Stormwater Pollution Prevention Plan (SWPPP)

For Construction Activities At:

Lee's Summit Fire Station No. 4
5031 NE Lakewood Way
Lee's Summit, MO 64064
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 15, 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. 4
5031 NE Lakewood Way
Lee's Summit, MO 64064
Jackson County

Project Latitude/Longitude

Latitude: 39°0'12"N (degrees, minutes, seconds)
Longitude: 94°21'13.94"W (degrees, minutes, seconds)

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 is a manhole named 1000.MH located in the northeast corner of the project site.

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. Unnamed Regional Detention Basin located northeast of the project site (Tract E)
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): 1.17 acres

Total Area of Construction Disturbances (in Acres): 1.23 acres

Maximum Area to be Disturbed at Any One Time (in Acres): 1.23 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 paving.
8. Install inlet protection for new storm structures after installation.
9. Finish site grading and construct final surface courses other than concrete paving.
10. Install erosion control blankets.
11. 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-way and paved streets. This may include periodic top dressing with additional crushed stone as conditions warrant. Repair of entrance(s) and cleaning of rights-of-way 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

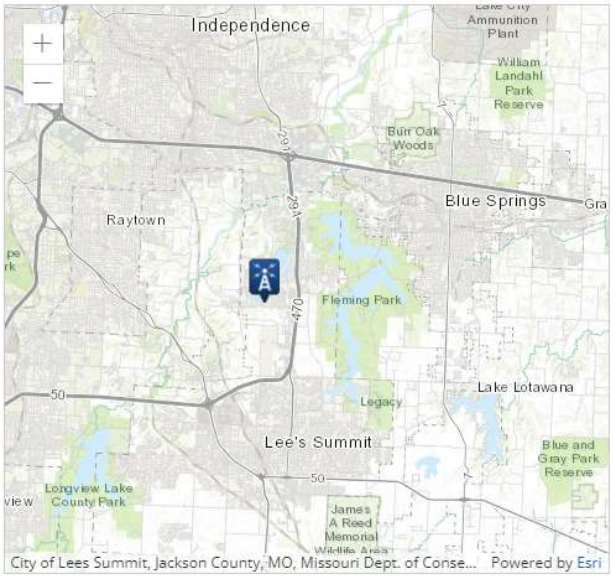
Rainfall totals used to establish when a construction site inspection is required shall be determined from local weather station reports of daily rainfall totals from the rain gauge noted below or closer. A site inspection is required at least once every seven (7) calendar days and within 48 hours after 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	UNITY VILLAGE 2.9 NNE, MO US
Network:ID	GHCND:US1MOJC0004
Latitude/Longitude	38.9877°, -94.3756°
Elevation	281 m

PERIOD OF RECORD	
Start Date[1]	2006-07-12
End Date[1]	2009-05-08
Data Coverage[2]	32%

ADD TO CART



https://www.ncdc.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:US1MOJC0004/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.

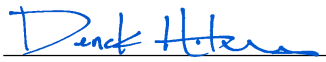
Table 7-1: Documentation for Completion of Training

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:  Date: NOVEMBER 16, 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 J – Request for Termination of Operating Permit

Appendix A – Drawings

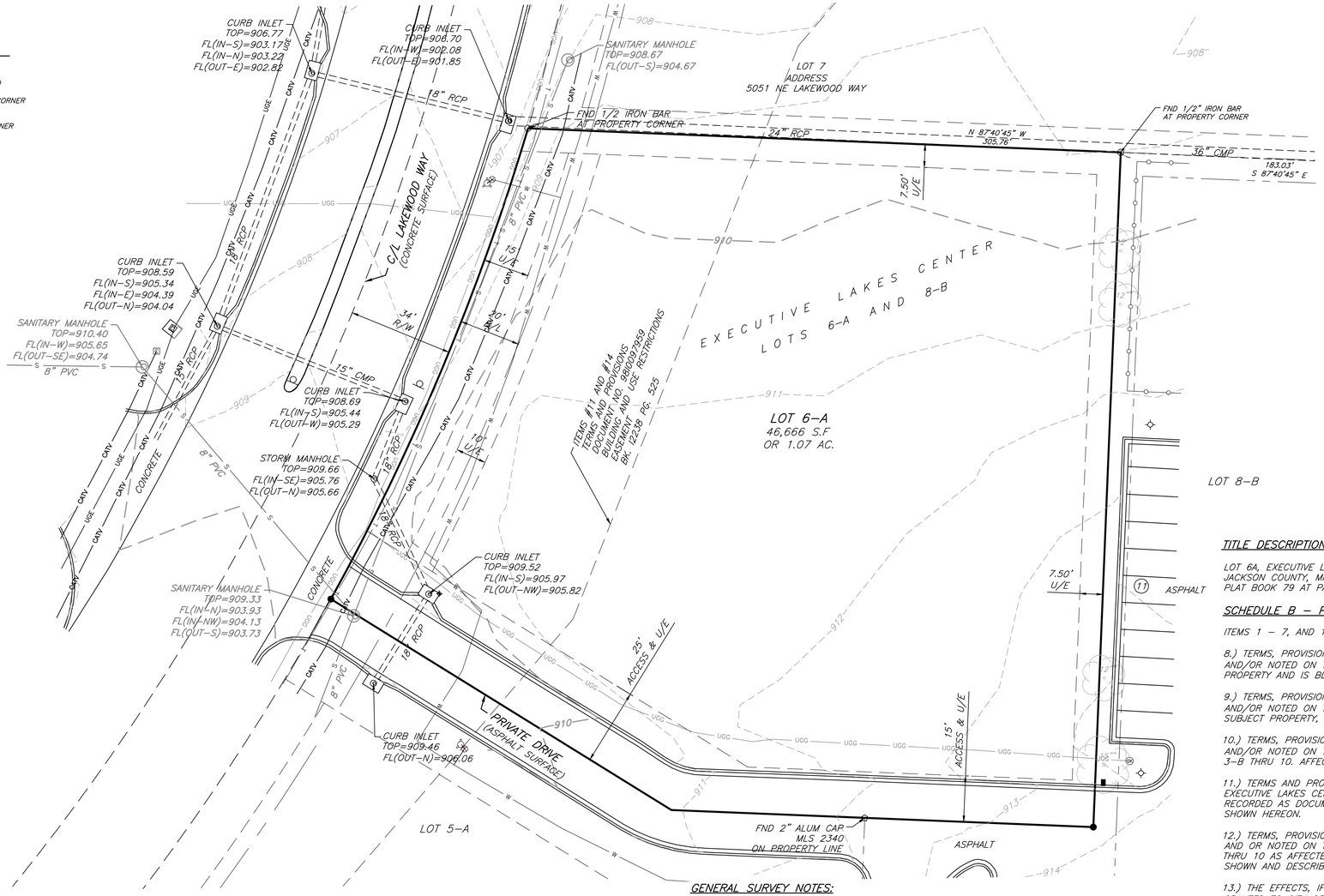
DRAWING NUMBER	DRAWING NAME
GS001	ALTA/NSPS LAND TITLE SURVEY
C-103	EROSION CONTROL PLAN
C-104	GRADING & DRAINAGE PLAN
C-230	PUBLIC STORMWATER PROFILES
C-231	PRIVATE STORMWATER PROFILES
C-510	EROSION CONTROL DETAILS
C-511	EROSION CONTROL DETAILS
C-530	STORMWATER DETAILS
C-531	STORMWATER DETAILS
C-532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

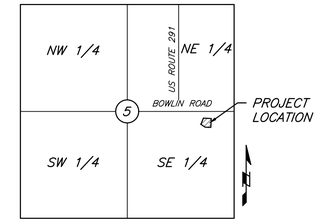
ALTA/NSPS LAND TITLE SURVEY

LOT 6-A; EXECUTIVE LAKES CENTER, LOTS 6-A and 8-B
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

SCALE
0' 20' 40'

LEGEND
- BENCHMARK
- MONUMENT FOUND 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
- B/L – BUILDING SETBACK LINE
- U/E – UTILITY EASEMENT
- EXISTING TREE
- LIGHT POLE
- W – WATER METER
- WATER VALVE
- FIRE HYDRANT
- ET – ELECTRIC TRANSFORMER
- C – CABLE TRANSFORMER
- GM – GAS PIPELINE MARKER
- SANITARY MANHOLE
- STORM MANHOLE
- MAILBOX
- SIGN AS NOTED
- (8) – PARKING STALL
- CHAIN LINK FENCE
- S – SANITARY SEWER LINE





VICINITY MAP
SEC. 5-48-31
N.T.S.

CLIENT:
GLMV
9229 Ward Parkway
Kansas City, Mo 64114

PROPERTY ADDRESS:
5031 NE Lakewood Way
Lee's Summit, Mo 64064

PROPERTY DESCRIPTION:
All of Lot 6-A, EXECUTIVE LAKES CENTER Lots 6-A and 8-B, a subdivision in the SE 1/4 of Section 5- T 48 N - R 31 W, Lee's Summit, Jackson County, Missouri

CERTIFICATION:

To: First American Title Insurance Company, and Bahman Tehrani, D.D.S. P.C., dba Lakewood Dental Center, and Joleh Nikfarjam, his wife.

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, 6, 7, 8, 9, 11, 13 and 16 of Table A thereof. The field work was completed on the 12th day of July, 2021.

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

12-3-21
Date

John B. Taung PLS-2006016647

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.

SURVEY CONTROL POINTS				
Point #	Northing	Easting	Elevation	Description
2	1034478.67	2829553.65	944.23	JA-29
11	1032758.54	2830285.01	912.19	2" ALUM CAP MLS 234D
15	1032831.68	2830146.43	909.59	SQUARE CUT

BENCHMARKS:

STATION JA-29: Alum Disk Located about 5.5 miles North of Lee's Summit and between I-470 and the East outer Road of North Bound ramp #14

ELEVATION = 944.23

GENERAL SURVEY NOTES:

1.) The plat of EXECUTIVE LAKES CENTER is recorded in Plat Book I-79 at Page 65 in the Recorder of Deeds Office in Jackson County, Missouri.

2.) The plat of EXECUTIVE LAKES CENTER LOTS 3-B & 4 THRU 10 is recorded in Plat Book I-79 at Page 65 in the Recorder of Deeds Office in Jackson County, Missouri.

3.) Title Report No. MJ116323 dated November 24, 2020 at 8:00 AM was provided by First American Title Insurance Company.

4.) Bearings used on this survey are based on the Missouri State Plane coordinate system fro m GPS observation.

5.) 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) 29095C0313G, effective January 20, 2017.

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

7.) Under Ground Utilities are shown as located by Missouri one call ticket No. 211930316 dated July 12, 2021

8.) There were no Wetland Delineations marked, at the time of survey.

9.) This Property is Zoned CP-2, Planned Community Commercial.

10.) There was no evidence of Earth moving work, building construction, or building additions observed in the process of conducting the fieldwork

TITLE DESCRIPTION:

LOT 6A, EXECUTIVE LAKES CENTER LOTS 6A AND 8B, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, ACCORDING TO THE RECORDED PLAT THEREOF; FILED IN PLAT BOOK 79 AT PAGE 65.

SCHEDULE B - PART II NOTES:

ITEMS 1 - 7, AND 17 - 20 ARE NON SURVEY RELATED ITEMS.

8.) TERMS, PROVISIONS, EASEMENTS, SET-BACK LINES AND FEATURES ALL AS SHOWN AND/OR NOTED ON THE COMMISSIONER'S PLAT OF BOWLIN ESTATE. AFFECTS SUBJECT PROPERTY AND IS BLANKET IN NATURE

9.) TERMS, PROVISIONS, EASEMENTS, SET-BACK LINES AND FEATURES ALL AS SHOWN AND/OR NOTED ON THE RECORDED PLAT OF EXECUTIVE LAKES CENTER. AFFECTS SUBJECT PROPERTY, NO DOCUMENT PROVIDED.

10.) TERMS, PROVISIONS, EASEMENTS, SET-BACK LINES AND FEATURES ALL AS SHOWN AND/OR NOTED ON THE RECORDED PLAT OF EXECUTIVE LAKES CENTER LOTS 3-A & 3-B THRU 10. AFFECTS SUBJECT PROPERTY.

11.) TERMS AND PROVISIONS OF ORDINANCE NO. 4703 ACCEPTING FINAL PLAT OF EXECUTIVE LAKES CENTER, LOTS 3-B & 4 THRU 10 AS SHOWN BY INSTRUMENT RECORDED AS DOCUMENT NO. 9810097959. AFFECTS THE SUBJECT PROPERTY AND IS SHOWN HEREON.

12.) TERMS, PROVISIONS, EASEMENTS, SET-BACK LINES AND FEATURES ALL AS SHOWN AND OR NOTED ON THE RECORDED PLAT OF EXECUTIVE LAKES CENTER LOTS 3-B & 4 THRU 10 AS AFFECTED BY ORDINANCE NO. 4925 VACATING AN UTILITY EASEMENT AS SHOWN AND DESCRIBED THEREIN. DOES NOT AFFECT THE SUBJECT PROPERTY.

13.) THE EFFECTS, IF ANY, OF THE TERMS AND PROVISIONS OF THE UTILITY EASEMENT GRANTED TO CITY OF LEE'S SUMMIT, A MUNICIPAL CORPORATION AS SHOWN BY INSTRUMENT RECORDED AS DOCUMENT NO. 97-I4003 IN I2952 AT PAGE 1654. DOES NOT AFFECT THE SUBJECT PROPERTY.

14.) BUILDING AND USE RESTRICTIONS CREATED BY THE INSTRUMENT RECORDED AS DOCUMENT NO. I9812631?? IN BOOK I3177 AT PAGE 329, AND I103647 IN BOOK I2238 AT PAGE 525. AFFECTS THE SUBJECT PROPERTY AND IS SHOWN ON. AND AMENDED BY DOCUMENT NO. 9819O271 IN BOOK I3310 AT PAGE 1665. AND AS AFFECTED BY DECLARATION OF ANNEXATION RECORDED AS DOCUMENT NO. 2000I0010475. DOES NOT AFFECT THE SUBJECT PROPERTY. AMENDED BY DOCUMENT NO. 2000I26140. DOES NOT AFFECT THE SUBJECT PROPERTY. A VIOLATION OF WHICH WOULD NOT CAUSE A FORFEITURE OR REVERSION OF TITLE. NOTE, THIS EXCEPTION OMITS ANY COVENANT, CONDITION OR RESTRICTION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS OR NATIONAL ORIGIN, UNLESS AND ONLY TO THE EXTENT THAT RESTRICTION IS NOT IN VIOLATION OF STATE OR FEDERAL LAW OR RELATES TO A HANDICAP, BUT DOES NOT DISCRIMINATE AGAINST HANDICAPPED PEOPLE.

15.) TERMS AND PROVISIONS OF DEVELOPMENT AGREEMENT BY AND BETWEEN THE CITY OF LEE'S SUMMIT, MISSOURI AND LAKEWOOD DEVELOPMENT, L.P. AND FOUR BAR COMPANY, G.P. FILED JANUARY 13, 1999 AS DOCUMENT NO. 99I3356. AFFECTS THE SUBJECT PROPERTY AND IS BLANKET IN NATURE.

16.) TERMS AND PROVISIONS OF THE DEVELOPMENT AGREEMENT BY AND BETWEEN CITY OF LEE'S SUMMIT, MISSOURI, A MUNICIPAL CORPORATION AND LAKEWOOD DEVELOPMENT, L.P. AS SHOWN BY INSTRUMENT RECORDED AS DOCUMENT NO. 2000I0029662. DOES NOT AFFECT THE SUBJECT PROPERTY.

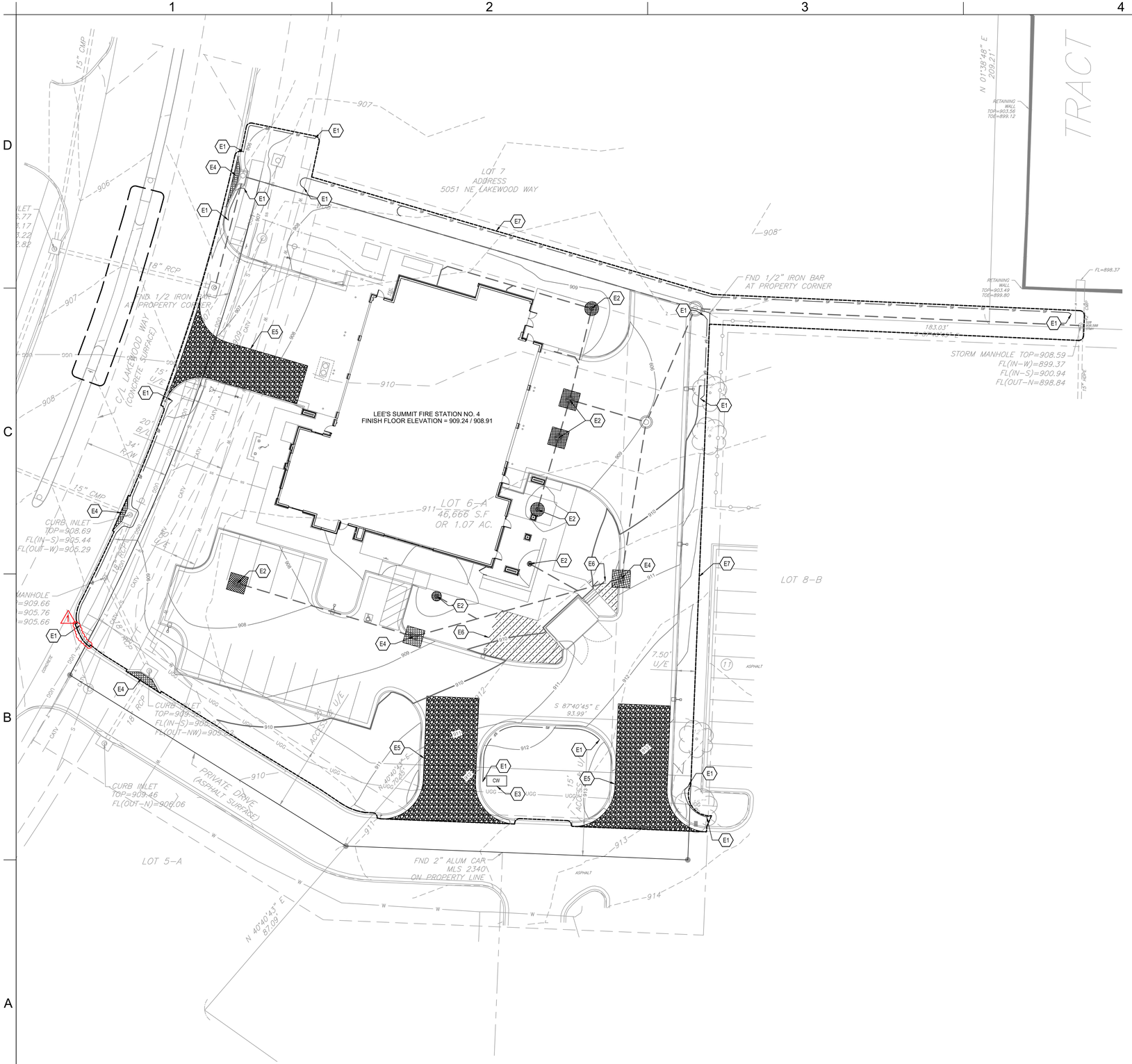
1	INITIAL SUBMITTAL	07-30-21
2	REVISED DWG	08-26-21
3	REVISED PER COMMENTS	12-3-21
4	REVISED PER COMMENTS	12-07-21

Location: S:\21.071 - Lees Summit Fire Stations\DRAWINGS\5031 NE LAKEWOOD WAY\21.071- 12-3-21\21.071-ALTA 12-3-21.dwg-Dec 07, 2021-1:28pm

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

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. THE RECOMMENDED SEQUENCE OF CONSTRUCTION ACTIVITIES AND OF THE INSTALLATION AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES IS AS FOLLOWS:
   - 2.1. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES
   - 2.2. INSTALL TEMPORARY PERIMETER SILT FENCE
   - 2.3. INSTALL TEMPORARY EXISTING CURB INLET PROTECTION
   - 2.4. CONSTRUCT SITE IMPROVEMENTS
   - 2.5. INSTALL PROTECTION FOR NEWLY INSTALLED CURB INLETS, AREA INLETS, AND JUNCTION BOXES
   - 2.6. INSTALL EROSION AND SEDIMENT CONTROL BLANKETS
   - 2.7. SEED, FERTILIZE, AND MULCH ALL SLOPES AND DISTURBED AREAS
   - 2.8. REMOVE TEMPORARY PRACTICES, PERIMETER CONTROLS, AND SITE CLEANUP.
3. 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.
4. 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.
5. 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.
6. SOIL STOCKPILED FOR MORE THAN 7 DAYS WILL HAVE SILT FENCE PLACED ON THE DOWNHILL SIDE TO TRAP SEDIMENT.
7. NO GROUND SHALL BE LEFT DISTURBED FOR MORE THAN 14 DAYS OF NON-ACTIVITY WITHOUT BEING TEMPORARILY MULCHED AND/OR SEEDED.
8. 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.
9. 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.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND EXPENSES OF PROVIDING EROSION AND SEDIMENT CONTROL MEASURES.
11. 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.
12. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED UPON STABILIZATION OF DISTURBED AREAS.

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 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

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100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
1	ASI 01	11.16.2022

STATE OF MISSOURI
DERICK M. HOLMES
NUMBER PE-2022005196
PROFESSIONAL ENGINEER
11/16/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

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PROJECT NO:	18225R21001
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DRAWN BY:	DMH
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EROSION CONTROL PLAN

C-103

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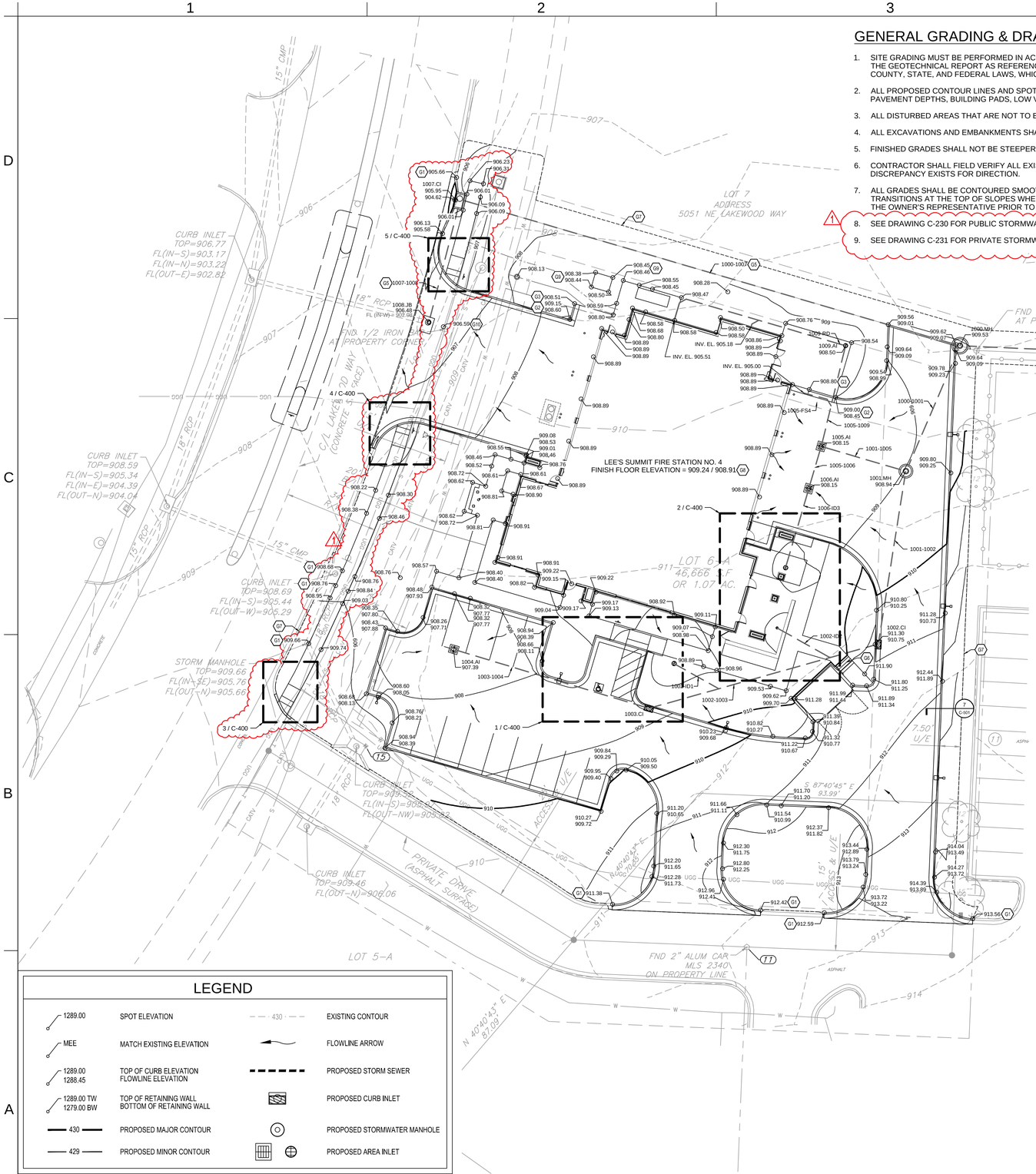

GENERAL GRADING & DRAINAGE NOTES:

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. THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS OF ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS, WHICH HAVE JURISDICTION OVER THIS PROJECT.
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 DRAWING C-230 FOR PUBLIC STORMWATER PLAN & PROFILES.
9. SEE DRAWING C-231 FOR PRIVATE STORMWATER PROFILES.

