

STORMWATER POLLUTION PREVENTION PLAN

Designed in accordance with the Missouri State Operating Permit

Lee's Summit Senior Living Community

Permit Tracking #

Owner/Operator:

Lee's Summit Senior Community, LLC
5051 S. National Avenue, STE 4-110
Springfield, Missouri 65810
417-893-6006

Prepared by:

Olsson
550 St. Louis Street
Springfield, Missouri 65806
417-890-8802

May 2019

SWPPP Certification (to be signed by permittee):

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: _____

Title: _____

Signature: _____

Date: _____



SECTION 1

Delegation Statements & Contractor Certifications

Delegation Statement(s) for applicable personnel should be kept in this section. Contractor Certification Statements that contain contact information for those responsible for specific activities on the project should also be kept here.

Delegation of Authority

I, _____, hereby designate the person(s) or specifically described position(s) below to be a duly authorized representative(s) for the purpose of overseeing compliance with environmental requirements, including the Missouri State Operating Permit.

Duly Authorized Representative:

Name or Position: _____

Company: _____

Address: _____

Phone: _____

Email: _____

By signing the certification below, I certify that I meet the signing requirements J.5.a of the Missouri State Operating Permit, 40 CFR 122.22 and 10 CSR 20-6.010 for this project.

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.

Permittee Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

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Company: _____

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Permittee Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

Contractor/Subcontractor Certification

Project Name: _____

Permit Number: _____

Project Owner: _____

As a contractor/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 upon request.

Each contractor/subcontractor engaged in activities at the construction site that could impact stormwater should 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 project named above:

Service Provided: _____

Company Name: _____

Address: _____

Telephone: _____

Representative: _____

Title: _____

Signature: _____

Date: _____

Contractor/Subcontractor Certification

Project Name: _____

Permit Number: _____

Project Owner: _____

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Project Name: _____

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

Service Provided: _____

Company Name: _____

Address: _____

Telephone: _____

Representative: _____

Title: _____

Signature: _____

Date: _____

SECTION 2

Permit Authorization & Missouri State Operating Permit

Permit authorization from the MDNR and a copy of the Missouri State Operating Permit will be kept in this section.

The Application for Land Disturbance Stormwater General Permit was completed through the Missouri Gateway for Environmental Management at

<https://dnr.mo.gov/mogem/>.

SECTION 3

SWPPP Narrative

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1.0. PROJECT CONTACT INFORMATION

Parties directly related to the compliance of the site are listed below. Any blank contacts were not known at the time of SWPPP creation and should be filled in when contractors are assigned.

| Owner/Operator |
|---------------------------------------|
| Lee's Summit Senior Community, LLC |
| Denise K. Heintz |
| 5051 S. National Avenue, STE 4-110 |
| Springfield, Missouri 65810 |
| 417-893-6006 |

| General Contractor |
|--------------------|
| |
| |
| |
| |
| |
| |

| SWPPP Preparer |
|-----------------------------|
| Olsson |
| 550 St. Louis Street |
| Springfield, Missouri 65806 |
| 417-890-8802 |
| |
| |

| SWPPP Inspections |
|-------------------|
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| Best Management Practices (BMP) Installation |
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| BMP Maintenance |
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Should any of the above personnel change, tables will be updated and noted on the Amendment Log found in Section 7 and additional Contractor Certification Sheets will be added to Section 1 of this SWPPP.

2.0. INTRODUCTION AND DEFINITIONS

This document was created to comply with the Missouri State Operating Permit (MO-RA) in compliance with the Missouri Clean Water Law (Chapter 644 R.S. Mo. as amended) and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress). Relevant local ordinances are incorporated in Section 8 of this SWPPP. Permit language incorporated into this document will be denoted by *italics*.

The purpose of the SWPPP is to ensure the design, implementation, management, and maintenance of best management practices (BMPs) in order to prevent sediment and other pollutants in stormwater discharges associated with the land disturbance activities; compliance with the Missouri Water Quality Standards; and compliance with the terms and conditions of the general permit.

2.1. ACRONYMS

| | |
|------------|---|
| AST..... | aboveground storage tank |
| BMP | best management practice |
| MDNR..... | Missouri Department of Natural Resources |
| ESA | environmental site assessment |
| ESC | erosion and sediment control |
| MO-RA..... | Missouri State Operating Permit |
| MS4 | municipal separate storm sewer system |
| NRC..... | National Response Center |
| REC | recognized environmental condition |
| SPCC..... | spill prevention control and countermeasures plan |
| SVOC | semivolatile organic compound |
| SWPPP..... | stormwater pollution prevention plan |
| TMDL..... | total maximum daily load |
| TOC | total organic carbon |
| VOC..... | volatile organic compound |

2.2. DEFINITIONS

Department

The Missouri Department of Natural Resources

Duly Authorized Representative

The representative authorized by the permittee. The duly authorized representative is responsible for the overall operation of the facility from which the discharge occurs. The authorization is made in writing by the permittee and is submitted to the director.

Permit

Missouri State Operating Permit (MO-RA)

Signatory Requirements

All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified (MDNR 2017).

- Signatory for a corporation: an individual having responsibility for the overall operation of the regulated facility or activity, such as the plant manager, or by an individual having overall responsibility for environmental matters at the facility.
- Signatory for a partnership or sole proprietorship: a general partner or the proprietor, respectively.
- Signatory for a municipal, state, federal, or other public facility: either a principal executive officer or an individual having overall responsibility for environmental matters at the facility.

Documents submitted to the MDNR should be certified by the following statement:

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.

3.0. SITE DESCRIPTION

Project Name: Lee's Summit Senior Living Community

Project Location: SE Oldham Parkway

Total project area: 11.33 Acres

Area to be disturbed: 14.29± Acres

Anticipated start date: July 2019

Anticipated end date: July 2020

Past use: Vacant

Historic Preservation Information: There are no federal government obligations, including permit requirements, funding or land ownership (including Native American Tribal Lands) associated with this site according to the Missouri Department of Natural Resources Greene County National Register Listings. Therefore, compliance with section 106 of the National Historic Preservation Act of 1966 (NHPA-36 CFR Part 800) is not necessary for this site. Refer to Section 11.0 for Historic Preservation Documentation.

Endangered Species Information: According to correspondence with the Missouri Department of Conservation's Natural Heritage Review and an inquiry with the U.S. Fish and Wildlife Information, Planning, and Conservation (IPaC) the following information related to the project site was found:

Species habitats that may or may not be impacted by the construction activities onsite:

- Bald Eagles
- Barn Owls
- American Badgers
- James A. Reed Memorial Wildlife Area (approx. 0.50 miles south of project site)

The following species may or may not be within the project limits:

- Indiana Bats
- Northern Long-eared Bats
- Gray Bats

Refer to Section 10.0 of this SWPPP binder for additional information and documentation.

Existing conditions: The existing the tract is entirely undeveloped open space. Trees along the eastern property line are proposed to remain on site. The existing site is approximately 0.35 miles east of the intersection of SE Oldham Parkway and SE Ranson Road in Lees Summit, Missouri. The site consists primarily Arisburg silt loam with a small percentage of Arisburg-Urban land complex. Refer to Section 4 for additional information about the specific location and

types of soils. The site currently drains from south to the north into a roadway drainage channel along the south side of SE Oldham Parkway. The water then is conveyed via culvert across U.S. Highway 50.

Description of Construction Activity: The proposed development consists of, but not limited to, roadway improvements, sanitary and storm sewer construction, water line construction, various grading activities, and landscaping. Stormwater runoff will be collected through the new underground storm sewer system and piped to various treatment facilities on site. One means of stormwater treatment is the proposed dry detention area in the northwest corner and the other is the proposed bioswale on the eastern portion of the site. Each of these treatment measures will have their own outfall in the existing drainage swale along the south side of SE Oldham Parkway.

Table 1. Anticipated Sequence of Construction.

| Phase (pre-construction, grading, stabilization, etc.) | Construction activities (mass grading, building construction, utilities, concrete-pouring, landscaping, etc.) | Best management practices installed (for bmps described in sections 4.1 – 5.7) | Estimated start & end dates (to be estimated by engineer.) | Actual dates (complete in field.) |
|--|---|--|--|---|
| PRE-CONSTRUCTION | <ul style="list-style-type: none"> INSTALLATION OF BMPs | <ul style="list-style-type: none"> TEMP. CONSTRUCTION ENTRANCE/EXIT EXIST. STORM CULVERT PROTECTION TEMP ROCK DITCH CHECK SWPPP SIGN CONCRETE WASHOUT FILTER SOCKS | 08/2019 08/2019 | START DATE: _____ END DATE: _____ |
| Interim BMP's | <ul style="list-style-type: none"> SE PRINCETON DR. CONSTRUCTION BUILDING, PARKING AND DRIVE CONSTRUCTION PRIVATE UTILITY AND STORM WATER IMPROVEMENTS | <ul style="list-style-type: none"> GRAVEL INLET PROTECTION SILT FENCE ROCK CHECK DAM GRAVEL FILTER BAGS FILTER SOCKS PROTECTION | 08/2019 07/2020 | START DATE: _____ END DATE: _____ |
| FINAL STABILIZATION | <ul style="list-style-type: none"> FINAL GRADING LANDSCAPING SOD OR SEED ALL REMAINING DISTURBED AREAS | <ul style="list-style-type: none"> SOD OR HYDROSEED REMOVE SEDIMENT BARRIERS TURF REINFORCEMENT MATTING / EROSION CONTROL BLANKET | 07/2020 08/2020 | START DATE: _____ END DATE: _____ |

Location of nearby or on-site surface waters: N/A

Table 2. Outfalls.

| # | Type | Location | Drainage Area |
|---|-------------------------|-------------------------------|---------------|
| 1 | Detention Basin Outfall | N: 995837.80 E: 2836373.13 | 5.18± Acres |
| 2 | Bioretention Basin | N: 995679.29 E: 2836826.04 | 2.61± Acres |

Receiving Waters: E. Fork Little Blue River, per the Impaired Waters and Total Maximum Daily Loads (TMDL) Viewer by the Missouri Department of Natural Resources this stream is neither exceptional or impaired. E. Fork Little Blue River is not on the Missouri 303(d) list.

4.0. EROSION AND SEDIMENT CONTROLS

Temporary BMPs used during active construction of the project will be listed below. Specific erosion and sediment control requirements found in the permit are also located here and should be addressed in the erosion and sediment control (ESC) plan sheets located in Section 5 of this SWPPP.

Table 3. Anticipated BMPs.

| BMP | |
|---------------------------|-------------------------------------|
| Site Preparation | |
| SWPPP Sign | <input checked="" type="checkbox"/> |
| Construction exit | <input checked="" type="checkbox"/> |
| Wash rack | <input type="checkbox"/> |
| Temporary stream crossing | <input type="checkbox"/> |
| Surface roughening | <input type="checkbox"/> |
| Tree protection | <input type="checkbox"/> |
| Erosion Control | |
| Dust control | <input checked="" type="checkbox"/> |
| Mulch | <input type="checkbox"/> |
| Erosion control blankets | <input type="checkbox"/> |
| Temporary seeding | <input checked="" type="checkbox"/> |
| Permanent seeding | <input checked="" type="checkbox"/> |
| Hydroseeding | <input checked="" type="checkbox"/> |
| Sodding | <input checked="" type="checkbox"/> |
| Slope protection | <input type="checkbox"/> |

| BMP | |
|-----------------------------|-------------------------------------|
| Sediment Control | |
| Silt fence | <input checked="" type="checkbox"/> |
| Inlet protection | <input checked="" type="checkbox"/> |
| Diversion berm | <input type="checkbox"/> |
| Filter berm | <input type="checkbox"/> |
| Outlet protection | <input checked="" type="checkbox"/> |
| Check dam | <input checked="" type="checkbox"/> |
| Sediment trap | <input type="checkbox"/> |
| Sediment basin | <input type="checkbox"/> |
| Pollution Prevention | |
| Stockpile | <input checked="" type="checkbox"/> |
| Concrete washout | <input checked="" type="checkbox"/> |
| Solid waste management | <input checked="" type="checkbox"/> |
| Sanitary waste management | <input checked="" type="checkbox"/> |
| Material staging areas | <input checked="" type="checkbox"/> |
| | <input type="checkbox"/> |

Specification and detail sheets can be found in Section 6 of this SWPPP.

During construction, if additional BMPs not listed in Table 3 are required, the SWPPP will be amended. The BMP specification and detail sheets of the new BMPs should be added to Section 6 of this SWPPP, the locations noted on the BMP Tracking Map located in Section 5, and the change noted in the Log of Amendments located in Section 7 of this SWPPP.

4.1. EROSION AND SEDIMENT CONTROL DESIGN REQUIREMENTS

ESC plans for the project can be found in Section 5 of this SWPPP. Excerpts of these plans will be used as the basis of the BMP Tracking Map located in Section 5 of this SWPPP.

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 and velocity 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;*
- c. Minimize the amount of soil exposed during construction activity;*
- d. Minimize the disturbance of steep slopes;*
- e. Minimize sediment discharges from the site. Design, install and maintain erosion and sediment controls that address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and 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 8.f (of the permit), direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration and filtering, unless infeasible; and*
- g. Minimize soil compaction and, unless infeasible, preserve topsoil.*
- h. Capture or treat a 2-year, 24-hour storm event. 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 <http://hdsc.nws.noaa.gov/hdsc/pfds/> (MDNR 2017).*

4.2. TREE AND VEGETATION PRESERVATION

Areas where existing trees and vegetation are preserved on-site can be found on the ESC plan sheets located in Section 5 of this SWPPP.

4.3. NATURAL BUFFERS

When applicable, natural buffers will be identified on the ESC plans located in Section 5 of this SWPPP.

For surface waters of the state, defined 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, located on or adjacent to the site, the permittee must:

- a. Provide and maintain a 50-foot undisturbed natural buffer;*

- 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. *Where you are 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:*
 - a. *The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of the 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*
 - b. *The edge of the stream or river bank, bluff, or cliff, whichever is applicable (MDNR 2017).*

4.4. STABILIZATION REQUIREMENTS

The permit requires specific stabilization schedules depending on activity level and slope characteristics.

Table 4. Stabilization Requirements.

| Situation | Stabilization Requirement |
|--|---|
| Soil-disturbing activities that have temporarily ceased on any portion of the site and will not resume for more than 14 calendar days. | Construct BMPs to establish interim stabilization; stabilization must be initiated immediately and completed within 14 calendar days. * |
| Soil-disturbing activities that have permanently ceased. | Final stabilization of disturbed areas must be initiated immediately and completed within 14 calendar days. * |
| Slopes with a greater than 3:1 ratio or slopes greater than 3% and greater than 150 feet in length. | Establish interim stabilization within 7 days of ceasing operations. |

**Allowances to the 14-day completion period for temporary and final stabilization may be made because of weather and equipment malfunctions. The use of the allowances shall be documented in the SWPPP (MDNR 2017) and can be found in Section 5 of this SWPPP.*

5.0. STORMWATER MANAGEMENT CONTROLS

When applicable, permanent stormwater management BMPs will be listed and described here. Design specifications and details can be found in Section 6 of this SWPPP if applicable. These BMPs will remain in place to provide for stormwater management after construction has completed and the permit terminated.

Table 5. Post Construction Stormwater Management BMPs.

| Type | Location | Receiving Water | Area Treated |
|----------------------------|-------------------------------|---|--------------|
| Detention Basin Outfall | N: 995837.80 E: 2836373.13 | Unnamed tributary to E. Fork Little Blue River | 5.18± Acres |
| Bioretention Basin | N: 995679.29 E: 2836826.04 | Unnamed tributary to E. Fork Little Blue River | 2.61± Acres |

6.0. POLLUTION PREVENTION AND SPILL REPORTING

Good housekeeping practices shall be maintained at all times to keep waste from entering waters of the state. Below are lists of prohibited discharges, authorized non-stormwater discharges, and potential pollutants that will likely be on-site during construction. Suggested BMPs to help resolve potential discharges from non-stormwater discharges as well as potential pollutants are discussed.

6.1. PROHIBITED DISCHARGES

- *Any hazardous material, oil, lubricant, solid waste or other non-naturally occurring substance from the site, including fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;*
- *Soaps or solvents used in vehicle and equipment washing;*
- *Hazardous substances or petroleum products from an on-site spill or handling and disposal practices;*
- *Wash and/or rinse waters from concrete mixing equipment including ready mix concrete trucks, unless managed by an appropriate control. Any such pollutants must be adequately treated and addressed in the SWPPP, and cannot be discharged to waters of the state;*
- *Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;*
- *Domestic wastewaters, including gray waters; or*
- *Industrial stormwater runoff (MDNR 2017).*

6.2. AUTHORIZED NON-STORMWATER DISCHARGES

The below signified discharges are anticipated to occur on-site.

- ☒ *De-watering activities if there are no contaminants other than sediment present in discharge, and the discharge is treated as specified in Section C.8.m of the permit*
- ☒ *Flushing water hydrants and potable water lines*
- ☐ *Water only (i.e., without detergents and additives) rinsing of streets and buildings*
- ☒ *Site watering to establish vegetation*

Potential BMPs used for authorized non-stormwater discharges:

Dewatering activities if there are no contaminants other than sediment present in discharge, and the discharge is treated as specified in Section C.8.m of the permit

Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls. Estimations of the volume of water discharged from these dewatering activities can be recorded in Section 5 of this SWPPP.

Dewatering of sediment-laden water should be discharged to a temporary or permanent sediment basin when possible, so the sediment may be allowed to settle out of suspension. If basins will be used, the existing water level should be inspected and drawn down if necessary.

Dewatering bags may also be used to filter sediment out of the water. They should be placed on a level surface away from slopes to prevent scouring, and water should ideally flow to a vegetated area toward perimeter controls. Premanufactured dewatering bags should be installed and maintained per manufacturer's recommendations.

Flushing water hydrants and potable water lines

Waters from hydrants and waterline flushing can be erosive and can lead to perimeter controls being overwhelmed. These waters should ideally be directed to clean, paved streets where water may enter the storm sewer system. On projects where this is not possible, diffusers should be used to prevent erosive water velocities, and flush water should be directed to relatively flat, vegetated portions of the project or to temporary or permanent basins.

Site watering to establish vegetation

Efforts should be taken to time watering activities that are intended to help establish vegetation so watering does not occur prior to or during precipitation. Areas should be watered only in amounts necessary for vegetation to establish or thrive. Irrigated areas should be monitored for overwatering and, if identified, amounts and timing of watering should be adjusted.

6.3. POTENTIAL POLLUTANTS

Potential pollutant sources that are anticipated to be on-site during the project can be found in the table below.

Table 6. Anticipated Potential Pollutants.

The below listed suggested BMPs are meant as initial examples and should be adjusted as site conditions necessitate different BMPs. The table should be amended should additional pollutants and BMPs be utilized onsite that were not originally anticipated.

| Material/Activity | Potential Pollutants | Suggested BMPs |
|----------------------------|--------------------------------|---|
| Concrete Curing Substances | Sediment, metals, hydrocarbons | <p>Provide secondary containment in preparation and cleanup areas.</p> <p>Leftover curing substances should to be removed from the site or disposed of in a designated washout bin or pit designed to contain curing substances.</p> <p>Do not use materials during or directly prior to an anticipated rain event, and ensure excess materials are stored in a covered area to minimize contact with stormwater.</p> <p>Curing compounds should not be washed into a gutter, onto the ground, or into a storm drain inlet.</p> |

| | | |
|--|--|--|
| Concrete Washwater and Masonry Washwater | pH, heavy metals, silica | <p>Concrete washwater will be controlled /contained at a designated location on-site such as a leak-proof container or settling basin of adequate size.</p> <p>Refer to Concrete Washout Specification located in Section 6 of this SWPPP for proper design criteria and use of concrete washout area.</p> <p>The concrete washout area should be cleaned out when it has reached 75% capacity, and dried concrete material should be disposed of in accordance with state and local regulations.</p> |
| Detergents | pH, chlorine, surfactant | <p>Use of detergents on-site should be discouraged.</p> <p>Washing of vehicles or equipment that requires the use of detergents should occur off-site.</p> |
| Drywall and Joint Compound | Vinyl acetate, acetaldehyde, calcium sulfate dehydrate, formaldehyde, silica | <p>Drywall and joint compound will be used on the interior of structures.</p> <p>Ideally these materials should be stored inside the structure out of contact of stormwater.</p> <p>If storage inside the structure is not practical, the materials should be placed in a storage container, contractor vehicle, or trailer or otherwise covered to minimize contact with stormwater.</p> <p>Waste products can be disposed of with construction debris as soon as possible and should not be allowed to accumulate on lots.</p> |
| Fertilizers | Nutrients | <p>Fertilizers can be kept on-site in amounts necessary for immediate use.</p> <p>In the event fertilizers must remain on-site longer, they should be stored in a covered area to minimize contact with precipitation.</p> <p>Refer to the manufacturer's recommendations for application and disposal.</p> <p>Do not over apply or apply before an anticipated runoff-producing rain event.</p> |
| Form Release Oil | Petroleum hydrocarbons | <p>Do not remove the original product label from container.</p> <p>Store containers in a covered area or in contractor vehicles to minimize contact with stormwater.</p> <p>Follow the manufacturer's recommended usage instructions.</p> <p>Do not use before or during any precipitation event.</p> <p>Use all of the product before disposing of the container and only place in a waste receptacle designated to receive this type of waste.</p> |
| Fuels and Oils | Petroleum hydrocarbons and distillates | <p>If aboveground storage tanks (ASTs) are required, locations will be tracked on the SWPPP map.</p> |

| | | |
|---------------------|---|--|
| | | <p>A separate spill prevention containment and countermeasure (SPCC) plan will be developed should one or more of the following be present on-site:</p> <ul style="list-style-type: none"> • A single AST for oil with 660 gallons or more capacity • Two or more ASTs with an aggregate of 1,320 gallons or more capacity (include storage vessels stored above ground with a capacity of 55 gallons or more with the aggregate total capacity) • Belowground oil storage vessels of 42,000 gallons or more <p>Smaller fuel containers and gas-powered equipment should be kept in secondary containment vessels to prevent spills or leaks during fueling and operation. Small gas cans can be kept in the back of trucks when not in use.</p> <p>Drip pans should be used for parked vehicles where leaks have been identified.</p> <p>Soil stained with fuel or other petroleum products should be removed and disposed of in compliance with federal, state, and local requirements.</p> |
| Grease / Lubricants | Petroleum hydrocarbons | <p>If grease is to be stored on-site, it should be stored in a covered location to minimize contact with stormwater.</p> <p>The application of lubricants should be conducted off-site or in an area with sufficient secondary containment measures to contain any leaks or spills.</p> <p>Lubricants should not be applied in rain or on exposed areas of machinery when precipitation is expected.</p> |
| Glue / Adhesives | Organic aromatic compounds, semivolatile organic compounds (SVOC) | <p>Glue and adhesives may be used on-site for construction in interior work.</p> <p>Adhesives should be stored in covered areas and out of contact of precipitation.</p> <p>Materials will be used and disposed of in accordance with manufacturers recommendations.</p> <p>Exterior adhesives should not be applied during or immediately before anticipated precipitation events.</p> |
| Landscape Materials | Nutrients, sediment, pH | <p>Landscape materials include—but are not limited to—items such as topsoil, compost, mulch, polymers, gypsum, and lime.</p> <p>If the materials are to be stored on-site they should be stored in a covered area or covered with plastic sheeting, tarps, or similar products to minimize contact with stormwater.</p> <p>Soil amendments should not be used before anticipated runoff producing rain events.</p> |
| Material Storage | Solid waste, hydrocarbons, | <p>As necessary and as space on the project allows, material storage areas should be dedicated on-site.</p> |

| | | |
|-----------------------------------|--|---|
| | nutrients, sediment, hazardous materials | <p>The number of access points to the material storage area should be limited, and materials should be stored away from drainage courses and low areas.</p> <p>Hazardous materials should be stored in containers or structures or otherwise covered to minimize contact with stormwater. Secondary containment should be provided for the area not only to contain spills but also to limit multiple access points.</p> |
| Paint | pH, ethylene glycol, titanium oxide, volatile organic compounds (VOC) | <p>Paint washwater should be properly contained on-site in a designated area and handled similarly to concrete washwater.</p> <p>Used materials (i.e., soiled brushes, rollers, sprayers) and dried latex paint should be disposed of in appropriate waste receptacles, preferably off-site.</p> <p>Unused quantities of paint should be removed from site by trades and not disposed of on-site.</p> <p>Any quantities stored on-site should be stored in covered areas to minimize contact with stormwater.</p> |
| Pesticides, Herbicides | Organophosphates, carbamates, triazines, chloroacetanilides, salts, heavy metals | <p>Pesticides and herbicides should be used and disposed of per manufacturer's recommendations. Avoid overapplying products and avoid applying products before anticipated runoff-producing storm events.</p> <p>Storage of pesticides and herbicides on-site should be discouraged. Should storage on-site be required, items should be stored in covered areas to minimize contact with precipitation and stormwater.</p> <p>Spilled material should be promptly cleaned up per manufacturer's recommendations.</p> |
| Refrigerants | Various -fluoroethanes and -fluoromethanes | <p>Refrigerants will be used in heating, ventilation, and air-conditioning (HVAC) systems in built structures on-site. Refrigerants should not be stored on-site other than the volume needed for the HVAC systems.</p> <p>Refrigerants will be handled and disposed of by properly trained technicians.</p> |
| Sanitary Waste | Bacteria, viruses, parasites | <p>Sanitary stations should be located where accidental discharge cannot flow to storm drains, gutters, surface waters, or conveyance channels.</p> <p>Locate stations on a level, permeable surface, away from drainage courses and low areas. These stations should not be located on streets, sidewalks, or on top of inlets.</p> <p>Stations will be inspected and maintained by a qualified person at frequent and regular intervals to assure cleanliness and proper operation.</p> |
| Sediment / Total Suspended Solids | Turbidity, nutrients | <p>Surface water impairments caused by sediment and total suspended solids will have a higher risk of occurring in areas where soils have been disturbed for construction activities.</p> |

| | | |
|--|--|---|
| | | <p>Temporary controls are described in this SWPPP to control and contain this potential pollutant during land-disturbing activities of the project.</p> <p>Vegetation (temporary or permanent stabilization) is a very efficient BMP for controlling sediment and should be used whenever possible.</p> |
| Solid Waste | Floatable and blowable trash and debris | <p>Solid waste created from construction activities (including but not limited to scrap building material, product/material shipping waste, food containers, and cups) should be properly contained on-site and removed frequently from the site for disposal.</p> <p>Dumpsters should to be emptied at regular intervals and as needed during times of high activity on the site.</p> <p>Efforts should be taken to minimize exposure of solids wastes generated on the site to stormwater.</p> |
| Solvents | VOC, SVOC | <p>If solvents are stored on-site, they should be stored in a covered and secured area to prevent spills and minimize contact with stormwater.</p> <p>The materials will be used and disposed of per manufacturer's recommendations and federal, state, and local regulations.</p> |
| Stains, Stucco, and Associated Materials | Ethylene glycol, SVOC, VOC, silica, pH | <p>Secondary containment should be provided in mixing and cleanup areas.</p> <p>Leftover materials should be removed from the site or disposed of in an area designated to receive this type of waste.</p> <p>Do not use materials during a precipitation event, and ensure all excess materials are stored in a covered area to minimize contact with stormwater.</p> <p>Materials should not be washed into a gutter, on the ground, or into a storm drain inlet. If washing on-site, consider using a designated containment bin or pit for washwater.</p> |
| Vehicle Washing, Wheel Washwater | Sediment, petroleum hydrocarbons, heavy metals | <p>If vehicle washing and/or wheel washing is to occur on-site, it should be done in designated areas where washwater can collect in a basin or alternative control.</p> <p>Use of detergents should be discouraged.</p> <p>Washing on paved surfaces should be discouraged unless water can be sufficiently treated before leaving the site.</p> |

6.4. NONREPORTABLE SPILL PROTOCOL

Most spills can be cleaned up following manufacturer's recommendations. Absorbent materials, sealable containers, plastic bags, and shovels/brooms are suggested as minimum spill response items that should be available at this location.

- Check for hazards (flammable material, noxious fumes). If flammable liquid, turn off engines and nearby electrical equipment. If serious hazards are present, leave the area and call 911.
- Make sure the spill area is safe to enter and that it does not pose an immediate threat to health or safety of any person.
- Stop the spill source.
- Call co-workers and supervisor for assistance and to make them aware of the spill and potential dangers.
- If possible, stop the spill from entering drains (use absorbent or other material as necessary).
- Stop spill from spreading (use absorbent or other material).
- If spilled material has entered a storm sewer, contact the locality at the below number.
- Clean up spilled material according to manufacturer's specifications. For liquid spills, use absorbent material and do not flush the contaminated area with water.
- Properly dispose of cleaning materials and used absorbent material according to manufacturer specifications.

6.5. REPORTABLE SPILLS

Requirements for reporting spills of hazardous materials and typical site pollutants and spill report documentations can be found in Section 9 of this SWPPP.

Release of a hazardous substance must be reported to the department in accordance with 10 CSR 24-3.010. A record of each reportable spill shall be retained with the Stormwater Pollution Prevention Plan (SWPPP) and made available to the department upon request. The department may also require the submittal of a written or electronic report detailing measures taken to clean up the spill within five (5) days of the spill. Such a report must include the type of material spilled, volume, date of spill, date clean-up was completed, clean-up method, and final disposal method. If the spill occurs outside normal business hours, or if the permit holder cannot reach regional office staff for any reason, the permit holder is instructed to report the spill to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. Leaving a message on a department staff member voice-mail does not satisfy this reporting requirement (MDNR 2017).

Table 7. City of Lee's Summit Public Works Contact.

| Name/Position | Contact Number |
|--|-----------------------|
| City of Lee's Summit Public Works Department | 816-969-1800 |

| Report to: | Contact Number |
|---|-----------------------|
| Kansas City Regional Office 500 NE Colbern Road Lee's Summit, MO 64086-4710 | 816.251.0700 |
| MDNR 24-Hour Spill Response | 573.634.2436 |
| National Response Center (NRC) | 800.424.8802 |

7.0. SWPPP IMPLEMENTATION

7.1. PUBLIC NOTIFICATION

The locations of the site posting will be noted on the site BMP Tracking Map located in Section 5 of this SWPPP. The location will be updated should the posting move.

The permittee shall post a copy of the public notification sign described by the Department at the main entrance to the site. 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 (MDNR 2017).

7.2. INSPECTIONS

Site inspections should be conducted by qualified personnel at the frequency indicated below. Site inspection reports can be stored in Section 12 of this SWPPP unless otherwise noted.

The permittee (or a representative of the permittee) 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. For disturbed areas that have not been finally stabilized, all installed BMPs and other pollution control measures shall be inspected for proper installation, operation and maintenance. All stormwater outfalls shall be inspected for evidence of erosion or sediment deposition. When practicable the receiving stream shall also be inspected for 50 feet downstream of the outfall. Any structural or maintenance problems shall be noted in an inspection report and corrected as soon as possible but no more than seven calendar days after the inspection. All BMPs must be inspected in accordance to one of the two schedules listed below, and any changes to the frequency of inspections, including switching between the options listed below, must be documented in the SWPPP:

- ☒ *At least once every seven 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 and within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday;*
or
- ☐ *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 a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on site, or obtain the storm event information from a weather station for your location.*
- a. Inspections are only required during the project's normal working hours.*
 - b. You must conduct an inspection within 24 hours once a storm event has produced 0.25 inches within a 24 hour period, even if the storm event is still continuing.*

- c. *If you have elected to inspect every 14 calendar days and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm (MDNR 2017).*

7.3. CORRECTIVE ACTIONS

Structural or maintenance problems with BMPs used in this project and noted as a result of an inspection shall be corrected as soon as possible but no more than seven calendar days after the inspection.

7.4. MODIFICATION AND AMENDMENTS

Modifications and amendments to the SWPPP can be tracked in Section 7 of this SWPPP. Below are minimum guidelines for when the SWPPP should be updated.

The permittee shall amend the SWPPP at a minimum whenever the:

- a. *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 excessive sediment deposits in streams or lakes); and/or*
- f. *Department determines violations of water quality standards may occur or have occurred (MDNR 2017).*

7.5. TRANSFER OF OWNERSHIP

As necessary, permit transfers or records of sale should be placed in Section 2 of this SWPPP.

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.

If the entire tract is sold to a single entity, then this permit shall be terminated when the new owner obtains a new land disturbance permit for the site (MDNR 2017).

7.6. TERMINATION OF PERMIT

When the project is completed and has reached final stabilization, a copy of the notice of termination and confirmation from the MDNR should be placed in Section 14 of this SWPPP.

This permit may be terminated when the project is stabilized. The project is considered to be stabilized when perennial vegetation, pavement, buildings, or structures using permanent materials cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetation cover shall be at least 70% over 100% of the site. In order to terminate the permit, the permittee shall notify the Department by submitting Form H Request for Termination of a General Permit (MDNR 2017).

7.7. RECORDS

When the project is complete, and the notice of termination has been accepted by the MDNR, records should be removed from the site and retained.

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. The records shall be accessible during normal business hours. The records shall be retained for a period of at least three years from the date of the Letter of Termination.

The permittee shall provide a copy 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.

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 (MDNR 2017).

8.0. REFERENCES

California Stormwater Quality Association. (November 2009). *Stormwater Best Management Practice Handbook Portal: Construction*. Retrieved from <http://www.buenapark.com/home/showdocument?id=2557>.

Missouri Department of Natural Resources. (February 2017). *Missouri State Operating Permit*. Retrieved from <https://dnr.mo.gov/env/wpp/permits/issued/docs/RA00000.pdf>.

Missouri Department of Natural Resources, ABC's of BMP's LLC and Shockey Consulting Services. (January 2011). *Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas*. Retrieved from <https://dnr.mo.gov/env/wpp/wpcp-guide/docs/wpcp-guide.pdf>.

United States Environmental Protection Agency. (May 2007). *Developing Your Stormwater Pollution Prevention Plan, A Guide for Construction Sites*. Retrieved from https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf.

Virginia Department of Environmental Quality. (July 2014). *Single Family Residence Common Plan of Development or Sale Stormwater Pollution Prevention Plan Template*. Retrieved from <http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPpermits/ConstructionGeneralPermit.aspx>.

SECTION 4

Location/Topographical Map(s), FIRM Maps & Soils Maps

This section contains:

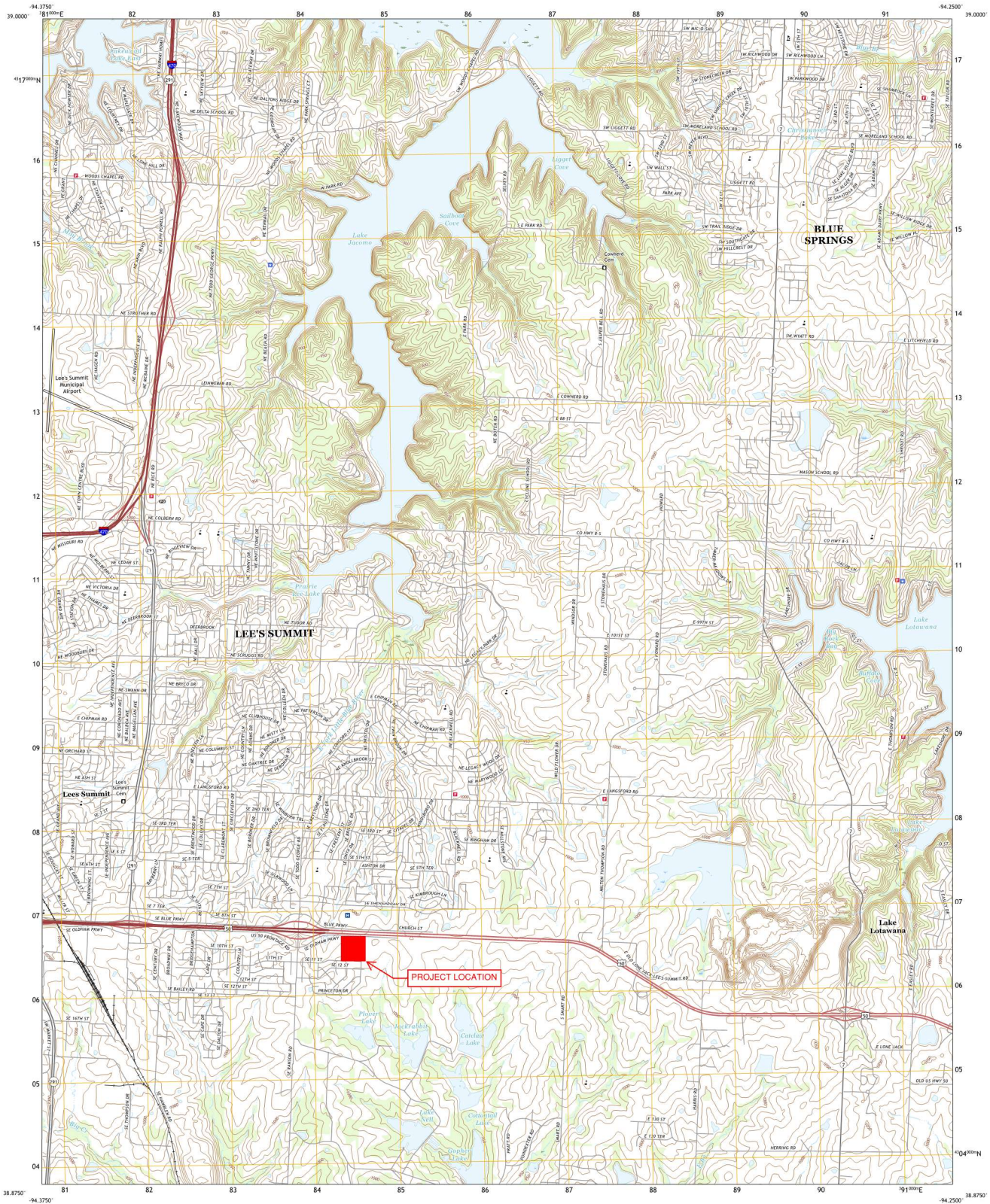
- Required Location, Vicinity and Topographical Maps (as needed)
- FIRM Maps
- Soils Maps if needed



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

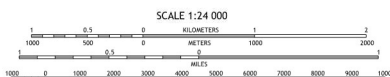


LAKE JACOMO QUADRANGLE
MISSOURI - JACKSON COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84) Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 15S
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery:.....NAP, June 2014, - October 2016
Roads:.....U.S. Census Bureau, 2016
Names:.....National Hydrography Dataset, 2016
Contours:.....National Elevation Dataset, 2008
Boundaries:.....Multiple sources; see metadata file 2014 - 2016
Public Land Survey System:.....BLM, 2017
Wetlands:.....FWS National Wetlands Inventory 1981 - 1983



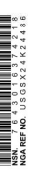
SCALE 1:24 000
CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18



QUADRANGLE LOCATION
1 2 3
4 5 6
7 8 9
Adjacent Quadrangles

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Bypass
Local Connector
Local Road
US Route
State Route

LAKE JACOMO, MO
2017











Hydrologic Soil Group—Jackson County, Missouri



MAP LEGEND**Area of Interest (AOI)**
 Area of Interest (AOI)
Soils**Soil Rating Polygons**





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features
 Streams and Canals
Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background
 Aerial Photography
MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Jackson County, Missouri
Survey Area Data: Version 19, Sep 13, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 11, 2017—Sep 22, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|--|--------|--------------|----------------|
| 10000 | Arisburg silt loam, 1 to 5 percent slopes | C | 10.4 | 85.2% |
| 10082 | Arisburg-Urban land complex, 1 to 5 percent slopes | C | 1.8 | 14.8% |
| Totals for Area of Interest | | | 12.2 | 100.0% |

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

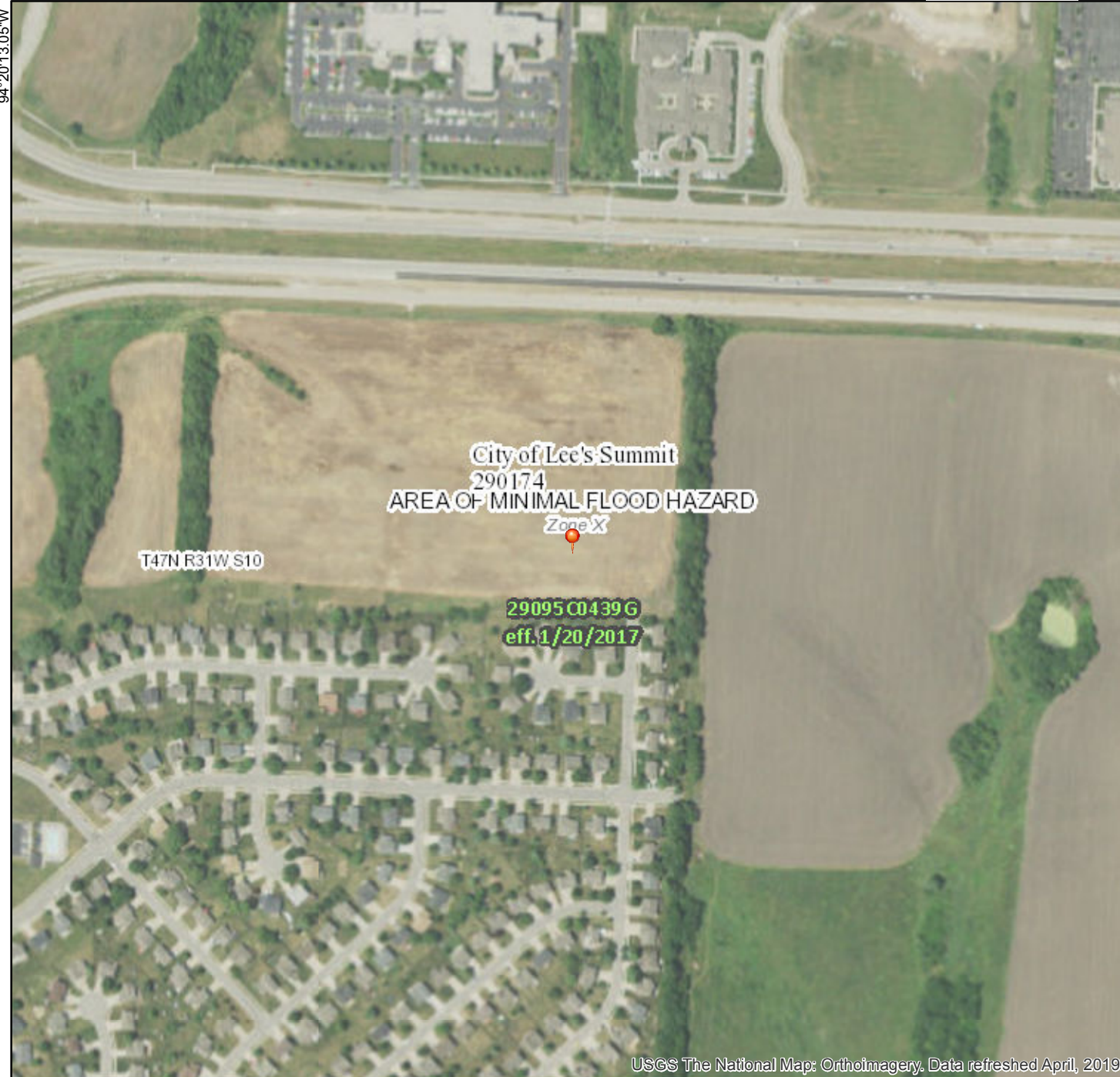
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMette



38°54'13.58"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

38°53'45.58"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

| | | |
|-----------------------------|--|---|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE) Zone A, V, A99 |
| | | With BFE or Depth Zone AE, AO, AH, VE, AR |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X |
| | | Future Conditions 1% Annual Chance Flood Hazard Zone X |
| | | Area with Reduced Flood Risk due to Levee. See Notes. Zone X |
| | | Area with Flood Risk due to Levee Zone D |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard Zone D |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **5/20/2019 at 2:03:17 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

94°19'35.59"W

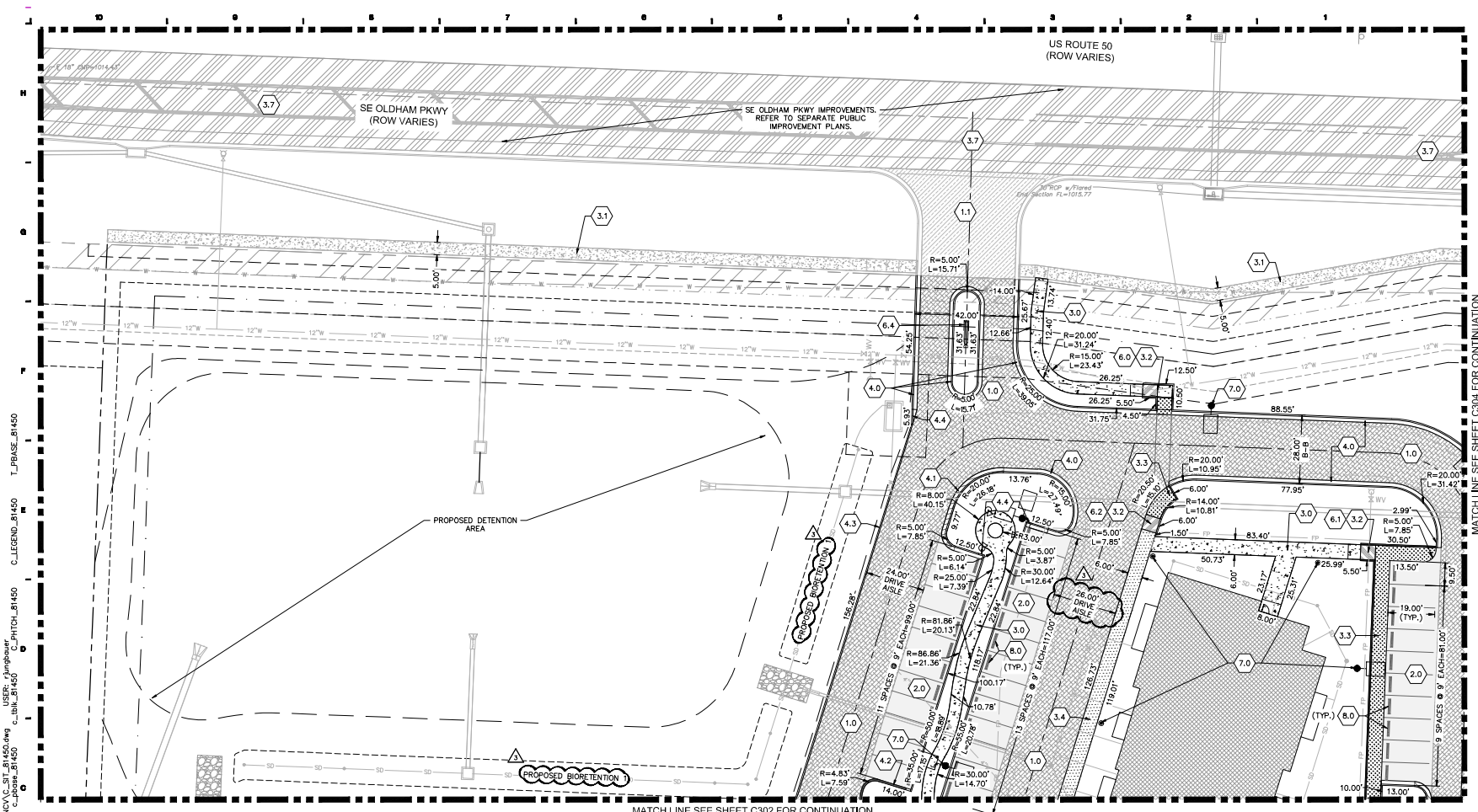
USGS The National Map: Orthoimagery. Data refreshed April, 2019.

