASI 02	11.22.2022

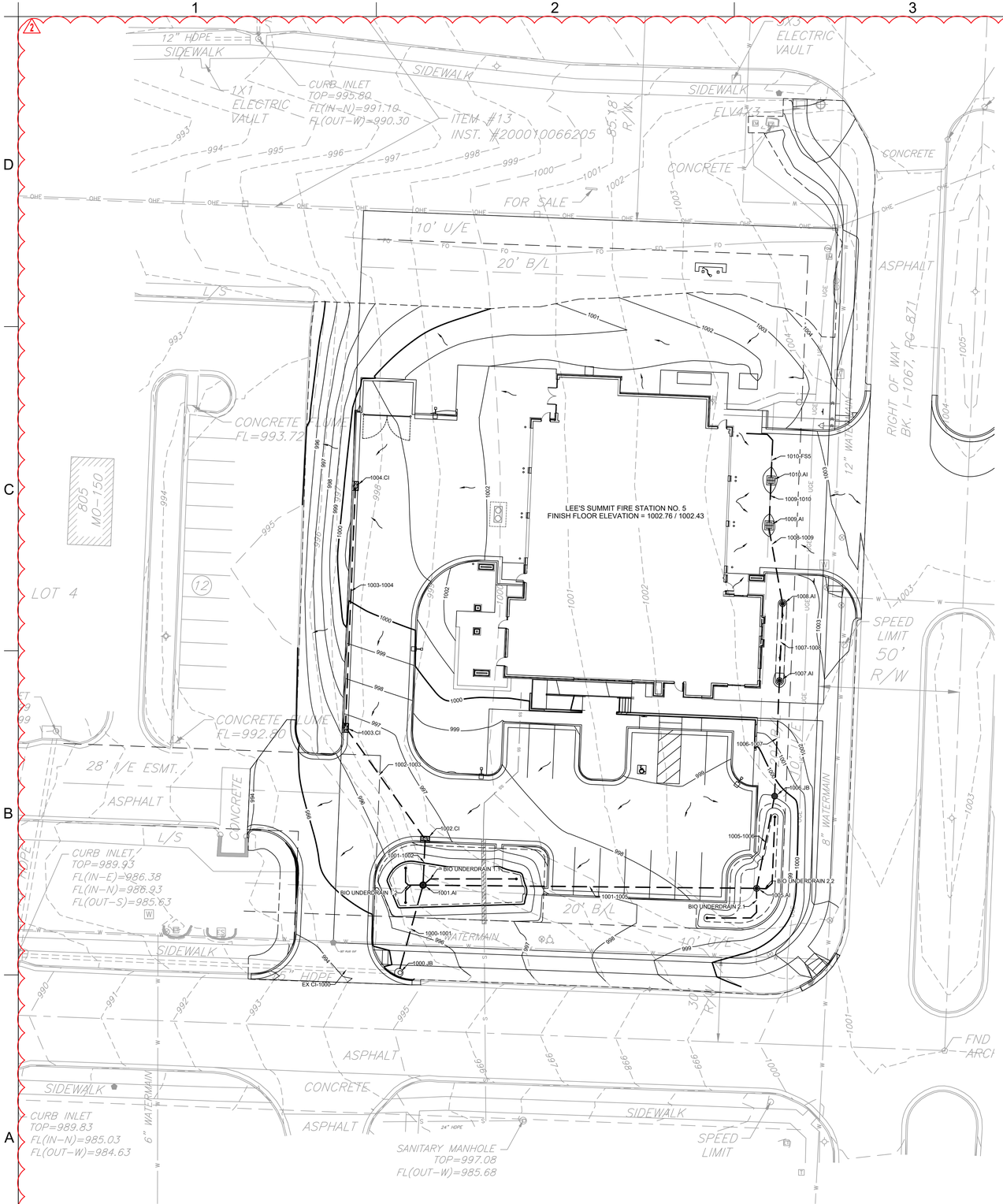
STATE OF MISSOURI
DERICK M. HOLMES NUMBER PE-2022005196
PROFESSIONAL ENGINEER
11/22/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	SJB
CHK'D BY:	DMH

GRADING & DRAINAGE PLAN

C-104



STORMWATER PLAN

1" = 20'-0"

GRAPHIC SCALE 20'

0 20' 40'

N

GENERAL STORMWATER NOTES:

1. CONSTRUCTION OF STORMWATER IMPROVEMENTS SHALL BE AS PER CITY OF LEE'S SUMMIT, MO STANDARD SPECIFICATIONS AND STANDARD SPECIAL PROVISIONS.
2. THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION AND FOR MAKING HIS OWN VERIFICATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
3. PROTECT ALL COMPONENTS DURING DEMOLITION / CONSTRUCTION PROCESS. MAINTAIN BMP'S THROUGHOUT THE DURATION OF CONSTRUCTION.
4. CONTRACTOR TO PROVIDE DETAILED AS-BUILT DRAWINGS TO OWNER, ENGINEER, AND CITY OF LEE'S SUMMIT, MO UPON COMPLETION OF ALL UTILITIES.

LEGEND

1289.00	SPOT ELEVATION
1289.00 / 1288.45	TOP OF CURB ELEVATION / FLOWLINE ELEVATION
1289.00 TW / 1279.00 BW	TOP OF RETAINING WALL / BOTTOM OF RETAINING WALL
430	PROPOSED MAJOR CONTOUR
429	PROPOSED MINOR CONTOUR
430	EXISTING CONTOUR
	FLOWLINE ARROW
	PROPOSED STORM SEWER
	PROPOSED CURB INLET
	PROPOSED AREA INLET
	BIORETENTION BASIN / SWALE EDGE

STORMWATER STRUCTURE TABLE

STRUCTURE NAME	GRATE / RIM ELEVATION	PIPES IN	PIPES OUT	CL NORTHING & EASTING	NOTES
1000.JB	995.26	1000-1001, 12" INV IN =990.90	EX CI-1000, 15" INV OUT =990.60	N: 977860.16 E: 2818399.70	EXISTING MANHOLE, SEE NOTE 1
1001.AI	995.50	1001-1005, 12" INV IN =991.71 1001-1002, 12" INV IN =991.71 BIO UNDERDRAIN 1.1, 6" INV IN =992.00 BIO UNDERDRAIN 1.2, 6" INV IN =992.00	1000-1001, 12" INV OUT =991.21	N: 977891.22 E: 2818408.30	30" AREA INLET W/ DOME GRATE, SEE NOTE 2 REF: C-401; 1 / C-530, 5 / C-531 & 1-2 / C-532
1002.CI	996.63	1002-1003, 12" INV IN =992.06	1001-1002, 12" INV OUT =991.86	N: 977907.48 E: 2818409.02	2'X3' CURB INLET REF: 1 / C-530 & 1-2 / C-531
1003.CI	996.60	1003-1004, 12" INV IN =992.73	1002-1003, 12" INV OUT =992.53	N: 977947.03 E: 2818380.76	2'X3' CURB INLET REF: 1 / C-530 & 1-2 / C-531
1004.CI	1000.18		1003-1004, 12" INV OUT =996.00	N: 978032.84 E: 2818384.29	2'X3' CURB INLET REF: 1 / C-530 & 1-2 / C-531
1005.AI	997.86	1005-1006, 12" INV IN =993.66 BIO UNDERDRAIN 2.1, 6" INV IN =994.03 BIO UNDERDRAIN 2.2, 6" INV IN =994.03	1001-1005, 12" INV OUT =993.16	N: 977890.08 E: 2818526.60	24" AREA INLET W/ DOME GRATE, SEE NOTE 2 REF: C-401;1 / C-530 & 2, 3, 5 / C-531
1006.JB	999.40	1006-1007, 12" INV IN =994.21	1005-1006, 12" INV OUT =994.01	N: 977922.79 E: 2818532.99	24" DRAIN BASIN W/ SOLID COVER REF: 1 / C-530 & 2,4, & 5 / C-531
1007.AI	1001.95	1007-1008, 12" INV IN =995.19	1006-1007, 12" INV OUT =994.99	N: 977963.78 E: 2818534.70	24" AREA INLET W/ DOME GRATE REF:1 / C-530 & 2, 3, & 5 / C-531
1008.AI	1002.09	1008-1009, 12" INV IN =995.90	1007-1008, 12" INV OUT =995.70	N: 977991.06 E: 2818535.81	24" AREA INLET W/ DOME GRATE REF: 1 / C-530 & 2, 3, & 5 / C-531
1009.AI	1001.95	1009-1010, 12" INV IN =996.62	1008-1009, 12" INV OUT =996.42	N: 978018.84 E: 2818531.05	STANDARD DOUBLE GRATE INLET REF: 2 / C-530
1010.AI	1001.93	1010-FS5, 6" INV IN =997.09	1009-1010, 12" INV OUT =996.89	N: 978034.78 E: 2818531.72	STANDARD DOUBLE GRATE INLET REF: 2 / C-530
EX CI	989.93	EX CI-1000, 15" INV IN =986.38		N: 977866.28 E: 2818263.15	EXISTING CURB INLET, SEE NOTE 3 REF: 3-4 / C-530

STORMWATER PIPE TABLE

NAME	PIPE DESCRIPTION
BIO UNDERDRAIN 2.2	28.85 L.F. OF PERFORATED 6" PVC @ 0.5%
BIO UNDERDRAIN 2.1	25.92 L.F. OF PERFORATED 6" PVC @ 0.5%
BIO UNDERDRAIN 1.2	17.72 L.F. OF PERFORATED 6" PVC @ 0.5%
BIO UNDERDRAIN 1.1	32.74 L.F. OF PERFORATED 6" PVC @ 0.5%
EX CI-1000	133.81 LF OF 15" HDPE @ 3.16%
1000-1001	31.21 LF OF 12" HDPP @ 1.00%
1001-1002	14.52 LF OF 12" HDPP @ 1.00%
1001-1005	116.32 LF OF 12" HDPP @ 1.25%
1002-1003	47.13 LF OF 12" HDPP @ 1.00%
1003-1004	84.45 LF OF 12" HDPP @ 3.88%
1005-1006	31.33 LF OF 12" HDPP @ 1.12%
1006-1007	39.03 LF OF 12" HDPP @ 2.00%
1007-1008	25.31 LF OF 12" HDPP @ 2.00%
1008-1009	26.08 LF OF 12" HDPP @ 2.00%
1009-1010	13.70 LF OF 12" HDPP @ 2.00%
1010-FS5	23.28 LF OF 6" HDPE @ 1.13%

NOTES

1. CONTRACTOR TO REUSE EXISTING MANHOLE, IF POSSIBLE. SEE C-102. GROUT AND REPAIR EXISTING PIPE PENETRATIONS NO LONGER NECESSARY PER CITY OF LEE'S SUMMIT, MO STANDARDS. NOTIFY ENGINEER IF STRUCTURE IS UNABLE TO BE REUSED. EXISTING INVERT ELEVATION OUT ASSUMED BASED ON LINEAR INTERPOLATION. CONTRACTOR TO FIELD VERIFY AND CONTACT ENGINEER IF DISCREPANCY EXISTS.
2. BIORETENTION BASIN OUTLET CONTROL STRUCTURE. SEE C-401.
3. THIS STRUCTURE HAS ADDITIONAL EXISTING PIPES NOT SHOWN IN THIS STRUCTURE TABLE.

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100% CONSTRUCTION DOCUMENT DRAWINGS

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DERICK M. HOLMES
NUMBER PE-2022005196
PROFESSIONAL ENGINEER
11/22/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

PROJECT NO: 18225R21001
DATE: 10.26.2022
DRAWN BY: SJB
CHK'D BY: DMH

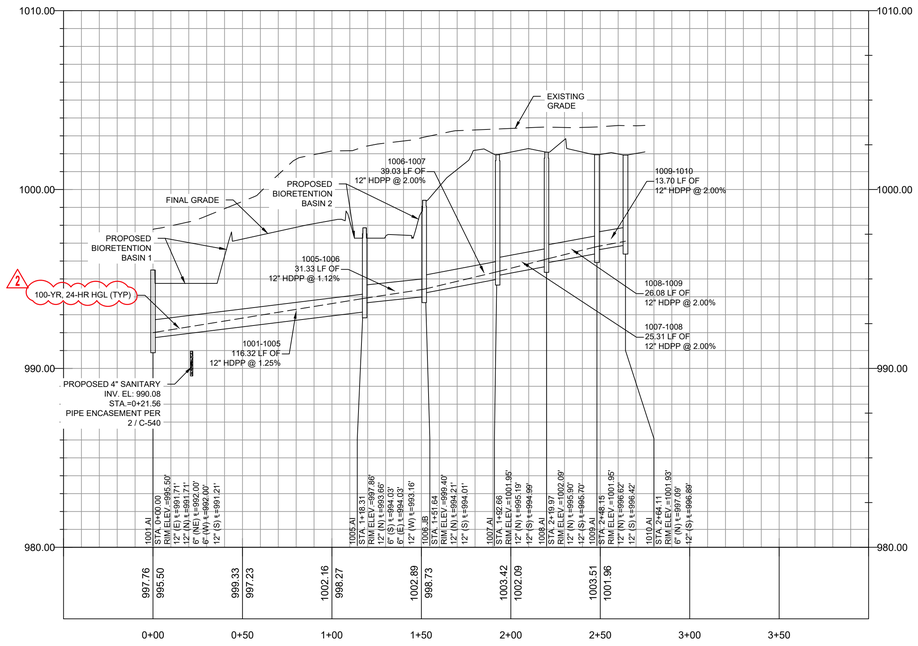
STORMWATER PLAN

C-230

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

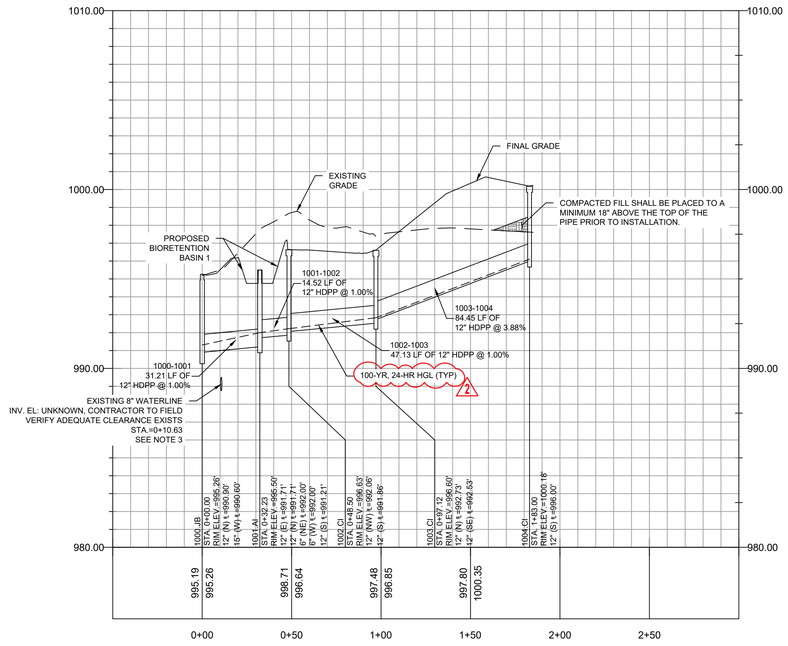
GENERAL NOTES:

1. SEE DRAWING C-230 FOR GENERAL NOTES APPLICABLE TO THIS DRAWING.
2. ALL STORMWATER STRUCTURES AND PIPES SHOWN ON THIS DRAWING ARE PRIVATE, UNLESS NOTED OTHERWISE.
3. 18" MINIMUM CLEARANCE REQUIRED.