GRADING & DRAINAGE KEYNOTES

- G1 (+/-) MATCH EXISTING ELEVATION. NOTIFY ENGINEER IF SIGNIFICANT DISCREPANCY EXISTS.
- G2 START TRANSITION FROM FULL-DEPTH CURB
- G3 FLUSH CURB
- G4 4" CURB
- G5 PUBLIC STORMWATER LINE. STORMWATER LINES NOT DENOTED WITH KEYNOTE G5 SHALL BE PRIVATE LINES. SEE DRAWING C-230.
- G6 CONCRETE STEPS REF: 12 / C-500
- G7 LIMITS OF DISTURBANCE
- G8 FINISH GRADE AT DOORS SET 1" BELOW FINISH FLOOR ELEVATIONS TO ACCOUNT FOR THRESHOLDS
- G9 ELEVATION DENOTES FINISH GRADE AT PAD EDGE AND NOT TOP OF PAD.
- G10 1.5% CROSS SLOPE TO BE MAINTAINED THROUGH DRIVEWAY SIDEWALK, TYPICAL. REF: 1 / C-502

STORMWATER PIPE TABLE

NAME	3D LENGTH, SIZE, MATERIAL & SLOPE
EX MH-1000	152.83 LF OF 36" HDPP @ 0.50%
1000-1007	185.42 LF OF 30" HDPP @ 0.50%
1000-1001	45.21 LF OF 12" HDPP @ 1.00%
1001-1005	28.61 LF OF 12" HDPP @ 3.75%
1001-1002	60.86 LF OF 12" HDPP @ 1.00%
1002-ID2	22.23 LF OF 12" HDPP @ 3.00%*
1002-ID1	18.72 LF OF 12" HDPP @ 3.00%*
1002-1003	84.59 LF OF 12" HDPP @ 1.00%
1003-1004	72.02 LF OF 12" HDPP @ 1.00%
1005-FS4	11.57 LF OF 6" HDPE @ 3.00%
1005-1009	35.83 LF OF 12" HDPP @ 3.00%
1005-1006	13.75 LF OF 12" HDPP @ 2.00%
1006-ID3	28.17 LF OF 12" HDPP @ 2.00%*
1007-1008	41.14 LF OF 24" HDPP @ 0.70%
1009-RD	72.89 LF OF 6" HDPE @ 1.00%

STORMWATER PIPE & STRUCTURE TABLE NOTES:

* LENGTH OF PIPE AND SLOPE SHOWN EXCLUDE VERTICAL PORTION OF INLINE DRAIN.

** EXISTING INCOMING OR OUTGOING PIPES TO REMAIN ARE NOT SHOWN IN TABLE FOR CLARITY. CONTRACTOR TO PLUG AND GROUT EXISTING PENETRATIONS IN STRUCTURE NO LONGER REQUIRED PER CITY OF LEE'S SUMMIT STANDARDS.

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 AISLES 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 RAMPS 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 LANDINGS 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.

STORMWATER STRUCTURE TABLE

STRUCTURE NAME	GRATE / RIM ELEVATION	PIPES IN	PIPES OUT	CL NORTHING & EASTING	NOTES
1000.MH	909.53	1000-1001, 12" INV IN =900.63 1000-1007, 30" INV IN =900.33	EX MH-1000, 36" INV OUT =900.13	N: 1032977.32 E: 2830362.52	STANDARD PRECAST MANHOLE REF: 3-4 / C-530 & 3 / C-540
1001.MH	908.94	1001-1002, 12" INV IN =901.28 1001-1005, 12" INV IN =901.58	1000-1001, 12" INV OUT =901.08	N: 1032931.67 E: 2830342.87	STANDARD PRECAST MANHOLE REF: 3-4 / C-530 & 3 / C-540
1002.CI	910.75	1002-1003, 12" INV IN =902.39	1001-1002, 12" INV OUT =901.89	N: 1032868.61 E: 2830332.81	2'X3' CURB INLET REF: 1-2 / C-531 & 2 / C-532
1003.CI	908.71	1003-1004, 12" INV IN =903.74	1002-1003, 12" INV OUT =903.24	N: 1032845.41 E: 2830249.41	2'X3' CURB INLET REF: 1-2 / C-531 & 2 / C-532
1004.AI	907.39		1003-1004, 12" INV OUT =904.46	N: 1032866.83 E: 2830178.44	1 STANDARD DOUBLE GRATE INLET REF: 4 / C-532
1005.AI	908.15	1005-1006, 12" INV IN =903.15 1005-1009, 12" INV IN =903.25	1001-1005, 12" INV OUT =902.65	N: 1032940.69 E: 2830312.07	STANDARD DOUBLE GRATE INLET REF: 4 / C-532
1006.AI	908.15	1006-ID3, 12" INV IN =903.62	1005-1006, 12" INV OUT =903.42	N: 1032925.34 E: 2830307.57	STANDARD DOUBLE GRATE INLET REF: 4 / C-532
1007.CI	905.98	1007-1008, 24" INV IN =901.56	1000-1007, 30" INV OUT =901.26	N: 1033029.98 E: 2830180.60	STANDARD CURB INLET REF: 1, 3, & 4 / C-530
1008.JB	906.54		1007-1008, 24" INV OUT =901.85	N: 1032984.96 E: 2830168.78	1 CONVERT CI TO JUNCTION BOX** REF: 2-5 / C-530
1009.AI	908.50	1009-RD, 6" INV IN =904.82	1005-1009, 12" INV OUT =904.32	N: 1032977.32 E: 2830320.93	NYLOPLAST 18" DRAIN BASIN AND STANDARD GRATE REF: 1 & 4 / C-531 AND 5 / C-532
EX MH	908.59	EX MH-1000, 36" INV IN =899.37		N: 1032970.53 E: 2830516.95	EXISTING MANHOLE**

LEGEND

1289.00	SPOT ELEVATION	430	EXISTING CONTOUR
MEE	MATCH EXISTING ELEVATION		FLOWLINE ARROW
1289.00 / 1288.45	TOP OF CURB ELEVATION FLOWLINE ELEVATION		PROPOSED STORM SEWER
1289.00 TW / 1279.00 BW	TOP OF RETAINING WALL BOTTOM OF RETAINING WALL		PROPOSED CURB INLET
430	PROPOSED MAJOR CONTOUR		PROPOSED STORMWATER MANHOLE
429	PROPOSED MINOR CONTOUR		PROPOSED AREA INLET

1 GRADING & DRAINAGE PLAN
1" = 20'-0"

GRAPHIC SCALE 20' (0, 20', 40')

N

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REVISIONS:

#	Description	Date
1	ASI 01	11.16.2022

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DERICK M. HOLMES
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PROFESSIONAL ENGINEER
11/16/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

PROJECT NO:	18225R21001
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DRAWN BY:	DMH
CHK'D BY:	ALM

GRADING & DRAINAGE PLAN

C-104

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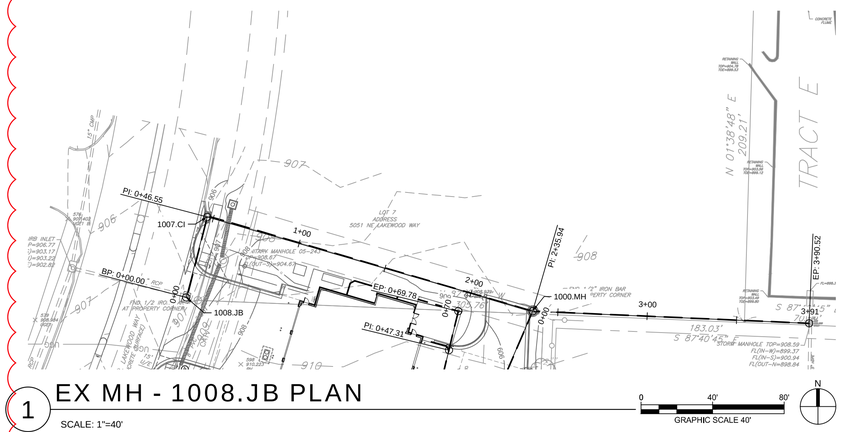
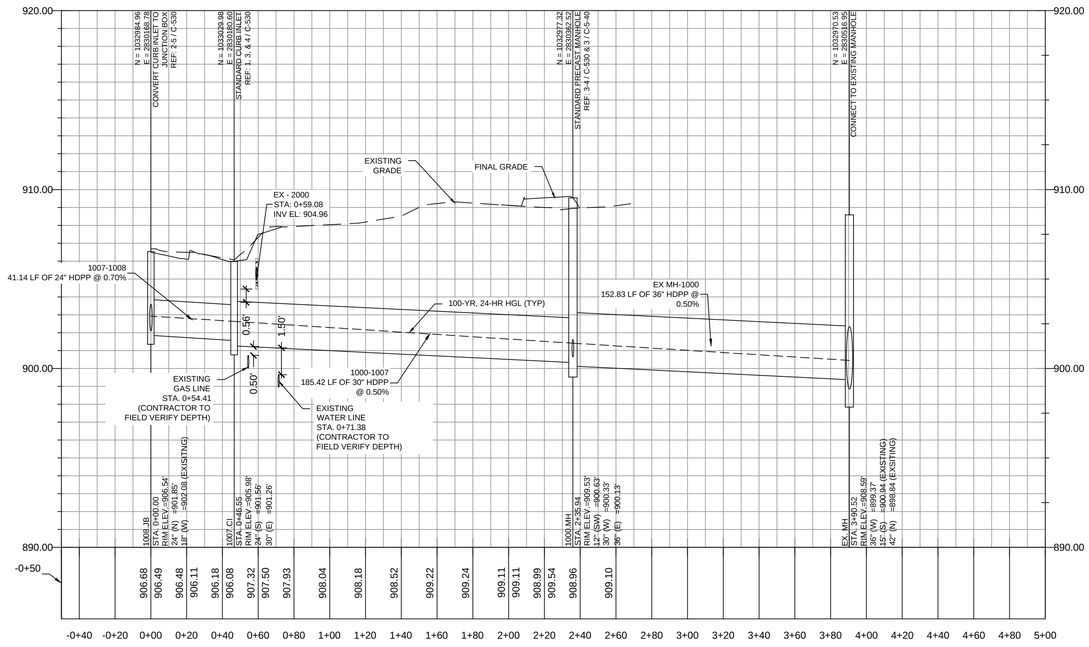


1 EX MH - 1008.JB PLAN

SCALE: 1"=40'

GRAPHIC SCALE 40'



2 EX MH - 1008.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
EX.MH-1000	1000.MH	EX.MH	152.83	900.13	899.37	0.50	36	0.012	0.50	0.90	14.11	0 12:05	6.17	0.42	50.66	0.28	1.08	0.36
1000-1007	1007.CI	1000.MH	185.42	901.26	900.33	0.50	30	0.012	0.50	0.80	12.23	0 12:05	6.05	0.51	31.47	0.39	1.08	0.43
1007-1008	1008.JB	1007.CI	41.14	901.85	901.56	0.70	24	0.012	0.50	0.80	11.50	0 12:00	6.74	0.10	20.58	0.56	1.07	0.53

100-YR, 24-HR STORM EVENT	
STRUCTURE NAME	MAX HGL ELEVATION (FT)
EX. MH	900.45
1000.MH	901.41
1007.CI	902.63
1008.JB	902.92

GENERAL 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 IMPROVEMENTS.

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MO# PE-2022005196

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PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	HFL
CHK'D BY:	CDW

PUBLIC STORMWATER PROFILES

C-230

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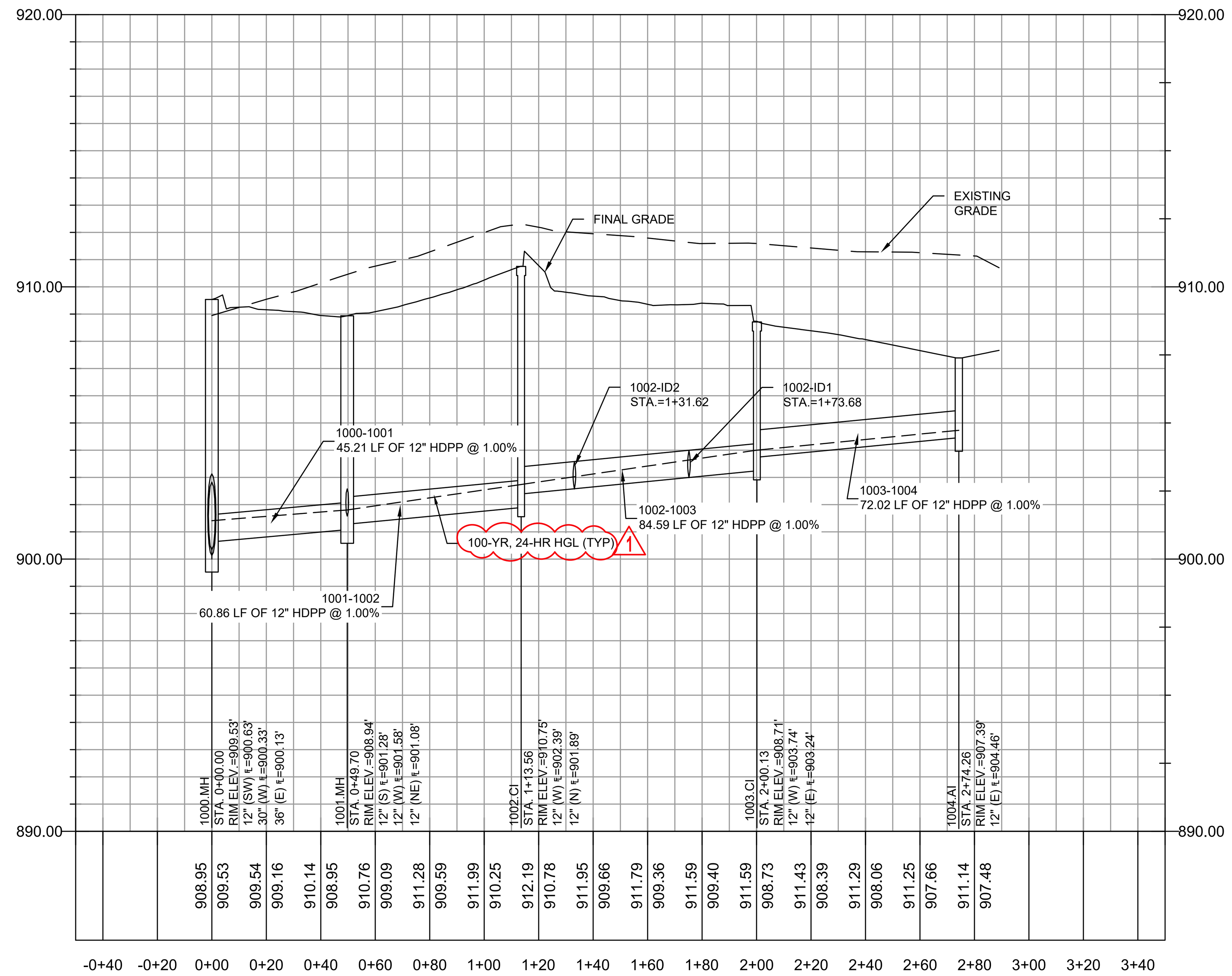
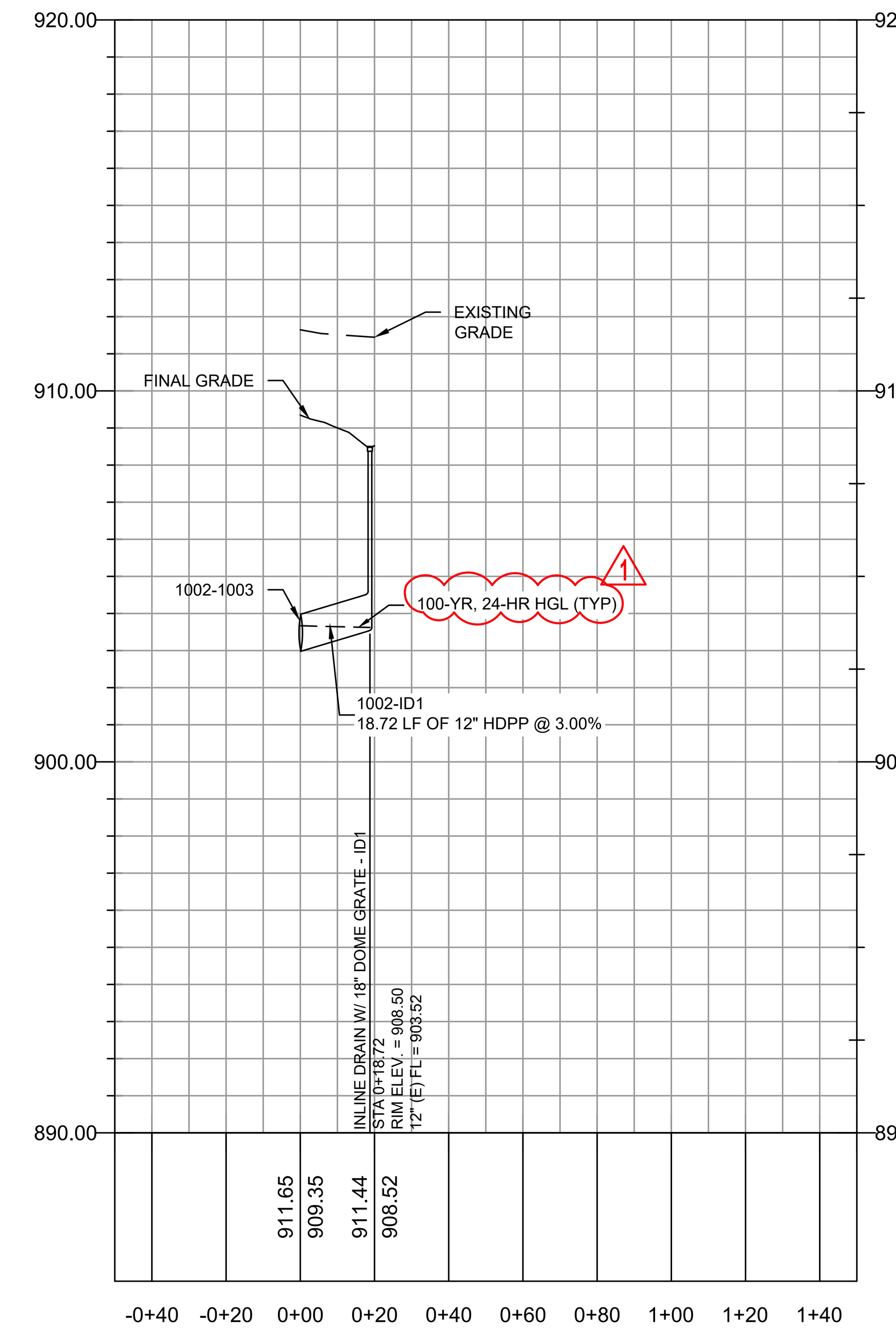