SECTION 5

BMP Tracking Map & Land Disturbance Tracking Log

This section contains:

- Erosion and Sediment Control Plan sheet experts
- Post Construction Stormwater Management Plan sheets if applicable
- BMP Tracking Map (Working SWPPP Map)
 - Record of Land Disturbance, Stabilization and BMP installation and removal
 - Record of Dewatering Activities (e.g. dates and estimated volume of water discharged)



MATCH LINE SEE SHEET C302 FOR CONTINUATION
 DIMENSION PLAN 1
 SCALE 1"=20'

KEYNOTES:

- 1.0 [Pattern] INSTALL HEAVY DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAIL)
- 1.1 [Pattern] COMMERCIAL DRIVEWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS.
- 2.0 [Pattern] INSTALL LIGHT DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAIL)
- 3.0 [Pattern] CONSTRUCT PRIVATE CONCRETE SIDEWALK (REFER TO SHEET C701 FOR DETAILS)
- 3.1 [Pattern] PUBLIC CONCRETE SIDEWALK CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS.
- 3.2 [Pattern] CONSTRUCT SIDEWALK RAMP - SLOPE AT 8.33% MAX.
- 3.3 [Pattern] CONSTRUCT CONCRETE SIDEWALK AND BANDING FLUSH WITH PAVEMENT. (REFER TO SHEET C702 FOR DETAIL)
- 3.4 [Pattern] CONSTRUCT CONCRETE TURN DOWN SIDEWALK. (REFER TO SHEET C701 FOR DETAIL)
- 3.5 [Pattern] PAVEMENT STRIPPING, 4" SINGLE SOLID WHITE STRIPES @ 45°, 2' O.C. (REFER TO SHEET C101 FOR PAVEMENT MARKING NOTES)
- 3.6 [Pattern] INSTALL HEAVY DUTY CONCRETE PAVEMENT. (REFER TO SHEET C702 FOR DETAIL)
- 3.7 [Pattern] PUBLIC ASPHALT ROADWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS.

- 4.0 [Symbol] CONSTRUCT STRAIGHT BACK CURB & GUTTER (TYPE CG-1)(REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701)
- 4.1 [Symbol] CONSTRUCT STRAIGHT BACK "DRY" CURB & GUTTER (TYPE CG-1 DRY) (CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701)
- 4.2 [Symbol] CONSTRUCT STRAIGHT CURB (TYPE C-1)(REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701)
- 4.3 [Symbol] CONSTRUCT FLUSH CURB (REFER TO DETAIL SHEET C702)
- 4.4 [Symbol] TRANSITION CURB FROM CG-1 TO FLUSH CURB (REFER TO SHEET C702 FOR DETAIL)
- 5.0 [Symbol] CONTRACTOR SHALL SMOOTH EXISTING PAVEMENT TO PROVIDE CLEAN EDGE FOR SMOOTH TRANSITION BETWEEN NEW & EXISTING PAVEMENT
- 6.0 [Symbol] CONSTRUCT TYPE 1 SIDEWALK RAMP (REFER TO SHEET C702 FOR DETAILS)
- 6.1 [Symbol] CONSTRUCT TYPE 2 SIDEWALK RAMP (REFER TO SHEET C702 FOR DETAILS)
- 6.2 [Symbol] CONSTRUCT TYPE B SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS)
- 6.3 [Symbol] CONSTRUCT DRIVEWAY FLUSH WITH SIDEWALK (REFER TO SHEET C701 FOR DETAIL)
- 6.4 [Symbol] SITE SIGNAGE (REFER TO ARCHITECTURAL PLANS FOR DETAILS)

- 6.5 [Symbol] ACCESSIBLE STALLS & SIGNAGE (REFER TO SHEET C702 FOR DETAILS)
- 6.6 [Symbol] CONSTRUCT TYPE M SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS)
- 7.0 [Symbol] PROPOSED LIGHTING (TYP.)(REFER TO ARCHITECTURAL AND MEP PLANS FOR DETAILS)
- 8.0 [Symbol] INSTALL PRECAST WHEEL STOPS (REFER TO SHEET C702 FOR DETAIL)
- 9.0 [Symbol] TRASH ENCLOSURE (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- 9.1 [Symbol] INSTALL FENCE. (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- 9.2 [Symbol] CONCRETE PAD FOR GENERATOR (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- 9.3 [Symbol] SCREENING WALL (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- 9.4 [Symbol] RAISED PLANTER (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- 9.5 [Symbol] CARPORT (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- 9.6 [Symbol] CONCRETE PAD FOR ELECTRIC TRANSFORMER (REFER TO ARCHITECTURAL PLANS FOR DETAILS)

- 10.0 [Symbol] CONCRETE RETAINING WALL WITH HANDRAIL (REFER TO SHEET C701 FOR DETAILS)



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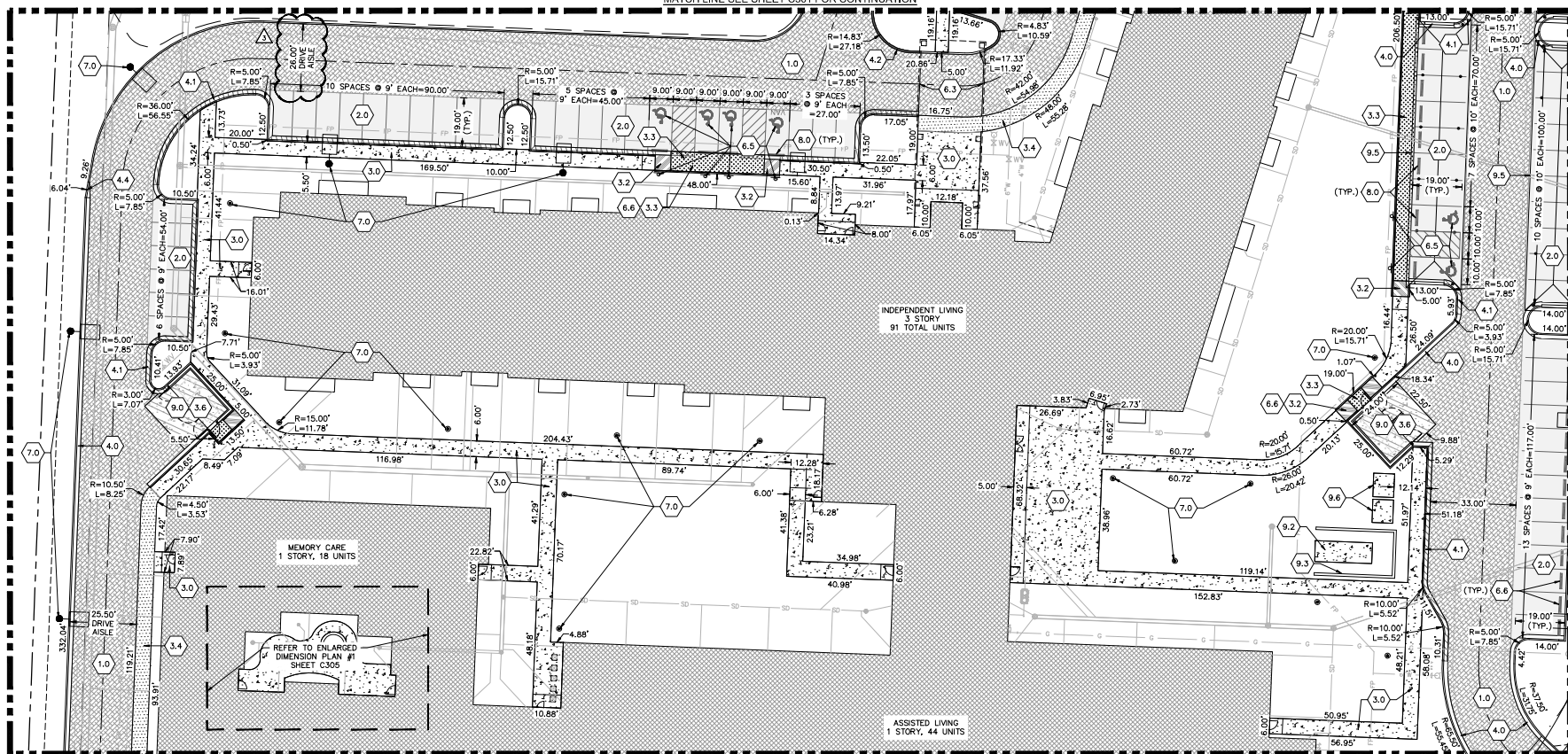
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 1701 S.E. OLDHAM PARKWAY
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 DIMENSION PLAN
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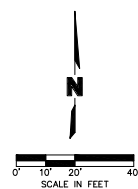


| KEYNOTES: | |
|-----------|---|
| 1.0 | INSTALL HEAVY DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAIL) |
| 1.1 | COMMERCIAL DRIVEWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. |
| 2.0 | INSTALL LIGHT DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAIL) |
| 3.0 | CONSTRUCT PRIVATE CONCRETE SIDEWALK (REFER TO SHEET C701 FOR DETAILS) |
| 3.1 | PUBLIC CONCRETE SIDEWALK CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. |
| 3.2 | CONSTRUCT SIDEWALK RAMP - SLOPE AT 8.33% MAX. |
| 3.3 | CONSTRUCT CONCRETE SIDEWALK AND BANDING FLUSH WITH PAVEMENT. (REFER TO SHEET C702 FOR DETAIL) |
| 3.4 | CONSTRUCT CONCRETE TURN DOWN SIDEWALK. (REFER TO SHEET C701 FOR DETAIL) |
| 3.5 | PAVEMENT STRIPPING, 4" SINGLE SOLID WHITE STRIPES @ 45'; 2' O.C. (REFER TO SHEET C101 FOR PAVEMENT MARKING NOTES) |
| 3.6 | INSTALL HEAVY DUTY CONCRETE PAVEMENT. (REFER TO SHEET C702 FOR DETAIL) |
| 3.7 | PUBLIC ASPHALT ROADWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. |

- | | | |
|-----|---|---|
| 4.0 |  | CONSTRUCT STRAIGHT BACK CURB & GUTTER (TYPE CG-1) (REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) |
| 4.1 |  | CONSTRUCT BACK CURB "DRY" CURB & GUTTER (TYPE CG-1 DRY) (CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) |
| 4.2 |  | CONSTRUCT STRAIGHT CURB (TYPE C-1) (REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) |
| 4.3 |  | CONSTRUCT FLUSH CURB (REFER TO DETAIL SHEET C702) |
| 4.4 | | TRANSITION CURB FROM CG-1 TO FLUSH CURB (REFER TO SHEET C702 FOR DETAIL) |
| 5.0 | | CONTRACTOR SHALL SMOOTH EXISTING PAVEMENT TO PROVIDE CLEAN EDGE FOR SMOOTH TRANSITION BETWEEN NEW & EXISTING PAVEMENT |
| 6.0 | | CONSTRUCT TYPE 1 SIDEWALK RAMP (REFER TO SHEET C702 FOR DETAILS) |
| 6.1 | | CONSTRUCT TYPE 2 SIDEWALK RAMP (REFER TO SHEET C702 FOR DETAILS) |
| 6.2 | | CONSTRUCT TYPE B SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS) |
| 6.3 | | CONSTRUCT DRIVEWAY FLUSH WITH SIDEWALK (REFER TO SHEET C701 FOR DETAIL) |
| 6.4 | | SITE SIGNAGE (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |

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|-----|--|
| 6.5 | ACCESSIBLE STALLS & SIGNAGE (REFER TO SHEET C702 FOR DETAILS) |
| 6.6 | CONTRACT TYPE M SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS) |
| 7.0 | PROPOSED LIGHTING (TYP.) (REFER TO ARCHITECTURAL AND MEP PLANS FOR DETAILS) |
| 8.0 | INSTALL PRECAST WHEEL STOPS (REFER TO SHEET C702 FOR DETAILS) |
| 9.0 | TRASH ENCLOSURE (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.1 | INSTALL FENCE. (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.2 | CONCRETE PAD FOR GENERATOR (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.3 | SCREENING WALL (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.4 | RAISED PLANTER (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.5 | CARPORT (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.6 | CONCRETE PADS FOR ELECTRIC TRANSFORMERS (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |

3
10.0 CONCRETE RETAINING WALL WITH HANDRAIL (REFER TO SHEET C701 FOR DETAILS)



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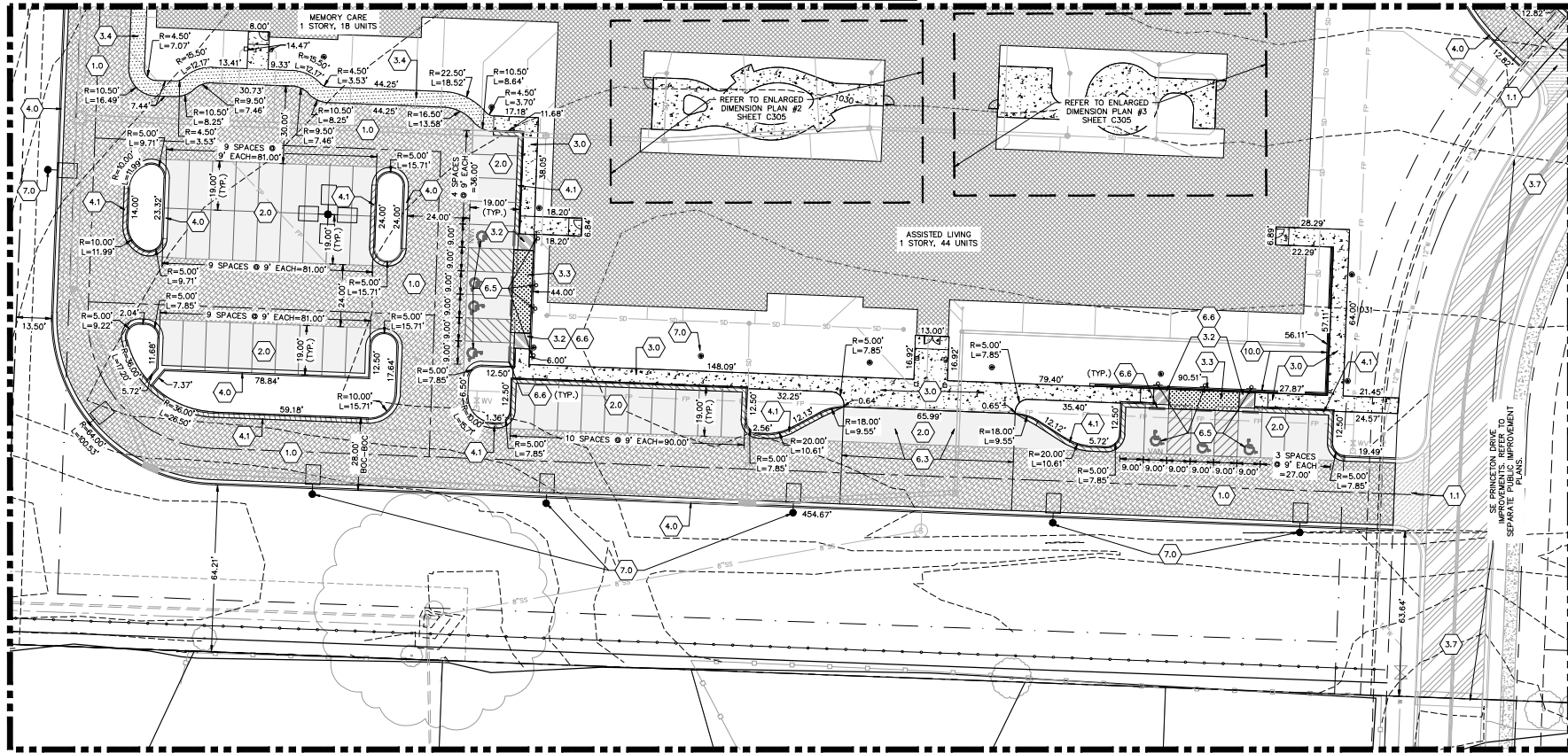
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DIMENSION PLAN 3
SCALE: 1/8" = 1'-0"

KEYNOTES:

- | | | | |
|-----|---|-----|---|
| 1.0 | INSTALL HEAVY DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAIL) | 4.3 | CONSTRUCT FLUSH CURB (REFER TO DETAIL SHEET C702) |
| 1.1 | COMMERCIAL DRIVEWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. | 4.4 | TRANSITION CURB FROM CG-1 TO FLUSH CURB (REFER TO SHEET C702 FOR DETAIL) |
| 2.0 | INSTALL LIGHT DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAIL) | 5.0 | CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT TO PROVIDE CLEAN EDGE FOR SMOOTH TRANSITION BETWEEN NEW & EXISTING PAVEMENT |
| 3.0 | CONSTRUCT PRIVATE CONCRETE SIDEWALK (REFER TO SHEET C701 FOR DETAILS) | 6.0 | CONSTRUCT TYPE 1 SIDEWALK RAMP (REFER TO SHEET C702 FOR DETAILS) |
| 3.1 | PUBLIC CONCRETE SIDEWALK CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. | 6.1 | CONSTRUCT TYPE 2 SIDEWALK RAMP (REFER TO SHEET C702 FOR DETAILS) |
| 3.2 | CONSTRUCT SIDEWALK RAMP - SLOPE AT 8.33% MAX. | 6.2 | CONSTRUCT TYPE B SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS) |
| 3.3 | CONSTRUCT CONCRETE SIDEWALK AND BANDING FLUSH WITH PAVEMENT. (REFER TO SHEET C702 FOR DETAIL) | 6.3 | CONSTRUCT DRIVEWAY FLUSH WITH SIDEWALK (REFER TO SHEET C701 FOR DETAIL) |
| 3.4 | CONSTRUCT CONCRETE TURN DOWN SIDEWALK. (REFER TO SHEET C701 FOR DETAIL) | 6.4 | SITE SIGNAGE (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 3.5 | PAVEMENT STRIPPING, 4" SINGLE SOLID WHITE STRIPES @ 45'; 2' O.C. (REFER TO SHEET C701 FOR PAVEMENT MARKING NOTES) | 6.5 | ACCESSIBLE STALLS & SIGNAGE (REFER TO SHEET C702 FOR DETAILS) |
| 3.6 | INSTALL HEAVY DUTY CONCRETE PAVEMENT. (REFER TO SHEET C702 FOR DETAIL) | 6.6 | CONSTRUCT TYPE M SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS) |
| 3.7 | PUBLIC ASPHALT ROADWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. | 7.0 | PROPOSED LIGHTING (TYP.) (REFER TO ARCHITECTURAL AND MEP PLANS FOR DETAILS) |
| 4.0 | CONSTRUCT STRAIGHT BACK CURB & GUTTER (TYPE CG-1) (REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) | 8.0 | INSTALL PRECAST WHEEL STOPS (REFER TO SHEET C702 FOR DETAIL) |
| 4.1 | CONSTRUCT STRAIGHT BACK "DRY" CURB & GUTTER (TYPE CG-1 DRY) (CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) | 9.0 | TRASH ENCLOSURE (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 4.2 | CONSTRUCT STRAIGHT CURB (TYPE C-1) (REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) | 9.1 | INSTALL FENCE. (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |

- | | |
|------|--|
| 9.2 | CONCRETE PAD FOR GENERATOR (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.3 | SCREENING WALL (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.4 | RAISED PLANTER (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.5 | CARPORT (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 9.6 | CONCRETE PAD FOR ELECTRIC TRANSFORMER (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| 10.0 | CONCRETE RETAINING WALL WITH HANDRAIL (REFER TO SHEET C701 FOR DETAILS) |



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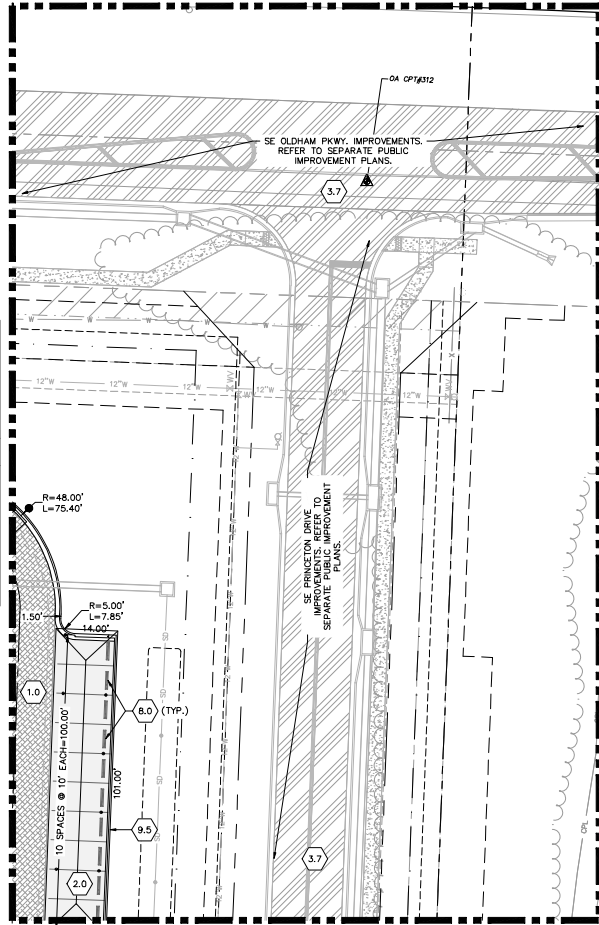
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KEYNOTES:
1.0
1.1
2.0
3.0
3.1
3.2
3.3
3.4
3.5
3.6
3.7

- INSTALL HEAVY DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAIL)
- COMMERCIAL DRIVEWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS.
- INSTALL LIGHT DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAIL)
- CONSTRUCT PRIVATE CONCRETE SIDEWALK (REFER TO SHEET C701 FOR DETAILS)
- PUBLIC CONCRETE SIDEWALK CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS.
- CONSTRUCT SIDEWALK RAMP - SLOPE AT 8.33% MAX.
- CONSTRUCT CONCRETE SIDEWALK AND BANDING FLUSH WITH PAVEMENT. (REFER TO SHEET C702 FOR DETAIL)
- CONSTRUCT CONCRETE TURN DOWN SIDEWALK. (REFER TO SHEET C701 FOR DETAIL)
- PAVEMENT STRIPPING, 4" SINGLE SOLID WHITE STRIPES @ 45', 2' O.C. (REFER TO SHEET C101 FOR PAVEMENT MARKING NOTES)
- INSTALL HEAVY DUTY CONCRETE PAVEMENT. (REFER TO SHEET C702 FOR DETAIL)
- PUBLIC ASPHALT ROADWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS.
- 4.0
4.1
4.2
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5.0
6.0
6.1
6.2
6.3
6.4
- CONSTRUCT STRAIGHT BACK CURB & GUTTER (TYPE CG-1)(REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701)
- CONSTRUCT STRAIGHT BACK "DRY" CURB & GUTTER (TYPE CG-1 DRY) (CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701)
- CONSTRUCT STRAIGHT CURB (TYPE C-1)(REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701)
- CONSTRUCT FLUSH CURB (REFER TO DETAIL SHEET C702)
- TRANSITION CURB FROM CG-1 TO FLUSH CURB (REFER TO SHEET C702 FOR DETAIL)
- CONTRACTOR SHALL SANQUIT EXISTING PAVEMENT TO PROVIDE CLEAN EDGE FOR SMOOTH TRANSITION BETWEEN NEW & EXISTING PAVEMENT
- CONSTRUCT TYPE 1 SIDEWALK RAMP (REFER TO SHEET C702 FOR DETAILS)
- CONSTRUCT TYPE 2 SIDEWALK RAMP (REFER TO SHEET C702 FOR DETAILS)
- CONSTRUCT TYPE B SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS)
- CONSTRUCT DRIVEWAY FLUSH WITH SIDEWALK (REFER TO SHEET C701 FOR DETAIL)
- SITE SIGNAGE (REFER TO ARCHITECTURAL PLANS FOR DETAILS)

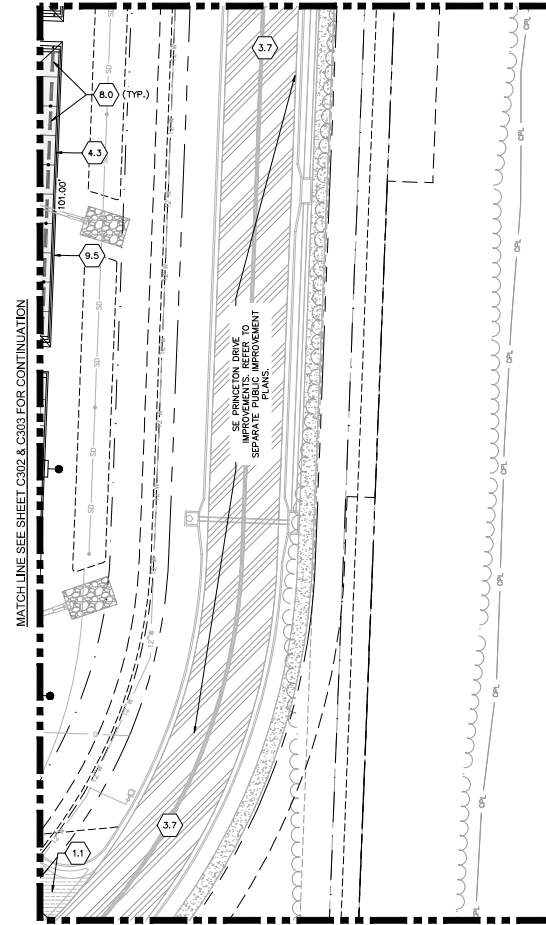
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MATCH LINE SEE DIMENSION PLAN 4 THIS SHEET FOR CONTINUATION

DIMENSION PLAN 4

MATCH LINE SEE DIMENSION PLAN 4 THIS SHEET FOR CONTINUATION



DIMENSION PLAN 5

SCALE: 1"=20'

CONCRETE RETAINING WALL WITH HANDRAIL (REFER TO SHEET C701 FOR DETAILS)

- ACCESSIBLE STALLS & SIGNAGE (REFER TO SHEET C702 FOR DETAILS)
- CONSTRUCT TYPE M SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS)
- PROPOSED LIGHTING (TYP.)(REFER TO ARCHITECTURAL AND MEP PLANS FOR DETAILS)
- INSTALL PRECAST WHEEL STOPS (REFER TO SHEET C702 FOR DETAIL)
- TRASH ENCLOSURE (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- INSTALL FENCE. (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- CONCRETE PAD FOR GENERATOR (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- SCREENING WALL (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- RAISED PLANTER (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- CARPORT (REFER TO ARCHITECTURAL PLANS FOR DETAILS)
- CONCRETE PAD FOR ELECTRIC TRANSFORMER (REFER TO ARCHITECTURAL PLANS FOR DETAILS)



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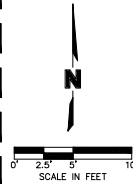
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KEYNOTES:

- | | | |
|---|------|--|
| INSTALL HEAVY DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAILS) | 6.5 | ACCESSIBLE STALLS & SIGNAGE (REFER TO SHEET C702 FOR DETAILS) |
| COMMERCIAL DRIVEWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. | 6.6 | CONSTRUCT TYPE M SIDEWALK/SHARED USE RAMP (REFER TO SHEET C700 FOR DETAILS) |
| INSTALL LIGHT DUTY ASPHALT PAVEMENT (REFER TO SHEET C702 FOR DETAILS) | 7.0 | PROPOSED LIGHTING (TYP.) (REFER TO ARCHITECTURAL AND MEP PLANS FOR DETAILS) |
| CONSTRUCT PRIVATE CONCRETE SIDEWALK (REFER TO SHEET C701 FOR DETAILS) | 8.0 | INSTALL PRECAST WHEEL STOPS (REFER TO SHEET C702 FOR DETAILS) |
| PUBLIC CONCRETE SIDEWALK CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. | 9.0 | TRASH ENCLOSURE (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| CONSTRUCT SIDEWALK RAMP - SLOPE AT 8.33% MAX. | 9.1 | INSTALL FENCE. (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| CONSTRUCT CONCRETE SIDEWALK AND BANDING FLUSH WITH PAVEMENT. (REFER TO SHEET C702 FOR DETAILS) | 9.2 | CONCRETE PAD FOR GENERATOR (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| CONSTRUCT CONCRETE TURN DOWN SIDEWALK. (REFER TO SHEET C701 FOR DETAILS) | 9.3 | SCREENING WALL (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| PAVEMENT STRIPPING, 4" SINGLE SOLID WHITE STRIPES @ 45', 2" O.C. (REFER TO SHEET C101 FOR PAVEMENT MARKING NOTES) | 9.4 | RAISED PLANTER (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| INSTALL HEAVY DUTY CONCRETE PAVEMENT. (REFER TO SHEET C702 FOR DETAILS) | 9.5 | CARPORT (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| PUBLIC ASPHALT ROADWAY CONSTRUCTED UNDER SEPARATE CONTRACT. REFER TO PUBLIC IMPROVEMENT PLANS. | 9.6 | CONCRETE PAD FOR ELECTRIC TRANSFORMER (REFER TO ARCHITECTURAL PLANS FOR DETAILS) |
| CONSTRUCT STRAIGHT BACK CURB & GUTTER (TYPE CG-1) (REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) | 10.0 | CONCRETE RETAINING WALL WITH HANDRAIL (REFER TO SHEET C701 FOR DETAILS) |
| CONSTRUCT STRAIGHT BACK "DRY" CURB & GUTTER (TYPE CG-1 DRY) (CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) | | |
| CONSTRUCT STRAIGHT CURB (TYPE C-1) (REFER TO CITY OF LEE'S SUMMIT STANDARD DETAIL GEN-4 SHEET C701) | | |
| CONSTRUCT FLUSH CURB (REFER TO DETAIL SHEET C702) | | |
| CURB FROM CG-1 TO FLUSH CURB (REFER TO SHEET C702 FOR | | |
| OR SHALL SAWCUT EXISTING PAVEMENT TO PROVIDE CLEAN EDGE TRANSITION BETWEEN NEW & EXISTING PAVEMENT | | |
| TYPE 1 SIDEWALK RAMP (REFER TO SHEET C702 FOR | | |
| TYPE 2 SIDEWALK RAMP (REFER TO SHEET C702 FOR | | |
| TYPE B SIDEWALK/SHARED USE RAMP (REFER TO SHEET C702 FOR | | |
| DRIVEWAY FLUSH WITH SIDEWALK (REFER TO SHEET C701 | | |
| GE (REFER TO ARCHITECTURAL PLANS FOR DETAILS) | | |

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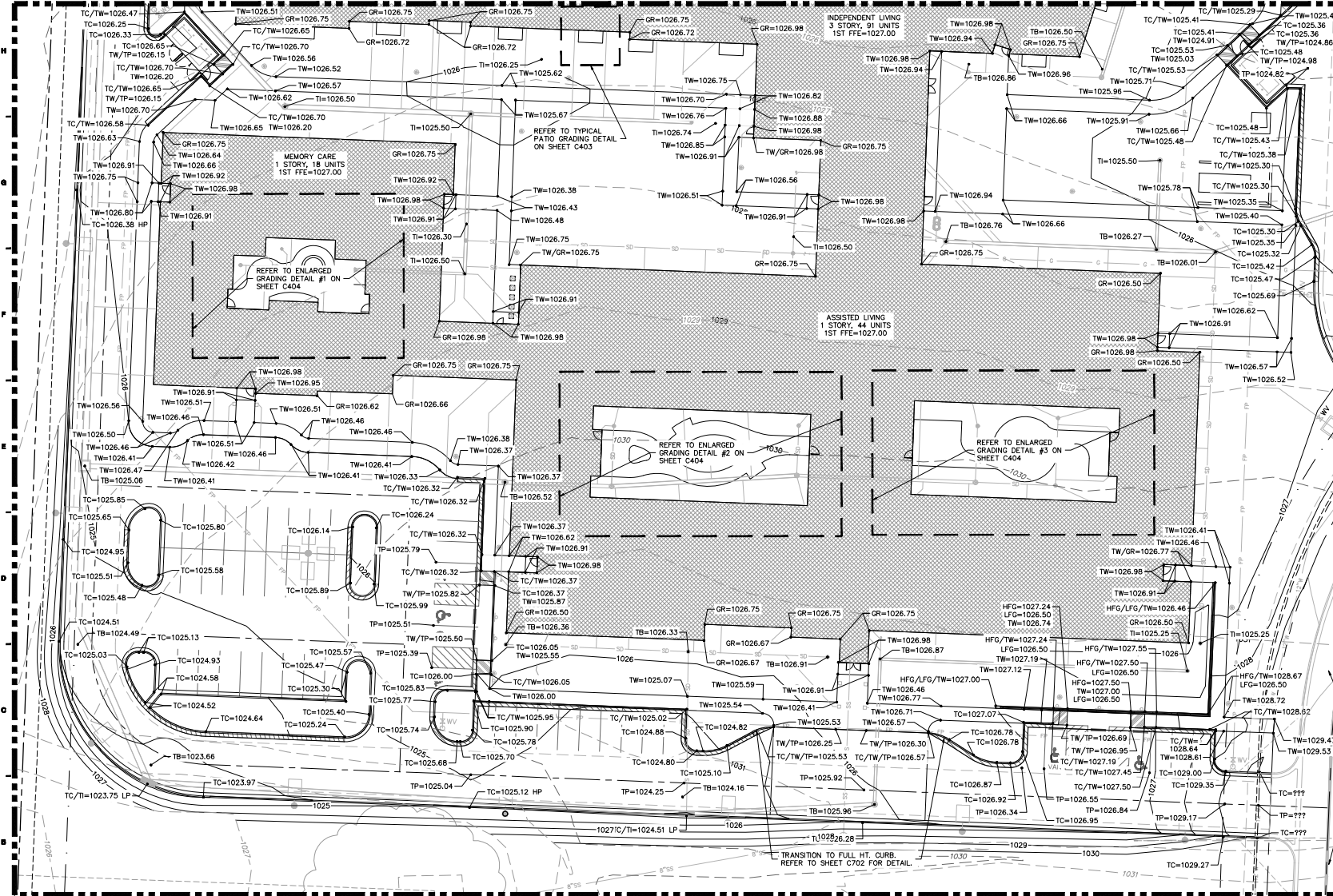
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Olsson Project #018-1450

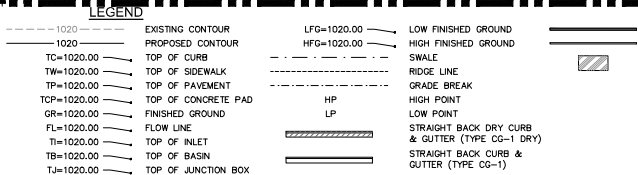
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MATCHLINE - REFER TO GRADING PLAN #1 ON SHEET C401 FOR CONTINUATION



MATCHLINE - REFER TO GRADING PLAN #3 ON SHEET C403 FOR CONTINUATION

SE PRINCETON DRIVE
EXTENSION. REFER TO
SEPARATE PUBLIC
IMPROVEMENT PLANS
FOR DETAILS.



GRADING PLAN #2
SCALE: 1"=20'

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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

SEAL
Professional Engineer
Ryan V. Eppson
PE-201204241
7-19
GRADING PLAN

ISSUE DATE:
6-14-2019
REVISIONS:

PROJECT NO.: 11811

C402

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SEAL



GRADING PLAN

ISSUE DATE:

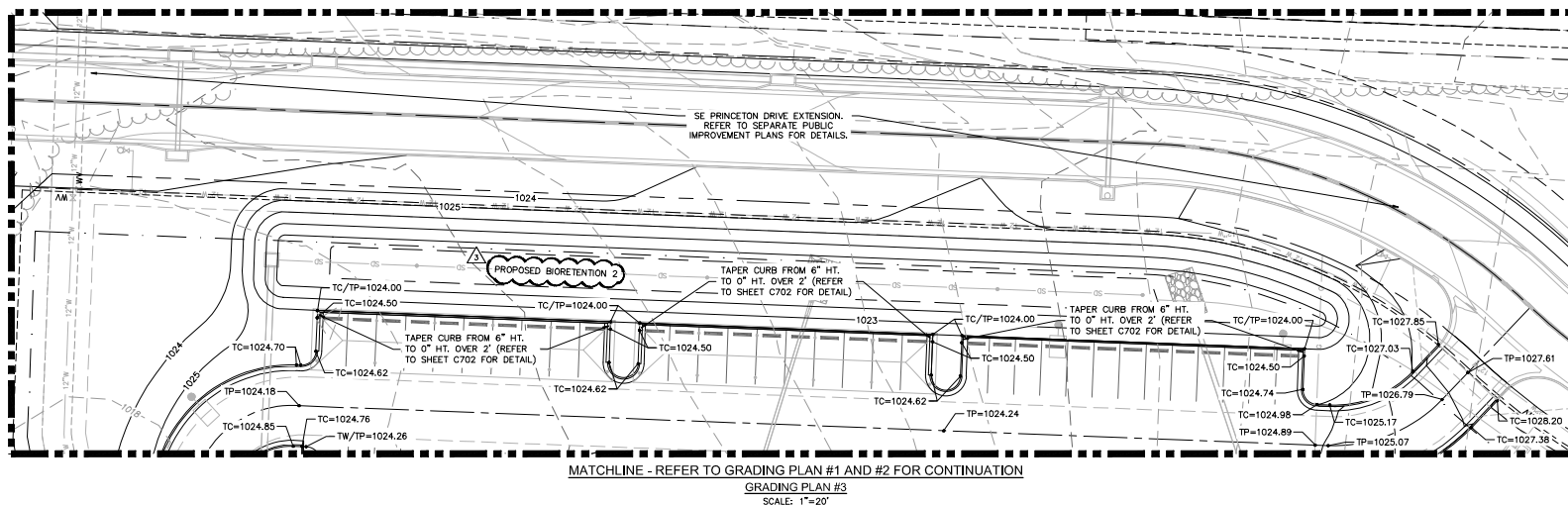
6-14-2019

REVISIONS:
3 ENG. REVIEW CMNTS. - 07/19/2018

PROJECT NO.: 11811

C40.3







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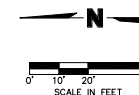


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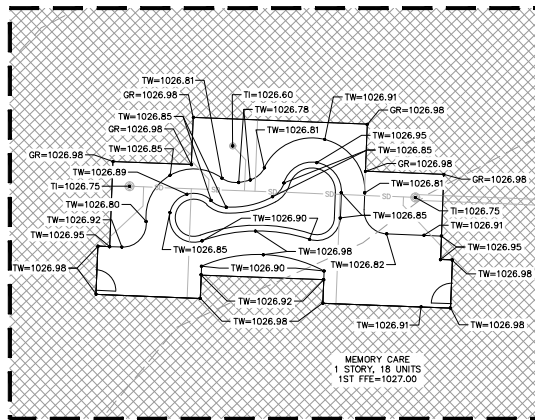
TYPICAL PATIO GRADING DETAIL
SCALE: 1"=5'

- ### LEGEND
- | | |
|---|---|
| ----- 1020 | EXISTING CONTOUR |
| ----- 1020 | PROPOSED CONTOUR |
| TC=1020.00 | TOP OF CURB |
| TW=1020.00 | TOP OF SIDEWALK |
| TP=1020.00 | TOP OF PAVEMENT |
| TP=1020.00 | TOP OF CONCRETE PAD |
| GR=1020.00 | FINISHED GROUND |
| FL=1020.00 | FLOW LINE |
| TI=1020.00 | TOP OF INLET |
| TB=1020.00 | TOP OF BASIN |
| TJ=1020.00 | TOP OF JUNCTION BOX |
| LFG=1020.00 | LOW FINISHED GROUND |
| HFG=1020.00 | HIGH FINISHED GROUND |
| ----- | SWALE |
| ----- | RIDGE LINE |
| ----- | GRADE BREAK |
| HP | HIGH POINT |
| LP | LOW POINT |
|  | STRAIGHT BACK DRY CURB |
|  | & GUTTER (TYPE CG-1) DRY |
|  | STRAIGHT BACK CURB & GUTTER (TYPE CG-1) |
|  | STRAIGHT CURB (TYPE C-1) |
|  | "FLUSH" CURB |
|  | SIDEWALK RAMP - SLOPES > 2.5% MAX. |




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Springfield, MO 65806 FAX 417.890.8805 www.ojss.com
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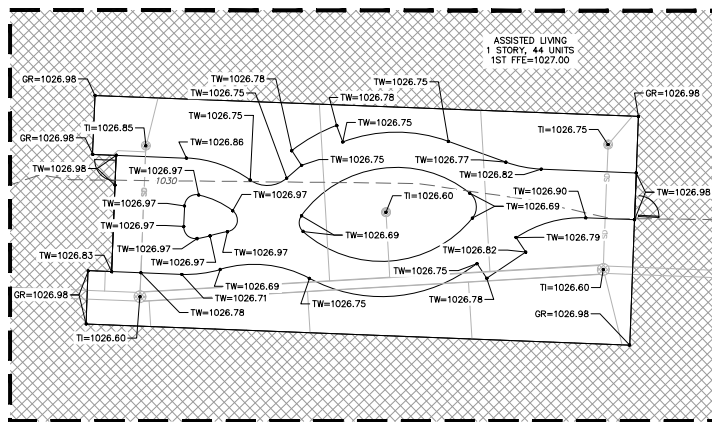


ENLARGED GRADING DETAIL #1
SCALE: 1"=5'

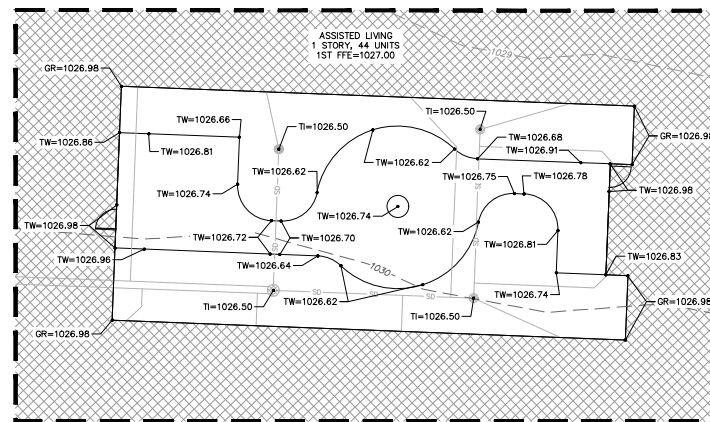


LEGEND

| | |
|-----|---|
| --- | EXISTING CONTOUR |
| --- | PROPOSED CONTOUR |
| --- | TC=1020.00 TOP OF CURB |
| --- | TW=1020.00 TOP OF SIDEWALK |
| --- | TP=1020.00 TOP OF PAVEMENT |
| --- | TOP=1020.00 TOP OF CONCRETE PAD |
| --- | GR=1020.00 FINISHED GROUND |
| --- | FL=1020.00 FLOW LINE |
| --- | TI=1020.00 TOP OF INLET |
| --- | TB=1020.00 TOP OF BASIN |
| --- | TJ=1020.00 TOP OF JUNCTION BOX |
| --- | LFG=1020.00 LOW FINISHED GROUND |
| --- | HFG=1020.00 HIGH FINISHED GROUND |
| --- | SWALE |
| --- | RIDGE LINE |
| --- | GRADE BREAK |
| --- | HP HIGH POINT |
| --- | LP LOW POINT |
| --- | STRAIGHT BACK DRY CURB & GUTTER (TYPE CG-1 DRY) |
| --- | STRAIGHT BACK CURB & GUTTER (TYPE CG-1) |
| --- | STRAIGHT CURB (TYPE C-1) |
| --- | "FLUSH" CURB |
| --- | SIDEWALK RAMP - SLOPES @ 8.33% MAX. |



ENLARGED GRADING DETAIL #2
SCALE: 1"=5'



ENLARGED GRADING DETAIL #3
SCALE: 1"=5'



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SEAL

RYAN V. EPSON
PE-201024241
PROFESSIONAL ENGINEER
MOJ PE-201024241

ENLARGED GRADING DETAILS

ISSUE DATE:
6-14-2019

REVISIONS:

PROJECT NO.: 11811

C404

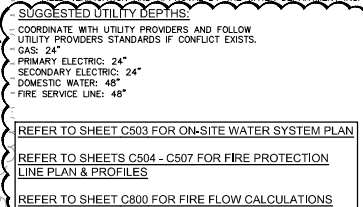
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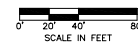
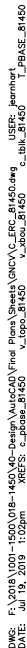
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C500

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| EROSION CONTROL STAGING CHART | | | | |
|-------------------------------|-----------------------------------|--|--------------------|----------------------------------|
| PROJECT STAGE | EROSION CONTROL BMP REFERENCE NO. | BMP DESCRIPTION | REMOVE AFTER STAGE | NOTES: |
| A - PRE CONSTRUCTION | A1 | SMPPP SIGN | C | INSTALL AS INDICATED ON PLANS |
| | A2 | TEMPORARY CONSTRUCTION ENTRANCE | B | INSTALL PER APWA DETAIL ESC-01 |
| | A3 | CONCRETE WASTOUT | B | INSTALL PER APWA DETAIL ESC-01 |
| | A4 | FILTER SOXX | C | INSTALL PER APWA DETAIL ESC-10 |
| | A4 | F.E.S. INLET PROTECTION | C | INSTALL AS INDICATED ON PLANS |
| B - INTERIM BMP'S | B1 | AREA INLET PROTECTION | C | INSTALL PER APWA DETAIL ESC-07 |
| | B2 | SILT FENCE | C | INSTALL PER APWA DETAIL ESC-03 |
| | B3 | CURB INLET PROTECTION | C | INSTALL PER APWA DETAIL ESC-15 |
| | B4 | F.E.S. INLET PROTECTION | C | INSTALL PER DETAIL ON SHEET C7.5 |
| | B5 | FILTER SOXX PROTECTION | C | INSTALL AS INDICATED ON PLANS |
| C - FINAL STABILIZATION | N/A | SOD AND STABILIZE ALL DISTURBED AREAS WITHIN 14 DAYS OF COMPLETION OF GRADING ACTIVITIES IN ANY AREA GREATER THAN 0.25 ACRES | | SEE LANDSCAPE PLANS FOR DETAILS |
| | N/A | REMOVE EROSION CONTROL PROTECTION WHEN SOIL IS STABILIZED | | |

PRINCETON DR.
(50' ROW)

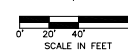
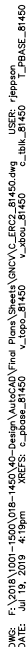
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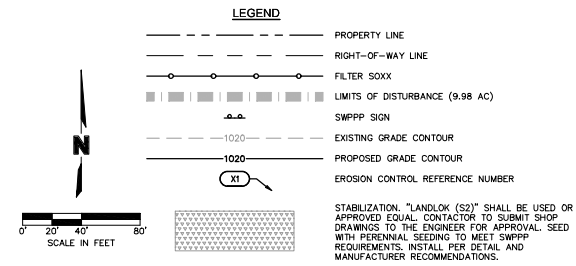
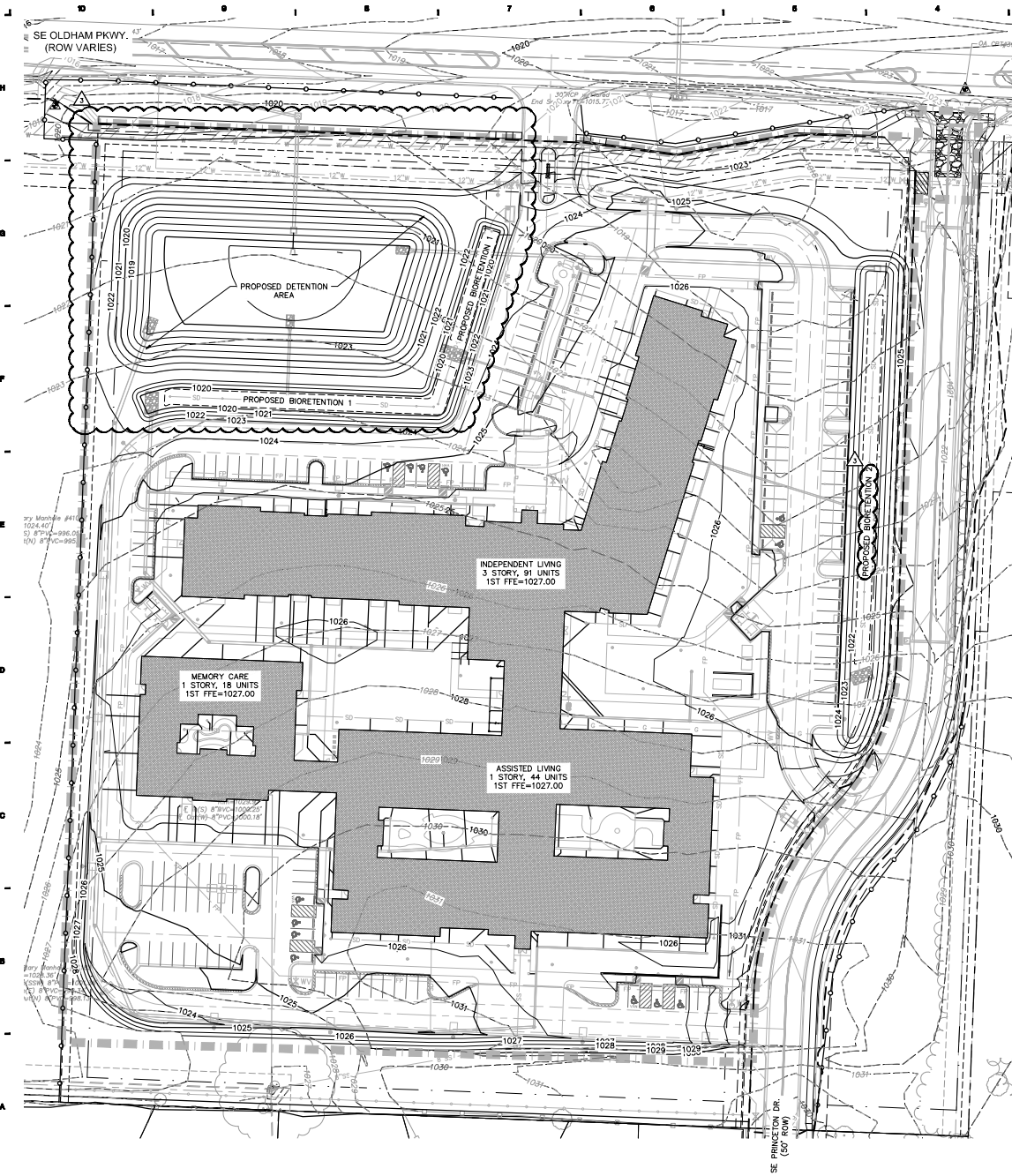
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MISSOURI CERTIFICATE
OF AUTHORITY NO. 000073

REVISIONS:
 3 ENGR. REVIEW CMNTS. - 07/14/2011

PROJECT NO.: 11811

DATE: Jul 19, 2019 4:20pm
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USER: jacob
C:\Users\jacob\OneDrive\Projects\Lee's Summit Senior Community\Lee's Summit Senior Community.dwg



| EROSION CONTROL STAGING CHART | | | | |
|-------------------------------|-----------------------------------|--|--------------------|----------------------------------|
| PROJECT STAGE | EROSION CONTROL BMP REFERENCE NO. | BMP DESCRIPTION | REMOVE AFTER STAGE | NOTES: |
| A - PRE CONSTRUCTION | A1 | SWPPP SIGN | C | INSTALL AS INDICATED ON PLANS |
| | A2 | TEMPORARY CONSTRUCTION ENTRANCE | B | INSTALL PER APWA DETAIL ESC-01 |
| | A3 | CONCRETE WASHOUT | B | INSTALL PER DETAIL ON SHEET C7.5 |
| | A4 | FILTER SOXX | C | INSTALL PER APWA DETAIL ESC-10 |
| | A5 | F.E.S. INLET PROTECTION | C | INSTALL AS INDICATED ON PLANS |
| B - INTERIM BMP'S | B1 | AREA INLET PROTECTION | C | INSTALL PER APWA DETAIL ESC-24 |
| | B2 | SILT FENCE | C | INSTALL PER APWA DETAIL ESC-10 |
| | B3 | CURB INLET PROTECTION | C | INSTALL PER APWA DETAIL ESC-15 |
| | B4 | F.E.S. INLET PROTECTION | C | INSTALL PER DETAIL ON SHEET C7.5 |
| | B5 | FILTER SOXX PROTECTION | C | INSTALL PER DETAIL ON SHEET C7.5 |
| C - FINAL STABILIZATION | N/A | SOD AND STABILIZE ALL DISTURBED AREAS WITHIN 14 DAYS OF COMPLETION OF GRADING ACTIVITIES IN ANY AREA GREATER THAN 0.25 ACRES | | SEE LANDSCAPE PLANS FOR DETAILS |
| | N/A | REMOVE EROSION CONTROL PROTECTION WHEN SOIL IS STABILIZED | | |

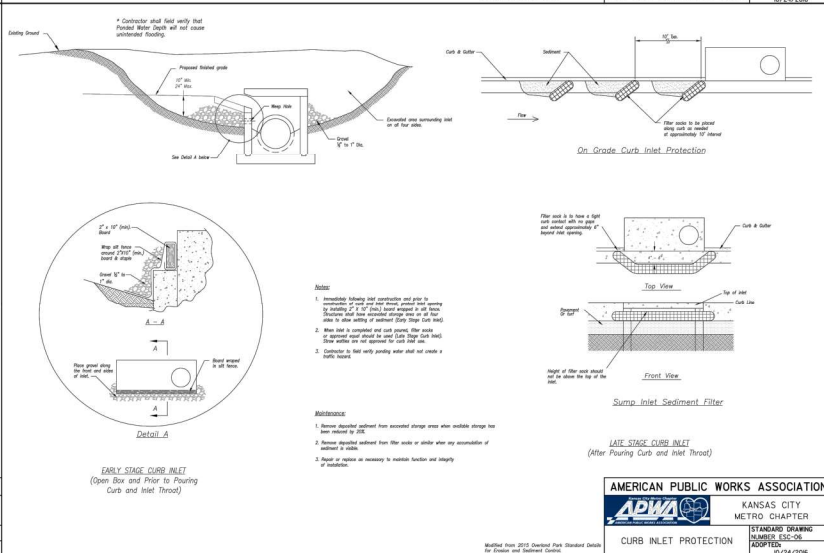
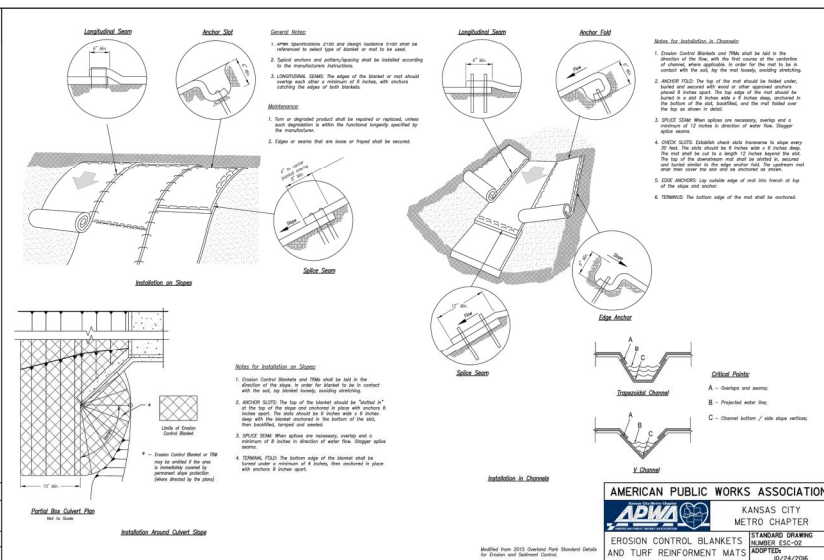
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SEAL
EROSION CONTROL PLAN
POST CONSTRUCTION
ISSUE DATE:
6-14-2019
REVISIONS:
ENR REVIEW 04/15 - 07/14/2019

PROJECT NO.: 11811
C602
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PROJECT NO.: 11811

C603

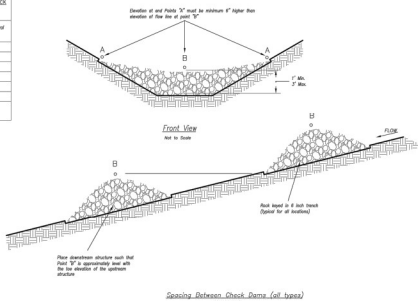
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GAS CARRIER

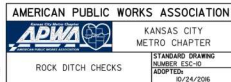
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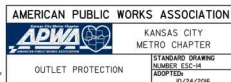
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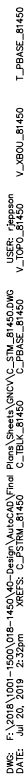
1. Remove and dispose of sediment deposits when the deposit approaches $\frac{1}{2}$ the height of the ditch check.
2. Replace and regrade as necessary to maintain function.



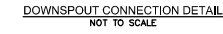
2. GRADING AROUND TREES TO BE LIMITED TO OUTSIDE THE DRILLPIE UNLESS OTHERWISE NOTED ON THESE PLANS.
3. THERE SHALL BE NO GRADING OR FILLING WITHIN THE PROTECTED CRITICAL ROOT ZONES OF PROTECTED TREES UNLESS OTHERWISE NOTED ON THESE PLANS.
3. NO VEHICLES OR EQUIPMENT SHALL BE DRIVEN OR PARKED UNDER THE DRILLPIE OF PROTECTED TREES. NO MATERIALS SHALL BE STORED UNDER THE DRILLPIE OF PROTECTED TREES.
4. TREE FENCE AND SILL FENCE FOR ALL PROTECTED TREES MUST BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION.
5. ALL REQUIRED TREE, SILL FENCING AND COMPOST FILTER SOOK SHALL REMAIN IN PLACE UNTIL ALL GRADING AND LANDSCAPING ACTIVITIES HAVE CEASED AND SHALL ONLY BE REMOVED UPON THE REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.
6. ATTACHMENTS (WIRES, FENCES, ETC.) OTHER THAN THOSE APPROVED FOR CUTTING, BRACING OR WRAPPING MUST NOT BE ATTACHED TO PROTECTED TREES.



OWG:
DATE:



1. ALL HP AND N2 HDPIE OR EQUAL (UNLESS NOTED OTHERWISE ON PLANS), INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ALL 12" AND LARGER STORM PIPE SHALL BE ADS HP STORM PIPE WITH $n=0.012$, OR EQUAL (UNLESS OTHERWISE NOTED ON PLANS), INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
3. ALL 10" AND SMALLER STORM PIPE SHALL BE HDPE ADS 12" ST WITH $n=0.012$, OR EQUAL (UNLESS OTHERWISE NOTED ON PLANS), INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. ALL NYLOPLAST STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. NYLOPLAST STRUCTURES IN PAVEMENT AND CURB SHALL BE INSTALLED WITH CONCRETE COLLARS PER MANUFACTURER'S SPECIFICATIONS.
6. TOP ELEVATIONS GIVEN FOR NYLOPLAST STRUCTURES ARE TO FINISH GRADE AND DO NOT INCLUDE HEIGHT OF DOME LIDS OR CASTINGS.
7. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE BETWEEN CROSSING UTILITIES.
8. CONTRACTOR SHALL INSTALL ALL BENDS, WYES, FITTINGS AND PIPE NECESSARY FOR STORM SEWER CONNECTIONS.
9. SHOP DRAWINGS MUST BE SUBMITTED FOR REVIEW TO THE ENGINEER 14 DAYS PRIOR TO FABRICATION FOR ALL PRECAST AND CONCRETE NYLOPLAST STRUCTURES. FAILURE TO DO SO SHALL RESULT IN REJECTION.
10. ALL HP AND HDPE STORM DRAINS SHALL HAVE A MINIMUM SLOPE OF 1.0% UNLESS NOTED OTHERWISE ON PLANS.
11. STORM STRUCTURE INLET TOPS SHALL BE SLOPED TO MATCH BACK OF CURB PROFILE & SIDEWALK CROSS SLOPE.
12. SEE MEP, STRUCTURAL AND ARCHITECTURAL PLANS FOR CONNECTION OF UNDERGROUND DRAINAGE TO ROOF DRAINS, FOUNDATION DRAINS, AND DRAIN LINES UNDER PAVEMENT.
13. ALL STORM LINES SHALL HAVE A MINIMUM OF 12" COVER UNLESS SPECIFIED OTHERWISE ON PLANS.
14. SEE SHEET C903 FOR STORM PIPE BEDDING DETAIL.

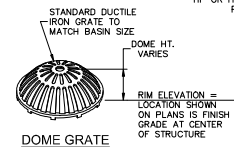


PROPERTY LINE
UTILITY EASEMENT
BUILDING SETBACK
CONTOUR - EXISTING GRADE
CONTOUR - FINISHED GRADE
PR. GAS LINE
PR. POWER LINE - OVERHEAD
PR. POWER LINE - UNDERGROUND
PR. SANITARY SEWER LINE
PR. STORM SEWER LINE
PR. TELEPHONE LINE
PR. WATER LINE
EX. FIBER OPTIC LINE
EX. GAS LINE
EX. POWER LINE - OVERHEAD
EX. POWER LINE - UNDERGROUND
EX. SANITARY SEWER LINE
EX. STORM SEWER LINE
EX. TELEPHONE LINE
EX. WATER LINE
BARBED WIRE FENCE
IRON FENCE
WOOD FENCE



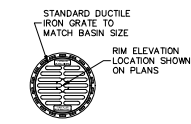
COVER/INLET OPTIONS ABOVE
(SEE SHEET C905-C915 FOR DETAILS)

NYLOPLAST STRUCTURES IN PAVEMENT AND CURB SHALL BE INSTALLED WITH CONCRETE COLLARS PER MANUFACTURER'S SPECIFICATIONS.



CURB INLET CASTINGS

| <u>CASTINGS</u> | <u>SOLID COVER</u> |
|--|--|
| <p>1. <u>Castings</u> are made of <u>molten metal</u> poured into a <u>die</u> or <u>mold</u>.</p> <p>2. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> <p>3. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> <p>4. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> <p>5. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> <p>6. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> <p>7. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> <p>8. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> <p>9. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> <p>10. <u>Castings</u> are <u>usually</u> <u>made</u> of <u>metals</u> and <u>alloys</u>.</p> | <p>1. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>2. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>3. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>4. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>5. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>6. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>7. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>8. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>9. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> <p>10. <u>Solid cover</u> is a <u>type</u> of <u>cover</u> that is <u>solid</u>.</p> |



STANDARD GRATE

DRAIN BASIN DETAILS

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STARK WILSON DUNCAN ARCHITECTS INC
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SEAL



STORM MANAGEMENT PLAN

ISSUE DATE:

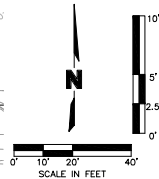
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REVISIONS:
 3 ENG. REVIEW CMNTS. - 07/19/2011

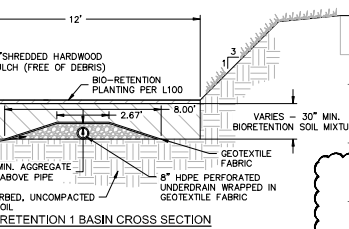
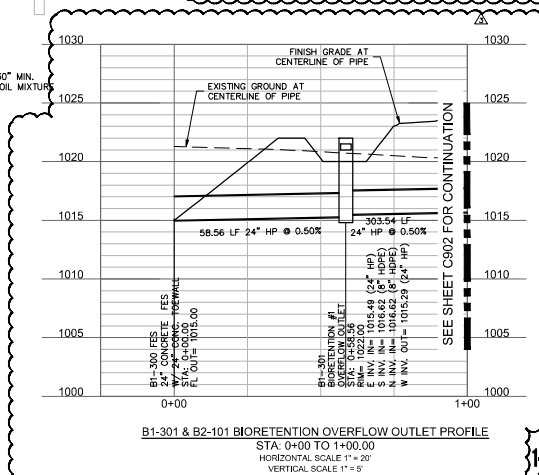
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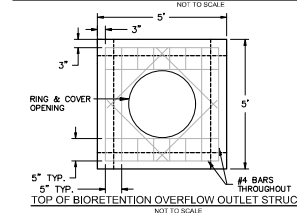


| STRUCTURES | |
|--------------|--|
| STRUCTURE ID | DESCRIPTION |
| BI-101 | BIORETENTION #1 |
| | OVERFLOW OUTLET |
| | R/W = 102.00 |
| | W IN/ V IN = 1016.68 (8" HOPE) E IN/ V IN = 1016.68 (8" HOPE) N IN/ V IN = 1016.48 (8" HOPE) N 995992.759; E 28.3634.072 |
| BI-102 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | W IN/ V IN = 1016.93 (8" HOPE) E IN/ V IN = 1016.93 (8" HOPE) N 995994.697; E 28.3631.410 |
| BI-103 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | E IN/ V IN = 1017.13 (8" HOPE) N 995996.267; E 28.3627.3.602 |
| BI-201 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | E IN/ V IN = 1016.93 (8" HOPE) W IN/ V IN = 1016.93 (8" HOPE) N 995990.822; E 28.3641.4.035 |
| BI-202 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | E IN/ V IN = 1017.18 (8" HOPE) W IN/ V IN = 1017.18 (8" HOPE) N 995958.885; E 28.3646.63.997 |
| BI-203 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | W IN/ V IN = 1017.25 (8" HOPE) N 995958.368; E 28.3647.7.327 |
| BI-301 | BIORETENTION #1 |
| | OVERFLOW OUTLET |
| | R/W = 102.00 |
| | E IN/ V IN = 1015.49 (24" HP) S IN/ V IN = 1016.62 (8" HOPE) S IN/ V IN = 1016.62 (8" HOPE) W IN/ V IN = 1015.29 (24" HP) N 995706.864; E 28.36516.812 |
| BI-302 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | S IN/ V IN = 1016.71 (8" HOPE) N 995713.821; E 28.365622.068 |
| BI-401 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | S IN/ V IN = 1016.68 (8" HOPE) N IN/ V IN = 1016.88 (8" HOPE) N 995656.718; E 28.36501.270 |
| BI-402 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | S IN/ V IN = 1017.13 (8" HOPE) S IN/ V IN = 1017.13 (8" HOPE) N 995608.909; E 28.36466.467 |
| BI-403 OC | STORM CLEAN OUT |
| | W/ WATER TIGHT LID |
| | R/W = 102.00 |
| | N IN/ V IN = 1017.23 (8" HOPE) N 995950.441; E 28.36480.727 |



- NOT TO SCALE
- MISCELLANEOUS KEY NOTES:**
- | | |
|------------|---|
| 1.0 | INSTALL F.E.S. (SIZED TO MATCH PIPE) W/CONCRETE TOE WALL AND 6" W X 10' RIPRAP (REFER TO SHEET C903 FOR DETAILS) |
| 1.1 | INSTALL STORM PIPE. SEE PIPE TABLE THIS SHEET (REFER TO SHEET C903 FOR BEDDING DETAIL) |
| 1.2 | INSTALL BIOTENTION BASIN 1 OVERFLOW OUTLET STRUCTURE. SEE STRUCTURE TABLE THIS SHEET (REFER TO THIS SHEET FOR DETAILS) |
| 1.3 | INSTALL STORM CLEAN OUT (REFER TO SHEET C903 FOR DETAILS) |
| 1.4 | INSTALL PERFORATED HATCH UNDERDRAIN. SEE PIPE TABLE THIS SHEET (REFER TO BEDDING CROSS SECTION DETAIL THIS SHEET). |

- BIORETENTION OVERFLOW OUTLET STRUCTURE NOTES:**
1. BOTTOM TO BE POURED IN PLACE.
 2. PIPE TO BE ON GRADE BEFORE BOTTOM IS CONSTRUCTED.
 3. RAM-ON ALL JOINTS (OR EQUAL).
 4. JOINTS TO BE 12" MAX. SPACING IN WALLS & BOTTOM.
 5. REINFORCING BARS SHALL BE CUT OR BENT AT PIPE SPACING.
 6. ALL PIPES SHALL FIT FLUSH WITH INSIDE FACE OF BOX. BOTTOM OF BOX TO BE FILLED WITH CONCRETE TO 6" ABOVE TOP OF PIPE. FORMING CHANNELS TOWARD OUTLET PIPE FROM ALL INLET PIPES.
 7. ALL PIPES SHALL HAVE 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
 8. ALL REINFORCING BARS TO BE DEFORMED BARS AND MEET REQUIREMENTS OF 1969 ACI STANDARDS No. A-615-68 MIN. GRADE 40.
 9. MUST MAINTAIN 6" CLEARANCE BETWEEN THE PIPE AND WALL FOR CAST-BOXES.



| | |
|--|------------------------------|
| | RIGHT-OF-WAY LINE |
| | PROPERTY LINE |
| | UTILITY ENCLOSURE |
| | — BUILDING SETBACK — |
| | CONTOUR — EXISTING GRADE |
| | CONTOUR — FINISHED GRADE |
| | PR. GAS LINE |
| | PR. POWER LINE — OVERHEAD |
| | PR. POWER LINE — UNDERGROUND |
| | PR. SANITARY SEWER LINE |
| | PR. STORM SEWER LINE |
| | PR. TELEPHONE LINE |
| | PR. WATER LINE |
| | EX. FIBER OPTIC LINE |
| | EX. GAS LINE |
| | EX. POWER LINE — OVERHEAD |
| | EX. POWER LINE — UNDERGROUND |
| | EX. SANITARY SEWER LINE |
| | EX. STORM SEWER LINE |
| | EX. TELEPHONE LINE |
| | EX. WATER LINE |

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ENLARGED
STORMWATER
DETAILS

ISSUE DATE:
6-14-2019

REVISIONS:
 3 ENG. REVIEW CMNTS. - 07/19/2018

PROJECT NO.: 11811

C901

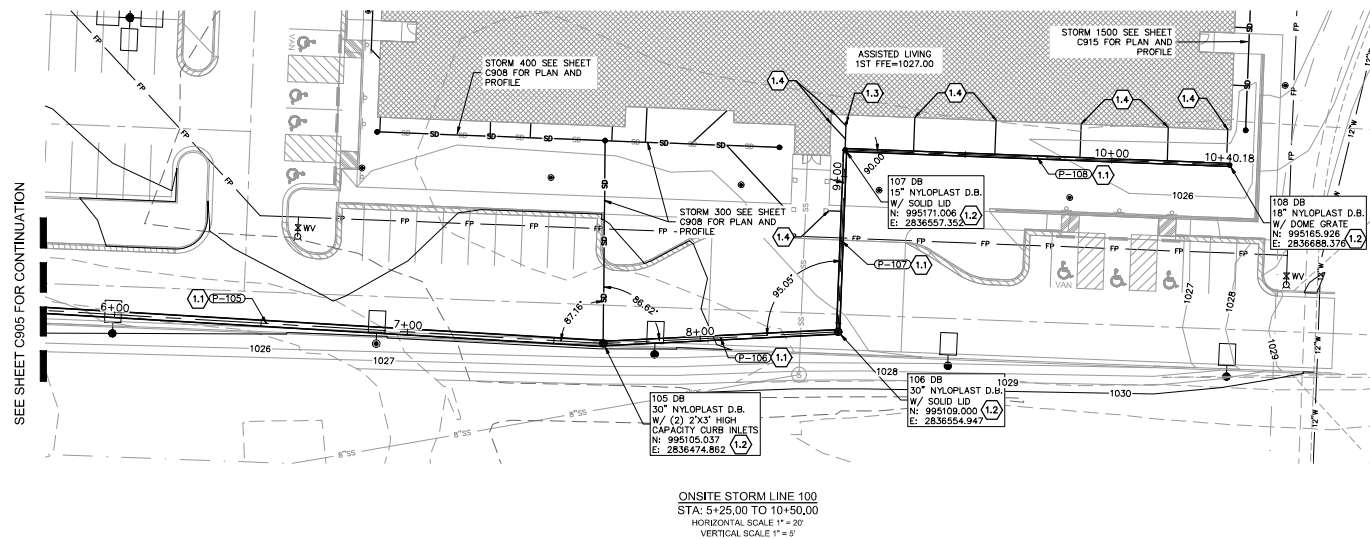
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| PIPES | | | | |
|----------|-------------|---------|-------|------------------------------|
| PIPE ID | LENGTH (LF) | PIPE | SLOPE | STRUCTURE CONNECTIONS |
| B2-P-101 | 303.54 | 24" HP | 0.50% | DN:B2-101 UP:B1-301 |
| B2-P-102 | 50.00 | 8" HDPE | 0.50% | DN:B2-101 UP:B2-102 CO |
| B2-P-103 | 50.00 | 8" HDPE | 0.50% | DN:B2-102 CO UP:B2-103 CO |
| B2-P-104 | 50.00 | 8" HDPE | 0.50% | DN:B2-103 CO UP:B2-104 CO |
| B2-P-105 | 50.00 | 8" HDPE | 0.50% | DN:B2-104 CO UP:B2-105 CO |
| B2-P-106 | 50.00 | 8" HDPE | 0.50% | DN:B2-105 CO UP:B2-106 CO |
| B2-P-107 | 50.00 | 8" HDPE | 0.50% | DN:B2-106 CO UP:B2-107 CO |

| STRUCTURES | |
|--------------|---|
| STRUCTURE ID | DESCRIPTION |
| B2-101 | BIORETENTION #2 OVERFLOW OUTLET RM = 1024.00 S INV IN = 1017.21 (8" HDPE) W INV OUT = 1017.03 (24" HP) N: 995695.103; E: 2836820.128 |
| B2-102 CO | STORM CLEAN OUT W/ WATER TIGHT LID RM = 1021.50 S INV IN = 1017.46 (8" HDPE) N INV OUT = 1017.46 (8" HDPE) N: 995645.145; E: 2836818.074 |
| B2-103 CO | STORM CLEAN OUT W/ WATER TIGHT LID RM = 1021.50 S INV IN = 1017.71 (8" HDPE) N INV OUT = 1017.71 (8" HDPE) N: 995595.186; E: 2836816.047 |
| B2-104 CO | STORM CLEAN OUT W/ WATER TIGHT LID RM = 1021.50 S INV IN = 1017.96 (8" HDPE) N INV OUT = 1017.96 (8" HDPE) N: 995545.227; E: 2836814.033 |
| B2-105 CO | STORM CLEAN OUT W/ WATER TIGHT LID RM = 1021.50 S INV IN = 1018.21 (8" HDPE) N INV OUT = 1018.21 (8" HDPE) N: 995495.267; E: 2836812.019 |
| B2-106 CO | STORM CLEAN OUT W/ WATER TIGHT LID RM = 1021.50 S INV IN = 1018.46 (8" HDPE) N INV OUT = 1018.46 (8" HDPE) N: 995445.308; E: 2836810.005 |
| B2-107 CO | STORM CLEAN OUT W/ WATER TIGHT LID RM = 1021.50 S INV IN = 1018.71 (8" HDPE) N INV OUT = 1018.71 (8" HDPE) N: 995395.348; E: 2836807.991 |

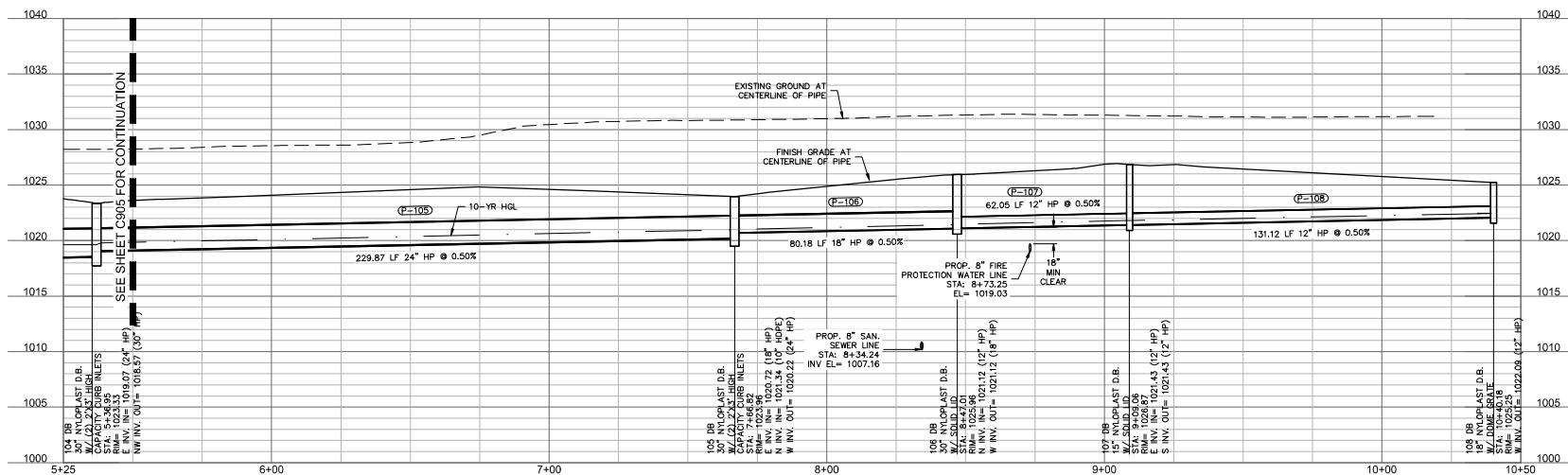
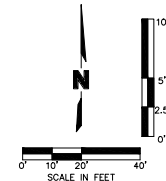
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MISCELLANEOUS KEY NOTES:

- 1.1 INSTALL STORM PIPE (REFER TO SHEET C903 FOR BEDDING DETAIL)
- 1.2 INSTALL NYLOPLAST DRAIN BASIN PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET C900 FOR DETAILS.
- 1.3 INSTALL STORM CLEAN OUT (REFER TO SHEET C904 FOR DETAIL)
- 1.4 CONNECT TO ROOF DOWNSPOUT (REFER TO SHEET C900 FOR DETAIL) W/ 6\"/>



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SEAL

RYAN V. EPPSON
PROFESSIONAL ENGINEER
NO. PE-20204249

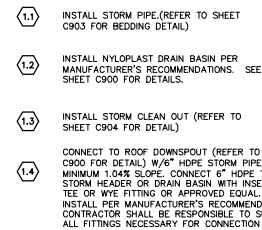
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PLAN & PROFILE

ISSUE DATE:
6-14-2019

REVISIONS:
A. ENS. REVIEW CHGTS. - 07/16/2019

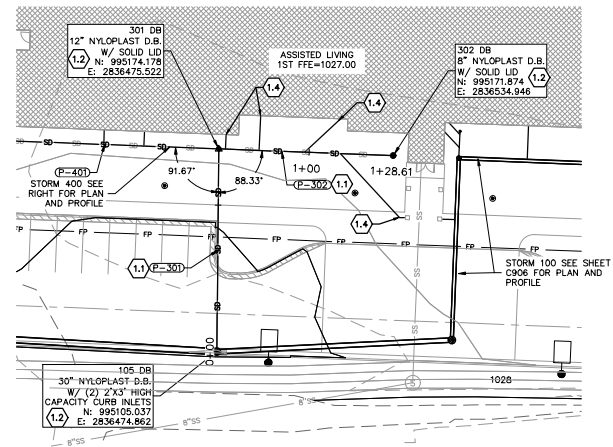
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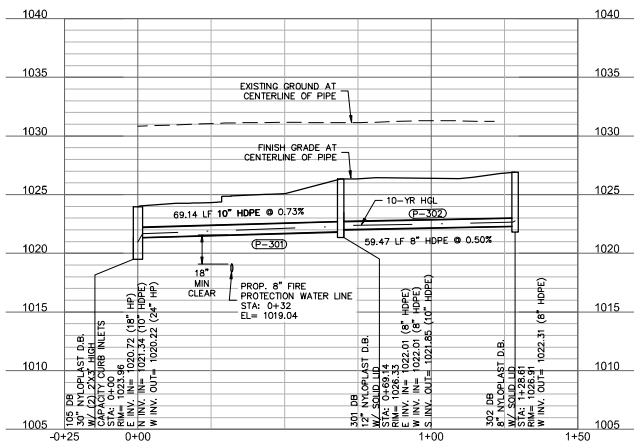
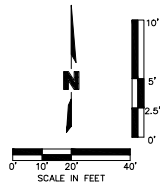


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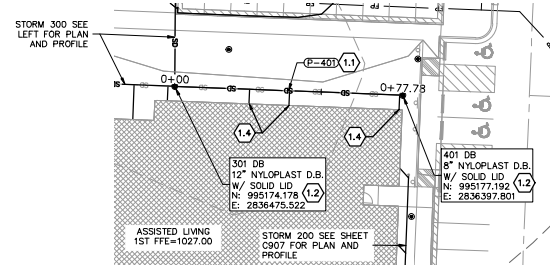
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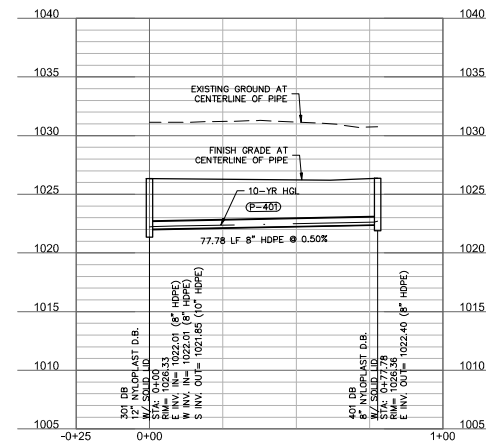
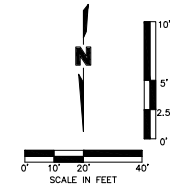
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STA: 0+00 TO 1+21.52
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



- MISCELLANEOUS KEY NOTES:
- 1.1 INSTALL STORM PIPE (REFER TO SHEET C903 FOR BEDDING DETAIL)
 - 1.2 INSTALL NYLOPLAST DRAIN BASIN PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET C900 FOR DETAILS.
 - 1.3 INSTALL STORM CLEAN OUT (REFER TO SHEET C904 FOR DETAIL)
 - 1.4 CONNECT TO ROOF DOWNSPOUT (REFER TO SHEET C900 FOR DETAIL) W/ 6" HDPE STORM PIPE AT MINIMUM 1.04% SLOPE. CONNECT 6" HDPE TO STORM HEADER OR DRAIN BASIN WITH INSERTA TEE OR WYE FITTING OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL FITTINGS NECESSARY FOR CONNECTION



ONSITE STORM LINE 400
STA: 0+00 TO 0+77.78
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



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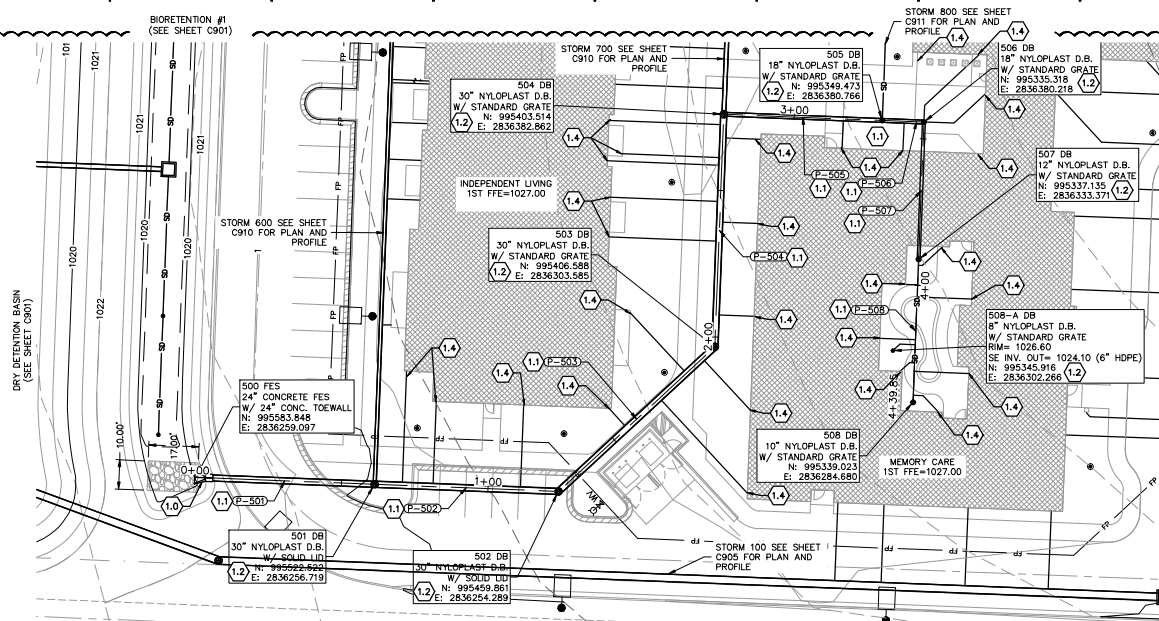
SEAL
RYAN V. JEPSON
PROFESSIONAL ENGINEER
PE-201024241
7-15-19

STORM LINES 300 &
400 PLAN &
PROFILE

ISSUE DATE:
6-14-2019
REVISIONS:
ENG. REVIEW CHMTC - 07/16/2019

PROJECT NO.: 11811
C908

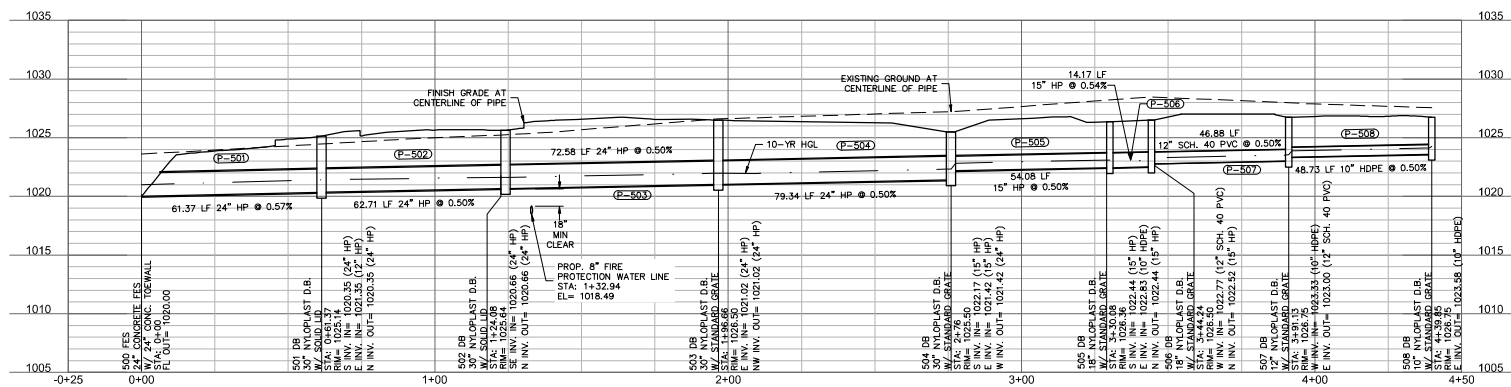
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MISCELLANEOUS KEY NOTES:

- | | |
|-----|---|
| 1.0 | INSTALL F.E.S. (SIZED TO MATCH PIPE) W/CONCRETE TIE WALL RIPRAP PAD (REFER TO SHEET C903 FOR DETAILS) |
| 1.1 | INSTALL STORM PIPE (REFER TO SHEET C903 FOR BEDDING DETAIL) |
| 1.2 | INSTALL NYLOFLAST DRAIN BASIN PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET C900 FOR DETAILS. |
| 1.3 | INSTALL STORM CLEAN OUT (REFER TO SHEET C904 FOR DETAIL) |
| 1.4 | CONNECT TO ROOF DOWNSPOUT (REFER TO SHEET C900 FOR DETAIL) W/6" HDPE STORM PIPE AT MINIMUM 1.04% SLOPE. CONNECT 6" HDPE TO STORM LEADER OR DRAIN BASIN WITH INSERT TEE OR WYE FITTING OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL MATERIALS NEEDED FOR CONNECTION |

ONSITE STORM LINE 500
STA: 0+00 TO 4+39.85
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



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SEAL

STORM LINE 50C
PLAN & PROFILE

ISSUE DATE:

6-14-2019

REVISIONS:
 ENG. REVIEW CMNTS. - 01/14/2019

PROJECT NO.: 11811

C909

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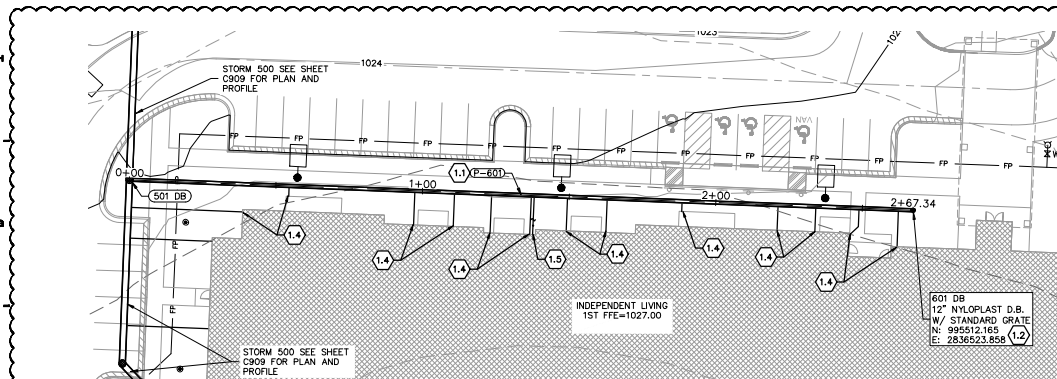
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www.mo1call.com