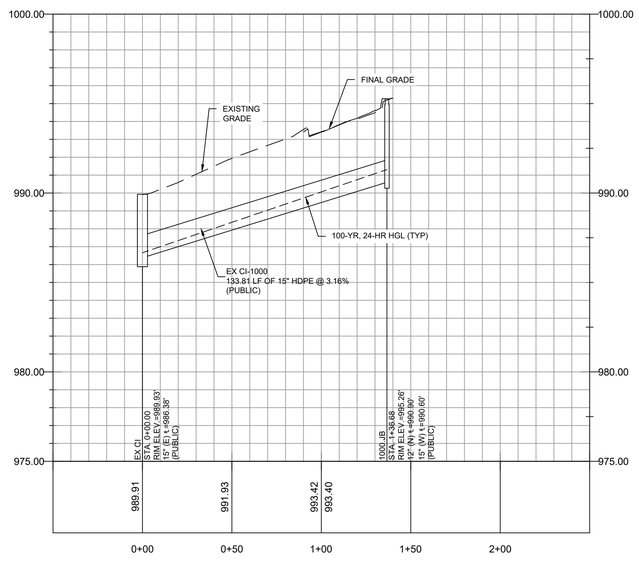
1 1001.AI - 1010.AI PROFILE

SCALE: HORIZONTAL 1"=40' SCALE:VERTICAL: 1"=4'



2 1000.JB - 1004.CI PROFILE

SCALE: HORIZONTAL 1"=40' SCALE:VERTICAL: 1"=4'



3 EX CI - 1000.JB PROFILE

SCALE: HORIZONTAL 1"=40' SCALE:VERTICAL: 1"=4'

100-YR, 24-HR STORM EVENT																	
PIPE NAME	UPSTREAM NODE	DOWNSTREAM NODE	LENGTH (FT)	INLET INVERT ELEVATION (FT)	OUTLET INVERT ELEVATION (FT)	SLOPE (%)	PIPE DIAMETER (INCHES)	MANNING'S ROUGHNESS (N)	ENTRANCE LOSSES	EXIT/BEND LOSSES	PEAK FLOW (CFS)	TIME OF PEAK FLOW OCCURRENCE (DAYS HH:MM)	MAX FLOW VELOCITY (FT/SEC)	TRAVEL TIME (MIN)	DESIGN FLOW CAPACITY (CFS)	MAX FLOW / DESIGN FLOW RATIO	MAX FLOW DEPTH (FT)	MAX FLOW DEPTH / TOTAL DEPTH RATIO
1000-1001	1001.AI	1000.JB	31.21	991.21	990.90	1.00	12	0.012	0.50	0.80	1.36	0 12:01	4.47	0.12	3.85	0.35	0.41	0.41
1001-1002	1002.CI	1001.AI	14.52	991.86	991.71	1.00	12	0.012	0.50	1.00	0.28	0 12:00	3.02	0.08	4.18	0.07	0.18	0.18
1001-1005	1005.AI	1001.AI	116.32	993.16	991.71	1.25	12	0.012	0.50	1.00	0.77	0 12:01	4.18	0.46	4.31	0.18	0.29	0.29
1002-1003	1003.CI	1002.CI	47.13	992.53	992.06	1.00	12	0.012	0.50	0.60	0.21	0 12:00	2.69	0.29	3.94	0.05	0.16	0.16
1003-1004	1004.CI	1003.CI	84.45	996.00	992.73	3.88	12	0.012	0.50	0.60	0.17	0 12:05	3.91	0.36	7.60	0.02	0.11	0.11
1005-1006	1006.JB	1005.AI	31.33	994.01	993.66	1.12	12	0.012	0.50	0.80	0.59	0 12:00	3.70	0.14	4.08	0.14	0.26	0.26
1006-1007	1007.AI	1006.JB	39.03	994.99	994.21	2.00	12	0.012	0.50	0.55	0.59	0 12:00	4.58	0.14	5.49	0.11	0.22	0.22
1007-1008	1008.AI	1007.AI	25.31	995.70	995.19	2.00	12	0.012	0.50	0.50	0.57	0 12:00	4.54	0.09	5.53	0.10	0.22	0.22
1008-1009	1009.AI	1008.AI	26.08	996.42	995.90	2.00	12	0.012	0.50	0.55	0.54	0 11:20	4.50	0.10	5.55	0.10	0.21	0.21
1009-1010	1010.AI	1009.AI	13.70	996.89	996.62	2.00	12	0.012	0.50	0.50	0.47	0 11:20	4.42	0.05	5.71	0.08	0.19	0.19
EX CI - 1000.JB	1000.JB	EX CI	133.81	990.60	986.38	3.16	15	0.012	0.50	0.50	1.36	0 12:02	6.66	0.33	12.43	0.11	0.28	0.22

100-YR, 24-HR STORM EVENT	
STRUCTURE NAME	MAX HGL ELEVATION (FT)
1000.JB	991.31
1001.AI	992.00
1002.CI	992.22
1003.CI	992.83
1004.CI	996.11
1005.AI	993.92
1006.JB	994.43
1007.AI	995.41
1008.AI	996.11
1009.AI	996.81
1010.AI	997.11
EX CI	986.66

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FIRE STATION #5
CITY OF LEE'S SUMMIT
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LEE'S SUMMIT, MISSOURI 64082

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
2	ASI 02	11.22.2022

STATE OF MISSOURI
DERICK M. HOLMES
NUMBER PE-2022005196
PROFESSIONAL ENGINEER
11/22/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

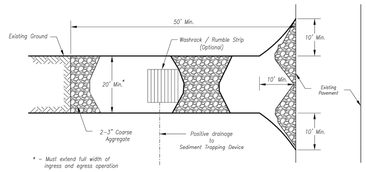
The Professional Engineers seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal and the signature of the professional engineer listed on this engineer expressly disclaims any and all responsibility for such plan, drawings, or documents not exhibiting this seal.

PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	HFL
CHK'D BY:	DMH

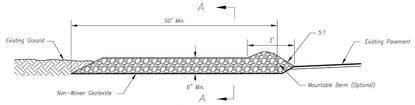
STORMWATER PROFILES

C-231

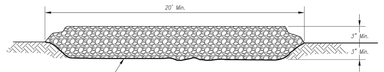
PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS



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.

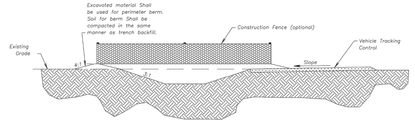
CONSTRUCTION ENTRANCE

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.



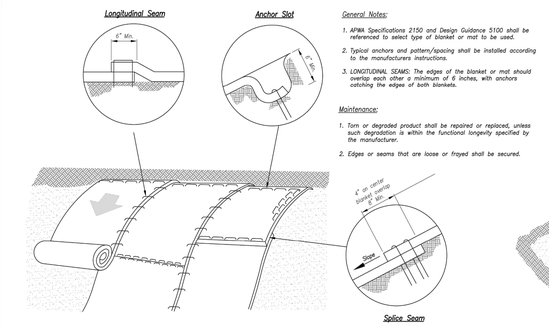
CONCRETE WASHOUT

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

1 CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT

NTS

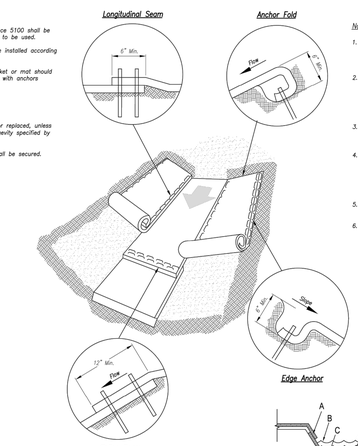


General Notes:

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.

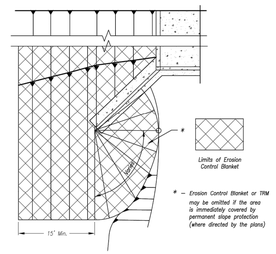
Maintenance:

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.



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 and 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.

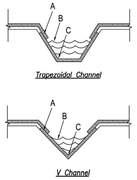


Partial Box Culvert Plan
Not to Scale

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 6 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.



Installation in Channels

Critical Points:

A – Overlaps and seams;

B – Projected water line;

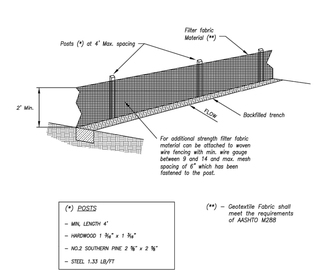
C – Channel bottom / side slope vertices;

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

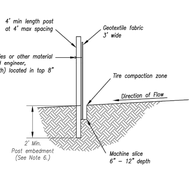
2 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS

NTS



(*) POSTS
– MIN. LENGTH 4'
– HARDWOOD 1 ½" x 1 ½"
– NO.2 SOUTHERN PINE 2 ½" x 2 ½"
– STEEL 1.33 LB/FT

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



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 1320'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

Maintenance:

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

SILT FENCE DETAILS
Not to Scale

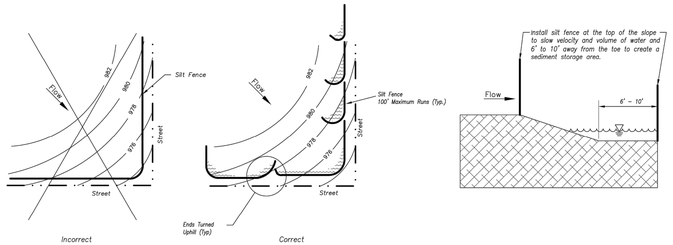
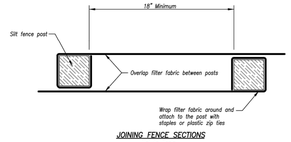


Figure A

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

3 SILT FENCE

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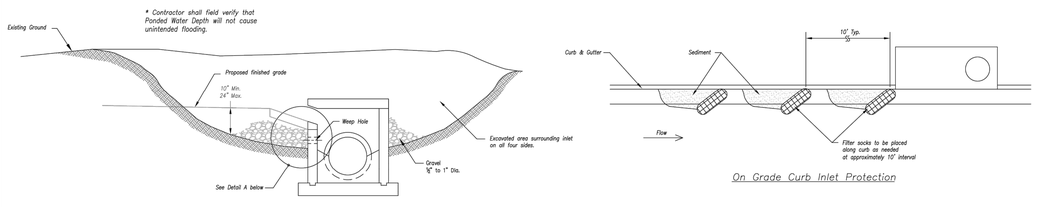
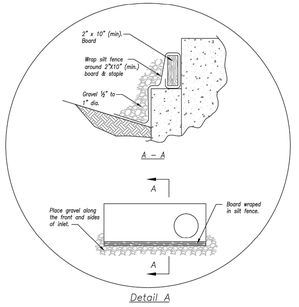


On Grade Curb Inlet Protection



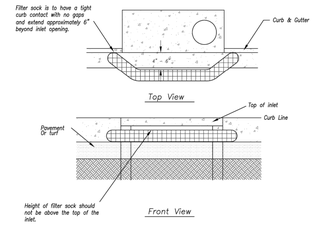
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)

Notes:

1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have 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)

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

4 CURB INLET PROTECTION

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FIRE STATION #5
CITY OF LEE'S SUMMIT

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100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date

STATE OF MISSOURI
DERICK M. HOLMES NUMBER PE-2022005196
PROFESSIONAL ENGINEER
10/26/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	SJB
CHK'D BY:	DMH

EROSION CONTROL DETAILS

C-510

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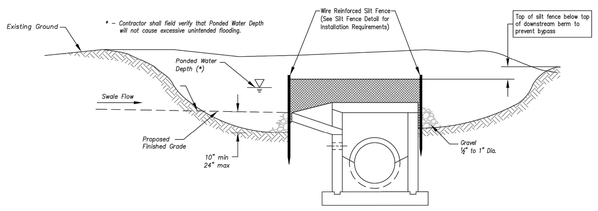
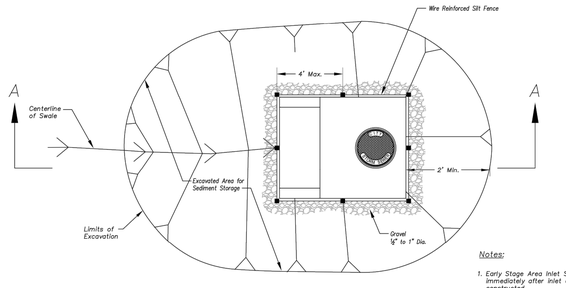
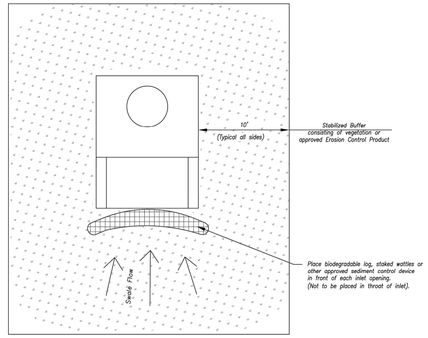


Section A–A
Not to Scale



Plan
Not to Scale

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



Plan
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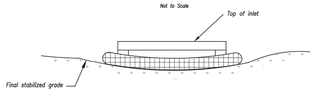

Front View

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

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.

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.

AMERICAN PUBLIC WORKS ASSOCIATION	
Kansas City Metro Chapter APWA 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.

1 AREA INLET AND JUNCTION BOX PROTECTION

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DERICK M. HOLMES
NUMBER PE-2022005196
PROFESSIONAL ENGINEER
10/26/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

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PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	SJB
CHK'D BY:	DMH

EROSION CONTROL DETAILS

C-511

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

Section 2721

Engineered Surface Drainage Products

GENERAL
PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

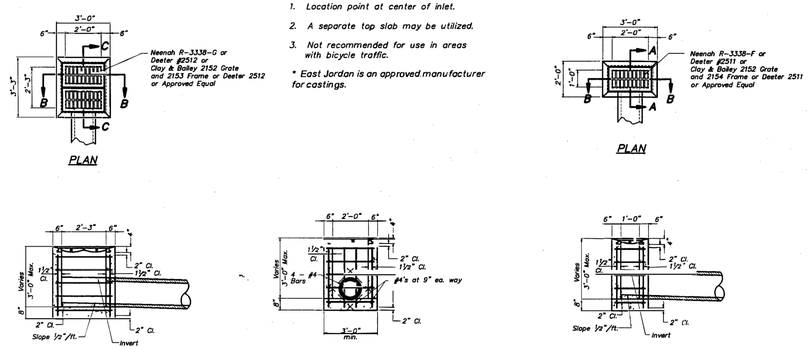
MATERIALS
The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The grates and frames furnished for all surface drainage inlets shall be ductile iron for structure sizes 8", 10", 12", 15", 18", 24", 30" and 36" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. 12" and 15" square grates will be hinged to the frame using pins. Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05. Grates and covers shall be provided painted black.