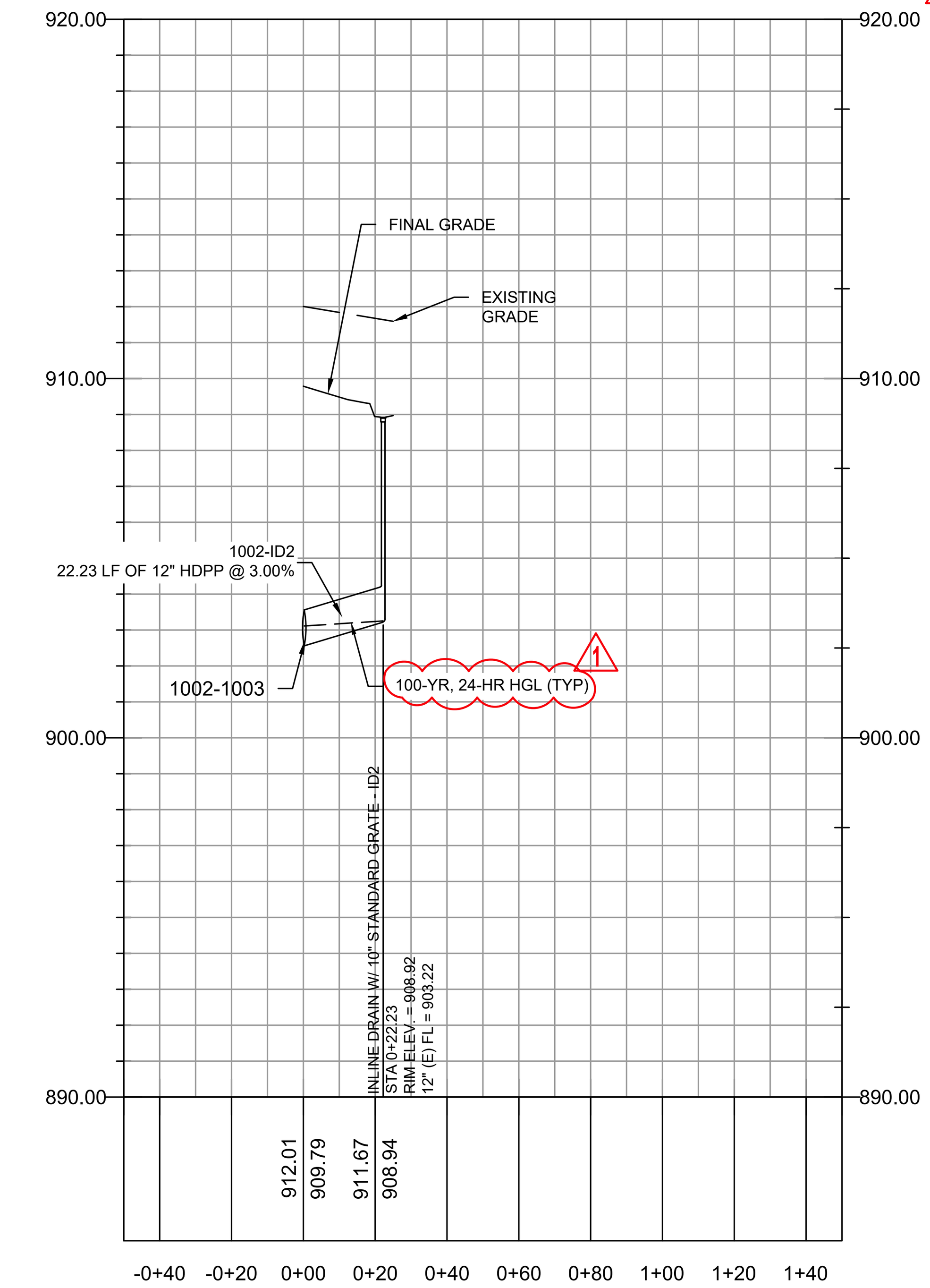
1 1000.MH - 10004.AI STORMWATER PROFILE

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



2 PIPE 1002-1003 - INLINE DRAIN 1

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

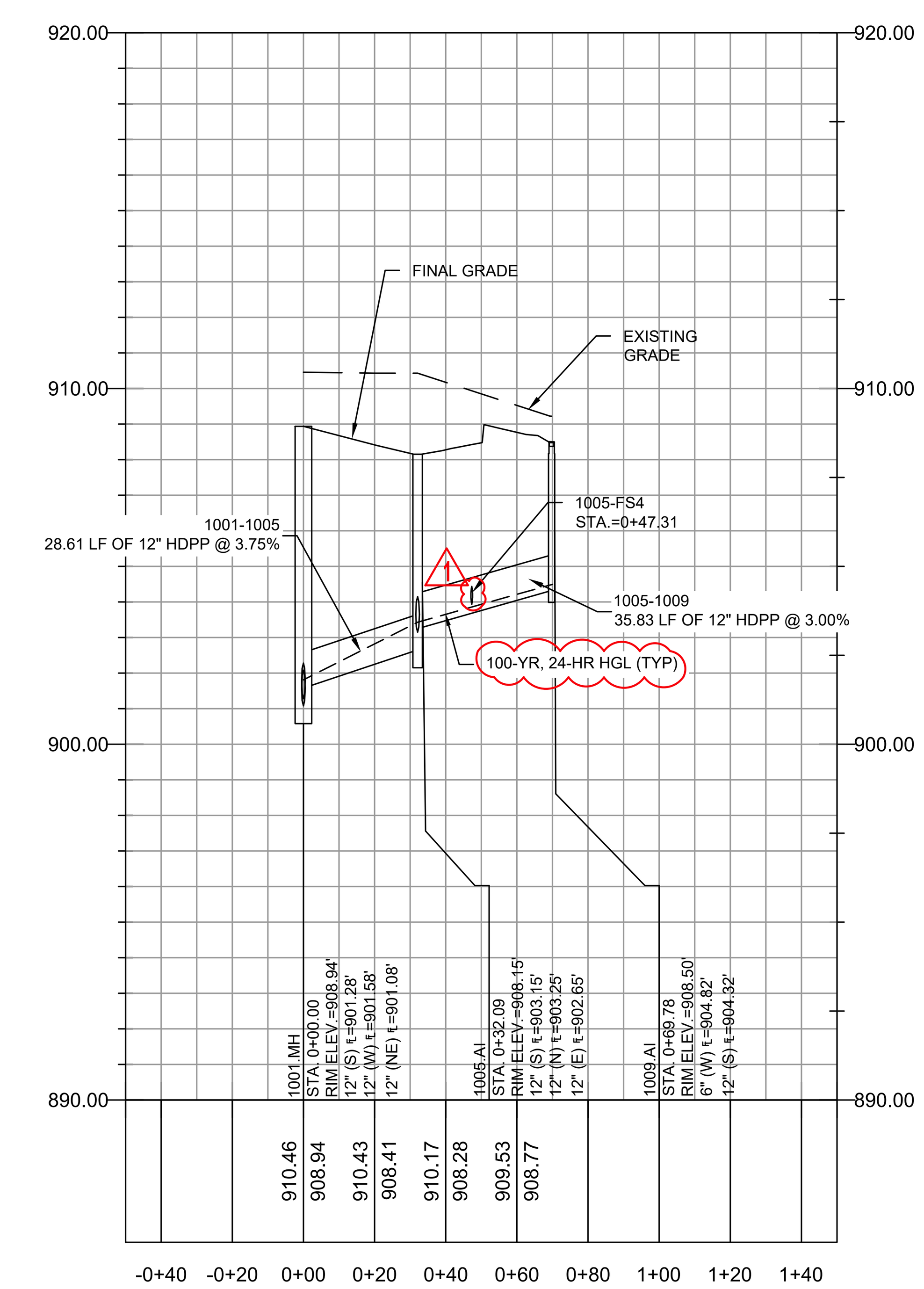


3 PIPE 1002-1003 - INLINE DRAIN 2

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

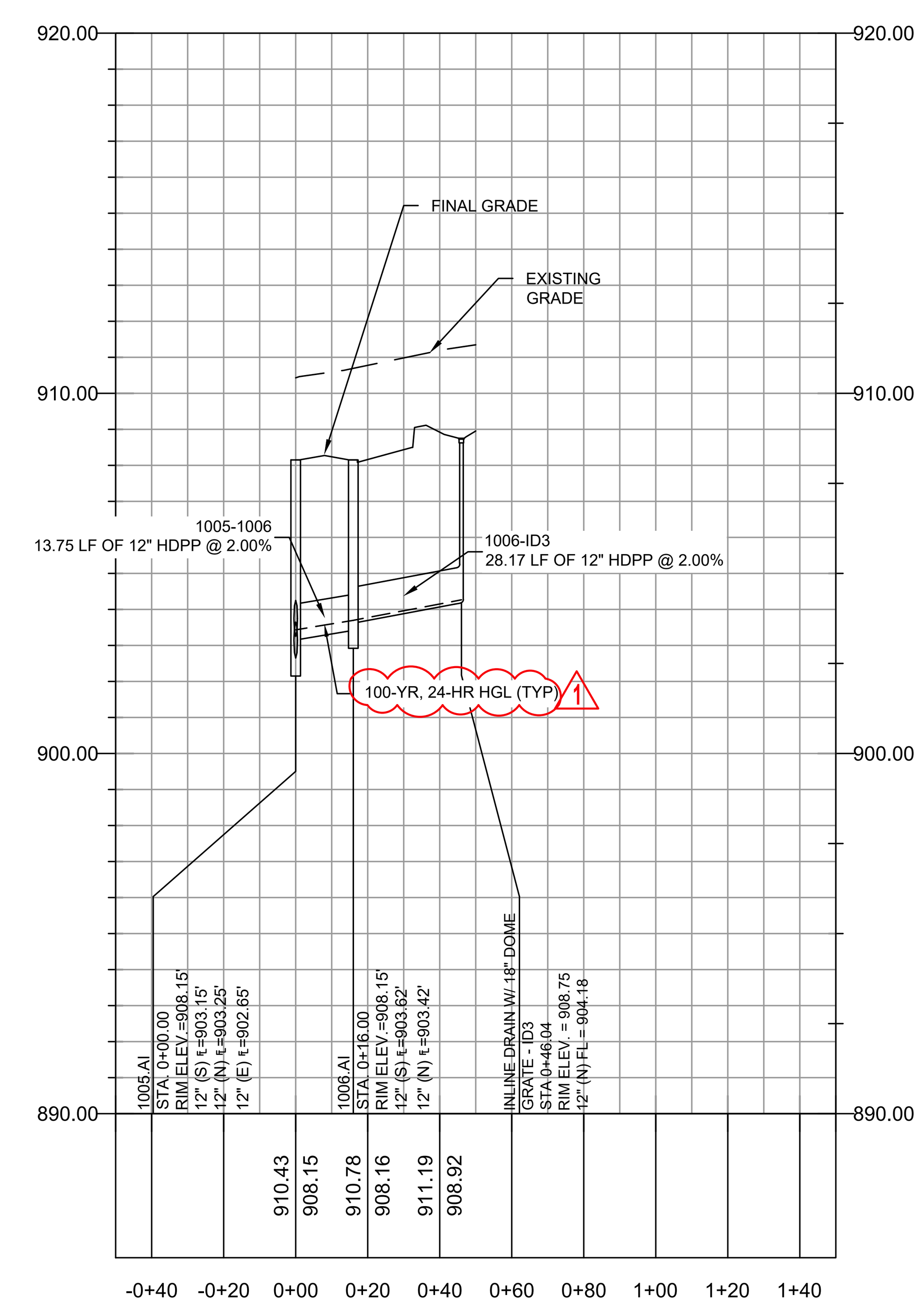
GENERAL NOTES:

1. CONSTRUCTION OF STORMWATER IMPROVEMENTS SHALL BE AS PER CITY OF LEE'S SUMMIT, MO AND PROJECT SPECIFICATIONS.
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 IMPROVEMENTS.



4 1001.MH - 1009.AI

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



5 1005.AI - INLINE DRAIN 3

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.MH	1000.MH	45.21	901.08	900.63	1.00	12	0.012	0.50	0.80	1.89	0 12:05	4.89	0.15	3.85	0.49	0.50	0.50
1001-1002	1002.CI	1001.MH	60.86	901.89	901.28	1.00	12	0.012	0.50	0.90	1.03	0 12:05	4.18	0.24	3.86	0.27	0.35	0.35
1001-1005	1005.AI	1001.MH	28.61	902.65	901.58	3.75	12	0.012	0.50	0.90	0.86	0 12:05	6.34	0.08	7.46	0.12	0.23	0.23
1002-1003	1003.CI	1002.CI	84.59	903.24	902.39	1.00	12	0.012	0.50	0.70	1.00	0 12:05	4.12	0.17	3.91	0.26	0.35	0.35
1002-ID1	ID1	WYE	18.72	903.52	902.98	3.00	12	0.012	0.50	0.70	0.09	0 12:05	2.95	0.11	6.56	0.01	0.08	0.08
1002-ID2	ID2	WYE	22.23	903.22	902.56	3.00	12	0.012	0.50	0.70	0.01	0 10:15	1.69	0.22	6.65	0.00	0.03	0.03
1003-1004	1004.AI	1003.CI	72.02	904.46	903.74	1.00	12	0.012	0.50	0.60	0.61	0 12:05	3.60	0.33	3.86	0.16	0.27	0.27
1005-1006	1006.AI	1005.AI	13.75	903.42	903.15	2.00	12	0.012	0.50	0.80	0.25	0 12:05	3.52	0.07	5.41	0.05	0.15	0.15
1005-1009	1009.AI	1005.AI	35.83	904.32	903.25	3.00	12	0.012	0.50	0.80	0.47	0 11:40	4.92	0.12	6.67	0.07	0.18	0.18
1006-ID3	ID3	1006.AI	28.17	904.18	903.62	2.00	12	0.012	0.50	0.50	0.08	0 12:05	2.50	0.19	5.44	0.01	0.08	0.08

100-YR, 24-HR STORM EVENT	
STRUCTURE NAME	MAX HGL ELEVATION (FT)
1001.MH	901.81
1002.CI	902.74
1003.CI	904.01
1004.AI	904.73
1005.AI	903.43
1006.AI	903.70
1009.AI	904.50

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CIVIL ENGINEER & LANDSCAPE ARCH.
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MISSOURI LANDSCAPE COA #000008
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250 NE MURBERRY, SUITE 201
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HOSS & BROWN ENGINEERS
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SECURITY & IT ENGINEERS
HENDERSON ENGINEERS
MISSOURI COA # 000556
1801 MAIN STREET, SUITE 300
KANSAS CITY, MO 64108
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FIRE STATION #4
CITY OF LEE'S SUMMIT
5031 NORTHEAST LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI 64064

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
1	ASI 01	11.16.2022

STATE OF MISSOURI ★ DERICK M. HOLMES NUMBER PE-2022005196 PROFESSIONAL ENGINEER ★ 11/16/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

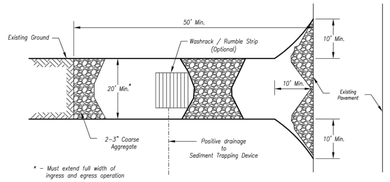
The Professional Engineers seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this engineer, and this engineer expressly disclaims any and all responsibility for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

PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	HFL
CHK'D BY:	DMH

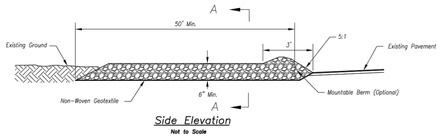
PRIVATE STORMWATER PROFILES

C-231

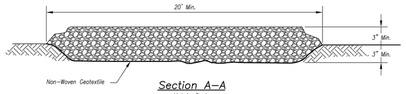
FILE PATH: L:\18225R21001\06-SITE_DESIGN\LAKEWOOD_FS4\SHEET SET\SHEETS\FS4_C-231 STORMWATER PROFILES - PRIVATE



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.

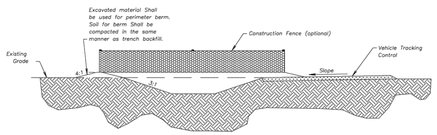
CONSTRUCTION ENTRANCE

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.

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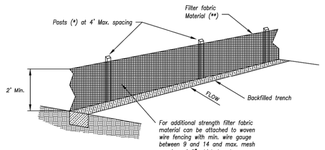
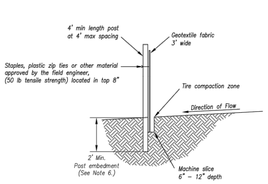
Kansas City Metro Chapter APWA AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER

CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01
	ADOPTED: 10/24/2016

1 CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT
NTS





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

Maintenance:

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

SILT FENCE DETAILS
Not to Scale

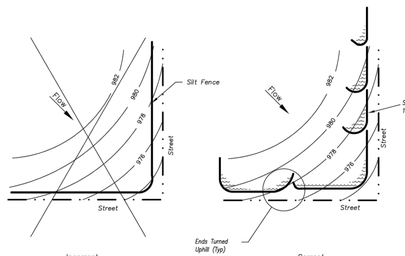
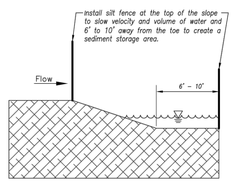
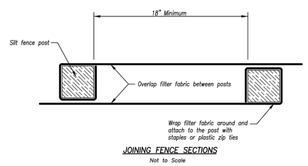


Figure A





JOINING FENCE SECTIONS
Not to Scale

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

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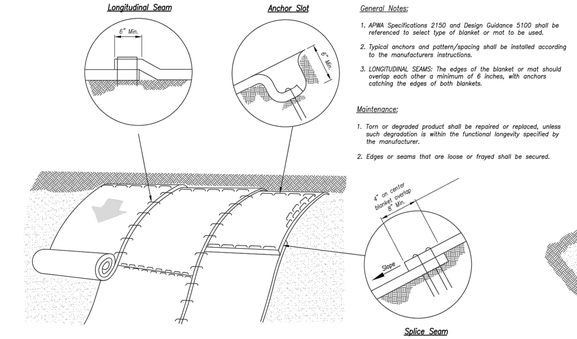
KANSAS CITY METRO CHAPTER

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

3 SILT FENCE
NTS

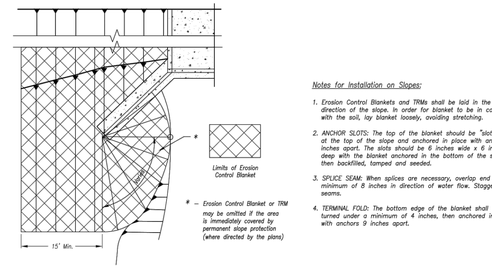


General Notes:

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.



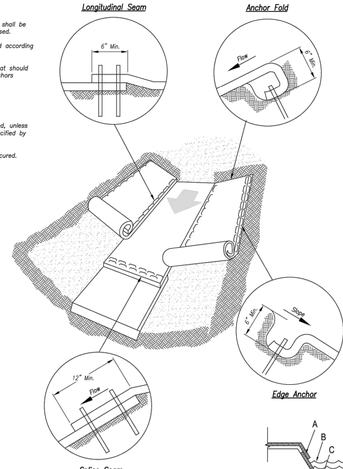
Partial Box Culvert Plan
Not to Scale

Installation Around Culvert Slope

Notes for Installation on Slopes:

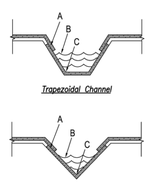
1. Erosion Control Blankets and TRMs shall be laid in the direction of the slope, in order for blanket to be in contact with the soil, lay blanket loosely, avoiding stretching.
2. ANCHOR SLOTS: The top of the blanket should be "slotted in" at the top of the slope and anchored in place with anchors 6 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.

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



Notes for Installation in Channels:

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



Critical Points:

A – Overlaps and seams;

B – Projected water line;

C – Channel bottom / side slope vertices;

Installation in Channels

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

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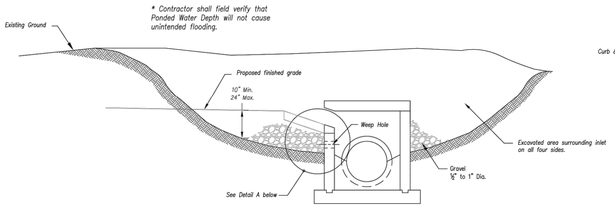
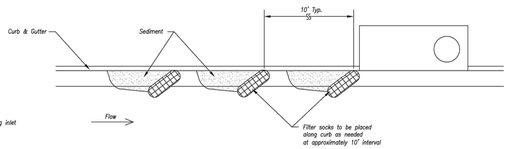
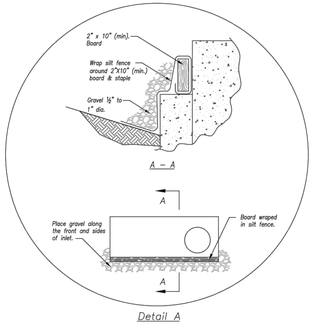
EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS	STANDARD DRAWING NUMBER ESC-02
	ADOPTED: 10/24/2016

2 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS
NTS





On Grade Curb Inlet Protection



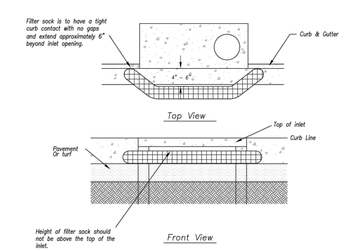
Notes:

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.

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



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.

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CURB INLET PROTECTION	STANDARD DRAWING NUMBER ESC-06
	ADOPTED: 10/24/2016

4 CURB INLET PROTECTION
NTS

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FIRE STATION #4
CITY OF LEE'S SUMMIT

5031 NORTHEAST LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI 64064

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date

STATE OF MISSOURI
DERICK M. HOLMES
NUMBER PE-2022005196
PROFESSIONAL ENGINEER
10-19-2022

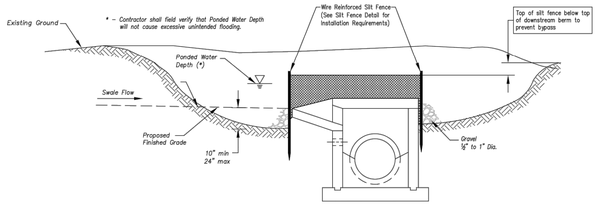
DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	DMH
CHK'D BY:	SJB

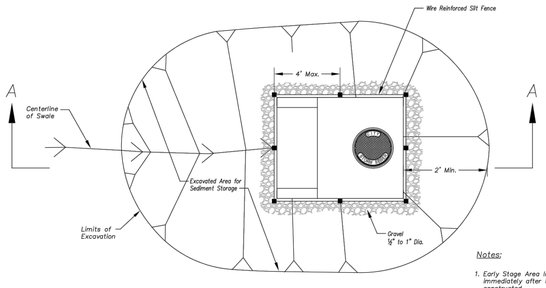
EROSION CONTROL DETAILS

C-510

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

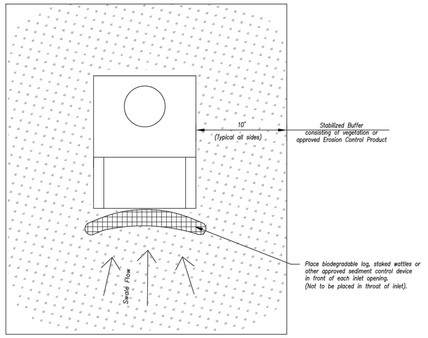


Section A–A
Not to Scale

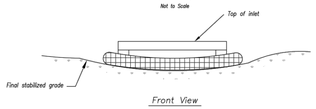


Plan
Not to Scale

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



Plan
Not to Scale



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.

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

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

1 AREA INLET AND JUNCTION BOX PROTECTION
NTS

GLMVArchitecture
9229 WARD PARKWAY
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KANSAS CITY, MO 64114
TEL: (816) 444-4200
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GLMV ARCHITECTURE, INC.
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CIVIL ENGINEER & LANDSCAPE ARCH.
GLMV ARCHITECTURE, INC
MISSOURI CIVIL COA #2018033898
MISSOURI LANDSCAPE COA #000008
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FIRE STATION #4
CITY OF LEE'S SUMMIT

5031 NORTHEAST LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI 64064

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date

STATE OF MISSOURI
DERICK M. HOLMES
NUMBER PE-2022005196
PROFESSIONAL ENGINEER
10-19-2022

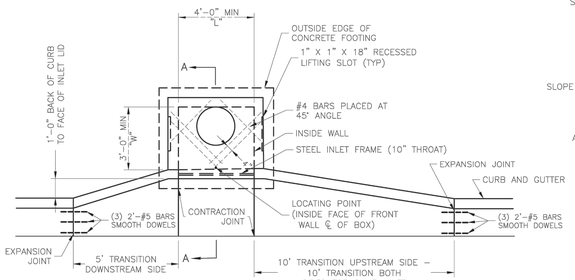
DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

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 shall not be considered prepared by this engineer, and this engineer expressly disclaims any and all responsibility for such plan, drawings, or documents not exhibiting this seal.

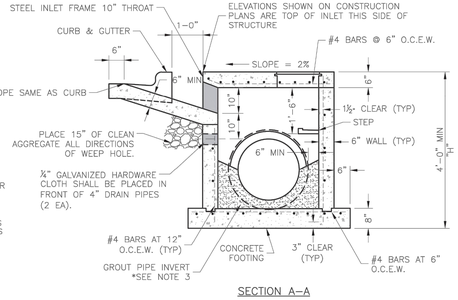
PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	DMH
CHK'D BY:	SJB

EROSION CONTROL DETAILS

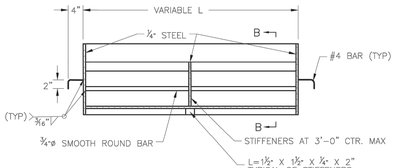
C-511



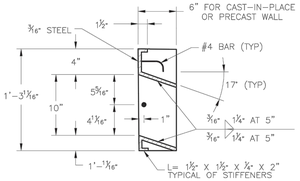
PLAN VIEW



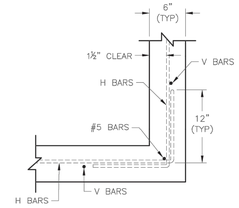
SECTION A–A



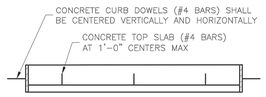
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



PLAN VIEW

STEEL FRAME NOTES:
1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM–PRIME #37H–78 PRIMER (GRAY) OR EQUAL.

GENERAL NOTES:
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'–4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR ½" TOOLED EDGE.
7. ON–GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON–SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

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

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

STM-1

1 CURB INLET DETAIL
NTS

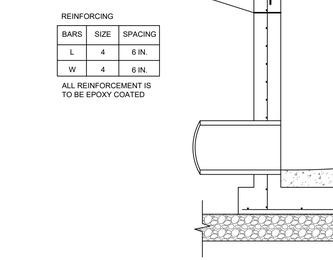
PLAN

SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

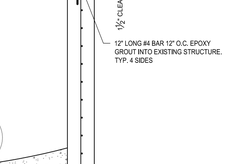
** INCREASE IN MULTIPLES OF 6" (7'–0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

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



SECTION A–A



WALL CORNER DETAIL

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

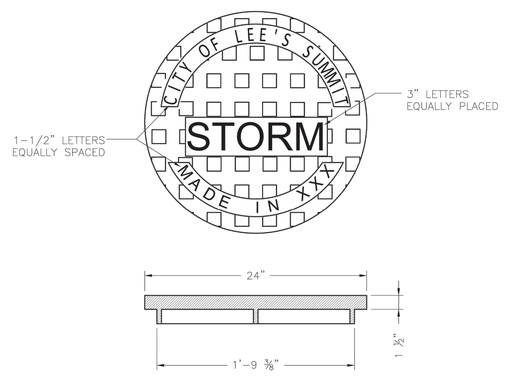
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

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

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

STM-3

2 JUNCTION BOX 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.

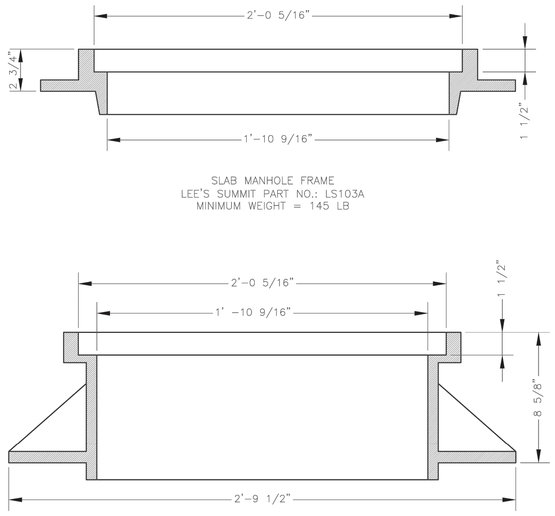
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

STM-6

3 STORM MANHOLE COVER DETAIL
NTS



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

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

STORM MANHOLE FRAME DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

DWG-7

4 STORM MANHOLE FRAME DETAIL
NTS

REINFORCING

BARS	SIZE	SPACING
L	4	6 IN.
W	4	6 IN.

ALL REINFORCEMENT IS TO BE EPOXY COATED

5 CURB INLET TO JUNCTION BOX
NTS

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

FIRE STATION #4
CITY OF LEE'S SUMMIT

5031 NORTHEAST LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI 64064

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
1	ASI 01	11.16.2022

STATE OF MISSOURI
DERICK M. HOLMES
NUMBER PE-2022005196
PROFESSIONAL ENGINEER
11/16/2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

PROJECT NO: 18225R21001
DATE: 10.19.2022
DRAWN BY: DMH
CHK'D BY: SJB

STORMWATER DETAILS

C-530

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.