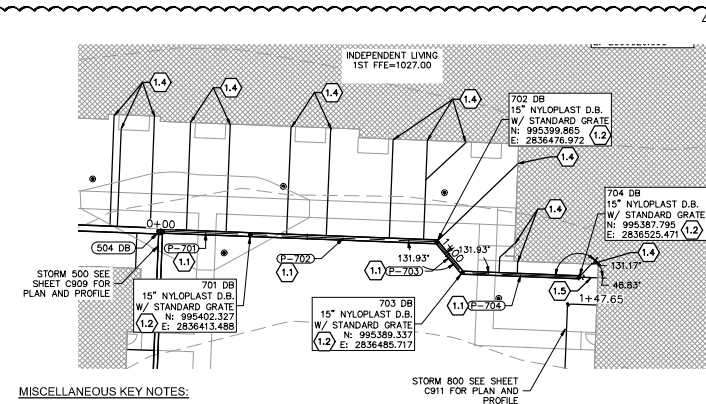
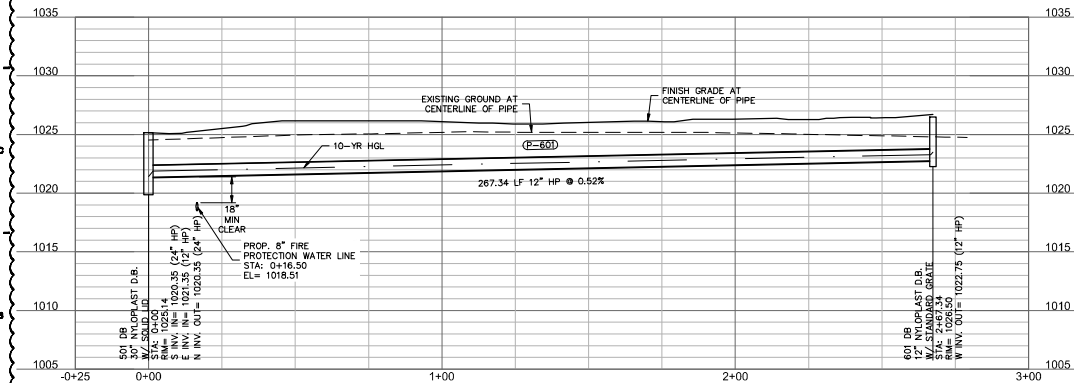
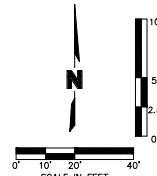
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Springfield, MO 65808 FAX 417.890.8805 www.olsson.com
Olsson Project #018-1450

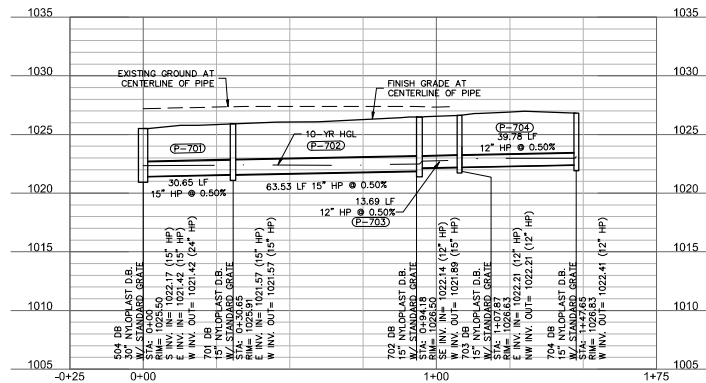
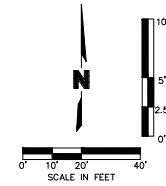
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ONSITE STORM LINE 600
 STA: 0+00 TO 2+67.34
 HORIZONTAL SCALE 1" = 20'
 VERTICAL SCALE 1" = 5'



ONSITE STORM LINE 700
 STA: 0+00 TO 1+47.65
 HORIZONTAL SCALE 1" = 20'
 VERTICAL SCALE 1" = 5'



MISCELLANEOUS KEY NOTES:

- 1.1 INSTALL STORM PIPE (REFER TO SHEET C903 FOR BEDDING DETAIL)
- 1.2 INSTALL NYLOPLAST DRAIN BASIN PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET C900 FOR DETAILS.
- 1.3 INSTALL STORM CLEAN OUT (REFER TO SHEET C900 FOR DETAIL)
- 1.4 CONNECT TO ROOF DOWNSPOUT (REFER TO SHEET C900 FOR DETAIL) W/ 6" HDPE STORM PIPE AT MINIMUM 1.04% SLOPE. CONNECT 6" HDPE TO STORM HEADER OR DRAIN BASIN WITH INSERT TEE OR WYE FITTING OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL FITTINGS NECESSARY FOR CONNECTION
- 1.5 CONNECT TO INTERIOR ROOF DRAIN AT MINIMUM 2.08% SLOPE. REFER TO MEP PLANS FOR SIZE AND MATERIAL. CONNECT TO HEADER PIPE OR DRAIN BASIN WITH INSERT TEE PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL FITTINGS NECESSARY FOR CONNECTION

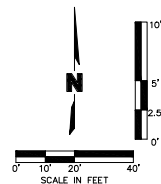


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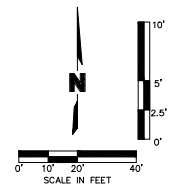
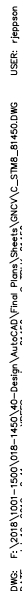


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ONSITE STORM LINE 800
STA: 0+00 TO 1+39.54
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



ON-SITE STORM LINE 900
STA: 0+00 TO 1+66.24
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

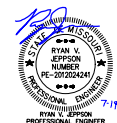


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STORM LINES 800 &
900 PLAN &
PROFILE

ISSUE DATE:

8-14-2017

REVISIONS:
 3 ENG. REVIEW CMNTS. - 07/19/2014

PROJECT NO.: 11811

C911

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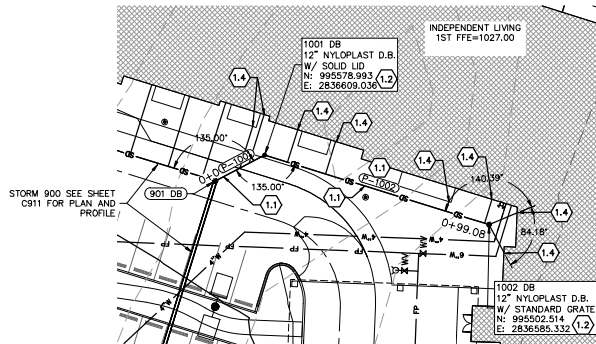
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Springdale, MO 65806 FAX 417.890.8805 www.olsson.com
Olsson Project K018-1450

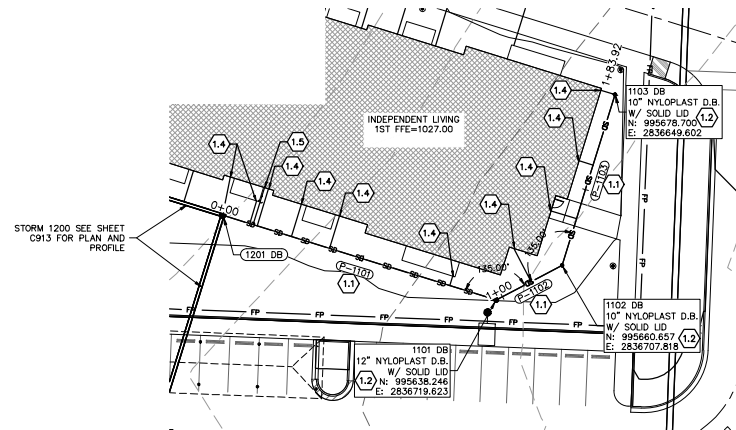
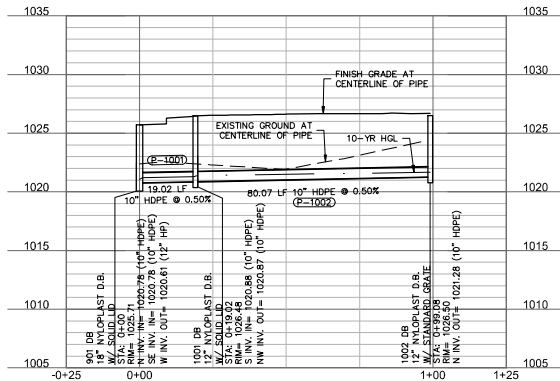
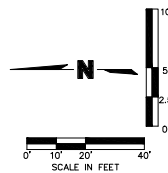
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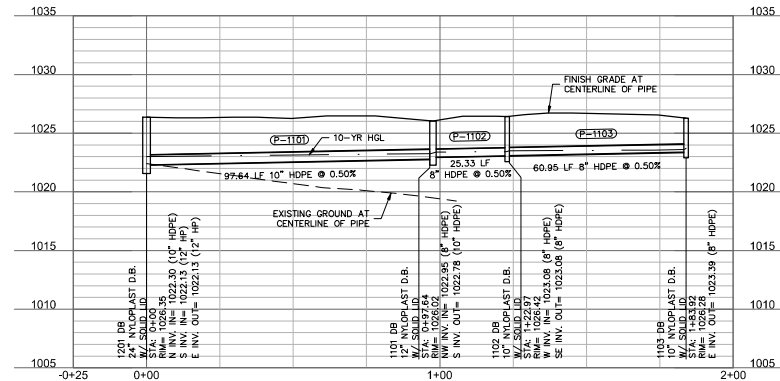
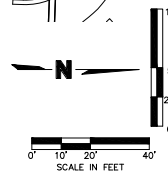
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STA: 0+00 TO 0+99.08
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

MISCELLANEOUS KEY NOTES:

- 1.1 INSTALL STORM PIPE (REFER TO SHEET C903 FOR BEDDING DETAIL)
- 1.2 INSTALL NYLOPLAST DRAIN BASIN PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET C900 FOR DETAILS.
- 1.3 INSTALL STORM CLEAN OUT (REFER TO SHEET C904 FOR DETAIL)
- 1.4 CONNECT TO ROOF DOWNSPOUT (REFER TO SHEET C900 FOR DETAIL) W/ 6" HDPE STORM PIPE AT MINIMUM 1.04% SLOPE. CONNECT 6" HDPE TO STORM HEADER OR DRAIN BASIN WITH INSERTA TEE OR WYE FITTING OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL FITTINGS NECESSARY FOR CONNECTION.
- 1.5 CONNECT TO INTERIOR ROOF DRAIN AT MINIMUM 2.08% SLOPE. REFER TO MEP PLANS FOR SIZE AND MATERIAL. CONNECT TO HEADER PIPE OR DRAIN BASIN WITH INSERTA TEE PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL FITTINGS NECESSARY FOR CONNECTION.



ONSITE STORM LINE 1100
STA: 0+00 TO 1+83.92
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



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SEAL

STORM LINES 1000
& 1100 PLAN &
PROFILE

ISSUE DATE:
6-14-2019

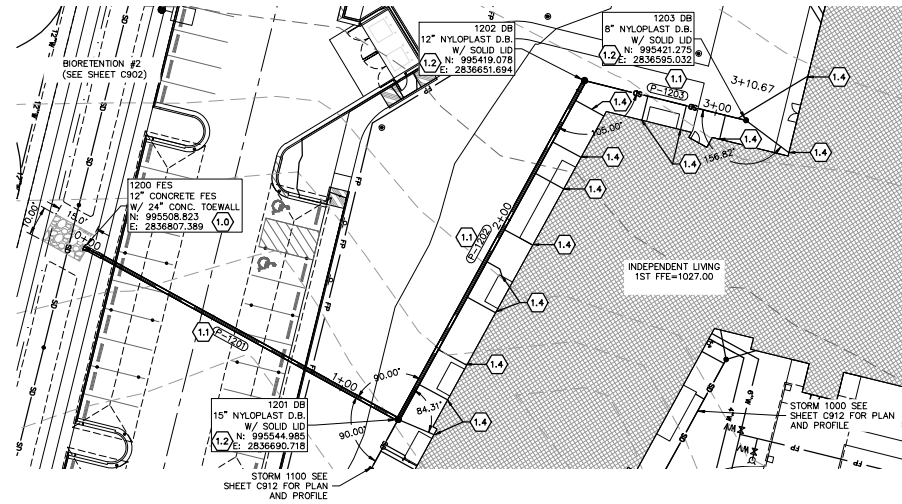
REVISIONS:
A. ENS. REVIEW CHGTS. - 07/14/2019

PROJECT NO.: 11811
C912
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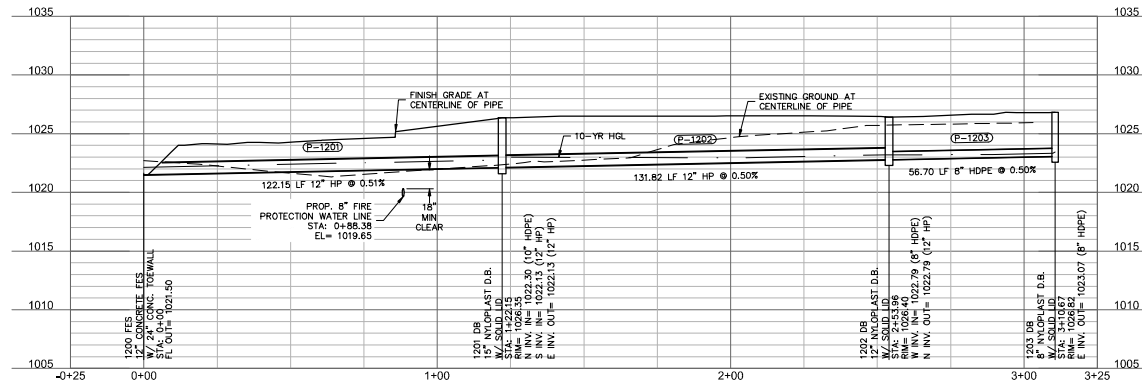
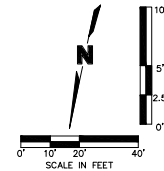
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MISCELLANEOUS KEY NOTES:

- 1.0 INSTALL F.E.S. (SIZED TO MATCH PIPE) W/CONCRETE TOE WALL RIPRAP PAD (REFER TO SHEET C903 FOR DETAILS)
- 1.1 INSTALL STORM PIPE (REFER TO SHEET C903 FOR BEDDING DETAIL)
- 1.2 INSTALL NYLOPLAST DRAIN BASIN PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET C900 FOR DETAILS.
- 1.3 INSTALL STORM CLEAN OUT (REFER TO SHEET C904 FOR DETAIL)
- 1.4 CONNECT TO ROOF DOWNSPOUT (REFER TO SHEET C900 FOR DETAIL) W/6" HDPE STORM PIPE AT MINIMUM 1.0% SLOPE. CONNECT 6" HOPE TO STORM HEADER OR DRAIN BASIN WITH INSERTA TEE OR WYE FITTING OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL FITTINGS NECESSARY FOR CONNECTION



ON-SITE STORM LINE 1200
STA: 0+00 TO 3+10.67
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



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SEAL



STORM LINE 1200
PLAN AND PROFILE

ISSUE DATE:

6-14-2019

REVISIONS:

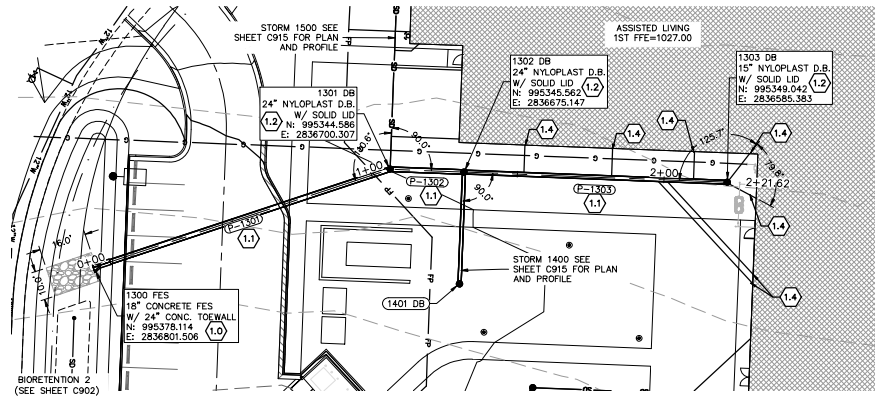
ENG. REVIEW COMMENTS - 07/11/2019

PROJECT NO.: 11811

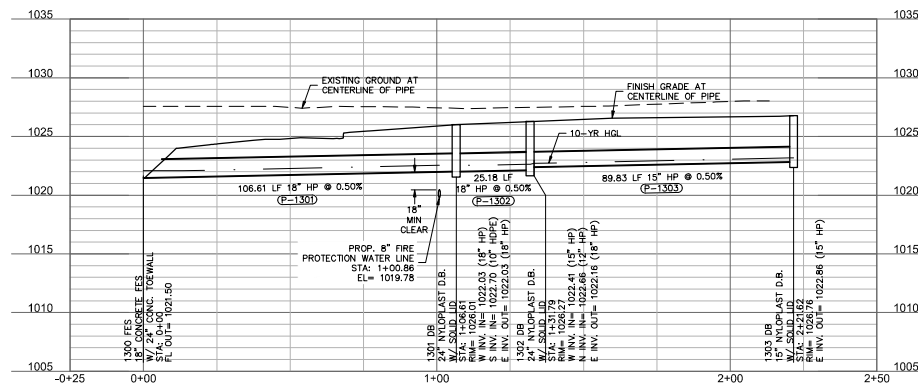
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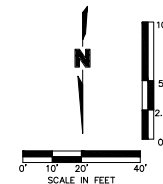


ONSITE STORM LINE 1300
STA: 0+00 TO 2+21.62
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



MISCELLANEOUS KEY NOTES:

- 1.0 INSTALL F.E.S. (SIZED TO MATCH PIPE) W/ CONCRETE TOE WALL RIRAP PAD (REFER TO SHEET C903 FOR DETAILS)
- 1.1 INSTALL STORM PIPE (REFER TO SHEET C903 FOR BEDDING DETAIL)
- 1.2 INSTALL NYLOPLAST DRAIN BASIN PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET C900 FOR DETAILS.
- 1.3 INSTALL STORM CLEAN OUT (REFER TO SHEET C904 FOR DETAIL)
- 1.4 CONNECT TO ROOF DOWNSPOUT (REFER TO SHEET C900 FOR DETAIL) W/ 6" HDPE STORM PIPE AT MINIMUM 1.04% SLOPE. CONNECT 6" HDPE TO STORM HEADER OR DRAIN BASIN WITH INSERTA TEE OR WYE FITTING OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL FITTINGS NECESSARY FOR CONNECTION



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STORM LINE 1300
PLAN & PROFILE

ISSUE DATE:

6-14-2019

REVISIONS:

ENG. REVIEW COMMENTS - 07/14/2019

PROJECT NO.: 11811

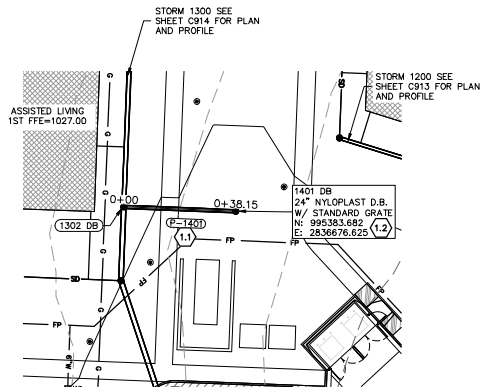
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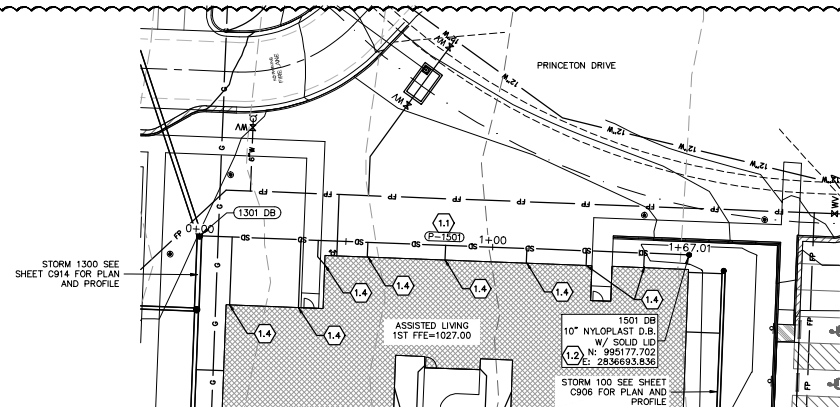
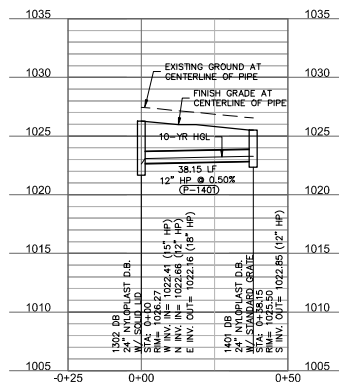
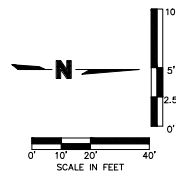
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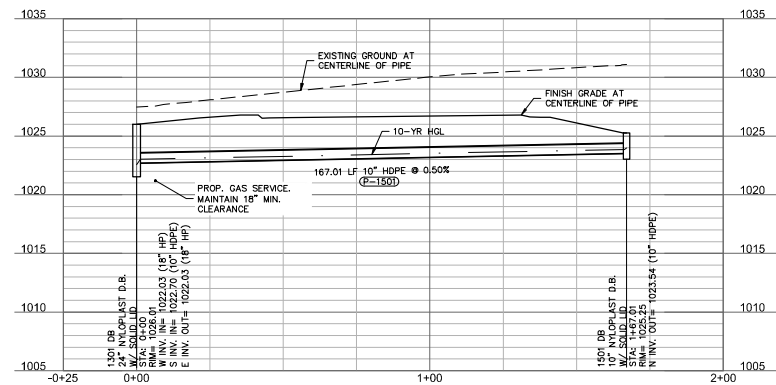
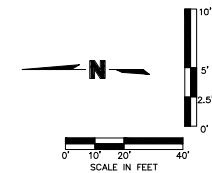
- 1-1 INSTALL STORM PIPE (REFER TO SHEET C903 FOR BEDDING DETAIL).
- 1-2 INSTALL NYLOPLAST DRAIN BASIN PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET C900 FOR DETAILS.
- 1-3 INSTALL STORM CLEAN OUT (REFER TO SHEET C904 FOR DETAIL).
- 1-4 CONNECT TO ROOF DOWNSPOUT (REFER TO SHEET C900 FOR DETAIL) W/6" HDPE STORM PIPE AT MINIMUM 1/4% SLOPE. CONNECT 6" HDPE TO STORM HEADER OR DRAIN BASIN WITH INSERTA TEE OR WYE FITTING OR APPROVED ALTERNATE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY ALL FITTINGS NECESSARY FOR CONNECTION.



ON-SITE STORM LINE 1400
STA: 0+00 TO 0+38.15
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



ONSITE STORM LINE 1500
STA: 0+00 TO 1+67.01
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



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STORM LINES 1400
& 1500 PLAN &
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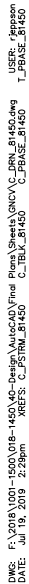
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LEGEND

— DRAINAGE AREA BOUNDARY



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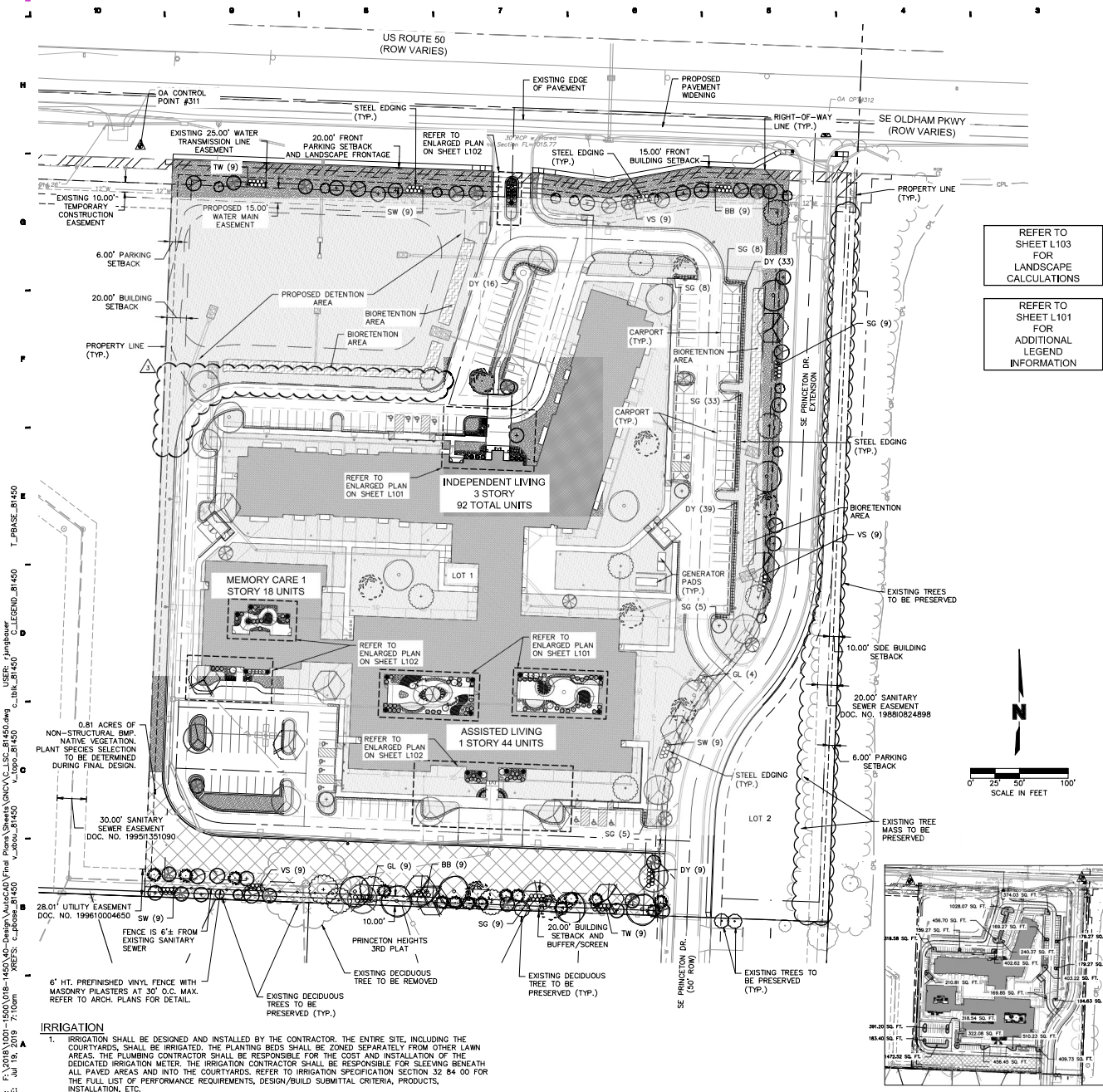
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| PLANT LEGEND | | | | | |
|--|---|---------------|--|---------|-----|
| TREES | | | | | |
| | BOTANICAL / COMMON NAME | SIZE | CONTAINER | SPACING | QTY |
| | <i>Taxodium distichum</i> Baldicypress | 3" Cal. | B&B | | 9 |
| | <i>Celtis occidentalis</i> Hackberry | 3" Cal. | B&B | | 13 |
| | <i>Robinia pseudoacacia</i> var. 'nermis' Thornless Black Locust | 3" Cal. | B&B | | 11 |
| | <i>Juniperus virginiana</i> 'Conaertii' Conaertii Juniper | 8" Ht. | B&B | | 15 |
| | <i>Amelanchier arborea</i> Serviceberry | 3" Cal. | B&B | | 17 |
| | <i>Cercis canadensis</i> Eastern Redbud | 3" Cal. | B&B | | 13 |
| | <i>Aesculus pavia</i> Red Buckeye | 3" Cal. | B&B | | 11 |
| | <i>Chionanthus virginicus</i> American Fringe Tree | 3" Cal. | B&B | | 19 |
| | <i>Acer saccharum</i> Sugar Maple | 3" Cal. | B&B | | 10 |
| | <i>Quercus coccinea</i> Scarlet Oak | 3" Cal. | B&B | | 13 |
| SHRUBS | | | | | |
| | BOTANICAL / COMMON NAME | SIZE | NOTES | SPACING | QTY |
| SW | <i>Hypericum</i> x 'Sunny Boulevard' Sunny Boulevard St. John's Wort | 5 Gal | Min. Ht. of 18" AFTER Installed AND Pruned | | 27 |
| VS | <i>Itea virginica</i> 'Little Henry' TM Virginia Sweetapple | 5 Gal | Min. Ht. of 18" AFTER Installed AND Pruned | | 27 |
| GL | <i>Juniperus chinensis</i> 'Gold Lace' Gold Lace Juniper | 5 Gal | Min. Ht. of 18" AFTER Installed AND Pruned | | 13 |
| SG | <i>Juniperus chinensis</i> 'Sea Green' Sea Green Juniper | 5 Gal | Min. Ht. of 18" AFTER Installed AND Pruned | | 77 |
| BB | <i>Euonymus alatus</i> 'Rudy Hoag' Rudy Hoag Burning Bush | 5 Gal | Min. Ht. of 18" AFTER Installed AND Pruned | | 18 |
| TW | <i>Physocarpus opulifolius</i> 'Tiny Wine' Tiny Wine Ninebark | 5 Gal | Min. Ht. of 18" AFTER Installed AND Pruned | | 18 |
| DY | <i>Taxus x densiformis</i> Densiformis Yew | 5 Gal | Min. Ht. of 18" AFTER Installed AND Pruned | | 97 |
| BIORETENTION AREAS: A SINGLE ROW OF SHRUBS LENGTHWISE DOWN THE CENTER, THEN TWO ROWS OF GRASSES AND WILDFLOWERS ON EACH SIDE OF THE ROW OF SHRUBS. | | | | | |
| SHRUBS | | | | | |
| | BOTANICAL / COMMON NAME | SIZE | CONTAINER | SPACING | QTY |
| | <i>Cephalanthus occidentalis</i> Buttonbush | 1 Qt. | | 6" o.c. | 33 |
| | <i>Prunus virginiana</i> Chokecherry | 1 Qt. | | 6" o.c. | 33 |
| | <i>Sambucus canadensis</i> Elderberry | 1 Qt. | | 6" o.c. | 33 |
| GRASSES & WILDFLOWERS | | | | | |
| | BOTANICAL / COMMON NAME | SIZE | CONTAINER | SPACING | QTY |
| | <i>Elymus canadensis</i> Virginia Wildrye | 2.5" peat pot | | 2" o.c. | 199 |
| | <i>Lobelia siphilitica</i> Great Blue Lobelia | 2.5" peat pot | | 2" o.c. | 199 |
| | <i>Panicum virgatum</i> Switchgrass | 2.5" peat pot | | 2" o.c. | 199 |
| GROUNDCOVER | | | | | |
| | TURF GRASS - SOD | | | | |
| | TURF GRASS - NATIVE SEED MIX - REFER TO SPECIFICATIONS | | | | |
| | PEA GRAVEL | | | | |




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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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JANE K. DONEY EARNHART
LANDSCAPE ARCHITECT
MO# LA-00013

Jane Earnhart

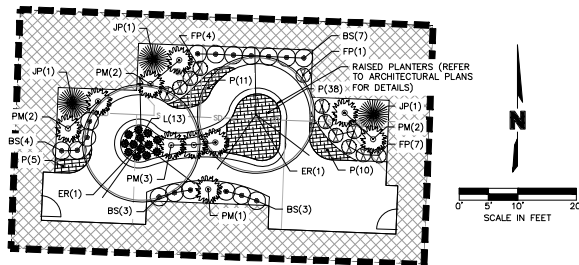
LANDSCAPE PLAN

ISSUE DATE:
6-14-2019
REVISIONS:
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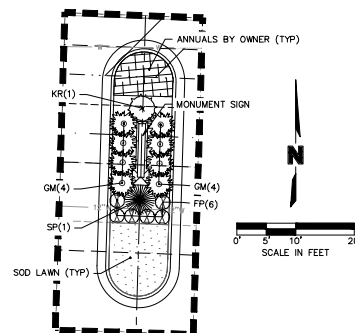
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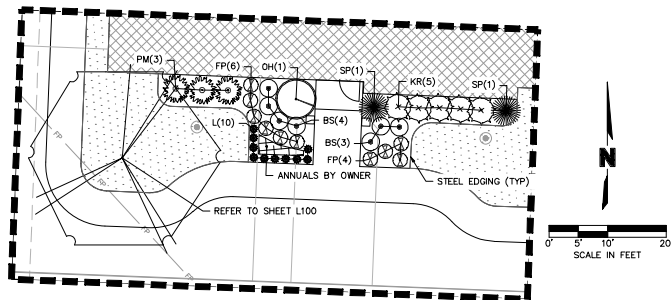
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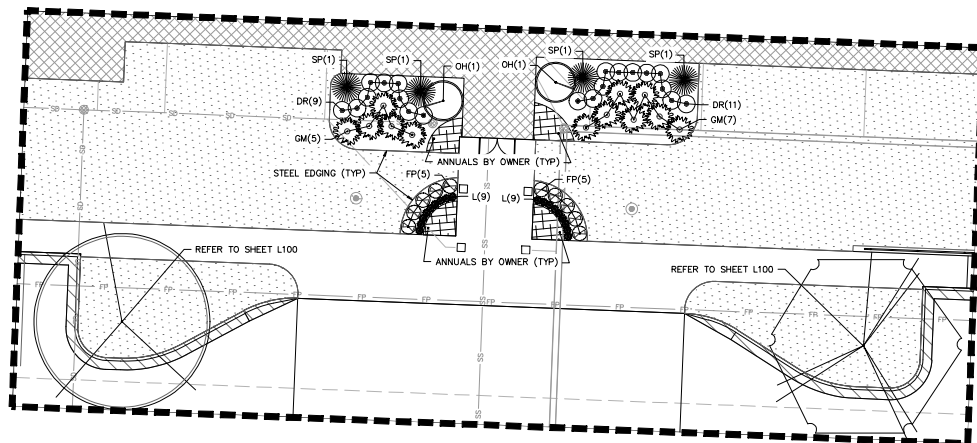
PLANTING DETAIL 4
MEMORY CARE COURTYARD
SCALE: 1"=10'



PLANTING DETAIL 7
DRIVEWAY ISLAND
SCALE: 1"=10'



PLANTING DETAIL 5
MEMORY CARE ENTRANCE
SCALE: 1"=10'



PLANTING DETAIL 6
ASSISTED LIVING ENTRANCE
SCALE: 1"=10'

| LEGEND | |
|--------|----------------------------------|
| --- | PROPERTY LINES |
| --- | RIGHT-OF-WAY (ROW) |
| --- | ROAD CENTERLINE |
| --- | EASEMENT LINES |
| --- | SETBACK LINES |
| ○ | FOUND MONUMENT |
| △ | TEMPORARY BENCHMARK |
| □ | EXIST. POWER POLE |
| □ | EXIST. ELECTRIC BOX |
| □ | EXIST. ELECTRIC VAULT |
| □ | EXIST. ELECTRIC METER |
| □ | EXIST. GUY WIRE |
| □ | EXIST. TELEPHONE PEDESTAL |
| □ | EXIST. FIRE HYDRANT |
| □ | EXIST. WATER METER |
| □ | EXIST. WATER VALVE |
| □ | EXIST. GAS MARKER |
| □ | EXIST. CABLE VAULT |
| □ | EXIST. SANITARY MANHOLE |
| □ | EXIST. FLARED END SECTION |
| □ | EXIST. DECIDUOUS TREE |
| □ | EXIST. SIGN |
| □ | PROP. SANITARY SEWER CLEANOUT |
| □ | PROP. FIRE HYDRANT |
| □ | PROP. GATE VALVE |
| □ | PROP. SIGN |
| □ | EXIST. OVERHEAD ELECTRIC |
| □ | EXIST. UNDERGROUND TELEPHONE |
| □ | EXIST. GAS LINE |
| □ | EXIST. STORM SEWER LINE |
| □ | EX. WOOD FENCE |
| □ | PROP. SANITARY SEWER SERVICE |
| □ | PROP. STORM SEWER 12" OR LARGER |
| □ | PROP. STORM SEWER 10" OR SMALLER |
| □ | EXIST. UNDERGROUND ELECTRIC |
| □ | PROP. PUBLIC WATER MAIN |
| □ | PROP. IRRIGATION LINE |
| □ | PROP. WATER SERVICE |
| □ | PROP. FIRE PROTECTION LINE |
| □ | TURF GRASS - SOD |

"THESE QUANTITIES ARE FOR SHEET L102 ONLY"

| PLANT LIST | | | | | |
|--------------------------|---------|---|----------------------|------------|----------|
| Qty | Abbrev. | Scientific Name | Common Name | Size | Notes |
| Trees | | | | | |
| 2 | ER | <i>Cercis canadensis</i> | Eastern Redbud | 2" Caliper | |
| Shrubs/Perennials | | | | | |
| 24 | BS | <i>Spiraea x bumalda 'goldflame'</i> | Bumalda Spiraea | 3 Gallon | |
| 3 | JP | <i>Pinus parviflora 'venus'</i> | Japanese White Pine | 5 Gallon | |
| 3 | OH | <i>Hydrangea quercifolia</i> | Oakleaf Hydrangea | 3 Gallon | |
| 20 | GM | <i>Juniperus procumbens 'Green Mound'</i> | Green Mound Juniper | 3 Gallon | |
| 7 | SP | <i>Juniperus chinensis 'Spartan'</i> | Spartan Juniper | 4" HL | |
| 41 | L | <i>Liriope</i> | Liriope | 1 Quart | |
| 38 | FP | <i>Nandina domestica 'Fire Power'</i> | Fire Power Nandina | 2 Gallon | |
| 64 | P | <i>Phlox subulata</i> | Creeping Phlox | 1 Quart | 18" o.c. |
| 20 | DR | <i>Rosa meidiflora</i> | Coral Drift Rose | 3 Gallon | |
| 13 | PM | <i>Pinus mugo 'Mops'</i> | Dwarf Mugo Pine | 3 Gallon | |
| 6 | KR | <i>Rosa 'Radiko'</i> | Double Knockout Rose | 5 Gallon | |

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LANDSCAPE PLAN

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6-14-2019
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PROJECT NO.: 11811

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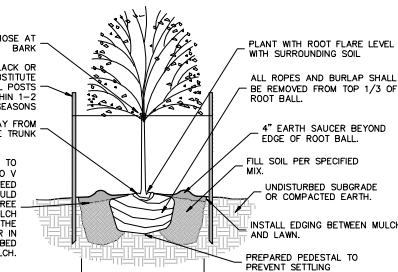
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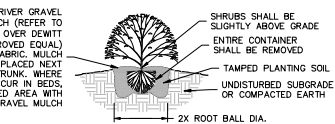
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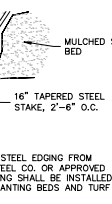


DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE

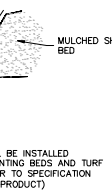


SHRUB PLANTING DETAIL
NOT TO SCALE

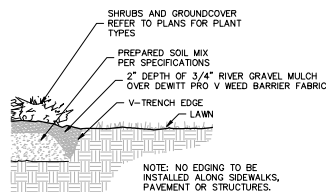
- NOTES:
1. MINIMUM ROOT SPREAD TO BE IN ACCORDANCE WITH AAN STANDARDS
 2. PRUNE DAMAGED LIMBS OR ROOTS AFTER INSTALLATION
 3. MAKE SURE ROOTS DO NOT DRY OUT DURING INSTALLATION
 4. SOAK GENEROUSLY TO COMPACT AND SETTLE



STEEL EDGING DETAIL
NOT TO SCALE

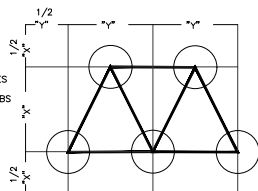


PLASTIC EDGING DETAIL
NOT TO SCALE

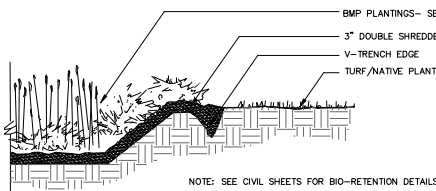


"V" TRENCH EDGING DETAIL
TO BE USED AROUND TREES PLACED IN LAWN AREA
NOT TO SCALE

NOTE:
SPACING PATTERN APPLIES
TO ALL PERENNIALS
GROUNDCOVERS AND BULBS
UNLESS OTHERWISE
SPECIFIED.
X=
Y=



GROUND COVER LAYOUT DETAIL
NOT TO SCALE



NOTE: SEE CIVIL SHEETS FOR BIO-RETENTION DETAILS

BIO-RETENTION EDGE DETAIL
NOT TO SCALE

LANDSCAPE CALCULATIONS

A. STREET FRONTAGE - LOT 1

1. ONE TREE SHALL BE PLANTED FOR EACH 30 FEET OF STREET FRONTAGE, PUBLIC OR PRIVATE, WITHIN THE LANDSCAPE SETBACK ABUTTING SAID STREET FRONTAGE. A MINIMUM 20' WIDE LANDSCAPE STRIP SHALL BE PROVIDED ALONG THE FULL LENGTH OF ANY STREET FRONTAGE.

SE OLDHAM PARKWAY - 704 LF FRONTAGE
24 TREES REQUIRED
24 TREES PROVIDED

SE PRINCETON DRIVE - 798 LF FRONTAGE
27 TREES REQUIRED
27 TREES PROVIDED

2. IN COMMERCIAL AND INDUSTRIAL DISTRICTS, 20' PARKING SETBACK (AND LANDSCAPE BUFFER)

3. ONE SHRUB SHALL BE PROVIDED FOR EACH 20 FEET OF STREET FRONTAGE, OR PORTION THEREOF, WITHIN THE LANDSCAPE SETBACK ABUTTING SUCH FRONTAGE. SUCH SHRUBS MAY BE CLUSTERED OR ARRANGED WITHIN THE SETBACK.

SE OLDHAM PARKWAY - 704 LF FRONTAGE
36 SHRUBS REQUIRED
36 SHRUBS PROVIDED

SE PRINCETON DRIVE - 798 LF FRONTAGE
40 SHRUBS REQUIRED
40 SHRUBS PROVIDED

B. OPEN YARD AREAS - LOT 1

1. THE MINIMUM OPEN YARD AREA LANDSCAPING REQUIREMENTS SHALL BE TWO SHRUBS PER 5,000 SQUARE FEET OF TOTAL LOT AREA.

455,406 SF LOT, LESS 91,994 SF BUILDING = 363,412 SF DIVIDED BT 5,000 = $73 \times 2 = 146$
REQUIRED = 146 SHRUBS
PROVIDED = 147 SHRUBS (ALONG CARPORT/PARKING)

2. ALL PORTIONS OF THE SITE NOT COVERED WITH PAVING OR BUILDINGS SHALL BE LANDSCAPED. OPEN AREAS NOT COVERED WITH OTHER MATERIALS SHALL BE COVERED WITH SOO. GRASS COVER SHALL BE UTILIZED ON ALL SLOPES IN EXCESS OF 3:1 SLOPE.

3. IN ADDITION TO THE TREES REQUIRED BASED UPON STREET FRONTAGE, ADDITIONAL TREES SHALL BE REQUIRED AT A RATIO OF ONE TREE FOR EVERY 5,000 SQUARE FEET OF LOT AREA NOT COVERED BY BUILDING/STRUCTURES.

455,406 SF LOT, LESS 91,994 SF BUILDING = 363,412 SF DIVIDED BT 5,000 = 73
REQUIRED = 73 TREES
PROVIDED = 79 TREES

C. TRASH STORAGE CONTAINERS

1. A DETAILED DRAWING OF ENCLOSURE AND SCREENING METHODS TO BE USED IN CONNECTION WITH TRASH STORAGE CONTAINERS ON THE PROPERTY SHALL BE INCLUDED WITH THE LANDSCAPING PLAN.

PROVIDED = REFER TO ARCHITECTURAL SHEETS

D. PARKING LOT LANDSCAPING - LOT 1

1. LANDSCAPE ISLANDS, STRIPS OR OTHER PLANTING AREAS SHALL BE LOCATED WITHIN THE PARKING LOT AND CONSTITUTE AT LEAST 5% OF THE ENTIRE AREA DEVOTED TO PARKING SPACES, AISLES OR DRIVEWAYS.

104,944 SF TOTAL PARKING AREA
5,247 SF LANDSCAPE ISLAND AREA REQUIRED
6,893 SF LANDSCAPE ISLAND AREA PROVIDED

2. SCREENING TO A HEIGHT OF 2.5 FEET MUST BE PROVIDED ALONG THE EDGE OF THE PARKING LOT OR LOADING AREA CLOSEST TO AND PARALLEL TO THE STREET.

SCREENING IS PROVIDED ALONG PARKING.

E. BUFFER/SCREEN - LOT 1

1. BUFFER/SCREEN BETWEEN DEVELOPMENT OF DIFFERING LAND USES ADJOINING ONE ANOTHER OR SEPARATED FROM ONE ANOTHER BY ONLY A STREET OR ALLEY SHALL COMPLY WITH TABLE 14.1.

WESTERN BOUNDARY - NONE REQUIRED, COMMERCIAL ZONING

NORTHERN BOUNDARY - NONE REQUIRED, COMMERCIAL ZONING

EASTERN BOUNDARY - NONE REQUIRED, COMMERCIAL ZONING

SOUTHERN BOUNDARY - BUFFER ALONG RESIDENTIAL DEVELOPMENT

REQUIRED = H. HIGH IMPACT SCREENING - USE SIX-FOOT HIGH OPAQUE VINYL FENCE, AND LOW IMPACT SCREENING ON BOTH SIDES OF FENCE.

532.10 LF BY 20' DEPTH = 10,642 SF LOW IMPACT SCREENING "C" (SHADE TREE 1/750 SF, ORNAMENTAL TREES 1/750 SF, EVERGREEN TREES 1/750 SF, SHRUBS 1/200 SF).