INSTALLATION
The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

DRAWN BY CJA	MATERIAL	Nyloplast	3126 VERONA AVE. BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 3-10-00			
REVISED BY NMH	PROJECT NO./NAME	TITLE	
DATE 02-21-18		8 IN - 36 IN DRAIN BASIN SPECIFICATIONS	
DWG SIZE A	SCALE 1:1 SHEET 1 OF 1	DWG NO. 7001-110-011	REV J

1 8 IN - 36 IN DRAIN BASIN SPECIFICATIONS
NTS

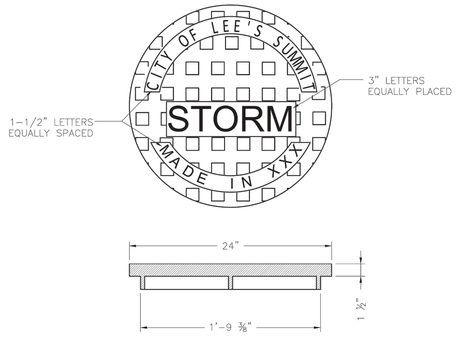


DOUBLE GRATE INLET DETAILS

SINGLE GRATE INLET DETAILS

AMERICAN PUBLIC WORKS ASSOCIATION
APWA
GRATE INLET DETAILS
KANSAS CITY METROPOLITAN CHAPTER
STANDARD DRAWING NUMBER G-1
ADOPTED: APRIL 17, 1996

2 GRATE INLET DETAIL
NTS

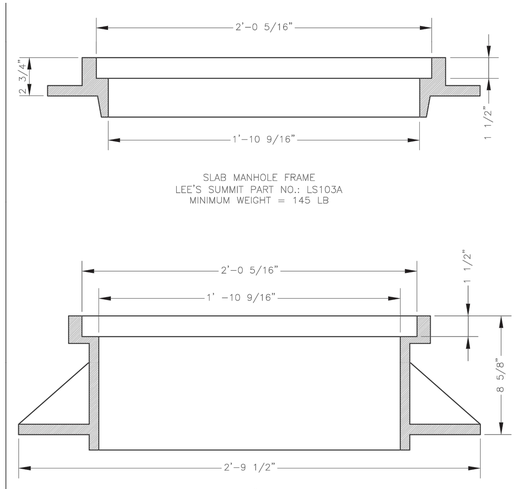


STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

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

LS	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 05/2021 Drawn By: MJF Checked By: DL
	STORM MANHOLE COVER DETAIL	STM-6

3 STORM MANHOLE COVER DETAIL
NTS



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

LS	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 05/2021 Drawn By: MJF Checked By: DL
	STORM MANHOLE FRAME DETAIL	DWG-7

4 STORM MANHOLE FRAME DETAIL
NTS

GLMVArchitecture
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FAX: (316) 265-5646
www.glmv.com
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MISSOURI STATE CERTIFICATE OF AUTHORITY #000305

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FIRE STATION #5
CITY OF LEE'S SUMMIT
801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date

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10/26/2022

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MO# PE-2022005196

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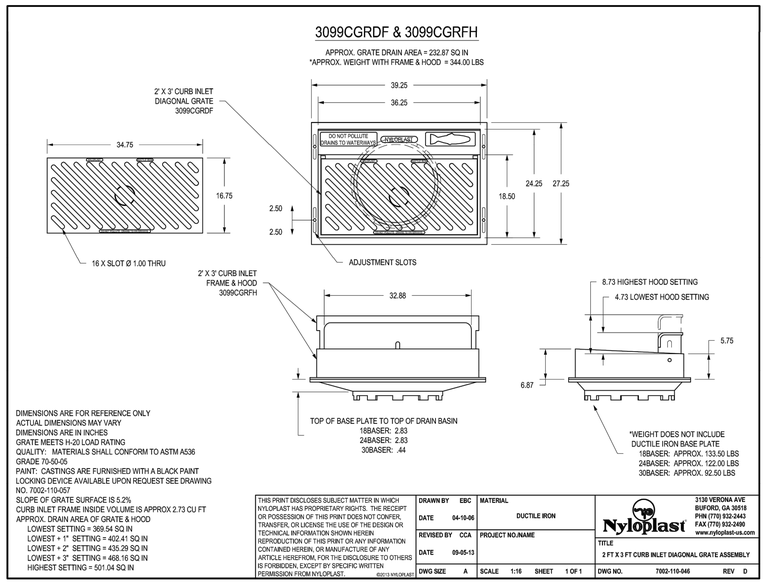
PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	SJB
CHK'D BY:	DMH

STORMWATER DETAILS

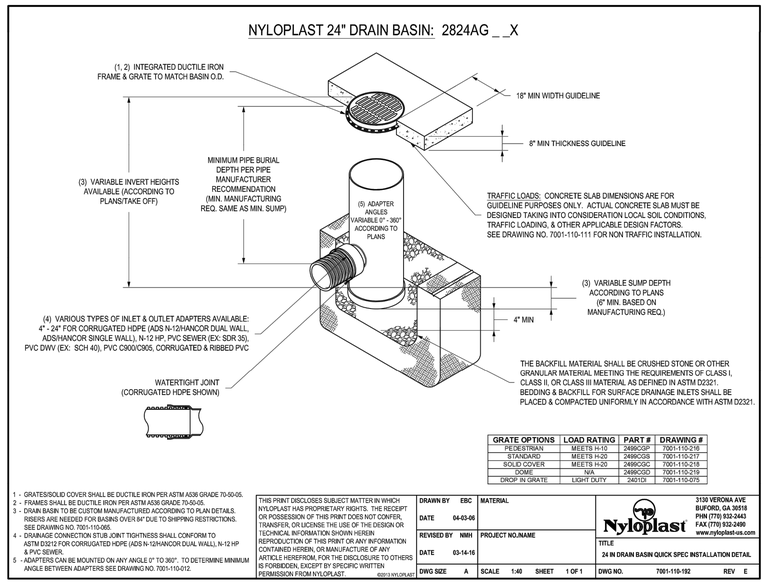
C-530

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS



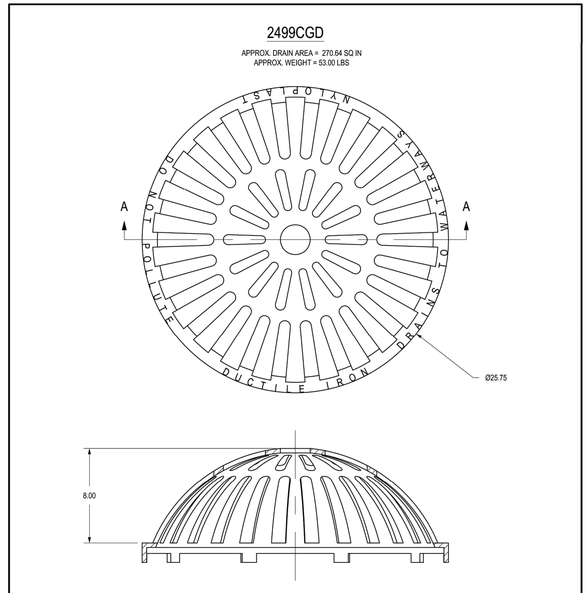
1 2'x3' CURB INLET DIAGONAL GRATE ASSEMBLY

NTS



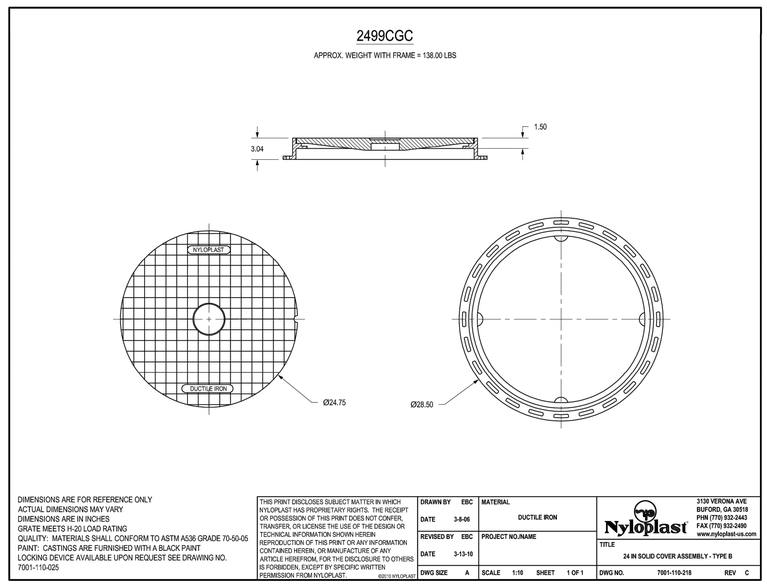
2 24" DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

NTS



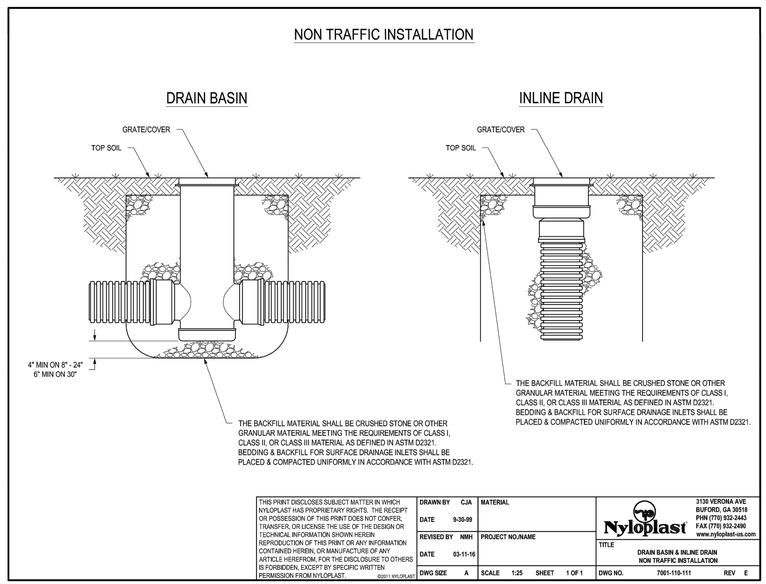
3 24" DOME GRATE

NTS



4 24" SOLID COVER ASSEMBLY - TYPE B

NTS



5 DRAIN BASIN & INLINE DRAIN NON-TRAFFIC INSTALLATION

NTS

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FIRE STATION #5
CITY OF LEE'S SUMMIT

801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

REVISIONS:

#	Description	Date

STATE OF MISSOURI
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NUMBER PE-2022005196
PROFESSIONAL ENGINEER
10/26/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

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PROJECT NO: 18225R21001
DATE: 10.26.2022
DRAWN BY: SJB
CHK'D BY: DMH

STORMWATER DETAILS

C-531

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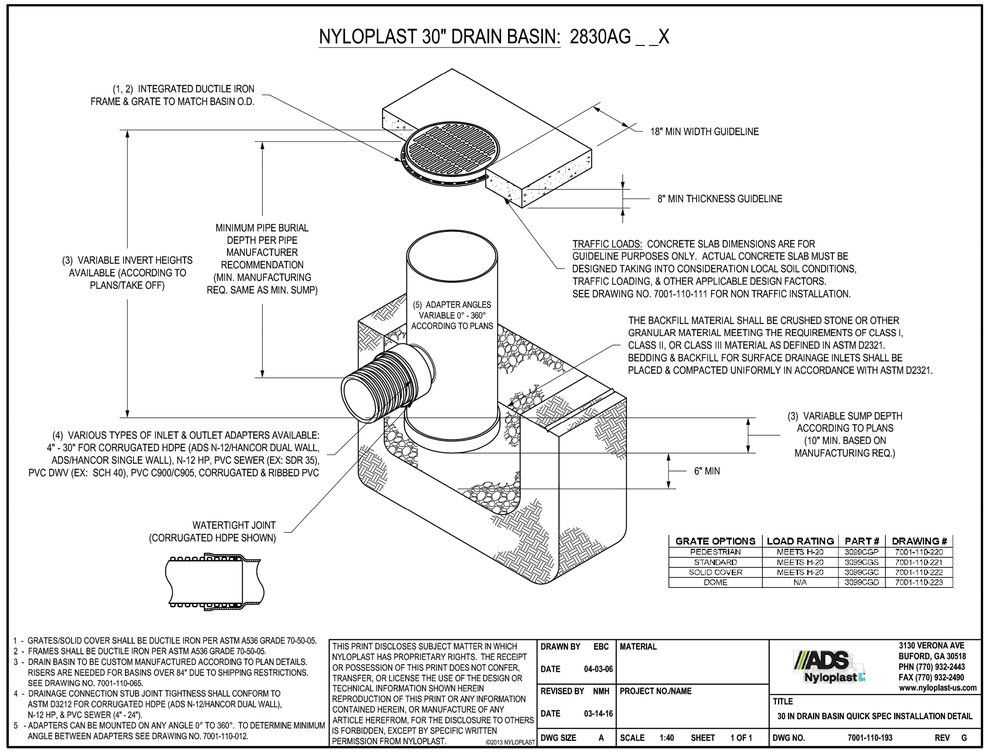


GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-20	3099CGP	7001-110-220
STANDARD	MEETS H-20	3099CGS	7001-110-221
SOLID COVER	MEETS H-20	3099CGC	7001-110-222
DOME	N/A	3099CGD	7001-110-223

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

DRAWN BY	EBC	MATERIAL	
DATE	04-03-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-14-16		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

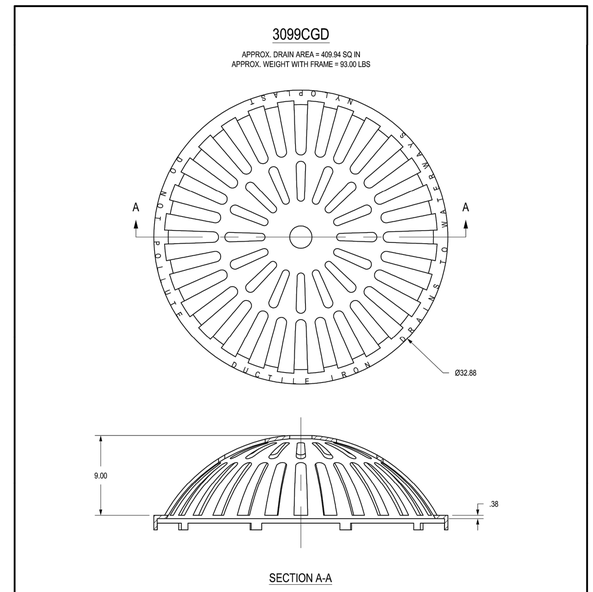
ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 30 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-193 REV G

1 30" DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

NTS



SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	03-08-06		
REVISED BY	CCA	PROJECT NO./NAME	
DATE	08-30-13		
DWG SIZE	A	SCALE 1:8	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 30 IN DOME GRATE

DWG NO. 7001-110-223 REV E

2 30" DOME GRATE

NTS

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100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date

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NUMBER PE-2022005196
PROFESSIONAL ENGINEER
Derick Holmes
10/26/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

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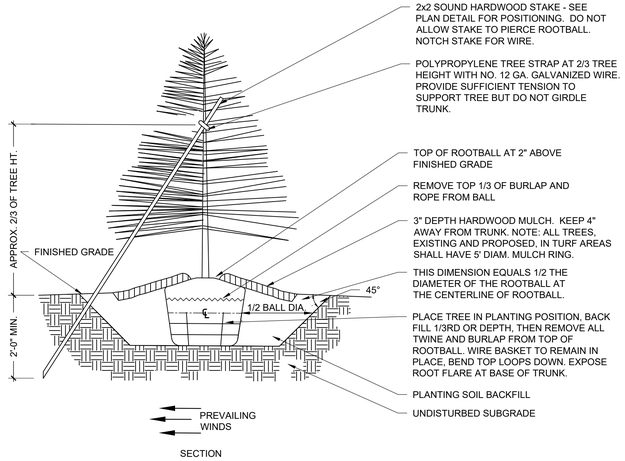
PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	SJB
CHK'D BY:	DMH

STORMWATER DETAILS

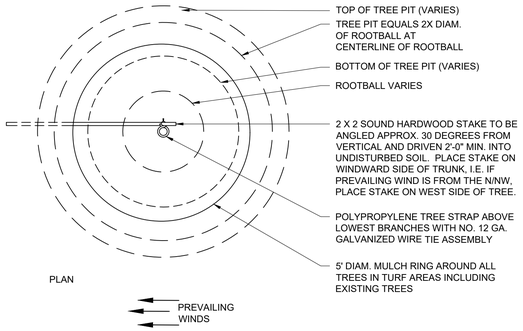
C-532

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS



1 EVERGREEN TREE PLANTING

N.T.S.



2 EVERGREEN TREE STAKING

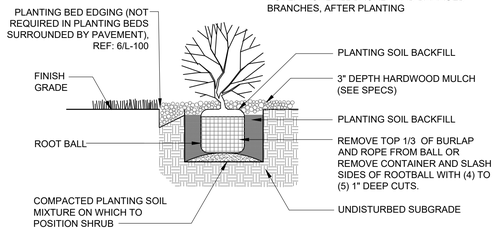
N.T.S.

3 DECIDUOUS TREE PLANTING

N.T.S.

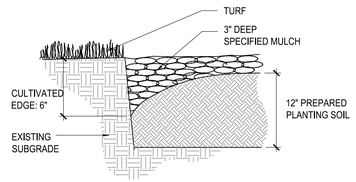
4 DECIDUOUS TREE STAKING

N.T.S.



5 SHRUB PLANTING

N.T.S.



6 CULTIVATED EDGE

N.T.S.