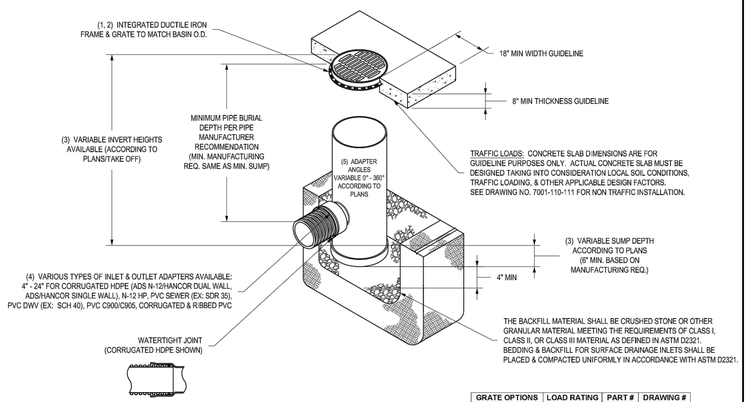
The grates and frames furnished for all surface drainage inlets shall be ductile iron for structure sizes 8", 10", 12", 15", 18", 24", 30" and 36" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates 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	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-3443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 3-10-00			
REVISED BY NMH	PROJECT NO./NAME	TITLE	8 IN - 36 IN DRAIN BASIN SPECIFICATIONS
DATE 02-21-18			
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

NYLOPLAST 24" DRAIN BASIN: 2824AG _ _X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	2499CGP	7001-110-216
STANDARD	MEETS H-20	2499CGS	7001-110-217
SOLID COVER	MEETS H-20	2499CGC	7001-110-218
DOME	N/A	2499CGD	7001-110-219
DROP IN GRATE	LIGHT DUTY	2401CI	7001-110-075

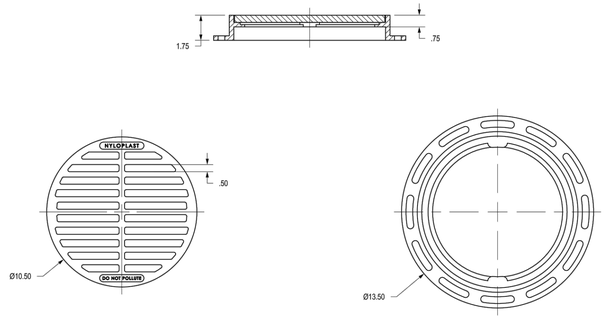
1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
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.
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	Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-3443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 04-03-06			
REVISED BY NMH	PROJECT NO./NAME	TITLE	24 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DATE 03-16-16			
DWG SIZE A	SCALE 1:40 SHEET 1 OF 1	DWG NO. 7001-110-192	REV E

2 24" DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
NTS

1099CGSF

APPROX. DRAIN AREA = 37.35 SQ IN
APPROX. WEIGHT = 15.40 LBS



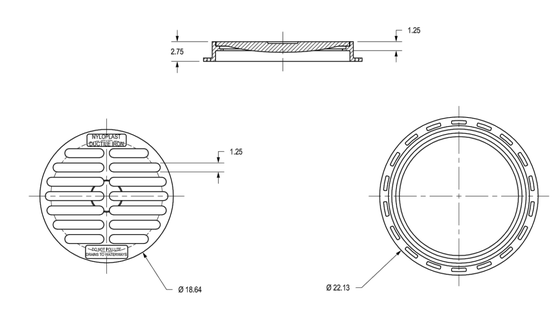
DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE HAS LIGHT DUTY RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.

DRAWN BY NMH	MATERIAL	Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-3443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 6-25-18	DUCTILE IRON		
APPD BY NMH	PROJECT NO./NAME	TITLE	10 IN STANDARD GRATE ASSEMBLY - TYPE B
DATE 6-25-18			
DWG SIZE A	SCALE 1:5 SHEET 1 OF 1	DWG NO. 7001-110-540	REV A

3 10" STANDARD GRATE ASSEMBLY - TYPE B
NTS

1899CGS

APPROX. DRAIN AREA = 116.72 SQ IN
APPROX. WEIGHT WITH FRAME = 68.50 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-029

DRAWN BY EBC	MATERIAL	Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-3443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 3-8-06	DUCTILE IRON		
REVISED BY EBC	PROJECT NO./NAME	TITLE	18 IN STANDARD GRATE ASSEMBLY - TYPE C
DATE 3-13-10			
DWG SIZE A	SCALE 1:10 SHEET 1 OF 1	DWG NO. 7001-110-213	REV C

4 18" STANDARD GRATE ASSEMBLY-TYPE C
NTS

GLMVArchitecture
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MISSOURI STATE CERTIFICATE OF AUTHORITY
#000305

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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
10-19-2022

DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

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PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	DMH
CHKD BY:	SJB

STORMWATER DETAILS

C-531

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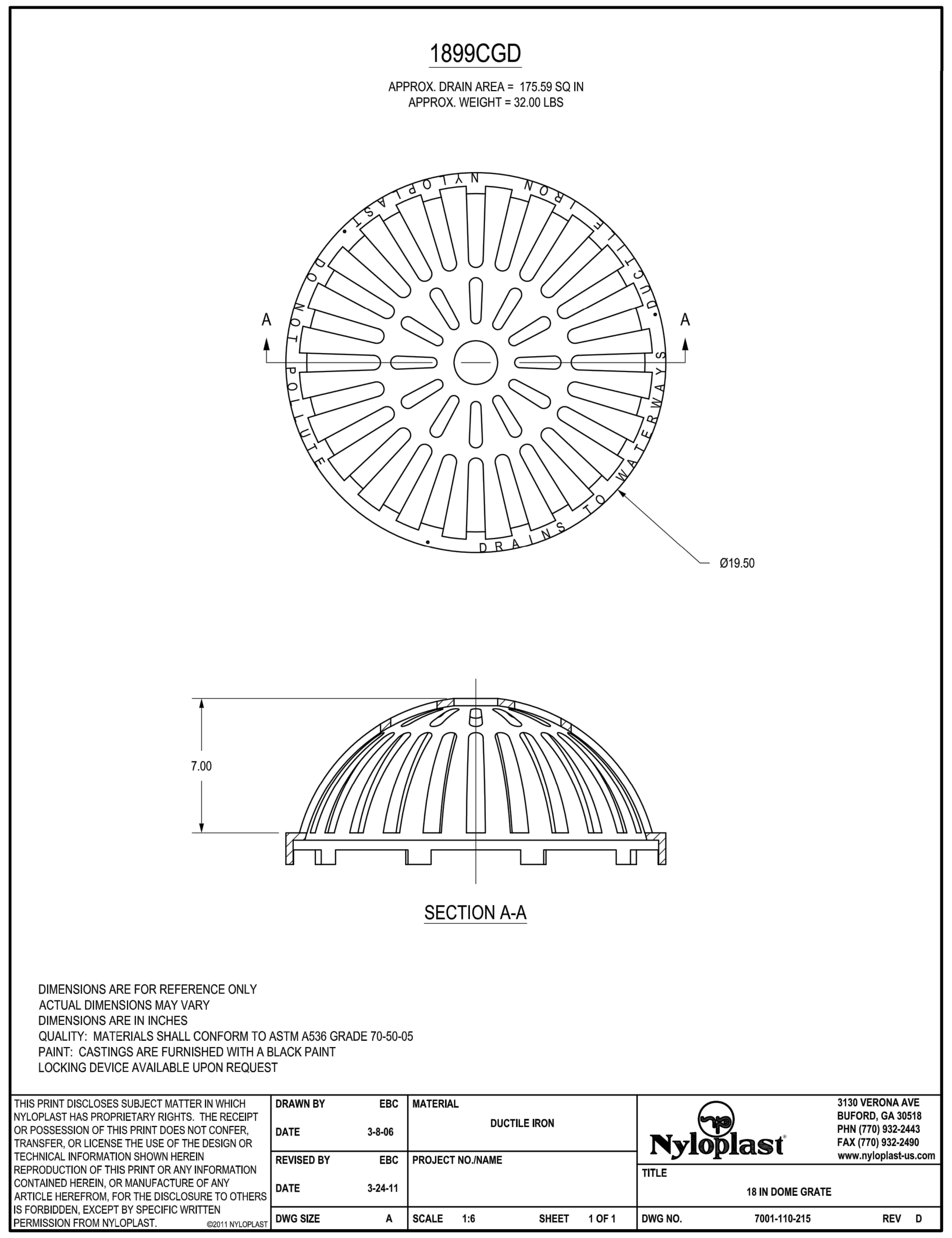
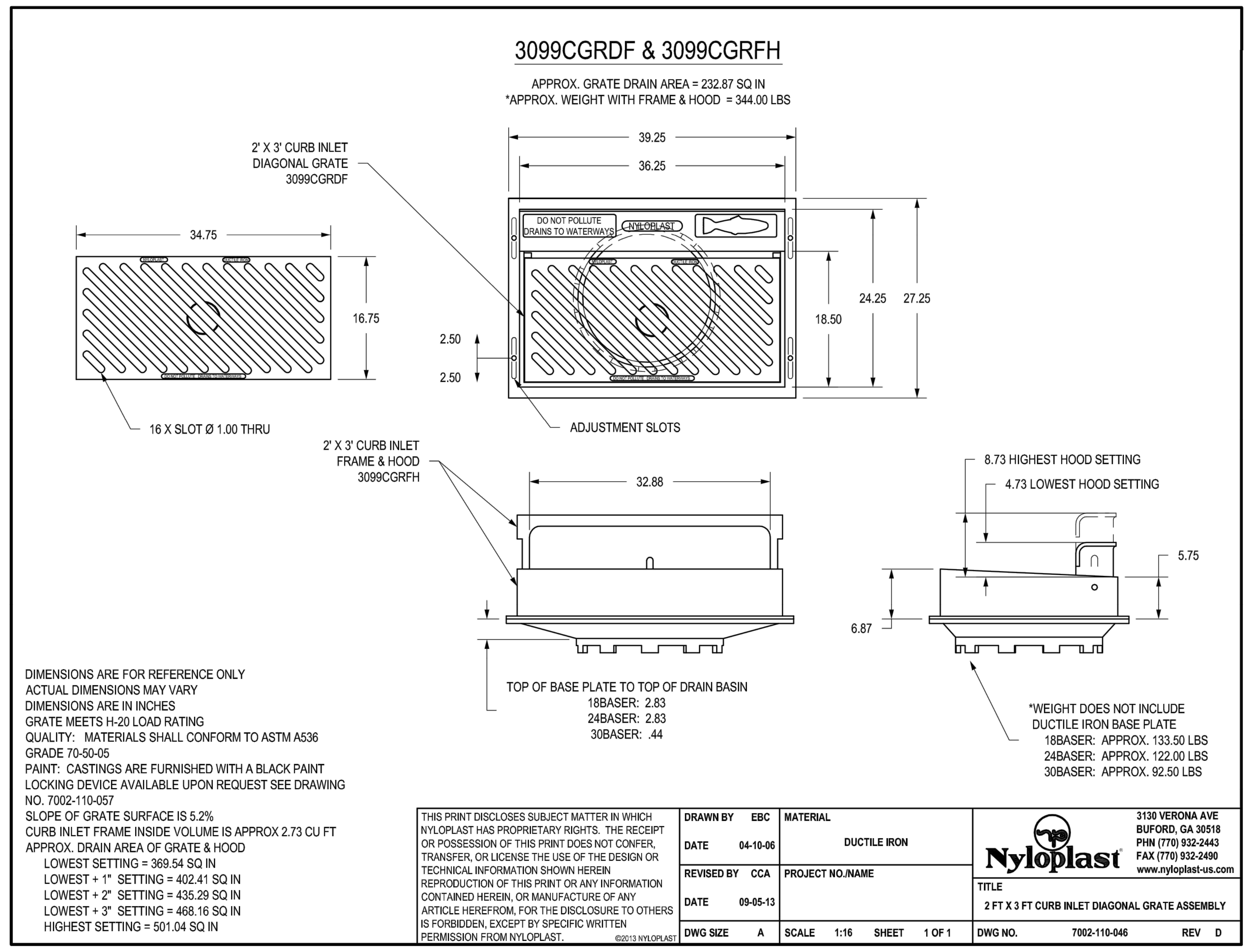

1899CGD
APPROX. DRAIN AREA = 175.59 SQ IN
APPROX. WEIGHT = 32.00 LBS
Ø19.50
7.00
SECTION A-A
DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST
DUCTILE IRON
Nyloplast
18 IN DOME GRATE
7001-110-215

'20(*5$7(

176


3099CGRDF & 3099CGRFH
APPROX. GRATE DRAIN AREA = 232.87 SQ IN
*APPROX. WEIGHT WITH FRAME & HOOD = 344.00 LBS
2' X 3' CURB INLET DIAGONAL GRATE 3099CGRDF
2' X 3' CURB INLET FRAME & HOOD 3099CGRFH
16 X SLOT Ø 1.00 THRU
ADJUSTMENT SLOTS
8.73 HIGHEST HOOD SETTING
4.73 LOWEST HOOD SETTING
TOP OF BASE PLATE TO TOP OF DRAIN BASIN
18BASER: 2.83
24BASER: 2.83
30BASER: .44
*WEIGHT DOES NOT INCLUDE DUCTILE IRON BASE PLATE
18BASER: APPROX. 133.50 LBS
24BASER: APPROX. 122.00 LBS
30BASER: APPROX. 92.50 LBS
Nyloplast
2 FT X 3 FT CURB INLET DIAGONAL GRATE ASSEMBLY
7002-110-046

[&85% ,1/(7 ',$*21$/ *5$7($66(0%/<

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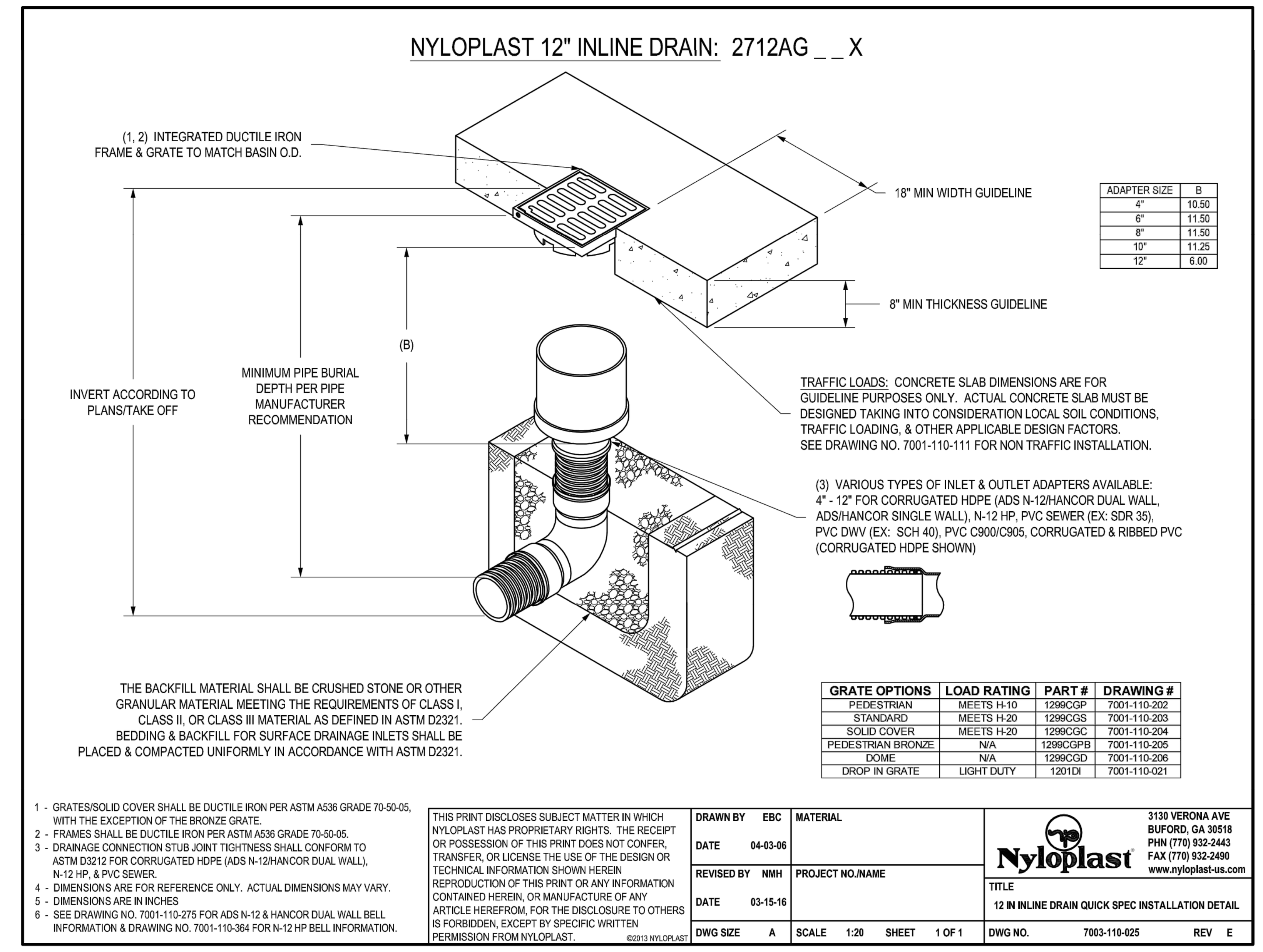
NYLOPLAST 12" INLINE DRAIN: 2712AG _ _ X
(1, 2) INTEGRATED DUCTILE IRON FRAME & GRATE TO MATCH BASIN O.D.
18" MIN WIDTH GUIDELINE
8" MIN THICKNESS GUIDELINE
INVERT ACCORDING TO PLANS/TAKE OFF
MINIMUM PIPE BURIAL DEPTH PER PIPE MANUFACTURER RECOMMENDATION
TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.
THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.
Nyloplast
12 IN INLINE DRAIN QUICK SPEC INSTALLATION DETAIL
7003-110-025

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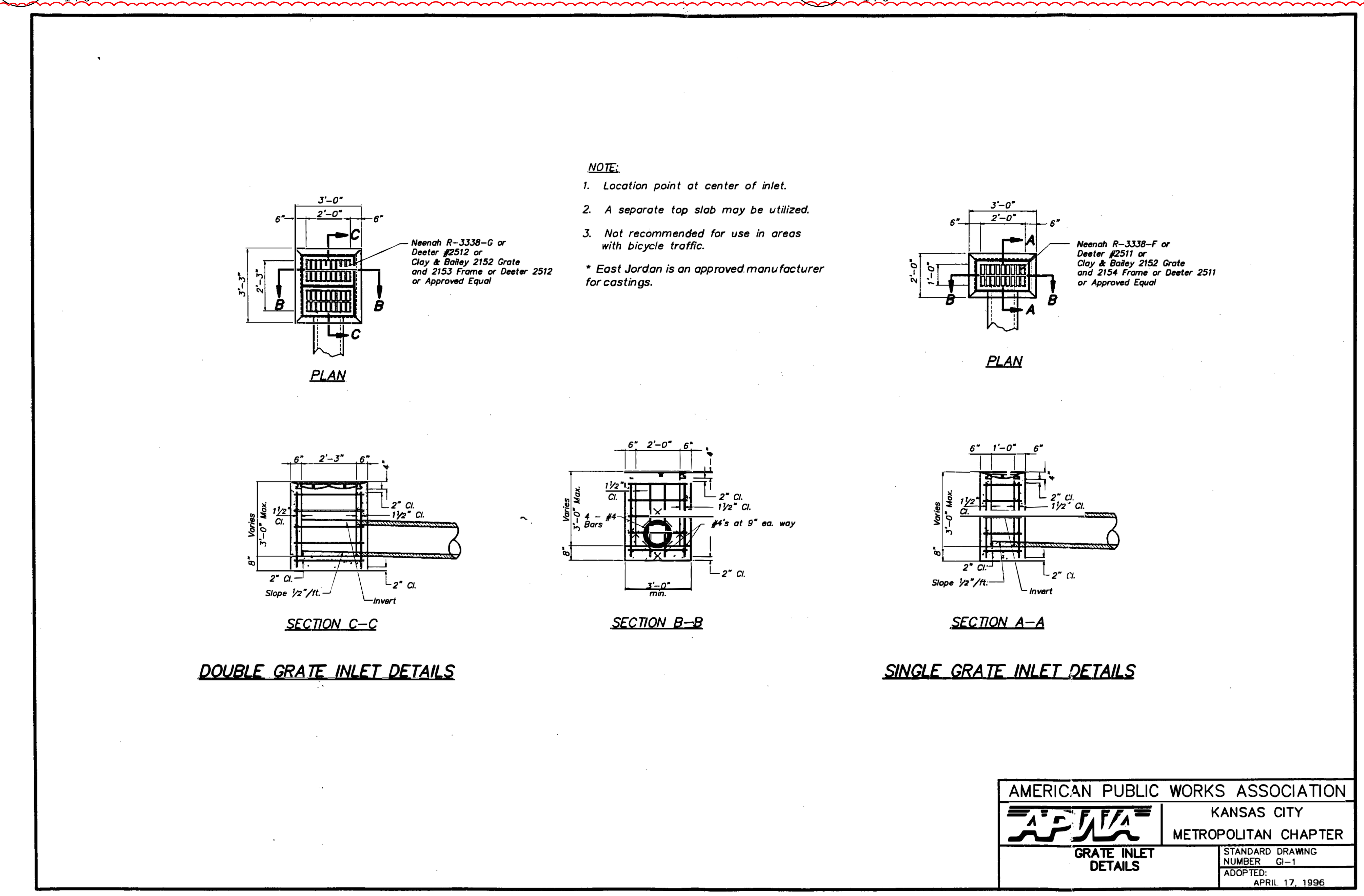
176


NOTE:
1. Location point at center of inlet.
2. A separate top slab may be utilized.
3. Not recommended for use in areas with bicycle traffic.
* East Jordan is an approved manufacturer for castings.
PLAN
SECTION C-C
DOUBLE GRATE INLET DETAILS
SECTION B-B
SECTION A-A
SINGLE GRATE INLET DETAILS
AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METROPOLITAN CHAPTER
GRATE INLET DETAILS
STANDARD DRAWING NUMBER GI-1
ADOPTED: APRIL 17, 1996

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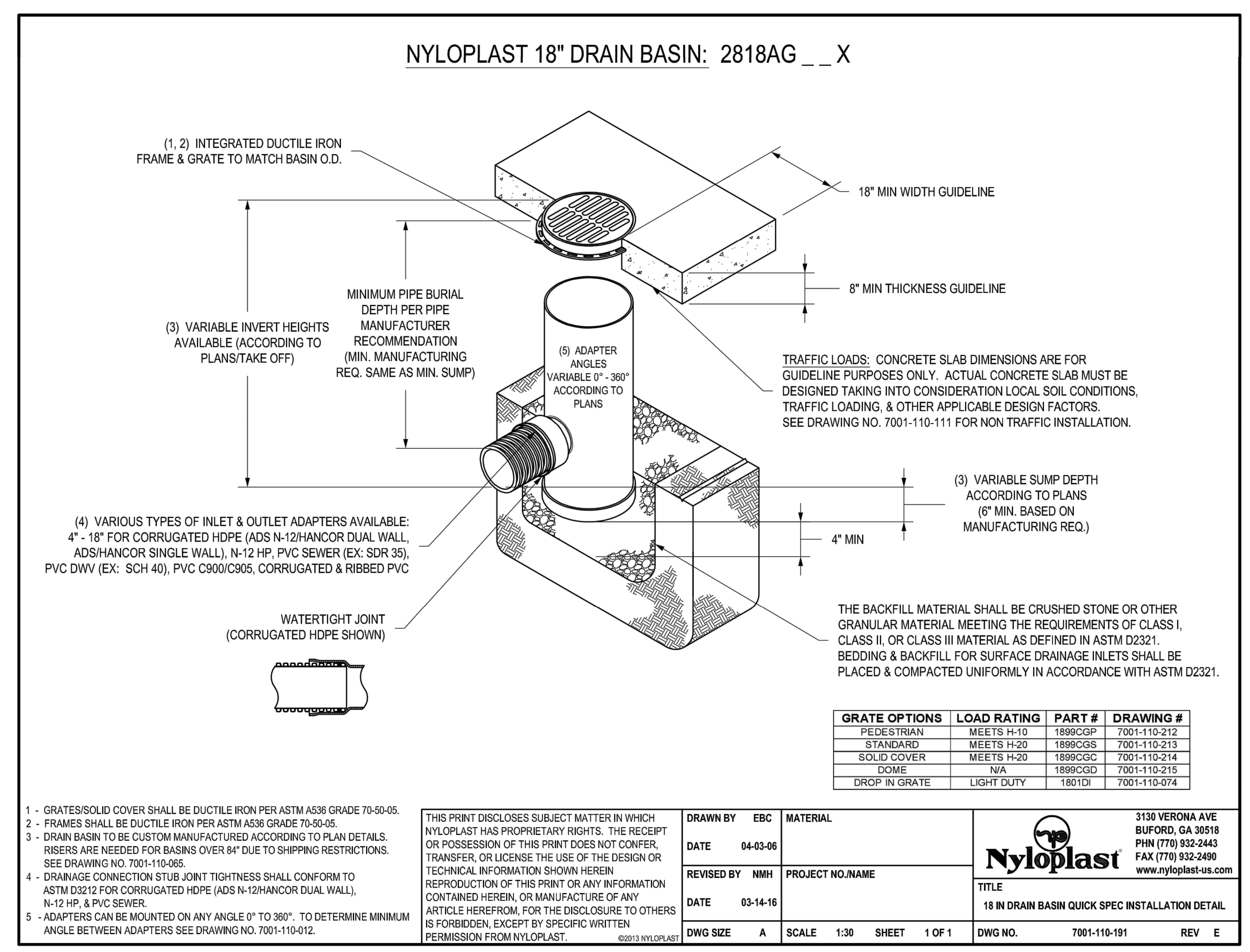
176


NYLOPLAST 18" DRAIN BASIN: 2818AG _ _ X
(1, 2) INTEGRATED DUCTILE IRON FRAME & GRATE TO MATCH BASIN O.D.
18" MIN WIDTH GUIDELINE
8" MIN THICKNESS GUIDELINE
(3) VARIABLE INVERT HEIGHTS AVAILABLE (ACCORDING TO PLANS/TAKE OFF)
MINIMUM PIPE BURIAL DEPTH PER PIPE MANUFACTURER RECOMMENDATION (MIN. MANUFACTURING REQ. SAME AS MIN. SUMP)
TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.
(3) VARIABLE SUMP DEPTH ACCORDING TO PLANS (6" MIN. BASED ON MANUFACTURING REQ.)
4" MIN
WATERTIGHT JOINT (CORRUGATED HDPE SHOWN)
THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.
Nyloplast
18 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
7001-110-191