SHADE TREES REQUIRED = 15 (COMBINED BOTH SIDES OF FENCE)

ORNAMENTAL TREES REQUIRED = 15 (COMBINED BOTH SIDES OF FENCE)

EVERGREEN TREES REQUIRED = 15 (COMBINED BOTH SIDES OF FENCE)

SHRUBS REQUIRED = 54 (COMBINED BOTH SIDES OF FENCE)

PROVIDED = SIX FOOT HIGH OPAQUE VINYL FENCE, AND LOW IMPACT SCREENING "C"

SHADE TREES: 15
ORNAMENTAL TREES: 15
EVERGREEN TREES: 15
SHRUBS: 54

LANDSCAPE NOTES

1. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITY LINES AND OTHER ABOVE OR BELOW GROUND OBSTRUCTIONS SO THAT PROPER PRECAUTIONS SHALL BE TAKEN NOT TO DISTURB OR DAMAGE SUCH IMPROVEMENTS. REFER TO CIVIL AND MEP DRAWINGS FOR PROPOSED AND EXISTING UTILITY LOCATIONS.

2. STANDARDS SET FORTH IN "AMERICAN STANDARDS FOR NURSERY STOCK" REPRESENT GENERAL GUIDELINE SPECIFICATIONS ONLY AND WILL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.

3. THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.

4. ALL TREES SHALL BE CALIPERED AND UNDERSIZED TREES SHALL BE REJECTED. SPECIFIED CALIPER MEASUREMENT FOR TREES SHALL BE MEASURED AT 6" ABOVE THE GRADE.

5. ANY MATERIAL WHICH DIES, OR DEFOLIATES (PRIOR TO ACCEPTANCE OF THE WORK) WILL BE PROMPTLY REMOVED AND REPLACED.

6. THE CONTRACTOR IS RESPONSIBLE FOR SOIL SAMPLING AND TESTING TO DETERMINE EXACT FERTILIZER REQUIREMENTS.

7. PLANTS AND OTHER MATERIALS ARE QUANTIFIED AND SUMMARIZED FOR THE CONVENIENCE OF THE CITY AND LOCAL GOVERNING BODIES. CONFIRM AND INSTALL SUFFICIENT QUANTITIES TO COMPLETE THE WORK AS DRAWN.

8. BACKFILL TREE AND SHRUB PITS WITH A PREPARED PLANTING MIX AS FOLLOWS UNLESS NOTED OTHERWISE:
2 PARTS BY VOLUME TOPSOIL
1 PART BY VOLUME BROWN RIVER SAND
1 PART BY VOLUME PEAT MOSS

9. A PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL SHRUB BEDS PRIOR TO THE INSTALLATION OF ANY PLANT MATERIAL.

10. ALL LAWN AREAS SHALL RECEIVE A MINIMUM OF 6" OF IMPORTED OR STOCKPILED FINELY GRADED TOPSOIL. ALL PLANTING BEDS AND TREE PITS SHALL RECEIVE A MINIMUM OF 24" OF THE SPECIFIED PLANTING MIX.

11. ALL LANDSCAPE PLANTING AREAS, EXCLUDING TURF AREAS SHALL BE MULCHED WITH A 2"-3" LAYER OF 1"-2" DIAMETER RIVER STONE AFTER INSTALLATION OF PLANT MATERIAL. REFER TO PLANS FOR LOCATION OF MULCH OR IF NOT SPECIFIED, THEN THE PLANTS SHALL BE MULCHED WITH WOOD MULCH.

12. ALL WOODY SHRUB PLANTING MATERIAL SHALL MEASURE A MINIMUM OF 18" IN HEIGHT AT THE TIME OF PLANTING.

13. INSTALL BED EDGING TO SEPARATE ALL MULCHED PLANTING AREAS AND GRAVEL AREAS FROM TURF AREAS. REFER TO DETAIL ON THIS SHEET. ALSO, STEEL EDGING SHALL BE INSTALLED IN LAWN AREAS AS SHOWN FOR GRADE BREAK TRANSITIONS. REFER TO PLAN FOR V-TRENCH AND STEEL EDGING LOCATIONS.

14. INSTALL WOVEN BLACK LANDSCAPE WEED BARRIER FABRIC (GEWITT 20 YEAR, 4.1 OZ. WOVEN WEED BARRIER FABRIC OR EQUAL) IN ALL PLANTING BEDS AND UNDER GRAVEL MULCH AREAS. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

15. THE PLAN IS SUBJECT TO CHANGES BASED ON PLANT SIZE AND MATERIAL AVAILABILITY. ANY DEVIATION TO THE APPROVED FINAL LANDSCAPE PLAN SHALL REQUIRE THE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

16. LANDSCAPE CONTRACTOR SHALL PROVIDE UNIT COSTS AND POSSIBLE ALTERNATES FOR PLANT MATERIAL TO THE LANDSCAPE ARCHITECT.

17. KILL AND REMOVE ALL EXISTING WEEDS FROM THE SITE AREA PRIOR TO PLANTING.

18. THE ENTIRE SURFACE TO BE PLANTED OR SEEDED SHALL BE REASONABLY SMOOTH AND FREE FROM STONES, ROOTS, OR OTHER DEBRIS.

19. ALL DISTURBED AREAS OF THE SITE, SHRUBBED AREAS, SHALL BE HYDROSEEDED WITH AN IMPROVED TURF-TYPE TALL FESCUE AT A RATE OF 10 LBS/1,000 SF.

20. HYDROSEED MIX SHALL INCLUDE:
COMBED OR SILVA FIBER - 1,500 LBS/AC
FERTILIZER 9-13-7 FERTILIZER - 500 LBS/AC
COMBED TACKIFIER - 40 LBS/AC (7 LBS/100 GAL)

21. ALL AREAS DESIGNATED TO BE HYDROSEEDED SHALL BE SCARIFIED PRIOR TO SEEDING TO ENSURE A FIRM BUT FRABLE SEED BED.

22. PRIOR TO HYDROSEED GERMINATION, A PREEMERGENT HERBICIDE SHALL BE APPLIED. THE CONTRACTOR IS RESPONSIBLE FOR COMPATIBILITY OF HERBICIDE WITH HYDROSEEDED PLANT MATERIAL.

23. PERMANENT SEEDING SEASON RUNS FROM MARCH 1ST TO JUNE 1ST AND SEPTEMBER 15TH TO NOVEMBER 1ST. SEEDING AND MULCHING MUST BE DONE WHENEVER WORK IS COMPLETE REGARDLESS OF THE SEASON. WHENEVER SEEDING AND MULCH IS INSTALLED OUTSIDE THE PERMANENT SEEDING SEASON, THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLANTING AND MULCHING ANY AREAS WHERE GROWTH HAS NOT BECOME ESTABLISHED DURING THE NEXT PERMANENT SEEDING SEASON.

24. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETELY MAINTAINING THE WORK (INCLUDING BUT NOT LIMITED TO: WATERING, MULCHING, SPRAYING, FERTILIZING, ETC.) OF ALL PLANTING AND TURF AREAS UNTIL TOTAL ACCEPTANCE OF THE WORK BY THE LANDSCAPE ARCHITECT AND OWNER.

25. LANDSCAPE CONTRACTOR IS TO BE RESPONSIBLE FOR WATERING ALL PLANT MATERIALS UNTIL FINAL ACCEPTANCE OF THE PROJECT.

26. CONTRACTOR WILL STAKE OR MARK ALL PLANT MATERIAL LOCATIONS PRIOR TO INSTALLATION. CONTRACTOR SHALL HAVE OWNERS REPRESENTATIVE APPROVE ALL STAKING PRIOR TO INSTALLATION.

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BIO-RETENTION AND NATIVE VEGETATION PLANTING NOTES

1. **NATIVE VEGETATION:**
NATIVE VEGETATION LIVE HERBACEOUS AND GRASS PLANTS
LIVE HERBACEOUS PLANTS: ALL LIVE HERBACEOUS PERENNIAL PLANTS, TUBERS, BULBS, PLUGS AND DORMANT ROOTSTOCKS OF HERBACEOUS PERENNIAL PLANTS SHALL BE FREE FROM INSECTS AND DISEASE. PRIOR TO DELIVERY OF ANY MATERIALS TO THE SITE, SUBMIT TO THE OWNER A COMPLETE LIST OF ALL LIVE HERBACEOUS PERENNIAL PLANTS, TUBERS, BULBS, PLUGS AND DORMANT ROOTSTOCKS OF HERBACEOUS PERENNIAL PLANTS AND GRASSES TO BE USED DURING THIS PORTION OF THE WORK.
LIVE HERBACEOUS PERENNIAL PLANTS, TUBERS, BULBS, PLUGS AND DORMANT ROOTSTOCKS OF HERBACEOUS PERENNIAL PLANTS SHALL BE FROM WITHIN A 150 MILE RADIUS OF THE PROJECT SITE. ANY SPECIES NOT WITHIN A 150 MILE RADIUS WILL BE APPROVED BY THE OWNER. SPECIES SHALL BE TRUE TO THEIR SCIENTIFIC NAME AS SPECIFIED. ALL LIVE HERBACEOUS PERENNIAL PLANTS SHALL BE POTTED, NURSERY GROWN STOCK UNLESS APPROVED IN WRITING BY THE OWNER. ALL LIVE HERBACEOUS PERENNIAL PLANTS, TUBERS, BULBS, AND DORMANT ROOTSTOCKS OF HERBACEOUS PERENNIAL PLANTS SHALL BE INSPECTED AND APPROVED BY THE OWNER PRIOR TO INSTALLATION.
2. **QUALITY ASSURANCE**
QUALIFICATIONS OF WORKMEN: PROVIDE AT LEAST ONE PERSON WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THIS PORTION OF THE WORK WHO SHALL BE THOROUGHLY FAMILIAR WITH PLANTING OF LIVE NATIVE PLANTS. SAID PERSON SHALL DIRECT ALL WORK PERFORMED UNDER THIS SECTION.
3. **PLANTING SEASON**
PLANTING OF ALL LIVE HERBACEOUS PERENNIAL PLANTS, TUBERS, BULBS, AND DORMANT ROOTSTOCKS OF HERBACEOUS PERENNIAL PLANTS SHALL BE COMPLETED AFTER APRIL 15 BUT NO LATER THAN JUNE 15.
4. **PLANT INSTALLATION**
LIVE PLANT MATERIALS (HERBACEOUS AND GRASS PLANTS): NATIVE LIVE PLANT MATERIALS SPECIFIED FOR BIORETENTION FACILITIES AND OTHER NATIVE VEGETATION AREAS SHALL BE PLANTED AS SPECIFIED IN THE PLANS AND APPLICABLE LANDSCAPING STANDARDS WITH THE EXCEPTION THAT PESTICIDES, HERBICIDES, AND FERTILIZER SHALL NOT BE APPLIED DURING PLANTING UNDER ANY CIRCUMSTANCES. FURTHERMORE, PESTICIDES, FERTILIZER, AND ANY OTHER SOIL AMENDMENTS SHALL NOT BE APPLIED TO THE BIORETENTION FACILITY DURING LANDSCAPE CONSTRUCTION, PLANT ESTABLISHMENT, OR MAINTENANCE DURING THE FIRST SEASON OF GROWTH. REMOVAL OF DEAD/FAILED VEGETATION AND REPLACEMENT WITH THE SAME SPECIES AND LOCATION IS REQUIRED TO ACHIEVE BMP CONSTRUCTION COMPLETION. PESTICIDES, HERBICIDES, AND/OR FERTILIZERS SHALL NOT, UNDER ANY CIRCUMSTANCES, BE APPLIED DURING LANDSCAPE CONSTRUCTION, PLANT ESTABLISHMENT, OR FOR A MINIMUM PERIOD OF 2 MONTHS AFTER INITIAL PLANTING.
5. **WATERING OF PLANTS**
NEW VEGETATION WILL BE WATERED ONCE PER WEEK IN THE ABSENCE OF RAINFALL. THE EQUIVALENT OF ONE-HALF INCH OF WATER PER WEEK OVER THE BIORETENTION CELL AREA AND OTHER NATIVE VEGETATION AREAS WILL BE PROVIDED WEEKLY FOR THE FIRST TWO MONTHS, IN THE ABSENCE OF RAINFALL, TO ESTABLISH VEGETATION, AND BI-WEEKLY AFTER THE FIRST TWO MONTHS, IN THE ABSENCE OF RAINFALL, UNTIL OCTOBER 1. WATER IS TO BE PROVIDED BY THE CONTRACTOR, OR PAID FOR BY THE CONTRACTOR.
6. **FINAL ACCEPTANCE**
AFTER COMPLETION OF LIVE STOCK, THE CONTRACTOR SHALL SCHEDULE WITH OWNER A PROVISIONAL ACCEPTANCE INSPECTION OF THE WORK.
PROVISIONAL ACCEPTANCE: THE WORK SHALL BE CONSIDERED 80% COMPLETE AFTER ALL LIVE PLANTS HAVE BEEN INSTALLED AND THE CONTRACTOR HAS COMPLETED ALL REQUIRED CLEAN UP, REMOVAL, AND REPAIR OF SITE CONDITIONS.
FINAL ACCEPTANCE: THE WORK SHALL BE CONSIDERED 100% COMPLETE AFTER YEAR 3 OF THE MAINTENANCE PLAN IS COMPLETED AS OUTLINED ON THIS SHEET. CONTRACTOR HAS MET OR EXCEEDED THE PERFORMANCE STANDARDS OF THIS SECTION, AND COMPLETED ALL REQUIRED CLEAN UP, REMOVAL, AND REPAIR OF PLANT MATERIALS AFTER SITE ESTABLISHMENT AND MAINTENANCE PERIOD.
7. **REPAIR AND MAINTENANCE**
CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, MAINTENANCE, AND REPAIR OF NATIVE VEGETATION DURING THE FIRST YEAR AFTER INSTALLATION. CONTRACTOR WILL REMOVE INVASIVE WEEDS AS NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSISTENT AND ADEQUATE WATER APPLICATION THROUGHOUT THE GROWING SEASON. CONTRACTOR SHALL CORRECT EROSION AND DRAINAGE PROBLEMS THROUGHOUT THE ONE-YEAR MAINTENANCE PERIOD. CONTRACTOR SHALL REMOVE SILT FENCING AT THE END OF THE COMPLIANCE PERIOD.
8. **CONTRACTOR WARRANTY**
THE CONTRACTOR SHALL GUARANTEE PLANTED AREAS IN THE BIORETENTION CELL AND OTHER NATIVE VEGETATION AREAS FOR A PERIOD OF ONE YEAR FOLLOWING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACEMENT OF NATIVE VEGETATION THAT WAS INSTALLED AT CONSTRUCTION DURING THE FIRST GROWING YEAR AFTER CONSTRUCTION THAT HAS DIED AS A RESULT OF IMPROPER MAINTENANCE, DISEASE, OR POOR PLANTING TECHNIQUES.
9. **HARDWOOD MULCH & TURF REINFORCEMENT MAT (TRM)**
A. HARDWOOD MULCH AND NETTING IN BOTTOM OF BIORETENTION BASIN. DOUBLE SHREDDED AGED HARDWOOD MULCH SHALL CONSIST OF THE BARK FROM HARDWOOD TREES WHICH HAS BEEN MILED AND SCREENED TO A MAXIMUM 4 INCH IN LENGTH, PARTICLE SIZE AND PROVIDE A UNIFORM TEXTURE FREE FROM SANDUST, FOREIGN MATERIALS, AND ANY ARTIFICIALLY INTRODUCED CHEMICAL COMPOUNDS THAT WOULD BE DETRIMENTAL TO PLANT OR ANIMAL LIFE. IF AGED DOUBLE SHREDDED HARDWOOD MULCH FLATS IN RAIN EVENTS AFTER INSTALLATION, THE CONTRACTOR SHALL INSTALL BIODEGRADABLE GEO JUTE NETTING (BY OUTSIDERIDE.COM OR APPROVED EQUAL). NETTING SHALL BE PLACED OVER MULCH IN ALL BIORETENTION CELLS FOLLOWING PLANTING AND MULCH PLACEMENT. NETTING SHALL BE INSTALLED FOLLOWING MANUFACTURES SPECIFICATIONS.
B. TURF REINFORCEMENT MAT (TRM) ON ALL OTHER NATIVE VEGETATION AREAS. ALL NATIVE VEGETATION AREAS SHALL UTILIZE TRM (EXCEPT BOTTOM OF BASIN). INSTALL NORTH AMERICAN GREEN SC150 (OR APPROVED EQUAL) PRIOR TO INSTALLING PLUGS.
10. ALL MATERIALS USED SHALL MEET OR EXCEED APPLICABLE FEDERAL, STATE, COUNTY AND LOCAL LAWS AND REGULATIONS.
11. TREES AND SHRUBS SPECIFIED WITHIN THE NATIVE VEGETATION AREAS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
12. ALL PLUGS SHALL BE QUALITY PLANT MATERIAL WHICH SHALL MEET ALL INDUSTRY STANDARDS. PLUGS SHALL BE INSTALLED IMMEDIATELY UPON DELIVERY TO THE SITE.

GENERAL NOTES

1. REFER TO ADDITIONAL INFORMATION WITHIN SPECIFICATION SECTIONS 329210, 329220 AND 329300.

BMP ESTABLISHMENT & MAINTENANCE PLAN

- BIORETENTION & NATIVE VEGETATION MAINTENANCE PLAN**
SHORT - TERM: YEAR 1
- INSPECT THE BIORETENTION POND BOTTOMS WEEKLY FOR THE FIRST THREE MONTHS TO VERIFY PLANTS ARE ALIVE AND GROWING. HAVE PLANTS THAT APPEAR DEAD OR THAT ARE NOT GROWING NORMALLY ASSESSED BY A PERSON QUALIFIED TO DETERMINE THE CAUSES AND PROVIDE REMEDIES. IMPLEMENT REMEDIES IN THE APPROPRIATE SEASON.
 - VERIFY THE PLANTINGS ARE RECEIVING ADEQUATE MOISTURE. FOR THE FIRST THREE MONTHS, THE BIORETENTION PLANTINGS AND ALL OTHER NATIVE VEGETATION AREAS SHOULD RECEIVE AT LEAST 1-INCH OF WATER WEEKLY FROM RAINFALL AND/OR SUPPLEMENTAL WATERING. PROVIDE ADDITIONAL WATERING IF REQUIRED. NO ADDITIONAL WATERING IS NECESSARY IF THE SOIL IS WET AT THE SURFACE.
 - INSPECT BIORETENTION PLANTINGS AND ALL OTHER NATIVE VEGETATION AREAS FOR GROWTH OF SPECIES NOT IN THE PLAN (INVASIVE SPECIES). ELIMINATE INVASIVE PLANTS AT THE SOONEST POSSIBLE TIME. HAND WEED AND PRUNE INVASIVE PLANTS, WHENEVER POSSIBLE. ASSURE THAT THE BIORETENTION BASIN DRAINS COMPLETELY WITHIN A 48-HOUR PERIOD, OR AS PER DESIGN SPECIFICATIONS. IF THE BASIN DOES NOT DRAIN AS DESIGNED, IDENTIFY WHY PLANNED DRAINAGE IS NOT OCCURRING. CORRECT THE IDENTIFIED PROBLEMS SO THAT THE BASIN WILL DRAIN IN LESS THAN 48-HOURS OR PER DESIGN SPECIFICATIONS.
 - CUT GRASSES NO SHORTER THAN 6 INCHES IN LATE SPRING PRIOR TO THE MATURATION OF WEED SEED.
 - INSPECT AND MAINTAIN INLET AND OUTLET STRUCTURES TO ASSURE FUNCTION. REMOVE ANY OBSTRUCTIONS.
 - COMPLETE THE FIRST ANNUAL INSPECTION OF THE BIORETENTION AREAS AND ALL OTHER NATIVE VEGETATION AREAS CONDITION DURING THE FALL TO ASSESS VEGETATION ESTABLISHMENT. REPLACE DEAD PLANTS IF NECESSARY.
 - RE-DISTRIBUTE MULCH IF IT BECOMES MISPLACED FROM FLOATING OR STORMWATER INFLOW. REMOVE TRASH, AND INSPECT FOR VEGETATION THAT MAY BE STRESSED FROM EXTENDED PONDING OF WATER.
- MID- AND LONG-TERM: YEAR 2**
DURING THE SECOND YEAR, MORE OF THE PLANNED PLANT SPECIES WILL BE MORE NOTICEABLE AND VIGOROUS IN THEIR GROWTH.
- CUT THE PLANTINGS WITHIN THE BIORETENTION BASIN AND ALL OTHER NATIVE VEGETATION AREAS IN THE EARLY SPRING TO REMOVE DEAD VEGETATION. DO NOT CUT VEGETATION LOWER THAN 8 INCHES ABOVE THE GROUND. NEVER CUT THE NATIVES AFTER AUGUST 1ST.
 - INSPECT THE BIORETENTION AREAS AND ALL OTHER NATIVE VEGETATION AREAS FOR PROPER DRAINAGE. IF PONDING IS EVIDENT BY STANDING WATER OR OTHER OBSERVED CONDITIONS, IDENTIFY AND CORRECT THE PROBLEM.
 - INSPECT BIORETENTION PLANTINGS AND ALL OTHER NATIVE VEGETATION AREAS FOR GROWTH OF INVASIVE SPECIES AT LEAST TWICE PER YEAR. ELIMINATE INVASIVE PLANTS AT THE SOONEST POSSIBLE TIME.
 - RE-DISTRIBUTE MULCH IF IT BECOMES MISPLACED FROM FLOATING OR STORMWATER INFLOW. REMOVE TRASH.
- LONG-TERM: YEAR 3 AND BEYOND**
DURING THE THIRD AND SUCCEEDING YEARS, MORE OF THE PLANNED PLANT SPECIES WILL BE MORE NOTICEABLE AND VIGOROUS IN THEIR GROWTH.
- AFTER YEAR 3, NATIVE VEGETATION SHOULD BE SELF-SUSTAINING.
 - CUT THE PLANTINGS WITHIN THE BIORETENTION BASIN AND ALL OTHER NATIVE VEGETATION AREAS IN THE EARLY SPRING TO REMOVE DEAD VEGETATION. DO NOT CUT VEGETATION LOWER THAN 8 INCHES ABOVE THE GROUND. NEVER CUT THE NATIVES AFTER AUGUST 1ST.
 - INSPECT THE BIORETENTION AREAS AND ALL OTHER NATIVE VEGETATION AREAS FOR PROPER DRAINAGE. IF PONDING IS EVIDENT BY STANDING WATER OR OTHER OBSERVED CONDITIONS, IDENTIFY AND CORRECT THE PROBLEM.
 - INSPECT BIORETENTION PLANTINGS AND ALL OTHER NATIVE VEGETATION AREAS FOR GROWTH OF INVASIVE SPECIES AT LEAST TWICE PER YEAR. ELIMINATE INVASIVE PLANTS AT THE SOONEST POSSIBLE TIME.
 - RE-DISTRIBUTE MULCH IF IT BECOMES MISPLACED FROM FLOATING OR STORMWATER INFLOW. REMOVE TRASH.

SODDING NOTES

- ALL DISTURBED AREAS SHALL BE SODDED WITH TURF-TYPE TALL FESCUE SOD WITH A MINIMUM OF 3 CULTIVARS.
- ALL LAWN AREAS SHALL RECEIVE A MINIMUM 6-INCH DEPTH OF TOPSOIL COMPACTED TO 85% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.
- THE ENTIRE SURFACE TO BE SODDED SHALL BE REASONABLY SMOOTH AND FREE FROM STONES, ROOTS, OR OTHER DEBRIS.
- SOD SHALL BE MACHINE STRIPPED AT A UNIFORM SOIL THICKNESS OF APPROXIMATELY ONE INCH (PLUS OR MINUS 1/4-INCH). THE MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH, AND SHALL BE DETERMINED AT THE TIME OF CUTTING IN THE FIELD. PRECAUTIONS SHALL BE TAKEN TO PREVENT DRYING AND HEATING. SOD DAMAGED BY HEAT AND DRY CONDITIONS, AND SOD CUT MORE THAN 18 HOURS BEFORE BEING INCORPORATED INTO THE WORK SHALL NOT BE USED.
- HANDLING OF SOD SHALL BE DONE IN A MANNER THAT WILL PREVENT TEARING, BREAKING, DRYING AND OTHER DAMAGE. PROTECT EXPOSED ROOTS FROM DEHYDRATION. DO NOT DELIVER MORE SOD THAN CAN BE LAID WITHIN 24 HOURS.
- MOISTEN PREPARED SURFACE IMMEDIATELY PRIOR TO LAYING SOD. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE INSTALLING SOD. FERTILIZE, HARROW OR RAKE FERTILIZER IN THE TOP 1-1/2-INCHES OF TOPSOIL, AT A UNIFORM RATE OF ONE POUND OF NITROGEN PER 1000 S.F.
- SOD SHALL BE CAREFULLY PLACED IN THE DIRECTION PARALLEL WITH THE SLOPE OF THE AREA TO BE SODDED. SOD STRIPS SHALL BE BUTTED TOGETHER BUT NOT OVERLAPPED WITH THE SEAMS STAGGERED ON EACH ROW.
- FERTILIZER SHALL BE 20-10-5 COMMERCIAL FERTILIZER OF THE GRADE, TYPE, AND FORM SPECIFIED AND SHALL COMPLY WITH THE RULES OF THE STATE OF MISSOURI DEPT. OF AGRICULTURE. FERTILIZER SHALL BE IDENTIFIED ACCORDING TO THE PERCENT N, P, K, IN THAT ORDER.
- ALL SOD ON SLOPES GREATER THAN 5:1 AND WITHIN DETENTION AREAS SHALL BE STAKED.
- SATURATE SOD WITH FINE WATER SPRAY WITHIN TWO HOURS OF PLANTING. DURING FIRST WEEK AFTER PLANTING, WATER DAILY OR MORE FREQUENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A MINIMUM DEPTH OF FOUR INCHES BELOW SOD.
- CONTRACTOR SHALL PROVIDE FULL MAINTENANCE FOR SODDED TURF GRASS FOR A PERIOD OF 30 DAYS AFTER THE DATE OF FINAL ACCEPTANCE. AT THE END OF THE MAINTENANCE PERIOD, A HEALTHY, WELL-ROOTED, EVEN-COLORED, VIABLE TURF MUST BE ESTABLISHED. THE TURF GRASS SHALL BE FREE OF WEEDS, OPEN JOINTS, BARE AREAS, AND SURFACE IRREGULARITIES.

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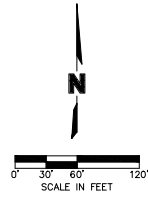
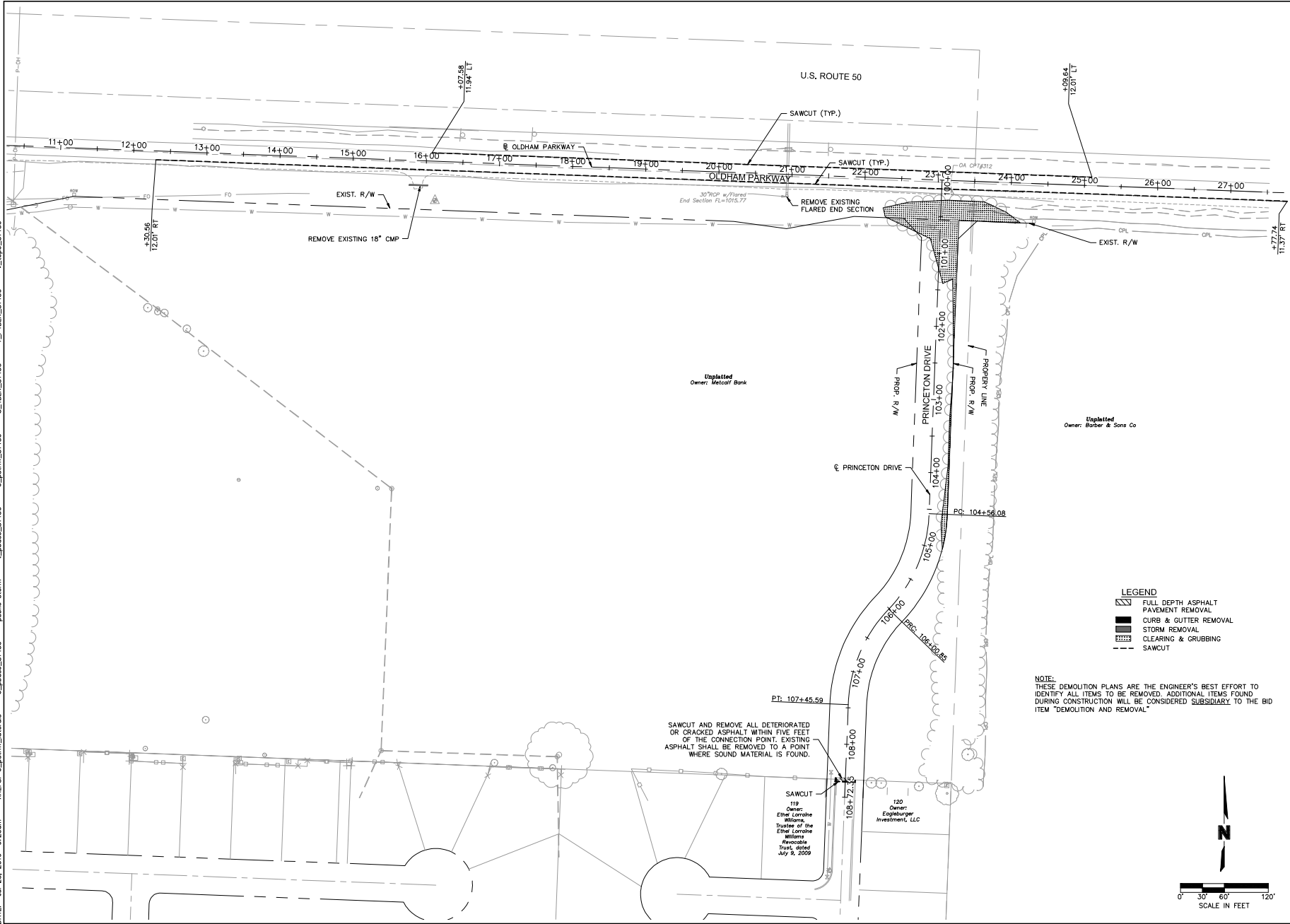
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STATE OF MISSOURI
Professional Engineer
NAME: FLEWING
NUMBER: PE-200303161
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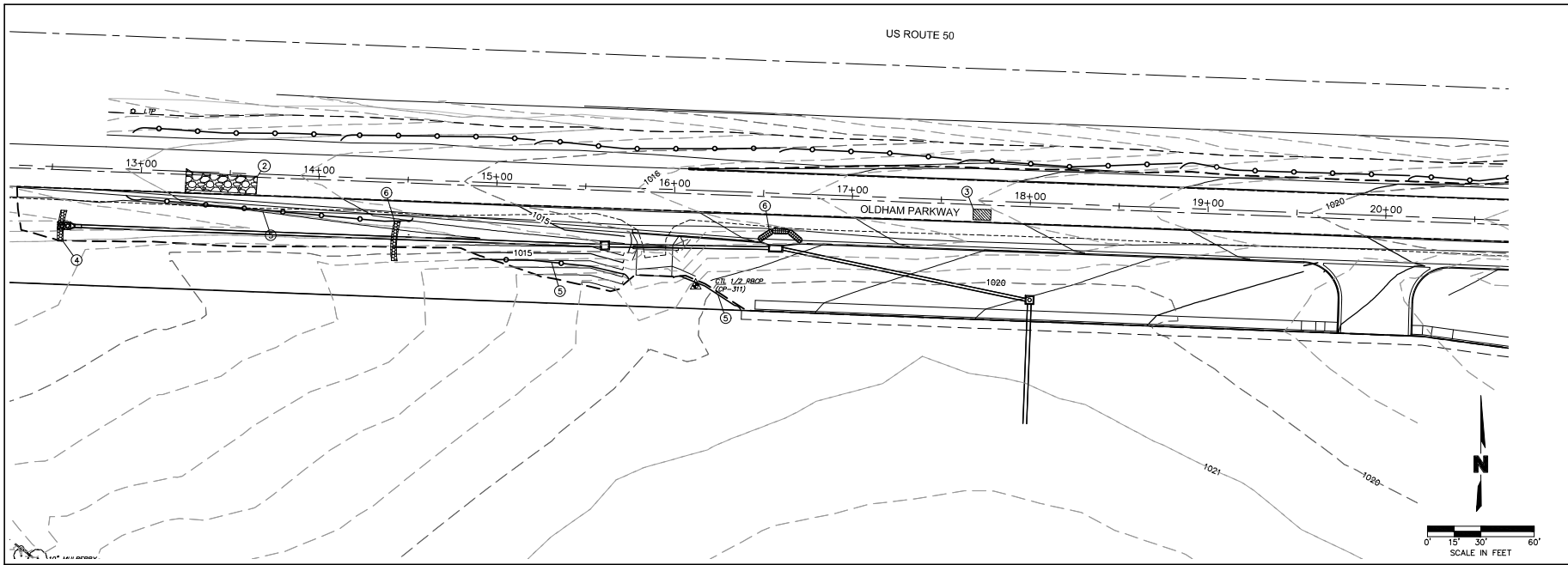
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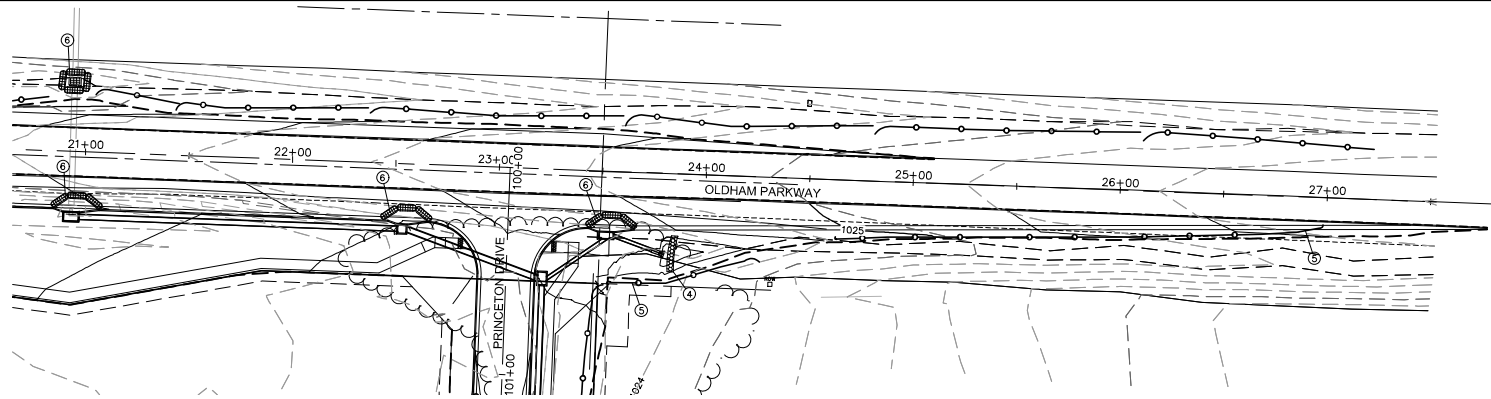
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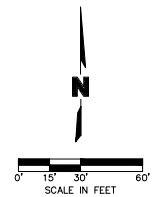
- NOTES:
1. CONTRACTOR SHALL ADJUST SWPPP AND EROSION CONTROL PLANS PER PHASING AND FIELD CONDITIONS.
 2. CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT CONFORMING TO THE LATEST EDITION OF THE CITY'S BMP MANUAL FOR LAND DISTURBANCE ACTIVITY. CONCRETE WASHOUT IS SUBSIDIARY TO OTHER EROSION CONTROL BID ITEMS. NO DIRECT PAY.
 3. CONTRACTOR SHALL COORDINATE WITH THE CITY'S INSPECTOR TO DETERMINE THE LOCATION OF THE CONCRETE WASHOUT.
 4. REFER TO PHASED EROSION CONTROL STAGING CHART.



| EROSION AND SEDIMENT CONTROL STAGING CHART | | | | |
|--|--|----------------------------------|--------------------|--|
| PROJECT STAGE | EROSION CONTROL PLAN BMP REFERENCE NO. | BMP DESCRIPTION | REMOVE AFTER STAGE | NOTES: |
| A - PRIOR TO LAND DISTURBANCE | 1 | STAGING AREA | C | INSTALL BEFORE STORM SEWER INSTALLATION |
| | 2 | TEMPORARY CONSTRUCTION ENTRANCE | C | |
| | 3 | CONCRETE WASHOUT | C | |
| | 4 | TYPE II DITCH CHECK | C | |
| | 5 | SILT FENCE AND/OR STRAW WATLES | D | |
| B - ROADWAY GRADING & STORM SEWER INSTALLATION | N/A | EROSION AND SEDIMENT CONTROL | N/A | PERFORM MAINTENANCE ON ALL EROSION CONTROL MEASURES FOR ALL PREVIOUS PHASES AS NECESSARY. PROTECT ALL OPEN BOXES WITH SILT FENCE PER CURB INLET DETAIL |
| | 6 | CURB INLET/AREA INLET PROTECTION | C | |
| C - PAVING | | | | |
| D - STABILIZE SITE | 7 | SEED & SOD | N/A | |

LEGEND

- SILT FENCE
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- TURF REINFORCEMENT MAT
- OUTLET STABILIZATION
- INLET PROTECTION
- TYPE II DITCH CHECKS



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REV. NO.: _____

EROSION CONTROL PLANS

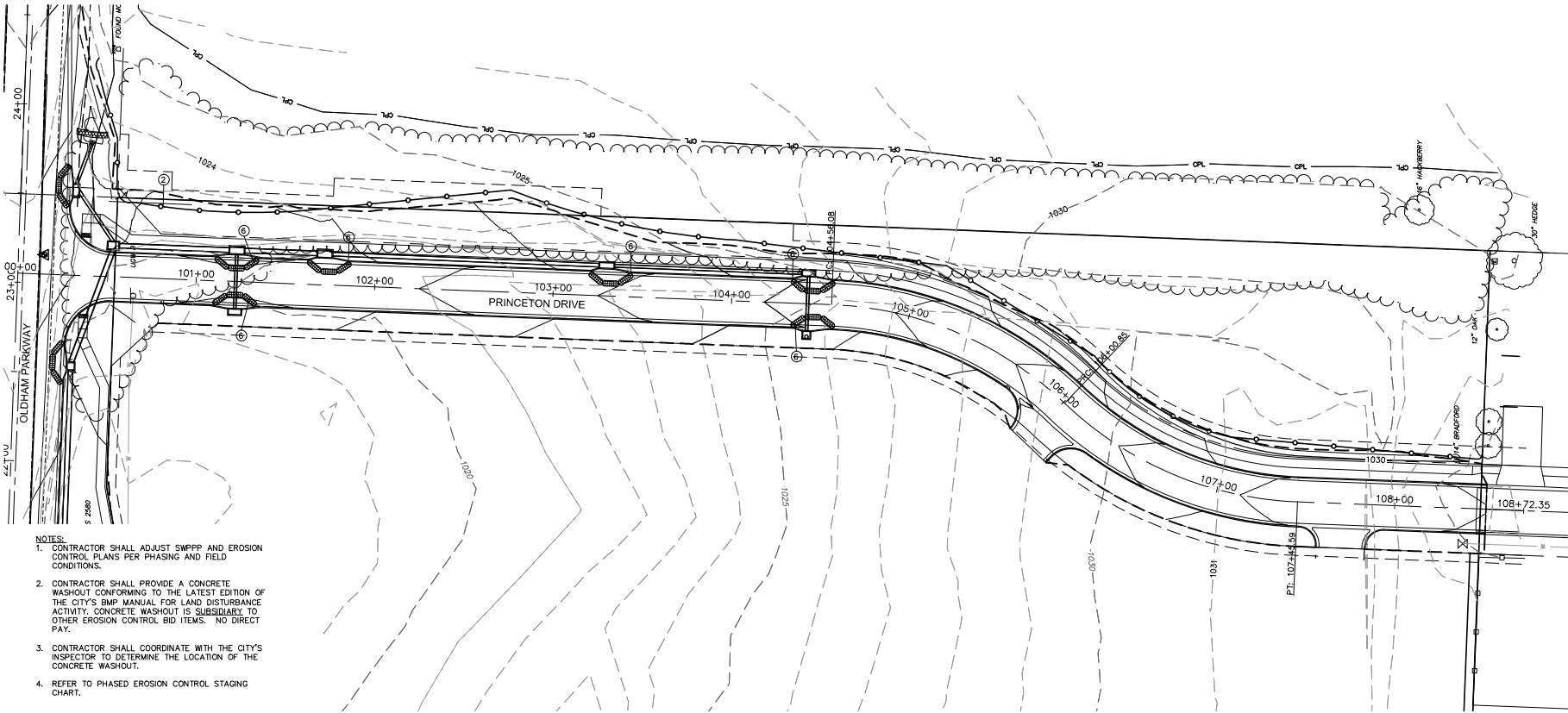
OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

2019

SHEET
T23 OF 70

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JLB
APPROVED BY: JLB
DATE: 07/18/19
PROJECT NO.: 018-1450
DWG NO.: T-ERCT_81450

DWG: F:\2018\1001-1500\018-1450-Design\AutoCAD\Drawings\018-1450-Design\EROSION CONTROL PLANS\T_P18_K_81450.dwg
DATE: Jul 25, 2019 9:27am
USER: abaswedra

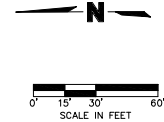
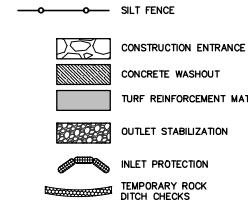


- NOTES:
1. CONTRACTOR SHALL ADJUST SWPPP AND EROSION CONTROL PLANS PER PHASING AND FIELD CONDITIONS.
 2. CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT CONFORMING TO THE LATEST EDITION OF THE CITY'S BMP MANUAL FOR LAND DISTURBANCE ACTIVITY. CONCRETE WASHOUT IS SUBSIDIARY TO OTHER EROSION CONTROL BID ITEMS. NO DIRECT PAY.
 3. CONTRACTOR SHALL COORDINATE WITH THE CITY'S INSPECTOR TO DETERMINE THE LOCATION OF THE CONCRETE WASHOUT.
 4. REFER TO PHASED EROSION CONTROL STAGING CHART.