GENERAL LANDSCAPE SITE NOTES

1. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL GIVE 48 HOURS ADVANCE NOTICE TO ALL THOSE COMPANIES/UTILITIES THAT HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
2. CONTRACTOR SHALL VERIFY ALL PLANT COUNTS, QUANTITIES AND AREAS AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT PRIOR TO ORDERING OR INSTALLING MATERIALS SPECIFIED.
3. SEE PLANT SCHEDULE FOR PLANT LEGEND AND QUANTITIES.
4. SYMBOLS INDICATED ON THE PLAN TAKE PRIORITY OVER WRITTEN QUANTITIES AND LABELS.
5. PLANTS CALLED OUT IN PLAN ARE CONSIDERED IN CLUSTERS EVEN IF NOT ATTACHED BY CONNECTING LINES. CALLOUTS HAVE TOTAL COUNTS NEEDED.
6. CONTRACTOR SHALL MAINTAIN THE LANDSCAPE UNTIL SUBSTANTIAL COMPLETION. MAINTENANCE WORK SHALL CONSIST OF APPLYING WATER, WEEDING, AND FERTILIZING.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR DISEASE AND PEST CONTROL DURING THE MAINTENANCE PERIOD.
8. CONTRACTOR TO VERIFY, WITH SOIL ANALYSIS, THE SOIL AMENDMENT NEEDED AND CONTACT THE LANDSCAPE ARCHITECT IF THERE ARE ANY INADEQUATE AMENITIES.
9. PLANT MATERIAL SHALL NOT BE DELIVERED TO THE SITE NOR INSTALLED WHEN TEMPERATURES ARE ABOVE 90°F OR BELOW 40°F AT THE TIME OF PLANTING AND FORECASTED FOR A PERIOD OF 2 WEEKS AFTER INSTALLATION.
10. CONTRACTOR TO PROVIDE A 1-YEAR WARRANTY ON ALL INSTALLED PLANTINGS FROM POINT OF SUBSTANTIAL COMPLETION.

PLANTING NOTES

1. ALL PLANT MATERIAL SHALL BE OF EXCELLENT QUALITY, FREE OF DISEASE AND INFESTATION, AND TRUE TO TYPE, VARIETY, SIZE SPECIFIED, AND FORM PER THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, CURRENT VERSION), PUBLISHED BY THE AMERICAN NURSERYMEN'S ASSOCIATION.
2. PLANT MATERIAL SHALL BE PLANTED AND MAINTAINED TO ASNS SPECIFICATIONS.
3. CONTRACTOR SHALL VERIFY ALL LANDSCAPE MATERIAL QUANTITIES AND SHALL REPORT ANY DISCREPANCIES IMMEDIATELY TO THE LANDSCAPE ARCHITECT.
4. NO SUBSTITUTIONS FOR VARIETY OR CULTIVAR SHALL BE ACCEPTED WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM LANDSCAPE ARCHITECT.
5. ALL TREES AND SHRUBS SHALL BE LAID OUT IN A UNIFORM AND CONSISTENT PATTERN, FOLLOWING THE LANDSCAPE PLAN ACCURATELY, PAYING ATTENTION TO EVEN SPACING IN THE ROW OR COVERAGE AREA OF THE INDIVIDUAL SPECIES AND HOW IT IS BEING USED.
6. ALL PLANTING BEDS ABUTTING LAWN AREAS SHALL HAVE A CULTIVATED EDGE (SEE DETAIL, THIS SHEET).
7. ALL PLANTINGS SHALL BE THOROUGHLY WATERED IN WITH A GARDEN HOSE, TWICE, THE SAME DAY AS INSTALLATION TO ELIMINATE AIR POCKETS IN THE BACKFILL.
8. NO PLANTINGS SHALL BE PLACED CLOSER THAN 3' FROM THE BACK OF THE CURB TO ALLOW FOR VEHICLE BUMPER OVERHANG.
9. PROPOSED TREES SHALL NOT BE PLACED OVER EXISTING OR PROPOSED UTILITY SERVICE LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND UTILITY LOCATIONS AND HAVE THEM MARKED DURING TREE PLANTING OPERATIONS. IF UTILITY IS DAMAGED DURING PLANTING, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE GENERAL CONTRACTOR AND OWNER OF UTILITY AND PAYING FOR REPAIR OF THE DAMAGED UTILITY.
10. ALL PLANTING BEDS WILL HAVE 3-INCHES OF SHREDDED BROWN HARDWOOD MULCH UNLESS OTHERWISE SPECIFIED.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
	AB	3	Acer rubrum `Brandywine` / Brandywine Red Maple	B & B	3"
	AA	3	Acer rubrum 'Armstrong' / Armstrong Red Maple	B & B	3"
	GP	2	Ginkgo biloba 'Princeton Sentry' / Princeton Sentry Maidenhair Tree	B & B	3"
	KP	2	Koelreuteria paniculata / Golden Rain Tree	B & B	3"
	MA	3	Malus x 'Adirondack' / Adirondack Crabapple	B & B	3"
	NW	5	Nyssa sylvatica `Wildfire` / Black Gum	B & B	3"
	UC	1	Ulmus x 'Frontier' / Frontier Elm	B & B	3"
	ZM	3	Zelkova serrata 'Musashino' / Musashino Sawleaf Zelkova	B & B	3"

CONIFERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE
	PB	4	Picea pungens `Baby Blue` / Baby Blue Colorado Spruce	B & B	8` Ht
	TS	10	Thuja occidentalis 'Smaragd' / Emerald Green Arborvitae	B & B	8` Ht

SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONT.	SPACING
	Ca	25	Cornus sericea `Artic Fire` / Artic Fire Dogwood	5 gal	Pot	48" o.c.
	Ec	3	Euonymus alatus `Compactus` / Compact Burning Bush	5 gal	Pot	72" o.c.
	Ho	33	Hemerocallis x 'Stella de Oro' / Stella de Oro Daylily	Quart	Pot	18" o.c.
	Hf	3	Hosta x 'First Frost' / First Frost Hosta	2 gal	Pot	30" o.c.
	Lm	20	Liriope muscari / Lily Turf	Quart	Pot	12" o.c.
	Rr	12	Rosa x `Knockout` TM / Rose	2 gal	Pot	48" o.c.

GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONT.	SPACING
	Ck	20	Calamagrostis x acutiflora `Karl Foerster` / Feather Reed Grass	3 gal.	Pot	36" o.c.
	Sh	34	Sporobolus heterolepis / Prairie Dropseed	2 gal	Pot	30" o.c.

EVERGREEN	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONT.	SPACING
	JI	17	Juniperus chinensis 'Gold Lace' / Gold Lace Juniper	5 gal	Pot	60" o.c.

SOD/SEED	CODE	QTY	BOTANICAL / COMMON NAME	TYPE
	Fa	15,445 sf	Festuca arundinacea / Tall Fescue 90% Fescue, 10% Bluegrass Mix	sod

7 LANDSCAPE SCHEDULE

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FIRE STATION #5
CITY OF LEE'S SUMMIT
801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
2	ASI 02	11.22.2022

STATE OF MISSOURI
KYLE DAVID WARD
NUMBER PLA-2016002020
PROFESSIONAL LANDSCAPE ARCHITECT
11.22.2022
KYLE WARD - LANDSCAPE ARCHITECT
MO# PLA-2016002020

The Professional Landscape Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this landscape architect, and this landscape architect expressly disclaims any and all responsibility for such plan, drawings, or documents not exhibiting this seal.

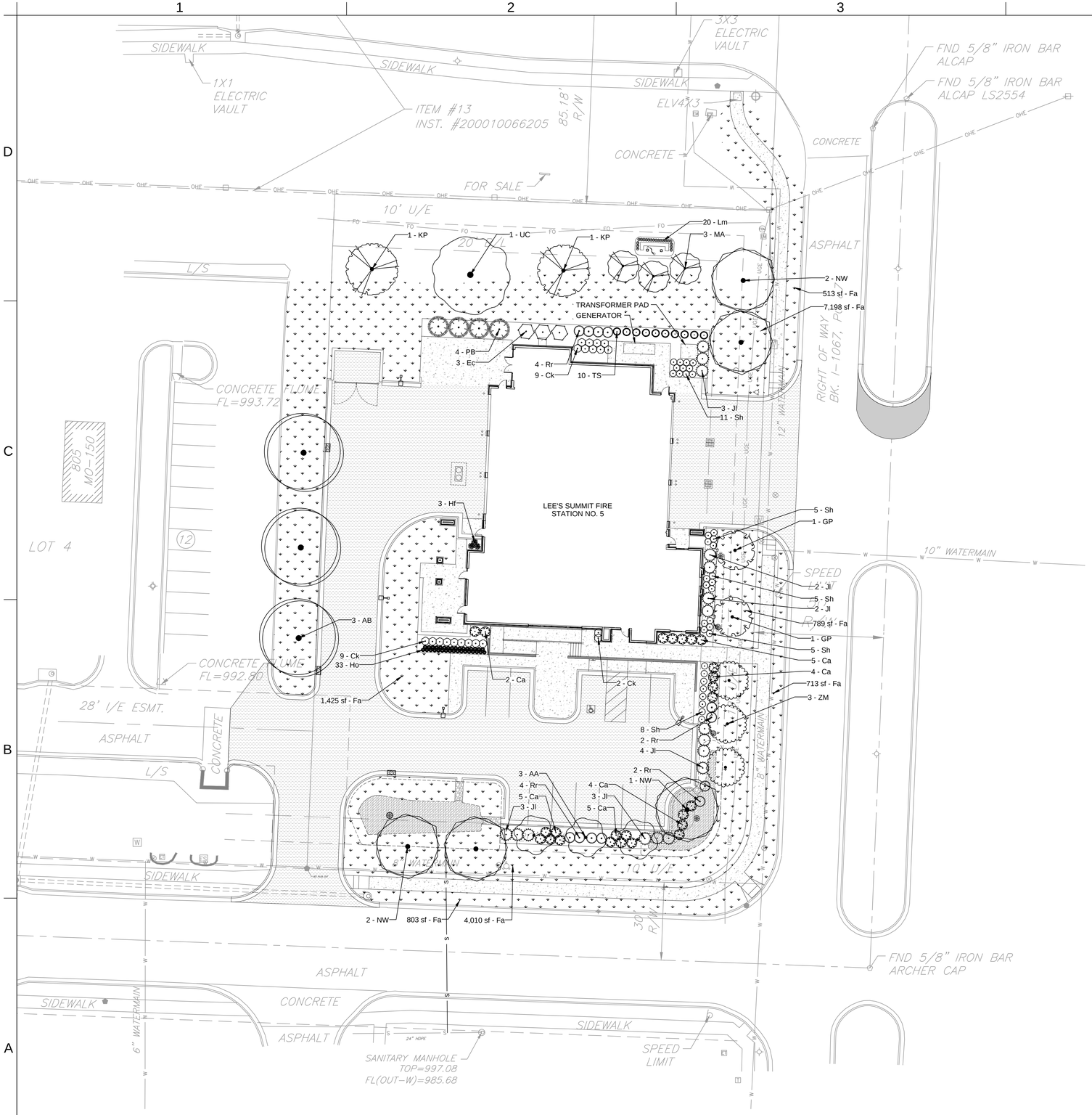
PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	KDW
CHK'D BY:	CDW

LANDSCAPE SCHEDULE

L-100

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

FILE PATH: L:\18225R21001\06-SITE_DESIGN\REGATTA_FS5\SHEET SET\SHEETS\FS5_L-100 LANDSCAPE SCHEDULE



1 LANDSCAPE PLAN

1" = 20'-0"

0 20' 40'

GRAPHIC SCALE 20'

N

LANDSCAPE NOTES

1. ALL SHRUBS ADJACENT TO A SIDEWALK OR EDGE SHALL BE PLANTED ½ THE SPACING SPECIFIED IN THE PLANT SCHEDULE.
2. SEE SHEET L-100 FOR PLANT SCHEDULE AND QUANTITIES.
3. FINAL PLANT LOCATIONS TO BE VERIFIED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
4. ALL PLANTING BED EDGES SHALL BE A CULTIVATED EDGE. SEE DETAIL 6 ON SHEET L-100.
5. ALL LANDSCAPE AREAS (EXCLUDING SOD) ARE TO BE MULCHED WITH A 3" DEEP LAYER OF BROWN HARDWOOD MULCH AT THE CONCLUSION OF THE PLANTING OPERATIONS. MULCH SHALL BE DOUBLE GROUND, HARDWOOD, 1" DIAMETER IN SIZE OR SMALLER.

LANDSCAPE LEGEND

TREES	CODE	BOTANICAL NAME	COMMON NAME
	AB	Acer rubrum `Brandywine`	Brandywine Red Maple
	AA	Acer rubrum 'Armstrong'	Armstrong Red Maple
	GP	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Maidenhair Tree
	KP	Koelreuteria paniculata	Golden Rain Tree
	MA	Malus x 'Adirondack'	Adirondack Crabapple
	NW	Nyssa sylvatica `Wildfire`	Black Gum
	UC	Ulmus x 'Frontier'	Frontier Elm
	ZM	Zelkova serrata 'Musashino'	Musashino Sawleaf Zelkova

CONIFERS	CODE	BOTANICAL NAME	COMMON NAME
	PB	Picea pungens `Baby Blue`	Baby Blue Colorado Spruce
	TS	Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae

SHRUBS	CODE	BOTANICAL NAME	COMMON NAME
	Ca	Cornus sericea `Artic Fire`	Artic Fire Dogwood
	Ec	Euonymus alatus `Compactus`	Compact Burning Bush
	Ho	Hemerocallis x 'Stella de Oro'	Stella de Oro Daylily
	Hf	Hosta x 'First Frost'	First Frost Hosta
	Lm	Liriope muscari	Lily Turf
	Rr	Rosa x `Knockout` TM	Rose

GRASSES	CODE	BOTANICAL NAME	COMMON NAME
	Ck	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass
	Sh	Sporobolus heterolepis	Prairie Dropseed

EVERGREEN	CODE	BOTANICAL NAME	COMMON NAME
	Jl	Juniperus chinensis 'Gold Lace'	Gold Lace Juniper

SOD/SEED	CODE	BOTANICAL NAME	COMMON NAME
	Fa	Festuca arundinacea 90% Fescue, 10% Bluegrass Mix	Tall Fescue

GLMVArchitecture

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FAX: (316) 265-5646
www.glmv.com

GLMV ARCHITECTURE, INC.
MISSOURI STATE CERTIFICATE OF AUTHORITY
#000305

CIVIL ENGINEER & LANDSCAPE ARCH.
GLMV ARCHITECTURE, INC
MISSOURI CIVIL COA #2018003898
MISSOURI LANDSCAPE COA #000008
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PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	KDW
CHK'D BY:	CDW

LANDSCAPE PLAN

L-101

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Appendix B – Land Disturbance Permit

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

General Operating Permit

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No	MOR100089
Owner: Address:	City of Lee's Summit 220 SE Green Street Lee's Summit, MO 64063
Continuing Authority:	City of Lee's Summit 220 SE Green Street Lee's Summit, MO 64063
Facility Name: Facility Address:	City of Lee's Summit 220 SE Green Street LEE'S SUMMIT, MO 64063
Legal Description: UTM Coordinates: Receiving Stream: First Classified Stream - ID#: USGS# and Sub Watershed#:	Sec. 05, T47N, R31W, Jackson County 380724.910/4308100.549 Tributary to Prairie Lee Lake (U) 100K Extent-Remaining Streams (C) 3960.00 10300101 - 0205

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein.

FACILITY DESCRIPTION All Outfalls SIC #1629

All Outfalls - Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, filling and other activity that results in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution of waters of the state)
Issued to a city, county, state or federal agency, other governmental jurisdiction, or other private area-wide projects as determined by the Department on a case-by-case basis

This permit authorizes only wastewater, including storm water, discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System. it does not apply to other regulated areas. This permit may be appealed in accordance with RSMo Section 644.051.6 and 621.250, 10 CSR 20-6.020, and 10 CSR 20-1.020.

Chris Wieberg

July 05, 2022
Issue Date

Chris Wieberg, Director
Water Protection Program

July 04, 2027
Expiration Date

I. APPLICABILITY

A. Permit Coverage and Authorized Discharges

1. This Missouri State Operating Permit (permit) authorizes the discharge of stormwater and certain non-stormwater discharges from land disturbance sites that disturb one or more acres, or disturb less than one acre when part of a larger common plan of development or sale that will disturb a cumulative total of one or more acres over the life of the project.

   A Missouri State Operating Permit must be issued before any site vegetation is removed or the site disturbed. Any site owner/operator subject to these requirements for stormwater discharges and who disturbs land prior to permit issuance from the Missouri Department of Natural Resources (Department) is in violation of both State regulations per 10 CSR 20-6.200(1)(A) and Federal regulations per 40 CFR 122.26. The owner/operator of this permit is responsible for compliance with this permit [10 CSR 20-6.200 (3)(B)].