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176

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

CIVIL ENGINEER & LANDSCAPE ARCH.
GLMV ARCHITECTURE, INC
MISSOURI CIVIL COA #2018033898
MISSOURI LANDSCAPE COA #000008
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LEIGH + O'KANE
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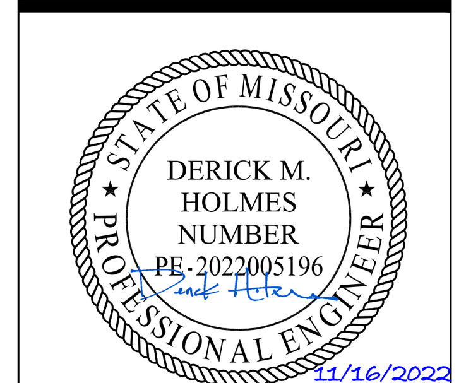
(913) 362-9090 PHONE

SECURITY & IT ENGINEERS
HENDERSON ENGINEERS
MISSOURI COA # 000556
1801 MAIN STREET, SUITE 300
KANSAS CITY, MO 64108
(816) 663-8700 PHONE

FIRE STATION #4

REVISIONS:

$6,	11.16.2022

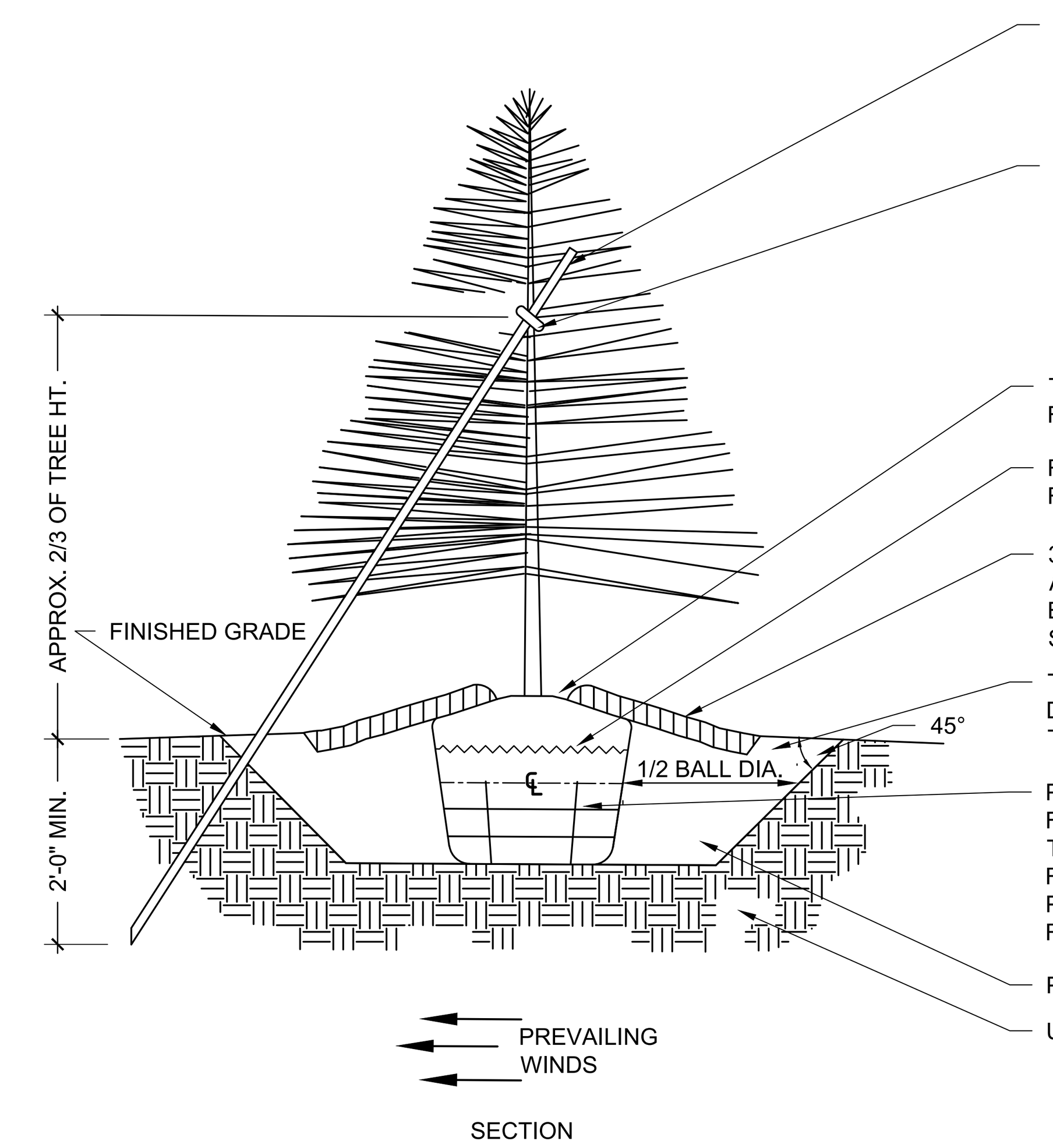


DERICK HOLMES - CIVIL ENGINEER
MO# PE-2022005196

PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	DMH
CHK'D BY:	SJB

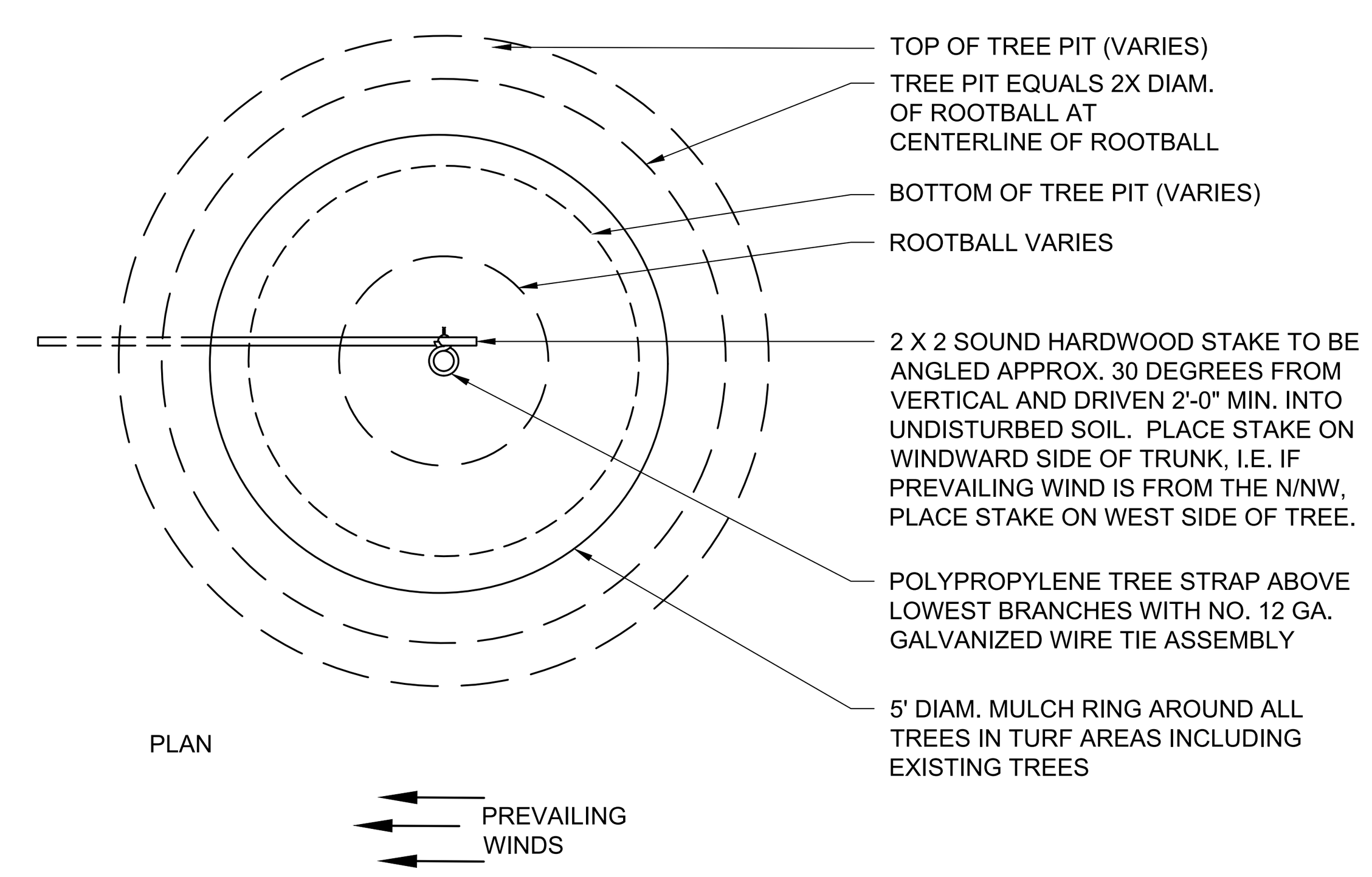
STORMWATER DETAILS

C-532



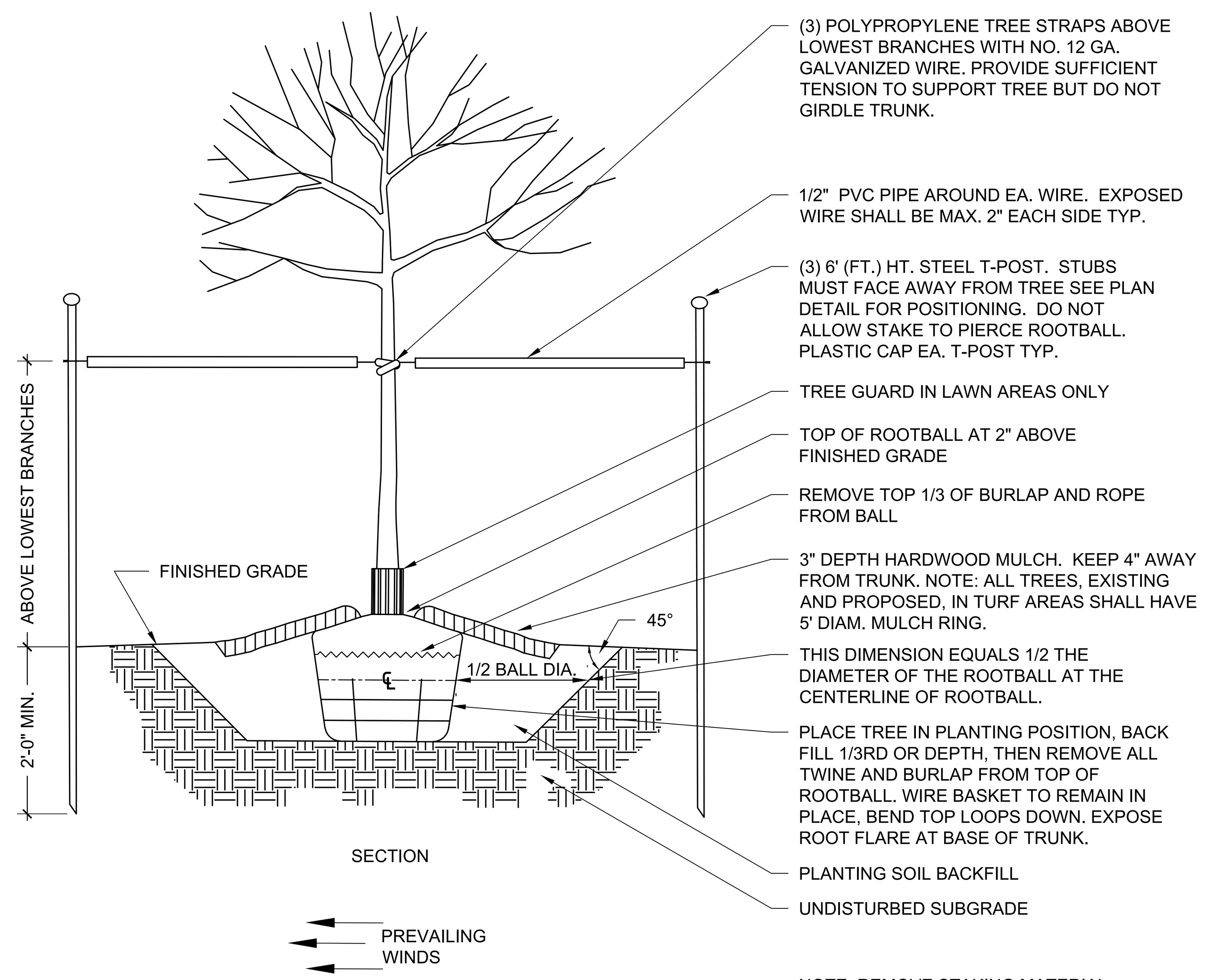
1 EVERGREEN TREE PLANTING

N.T.S.



2 EVERGREEN TREE STAKING

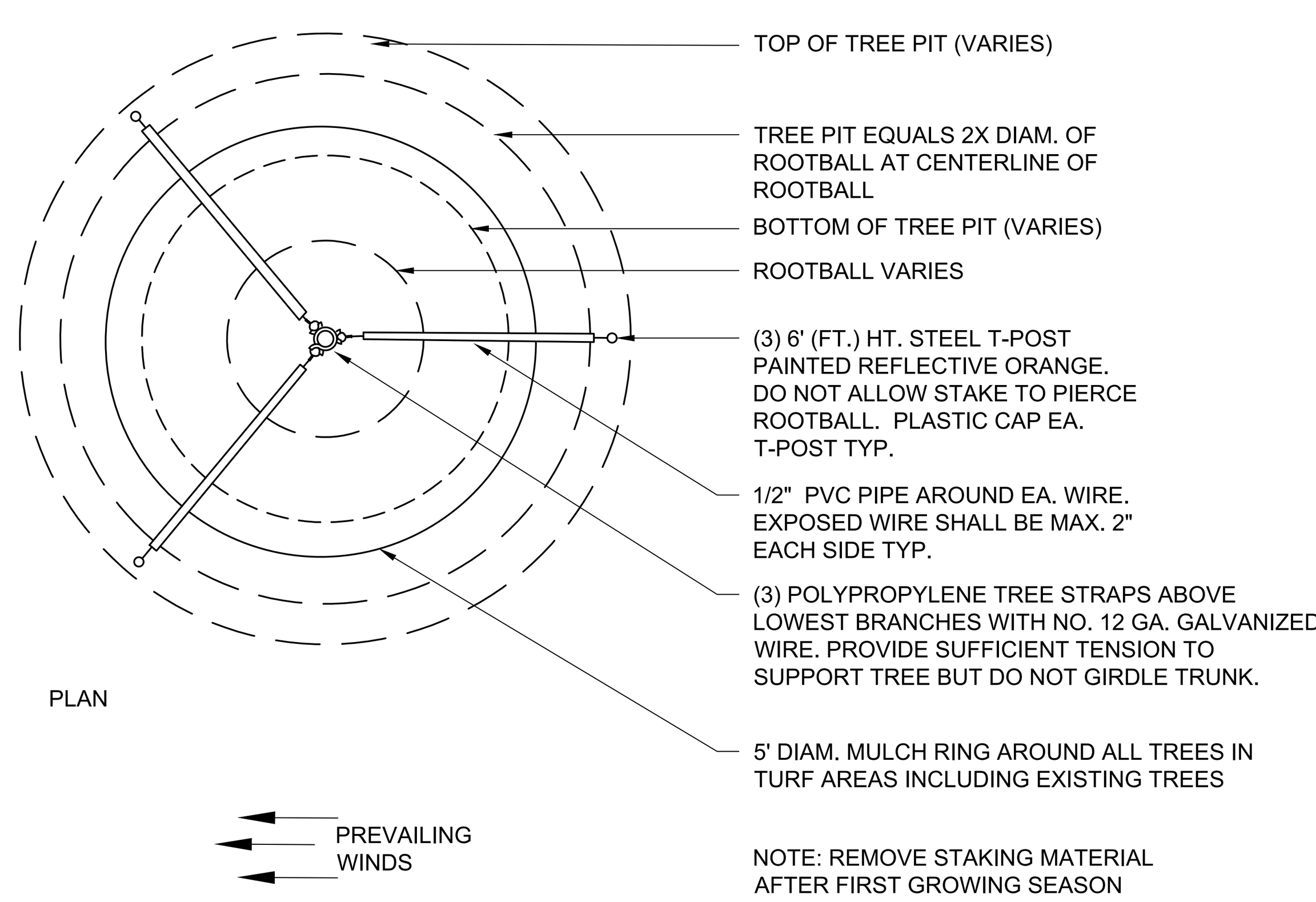
N.T.S.



NOTE: REMOVE STAKING MATERIAL AFTER FIRST GROWING SEASON

3 DECIDUOUS TREE PLANTING

N.T.S.

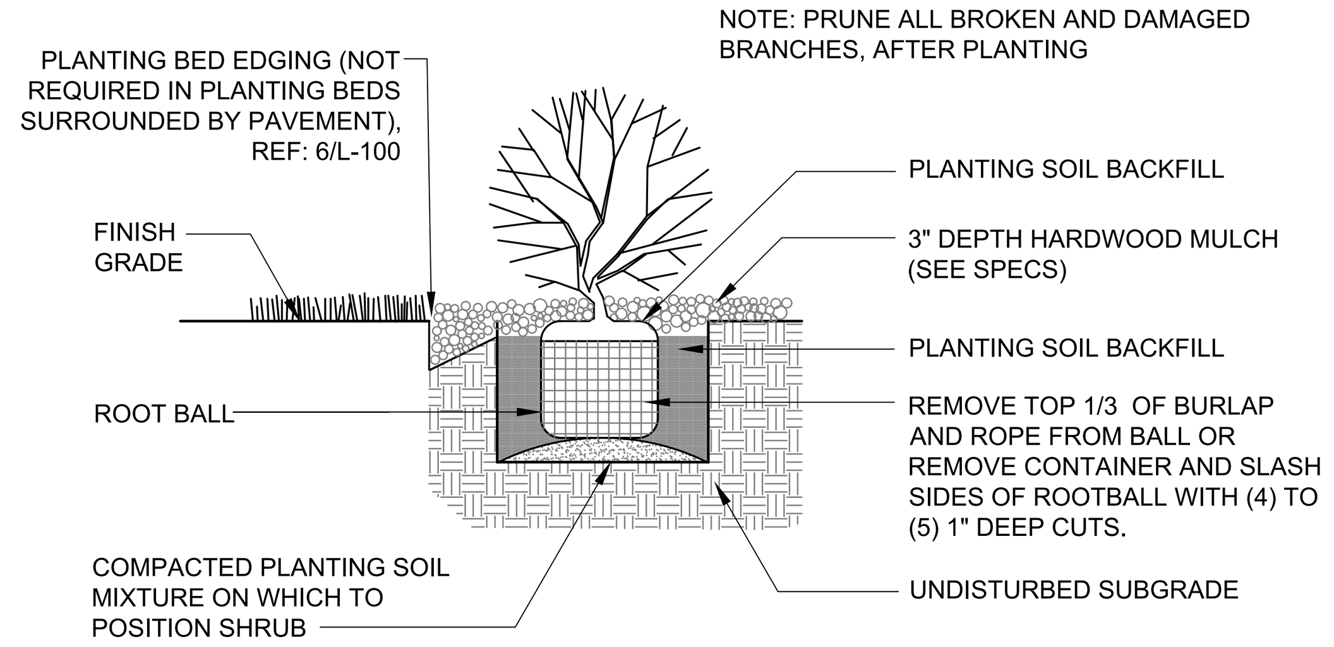


NOTE: REMOVE STAKING MATERIAL AFTER FIRST GROWING SEASON

4 DECIDUOUS TREE STAKING

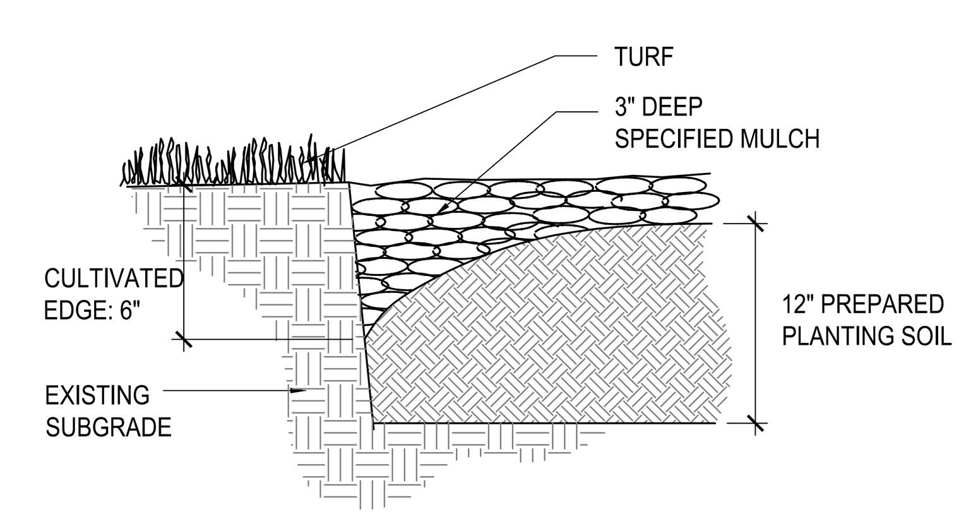
N.T.S.

NOTE: PRUNE ALL BROKEN AND DAMAGED BRANCHES, AFTER PLANTING



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 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 NAME	COMMON NAME	CONT	SIZE	
	MA	4	Malus x 'Adirondack'	Adirondack Crabapple	B & B	3"	
	NW	7	Nyssa sylvatica `Wildfire`	Black Gum	B & B	3"	
	ZM	5	Zelkova serrata 'Musashino'	Musashino Sawleaf Zelkova	B & B	3"	
CONIFERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	
	PB	2	Picea pungens `Baby Blue`	Baby Blue Colorado Spruce	B & B	8` Ht	
	TS	18	Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae	B & B	8` Ht	
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SPACING	SPACING
	Ca	17	Cornus sericea `Artic Fire`	Artic Fire Dogwood	5 gal	Pot	48" o.c.
	Ec	10	Euonymus alatus `Compactus`	Compact Burning Bush	5 gal	Pot	72" o.c.
	Ho	43	Hemerocallis x 'Stella de Oro'	Stella de Oro Daylily	Quart	Pot	18" o.c.
	Hf	17	Hosta x 'First Frost'	First Frost Hosta	2 gal	Pot	30" o.c.
	Il	10	Itea virginica `Little Henry` TM	Virginia Sweetspire	2 gal	Pot	36" o.c.
	Pl	6	Perovskia atriplicifolia `Little Spire` TM	Little Spire Russian Sage	2 gal	Pot	24" o.c.
	Rr	19	Rosa x `Knockout` TM	Rose	2 gal	Pot	48" o.c.
GRASSES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SPACING	SPACING
	Ck	21	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass	3 gal.	Pot	36" o.c.
	Fe	28	Festuca glauca `Elijah Blue`	Elijah Blue Fescue	1 gal.	Pot	18" o.c.
	Sp	18	Schizachyrium scoparium `Prairie Munchkin`	Prairie Munchkin Little Bluestem	2 gal	Pot	24" o.c.
	Sh	42	Sporobolus heterolepis	Prairie Dropseed	2 gal	Pot	30" o.c.
EVERGREEN	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SPACING	SPACING
	Jl	19	Juniperus chinensis 'Gold Lace'	Gold Lace Juniper	5 gal	Pot	60" o.c.
	Ja	8	Juniperus horizontalis `Andorra`	Andorra Juniper	2 gal	Pot	48" o.c.
SOD/SEED	CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE		
	Fa	16,824 sf	Festuca arundinacea 90% Fescue, 10% Bluegrass Mix	Tall Fescue	sod		

7 LANDSCAPE SCHEDULE

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MISSOURI STATE CERTIFICATE OF AUTHORITY #000305

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GLMV ARCHITECTURE, INC
MISSOURI CIVIL COA #2018033898
MISSOURI LANDSCAPE COA #000008
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SECURITY & IT ENGINEERS
HENDERSON ENGINEERS
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(816) 663-8700 PHONE