EROSION AND SEDIMENT CONTROL STAGING CHART

| PROJECT STAGE | EROSION CONTROL PLAN BMP REFERENCE NO. | BMP DESCRIPTION | REMOVE AFTER STAGE | NOTES: |
|--|--|---|--------------------|--|
| A - PRIOR TO LAND DISTURBANCE | 1 | STAGING AREA | C | INSTALL BEFORE STORM SEWER INSTALLATION |
| | 2 | TEMPORARY CONSTRUCTION ENTRANCE | C | |
| | 3 | CONCRETE WASHOUT | C | |
| | 4 | TYPE II DITCH CHECK | D | |
| | 5 | SILT FENCE AND/OR STRAW WATLES | D | |
| B - ROADWAY GRADING & STORM SEWER INSTALLATION | N/A | EROSION AND SEDIMENT CONTROL CURB INLET/AREA INLET PROTECTION | N/A | PERFORM MAINTENANCE ON ALL EROSION CONTROL MEASURES FOR ALL PREVIOUS PHASES, AS NECESSARY. PROTECT ALL OPEN BOXES WITH SILT FENCE. PER CURB INLET DETAIL |
| C - PAVING | 6 | | | |
| D - STABILIZE SITE | 7 | SEED & SOD | N/A | |

LEGEND

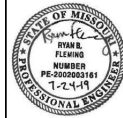


EROSION CONTROL PLANS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

C.O.A. NO. 001902
DRAWN BY: AS
CHECKED BY: JLB
APPROVED BY: JLB
QA/QC BY: JLB
PROJECT NO. 018-1450
DWG NO. T-EROC-81450
DATE: 07.19.19

SHEET
T24 OF 70

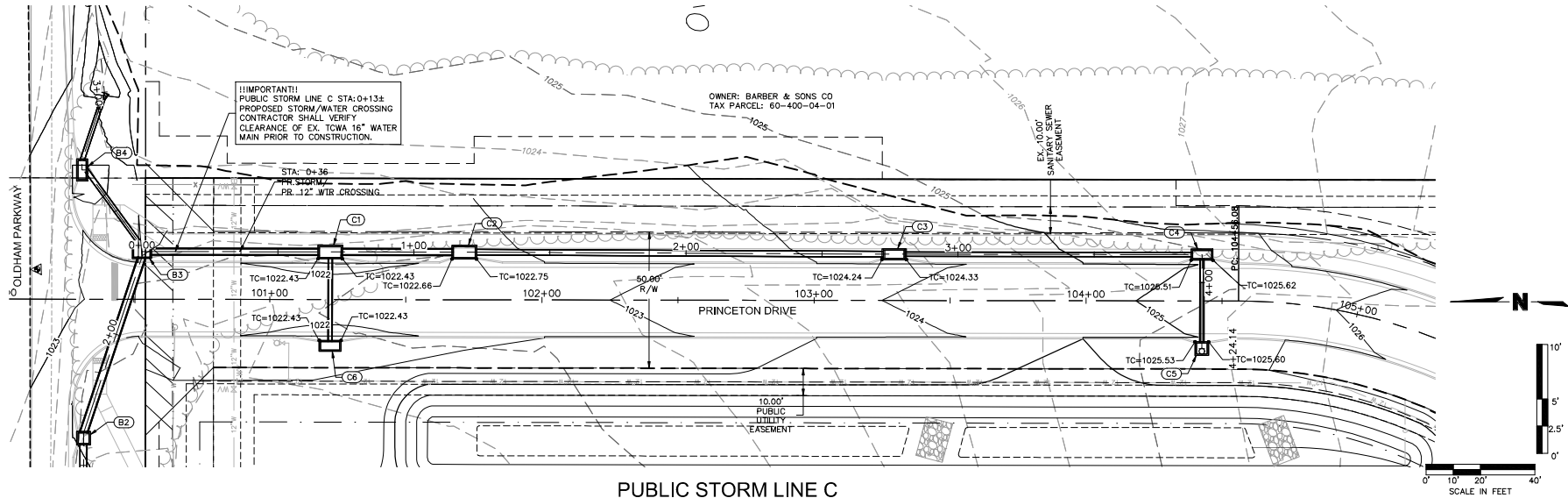


| REV. NO. | DATE | REVISION DESCRIPTION |
|----------|------|----------------------|
| | | |
| | | |
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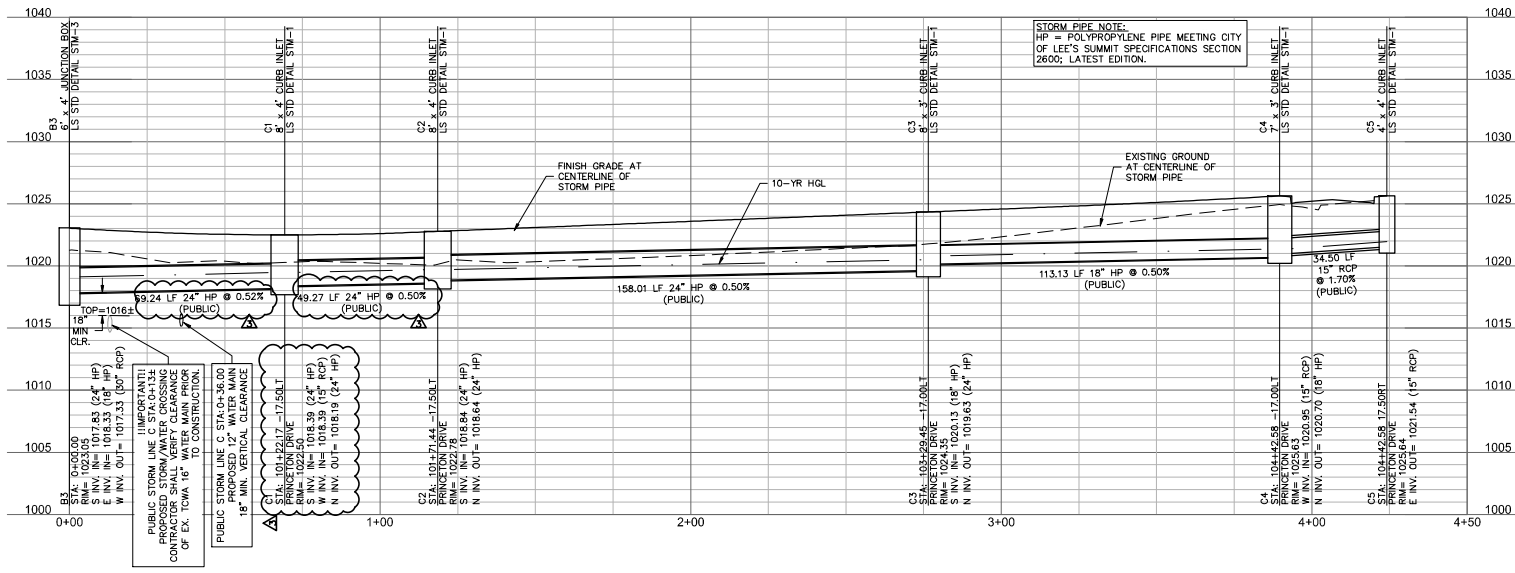
| BY | REVISIONS |
|----|-----------|
| | |
| | |
| | |

olsson
Olsson Engineering, Inc. State of Missouri License No. 0001092
7300 West University Blvd., Suite 200
Overland Park, KS 66213-1750
TEL: 913.381.1170
FAX: 913.381.1174
www.olson.com

DWG: F:\2018\1001-1500\1018-1450\40-Design\AutoCAD\Final Plans\Sheets\ONCY\PUBLIC STORM LINE C ST102_PROF_81450.DWG USER: rjappson
DATE: Jul 24, 2019 3:24pm XREFS: V_XBUD_81450 V_TPOD_81450 V_PRAISE_81450 C_TBK_22534_81450

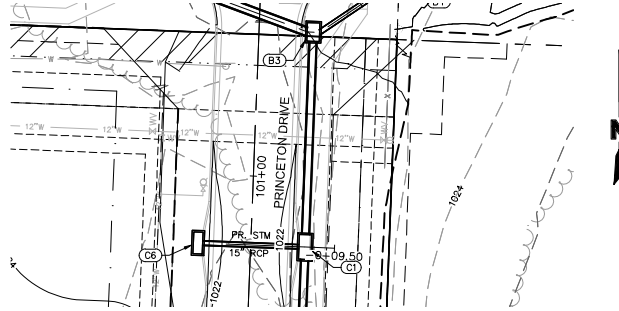


PUBLIC STORM LINE C

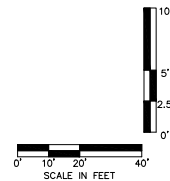
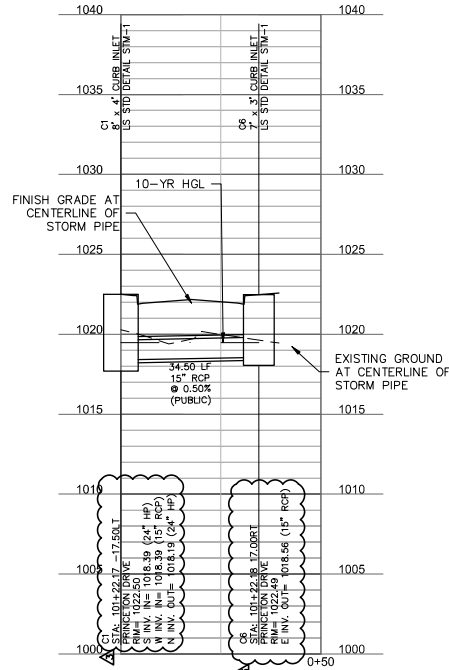


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| olsson Olsson Engineering MO State Certificate of Authority #201562 3500 S. L. Louisa Avenue Springfield, MO 65808 TEL: 417.890.1802 www.olsson.com | |
| | |
| REVISIONS | |
| REV. NO. | DATE |
| 1 | 7/25/2019 |
| SE PRINCETON DRIVE PUBLIC STORM LINE C PLAN & PROFILE THE PRINCETON SENIOR LIVING SE OLDHAM PARKWAY LEE'S SUMMIT, MISSOURI | |
| 2019 | |
| drawn by: RJP designed by: RJP checked by: JJC project no.: 018-1450 drawing no.: ST102_PROF_81450 date: 07-18-19 | |
| SHEET ST1.2 | |



PUBLIC STORM LINE C6



STORM PIPE NOTE:
HP = POLYPROPYLENE PIPE MEETING CITY
OF LEE'S SUMMIT SPECIFICATIONS SECTION
2600; LATEST EDITION.

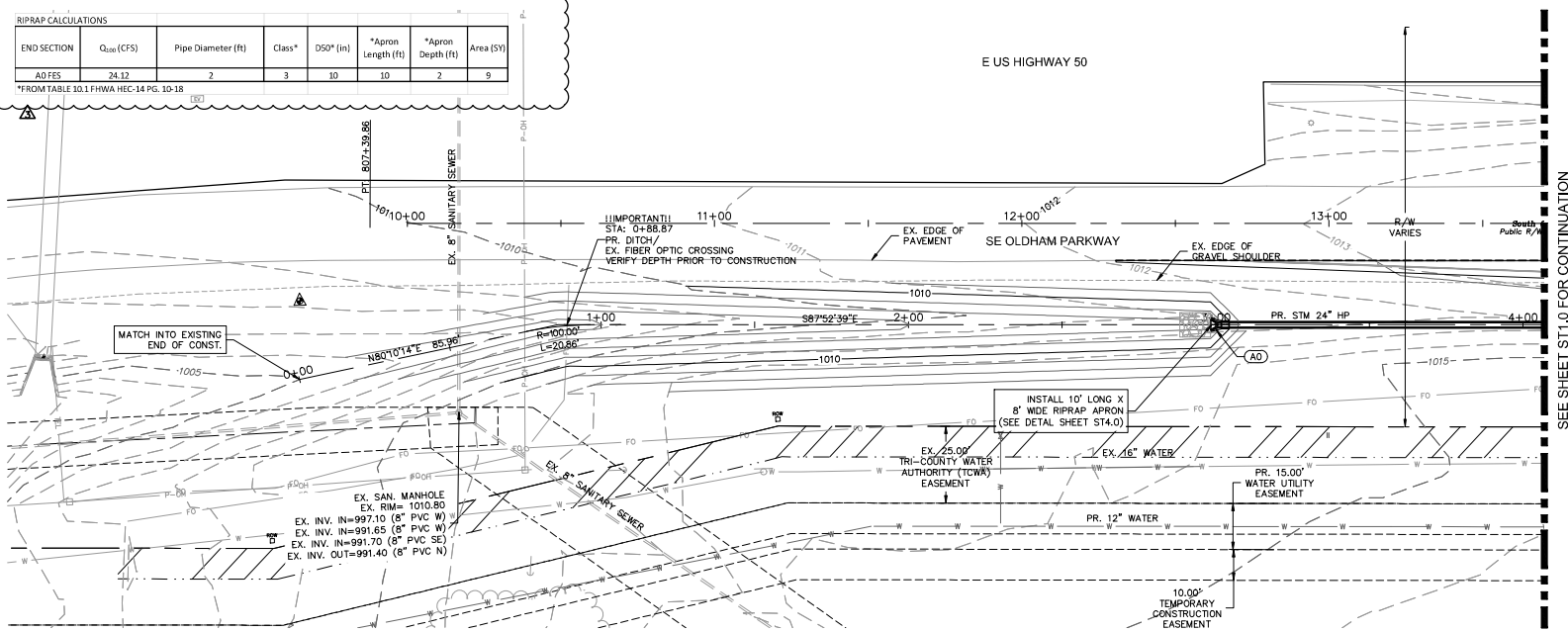
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|--|------------|
|  Olsson Engineering MO State Certificate of Authority #201982 1500 S. Locust Street Springfield, MO 65808 TEL: 417.890.1802 www.olsson.com | |
|  | |
| REVISIONS | |
| REV. NO. | DATE |
| A | 07/19/2019 |
| REVISIONS DESCRIPTION | |
| BDR: REVIEW COMMENTS | |
| SE PRINCETON DRIVE PUBLIC STORM LINE C6 | |
| THE PRINCETON SENIOR LIVING SE OLDHAM PARKWAY | |
| LEE'S SUMMIT, MISSOURI | |
| 2019 | |
| SHEET ST1.3 | |

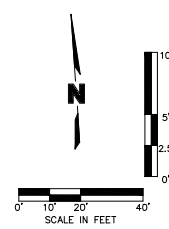
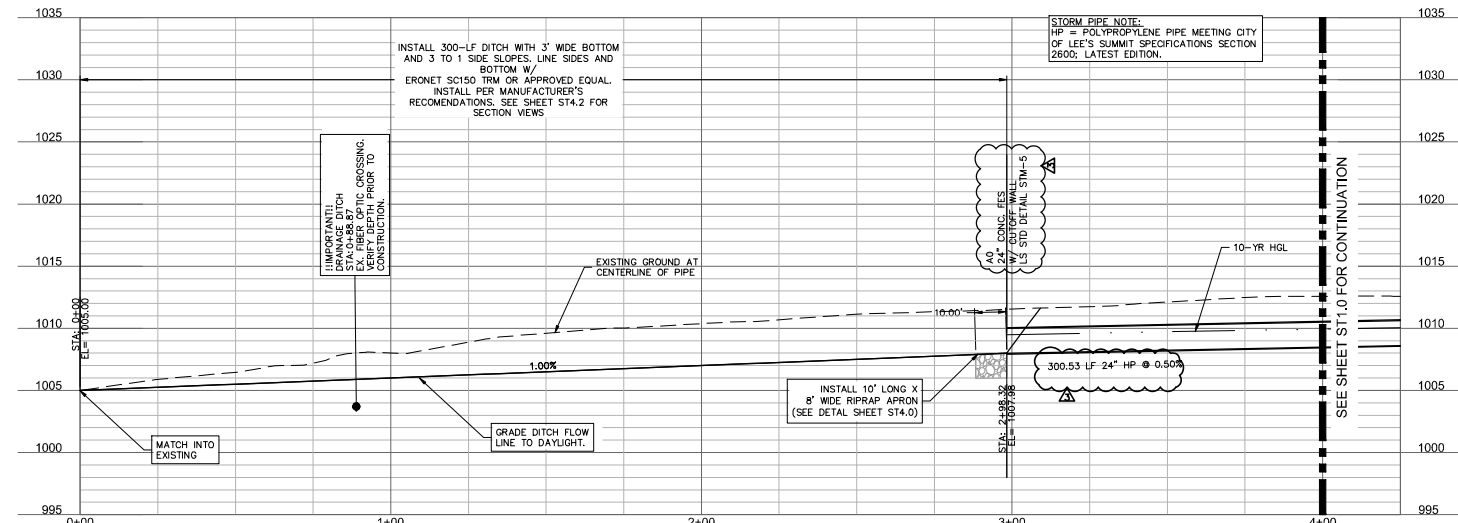
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DATE: Jul 24, 2019 2:57pm
USER: J. J. J. J.
C:\TBLK_22534_81450

| RIPRAP CALCULATIONS | | | | | | | |
|---------------------|------------------------|--------------------|--------|-----------|--------------------|-------------------|-----------|
| END SECTION | Q _{max} (CFS) | Pipe Diameter (ft) | Class* | D50* (in) | *Apron Length (ft) | *Apron Depth (ft) | Area (SV) |
| AD FES | 24.12 | 2 | 3 | 10 | 10 | 2 | 9 |

*FROM TABLE 10.1 FHWA HEC-14 PG. 10-18



DRAINAGE DITCH AND PUBLIC STORM LINE A



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RYAN V. JEFFSON
PROFESSIONAL ENGINEER
MO# PE-2012024241

| REV. | DATE | DESCRIPTION |
|------|------------|---------------------|
| A | 07/19/2019 | ENR REVIEW COMMENTS |

REVISIONS

| REV. | DATE | DESCRIPTION |
|------|------|--|
| 1 | 2019 | SE OLDHAM PARKWAY DRAINAGE DITCH PLAN & PROFILE THE PRINCETON SENIOR LIVING SE OLDHAM PARKWAY LEE'S SUMMIT, MISSOURI |

Grading, Stabilization and Dewatering Activities Log

[illegible]

Grading, Stabilization and Dewatering Activities Log

[illegible]

Grading, Stabilization and Dewatering Activities Log

[illegible]

Grading, Stabilization and Dewatering Activities Log

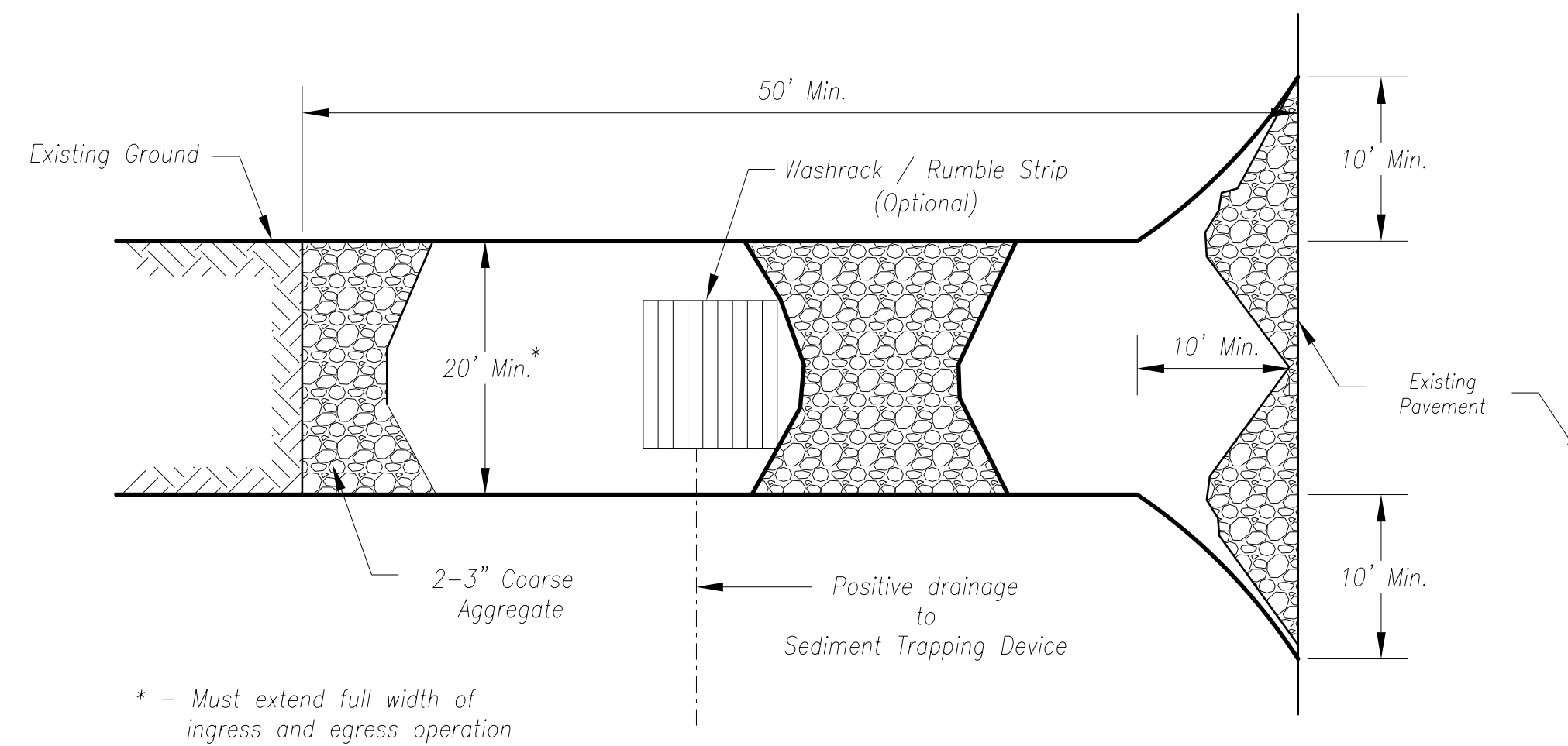
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Grading, Stabilization and Dewatering Activities Log

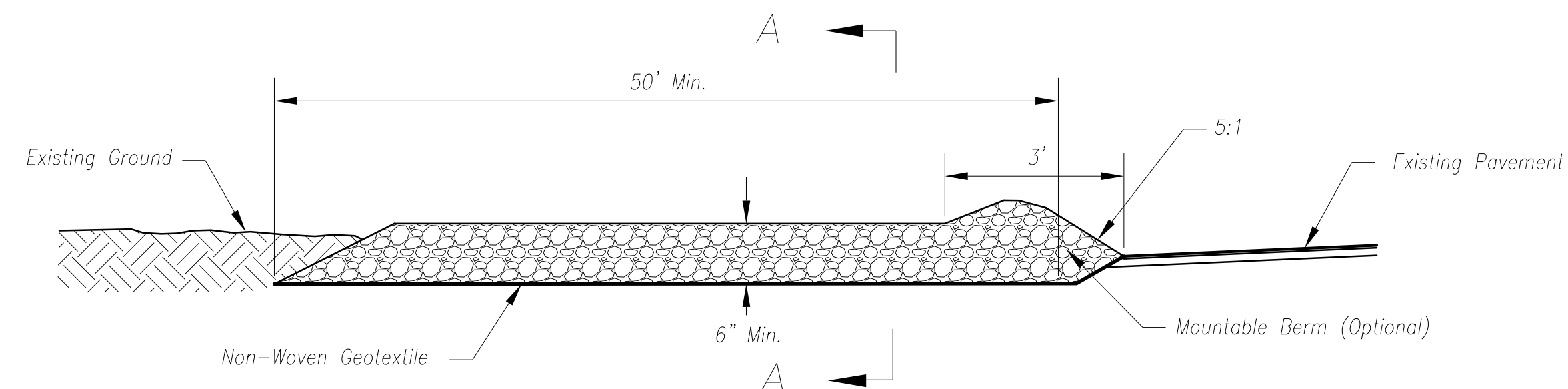
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SECTION 6

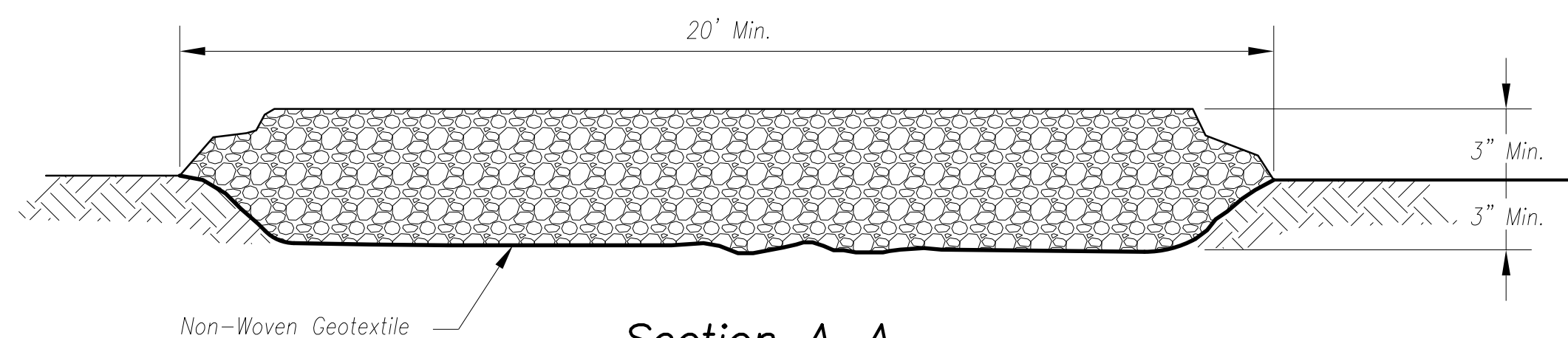
BMP Specification & Detail Sheets



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.

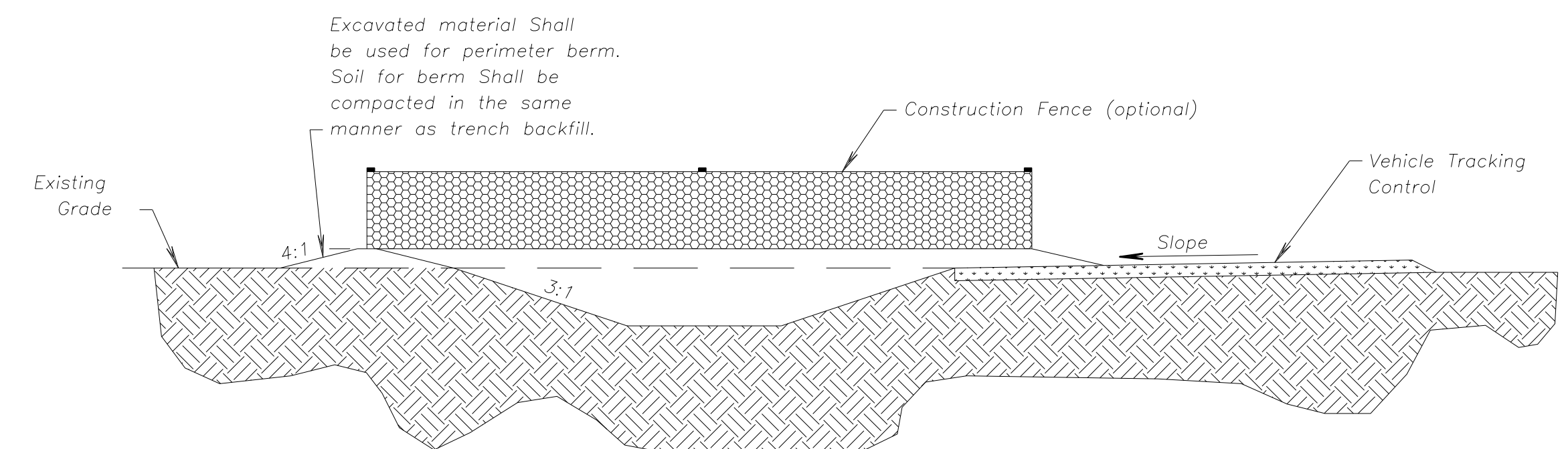
CONSTRUCTION ENTRANCE

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

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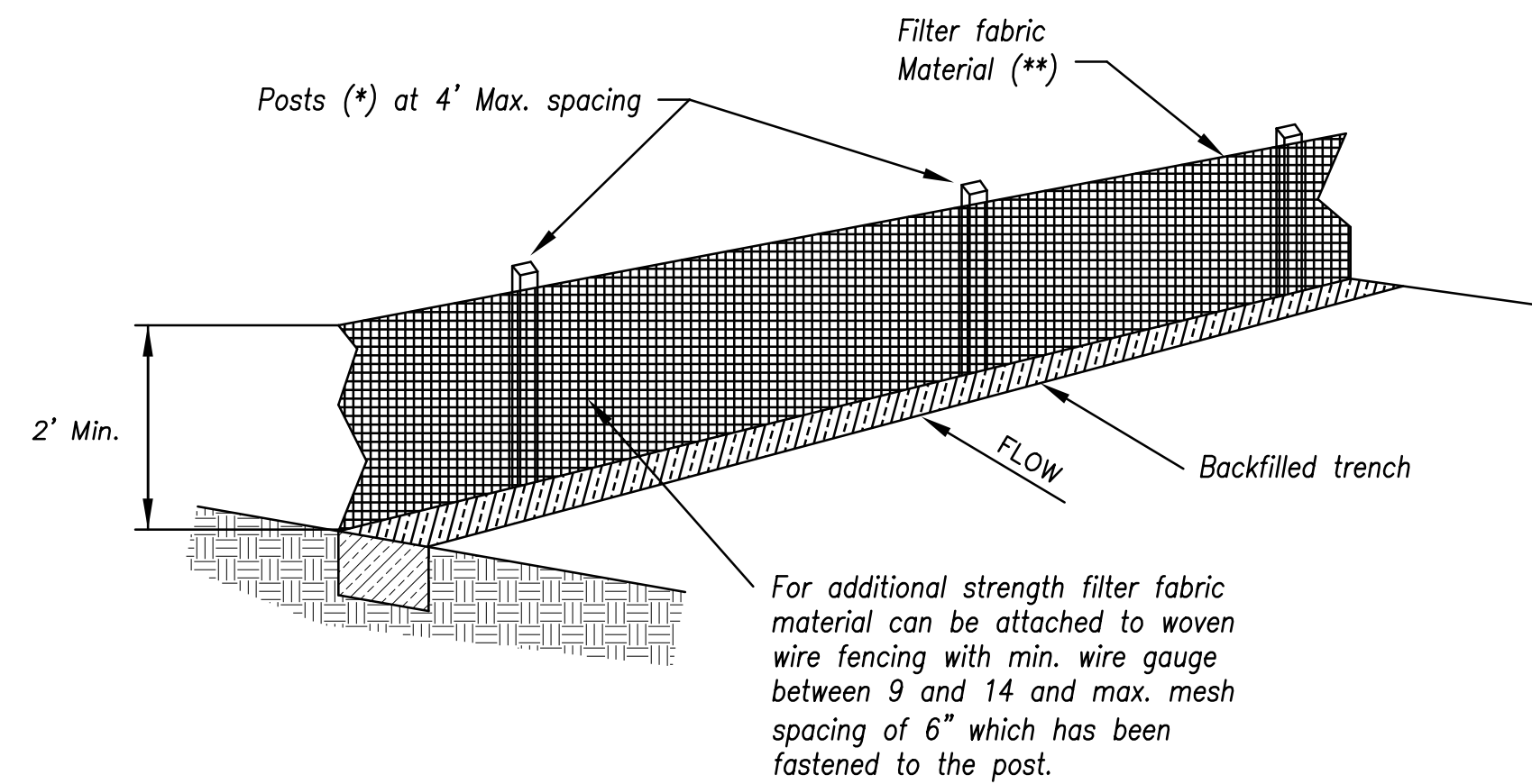


KANSAS CITY
METRO CHAPTER

CONSTRUCTION ENTRANCE
AND CONCRETE WASHOUT

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

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

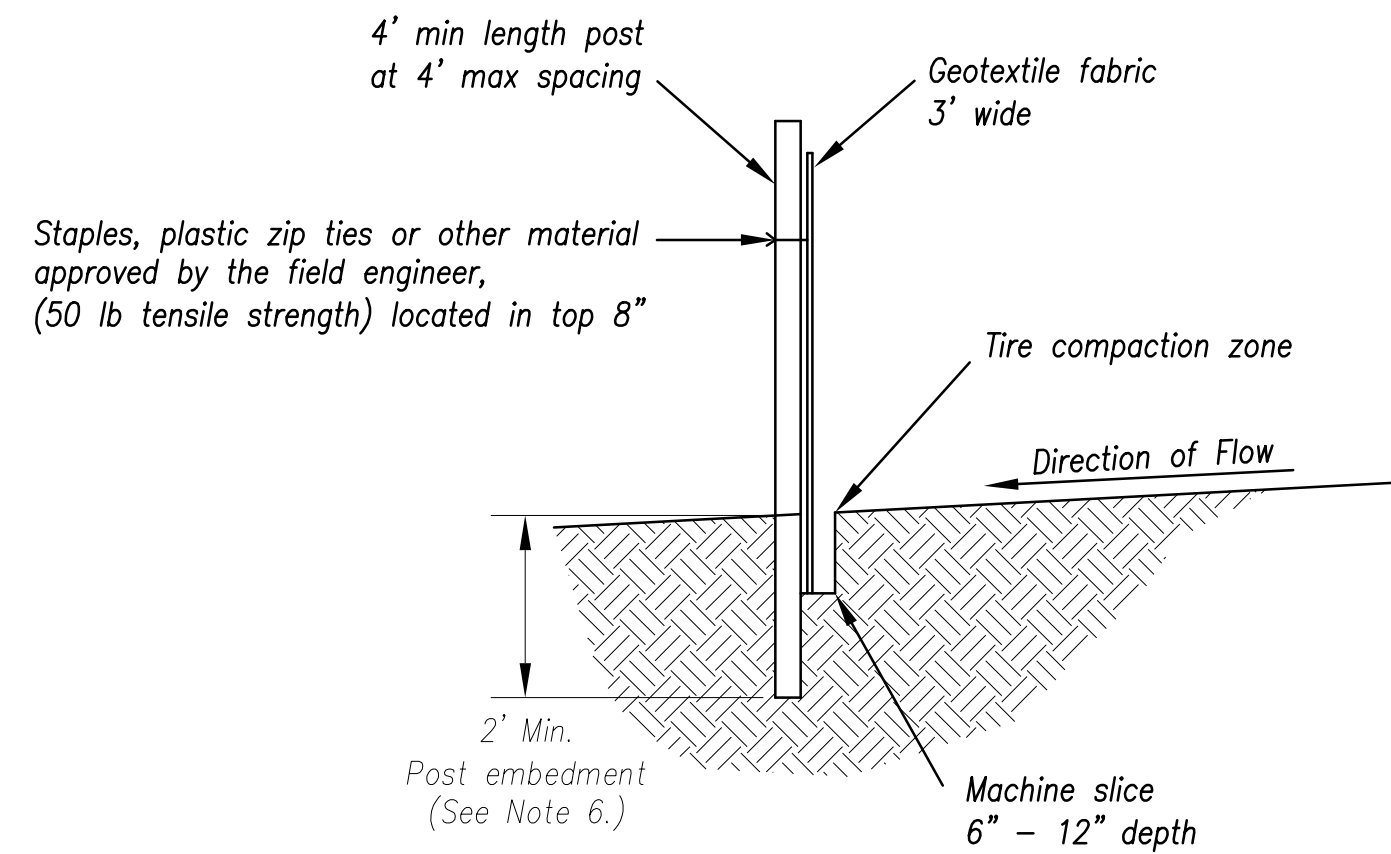


- (*) **POSTS**
- MIN. LENGTH 4'
 - HARDWOOD 1 $\frac{3}{16}$ " x 1 $\frac{3}{16}$ "
 - NO.2 SOUTHERN PINE 2 $\frac{5}{8}$ " x 2 $\frac{5}{8}$ "
 - STEEL 1.33 LB/FT

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

SILT FENCE DETAILS

Not to Scale



Notes:

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

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches $\frac{1}{3}$ the height of silt fence.
2. Repair as necessary to maintain function and structure.

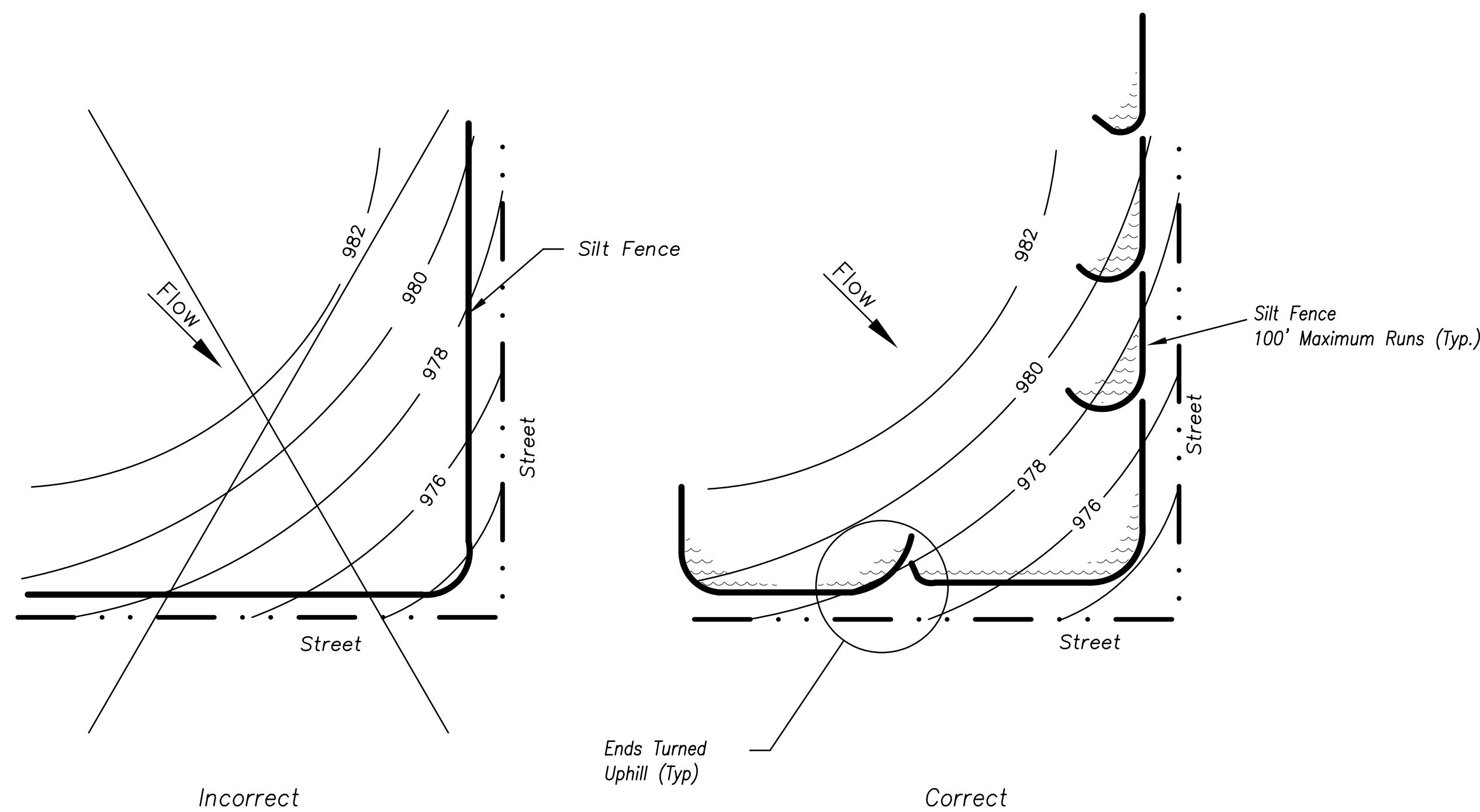
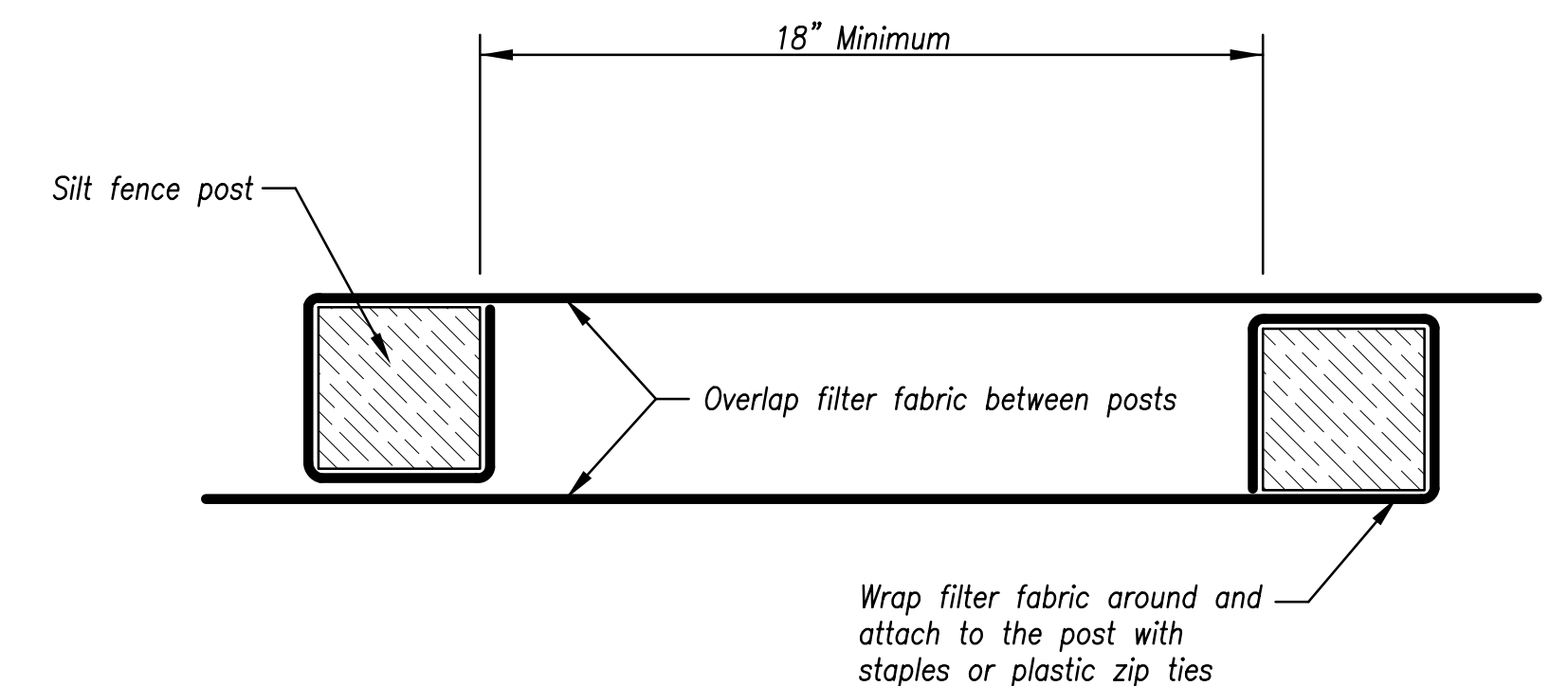
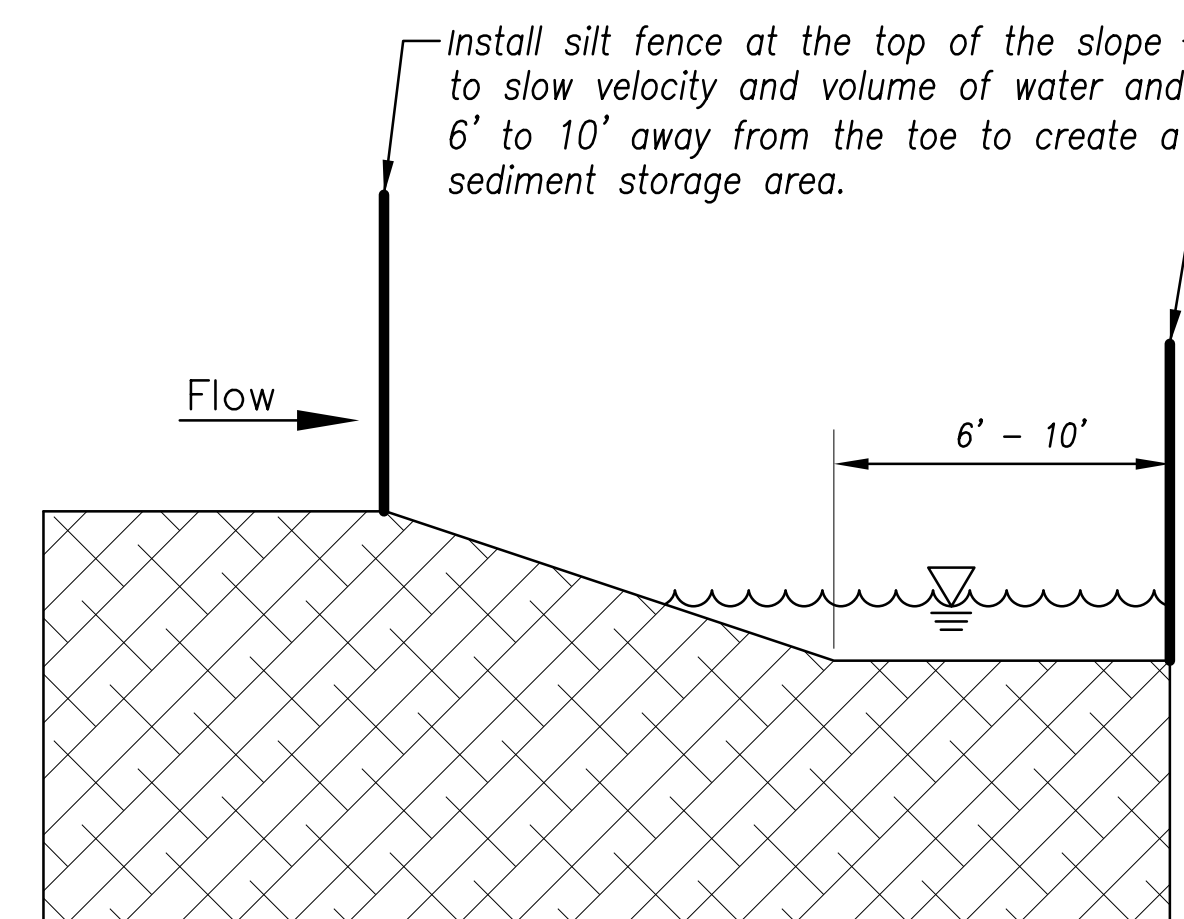