2. This general permit is issued to a city, county, state or federal agency, other governmental jurisdiction, or other private area-wide projects as determined by the Department on a case-by-case basis, for land disturbance projects performed by or under contract to the permittee.

3. This permit authorizes stormwater discharges from land disturbance support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas, concrete, or asphalt batch plants) provided appropriate stormwater controls are designed, installed, and maintained and the following conditions are met and addressed in the Stormwater Pollution Prevention Plan (SWPPP). The permittee is responsible for compliance with this permit for any stormwater discharges from construction support activity.
   (a) The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;
   (b) The support activity is not a commercial operation or serve multiple unrelated construction sites;
   (c) The support activity does not continue to operate beyond the completion of the construction activity at the project it supports;
   (d) Sediment and erosion controls are implemented in accordance with the conditions of this permit; and
   (e) The support activity is strictly stormwater discharges or non-stormwater discharges listed in PART I, APPLICABILTY, Condition A.4. Support activities which discharge process water shall apply for separate coverage (e.g.,a concrete batch plant discharging process water shall be covered under a MOG49).

4. This permit authorizes non-stormwater discharges associated with your construction activity from the following activities provided that these discharges are treated by appropriate Best Management Practices (BMPs) where applicable and addressed in the permittee's site specific SWPPP required by this general permit:
   (a) Discharges from emergency fire-fighting activities;
   (b) Hydrant flushing and water line flushing, provided the discharged water is managed to avoid instream water quality impacts;
   (c) Landscape watering, including to establish vegetation;
   (d) Water used to control dust;
   (e) Waters used to rinse vehicles and equipment, provided there is no discharge of soaps, solvents, or detergents used for such purposes;
   (f) External building washdown, provided soaps, solvents, and detergents are not used, and external surfaces do not contain hazardous substances (e.g., paint or caulk containing polychlorinated biphenyls (PCBs))
   (g) Pavement wash waters, provided spills or leaks of toxic or hazardous substances have not occurred (unless all spill material has been removed) and where soaps, solvents, and detergents are not used. Directing pavement wash waters directly into any water of the state, storm drain inlet, or stormwater conveyance (constructed or natural site drainage features), unless the conveyance is connected to an effective control, is prohibited;
   (h) Uncontaminated air conditioning or compressor condensate;
   (i) Uncontaminated, non-turbid discharges of ground water or spring water;
   (j) Foundation or footing drains where flows are not contaminated with process materials; and
   (k) Uncontaminated construction dewatering water discharged in accordance with requirements found in this permit for specific dewatering activities.

B. Permit Restrictions and Limitations

1. This permit does not authorize the discharge of process wastewaters, treated or otherwise.

2. For sites operating within the watershed of any Outstanding National Resource Water (which includes the Ozark National Riverways and the National Wild and Scenic Rivers System), sites that discharge to an Outstanding State Resource Water, or facilities located within the watershed of an impaired water as designated in the Clean Water Act (CWA) Section 303(d) list with an impairment for sedimentation/siltation:
   (a) This permit authorizes stormwater discharge provided no degradation of water quality occurs due to discharges from the permitted facility per 10 CSR 20-7.031(3)(C).
   (b) A site with a discharge found to be causing degradation or contributing to an impairment by discharging a pollutant of concern, during an inspection or through complaint investigations, may be required to become a no discharge facility or obtain a site-specific permit with more stringent monitoring and SWPPP requirements.

3. This permit does not allow placement of fill material into any stream or wetland, alteration of a stream channel, or obstruction of stream flow unless the appropriate CWA Section 404 permitting authority provides approval for such actions or determines such actions are exempt from Section 404 jurisdiction. Additionally, this permit does not authorize placement of fill in floodplains unless approved or determined exempt by appropriate federal and/or state floodplain development authorities.

4. This operating permit does not affect, remove, or replace any requirement of the National Environmental Policy Act; the Endangered Species Act; the National Historic Preservation Act; the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; or any other relevant acts. Determination of applicability to the above mentioned acts is the responsibility of the permittee. Additionally, this permit does not establish terms and conditions for runoff resulting from silvicultural activities listed in Section 402(l)(3)(a) of the Clean Water Act.

5. Compliance with all requirements in this permit does not supersede any requirement for obtaining project approval from an established local authority nor remove liability for compliance with county and other local ordinances.

6. The Department may require any facility or site authorized by a general permit to apply for a site-specific permit [10 CSR 20-6.010(13)(C)].

7. If a facility or site covered under a current general permit desires to apply for a site-specific permit, the facility or site may do so by contacting the Department for application requirements and procedures.

8. Any discharges not expressly authorized in this permit and not clearly disclosed in the permit application cannot become authorized or shielded from liability under CWA section 402(k) or Section 644.051.16, RSMo, by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including any other permit applications, funding applications, the SWPPP, discharge monitoring reporting, or during an inspection. Discharges at the facility not expressly authorized by this permit must be covered by another permit, be exempt from permitting, or be authorized through some other method.

II. EXEMPTIONS FROM PERMIT REQUIREMENTS

1. Sites that discharge all stormwater runoff directly to a combined sewer system (as defined in 40 CFR 122.26 and 40 CFR 35.2005) connecting to a publicly owned treatment works which has consented to receive such a discharge are exempt from Department stormwater permit requirements.

2. Land disturbance activities that disturb less than one (1) acre of total land area which are not part of a common plan or sale where water quality standards are not exceeded are exempt from Department stormwater permit requirements.

3. Oil and gas related activities as listed in 40 CFR 122.26(a)(2)(ii) where water quality standards are not exceeded are exempt from Department stormwater permit requirements.

4. Linear, strip, or ribbon construction or maintenance operations meeting one (1) of the following criteria are exempt from Department stormwater permit requirements:
   (a) Grading of existing dirt or gravel roads which does not increase the runoff coefficient and the addition of an impermeable surface over an existing dirt or gravel road;
   (b) Cleaning or routine maintenance of roadside ditches, sewers, waterlines, pipelines, utility lines, or similar facilities;
   (c) Trenches two (2) feet in width or less; or
   (d) Emergency repair or replacement of existing facilities as long as BMPs are employed during the emergency repair.

III. REQUIREMENTS

1. The permittee shall post a public notification sign at the main entrance to the site, or a publically visible location, with the specific MOR100 permit number. The public notification sign must be visible from the public road that provides access to the site's main entrance. An alternate location is acceptable provided the public can see it and it is noted in the SWPPP. The public notification sign must remain posted at the site until the site is finalized.

2. The permittee shall be responsible for notifying the land owner and each contractor or entity (including utility crews and city employees or their agents) who will perform work at the site of the existence of the SWPPP and what actions or precautions shall be taken while on site to minimize the potential for erosion and the potential for damaging any BMP. The permittee is responsible for any damage a subcontractor may do to established BMPs and any subsequent water quality violation resulting from the damage.

3. Ensure the design, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:
   (a) Control stormwater volume, velocity, and peak flow rates to minimize soil erosion;
   (b) Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion and scour;
   (c) Minimize the amount of exposed soil during construction activity;
   (d) Minimize the disturbance of steep slopes;
   (e) Minimize sediment discharges from the site. Address factors such as:
      1) The amount, frequency, intensity, and duration of precipitation;
      2) The nature of resulting stormwater runoff;
      3) Expected flow from impervious surfaces, slopes, and drainage features; and
      4) Soil characteristics, including the range of soil particle size expected to be present on the site.
   (f) Provide and maintain natural buffers around surface waters as detailed in Part V. BMP REQUIREMENTS Condition 7, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration and filtering, unless infeasible; and
   (g) Minimize soil compaction and preserve topsoil where practicable.

   A 2-year, 24-hour storm event can be determined for the project location using the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14 which can be located at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html, or the permittee can determine local rainfall distribution for a 2-year, 24 hours storm event using multi-decade local high density rain gauge data, as approved by the Department.

4. BMPs for land disturbance [10 CSR 20-6.200(1)(D)2] are a schedule of activities, practices, or procedures that reduces the amount of soil available for transport or a device that reduces the amount of suspended solids in runoff before discharge to waters of the state. The term BMPs are also used to describe the sediment and erosion controls and other activities used to prevent stormwater pollution. BMPs are divided into two main categories: structural or non-structural; and they are also classified as temporary or permanent.
   Temporary BMPs may be added and removed as necessary with updates to the SWPPP as specified in the requirements below.

5. Installation of BMPs necessary to prevent soil erosion and sedimentation at the downgradient project boundary (e.g. buffers, perimeter controls, exit point controls, storm drain inlet protection) must be complete prior to the start of all phases of construction. By the time construction activity in any given portion of the site begins, downgradient BMPs must be installed and operational to control discharges from the initial site clearing, grading, excavating, and other earth-disturbing activities. Additional BMPs shall be installed as necessary throughout the life of the project.

6. All BMPs shall be maintained and remain in effective operating condition during the entire duration of the project, with repairs made within the timeframes specified elsewhere in this permit, until final stabilization has been achieved.
   (a) Ensure BMPs are protected from activities that would reduce their effectiveness.
   (b) Remove any sediment per the BMP manufacturer's instructions or before it has accumulated to one-half of the above-ground height of any BMP that collects sediment (i.e., silt fences, sediment traps, etc.)
   (c) The project is considered to achieve final stabilization when Part V. BMP REQUIREMENTS, Condition 13 is met.

7. Minimize sediment trackout from the site and sediment transport onto roadways.
   (a) Restrict vehicle traffic to designated exit points.
   (b) Use appropriate stabilization techniques or BMPs at all points that exit onto paved roads or areas outside of the site.
   (c) Use additional controls or BMPs to remove sediment from vehicle and equipment tires prior to exit from facility where necessary.
   (d) Any sediment or debris that is tracked out past the exit pad or is deposited on a roadway after a precipitation event shall be removed by the shorter of either the same business day (for business days only), or by the end of the next business day if track-out occurs on a non-business day, and before predicted rain events. Remove the track-out sediment by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. Sediment or debris tracked out on pavement or other impervious surfaces shall not be disposed of into any stormwater conveyance, storm drain inlet, or water of the state.
   (e) Stormwater inlets susceptible to receiving sediment or other pollutants from the permitted land disturbance site shall have curb inlet protection. This may include inlets off the active area where track out from vehicles and equipment could impact the stormwater runoff to those inlets.

8. Concrete washout facilities shall be used to contain concrete waste from the activities onsite, unless the washout of trucks and equipment is managed properly at an off-site location.
   The washout facility shall be managed to prevent solid and/or liquid waste from entering waters of the state by the following:
   (a) Direct the wash water into leak-proof containers or pits designed so that no overflows can occur due to inadequate sizing or precipitation;
   (b) Locate washout activities away from waters of the state, stormwater inlets, and/or stormwater conveyances where practicable. If not practicable, use BMPs to reduce risk of waste leaving the washout facility;
   (c) Washout facilities shall be cleaned, or new facilities must be constructed and ready for use, once the washout is 75% full;
   (d) Designate the washout area(s) and conduct such activities only in these areas.
   (e) Ensure contractors are aware of the location, such as by marking the area(s) on the map or signage visible to the truck and/or equipment operators.

9. Good housekeeping practices shall be maintained at all times to keep waste from entering waters of the state.
   (a) Provide solid and hazardous waste management practices, including providing trash containers, regular site cleanup for proper disposal of solid waste such as scrap building material, product/material shipping waste, food/beverage containers, spent structural BMPs;
   (b) Provide containers and methods for proper disposal of waste paints, solvents, and cleaning compounds.
   (c) Manage sanitary waste. Portable toilets shall be positioned so that they are secure and will not be tipped or knocked over and so that they are located away from waters of the state and stormwater inlets and stormwater conveyances.
   (d) Ensure the storage of construction materials be kept away from drainage courses, stormwater conveyances, storm drain inlets, and low areas.

10. All fueling facilities present shall at all times adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers.

11. Any hazardous wastes that are generated onsite shall be managed, stored, and transported according to the provisions of the Missouri Hazardous Waste Laws and Regulations.

12. Store all paints, solvents, petroleum products, petroleum waste products, and storage containers (such as drums, cans, or cartons) so they are not exposed to stormwater or provide other prescribed BMPs (such as plastic lids and/or portable spill pans) to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention, control, and countermeasures to contain the spill. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall prevent the contamination of groundwater.

13. Implement measures intended to prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicles and equipment to thereby prevent the contamination of stormwater from these substances. This may include prevention measures such as, but not limited to, utilizing drip pans under vehicles and equipment stored outdoors, covering fueling areas, using dry clean-up methods, use of absorbents, and cleaning pavement surfaces to remove oil and grease.

14. Spills, Overflows, and Other Unauthorized Discharges.
    (a) Any spill, overflow, or other discharge not specifically authorized in the permit above are unauthorized.
    (b) Should an unauthorized discharge cause or permit any contaminants, other than sediment, or hazardous substance to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a Department staff member voice-mail does not satisfy this reporting requirement.
    (c) A record of all spills shall be retained with the SWPPP and made available to the Department upon request.
    (d) Other spills not reaching waters of the state must be cleaned up as soon as possible to prevent entrainment in stormwater but are not required to be reported to the Department.

15. The full implementation of this operating permit shall constitute compliance with all applicable federal and state statutes and regulations in accordance with RSMo 644.051.16 and the CWA §402(k); however, this permit may be reopened and modified or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Clean Water Act §§ 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit or controls any pollutant not limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

IV. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MANAGEMENT REQUIREMENTS

1. The primary requirement of this permit is the development and implementation of a SWPPP which incorporates site specific practices to best minimize the soil exposure, soil erosion, and the discharge of pollutants, including solids for each site covered under this permit.

   The purpose of the SWPPP is to ensure the design, implementation, management, and maintenance of BMPs in order to prevent sediment and other pollutants in stormwater discharges associated with the land disturbance activities [40 CFR 122.44 (k)(4)] from entering waters of the state above established general and narrative criteria; compliance with Missouri Water Quality Standards; and compliance with the terms and conditions of this general permit.

   (a) **The SWPPP must be developed and implemented prior to conducting any land disturbance activities and must be specific to the land disturbance activities at the site.**
   (b) The permittee shall fully implement the provisions of the SWPPP required under this permit as a condition of this general permit throughout the term of the land disturbance project. Failure to develop, implement, and maintain a SWPPP may lead to immediate enforcement action.

(c) The SWPPP shall be updated any time site conditions warrant adjustments to the project or BMPs.
(d) Either an electronic copy or a paper copy of the SWPPP, and any required reports, must be accessible to anyone on site at all times when land disturbance operations are in process or other operational activities that may affect the maintenance or integrity of the BMP structures and made available as specified under Part VIII. STANDARD PERMIT CONDITIONS, Condition 1 of this permit. The SWPPP shall be readily available upon request and should not be sent to the Department unless specifically requested

2. Failure to implement and maintain the BMPs chosen, which can be revised and updated, is a permit violation. The chosen BMPs will be the most reasonable and cost effective while also ensuring the highest quality water discharged attainable for the facility. Facilities with established SWPPPs and BMPs shall evaluate BMPs on a regular basis and change the BMPs as needed if there are BMP deficiencies.

3. The SWPPP must:
   (a) List and describe the location of all outfalls;
   (b) List any allowable non-stormwater discharges occurring on site and where these discharges occur;
   (c) Incorporate required practices identified below;
   (d) Incorporate sediment and erosion control practices specific to site conditions;
   (e) Discuss whether or not a 404 Permit is required for the project; and
   (f) Name the person(s) responsible for inspection, operation, and maintenance of BMPs. The SWPPP shall list the names and describe the role of all owners/primary operators (such as general contractor, project manager) responsible for environmental or sediment and erosion control at the land disturbance site.

4. The SWPPP briefly must describe the nature of the land disturbance activity, including:
   (a) The function of the project (e.g., low density residential, shopping mall, highway, etc.);
   (b) The intended sequence and timing of activities that disturb the soils at the site; and
   (c) Estimates of the total area expected to be disturbed by excavation, grading, or other land disturbance support activities including off-site borrow and fill areas;

5. In order to identify the site, the SWPPP shall include site information including size in acres. The SWPPP shall have sufficient information to be of practical use to contractors and site construction workers to guide the installation and maintenance of BMPs.