FIRE STATION #4
CITY OF LEE'S SUMMIT
5031 NORTHEAST LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI 64064

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
1	ASI 01	11.16.2022

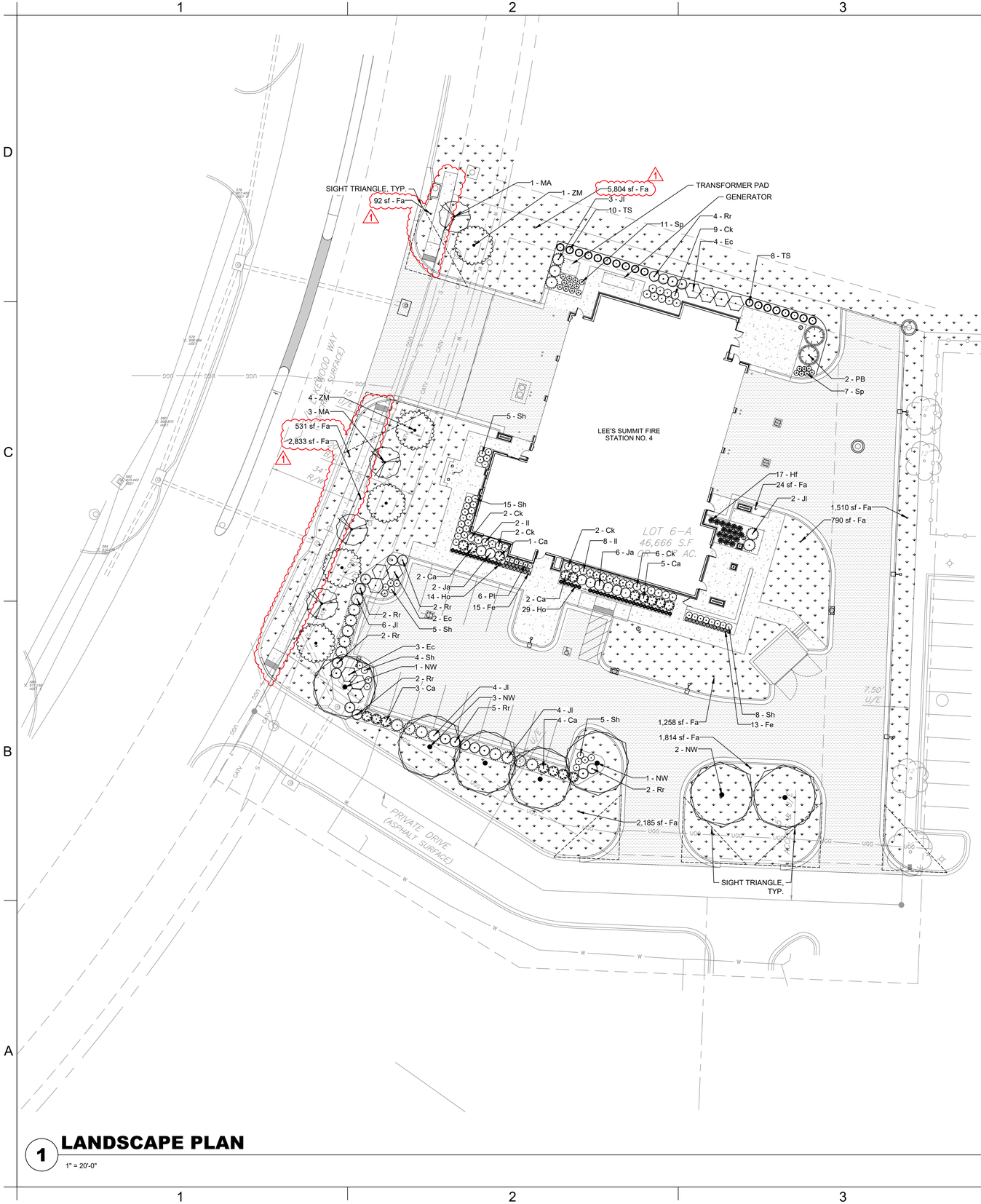
STATE OF MISSOURI — KYLE DAVID WARD — NUMBER PLA-2016002020 — PROFESSIONAL LANDSCAPE ARCHITECT
11/16/2022

KYLE WARD - LANDSCAPE ARCHITECT
MO# PLA-2016002020

PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	KDW
CHK'D BY:	CDW

LANDSCAPE SCHEDULE

L-100



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
	MA	Malus x 'Adirondack'	Adirondack Crabapple
	NW	Nyssa sylvatica `Wildfire`	Black Gum
	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
	Il	Itea virginica `Little Henry` TM	Virginia Sweetspire
	Pl	Perovskia atriplicifolia `Little Spire` TM	Little Spire Russian Sage
	Rr	Rosa x `Knockout` TM	Rose
GRASSES	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	Ck	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass
	Fe	Festuca glauca `Elijah Blue`	Elijah Blue Fescue
	Sp	Schizachyrium scoparium `Prairie Munchkin`	Prairie Munchkin Little Bluestem
	Sh	Sporobolus heterolepis	Prairie Dropseed
EVERGREEN	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	Jl	Juniperus chinensis 'Gold Lace'	Gold Lace Juniper
	Ja	Juniperus horizontalis `Andorra`	Andorra Juniper
SOD/SEED	**CODE**	**BOTANICAL NAME**	**COMMON NAME**
	Fa	Festuca arundinacea 90% Fescue, 10% Bluegrass Mix	Tall Fescue

1 **LANDSCAPE PLAN**
1" = 20'-0"

0 20' 40'
GRAPHIC SCALE 20'

N

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5031 NORTHEAST LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI 64064

100% CONSTRUCTION DOCUMENT DRAWINGS

REVISIONS:

#	Description	Date
1	ASI 01	11.16.2022

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

11/16/2022

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 assumes no responsibility for such plan, drawings, or documents not exhibiting this seal.

PROJECT NO:	18225R21001
DATE:	10.19.2022
DRAWN BY:	KDW
CHK'D BY:	CDW

LANDSCAPE PLAN

L-101

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

Appendix B – Land Disturbance Permit

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Dru Buntin, Director

Fire Station No. 4
MORA22851, Jackson County
City of Lee's Summit
220 SE Green St.
Lee's Summit, MO 64063

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, the Missouri Department of Natural Resources (Department) has issued, and we are enclosing your Missouri State Operating Permit which authorizes land disturbance activities for Fire Station No. 4.

This General Permit is both your federal discharge permit and your new state operating permit and replaces all previous state operating permits and letters of approval for the discharges described within. In all future correspondence regarding this permit, please refer to your general permit number as shown on page one of your permit.

Please note that prior to the beginning of land disturbance activities other permits may also be required. Especially note the requirements for a Department 401 Water Quality Certification and the U.S. Army Corps of Engineers 404 permit. A 401 Certification is needed when placing material, or fill, into the jurisdictional waters of the Unites States. Examples are culverts under road crossings, riprap along stream banks and storm water outfall pipes. The term jurisdictional waters refers to large lakes, rivers, streams and wetlands, including those that don't always contain water.

This permit may include requirements with which you may not be familiar. If you would like the Missouri Department of Natural Resources (Department) to conduct a Compliance Assistance Visit to discuss the permit, an appointment can be set up by contacting your local Department Regional Office or the Water Pollution Program at 573-751-1300.

The permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). Refer to your permit for more information on this SWPPP.

The requirements found in this permit do not supersede nor relieve liability for compliance with other federal, state, county, or local statutes, regulations, or ordinances. Also, any exemptions found in this permit do not imply an exemption from other permits from the Department. It is your responsibility to ensure that any and all necessary permits for this facility have been obtained.

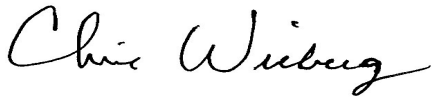
If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Sections 644.051.6 and 621.250, RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date 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. Contact information for the AHC is as follows: Administrative Hearing Commission, United States Post Office Bldg., Third Floor, 131 West High Street, Jefferson City, MO 65101, and PO Box 1557, Jefferson City, MO 65102. phone: 573 751 2422, fax: 573 751 5018, website: www.oa.mo.gov/ahc.

If you have any questions concerning this permit, please do not hesitate to contact us by mail at Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102-0176, or by phone at 573-522-4502. Thank you.

Sincerely,

Water Protection Program



Chris Wieberg
Director

CW

Fire Station No. 4
MORA22851

ePermitting Certification and Signature Document

Missouri State Operating General Permit number MORA22851 was issued on 10-26-2022 based on information entered into the Missouri Department of Natural Resources' electronic Permitting (ePermitting) system. Missouri Regulation 10 CSR 20-6.010(2)(B) requires that all applications for construction and operating permits be signed.

Fire Station No. 4, Jackson County
5031 NE Lakewood Way
LEE'S SUMMIT, MO 64064
Total Permitted Area: 1.13 Acres
Total Number of Permitted Features: 1

Based upon the selection you made on the 'New Permit' screen; it was indicated that a single polygon was drawn indicating the entire disturbance area.

Is any part of the area that is being disturbed in a jurisdictional water of the United States? If yes, you must also receive a Clean Water Act, Section 404 Permit for this site from the United States Army Corp of Engineers.
No

I understand there may be an established Local Authority Erosion Control Plan in the city or the unincorporated area of the county where land disturbance activities covered under this general permit will occur. (Note - you may want to contact your local authority to determine if there are any requirements).
Agreed

A Stormwater Pollution Prevention Plan (SWPPP) must be developed for this site. This plan must be developed in accordance with requirements and guidelines specified within the general permit for storm water discharges from land disturbance activities. The application will be considered incomplete if the SWPPP has not been developed.
Agreed

The above certifications were made electronically in the ePermitting system by:
Name: Ian Mosier
Date: 10/26/2022

I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and being granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, and terms of this permit, subject to any legitimate appeal available to an applicant under the Missouri Clean Water Commission.
Agreed

Ian Mosier
Signature

10-26-2022
Date

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.:	MORA22851
Owner Address:	City of Lee's Summit 220 SE Green St. Lee's Summit, MO 64063
Continuing Authority:	City of Lee's Summit 220 SE Green St. Lee's Summit, MO 64063
Facility Name: Facility Address:	Fire Station No. 4 5031 NE Lakewood Way LEE'S SUMMIT, MO 64064
Legal Description: UTM Coordinates: Receiving Stream: First Classified Stream - ID#: USGS# and Sub Watershed#:	Sec. 05, T 48N, R 31W, Jackson County 382735.090 / 4318009.164 Tributary to Oscie Ora Acres Lake (U) Oscie Ora Acres Lake (L3) 303(d) 7357.00 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 - Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, filling and other activities that result in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution to waters of the state).

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.

10-26-2022
Issue date

02/07/2027
Expiration date

Chris Wieberg, Director, Water Protection Program

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 permit must be issued before any disturbance of root zone of the existing vegetation or other land disturbance activities may begin.

2. If an individual or developer proposes to improve a lot for development or sale that is less than an acre and part of a common plan of development or sale, a permit is required. If an individual proposes to develop a lot to reside on themselves, the development is not considered part of the larger common plan of development or sale and does not require a permit unless the lot is an acre or more [10 CSR 20-6.200 (1)(B)6.]. See table below.

Permit Requirements for a Common Promotional Plan

	Land Disturbance Permit Required?	
	Less than one acre (< 1 acre)	One acre or more (≥ 1 acre)
Land disturbance by a developer (or a contractor working on their behalf), regardless of type of development (initial, commercial, residential)	Yes, if part of a larger common plan of development or sale with cumulative disturbance of one or more acres including individual residential lots in order to improve the lot for sale	Yes
Land disturbance by an individual to reside on themselves (or a contractor working on their behalf)	No	Yes

This general permit also authorizes the discharge of stormwater and certain non-stormwater discharges from smaller projects where the Missouri Department of Natural Resources (Department) has exercised its discretion to require a permit [10 CSR 20-6.200 (1)(B)].

A Missouri State Operating Permit (MORA, MOR100, or site specific) that specifically identifies the project must be issued before any site vegetation is removed (disturbance of the root zone) or the site disturbed [10 CSR 20-6.200 (1)(A)].

Any persons who operate, use, or maintain a land disturbance activity (owner/operator) which is subject to permitting requirements for stormwater discharges from land disturbance activities, who disturbs land prior to permit issuance from the Department is in violation of both State [10 CSR 20-6.200 (1)(A)] and Federal regulations.

The owner/operator and continuing authority of this permit are responsible for compliance with this permit [10 CSR 20-6.200 (3)(B)].

The primary operator(s) of a land disturbance site is any party associated with the project who either: 1) has operational control over construction plans, including the ability to make modifications to those plans; or 2) has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions. This may be the General Contractor, Project Manager, or similar role.

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):
   (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. Support activities which discharge process water shall apply for separate coverage, such as a concrete batch plant discharging process water shall be covered under a MOG49.

The permittee is responsible for compliance with this permit for any construction support activity.

4. This permit authorizes non-stormwater discharges from the following activities provided that these discharges are treated by appropriate Best Management Practices (BMPs) where applicable and addressed in the permittee's specific SWPPP required by this general permit:
   (a) Discharges from emergency fire-fighting activities;
   (b) De-chlorinated fire hydrant flushing;
   (c) Uncontaminated water line flushing;
   (d) Uncontaminated condensate from air conditioning or compressor condensate;
   (e) Landscape watering;
   (f) Uncontaminated, non-turbid discharges of ground water or spring water;
   (g) Foundation or footing drains where flows are not contaminated with process materials;
   (h) Water used to control dust; and
   (i) 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 inlet, or stormwater conveyance, unless the conveyance is connected to an effective control, is prohibited.

5. Sites that have contaminated soils that will be disturbed by the land disturbance activity, or where such materials are brought to the site to use as fill or borrow, shall notify the Department's Water Protection Program for approval before applying for coverage under this permit. The Department reserves the right to revoke or deny coverage under this general permit; a site-specific permit may be required to cover such activities.

B. Permit Restrictions

1. Any non-stormwater discharges other than those explicitly authorized in Part I APPLICABILTY, Condition A.3 are prohibited under this permit.

2. This permit does not authorize the discharge of process wastewaters, treated or otherwise, including water used to wash machinery, equipment, buildings, or wastewater from washout of concrete.

3. 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 305(b) report, including the 303(d) list, with an impairment for sediment:
   (a) This permit authorizes stormwater discharge so long as no degradation of water quality occurs due to discharges from the permitted facility per 10 CSR 20-7.031(3)(C) and as long as the facility is 1,000 or more feet away from the Outstanding National or State Resource Water or a water of the state with an impairment for sediment.
   (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.
   (c) For sites within 1,000 feet of Outstanding National or State Resource Water or a water of the state with an impairment for sediment, the site shall operate as a no-discharge facility as defined in 10 CSR 20-6.015(1)(B)7, and discharges from dewatering of sedimentation basins is prohibited.

4. This general permit does not authorize the placement of fill materials in flood plains, placement of fill into any floodway, the obstruction of stream flow, or changing the channel of a defined drainage course. This general permit addresses only the quality of the stormwater runoff and the minimization of off-site migration of sediments and other water contaminants.

5. This permit does not allow stream channel or wetland alterations unless approved by Section 404 of the federal Clean Water Act (CWA) permitting authorities. Land disturbance activities may not begin in waters of the United States until any required Section 404 permit and Section 401 certification have been obtained.

6. 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.

7. 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.

8. 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)]. Cases where a site-specific permit may be required include, but are not limited to, the following:
   (a) The discharge(s) is a significant contributor of a pollutant(s) which impairs the designated uses or general criteria of the receiving stream;
   (b) The discharger is not in compliance with the conditions of the general permit;
   (c) A Total Maximum Daily Load (TMDL) containing requirements applicable to the discharge(s) is approved; or
   (d) Materials or contaminants exist at the site, or are brought to the site to use as fill or borrow, which may necessitate special controls or permit limits not otherwise considered under this general permit, such as contaminated soils from federal clean-up sites. This general permit may be authorized when additional contaminant controls are proposed by the applicant and the proposal is accepted by the Department in written correspondence.

9. 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.

10. 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.

11. In the event that a State of Emergency is declared, either by the State or Federal government, and as a result an emergency-related project requires land disturbance activity that requires a permit, the owner/operator of the project may begin work prior to permit issuance so long as they implement sediment and erosion controls in compliance with the master general permit conditions contained herein. The owner/operator is not exempt from permitting and shall apply for the land disturbance permit as soon as practicable but no later than seven calendar days after starting work. The Department may determine that other emergencies, considered on a case-by-case basis, are applicable. Contact the Department to determine if non-state of emergencies are applicable.

II. EXEMPTIONS FROM PERMIT REQUIREMENTS

1. Facilities 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 of sale where water quality standards are not exceeded are exempt from Department stormwater permit requirements. Land disturbance activity on an individual residential building lot is not considered as part of the overall subdivision unless the activity is by the developer to improve the lot for sale.

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 with the specific MORA 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 permit has been terminated. The sign is provided at the end of this permit.

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 within the site 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;
   (g) Minimize soil compaction and preserve topsoil where practicable; and
   (h) Capture or treat a 2-year, 24-hour storm event.

4. A 2-year, 24-hour storm event shall 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.
   (a) As an alternative to utilizing NOAA Atlas 14 for site specific data to determine the 2-year, 24-hour storm event the conservative default value can be used based on the map provided by the Department in the Factsheet portion of this permit. The permittee may choose which source to use for the site specific data.

5. 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.

6. 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. Following the installation of these initial BMPs, all BMPs needed to control discharges shall be installed and made operational prior to subsequent earth disturbing activities.

7. Temporary BMPs may be added and removed as necessary with updates to the SWPPP as specified in the requirements below.

8. 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.

9. 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 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 the shorter of either daily or before a rain event. 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.

10. 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 offsite 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 a minimum of 50 feet from waters of the state, stormwater inlets and/or stormwater conveyances;
    (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.

11. 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.

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

13. 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.

14. 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.

15. 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.

16. 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 to discharge or enter waters of the state, the unauthorized discharge must be reported to the appropriate 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.

17. 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.

   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 is a living document and 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. A SWPPP must be developed, implemented, and maintained at the site or electronically accessible by on-site personnel. 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;
   (f) Discuss whether the discharges are in the watershed of Outstanding National or State Resource Water or in the watershed of a water impaired for sediment.
   (g) 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;
   (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;
   (d) If within the boundaries of a regulated Municipal Separate Storm Sewer System (MS4s), list the name of the regulated MS4.

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) 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 offsite); 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) For any portion of the site that discharges within the watershed of an Outstanding National or State Resource Water or a water impaired for sediment, inspections shall be inspected once every seven (7) calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches or greater, or when the occurrence of runoff flow from frozen or snowmelt is sufficient to cause a discharge.

(d) 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.

(e) 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.

(f) 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. Trees designated for preservation should have a protective barrier outside of the dripline, or the area directly located under the outer reaches of the tree's branches.

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 and shall incorporate more than one BMP and sequential treatment devices where the use of a single BMP is ineffective to prevent or minimize sediment or other pollutants from leaving the site. 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 or existing vegetative areas marked for preservation 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) 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.
      2) 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.
      3) 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) Prevent stormwater flows from causing erosion of stockpiles, for example, by diverting flows around them.
   (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 used. 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 prevent erosion at inlets, outlets, and discharge points 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 25% 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 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) Extension to the 14-day completion period for temporary and final stabilization may be made due to weather and equipment malfunctions. In these circumstances, the justification for the extension to the 14 day shall be documented in the SWPPP. The discontinuation or continuation of the extension may be determined by review of the Department staff when on site.
    (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) 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. 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 requesting termination of the permit, 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 (i.e. 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 (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. PERMIT TERMINATION

1. Until the permittee terminates coverage under this permit, the permittee must comply with all conditions in the permit, including continuation of site inspections and public notification signage posted. To terminate permit coverage, the permittee must submit to the appropriate Regional Office a complete and accurate Request for Termination of Operating Permit which certifies that the site meets 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 use following termination of permit coverage;
    (c) The permittee has removed all temporary BMPs that were installed and maintained during construction, except those that are intended for long-term use following termination of permit coverage 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 termination of permit coverage.

    The Department may request photographs that clearly document compliance with termination requirements.

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; or
    (b) Coverage under an individual or alternative general NPDES permit, with land disturbance conditions, has been obtained.

VII. SAMPLING REQUIREMENTS

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 BMP effectiveness, or evidence of off-site impacts from activities at the 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.

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 land disturbance sites less than one acre if the lot is part of a larger common plan of development or sale.
   (a) If the permittee sells any portion of the 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 disturbed portion of the land sold is equal to or greater than one acre. No permit is required, however, for less than one acre of land disturbed on the portion sold.

3. Permit Transfer: This permit may not be transferred to a new owner in any fashion except by submitting an Application for Transfer of Operating Permit signed by the seller and buyer of the site along with the appropriate modification fee. In some cases, revocation and reissuance may be necessary. Facilities that undergo transfers of ownership without notice to the Department are considered to be operating without a permit.

4. Termination: This permit may be terminated when the project has achieved final stabilization, defined in Part VI. 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
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MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET FOR MASTER GENERAL PERMIT
MO-RAXXXXX

The Federal Water Pollution Control Act [Clean Water Act (CWA)] Section 402 of Public Law 92-500 (as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the CWA). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (permit) are issued by the Missouri Department of Natural Resources (Department) under an approved program operated in accordance with federal and state laws (Federal CWA and Missouri Clean Water Law Section 644 as amended). Permits are issued for a period of five (5) years unless otherwise specified.

Per 40 CFR 124.56, 40 CFR 124.8, and 10 CSR 20-6.020(1)(A)2, a Fact Sheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the permit. A Fact Sheet is not an enforceable part of an MSOP.

DEFINITIONS FOR THE PURPOSES OF THIS PERMIT:

Common Promotional Plan: A plan undertaken by one (1) or more persons to offer lots for sale or lease; where land is offered for sale by a person or group of persons acting in concert, and the land is contiguous or is known, designated, or advertised as a common unit or by a common name or similar names, the land is presumed, without regard to the number of lots covered by each individual offering, as being offered for sale or lease as part of a common promotional plan.

Dewatering: The act of draining rainwater and/or groundwater from basins, building foundations, vaults, and trenches.

Effective Operating Condition: For the purposes of this permit, a stormwater control is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

Emergency-Related Project: A project initiated in response to a public emergency (e.g. earthquakes, extreme flooding conditions, tornado, disruptions in essential public services, pandemic) for which the related work requires immediate authorization to avoid imminent endangerment to human health/safety or the environment or to reestablish essential public services.

Exposed Soils: For the purposes of this permit, soils that as a result of earth-disturbing activities are left open to the elements.

Immediately: For the purposes of this permit, immediately should be defined as within 24 hours.

Impervious Surface: For the purpose of this permit, any land surface with a low or no capacity for soil infiltration including, but not limited to, pavement, sidewalks, parking areas and driveways, packed gravel or soil, or rooftops.

Infeasible: Infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices.

Install or Installation: When used in connection with stormwater controls, to connect or set in position stormwater controls to make them operational.

Land Disturbance Site or Site: The land or water area where land disturbance activities will occur and where stormwater controls will be installed and maintained. The land disturbance site includes construction support activities, which may be located at a different part of the property from where the primary land disturbance activity will take place or on a different piece of property altogether. Off-site borrow areas directly and exclusively related to the land disturbance activity are part of the site and must be permitted.

Larger Common Plan of Development or Sale: A continuous area where multiple separate and distinct construction activities are occurring under one plan, including any offsite borrow areas that are directly and exclusively related to the land disturbance activity. Off-site borrow areas utilized for multiple different land disturbance projects are considered their own entity and are not part of the larger common plan of development or sale. See definition of Common Promotional Plan to understand what a ‘common plan’ is.

Minimize: To reduce and/or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

Non-structural BMP: Institutional, educational, or pollution prevention practices designed to limit the amount of stormwater runoff or

pollutants that are generated in the landscape. Examples of non-structural BMPs include picking up trash and debris, sweeping up nearby sidewalks and streets, maintaining equipment, and training site staff on stormwater control practices.
Operational: for the purposes of this permit, stormwater controls are made "operational" when they have been installed and implemented, are functioning as designed, and are properly maintained.

Ordinary High Water Mark: 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.

Outfall: For the purposes of this permit, outfalls are locations where stormwater exits the site property, including pipes, ditches, swales, channels, or other conduits that transport stormwater discharges associated with the construction activity.

Peripheral: For the purposes of this permit, peripheral should be defined as the outermost boundary of the area that will be disturbed.

Permanently: For the purposes of this permit, permanently is defined as any activity that has been ceased without any intentions of future disturbance.

Pollution Prevention Controls (or Measures): Stormwater controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Qualified Person (inspections): A person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

Stormwater Control (also referred to as sediment/erosion controls): refers to any temporary or permanent BMP or other method used to prevent or reduce the discharge of pollutants to waters of the state.

Structural BMP: Physical sediment/erosion controls working individually or as a group (treatment train) appropriate to the source, location, and area climate for the pollutant to be controlled. Examples of structural BMPs include silt fences, sedimentation ponds, erosion control blankets, and seeding.

Temporary Stabilization: A condition where exposed soils or disturbed areas are provided temporary vegetation and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

Treatment Train: A multi-BMP approach to managing the stormwater volume and velocity and often includes erosion prevention and sediment control practices often applied when the use of a single BMP is inadequate in preventing the erosion and transport of sediment. A good option to utilize as a corrective action.

Volunteer Vegetation: A volunteer plant is a plant that grows on its own, rather than being deliberately planted for stabilization purposes. Volunteers often grow from seeds that float in on the wind, are dropped by birds, or are inadvertently mixed into soils. Commonly, volunteer vegetation is referred to as 'weeds'. This does not meet the requirements for final stabilization.

Waters of the State: Section 644.016.1(27) RSMo. defines waters of the state as, "All waters within the jurisdiction of this state, including all rivers, streams, lakes and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased or otherwise controlled by a single person or by two or more persons jointly or as tenants in common."

EXAMPLES OF TYPES; BUT NOT LIMITED TO'S:

Building materials and building products typically present at constructions sites: Asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures, and gravel and mulch stockpiles

Construction and domestic (solid) waste: Packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, Styrofoam, concrete, demolition debris, and other trash or building materials.

Hazardous or toxic waste that may be present at construction sites: Caulks, sealants, fluorescent light ballasts (mercury), solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids.