Figure A

SILT FENCE LAYOUT

Not to Scale



JOINING FENCE SECTIONS

Not to Scale

AMERICAN PUBLIC WORKS ASSOCIATION

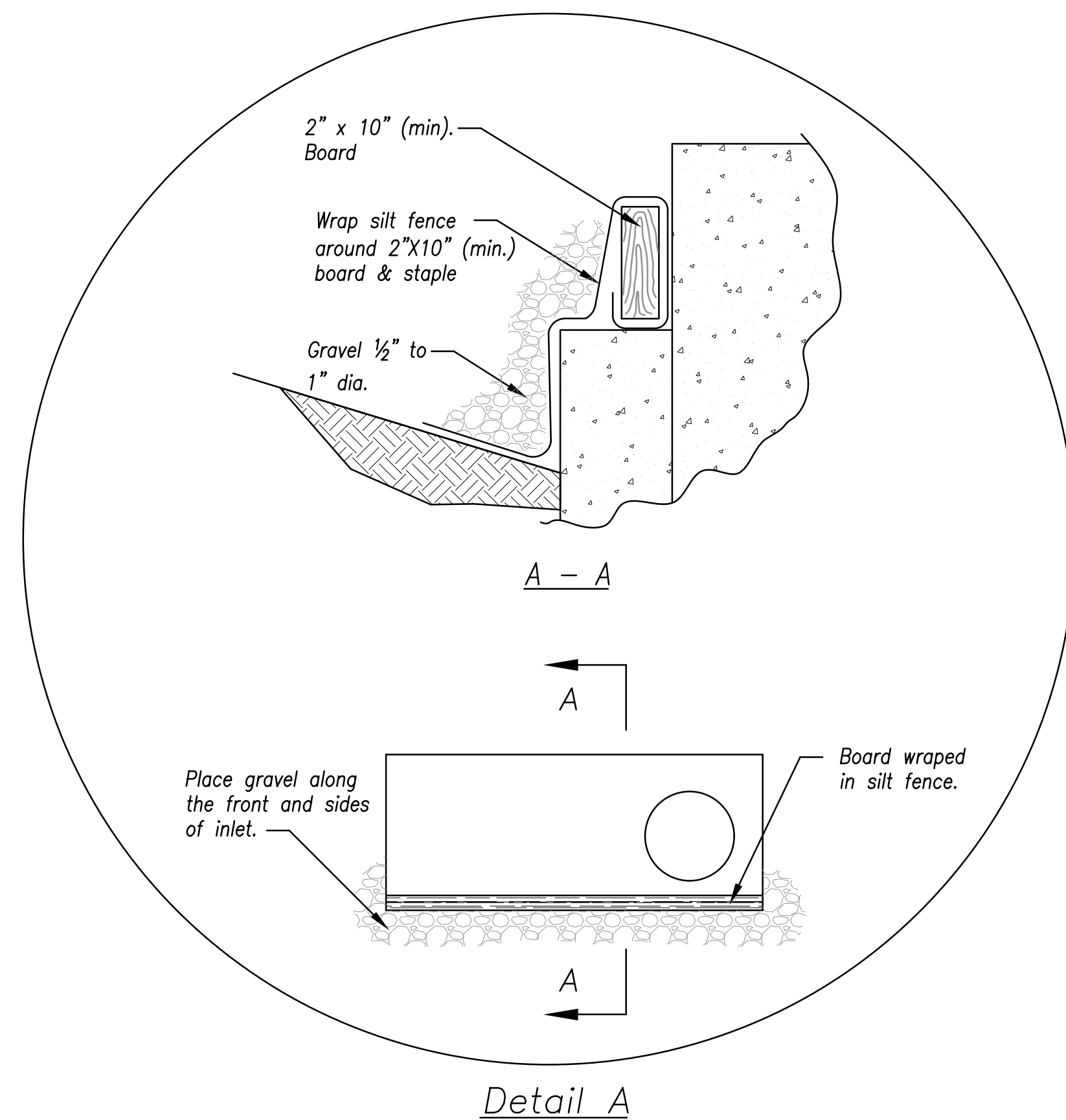
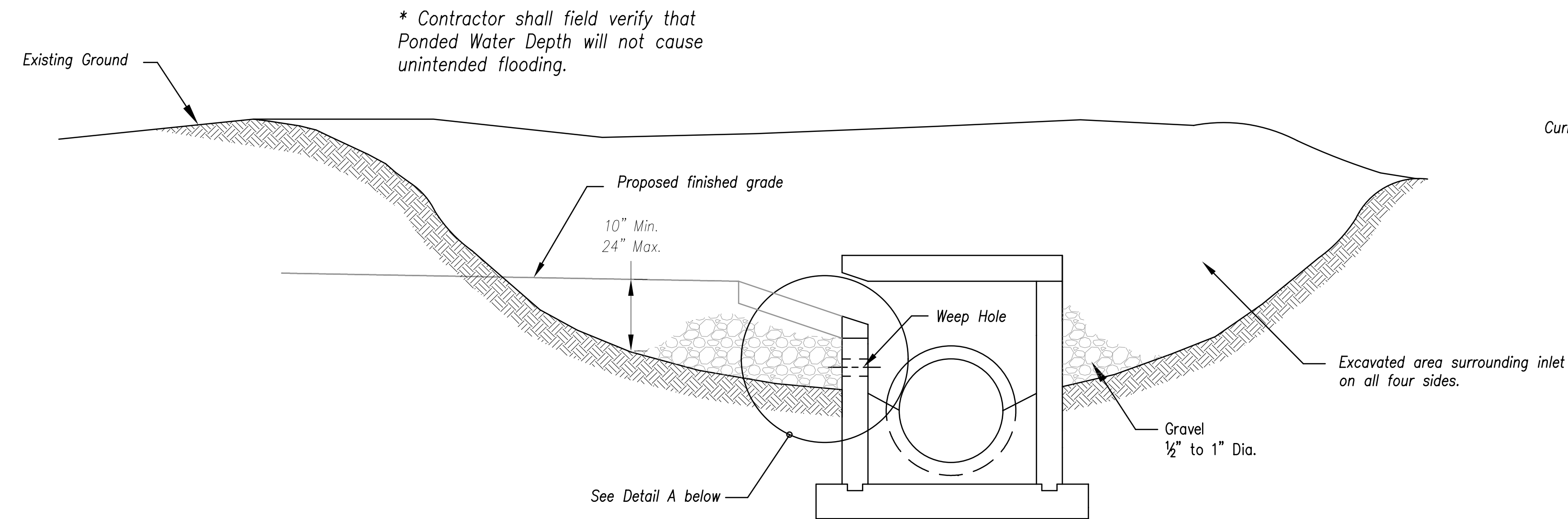


KANSAS CITY
METRO CHAPTER

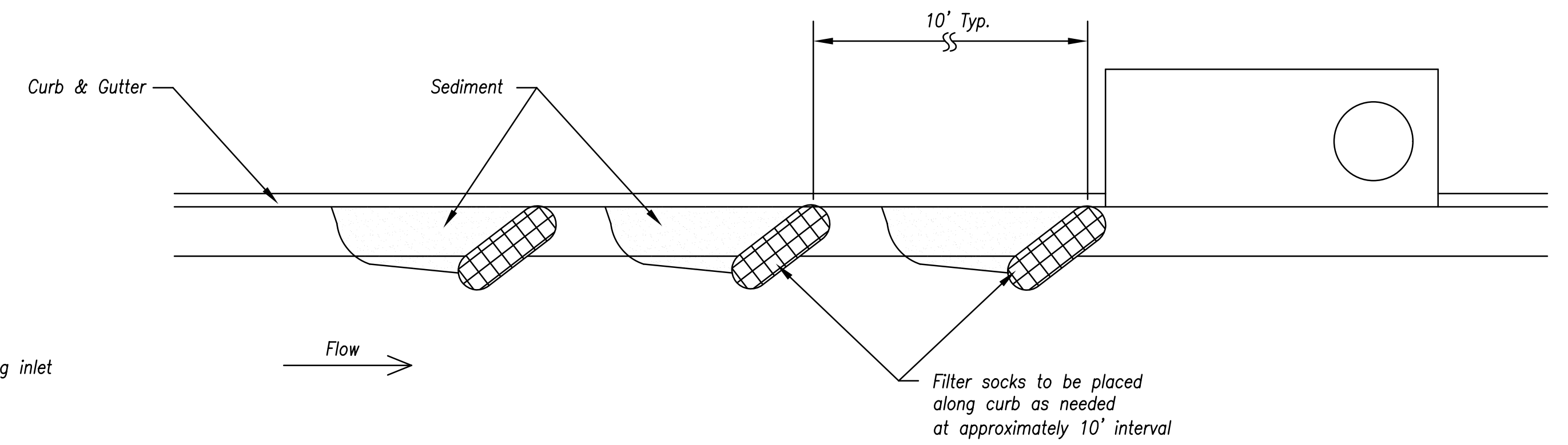
SILT FENCE

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

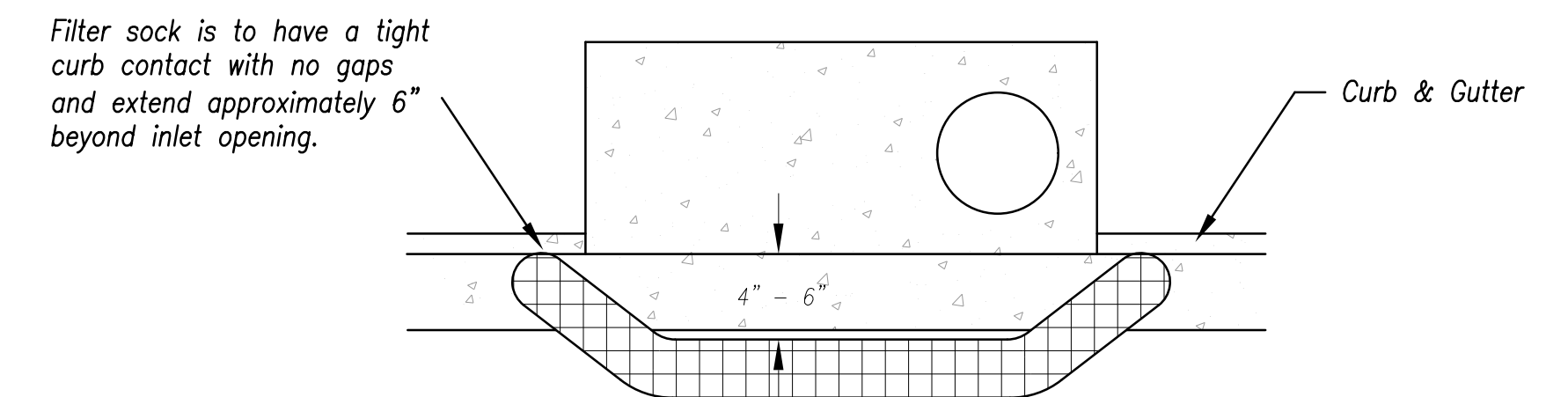
Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.



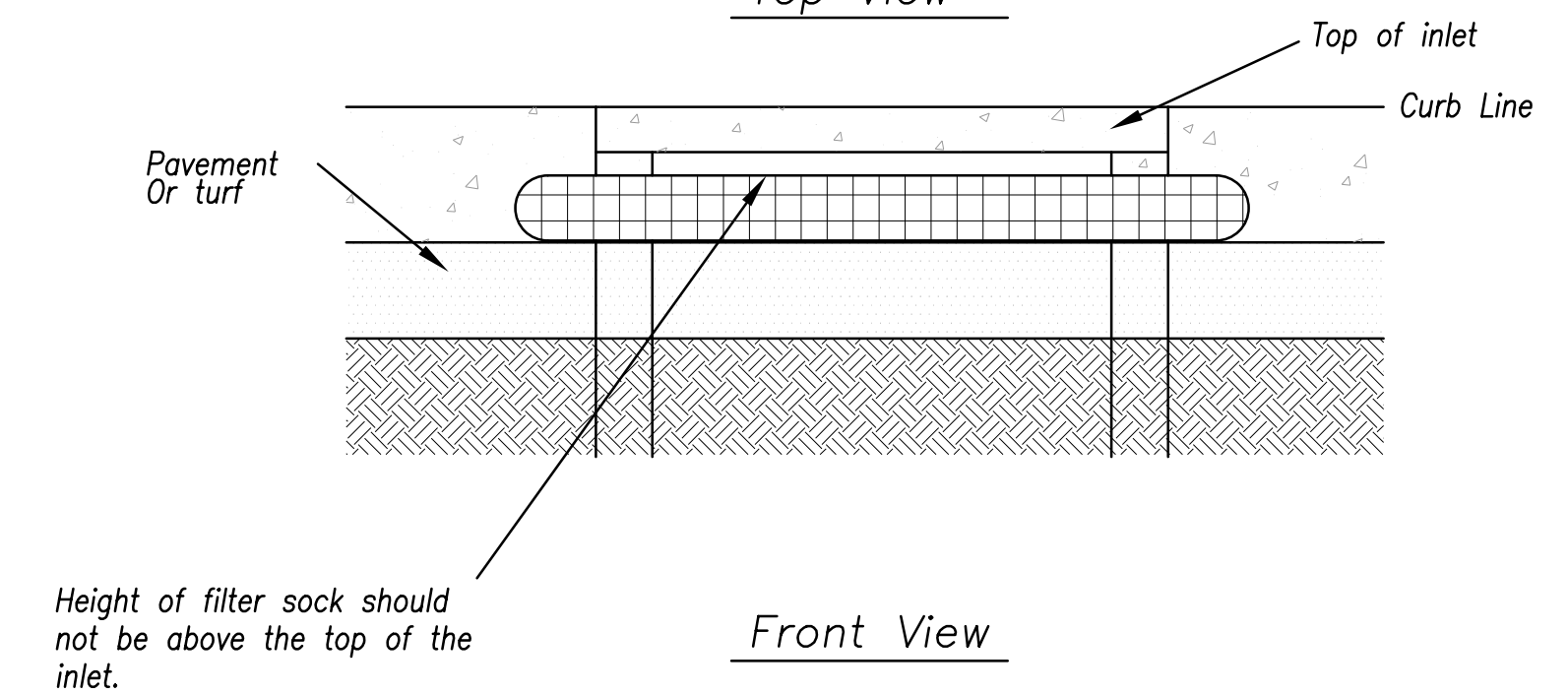
EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)



On Grade Curb Inlet Protection



Top View



Front View

Sump Inlet Sediment Filter

Notes:

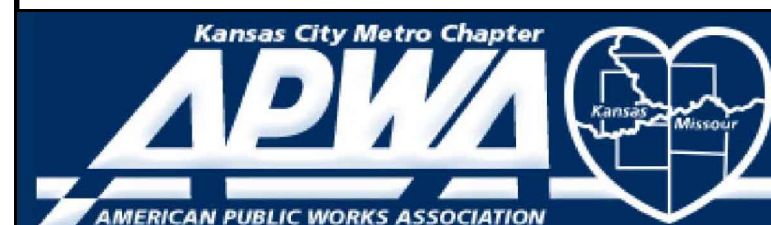
1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When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

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

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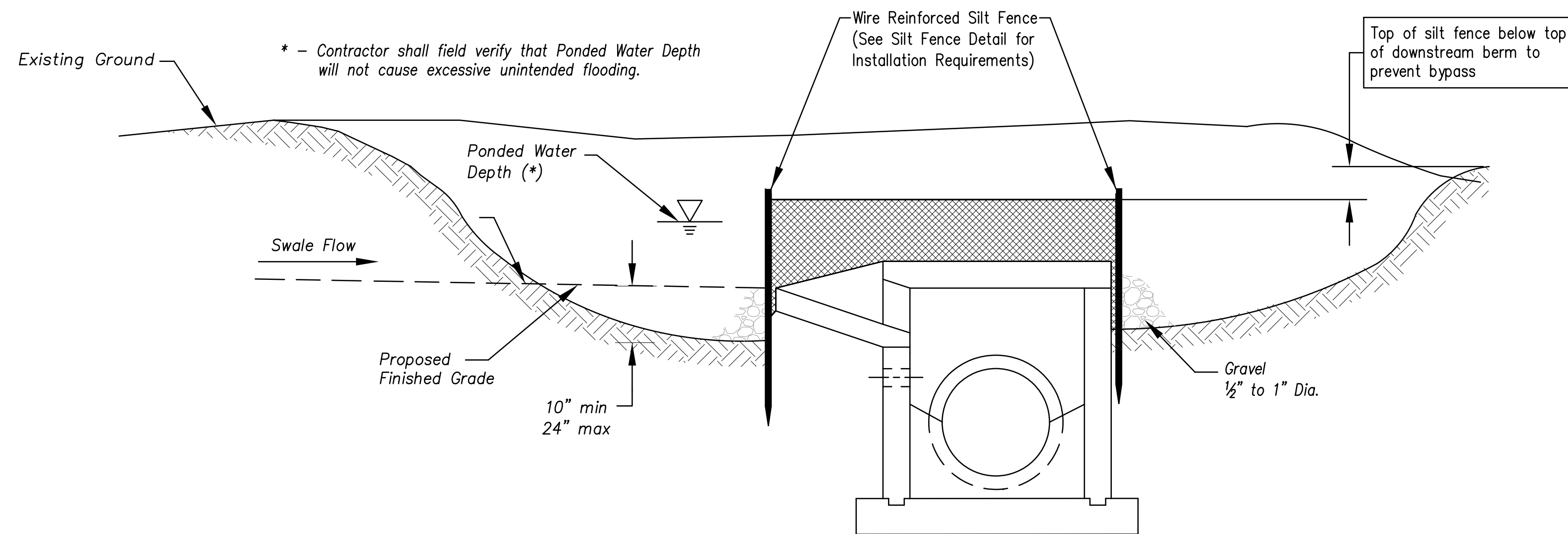


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METRO CHAPTER

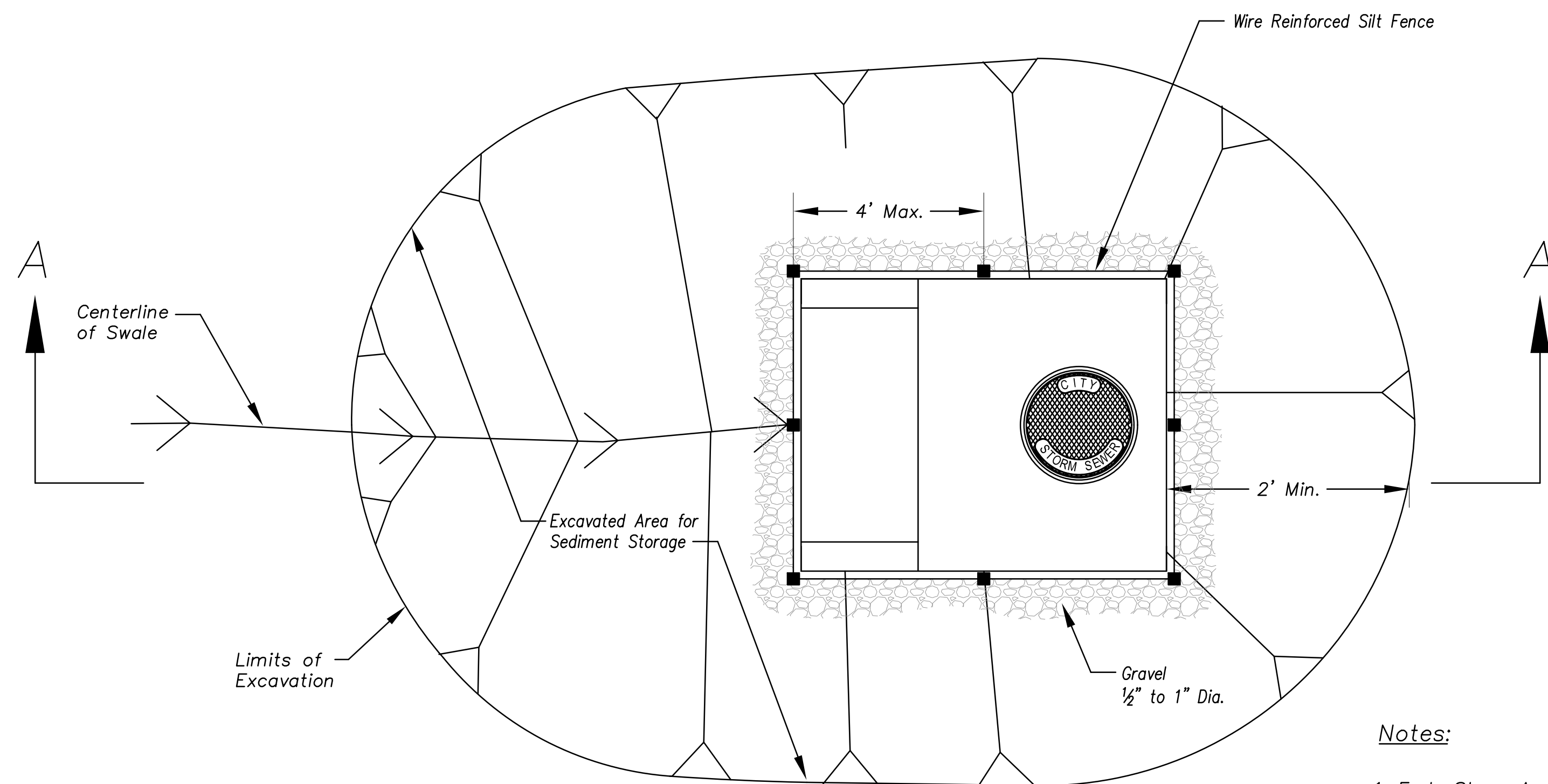
CURB INLET PROTECTION

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

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



Section A-A
Not to Scale

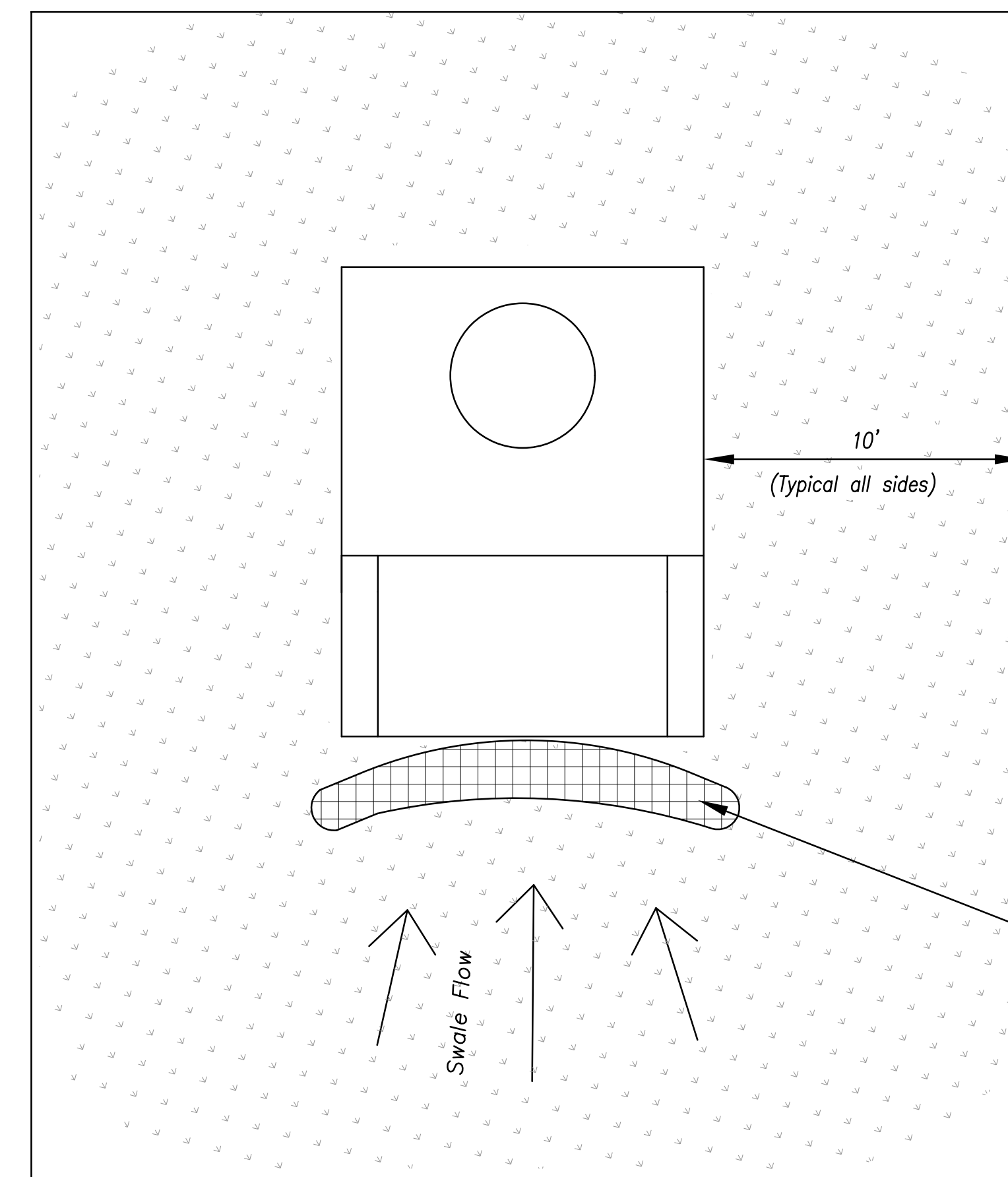


Plan
Not to Scale

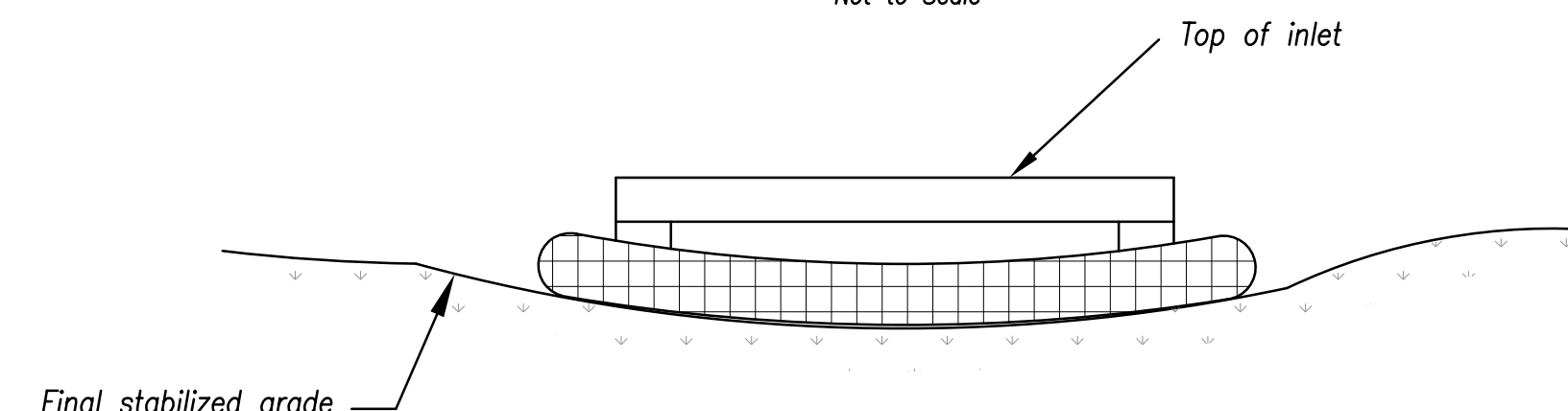
EARLY STAGE AREA INLET
(All open boxes and inlets not at final grade)

Notes:

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



Plan
Not to Scale



Front View

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

Maintenance:

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

AMERICAN PUBLIC WORKS ASSOCIATION



**KANSAS CITY
METRO CHAPTER**

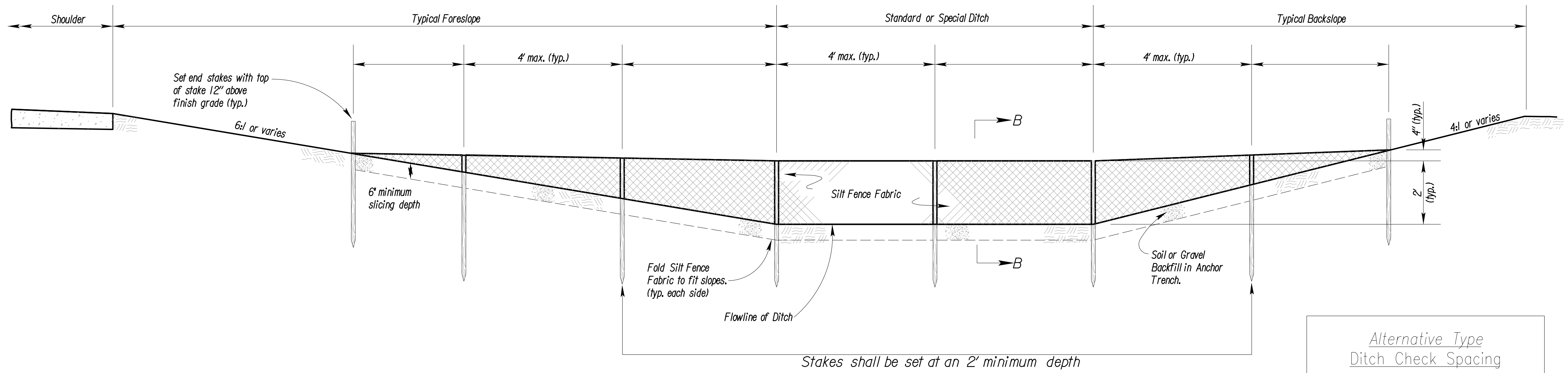
**AREA INLET AND
JUNCTION BOX PROTECTION**

**STANDARD DRAWING
NUMBER ESC-07
ADOPTED:
10/24/2016**

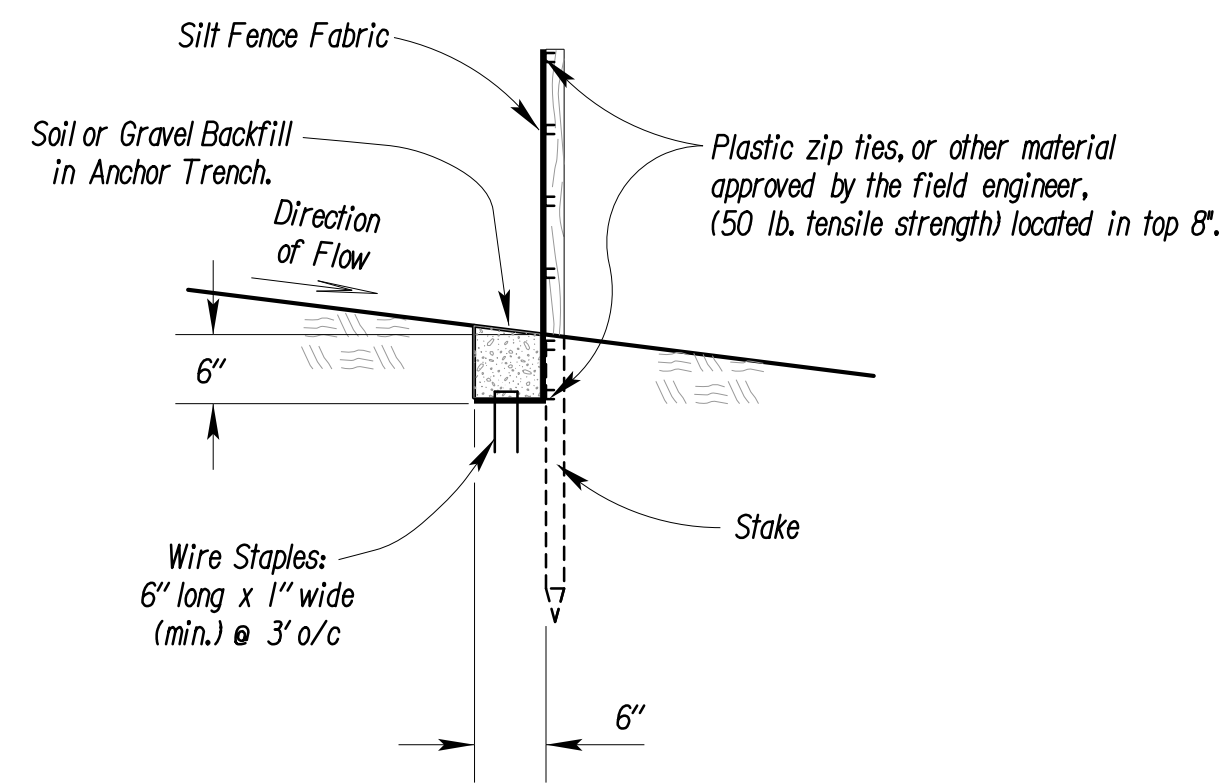
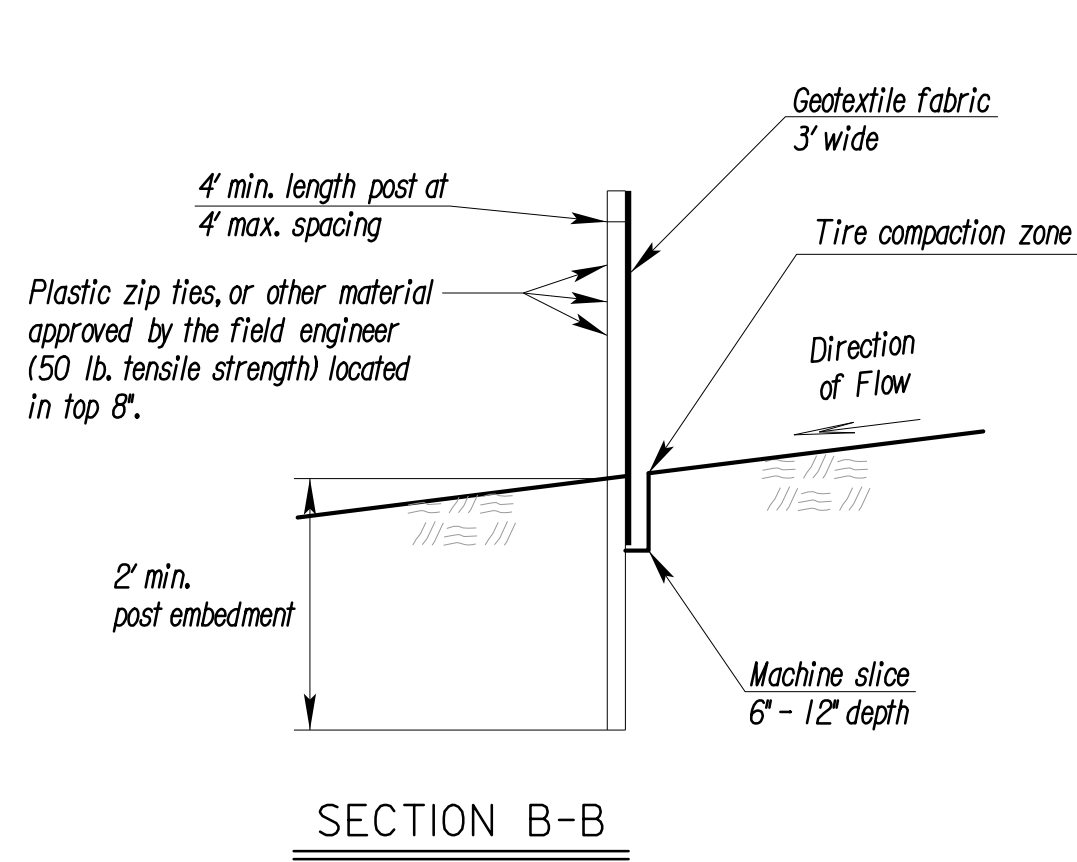
Modified from 2015 Overland Park Standard Details
for Erosion and Sediment Control.

Notes for Silt Fence Ditch Check:

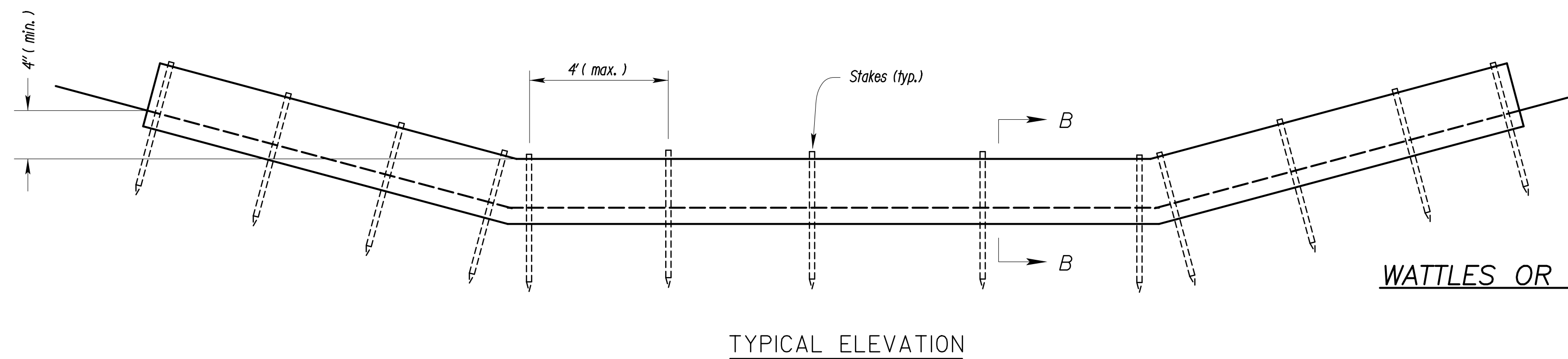
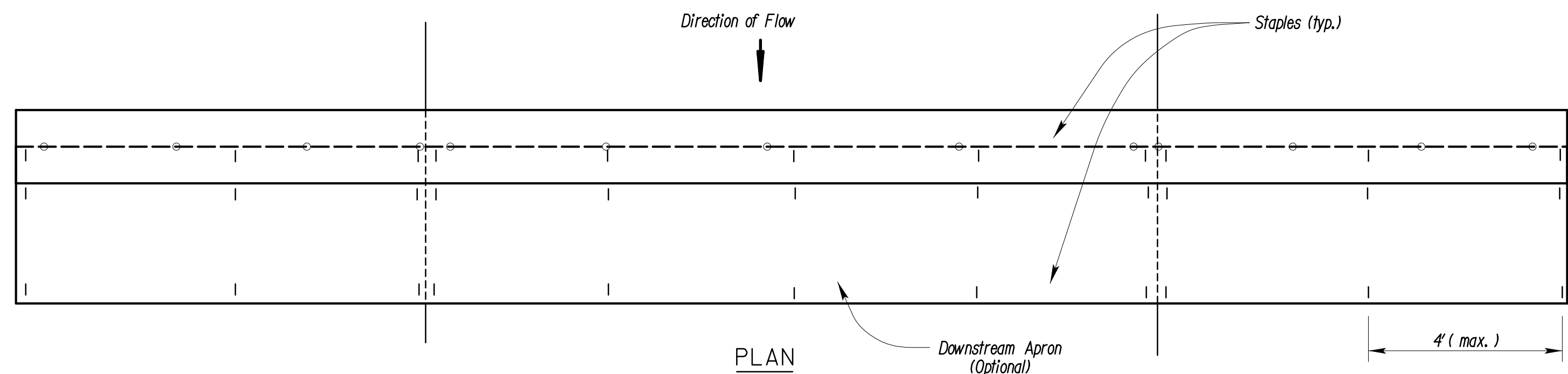
1. Stakes shall be 4' (min.) long and one of the following materials:
 - a. Hardwood - 1 3/16" x 1 3/16";
 - b. Southern Pine (No. 2) - 2 5/8" x 2 5/8";
 - c. Steel U, T, L, or C Section - .95 lbs. per 1'-0";
 - d. Synthetic - same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.
6. Use support fencing when tributary area is greater than 2.4 acres or when ditch gradient is greater than 2 percent.
7. Silt fence sliced in to a 6" minimum depth.
8. Elevation at tie in points shall be a minimum of 4" higher than the center.



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



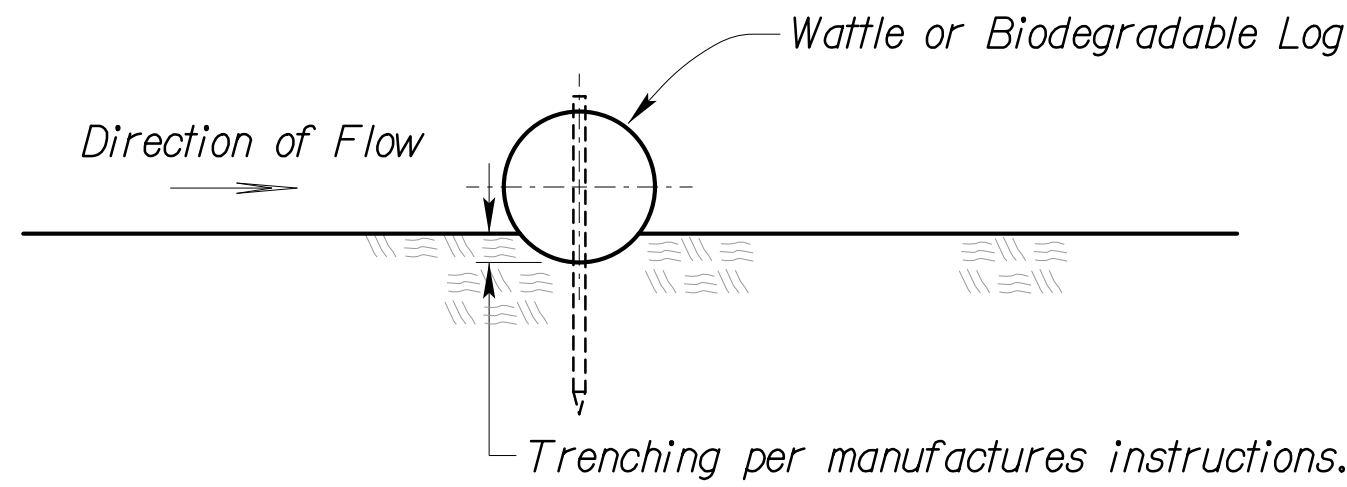
SILT FENCE DITCH CHECK
NO SCALE



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

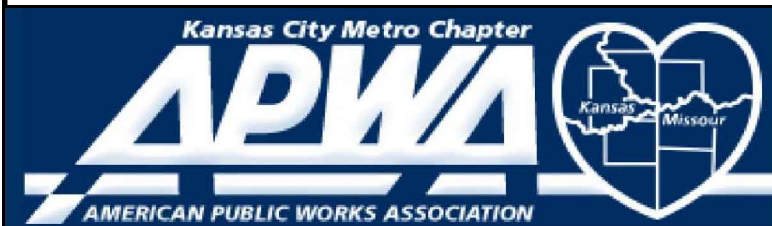
Notes for Wattles and Biodegradable Log Ditch Check:

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



SECTION B - B

AMERICAN PUBLIC WORKS ASSOCIATION

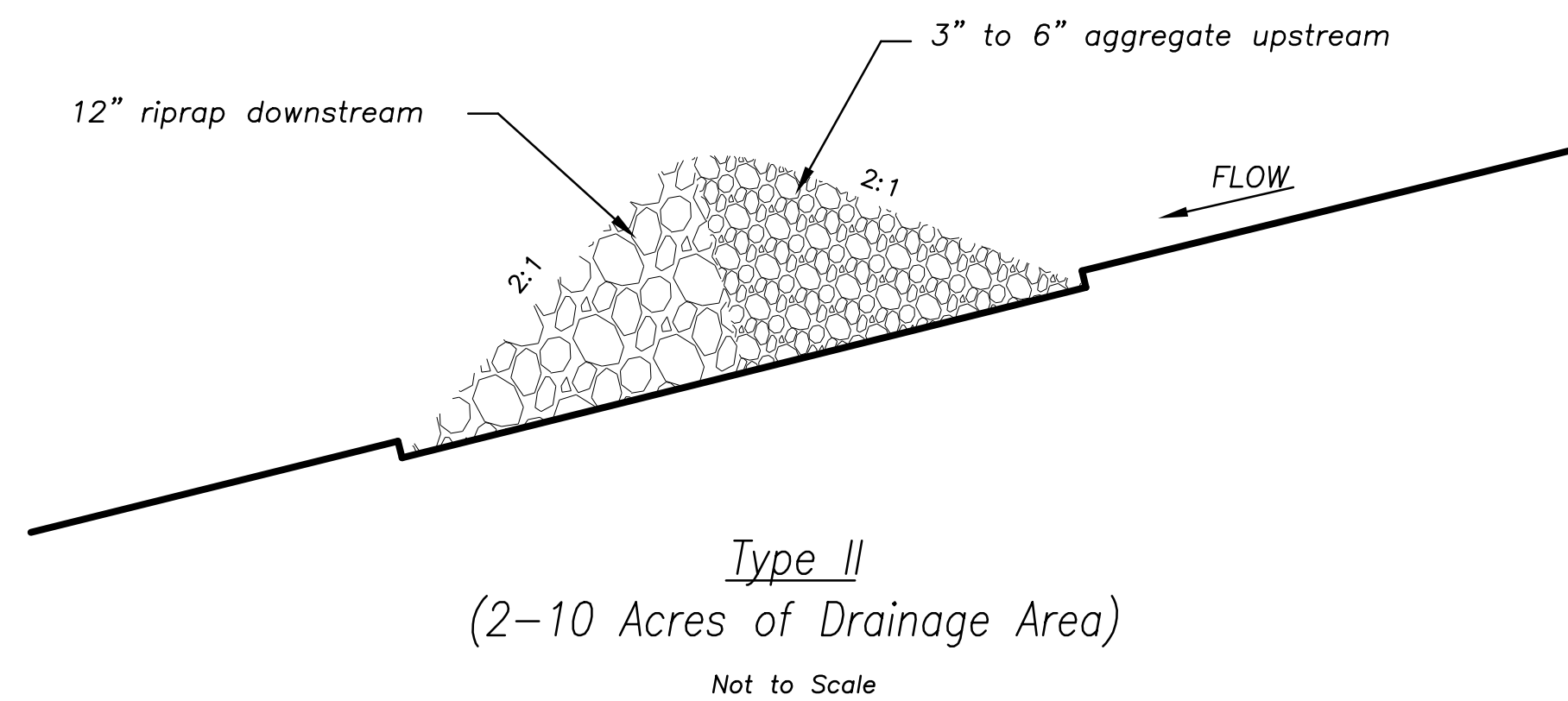
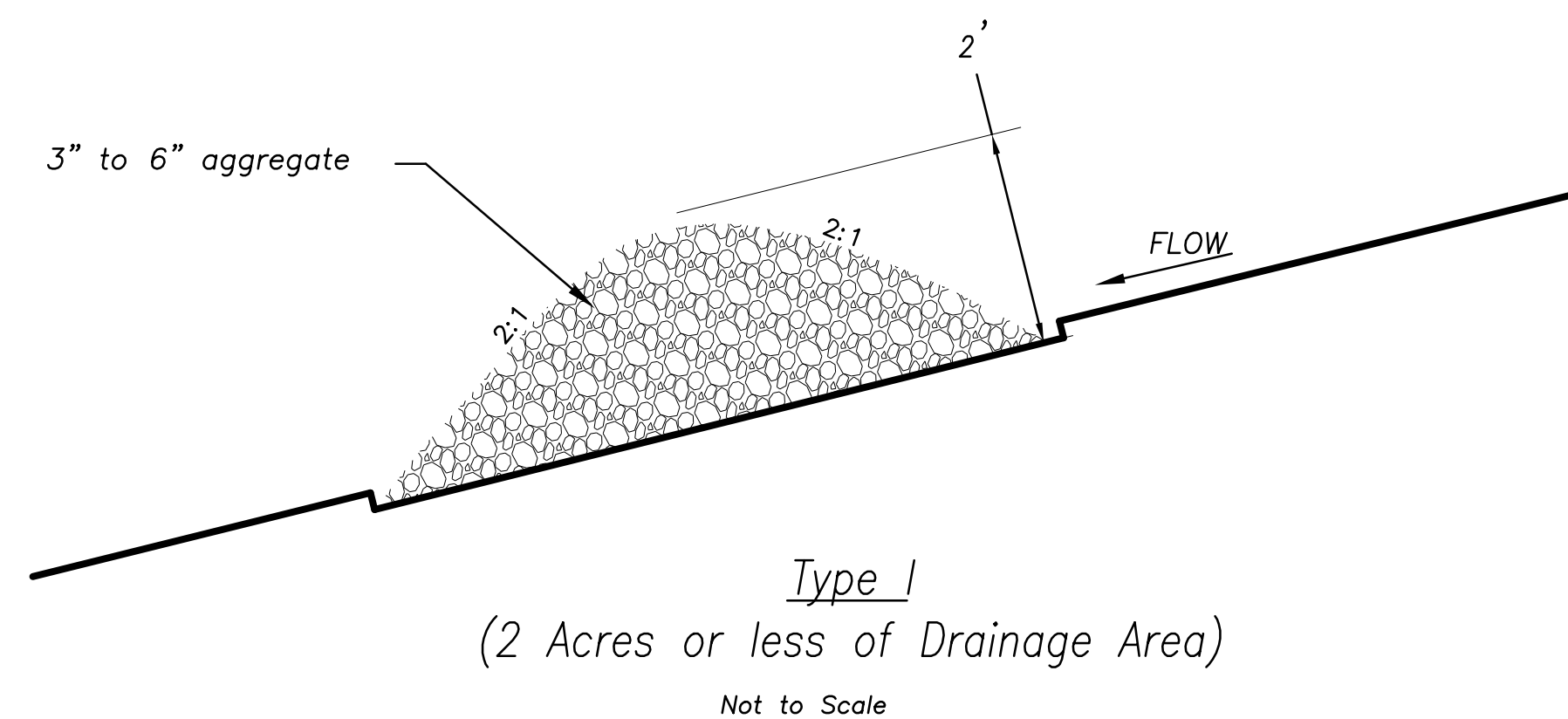