6. The function of the SWPPP and the BMPs listed therein is to prevent or minimize pollution to waters of the state. A deficiency of a BMP means it was not effective in preventing or minimizing pollution of waters of the state.

   The permittee shall select, install, use, operate and maintain appropriate BMPs for the permitted site. The following manuals are acceptable resources for the selection of appropriate BMPs.

   Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites, (Document number EPA 833-R-06-004) published by the United States Environmental Protection Agency (USEPA) in May 2007. This manual as well as other information, including examples of construction SWPPPs, is available at the USEPA internet site at https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf; and https://www.epa.gov/npdes/developing-stormwater-pollution-prevention-plan-swppp.

   The latest version of *Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri,* published by the Department. This manual is available at: https://dnr.mo.gov/document-search/protecting-water-quality-field-guide.

   The permittee is not limited to the use of these guidance manuals. Other guidance publications may be used to select appropriate BMPs. However, all BMPs must be described and justified in the SWPPP. Although the use of these manuals or other resources is recommended and may be used for BMP selection, they do not supersede the conditions of this permit. They may be used to inform in the decision making process for BMP selection but they are not themselves part of the permit conditions.

The permittee may retain the SWPPP, inspection reports, and all other associated documents (including a copy of this permit) electronically pursuant to RSMo 432.255. The documents must be made available to all interested persons in either paper or electronic format as required by this permit and the permittee must remit a copy (electronic or otherwise) of the SWPPP and inspection reports to the Department upon request.

7. The SWPPP must contain a legible site map, multiple maps if necessary, identifying:
   (a) Site boundaries of the property;
   (b) Locations of all waters of the state (including wetlands) within the site and half a mile downstream of the site's outfalls;
   (c) Location of all outfalls;
   (d) Direction(s) of stormwater flow (use arrows) and approximate slopes before and after grading activities;
   (e) Areas of soil disturbance and areas that will not be disturbed (or a statement that all areas of the site will be disturbed unless otherwise noted);
   (f) Location of structural and non-structural BMPs, including natural buffer areas, identified in the SWPPP;
   (g) Locations where stabilization practices are expected to occur;
   (h) Locations of on-site and off-site material, waste, borrow, or equipment storage areas and stockpiles;
   (i) Designated points where vehicles will exit the site;
   (j) Location of stormwater inlets and conveyances including ditches, pipes, man-made conduits, and swales; and
   (k) Areas where final stabilization has been achieved.

8. An individual shall be designated by the permittee as the environmental lead. This environmental lead shall have knowledge in erosion, sediment, and stormwater control principles, knowledge of the permit, and the site's SWPPP. The environmental lead shall ensure all personnel and contractors understand any requirements of this permit may be affected by the work they are doing. The environmental lead or designated inspector(s) knowledgeable in erosion, sediment, and stormwater control principles shall inspect all structures that function to prevent or minimize pollution of waters of the state.

9. Throughout coverage under this permit, the permittee shall amend and update the SWPPP as appropriate during the term of the land disturbance activity. All SWPPP modifications shall be signed and dated. The permittee shall amend the SWPPP to incorporate any significant site condition changes which impact the nature and condition of stormwater discharges. At a minimum, these changes include whenever the:
   (a) Location, design, operation, or maintenance of BMPs is changed;
   (b) Design of the construction project is changed that could significantly affect the quality of the stormwater discharges;
   (c) The permittee's inspections indicate deficiencies in the SWPPP or any BMP;
   (d) Department notifies the permittee in writing of deficiencies in the SWPPP;
   (e) SWPPP is determined to be ineffective in minimizing or controlling erosion and sedimentation (e.g., there is visual evidence of excessive site erosion or sediment deposits in streams, lakes, or downstream waterways, sediment or other wastes off site); and/or
   (f) Department determines violations of water quality standards may occur or have occurred.

10. Site Inspections: The environmental lead, or a designated inspector, shall conduct regularly scheduled inspections. These inspections shall be conducted by a qualified person, one who is responsible for environmental matters at the site, or a person trained by and directly supervised by the person responsible for environmental matters at the site. Site inspections shall include, at a minimum, the following:
   (a) For disturbed areas that have not achieved final stabilization, all installed BMPs and other pollution control measures shall be inspected to ensure they are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
   (b) For areas on site that have achieved either temporary or final stabilization, while at the same time active construction continues on other areas, ensure that all stabilization measures are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
   (c) Inspect all material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit. Inspect for conditions that could lead to spills, leaks, or other accumulations of pollutants on the site.
   (d) Inspect all areas where stormwater typically flows within the site, including drainage ways designed to divert, convey, and/or treat stormwater.

(e) All stormwater outfalls shall be inspected for evidence of erosion, sediment deposition, or impacts to the receiving stream. If a discharge is occurring during an inspection, the inspector must observe and document the visual quality of the discharge and take note of the characteristics of the stormwater discharge, including turbidity, color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.
(f) When practicable the receiving stream shall also be inspected for a minimum of 50 feet downstream of the outfall.
(g) The perimeter of the site shall be inspected for evidence of BMP failure to ensure concentrated flow does not develop a new outfall.
(h) The SWPPP must explain how the environmental lead will be notified when stormwater runoff occurs.

11. Inspection Frequency: All BMPs must be inspected in accordance to one of the schedules listed below. The inspection frequency shall be documented in the SWPPP, and any changes to the frequency of inspections, including switching between the options listed below, must be documented on the inspection form:
(a) At least once every seven (7) calendar days and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased during a normal work day or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday; or
(b) Once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches of precipitation or greater, or the occurrence of runoff from snowmelt. To determine if a storm event of 0.25 inches or greater has occurred on the site, the permittee shall either keep a properly maintained rain gauge on site, or obtain the storm event information from a weather station near the site location.
1) Inspections are only required during the project's normal working hours.
2) An inspection must be conducted within 24 hours of a storm event which has produced 0.25 inches. The inspection shall be conducted within 24 hours of the event end, or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
3) If it is elected to inspect every 14 calendar days and there is a storm event at the site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee shall conduct an inspection within 24 hours of the end of the storm or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
(c) Areas on site that have achieved stabilization, while at the same time active construction continues on other areas, may reduce inspection frequency to monthly, for those stabilized areas, if the following conditions exist:
1) For areas where disturbed portions have undergone temporary stabilization, inspections shall occur at least once a month while stabilized and when re-disturbed shall follow either frequency outlined in (a),(b), or (c) above.
2) Areas on site that have achieved final stabilization must be inspected at least once per month until the permit is terminated.
(d) If construction activities are suspended due to frozen conditions, the permittee may temporarily reduce site inspections to monthly until thawing conditions begin to occur if all of the following are met:
1) Land disturbances have been suspended; and
2) All disturbed areas of the site have been stabilized in accordance with Part V. BMP REQUIREMENTS, Condition 13.
3) The change shall be noted in the SWPPP.
(e) Any basin dewatering shall be inspected daily when discharge is occurring. The discharge shall be observed and dewatering activities shall be ceased immediately if the receiving stream is being impacted. These inspections shall be noted on a log or on the inspection report.

If weather conditions or other issues prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (including pictures), and there must be a narrative explaining why the work cannot be accomplished within the seven day time period. The documentation must be filed with the regular inspection reports. The corrections shall be made as soon as weather conditions or other issues allow.

12. Site Inspection Reports: A log of each inspection and/or copy of the inspection report shall be kept readily accessible and must be made available upon request by the Department. Electronic logs are acceptable as long as reports can be provided within 24 hours. If inspection reports are kept off site, the SWPPP must indicate where they are stored. The inspection report shall be signed by the environmental lead or designated inspector (electronically or otherwise).
(a) The inspection report is to include the following minimum information:
1) Inspector's name and title.
2) Date and time of inspection.
3) Observations relative to the effectiveness of the BMPs and stabilization measures. The following must be

documented:
a. Whether BMPs are installed, operational, and working as intended;
b. Whether any new or modified stormwater controls are needed;
c. Facilities examined for conditions that could lead to spill or leak;
d. Outfalls examined for visual signs of erosion or sedimentation at outfalls. Excessive erosion or sedimentation may be due to BMP failure or insufficiency. Response to observations should be addressed in the inspection report.
4) Corrective actions taken or necessary to correct the observed problem.
5) Listing of areas where land disturbance operations have permanently or temporarily stopped.

13. Any structural or maintenance deficiencies for BMPs or stabilization measures shall be documented and corrected as soon as possible but no more than seven (7) calendar days after the inspection.
(a) Corrective action documentation shall be stored with the associated site inspection report.
(b) Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events.
(c) If weather conditions or other issues prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (this may include pictures) and there must be a narrative explaining why the work cannot be accomplished within the seven day time period. The permittee shall correct the problem as soon as weather conditions or issues allow.
(d) Corrective actions may be required by the Department. The permittee must comply with any corrective actions required by the Department as a result of permit violations found during an inspection.

V. BMP REQUIREMENTS

1. The information, practices, and BMP requirements in this section shall be implemented on site and, where noted, provided for in the SWPPP.

2. Existing vegetation and trees shall be preserved where practicable. The permittee is encouraged to preserve topsoil where practicable.

3. The permittee shall select appropriate BMPs for use at the site and list them in the SWPPP. When selecting effective BMPs, the permittee shall consider stormwater volume and velocity. A BMP that has demonstrated ineffectiveness in preventing or minimizing sediment or other pollutants from leaving a given site shall be replaced with a more effective BMP, or additional and sequential BMPs and treatment devices may be incorporated as site conditions allow. The permittee should consider a schedule for performing erosion control measures when selecting BMPs.

4. The SWPPP shall include a description of both structural and non-structural BMPs that will be used at the site.
(a) The SWPPP shall provide the following general information for each BMP which will be used one or more times at the site:
1) Physical description of the BMP;
2) Site conditions that must be met for effective use of the BMP;
3) BMP installation/construction procedures, including typical drawings; and
4) Operation and maintenance procedures and schedules for the BMP.
(b) The SWPPP shall provide the following information for each specific instance where a BMP is to be installed:
1) Whether the BMP is temporary or permanent;
2) When the BMP will be installed in relation to each phase of the land disturbance procedures to complete the project; and
3) Site conditions that must be met before removal of the BMP if the BMP is not a permanent BMP.

5. Structural BMP Installation: The permittee shall ensure all BMPs are properly installed and operational at the locations and relative times specified in the SWPPP.
(a) Perimeter control BMPs for runoff from disturbed areas shall be installed before general site clearing is started. Note this requirement does not apply to earth disturbances related to initial site clearing and establishing entry, exit, or access of the site, which may require that stormwater controls be installed immediately after the earth

disturbance.
(b) For phased projects, BMPs shall be properly installed as necessary prior to construction activities.
(c) Stormwater discharges which leave the site from disturbed areas shall pass through an appropriate impediment to sediment movement such as a sedimentation basin, sediment traps (including vegetative buffers), or silt fences prior to leaving the land disturbance site.
(d) A drainage course change shall be clearly marked on a site map and described in the SWPPP.
(e) If vegetative stabilization measures are being implemented, stabilization efforts are considered "installed" when all activities necessary to seed or plant the area are completed. Vegetative stabilization is not considered "operational" until the vegetation is established.

6. Install sediment controls along any perimeter areas of the site that are downgradient from any exposed soil or other disturbed areas. Prevent stormwater from circumventing the edge of the perimeter control. For sites where perimeter controls are infeasible, other practices shall be implemented to minimize discharges to perimeter areas of the site.

7. For surface waters of the state, defined in Section 644.016.1(27) RSMo, located on or adjacent to the site, the permittee must maintain a riparian buffer or structural equivalent in accordance with at least one of the following options. The selection and location must be described in the SWPPP.
   (a) Provide and maintain a 50-foot undisturbed natural buffer; or
   (b) Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or
   (c) If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.
   (d) The permittee is not required to comply with (a), (b), or (c) above if one or more of the following exceptions apply and documentation is provided in the SWPPP:
      1) As authorized per CWA Section 404 Department of the Army permit and its associated Section 401 Water Quality Certification from the Department.
      2) If there is no discharge of stormwater to waters of the state through the area between the disturbed portions of the site and waters of the state located within 50 feet of the site. This includes situations where the permittee has implemented permanent control measures that will prevent such discharges, such as a berm or other barrier.
      3) Where no natural buffer exists due to preexisting development disturbances that occurred prior to the initiation of planning for the current development of the site.
         a. Where some natural buffer exists but portions of the area within 50 feet of the waters of the state are occupied by preexisting development disturbances the permittee is required to comply with (a), (b), or (c) above.
      4) For linear projects where site constraints make it infeasible to implement a buffer or equivalent provided the permittee limit disturbances within 50 feet of any waters of the state and/or the permittee provides supplemental erosion and sediment controls to treat stormwater discharges from earth disturbances within 50 feet of the water of the state. The permittee must also document in the SWPPP the rationale for why it is infeasible for the permittee to implement (a), (b), or (c) and describe any buffer width retained and supplemental BMPs installed.
   (e) Where the permittee is retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water:
      1) The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris; or
      2) The edge of the stream or river bank, bluff, or cliff, whichever is applicable.

8. Slopes for disturbed areas must be identified in the SWPPP. A site map or maps defining the sloped areas for all phases of the project must be included in the SWPPP. The disturbance of steep slopes shall be minimized.
9. Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil.
   (a) Locate the piles outside of any natural buffers zones, established under the condition above, and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;
   (b) Install a sediment barrier along all downgradient perimeter areas;
   (c) Divert surface flows around stockpiles to reduce and minimize erosion of the stockpile.

(d) For piles that will be unused for 14 or more days, provide cover with appropriate temporary stabilization in accordance with Part V. BMP REQUIREMENTS, Condition 13.
(e) Rinsing, sweeping, or otherwise placing any soil, sediment, debris, or stockpiled product which has accumulated on pavement or other impervious surfaces into any stormwater conveyance, storm drain inlet, or water of the state is prohibited.

10. The site shall include BMPs for pollution prevention measures and shall be noted in the SWPPP. At minimum such measures must be designed, installed, implemented, and maintained to:
(a) Minimize the discharge of pollutants from equipment and vehicle rinsing; no detergents, additives, or soaps of any kind shall be discharged. Rinse waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
(b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater;
(c) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures, including, but not limited to, the installation of containment berms and use of drip pans at petroleum product and liquid storage tanks and containers; and
(d) Prevent discharges from causing or contributing to an exceedance of water quality standards including general criteria.

11. Sedimentation Basins: The SWPPP shall include a sedimentation basin for each drainage area with ten or more acres disturbed at one time.
(a) The sedimentation basin shall be sized, at a minimum, to treat a local 2-year, 24-hour storm.
(b) Sediment basins shall not be constructed in any waters of the state or natural buffer zones.
(c) Discharges from dewatering activities shall be managed by appropriate controls. The SWPPP shall include a description of any anticipated dewatering methods and specific BMPs designed to treat dewatering water.
1) Appropriate controls include, but are not limited to, sediment socks, dewatering tanks, tube settlers, weir tanks, filtration systems (e.g. bag or sand filters), and passive treatment systems that are designed to remove or retain sediment.
2) Erosion controls and velocity dissipation devices (e.g., check dams, riprap, and vegetated buffers) to minimize erosion at inlets, outlets, and discharge points from shall be utilized.
3) Water with an oil sheen shall not be discharged and shall be marked in SWPPP.
4) Visible floating solids and foam shall not be discharged.
(d) Until final stabilization has been achieved, sediment basins and impoundments shall utilize outlet structures or floating skimmers that withdraw water from the surface when discharging.
1) Under frozen conditions, it may be considered infeasible to withdraw water from the surface and an exception can be made for that specific period as long as discharges that may contain sediment and other pollutants are managed by appropriate controls. If determined infeasible due to frozen conditions, documentation must be provided in the SWPPP to support the determination, including the specific conditions or time period when this exception applies.
(e) Accumulated sediment shall not exceed 50% of total volume or as prescribed in the design, whichever is less. Note in the SWPPP the locations for disposal of the material removed from sediment basins.
(f) Prevent discharges to the receiving stream causing excessive visual turbidity. For the purposes of this permit, visual turbidity refers to a sediment plume or other cloudiness in the water caused by sediment that can be identified by an observer.
(g) The SWPPP shall require the basin be maintained until final stabilization of the disturbed area served by the basin.