Pollutant-generating activities: Paving operations; concrete, paint, and stucco washout and waste disposal; solid waste storage and disposal; and dewatering activities.

Types of pollutants typically found at constructions sites: Sediment; nutrients; heavy metals; pesticides and herbicides; oil and grease; bacteria and viruses; trash, debris, and solids; treatment polymers; and any other toxic chemicals.

BMPs for Erosion Control: Temporary/permanent seeding, hydroseeding, mulch and hydromulch, erosion control blankets, dust control, sodding, slope protection, and preservation of existing vegetation.

BMPs for Sediment Control: Fabric drop inlet protection, excavated drop inlet protection, block and gravel inlet protection, domed inlet protection, inlet bag or insert, silt fence, temporary diversion, right-of-way/diversion bar, temporary slope drain, subsurface drain, rock outlets, berms, filter socks, transition mats, temporary sediment trap, energy dissipaters, rock check dam, ditch checks, wattles, straw bale barrier, vegetative buffer strip, sediment basin, particle curtains, frog logs, and dispersion fields.

EPERMITTING FOR LAND DISTURBANCE

In order to apply for the states MO-RA land disturbance permit you will need to utilize the Department's online ePermitting system. In order to access this, you will need to register an account with the Missouri Gateway for Environmental Management (MoGEM). The following user guides will assist you with this process.

MoGEM Website:https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem
ePermitting Website: https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting
How to Register: https://dnr.mo.gov/document-search/registering-new-user-account-within-missouri-gateway-environmental-management-mogem-portal
ePermitting User Guides: (found on ePermitting website)

- How to Add a Facility: https://dnr.mo.gov/document-search/epermitting-chapter-2-home-facility-search-associate-new-facility
- How to Apply for a Permit: https://dnr.mo.gov/document-search/epermitting-chapter-3-create-new-permit.

PART I – BASIC PERMIT INFORMATION

Facility Type:	Industrial Stormwater; Land Disturbance
Facility SIC Code(s):	1629
Facility Description:	Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, filling, and other activities that result in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution to waters of the state).

This permit establishes a SWPPP requirement for pollutants of concern from all facilities covered under this permit. 10 CSR 20-6.200(7) specifies "general permits shall contain BMP requirements and/or monitoring and reporting requirements to keep the stormwater from becoming contaminated".

Land disturbance activities include clearing, grubbing, excavating, grading, filling and other activities that result in the destruction of the root zone and/or other activities that are reasonably certain to cause pollution to waters of the state.

A Missouri State Operating Permit for land disturbance permit is required for construction disturbance activities of one or more acres, or for construction activities that disturb less than one acre when they are 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 per 10CSR 20-6.200(1)(D)28.

The primary requirement of a land disturbance permit is the development of a SWPPP which incorporates site-specific BMPs to minimize soil exposure, soil erosion, and the discharge of pollutants. The SWPPP ensures the design, implementation, management and maintenance of BMPs in order to prevent sediment and other pollutants from leaving the site.

When it precipitates, stormwater washes over the loose soil on a construction site and various other materials and products being stored outside. As stormwater flows over the site, it can pick up pollutants like sediment, debris, and chemicals from the loose soil and transport them to nearby storm sewer systems or directly into rivers, lakes, or coastal waters. The Missouri Department of Natural Resources is responsible for ensuring that construction site operators have the proper stormwater controls in place so that construction can proceed in a way that protects your community's clean water and the surrounding environment. One way the department helps protect water quality is by issuing land disturbance permits.

Local conditions are not considered when developing conditions for a general permit. A facility may apply for a site-specific permit if they desire a review of site-specific conditions.

CHANGES TO THE RENEWAL OF THIS PERMIT INCLUDE:
While drafting this permit for renewal, the Department hosted three public meetings held on January 27, February 17, and March 9, 2021, which allowed stakeholders to voice concerns about conditions within the permit and submit comments during the period of initial stakeholder involvement. These concerns were taken into consideration when drafting the permit. In addition to these meetings, the Department also held an informal review period for stakeholders to review the draft prior to the 30 day public comment period.

- Updated language throughout the permit to current permit language used by the Department and EPA.
- Added language for emergency related projects.
- Clarified conditions which were ambiguous.
- Reorganized sections/conditions for logical progression.
- Authorized permit transfers and some modifications.
- Sections added for termination procedures, discharges to special streams, and procedures for concrete washout.

PART II – RECEIVING STREAM INFORMATION

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:
Per Missouri Effluent Regulations (10 CSR 20-7.015), the waters of the state are divided into seven (7) categories. This permit applies to facilities discharging to the following water body categories:

- ✓ Missouri or Mississippi River [10 CSR 20-7.015(2)]
- ✓ Lakes or Reservoirs [10 CSR 20-7.015(3)]
- ✓ Losing Streams [10 CSR 20-7.015(4)]
- ✓ Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- ✓ Special Streams [10 CSR 20-7.015(6)]
- ✓ Subsurface Waters [10 CSR 20-7.015(7)]
- ✓ All Other Waters [10 CSR 20-7.015(8)]

Missouri Water Quality Standards (10 CSR 20-7.031) defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's designated water uses shall be maintained in accordance with 10 CSR 20-7.031(24). A general permit does not take into consideration site-specific conditions.

MIXING CONSIDERATIONS:
This permit applies to receiving streams of varying low flow conditions. Therefore, the effluent limitations must be based on the smallest low flow streams considered, which includes waters without designated uses. As such, no mixing is allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)]. No Zone of Initial Dilution is allowed. [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:
There are no receiving water monitoring requirements recommended at this time.

PART III – RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & PERMIT CONDITIONS

305(B) REPORT, 303(d) LIST, & TOTAL MAXIMUM DAILY LOAD (TMDL):
Section 305(b) of the Federal CWA requires each state identify waters not meeting Water Quality Standards and for which adequate water pollution controls have not been required. Water Quality Standards protect such beneficial uses of water as whole body contact, maintaining fish and other aquatic life, and providing drinking water for people, livestock, and wildlife. The 303(d) report, which includes the 303(d) list, helps state and federal agencies keep track of waters which are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed which shall include the TMDL calculation. For facilities with an existing general permit before a TMDL is written on their receiving stream, the Department will evaluate the permit and may require any facility authorized by this general permit to apply for and obtain a site-specific operating permit.

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA Section 303(d)(4); CWA Section 402(c); 40 CFR Part 122.44(I)] requires a reissued permit to be as stringent as the previous permit with some exceptions.

✓ Not Applicable: All effluent limitations in this permit are at least as protective as those previously established.

ANTIDEGRADATION:

Antidegradation policies ensure protection of water quality for a particular water body on a pollutant by pollutant basis to ensure Water Quality Standards are maintained to support beneficial uses such as fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as an Outstanding National Resource Water or Outstanding State Resource Water [10 CSR 20-7.031(3)(C)]. Antidegradation policies are adopted to minimize adverse effects on water.

The Department has determined the best avenue forward for implementing the Antidegradation requirements into general stormwater permits is by requiring the appropriate development and maintenance of a SWPPP. The SWPPP must identify all reasonable and effective BMPs, taking into account environmental impacts and costs. This analysis must document why no discharge or no exposure options are not feasible at the facility. This selection and documentation of appropriate control measures will then serve as the analysis of alternatives and fulfill the requirements of the Antidegradation Rule and Implementation Procedure 10 CSR 20-7.031(3) and 10 CSR 20-7.015(9)(A)5.

Any facility seeking coverage under this permit which undergoes expansion or discharges a new pollutant of concern must update their SWPPP and select reasonable and cost effective new BMPs. New facilities seeking coverage under this permit are required to develop a SWPPP including this analysis and documentation of appropriate BMPs. Renewal of coverage for a facility requires a review of the SWPPP to ensure the selected BMPs continue to be appropriate.

✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

BENCHMARKS:

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer. Benchmarks require the facility to monitor and, if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the limitations of the permit.

✓ Not applicable; this facility has stormwater-only outfalls and does not contain numeric benchmarks.

BEST MANAGEMENT PRACTICES:

Minimum site-wide BMPs are established in this permit to ensure all permittees are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. If the minimum BMPs are not followed, the facility may violate general criteria [10 CSR 20-7.031(4)]. Statutes are applicable to all permitted facilities in the state; therefore, pollutants cannot be released unless in accordance with RSMo 644.011 and 644.016 (17).

During a short time period, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation and contribution of other pollutants from construction sites can cause physical, chemical, and biological harm to Missouri's waters. Land disturbance activities, such as clearing and grading the land surface, increases the potential for sediment discharges.

The previous version of this permit contained the majority of the BMPs required in this permit and were found to protect water quality. Additional BMPs were added to improve protections with language taken from the EPA's Construction General Permit.

Language was added for track out to clarify and to combine with the roadway conditions in the previous permit. Preventing sediment from entering roadway inlets will protect water quality. Requirements were added for concrete wash out management. This is a common activity on construction sites which had not been address in the previous permit. Containment of the wash out water will protect waters of the state. This language was adopted from the EPAs Construction General Permit.

This renewal requires certain operators be listed in the SWPPP, this was added to ensure all responsible parties are known to the staff on site in the event there is an environmental issue that needs attention.

Inspection conditions were added to clarify what parts of the site to inspect. By inspecting areas prone to pollution, such as material storage, or location where pollutants are like to leave the site, such as the outfall, there is increased protections to water quality by stopping pollutants before leaving the site, or correcting an issue quickly.

Inspection frequencies were reduced for areas where stabilization has been achieved. It was the permit writer's judgement that stabilized areas do not require inspections at the same frequency as active areas of a site as the stabilization is a BMP to reduce sediment loss. Additional inspections are required for sediment basin dewatering activities during times of dewatering. These activities

open the possibility for high volumes of sediment to be discharged into the receiving waters. By inspecting the discharge, the waters shall be better protected. Language was added to add the temporary reduction of inspections for areas that have frozen ground.

Condition was added for stockpile management to add clarity for operators on site. Migration of soil or product from mis-managed piles can enter waters of the state and cause water quality violations. Conditions were added to sediment basin dewater to increase the protection of receiving waters by increasing controls to retain sediment and keep it out of the discharged water.

Language was added to include National and State Resource Waters with added protections. Language for this was taken from the template for Missouri General Permits. These requirements also include waters with impairments for sediment, the pollutant of concern under this permit. Extra protections in these special stream requirements were added to clarify the discharges must be stormwater only.

Language was added to include the encouragement of preserving vegetation, trees, and soil. Clearing reduces the natural uptake of water and nutrients by vegetation and excessive grading can smooth the ground surface, increasing amount and velocity of runoff. Vegetation inhibits erosion as the roots hold the topsoil in place, while leaves protect the surface against rain. Once the vegetative cover is gone, erosion is accelerated. The longer the exposed area is subject to erosive forces, the more severe the effect. Clarification was added to define voluntary vegetation and to explain that these shallow rooted short-lived vegetation is not allowed as permanent stabilization.

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:
This special condition reiterates the federal rules found in 40 CFR 122.44(f) and 122.42(a)(1). In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "…any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the clean water act then refers to those parameters found in 40 CFR 401.15. The permittee should also consider any other toxic pollutant in the discharge as reportable under this condition.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:
Domestic wastewater is defined as wastewater (i.e., human sewage) originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste.

- ✓ Not applicable; this permit does not authorize discharge of domestic waste, sludge, or biosolids. This includes discharges to onsite lagoons. If a facility has an onsite lagoon, they may need to obtain a separate general or site specific permit to cover discharges or land application from this structure.

Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for productive use (i.e. fertilizer) and after having pathogens removed.

- ✓ Not applicable; this permit does not authorize discharge or land application of biosolids or sludge. A separate permit must be obtained for these activities, either general or site specific.

EFFLUENT LIMITATION GUIDELINE:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.

- ✓ The industries covered under this permit have an associated Effluent Limit Guideline (ELG) which is applicable to the stormwater discharges in this permit and is applied under 40 CFR 125.3(a).

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online.

- ✓ Not applicable; this permit has no limits to report.

GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether

discharges have reasonable potential to cause or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, RSMo 644.076.1, as well as Standard Permit Conditions Part VIII of this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission.

LAND APPLICATION:
Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities to maintain a basin as no-discharge. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from RSMo 644.026.
✓ Not applicable; this permit does not authorize operation of a surficial land application system to disperse wastewater or sludge.

LAND DISTURBANCE:
Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.
✓ Applicable; this permit provides coverage for land disturbance activities. These activities have SWPPP requirements and may be combined with the standard site SWPPP. Land disturbance BMPs should be designed to control the expected peak discharges. The University of Missouri has design storm events for the 25 year 24 hour storm; these can be found at: http://ag3.agebb.missouri.edu/design_storm/comparison_reports/20191117_25yr_24hr_comparison_table.htm; to calculate peak discharges, the website https://www.lmnoeng.com/Hydrology/rational.php has the rational equation to calculate expected discharge volume from the peak storm events.

NUTRIENT MONITORING:
Nutrient monitoring is required for facilities characteristically or expected to discharge nutrients (nitrogenous compounds and/or phosphorus) when the design flow is equal to or greater than 0.1 MGD per 10 CSR 20-7.015(9)(D)8.
✓ This is a stormwater only permit; therefore, it is not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C).

OIL/WATER SEPARATORS:
Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank.
✓ Not applicable; this permit does not authorize the operation of OWS. The facility must obtain a separate permit to cover operation of and discharge from these devices.

OPERATOR CERTIFICATION REQUIREMENTS:
As per 10 CSR 20-6.010(8) Terms and Conditions of a Permit, permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation.
✓ Not applicable; the facilities covered under this permit are not required to have a certified operator.

PERMIT SHIELD:
The permit shield provision of the Clean Water Act (Section 402(k)) and Missouri Clean Water Law (644.051.16 RSMo) provides that when a permit holder is in compliance with its NPDES permit or MSOP, they are effectively in compliance with certain sections of the Clean Water Act and equivalent sections of the Missouri Clean Water Law. In general, the permit shield is a legal defense against certain enforcement actions but is only available when the facility is in compliance with its permit and satisfies other specific conditions, including having completely disclosed all discharges and all facility processes and activities to the Department at time of application. It is the facility's responsibility to ensure that all potential pollutants, waste streams, discharges, and activities, as well as wastewater land application, storage, and treatment areas, are all fully disclosed to the Department at the time of application or during the draft permit review process. Subsequent requests for authorization to discharge additional pollutants or expanded or newly disclosed flows, or for authorization for previously unpermitted and undisclosed activities or discharges, will likely require permit modification or may require the facility be covered under a site specific permit.

PRETREATMENT PROGRAM:
This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publicly owned treatment works - POTW) must ensure compliance with any effluent

limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per RSMo 644.016 are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities.

✓ Not Applicable; the facilities covered under this permit are not required to meet pretreatment requirements under an ELG.

PUBLIC NOTICE OF COVERAGE FOR AN INDIVIDUAL FACILITY:

Public Notice of reissuance of coverage is not required unless the facility is a specific type of facility as defined in 10 CSR 20-6.200(1). The need for an individual public notification process shall be determined and identified in the permit [10 CSR 20-6.020(1)(C)5.].

✓ Not applicable; public notice is not required for coverage under this permit to individual facilities. The MGP is public noticed in lieu of individual permit PN requirements.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation 40 CFR Part 122.44(d)(1)(i) requires effluent limitations for all pollutants which are or may be discharged at a level which will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard. In accordance with 40 CFR Part 122.44(d)(iii) if the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the water quality standard, the permit must contain effluent limits for the pollutant.

✓ The permit writer reviewed industry materials, available past inspections, and other documents and research to evaluate general and narrative water quality reasonable potential for this permit. Permit writers also use the Department's permit writer's manual, the EPA's permit writer's manual (https://www.epa.gov/npdes/npdes-permit-writers-manual), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding technology based effluent limitations, effluent limitation guidelines, and water quality standards. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs.

SCHEDULE OF COMPLIANCE (SOC):

Per § 644.051, RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement or if prohibited by other statute or regulation. An SOC includes an enforceable sequence of interim requirements (e.g. actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. *See also* Section 502(17) of the Clean Water Act, and 40 CFR 122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, an SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

✓ Not Applicable: This permit does not contain a SOC.

SETBACKS:

Setbacks, sometimes called separation distances, are common elements of permits and are established to provide a margin of safety in order to protect the receiving water and other features from accidents, spills, unusual events, etc. Specific separation distances are included in 10 CSR 20-8 for minimum design standards of wastewater structures. While wastewater is considered separately from stormwater under this permit, the guides and Chapter 8 distances may remain relevant to requirements under this permit if deemed appropriate by the permittee.

✓ Discharge to the watersheds of a Metropolitan No-Discharge Stream (10 CSR 20-7.031 Table F) is authorized by this permit if the discharges are in compliance with 10 CSR 20-7.015(5) and 10 CSR 20-7.031(7). Discharges to these watersheds are authorized for uncontaminated stormwater discharges only.

✓ This permit authorizes stormwater discharges which are located in a way to allow water to be released into sinkholes, caves, fissures, or other openings in the ground which could drain into aquifers (except losing streams) per 10 CSR 20-7.015(7). It is the best professional judgment of the permit writer to allow discharges to losing streams as the effluent is stormwater only.

✓ This permit authorizes stormwater discharge in the watersheds of Outstanding state Resource Waters (OSRW); Outstanding National Resources Waters (ONRW), which includes the Ozark National Riverways and the National Wild and Scenic Rivers System; and impaired waters as designated in the 305(b) report, including the 303(d), list so long as no degradation of water quality occurs in the OSRW and ONRW due to discharges from the permitted facility per 10 CSR 20-7.015(6)(B) and 10 CSR 20-7.031(3)(C).

Additionally, if the facility is found to be causing degradation or contributing to an impairment by discharging a pollutant of concern during an inspection or through complaint investigations, they will be required to become a no discharge facility or obtain a site specific permit with more stringent monitoring and SWPPP requirements. Missouri's impaired waters can be found at https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-

loads/impaired-waters. Sites within 1000 feet of a OSRW, ONRW, or water impaired for sediment must operate as a no-discharge facility. These additional protections are borrowed from the USEPA 2021 draft Construction General Permit.

SLUDGE – DOMESTIC BIOSOLIDS:
Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer). Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including, but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.
✓ This permit does not authorize discharge or land application of biosolids. Sludge/biosolids is not generated by this industry.

SLUDGE – INDUSTRIAL:
Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process wastewater in a treatment works; including, but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and a material derived from industrial sludge.
✓ Not applicable; sludge is not generated by this industry.

SPILL REPORTING:
Any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply when the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. https://dnr.mo.gov/waste-recycling/investigations-cleanups/environmental-emergency-response.

Underground and above ground storage devices for petroleum products, vegetable oils, and animal fats may be subject to control under federal Spill Prevention, Control, and Countermeasure Regulation and are expected to be managed under those provisions, if applicable. Substances regulated by federal law under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) which are transported, stored, or used for maintenance, cleaning or repair shall be managed according to the provisions of RCRA and CERCLA.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k), BMPs must be used to control or abate the discharge of pollutants when: 1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*, (Document number EPA 833-R-06-004) published by the EPA in 2007 https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally, in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

A SWPPP must be prepared if the SIC code for the facility is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed, the facility will employ the control measures determined to be adequate to prevent pollution from entering waters of the state. The facility will conduct inspections of the BMPs to ensure they are working properly and re-evaluate any BMP

not achieving compliance with permitting requirements. For example if the BMP being employed is deficient in controlling stormwater pollution, corrective action should be taken to repair, improve, or replace the failing BMP. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

The EPA has developed factsheets on the pollutants of concern for specific industries along with the BMPs to control and minimize stormwater (https://www.epa.gov/npdes/stormwater-discharges-industrial-activities). Along with EPA's factsheets, the International Stormwater BMP database (https://bmpdatabase.org/) may provide guidance on BMPs appropriate for specific industries.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)].

Alternative analysis evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The alternative analysis evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of the *Antidegradation Implementation Procedure* defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The alternative analysis evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure*, Section II.B.

✓ Applicable: A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate control practices specific to site conditions, and provide for maintenance and adherence to the plan.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031 or other health-based standards or may otherwise adversely affect human health. If the Department finds the injection activity may endanger USDWs, the Department may require closure of the injection wells or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

✓ Not applicable; this permit does not authorize subsurface wastewater systems or other underground injection. These activities must be assessed under an application for a site specific permit. Certain discharges of stormwater into sinkholes may qualify as UIC. It is important the permittee evaluate all stormwater basins, even those holding water; as sinkholes have varying seepage rates. This permit does not allow stormwater discharges into sinkholes. The facility must ensure sinkholes are avoided in the construction process. The State's online mapping resource https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=87ebef4af15d438ca658ce0b2bbc862e has a sinkhole layer.

VARIANCE:

Per the Missouri Clean Water Law Section 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law Section 644.006 to 644.141 or any standard, rule, or regulation promulgated pursuant to Missouri Clean Water Law Section 644.006 to 644.141.

✓ Not Applicable: This permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITATIONS:

Per 10 CSR 20-2.010(78), the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant which may be discharged into the stream without endangering its water quality. Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures

outlined in USEPA's Technical Support Document For Water Quality-based Toxics Control (TSD) (EPA/505/2-90-001).
✓ Not applicable; water quality limitations were not applied in this permit.

WATER QUALITY STANDARDS:
Per 10 CSR 20-7.031(4), General Criteria shall be applicable to all waters of the state at all times, including mixing zones. Additionally, 40 CFR 122.44(d)(1) directs the Department to include in each NPDES permit conditions to achieve water quality established under Section 303 of the CWA, including state narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:
Per 10 CSR 20-7.031(1)(FF), a toxicity test conducted under specified laboratory conditions on specific indicator organism; and per 40 CFR 122.2, the aggregate toxic effect of an effluent measured directly by a toxicity test. A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with, or through synergistic responses when mixed with receiving water.
✓ Not applicable: At this time, permittees are not required to conduct a WET test. This permit is for stormwater only.

PART IV – EFFLUENT LIMITATIONS DETERMINATION

EPA Construction General Permit (CGP)
The CGP was used to research and support best professional judgment decisions made in establishing technology-based conditions for this general permit which are consistent with national standards. The permit writer determined the standards established by the CGP are achievable and consistent with federal regulations. Additionally, the conditions reflecting the best practicable technology currently available are utilized to implement the ELG.

In this general permit, technology-based effluent conditions are established through the SWPPP and BMP requirements. Effective BMPs should be designed on a site-specific basis. The implementation of inspections provides a tool for each facility to evaluate the effectiveness of BMPs to ensure protection of water quality. Any flow through an outfall is considered a discharge. Future permit action due to permit modification may contain new operating permit terms and conditions which supersede the terms and conditions, including effluent limitations, of this operating permit.

PART V–REPORTING REQUIREMENTS

SAMPLING:
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 BMP effectiveness, or evidence of off-site impacts from activities at the facility. 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.

REPORTING:
There are no reporting requirements for MO-RAxxxxx land disturbance permits. Land disturbance information is best reviewed on an as requested basis and this permit established documents requirements that allow the Department to request and receive needed documentation prior to, during, or after site inspections.

PART VI – RAINFALL VALUES FOR MISSOURI & SURFACE WATER BUFFER ZONES

Knowledge of the 2-year, 24-hour storm event is used in this permit for two main reasons:

1) The design, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants. These erosion and sediment controls must be designed to capture or treat a 2-year, 24-hour storm event. This includes BMPs and, depending on the acreage of the drainage area, sediment basins.

2) If the seven-day inspection frequency is utilized, an inspection must occur within 48 hours after any storm event equal to or greater than a 2-year, 24 hour storm has ceased.

A 2-year, 24-hour storm event may be determined in two different ways. For site-specific 2-year, 24-hour storm event information utilize the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14 (NOAA Atlas 14) which is located at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html. This is the most accurate and preferred method for determining the 2-

year, 24-hour storm event. In general, this will be the least stringent method. For more information visit; https://www.weather.gov/media/owp/oh/hdsc/docs/Atlas14_Volume8.pdf.

As an alternative to NOAA Atlas 14, a default value may be utilized. The map below provided by the Department represent the most conservative, protective values for default values applicable to Missouri. In general, this will be the most stringent method. This map is based on Technical Paper No. 40 (TP-40). TP-40 provides a map of the continental U.S. for the 2-year, 24-hour storm event. See map below for default values.

Map 1: Default Values for 2-Year, 24-Hour Storm Event for Design of Sediment and Erosion Controls

Legend: Northern Counties (blue): 3.5 inches
Southern Counties (grey): 4 inches

Surface Water Buffer Zones: In order to design controls that match the sediment removal efficiency of a 50-foot buffer, you first need to know what this efficiency is for your site. The sediment removal efficiencies of natural buffers vary according to a number of site-specific factors, including precipitation, soil type, land cover, slope length, width, steepness, and the types of erosion and sediment controls used to reduce the discharge of sediment prior to the buffer. For additional information; https://www.epa.gov/sites/default/files/2017-02/documents/2017_cgp_final_appendix_g_-_buffer_reqs_508.pdf

PART VII – ADMINISTRATIVE REQUIREMENTS

On the basis of preliminary staff review and applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the permit. The proposed determinations are tentative pending public comment.

PUBLIC MEETING:
The Department hosted three public meetings for this permit. The meetings were held on January 27, February 17, and March 9, 2021.