Where use of a sediment basin is infeasible, the SWPPP shall evaluate and specify other similarly effective BMPs to be employed to control erosion and sediment. These similarly effective BMPs shall be selected from appropriate BMP guidance documents authorized by this permit. The BMPs must provide equivalent water quality protection to achieve compliance with this permit. The SWPPP shall require both temporary and permanent sedimentation basins to have a stabilized spillway to minimize the potential for erosion of the spillway or basin embankment.

12. Soil disturbing activities on site that have ceased either temporarily or permanently shall initiate stabilization immediately in accordance with the options below. For soil disturbing activities that have been temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days:
    (a) The permittee shall construct BMPs to establish interim stabilization; and
    (b) Stabilization must be initiated immediately and completed within 14 calendar days.
    (c) For soil disturbing activities that have been permanently ceased on any portion of the site, final stabilization of disturbed areas must be initiated immediately and completed within 14 calendar days.
        1) Allowances to the 14-day completion period for temporary and final stabilization may be made due to weather and equipment malfunctions. The use of allowances shall be documented in the SWPPP. Allowances may be determined unnecessary after review by the Department.
    (d) Until stabilization is complete, interim sediment control shall consist of well-established and maintained BMPs that are reasonably certain to protect waters of the state from sediment pollution over an extended period of time. This may require adding more BMPs to an area than is normally used during daily operations. The types of BMPs used must be suited to the area disturbed, taking into account the number of acres exposed and the steepness of the slopes. If the slope of the area is greater than 3:1 (three feet horizontal to one foot vertical), then the permittee shall establish interim stabilization within seven days of ceasing operations on that part of the site. The following activities would constitute the immediate initiation of stabilization:
        1) Prepping the soil for vegetative or non-vegetative stabilization as long as seeding, planting, and/or installation of non-vegetative stabilization products takes place as soon as practicable;
        2) Applying mulch or other non-vegetative product to the exposed areas;
        3) Seeding or planting the exposed areas;
        4) Finalizing arrangements to have stabilization product fully installed in compliance with the deadlines for completing stabilization.
    (e) If vegetative stabilization measures are being implemented, stabilization is considered "installed" when all activities necessary to seed or plant the area are completed. Installed does not mean established.
    (f) If non-vegetative stabilization measures are being implemented, stabilization is considered "installed" when all such measures are implemented or applied.
        1) Non-vegetative stabilization shall prevent erosion and shall be chosen for site conditions, such as slope and flow of stormwater.
    (g) Final stabilization is not considered achieved until vegetation has grown and established to meet the requirements below.

13. Prior to removal of BMPs, ceasing site inspections, and removing from the quarterly report, final stabilization must be achieved. Final stabilization shall be achieved as soon as possible once land disturbance activities have ceased. Document in the SWPPP the type of stabilization and the date final stabilization is achieved.
    (a) The project is considered to have achieved final stabilization when perennial vegetation (excluding volunteer vegetation), pavement, buildings, or structures using permanent materials (e.g., riprap, gravel, etc.) cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetation must be at least 70% coverage of 100% of the vegetated areas on site. Vegetation must be evenly distributed.
    (b) Disturbed areas on agricultural land are considered to have achieved final stabilization when they are restored to their preconstruction agricultural use. If former agricultural land is changing to non-agricultural use, this is no longer considered agricultural land and shall follow condition (a).
    (c) If the intended function of a specific area of the site necessitates that it remain disturbed, final stabilization is considered achieved if all of the following are met:
        1) Only the minimum area needed remains disturbed (i.e., dirt access roads, motocross tracks, utility pole pads, areas being used for storage of vehicles, equipment, materials). Other areas must meet the criteria above.

2) Permanent structural BMPs (e.g., rock checks, berms, grading, etc.) or non-vegetative stabilization measures are implemented and designed to prevent sediment and other pollutants from entering waters of the state.
3) Inspection requirements in Part IV. SWPPP MANAGEMENT REQUIREMENT, Condition 11 are met and documented in the SWPPP.

(d) Winter weather and frozen conditions do not excuse any of the above final stabilization requirements. If vegetation is required for stabilization the permittee must maintain BMPs throughout winter weather and frozen conditions until thawing and vegetation meets final stabilization criteria above. Document stabilization attempts during frozen conditions in the SWPPP. Consider future freezing when removing vegetation and plan with temporary stabilization techniques before the ground becomes frozen.

VI. SITE FINALIZATION & PERMIT TERMINATION

1. Until a site is finalized, the permittee must comply with all conditions in the permit, including continuation of site inspections and reporting quarterly to the Department. To finalize the site and remove from this permit coverage, the site shall meet the following requirements:
   (a) For any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) over which the permittee had control during the construction activities, the requirements for final vegetative or non-vegetative stabilization in Part V. BMP REQUIREMENTS, Condition 13;
   (b) The permittee has removed and properly disposed of all construction materials, waste, and waste handling devices and has removed all equipment and vehicles that were used during construction, unless intended for long-term beyond construction phase;
   (c) The permittee has removed all temporary BMPs that were installed and maintained during construction, except those that are intended for long-term use or those that are biodegradable; and
   (d) The permittee has removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following the construction activities.

2. The permit may be terminated if;
   (a) There has been a transfer of control of all areas of the site for which the current permittee is responsible under this permit to another operator, and that operator has obtained coverage under this permit;
   (b) Active sites obtain coverage under an individual or alternative general NPDES permit, with land disturbance conditions; or
   (c) This permit may be terminated when all projects covered under this permit are finalized. In order to terminate the permit, the permittee shall notify the Department by submitting a Request for Termination along with the final quarterly report for the current calendar quarter.

VII. REPORTING AND SAMPLING REQUIREMENTS

1. The permittee is not required to sample stormwater under this permit. The Department may require sampling and reporting as a result of illegal discharges, compliance issues related to water quality concerns, or evidence of off-site impacts from activities at a site. If such an action is needed, the Department will specify in writing the sampling requirements, including such information as location and extent. If the permittee refuses to perform sampling when required, the Department may terminate the general permit and require the facility to obtain a site-specific permit with sampling requirements.

2. Electronic Discharge Monitoring Report (eDMR) Submission System. The NPDES Electronic Reporting Rule, 40 CFR Part 127, reporting of any report required by the permit shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due.

3. Permittees shall prepare a quarterly report with a list of active land disturbance sites including any off-site borrow or depositional areas associated with the construction project and submit the following information electronically as an

attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:

(a) The name of the project;
(b) The location of the project (including the county);
(c) The name of the primary receiving water(s) for each project;
(d) A description of the project;
(e) The number of acres disturbed;
(f) The percent of completion of the project; and
(g) The projected date of completion.

The quarterly report(s) shall be maintained by the permittee and readily available for review by the Department at the address provided on the application as well as submitted quarterly via the Department's eDMR system. The permittee shall submit quarterly reports according to Table A.

Table A	**Schedule for Quarterly Reporting**
Activity for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

VIII. STANDARD PERMIT CONDITIONS

1. Records: The permittee shall retain copies of this general permit, the SWPPP and all amendments for the site named in the State Operating Permit, results of any monitoring and analysis, and all site inspection records required by this general permit.
   (a) The records shall be accessible during normal business hours and retained for a period of at least three (3) years from the date of termination.
   (b) The permittee shall provide a copy (electronic or otherwise) of the SWPPP to the Department, USEPA, or any local agency or government representative if they request a copy in the performance of their official duties within 24 hours of the request (or next working day), unless given more time by the representative.
   (c) The permittee shall provide a copy of the SWPPP to those who are responsible for installation, operation, or maintenance of any BMP. The permittee, their representative, and/or the contractor(s) responsible for installation, operation and maintenance of the BMPs shall have a current copy of the SWPPP with them when on the project site.

2. Land Ownership and Change of Ownership: Federal and Missouri stormwater regulations [10 CSR 20-6.200(1) (B)] require a stormwater permit and erosion control measures for all land disturbances of one or more acres. These regulations also require a permit for less than one acre lots if the lot is part of a larger common plan of development or sale where that plan is at least one acre in size.
   (a) If the permittee sells any portion of a permitted site to a developer for commercial, industrial, or residential use, this land remains a part of the common sale and the new owner must obtain a permit prior to conducting any land disturbance activity. Therefore, the original permittee must amend the SWPPP to show that the property has been sold and, therefore, no longer under the original permit coverage.
   (b) Property of any size which is part of a larger common plan of development where the property has achieved final stabilization and the original permit terminated will require application of a new land disturbance permit for any future land disturbance activity unless the activity is by an individual residential building lot owner on a site less than one acre.
   (c) If a portion of a larger common plan of development is sold to an individual for the purpose of building his or her own private residence, a permit is required if the portion of land sold is equal to or greater than one acre. No permit is required, however, for less than one acre of land sold.

3. Permit Transfer: This permit may not be transferred to a new owner.

4. Termination: This permit may be terminated when the project has achieved final stabilization, defined in Part VI. SITE FINALIZATION & PERMIT TERMINATION.
   (a) In order to terminate the permit, the permittee shall notify the Department by submitting the form Request for Termination of Operating Permit Form MO 780-2814. The form should be submitted to the appropriate regional office or through an approved electronic system if it should become available.
   (b) The Cover Page (Certificate Page) of the Master General Permit for Land Disturbance specifies the "effective date" and the "expiration date" of the Master General Permit. The "issued date" along with the "expiration date" will appear on the State Operating Permit issued to the applicant. **This permit does not continue administratively beyond the expiration date.**

5. Duty to Reapply: If the project or development completion date will be after the expiration date of this general permit, then the permittee must reapply to the Department for a new permit. This permit may be applied for and issued electronically in accordance with Section 644.051.10, RSMo.
   (a) Due to the nature of the electronic permitting system, a period of time may be granted at the discretion of the Department in order to apply for a new permit after the new version is effective. Applicants must maintain appropriate best management practices and inspections during the discretionary period.

6. Duty to Comply: The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

7. Modification, Revocation, and Reopening:
   (a) If at any time the Department determines that the quality of waters of the state may be better protected by reopening this permit, or revoking this permit and requiring the owner/operator of the permitted site to apply for a site-specific permit, the Department may revoke a general permit and require any person to obtain such an operating permit as authorized by 10 CSR20-6.010(13) and 10 CSR 20-6.200(1)(B).
   (b) If this permit is reopened, modified, or revoked pursuant to this Section, the permittee retains all rights under Chapter 536 and 644 Revised Statutes of Missouri upon the Department's reissuance of the permit as well as all other forms of administrative, judicial, and equitable relief available under law.

8. Other Information: Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

9. Duty to Provide Information: The permittee shall furnish to the Department, within 24 hours unless explicitly granted more time in writing, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

10. Inspection and Entry: The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of the permit;
    (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    (d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

11. Signatory Requirement:
    (a) All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    (b) The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or non-compliance) shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    (c) The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

12. Property Rights: This permit does not convey any property rights of any sort or any exclusive privilege.

13. Notice of Right to Appeal: If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: https://ahc.mo.gov

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

STORMWATER DISCHARGES FROM THIS LAND DISTURBANCE SITE ARE AUTHORIZED BY THE MISSOURI STATE OPERATING PERMIT NUMBER:

ANYONE WITH QUESTIONS OR CONCERNS ABOUT STORMWATER DISCHARGES FROM THIS SITE, PLEASE CONTACT THE MISSOURI DEPARTMENT OF NATURAL RESOURCES AT

1-800-361-4827

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Michael L. Parson
Governor

Dru Buntin
Director

July 8, 2022

Kara Taylor
City of Lee's Summit
220 SE Green Street
Lee's Summit, MO 64063

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing your Missouri State Operating Permit for The City of Lee's Summit, MOR-100089.

Please read and review your permit and attached Standard Conditions. They contain important information on site management and reporting requirements. Quarterly reports required by this report must be submitted through our Electronic Discharge Monitoring Report (eDMR) Submission System.

This permit may include requirements with which you may not be familiar. If you would like the Missouri Department of Natural Resources to meet with you to discuss how to satisfy the permit requirements, an appointment can be set up by contacting the permit writer at 573-526-1139. These visits are called Compliance Assistance Visits and focus on explaining the requirements to the permit holder.

This permit is both your Federal NPDES Permit and your new Missouri State Operating Permit and replaces all previous State Operating Permits issued for this facility under this permit number. In all future correspondence regarding this facility, please refer to your State Operating Permit number and facility name as shown on page one of the permit.

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to 10 CSR 20-1.020 and 10 CSR 20-6.020; RSMo Section 621.250, 640.013, and 644.051.6. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Contact information for the AHC is: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, MO 65102, phone: 573-751-2422, fax: 573-751-5018; website: http://ahc.mo.gov/.

Please be aware that this facility may also be subject to any applicable county or other local ordinances or restrictions. If you have any questions concerning this permit, please do not hesitate to contact the Water Protection Program at P.O. Box 176, Jefferson City, MO 65102, 573-522-4502.

Sincerely,

WATER PROTECTION PROGRAM

Chris Wieberg
Director

CW:vs

Enclosure

Appendix C – Copy of Inspection and Corrective Action Form

Stormwater Pollution Prevention Plan Inspection Report Form

Inspections must occur at least once a week and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm.

Project Name:

Location	Rain data	Type of control (see below)	Date installed/ modified	Current Condition (see below)	Corrective Action/Other Remarks

Condition Code:
G = Good M = Marginal, needs maintenance or replacement soon P = Poor, needs immediate maintenance or replacement C
= Needs to be cleaned O = Other

Control Type Codes

1. Silt Fence	10. Storm drain inlet protection	19. Reinforced soil retaining system	28. Tree protection
2. Earth dikes	11. Vegetative buffer strip	20. Gabion	29. Detention pond
3. Structural diversion	12. Vegetative preservation area	21. Sediment Basin	30. Retention pond
4. Swale	13. Retention pond	22. Temporary seed/sod	31. Waste disposal/housekeeping
5. Sediment Trap	14. Construction entrance stabilization	23. Permanent seed/sod	32. Dam
6. Check dam	15. Perimeter ditch	24. Mulch	33. Sand Bag
7. Subsurface drain	16. Curb and gutter	25. Synthetic Bales	34. Other
8. Pipe slope drain	17. Paved road surface	26. Geotextile	
9. Level spreaders	18. Rock outlet protection	27. Rip-rap	

Inspector Information:

_____ _____ _____ _____
Name Qualification Date Signature

The above signature also shall certify that this facility is in compliance with the Stormwater Pollution Prevention Plan and the State of Missouri Department of Natural Resources Land Disturbance Permit if there are not any incidents of non-compliance identified above.

* * * * * *

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____ _____
Name (Responsible Authority) Date

Appendix D – SWPPP Amendment Log

No.	Description of the Amendment	Date of Amendment	Amendment Authorized by [Name(s) and Title]

Appendix E – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this Project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above-designated Project and agree to follow the practices described in the SWPPP.

This certification is hereby signed in reference to the above-named Project:

Company: _____

Address: _____

Telephone Number: _____

Type of Construction Service to be Provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

Appendix F – Grading and Stabilization Activities Log

Date Grading Activity Initiated	**Description of Grading Activity**	**Description of Stabilization Measure and Location**	**Date Grading Activity Ceased** (Indicate Temporary or Permanent)	**Date When Stabilization Measures Initiated**

Appendix G – SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic *(check as appropriate):*

- ❑ **Sediment and Erosion Controls**
- ❑ **Emergency Procedures**
- ❑ **Stabilization Controls**
- ❑ **Inspections/Corrective Actions**
- ❑ **Pollution Prevention Measures**

Specific Training Objective:_____

_____

Attendee Roster *(attach additional pages as necessary):*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		

Appendix H – Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of EPA's Construction General Permit (CGP), and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix I.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

Appendix I – Endangered Species Documentation

Missouri Department of Conservation

Missouri Department of Conservation's Mission is to
protect and manage the forest, fish, and
wildlife resources of the state and to
facilitate and provide opportunities for all citizens to
use, enjoy and learn about these resources.

Natural Heritage Review Level One Report: No Known Records

Foreword: Thank you for accessing the Missouri Natural Heritage Review Website developed by the Missouri Department of Conservation with assistance from the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Missouri Department of Transportation and NatureServe. The purpose of this report is to provide information to federal, state and local agencies, organizations, municipalities, corporations, and consultants regarding sensitive fish, wildlife, plants, natural communities, and habitats to assist in planning, designing, and permitting stages of projects.

PROJECT INFORMATION

Project Name and ID Number: Lee's Summit Fire Station No. 5 #11805
User Project Number: 18225R21001
Project Description: Fire Station facility located in Jackson County at 38.852778°, -94.395832°
Project Type: Residential, Commercial and Governmental Building Development
Contact Person: Luis Miguel
Contact Information: luis.miguel@glmv.com or 316-265-9367

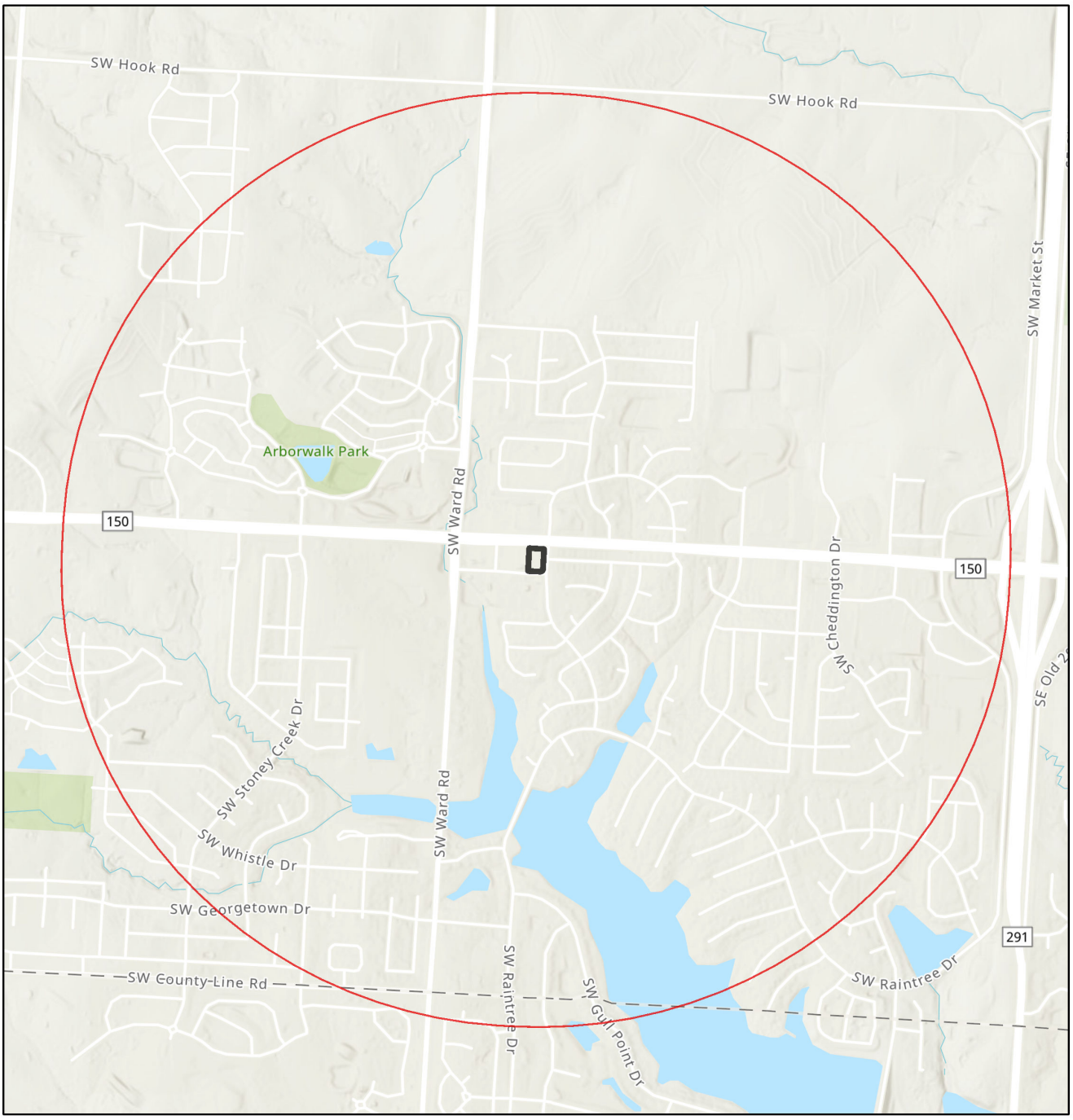
Disclaimer: This NATURAL HERITAGE REVIEW REPORT identifies if a species or natural community tracked by the Natural Heritage Program is known to occur within or near the project area submitted, and shares recommendations to avoid or minimize project impacts to sensitive species or natural habitats. Incorporating information from the Natural Heritage Program into project plans is an important step in reducing impacts to Missouri's sensitive natural resources. If an occurrence record is present, or the proposed project might affect federally listed species, the user must contact the Department of Conservation or U.S. Fish and Wildlife Service for more information.

This Natural Heritage Review Report is not a site clearance letter for the project. Rather, it identifies public lands and records of sensitive resources located close to and/or potentially affected by the proposed project. If project plans or location change, this report may no longer be valid. Because land use conditions change and animals move, the existence of an occurrence record does not mean the species/habitat is still present. Therefore, reports include information about records near but not necessarily on the project site. Lack of an occurrence record does not mean that a sensitive species or natural community is not present on or near the project area. On-site verification is the responsibility of the project. However, the Natural Heritage Program is only one reference that should be used to evaluate potential adverse project impacts and additional information (e.g. wetland or soils maps, on-site inspections or surveys) should be considered. Reviewing current landscape and habitat information, and species' biological characteristics would additionally ensure that Missouri Species of Conservation Concern are appropriately identified and addressed in planning efforts.

U.S. Fish and Wildlife Service – Endangered Species Act (ESA) Coordination: Lack of a Natural Heritage Program occurrence record for federally listed species in your project area does not mean the species is not present, as the area may never have been surveyed. Presence of a Natural Heritage Program occurrence record does not mean the project will result in negative impacts. This report does not fulfill Endangered Species Act consultation with the U.S. Fish and Wildlife Service (USFWS) for listed species. Direct contact with the USFWS may be necessary to complete consultation and it is required for actions with a federal connection, such as federal funding or a federal permit; direct contact is also required if ESA concurrence is necessary. Visit IPaC: Home (fws.gov) to initiate USFWS Information for Planning and Conservation (IPaC) consultation. Contact the Columbia Missouri Ecological Field Services Office (573-234-2132, or by mail at 101 Park Deville Drive, Suite A, Columbia, MO 65203) for more information.

Transportation Projects: If the project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or visit Home Page | Missouri Department of Transportation (modot.org) for additional information on recommendations.

Lee's Summit Fire Station No. 5



November 21, 2022

1:19,285

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

Buffered Project Boundary

Project Boundary

Esri, NASA, NGA, USGS, FEMA, City of Lees Summit, Missouri Dept. of Conservation, Missouri DNR, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Species or Communities of Conservation Concern within the Area:

There are no known records of Species or Natural Communities of Conservation Concern within the defined Project Area.

Other Special Search Results:

No results have been identified for this project location.

Project Type Recommendations:
New construction, maintenance and remodeling, including government, commercial and residential buildings and other structures. Fish, forest, and wildlife impacts can be avoided by siting projects in locations that have already been disturbed or previously developed, where and when feasible, and by avoiding alteration of areas providing existing habitat, such as wetlands, streams, forest, native grassland, etc. The project should be managed to minimize erosion and sedimentation/runoff to nearby wetlands, streams and lakes, including adherence to any Clean Water Act permit conditions. Project design should include stormwater management elements that assure storm discharge rates to streams for heavy rain events will not increase from present levels. Revegetate areas in which the natural cover is disturbed to minimize erosion using native plant species compatible with the local landscape and wildlife needs. Annual ryegrass may be combined with native perennials for quicker green-up. Avoid aggressive exotic perennials such as crownvetch and sericea lespedeza. Pollutants, including sediment, can have significant impacts far downstream. Use silt fences and/or vegetative filter strips to buffer streams and drainages, and monitor the site after rain events and until a well-rooted ground cover is reestablished. Please see Best Management Practices for Construction and Development Projects Affecting Missouri Rivers and Streams (mo.gov).

Project Location and/or Species Recommendations:

Endangered Species Act Coordination - If this project has the potential to alter habitat (e.g. tree removal, projects in karst habitat) or cause direct mortality of bats, please coordinate directly with U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132 Ext. 100 for Ecological Services) for further coordination under the Endangered Species Act. Indiana bats *(Myotis sodalis*, federal- and state-listed endangered) and **Northern long-eared bats** (*Myotis septentrionalis,* federal-listed threatened) may occur near the project area. Both of these species of bats hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in wooded areas, often riparian forests and upland forests near perennial streams. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor Indiana bats or Northern long-eared bats, especially from September to April.

Karst: This county has known karst geologic features (e.g., caves, springs, and sinkholes, all characterized by subterranean water movement). Few karst features are recorded in Natural Heritage records, and ones not noted here may be encountered at the project site or affected by the project. Cave fauna (many of which are Species of Conservation Concern) are influenced by changes to water quality; please check your project site for any karst features and make every effort to protect groundwater in the project area. Additional information and specific recommendations are available at Management Recommendations for Construction and Development Projects Affecting Missouri Karst Habitat (mo.gov).

Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment. Please inspect and clean equipment thoroughly before moving between project sites. See Managing Invasive Species in Your Community | Missouri Department of Conservation (mo.gov) for more information.

- Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water (>140° F, typically available at do-it-yourself car wash sites), and dry in the hot sun before using again.

Streams and Wetlands – Clean Water Act Permits: Streams and wetlands in the project area should be protected from activities that degrade habitat conditions. For example, soil erosion, water pollution, placement of fill, dredging, in-stream activities, and riparian corridor removal, can modify or diminish aquatic habitats. Streams and wetlands may be protected under the Clean Water Act and require a permit for any activities that result in fill or other modifications to the site. Conditions provided within the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permit (Kansas City District Regulatory Branch (army.mil)) and the Missouri Department of Natural Resources (DNR) issued Clean Water Act Section 401 Water Quality Certification (Section 401 Water Quality Certification | Missouri Department of Natural Resources (mo.gov)), if required, should help minimize impacts to the aquatic organisms and aquatic habitat within the area. Depending on your project type, additional permits may be required by the Missouri Department of Natural Resources, such as permits for stormwater, wastewater treatment facilities, and confined animal feeding operations. Visit Wastewater Permits | Missouri Department of Natural Resources (mo.gov) for more information on DNR permits. Visit both the USACE and DNR for more information on Clean Water Act permitting.

For further coordination with the Missouri Department of Conservation and the U.S. Fish and Wildlife Services, please see the contact information below:

Email (preferred): NaturalHeritageReview@mdc.mo.gov
MDC Natural Heritage Review
Science Branch
P.O. Box 180
Jefferson City, MO
65102-0180
Phone: 573-522-4115 ext. 3182

U.S. Fish and Wildlife Service
Ecological Service
101 Park Deville Drive
Suite A
Columbia, MO
65203-0007
Phone: 573-234-2132

Miscellaneous Information

FEDERAL Concerns are species/habitats protected under the Federal Endangered Species Act and that have been known near enough to the project site to warrant consideration. For these, project managers must contact the U.S. Fish and Wildlife Service Ecological Services (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132; Fax 573-234-2181) for consultation.

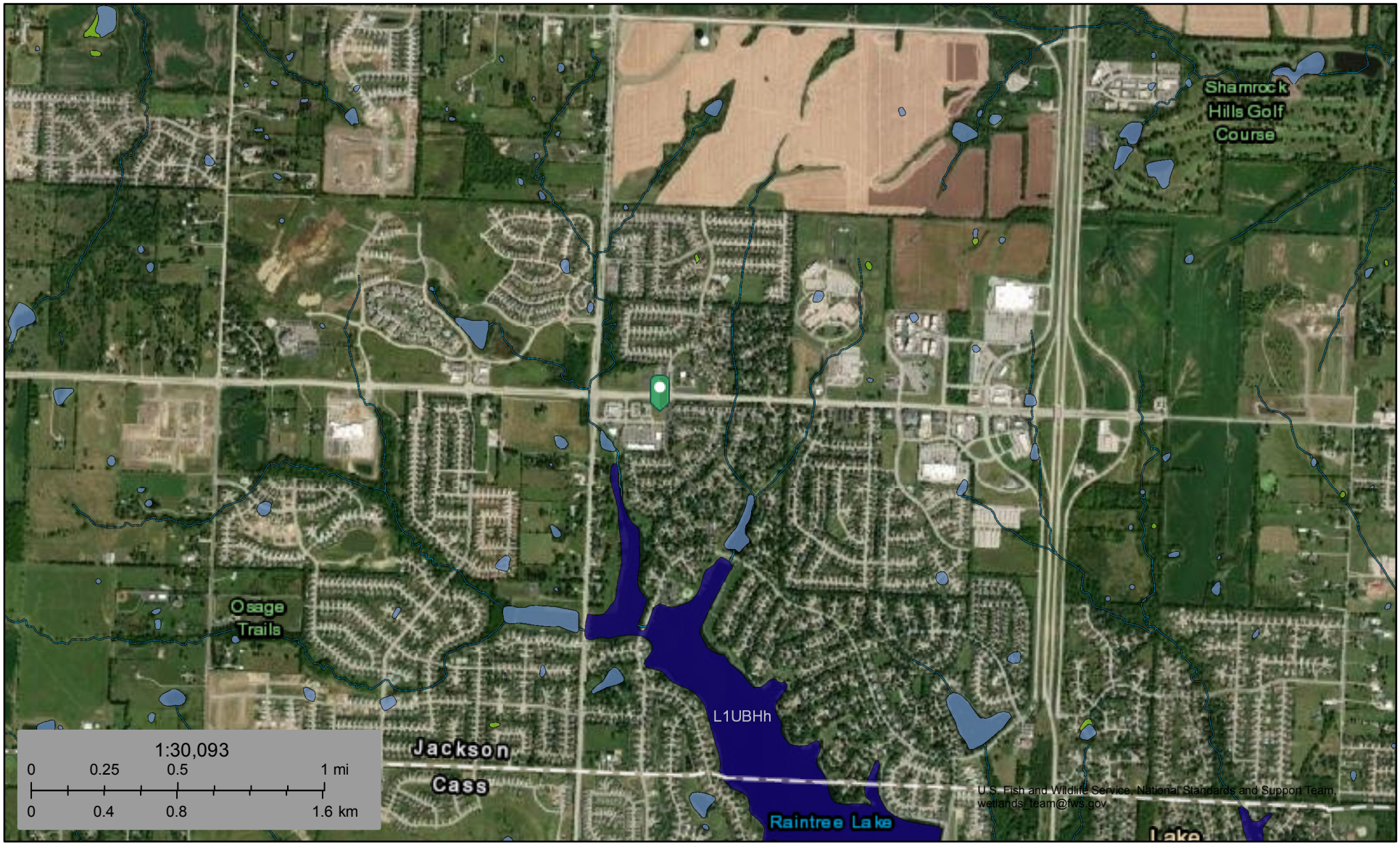
STATE Concerns are species/habitats known to exist near enough to the project site to warrant concern and that are protected under the Wildlife Code of Missouri (RSMo 3 CSR 1 0). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements expressed in the Missouri Wildlife Code, rule 3CSR 1 0-4.111. Species tracked by the Natural Heritage Program have a "State Rank" which is a numeric rank of relative rarity. Species tracked by this program and all native Missouri wildlife are protected under rule 3CSR 10-4.110 General Provisions of the Wildlife Code.

See Missouri Species and Communities of Conservation Concern Checklist (mo.gov) for a complete list of species and communities of conservation concern. Detailed information about the animals and some plants mentioned may be accessed at Mofwis Search Results. Please contact the Missouri Department of Conservation to request printed copies of any materials linked in this document.

U.S. Fish and Wildlife Service

National Wetlands Inventory

National



November 21, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.