PUBLIC NOTICE:
The Department shall give public notice when a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest or because of water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing.

The Department must give public notice of a pending permit or of a new or reissued Missouri State Operating Permit. The public comment period is a length of time not less than thirty (30) days following the date of the public notice, during which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed permit, please refer to the Public Notice page located at the front of this draft permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- ✓ The Public Notice period for this permit was held from November 5, 2021 and ends December 6, 2021. Two letters were received during the 30 day Public Notice period. The summarized comments from the letter and the Department's responses to the comments are below and are in reference to the Public Noticed version of this permit. The comments and responses to the Public Notice of this permit do not warrant the modification of the terms and conditions of this permit.

  Letter 1:
  Comment #1: Numbering on Page 3 - **there are two #2's**
  Response: Thank you, this was corrected.
  Comment #2: 2. … If an individual proposes to develop a lot to reside on (**themself**),
  Response: This word has been added to add clarity.
  Comment #3: Table on Page 3, I. Applicability Section A, #2. The second row, second column is confusing. This second part seems to imply that lots less than 1 acre but not part of a common plan would need a permit if the lot is to be sold. This seems contrary to the one or more acres required for a permit.
  Response: The second part was reworded in effort to clarify. The "or if" was changed to "including" to clarify both situations are part of the common plan and would require a permit.
  Comment #4: The first part of this section before the semicolon seems incomplete:
  Response: The redundant wording was removed to clarify this condition.
  Comment #5: There is no #3.
  Response: Thank you, this was corrected.
  Comment #6: Number 4. Could the impaired water also be on the 303(d) list? Impaired waters are only on the 305(b) list after they have a TMDL written. What about the streams on the 303(d) list that are waiting for a TMDL?
  Response: The 303(d) list is a less-encompassing component of the all-encompassing 305(b) Report. The permit has been edited to state "designated in the 305(b) Report, including the 303(d) list," to emphasizing the 303(d) list.
  Comment #7: 10. Change the word States to state
  Response: This was corrected.
  Comment #8: There are 2 (b)s under #1. 1(c). Part VII. should be Part VIII STANDARD PERMIT CONDITIONS
  6. Replace the period with a colon after BMPs. "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:"
  Response: These corrections were made.
  Comment #9: 11(b) 2 and 3. These are missing periods after the word "holiday"
  Response: These corrections were made.
  Comment #10: V. BMP Requirements (2) Can you define "dripline"
  Response: A longer explanation of "dripline" was added to that condition for clarity.
  Comment #11: 11.(c)(2) Is this missing a word after "from". In the phrase "discharge points from" ? Perhaps just remove the word "from". The phrase would read "inlets, outlets, and discharge points shall be utilized."
  Response: This correction has been made.
  Comment #12: Also, the addition of language related to BMPs discussed on page 5 and 6 of the fact sheet are positive additions to the permit and should help guide protection of waters of the state from sediment.
  On the top of page 6 of the fact sheet, it appears there is a typo: " Migration of soil or product from mis-managed **plies"**
  Response: This correction has been made.

  Letter 2:
  Comment #1: Define Outfalls.
  Response: Outfalls are points with discharges of stormwater from areas associated with the industrial activity for which the facility is permitted; in this case construction. Discerning if certain drains which leave the site would be considered an outfall or not would be specific to each site, in addition to the specific phase of construction. Outfalls on construction sites are often not stationary. An outfall does not need to be a pipe, it can be a ditch, channel, or other conduit that discharges stormwater off the property, and there is no size constraint to outfalls. A definition has been added to the fact sheet to add clarification.
  Comment #2: I. Applicability: A. Permit Coverage and Authorized Discharges – Permit numbering is off.
  Response: Thank you, this has been corrected.
  Comment #3: **I. Applicability: B. Permit Restrictions** – Permit numbering is off**.**
  Response: Thank you, this has been corrected.
  Comment #4: 4(c) Discharges from dewatering of sedimentation basins is prohibited. Does this mean direct dumping of dewatering material? Are dewatering controls such as sediment bags, infiltration trenches, or buffer strips allowed?
  Response: The definition of no-discharge facility found in 10 CSR 20-6.015 includes the condition "To hold or irrigate, or otherwise dispose without discharge to surface or subsurface waters of the state, all process wastes and associated storm water flows except for discharges that are caused by catastrophic and chronic storm events;". Dewatering controls are allowed so long as they are operated so that the dewatered material and water is not discharged to waters of the state.
  Comment #5: 4(c) references 10 CSR 20-6.15(1)B(7). Should this be 10 CSR 20-6.015(1)B(7)?
  Response: This has been corrected, thank you.
  Comment #6: Could the department please clarify what is meant by a "catastrophic event" referenced in this regulation? The

permit design standards are for the 2-year, 24-hour storm.
Response: Catastrophic storm is defined in 10 CSR 20-6.015(1)(B)2 as "A precipitation event of twenty-four (24)-hour duration or less that exceeds the twenty-five (25)-year, twenty-four (24)-hour storm event." A chronic storm event is defined in 10 CSR 20-6.015(1)(B)3 as "A precipitation event with a duration of more than twenty-four (24) hours that exceeds the one-in-ten (1 in 10)-year return frequency."
This information is found on the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14. A link can be found in the permit part **III. REQUIREMENTS** 4.
Comment #7: IV. SWPPP Management Requirements 1. Multilevel numbering is off.
Response: This has been corrected, thank you.
Comment #8: **VIII. Standard Permit Conditions 2. Land Ownership and Change of Ownership** 2(c) – Please clarify if an individual needs a land disturbance permit for their personal residence if the portion of land sold is equal to or greater than one acre, as it states in the proposed permit, or only if they will be disturbing one acre or greater.
Response: The word 'disturbed' has been included in this portion to add clarity.

DATE OF FACT SHEET: 10/13/2021

COMPLETED BY:

SARAH WRIGHT
ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - STORMWATER AND CERTIFICATION UNIT
(573) 526-1139
Sarah.wright@dnr.mo.gov, dnr.generalpermits@dnr.mo.gov

DNR_Landscape

Legend

- Land Disturbance Point
- Land Disturbance Area
- 12 Digit Watershed Boundaries
- Impaired Streams - 303(d)
- Impaired Lakes - 303(d)
- Stream Classifications and Use Designations
- Lake Classifications and Use Designations
- Public Land Survey System
- Interstates and U.S. highways
- State numbered routes
- State letttered routes
- ramps
- Major roads
- Minor roads
- Railroads
- County Boundaries
- Lake or Pond
- Lake or Pond / Intermittent
- Lake or Pond / Perennial
- Reservoir
- Swamp or Marsh
- Other; Artificial Path
- Canal or Ditch
- Stream or River
- Stream or River / Intermittent
- Stream or River / Perennial
- Municipalities Boundary
- Municipalities Fill

N

Printed: October 26, 2022

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
Division of Environmental Quality Regional Offices

Kansas City Area

Kansas City Regional Office
500 NE Colbern Rd.
Lee's Summit, MO 64086-4710
816-251-0700 FAX: 816-622-7044

St. Louis Area

St. Louis Regional Office
7545 S. Lindbergh, Ste 210
St. Louis, MO 63125
314-416-2960 FAX: 314-416-2970

Northeast Area

Northeast Regional Office
1709 Prospect Drive
Macon, MO 63552-2602
660-385-8000 FAX: 660-385-8090

Southwest Area

Southwest Regional Office
2040 W. Woodland
Springfield, MO 65807-5912
417-891-4300 FAX: 417-891-4399

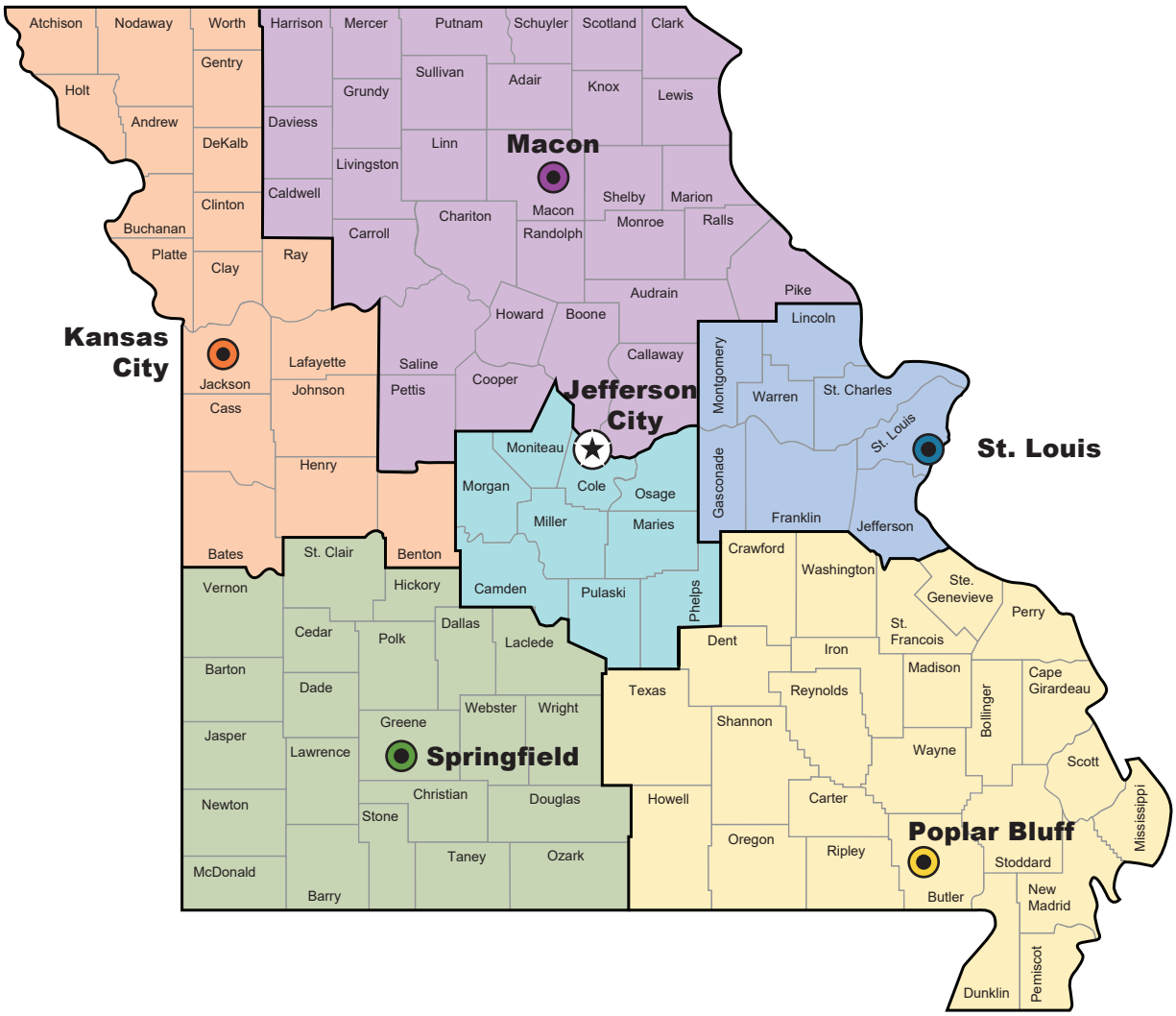
Southeast Area

Southeast Regional Office
2155 North Westwood Blvd.
Poplar Bluff, MO 63901
573-840-9750 FAX: 573-840-9754

Central Area

Department Central Offices
P.O. Box 176
Jefferson City, MO 65102-0176
573-751-3443

Central Field Operations
P.O. Box 176
Jefferson City, MO 65102-0176
573-522-3322 FAX: 573-522-3522



6/25/19

For more information on the departmen
visit dnr.mo.gov or call 800-361-4827

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 24 hours of the end of a storm event that is 0.50-inch or greater.

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 Kansas Generic Permit for Stormwater Discharge from Small Construction Activities 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 Three Report: Species Listed Under the Federal Endangered Species Act

There are records of species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

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. 4 #11760
User Project Number: 18225R21001
Project Description: Fire Station facility located in Jackson County at 39.003305°, -94.353873°
Project Type: Residential, Commercial and Governmental Building Development
Contact Person: Luis Miguel
Contact Information: luis.miguel@glmv.com or 316-265-9367

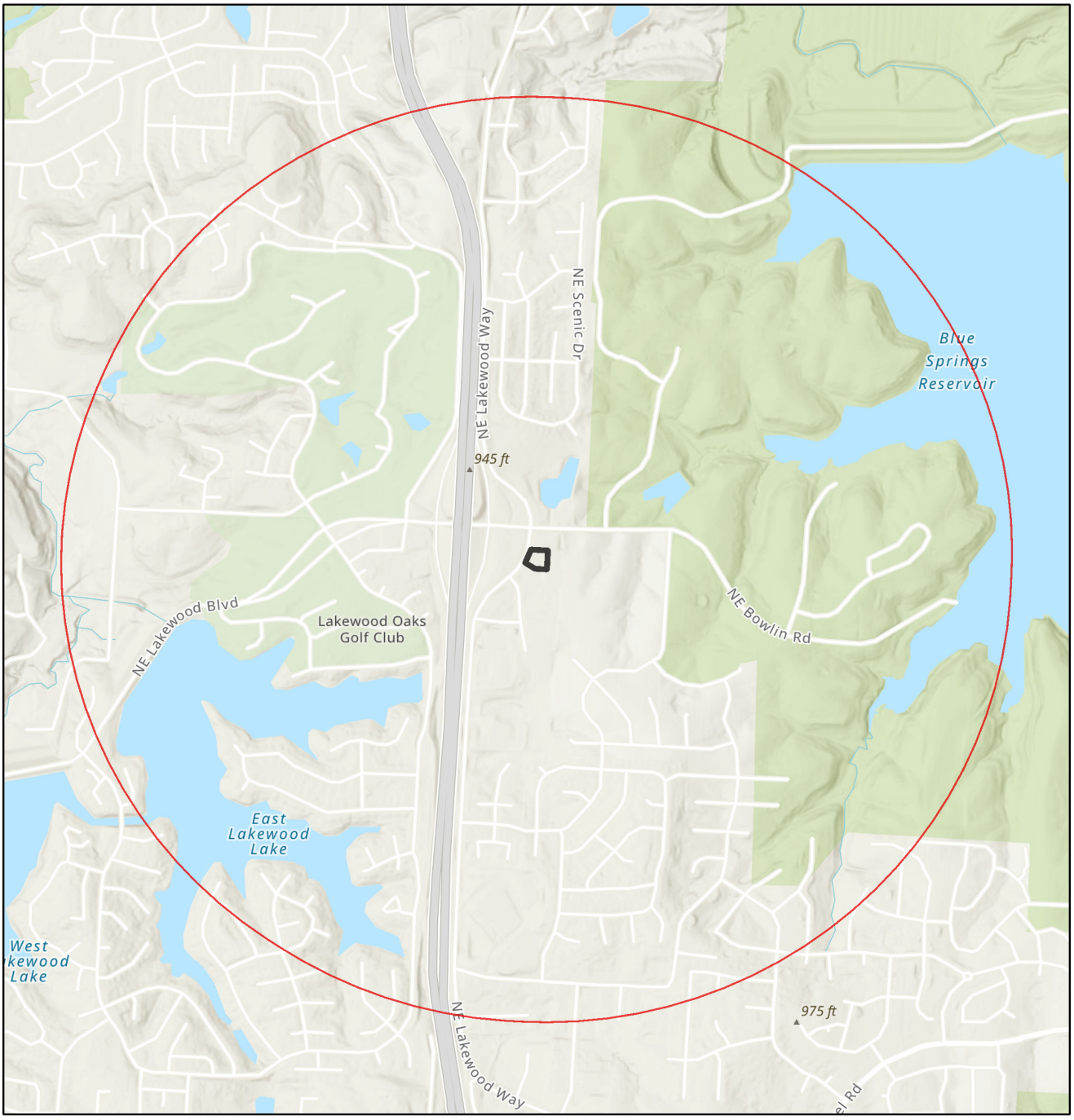
Disclaimer: This NATURAL HERITAGE REVIEW REPORT identifies if a species or natural community tracked by the Natural Heritage Program is known to occur within or near the project area submitted, and shares recommendations to avoid or minimize project impacts to sensitive species or natural habitats. Incorporating 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. 4



November 11, 2022

1:19,407

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 records of species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

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

Other Special Search Results:

The project occurs on or near public land, Jackson County (Bowlin Pond), please contact MDC.

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.

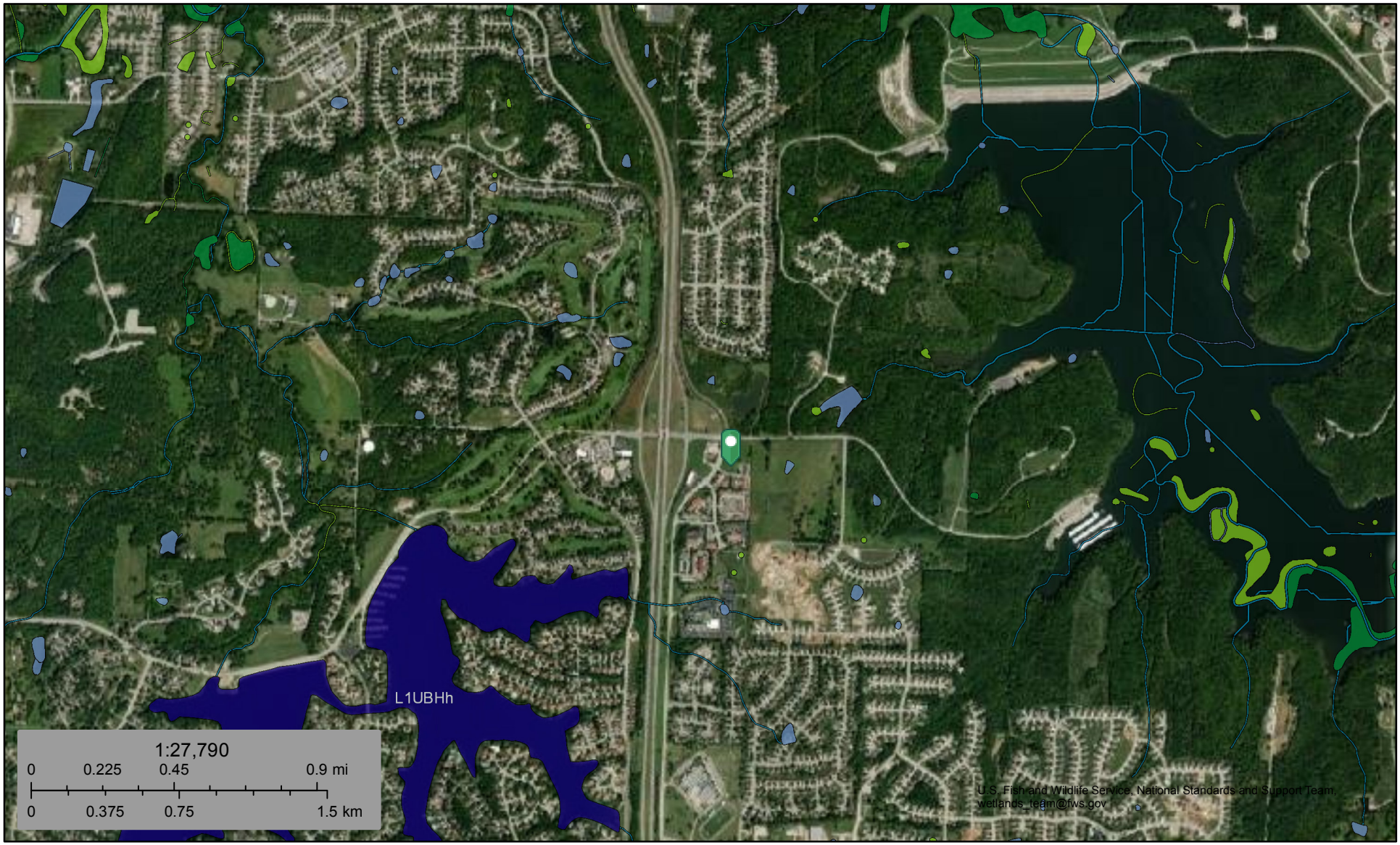
STATE Concerns are species/habitats known to exist near enough to the project site to warrant concern and that are protected under the Wildlife Code of Missouri (RSMo 3 CSR 1 0). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements 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

Map



November 11, 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.

Appendix J – Request for Termination of Operating Permit

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH

REQUEST FOR TERMINATION OF OPERATING PERMIT

(REPLACES TERMINATION FORMS H AND J)

FOR OFFICE USE ONLY
DATE RECEIVED

IF A FACILITY OR SITE HAS BEEN SOLD, BUT PERMITTED ACTIVITIES HAVE NOT CEASED, A TRANSFER OF OWNERSHIP FORM (MO 780-1517) MUST BE COMPLETED RATHER THAN A TERMINATION FORM.

ALL APPLICABLE SECTIONS OF THIS FORM MUST BE COMPLETED.

1. FACILITY INFORMATION

PERMIT NUMBER	COUNTY		
NAME OF FACILITY			
PHYSICAL ADDRESS	CITY	STATE	ZIP CODE

FACILITY CONTACT NAME	FACILITY CONTACT TELEPHONE NUMBER	FACILITY CONTACT EMAIL

2. OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE		
ADDRESS	CITY	STATE	ZIP CODE
EMAIL			

3. CONTINUING AUTHORITY

NAME	TELEPHONE NUMBER WITH AREA CODE		
ADDRESS	CITY	STATE	ZIP CODE
EMAIL			

4. REASON FOR TERMINATION REQUEST (CHECK ONE)

☐ Permitted activities have ceased, or facility is closed (must select facility type in section five and attach photographs or any other supporting documents as required).

☐ General Permit MO-G _____or MO-R _____ has been issued and covers all regulated activities.

☐ Site specific permit MO- _____ has been issued and covers all regulated activities.

☐ Facility has obtained a “No Exposure” certification, MO-NX_____.

☐ Industrial activity (SIC Code # _____) is not regulated.

☐ For CAFOs, facility size is unregulated (Class II and smaller operations only).

☐ Other (Specify).

5. FACILITY TYPE (CHECK ONE FACILITY TYPE, COMPLETE ONLY IF PERMITTED ACTIVITY HAS CEASED OR FACILITY HAS CLOSED)

☐ For land disturbance sites, the area is stabilized; perennial vegetation, pavement, buildings or other permanent structures cover all areas that have been disturbed; no further land disturbance activities are planned; all building construction (commercial or residential) is completed; temporary best management practices are removed, and construction equipment is removed. With respect to areas that have been vegetated, vegetation cover shall be at least 70 percent over 100 percent of the site not covered in impervious material. Attach photographs showing stabilized areas.

☐ For wastewater treatment plants, the treatment plant is removed and sludge was removed and properly disposed of, and a closure plan in accordance with 10 CSR 20-6.010(12) or 10 CSR 20-6.015(5) was approved and implemented. Attach documentation required by the approved closure plan and photographs of the closed area. See the *Water Treatment Plant Closure* -PUB2568 fact sheet at dnr.mo.gov/pubs/pub2568.htm for more information on closure requirements for wastewater treatment plants.

☐ For industrial facilities, regulated activities have ceased, no "significant materials" remain on-site and disturbed areas are properly stabilized or vegetated. The area is stabilized when perennial vegetation, pavement, buildings or structures using permanent materials cover all areas that have been disturbed. Vegetation cover shall be at least 70 percent over 100 percent of the site not covered in impervious material. Attach applicable closure documents and photographs of the closed area that demonstrate no permitted activities or materials remain.

☐ For quarries or sand and gravel operations, submit documentation of release from the department's Land Reclamation Program.

☐ For landfills, official closure has been received from department's Solid Waste Management Program (SWMP); cap is vegetated as required by SWMP; and any additional industrial activities are permitted appropriately (i.e., transfer stations, mulching operations, land disturbance, etc.). Attach the official SWMP closure letter and permit numbers of any continuing active industrial or land disturbance activities.

☐ For CAFOs

- ☐ Class I CAFOs must properly close lagoons and waste storage structures per a closure plan in accordance with 10 CSR 20-6.300(6) and approved by the department. Attach photographs of closed lagoons. Also attach any additional information that supports closure of the facility.

- ☐ Class II CAFOs must close waste storage structures in accordance with 10 CSR 20-6.300(6)(B), or shall continue to maintain all storage structures so there is no discharge to waters of the state. Attach photographs of closed or re-purposed lagoons, or an explanation of "no discharge" methods. Also attach any additional information that supports closure of the facility.

6. CERTIFICATION

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 gather and evaluate 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 AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
SIGNATURE	DATE SIGNED

7. MAIL COMPLETED COPY TO:

For Site Specific (MO-), Abandoned Mine And Land Reclamation (MO-G05), Land Disturbance By County Or City (MO-R100), Pesticide Application (MO-G87), Sewer Extension Construction (MO-GC) and CAFO (MO-G01, MO-GS1) Permit Terminations:

Missouri Department of Natural Resources
Water Protection Program
Water Pollution Control Branch
Attn: Operating Permits Section
P.O. Box 176
Jefferson City, MO 65102-0176

For General Permit Terminations (MO-G or MO-R):

Send to the appropriate regional office.
Regional office is determined based on the county where the facility is physically located.

To determine the correct regional office for the permitted facility, see **dnr.mo.gov/regions.**