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SILT FENCE AND WATTLE/
BIODEGRADABLE LOG
DITCH CHECKS

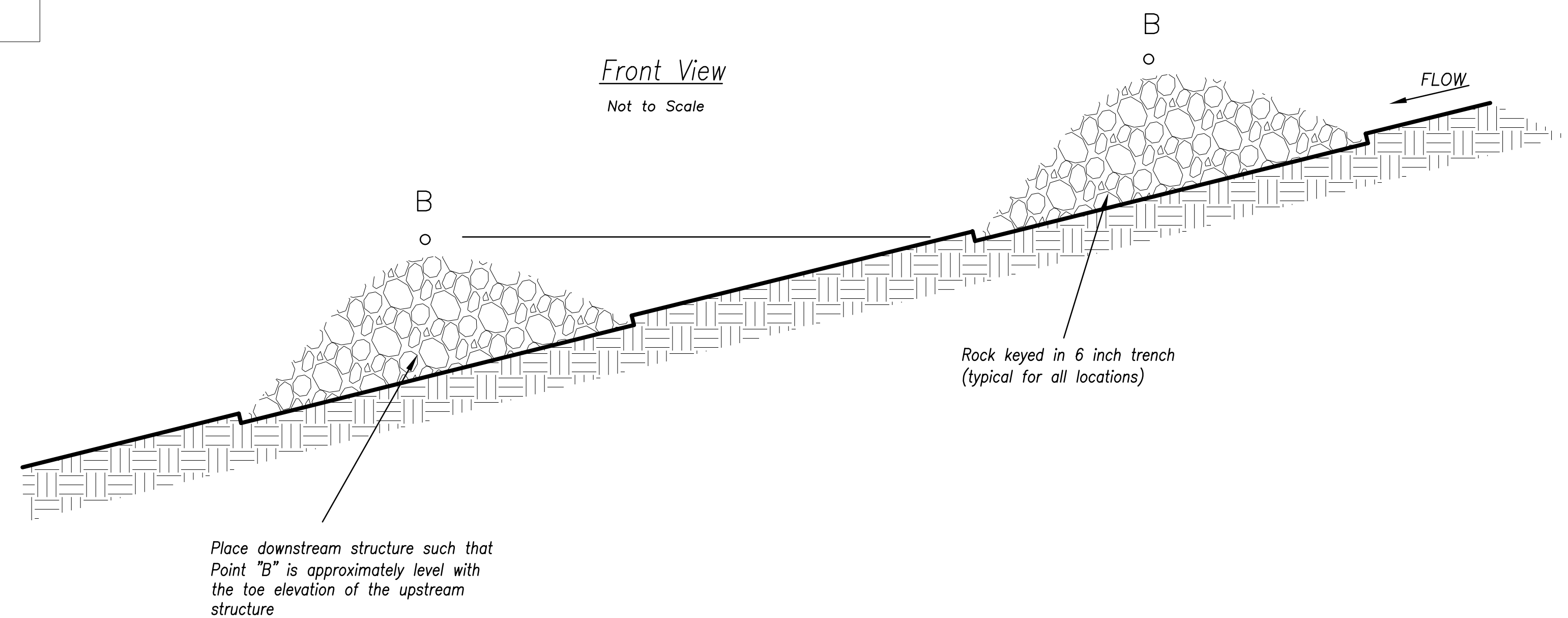
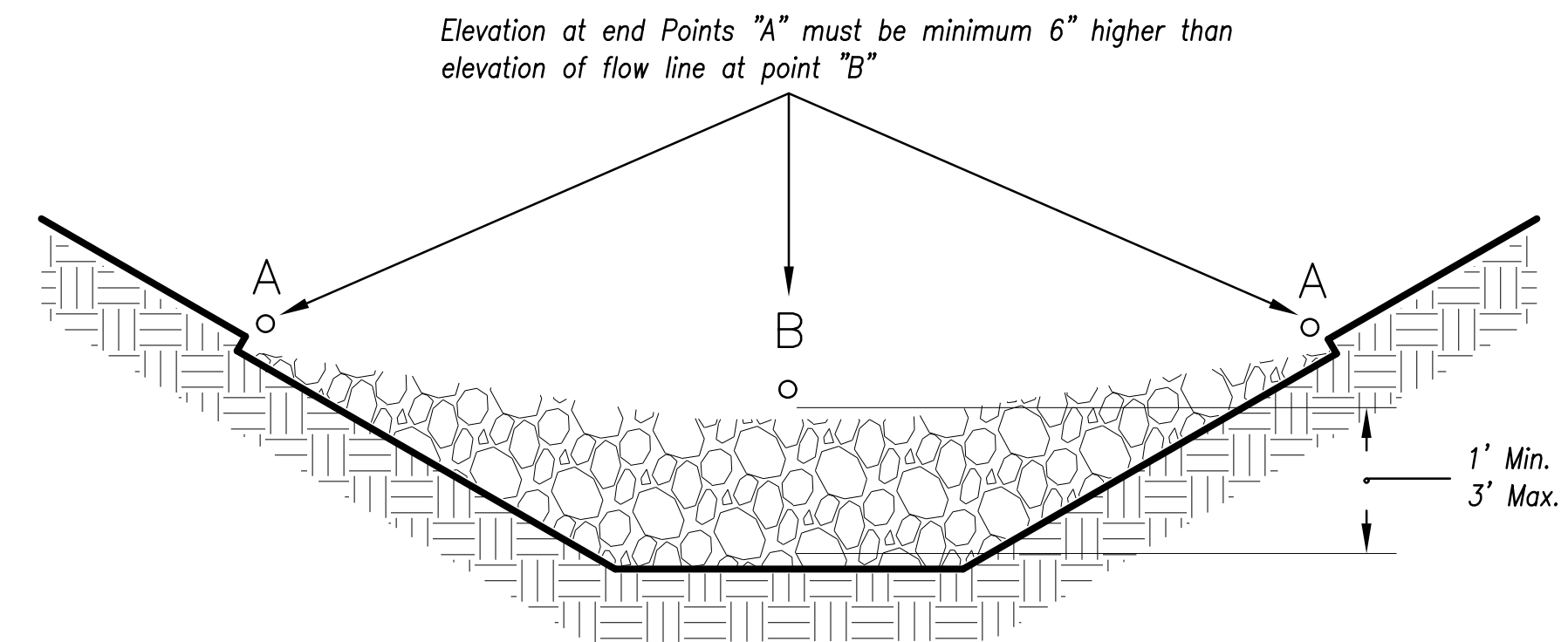
STANDARD DRAWING
NUMBER ESC-09
ADOPTED:
10/24/2016

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



ROCK DITCH CHECK

| <u>Temporary Rock Ditch Check Spacing</u> | |
|--|-------------------------|
| Ditch Centerline Slope (%) | Spacing Interval (Feet) |
| 5.0 | 60 |
| 6.0 | 50 |
| 7.0 | 43 |
| 8.0 | 36 |
| 9.0 | 33 |
| 10.0 | 29 |
| Note: Use this spacing only for Rock Ditch Checks. | |




Notes:

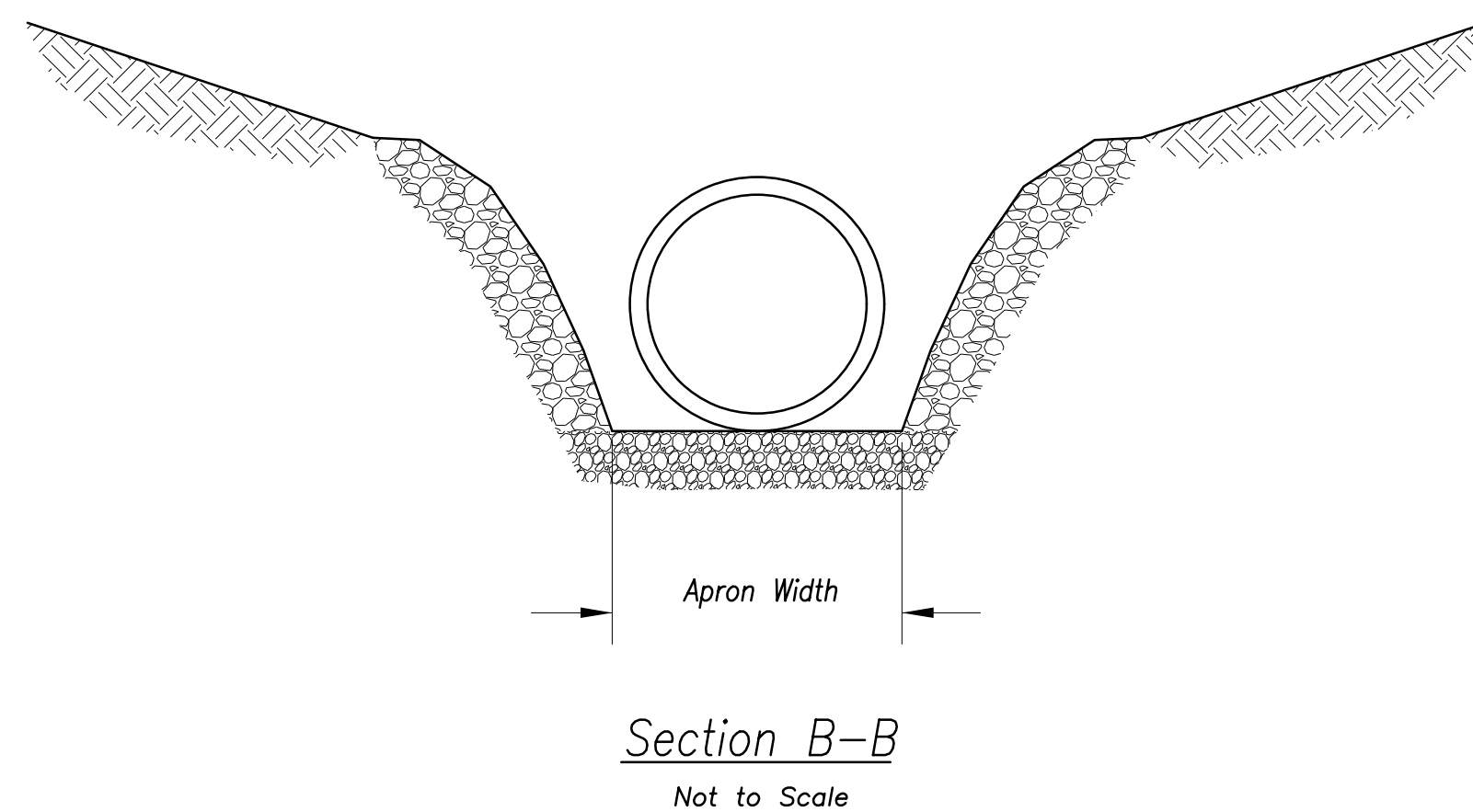
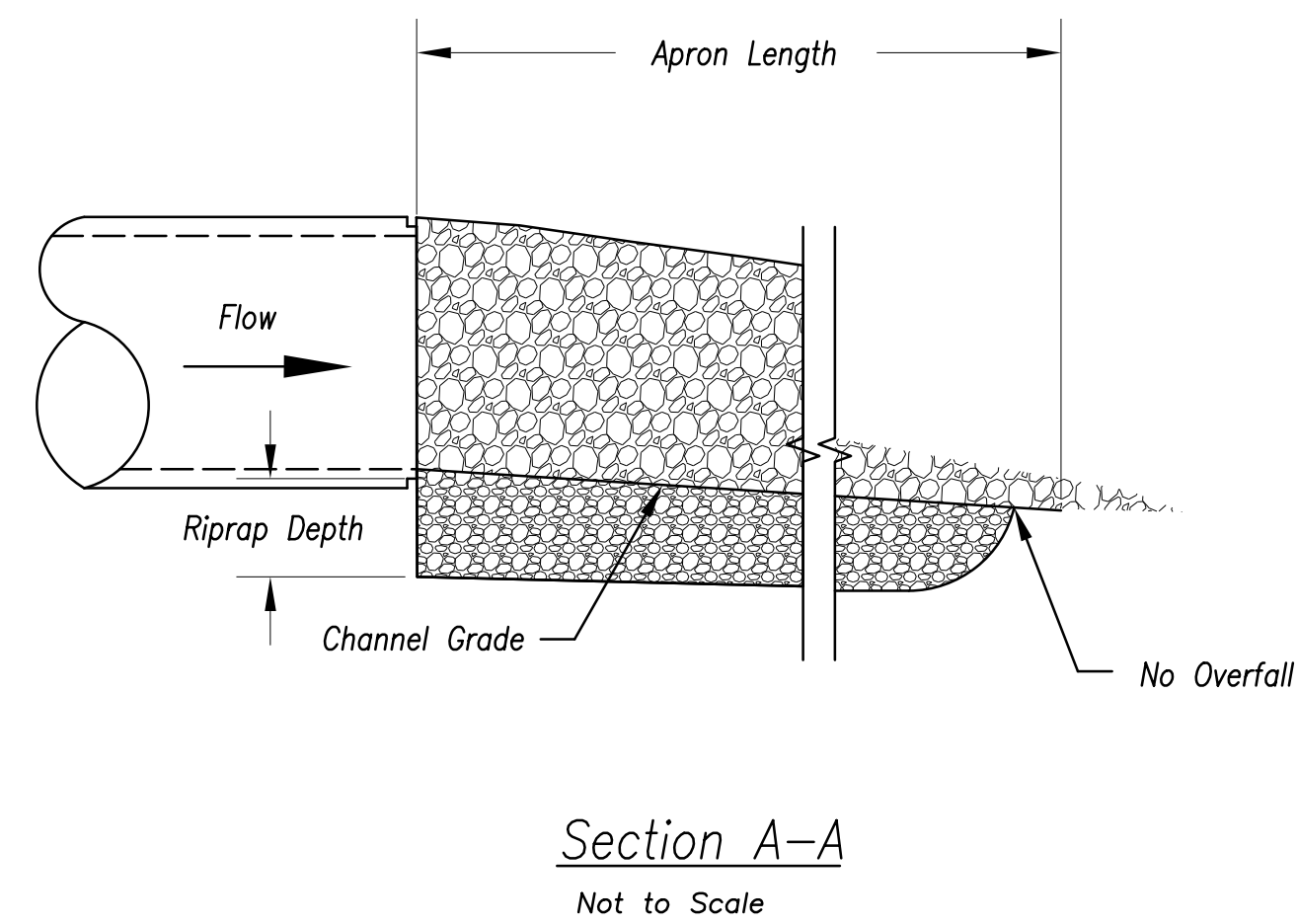
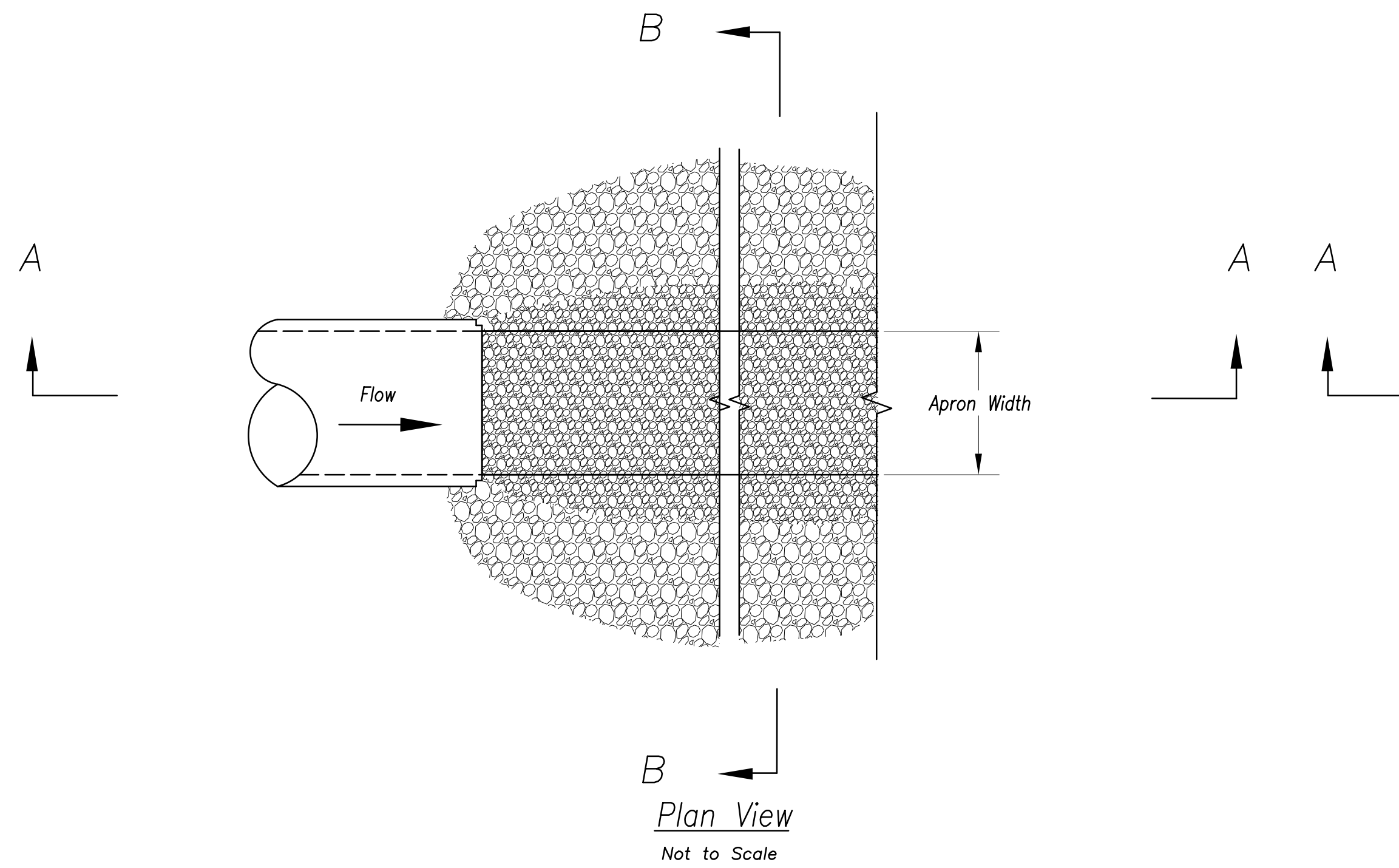
1. Rock check dams shall be used only for drainage areas less that 10 acres unless approved by the City Engineer.
2. Use rock checks only in situations where the ditch slope exceeds 6%.

Maintenance:

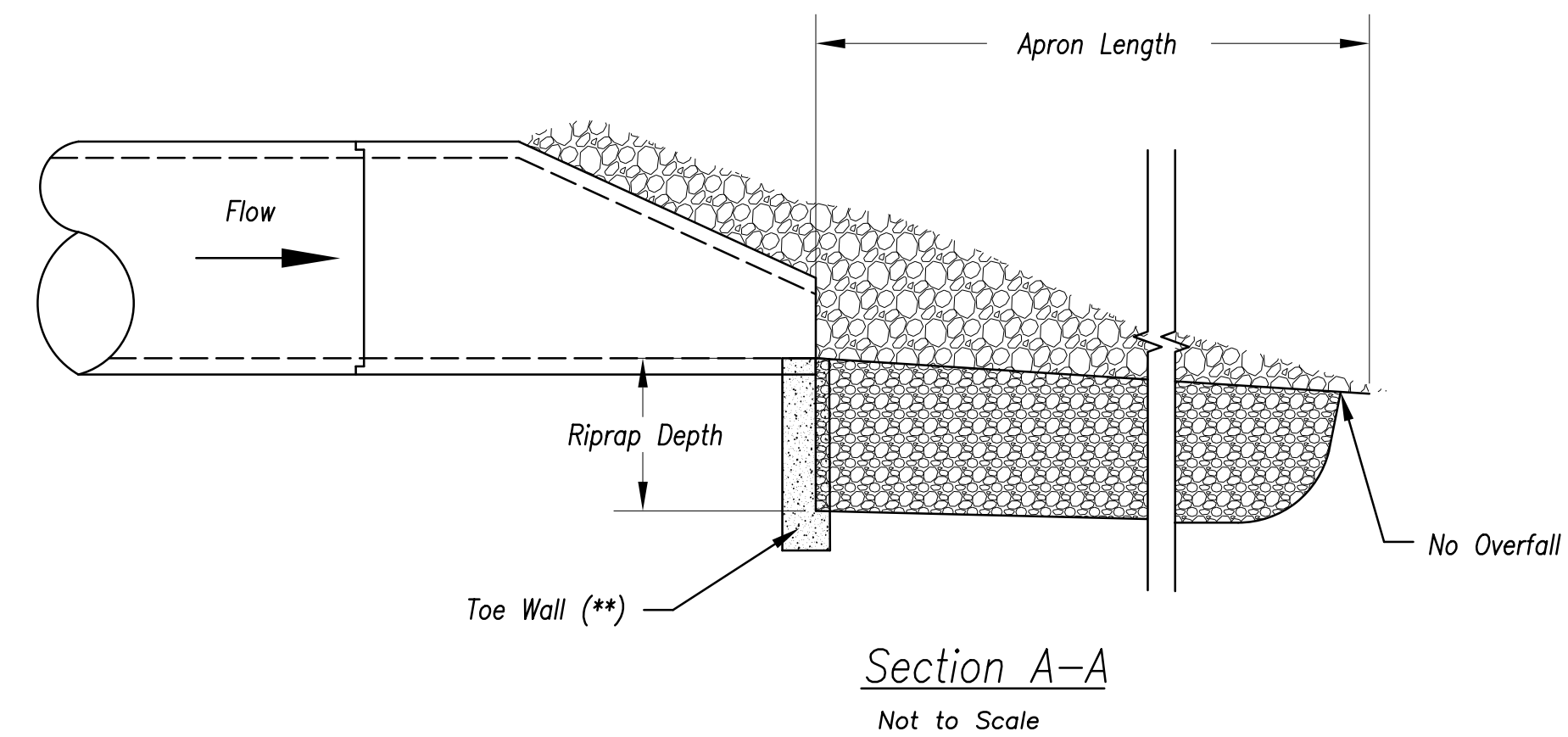
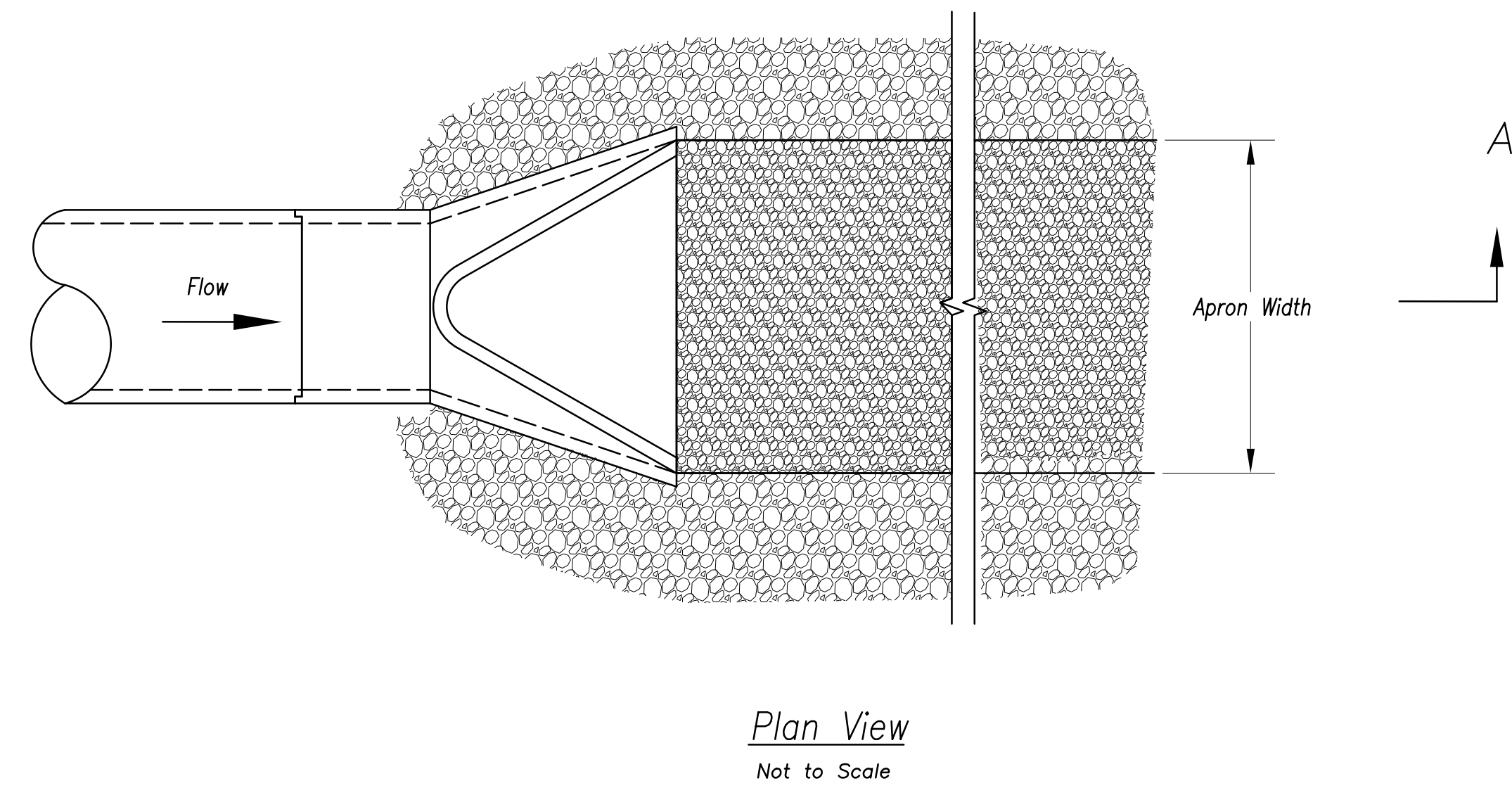
1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of the ditch check.
2. Replace and reshape as necessary to maintain function and integrity of installation.

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

| | |
|---|---|
| AMERICAN PUBLIC WORKS ASSOCIATION | |
|  | KANSAS CITY METRO CHAPTER |
| ROCK DITCH CHECKS | STANDARD DRAWING NUMBER ESC-10 ADOPTED: 10/24/2016 |



OUTLET PROTECTION W/O END SECTION




OUTLET PROTECTION WITH END SECTION

Notes:

1. Rock all sides steeper than 3:1.
2. Stabilize all disturbed areas downstream of outlet to the limits of disturbance.
3. Alternative outlet protection and slope stabilization measures may be used with approval by the Engineer.
4. Install riprap apron so that it is no higher than flowline of pipe.
5. Reference APWA Specification 2650 for rock type, size, and placement.

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

| AMERICAN PUBLIC WORKS ASSOCIATION | |
|---|-----------------------------------|
|  | KANSAS CITY METRO CHAPTER |
| OUTLET PROTECTION | STANDARD DRAWING NUMBER ESC-14 |
| | ADOPTED: 10/24/2016 |

SECTION 7

Log of Amendments

The permittee shall amend the SWPPP at a minimum whenever the:

- a. 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 excessive sediment deposits in streams or lakes); and/or*
- f. Department determines violations of water quality standards may occur or have occurred.*

SWPPP Amendment Log

[illegible]

SWPPP Amendment Log

[illegible]

SECTION 8

Local Regulations & Additional Permits

Local Ordinances can be located here for reference only. Additional permits (i.e. 404, NWP, grading permits if required, etc.) can be kept here for reference only.

*** A 404 permit will NOT be required for this project.**

SECTION 9

Spill Response

This section contains Missouri Code of State Regulations as they pertain to hazardous substances and emergency response. Contained within are:

Division 24 - Hazardous Substance Emergency Response Office

-10 CSR 24-1.010 - Organization

-10 CSR 24-2.010 - Definitions

-10 CSR 24-3.010 - Emergency Notification Procedures

Spill Report Forms

Rules of
Department of Natural Resources
Division 24—Hazardous Substance
Emergency Response Office
Chapter 1—Organization

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| 10 CSR 24-1.010 General Organization..... | 3 |

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 24—Hazardous Substance
Emergency Response Office
Chapter 1—Organization**

10 CSR 24-1.010 General Organization

PURPOSE: This rule explains the organization and responsibilities of the Hazardous Substance Emergency Response Office. Also explained is how to obtain additional information regarding these activities and where to make submittals to this office.

(1) The Department of Natural Resources is authorized under sections 260.500–260.550, RSMo to administer the state’s Hazardous Substance Emergency Response Office. The director of the Department of Natural Resources appoints a director and staff who provide day-to-day operation of the Hazardous Substance Emergency Response Office.

(A) Among its operations, the Hazardous Substance Emergency Response Office performs the following administrative and technical functions: develop and adopt rules relating to hazardous substance emergencies; develop and update the state Hazardous Substance Emergency Response plan in cooperation with other state agencies and other affected persons; respond to, investigate, document and take action regarding hazardous substance emergencies in accordance with sections 260.500–260.550, RSMo; provide technical assistance to other state agencies, to political subdivisions of the state and to other persons upon request for the prevention, control and response to hazardous substance emergencies; enter into agreements with state, local and federal agencies and with other persons as necessary to develop and implement the Hazardous Substance Emergency Response Plan and to implement sections 260.500–260.550, RSMo; monitor the statewide telephone used to notify Missouri whenever a hazardous substance emergency occurs; notify appropriate agencies of hazardous substance emergencies; and cooperate with appropriate units of government and other persons to prevent the occurrence and improve response to hazardous substance emergencies.

(B) Requests for copies of rules, reports of incident investigations, technical information and assistance and any other submissions are to be made to the department’s Hazardous Substance Emergency Response Office, Environmental Services Program, P.O. Box 176, Jefferson City, MO 65102. The telephone number during office hours is (573) 526-

3348. For emergencies, the Hazardous Substance Emergency Response Office can be contacted any time at (573) 634-2436.

(2) Information.

(A) The mailing address for the Hazardous Substance Emergency Response Office is: Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102.

(B) The Hazardous Substance Emergency Response Office files, except trade secrets as provided for in section 260.550, RSMo, are public information and are located at 2710 West Main Street, Jefferson City, MO 65109.

(C) Anyone wishing to review information in the Hazardous Substance Emergency Response Office files is requested to make an appointment by calling (573) 526-3348. There is no fee for reviewing file information. There is a copying fee if copies of file information are made, and it must be paid by check, money order or exact change.

(D) Any request for information shall be in writing. All requests for information shall be available during normal business hours for inspection by the public.

(E) Nonemergency information can be obtained by contacting the department at the post office box listed previously or by calling (573) 526-3348.

(F) The number to contact the department for emergency release notifications under section 260.505, RSMo is (573) 634-2436. This is for emergencies only.

*AUTHORITY: section 260.520, RSMo (Supp. 1995). * Original rule filed Nov. 30, 1983, effective April 12, 1984. Emergency amendment filed Dec. 2, 1992, effective Jan. 1, 1993, expired April 20, 1993. Amended: Filed Oct. 5, 1992, effective April 8, 1993. Amended: Filed June 14, 1994, effective Jan. 29, 1995. Amended: Filed July 22, 1996, effective Feb. 28, 1997.*

**Original authority 1983, amended 1993, 1995.*

Rules of
Department of Natural Resources
Division 24—Hazardous Substance
Emergency Response Office
Chapter 2—Definitions

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**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 24—Hazardous Substance
Emergency Response Office
Chapter 2—Definitions**

10 CSR 24-2.010 Definitions

PURPOSE: This rule provides definitions for terms used in 10 CSR 24.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. Therefore, the material which is so incorporated is on file with the agency who filed this rule, and with the Office of the Secretary of State. Any interested person may view this material at either agency's headquarters or the same will be made available at the Office of the Secretary of State at a cost not to exceed actual cost of copy reproduction. The entire text of the rule is printed here. This note refers only to the incorporated by reference material.

(1) Administrator—the administrator of the United States Environmental Protection Agency.

(2) Cleanup—all actions necessary to contain, collect, control, identify, analyze, cleanup, treat, disperse, remove or dispose of a hazardous substance.

(3) Cleanup costs—all costs incurred by the state or any of its political subdivisions or their agents or by any other person participating with the approval of the Department of Natural Resources in the prevention or mitigation of damages from a hazardous substance emergency or the cleanup of a hazardous substance involved in a hazardous substance emergency.

(4) Department—the Department of Natural Resources.

(5) Director—director of the Department of Natural Resources.

(6) Extremely hazardous substance—a substance listed under 40 CFR part 355 by the administrator.

(7) Hazardous substance—any substance or mixture of substances that presents a danger to the public health or safety or the environment and includes:

(A) Any hazardous waste identified or listed by the department under sections 260.350–260.430, RSMo;

(B) Any element, compound, mixture, solution or substance designated pursuant to Sections 101(14) and 102 of the Comprehensive Environment Response, Compensation and Liability Act (CERCLA) of 1980 or designated pursuant to section 304 of the Federal Emergency Planning and Community Right-to-Know Act of 1986; and

(C) Any hazardous material designated by the secretary of the United States Department of Transportation under the Hazardous Materials Transportation Act.

(8) Hazardous substance emergency and emergency involving a hazardous substance—

(A) Any release of hazardous substances or extremely hazardous substances in quantities equal to or in excess of those determined pursuant to section 101(14) or 102 of the CERCLA of 1980 or section 304 of the Federal Emergency Planning and Community Right-to-Know Act of 1986;;

(B) Any release of petroleum including crude oil or any fraction, natural gas, natural gas liquids, liquefied natural gas or synthetic gas usable for fuel (or mixture of natural gas and synthetic gas) in excess of fifty (50) gallons for liquids or three hundred (300) cubic feet for gases;

(C) Any release of a hazardous waste which is reportable under sections 260.350–260.430, RSMo;

(D) Any release of a hazardous substance which requires immediate notice under 49 CFR part 171; and

(E) The department shall promulgate rules identifying the substances and the quantities of substances which, if released, constitute a hazardous substance emergency.

(9) Hazardous Substance Emergency Response Plan—the plan, as specified in section 260.505, RSMo, developed and maintained by the Missouri Department of Natural Resources for response to hazardous substance emergencies.

(10) Local Emergency Planning Committee (LEPC) or committee—the people appointed by the Missouri Emergency Response Commission (MERC) for the purpose of improving hazardous chemical safety and preparedness.

(11) Local government—any county, township, municipal corporation, school district

or other governmental body of equivalent rank.

(12) Person—any individual, partnership, copartnership, firm, company, public or private corporation, association, joint stock company, trust, estate, political subdivision or any agency, board, department or bureau of the state or federal government or any other legal entity which is recognized by law as the subject of rights and duties.

(13) Person having control over a hazardous substance—any person producing, handling, storing, transporting, refining or disposing of a hazardous substance when a hazardous substance emergency occurs, including bailees, carriers and any other person in control of a hazardous substance when a hazardous substance emergency occurs, whether they own the hazardous substance or are operating under a lease, contract or other agreement with the legal owner.

(14) Release—any threatened or real emission, discharge, spillage, leakage, pumping, pouring, emptying or dumping of a substance into or onto the land, air or waters of the state unless done in compliance with the conditions of a federal or state permit, unless the substance is confined and is expected to stay confined to property owned, leased or otherwise controlled by the person having control over the substance or unless, in the case of pesticides, application is done in accordance with the product label.

(15) State of Missouri Basic Emergency Operations Plan—the state plan, its annexes and appendices as developed or maintained by the state emergency management agency for response to natural and man-made disasters in this state.

(16) Waters of the state—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 (2) or more persons jointly or as tenants in common and include waters of the United States lying within the state.

AUTHORITY: section 260.520, RSMo Supp. 1993. Original rule filed Nov. 30, 1983, effective April 12, 1984. Emergency amendment filed Dec. 2, 1992, effective Jan. 1, 1993, expired April 30, 1993. Amended: Filed Oct. 5, 1992, effective April 8, 1993.*



Amended: Filed June 14, 1994, effective Jan. 29, 1995.

**Original authority: 260.520, RSMo 1983, amended 1993.*

Rules of
Department of Natural Resources
Division 24—Hazardous Substance Emergency
Response Office
Chapter 3—Emergency Notification Procedures

| Title | Page |
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| 10 CSR 24-3.010 Notification Procedures for Hazardous Substance Emergencies and for Emergency Notification of Releases of Hazardous Substances and Extremely Hazardous Substances | 3 |

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 24—Hazardous Substance
Emergency Response Office
Chapter 3—Emergency Notification
Procedures**

**10 CSR 24-3.010 Notification Procedures
for Hazardous Substance Emergencies and
for Emergency Notification of Releases of
Hazardous Substances and Extremely Haz-
ardous Substances**

PURPOSE: This rule establishes a statewide emergency telephone number to notify Missouri whenever a hazardous substance emergency occurs and specifies the requirements for emergency notification and follow-up written notices in the event of a hazardous substance emergency, the release of a reportable quantity of a hazardous substance and the release of a reportable quantity of an extremely hazardous substance.

PUBLISHER'S NOTE: The publication of the full text of the material that the adopting agency has incorporated by reference in this rule would be unduly cumbersome or expensive. Therefore, the full text of that material will be made available to any interested person at both the Office of the Secretary of State and the office of the adopting agency, pursuant to section 536.031.4, RSMo. Such material will be provided at the cost established by state law.

(1) Any person having control over a hazardous substance shall contact Missouri by telephone at (573) 634-2436 or the National Response Center at (800) 424-8802 at the earliest practical moment upon discovery of an emergency involving a hazardous substance under his/her control. Information to be provided to Missouri to the best ability of the person having control over the hazardous substance includes: substance(s) involved, an indication of whether the substance is an extremely hazardous substance; the medium or media into which the release occurred; any known or anticipated acute or chronic health risks associated with the release and, where appropriate, advice regarding medical attention necessary for exposed individuals; proper precautions to take as a result of the release, including evacuation; amount of the substance(s) released or in danger of being released; location of the hazardous substance emergency and directions to the site; names, addresses and phone numbers of persons that may have information on the substances involved; when the hazardous substance emergency occurred, duration of the release

and when it was discovered; actions taken to cleanup the hazardous substance and to end the hazardous substance emergency and when those actions will be taken; and any other pertinent information requested by Missouri, or as specified in the Missouri hazardous waste management commission regulations at 10 CSR 25-7.264(2)(D) and (E) and 10 CSR 25-7.265(2)(D) and (E). Federal reporting requirements for releases of hazardous substances can be found in 40 CFR parts 302 and 355. In addition, state reporting requirements contained in 11 CSR 40-4.030 reference these regulations, and require that certain information be provided to Local Emergency Planning Committees (LEPCs) for reportable releases of hazardous substances and extremely hazardous substances.

(2) The person monitoring the statewide emergency telephone shall notify appropriate agencies of the hazardous substance emergency as designated in the Hazardous Substance Emergency Response Plan.

(3) Upon request, written follow-up notifications are required for releases of hazardous substances and extremely hazardous substances as listed in 40 CFR parts 302 and 355. If requested, the person having control of the hazardous substance or extremely hazardous substance shall provide a written follow-up emergency notice (or notices, as more information becomes available) to the department setting forth and updating the information with respect to—

- (A) Information required in section (1);
- (B) Actions taken to respond to and contain the release;
- (C) Any known or anticipated acute or chronic health risks associated with the release; and
- (D) Where appropriate, advice regarding medical attention necessary for exposed individuals.

(4) If requested, a written report shall be provided to the department for any other hazardous substance emergency. The requested reports shall contain the information as specified in sections (1) and (3) of this rule and any other pertinent information as requested by the department. In addition, state reporting requirements in 11 CSR 40-4.030 require that written follow-up reports be provided to the Department of Public Safety and appropriate LEPCs for any reportable releases of hazardous substances or extremely hazardous substances.

*AUTHORITY: section 260.520, RSMo (Supp. 1995). * Original rule filed Nov. 30, 1983, effective April 12, 1984. Emergency amend-*

ment filed Dec. 2, 1992, effective Jan. 1, 1993, expired April 30, 1993. Amended: Filed Oct. 5, 1992, effective April 8, 1993. Amended: Filed June 14, 1994, effective Jan. 29, 1995. Amended: Filed July 22, 1996, effective Feb. 28, 1997.

**Original authority 1983, amended 1993, 1995.*



Response to Small Fuel Spills

Introduction

Local fire departments often respond to releases of small amounts of petroleum products. This fact sheet, created in cooperation with the Missouri Department of Public Safety - Division of Fire Safety, is intended to provide fire departments with information regarding responses to these types of releases.

Missouri state law requires the responsible party (spiller) to report petroleum product releases greater than 50 gallons to the Missouri Department of Natural Resources at 573-634-2436 at the earliest practical moment upon discovery. If the release is from an underground storage tank, the reportable quantity is 25 gallons or more. Further, federal law requires the responsible party to report any release of oil if the oil reaches or threatens any waterway. The definition of waterway includes sewers, groundwater, wetlands, lakes, creeks, streams, rivers and areas that may not have running water in them at the time, such as road ditches that drain into other waterways.

In the past, small fuel spills were routinely addressed by flushing, with either foam or water. Unfortunately, this manner of response often resulted in the fuel reaching a waterway, potentially causing a greater problem than the initial spill itself. While many fire departments realize that flushing may cause more problems than it solves, information regarding alternative cleanup methods may not be readily available. The following information is provided by the Missouri Department of Public Safety and Department of Natural Resources as possible alternative response actions to small fuel spills.

Note: It is understood that public safety must be the first consideration in a response and that the following actions may not be the most appropriate in certain situations.

1. If possible, the spill of fuel should be contained and the release stopped. Sand, gravel, soil, straw, kitty litter or other such materials may be effective in containing or absorbing fuel spills.
2. If fire hazard reduction measures are necessary, use foam as appropriate. Do not over apply. Use as little water on the spill as necessary.
3. Pump, recover, and containerize as much free product as possible. In many cases, recovered product can be routed back to refineries for recycling, or used for other purposes such as fire department training exercises. Another method of disposal is use in fuel blending operations; however, this is not a viable alternative if the fuel has been contaminated with large amounts of water. If the spilled fuel contains too much water to lend itself as a usable resource, it may have to be tested and disposed as a regulated hazardous waste.

4. Apply sand, straw, sawdust, ground corn cobs or commercial absorbents such as kitty litter or oil-dry to absorb petroleum residues rather than wash them away with water. Absorbent materials used to clean up fuel spills may be disposed at a sanitary landfill with prior approval of the landfill operator. A fact sheet about proper management of soil contaminated with virgin gasoline or virgin fuel oil is available from the Department of Natural Resources at www.dnr.mo.gov/pubs/pub2177.pdf.
5. If washing with water is the chosen option, runoff should be containerized or routed to a sanitary sewer with the knowledge and approval of the wastewater treatment plant operator. Treatment chemicals and agents should not be used except under special circumstances. If a fire department has questions about the proper application of such agents, the Department of Natural Resources may be contacted 24 hours a day at 573-634-2436 for technical assistance. As stated in Item 3, water contaminated with petroleum may be required by law to be tested and disposed as a hazardous waste.

According to Missouri Hazardous Waste Management Laws and Regulations, the responsibility for proper disposal of a hazardous waste is that of the owner of that waste who could be the spiller, the owner of the shipment, or the owner of a facility where the spill occurred.

Fire departments should exercise caution; if the material is flushed to a waterway during a response, the fire department may be legally considered as a party responsible for the release.

Not all fire departments have financial resources to maintain stocks of absorbent materials, containers, and other related response equipment. Access to vacuum trucks, heavy equipment and other necessary services may, likewise, be difficult for some jurisdictions to obtain. It is recommended that a fire departments contingency planning include identification of supply and service sources in order to be prepared for these types of releases.

Every response method has its own inherent advantages and disadvantages. Specific response methods must be evaluated and initiated on a case-by-case basis.

For More Information

Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102-0176
800-361-4827 or 573-751-3176
www.dnr.mo.gov/env/hwp/index.html

Missouri Department of Natural Resources
Field Services Division
Environmental Emergency Response
P.O. Box 176
Jefferson City, MO 65102-0176
800-361-4827 or 573-526-3349 (non-emergency)
www.dnr.mo.gov/env/index.html

Missouri Department of Public Safety
Division of Fire Safety
573-751-2930 (non-emergency)
www.dfs.dps.mo.gov

Spill Report Form

For spills of reportable quantities that impact soil, surface water or ground water call MDNR 24-hour Environmental Emergency Response at 573-634-2436.

Site: _____ Primary Contractor: _____

Date: _____ Incident Date: _____

Complete for any type of petroleum product or hazardous materials / waste spill or incident. If the spill is of reportable quantity, report must be submitted within five (5) business days.

Keep a copy of this report with the SWPPP Log.

| | |
|------------------------------------|-----------|
| Person Reporting Spill or Incident | |
| Name | Address |
| Organization | |
| Title | |
| Telephone | |
| Email | Signature |

| |
|----------------------------------|
| Type of Spill: |
| Common Name of Spilled Substance |
| Estimated Quantity Spilled |
| Estimated Concentration |
| Date and Duration of Spill |
| Date Clean Up Completed |

| SPILL TO LAND | SPILL TO WATER BODY |
|-----------------|--|
| Name of site: | Name of water body: |
| Street address: | Location of discharge |
| City | Description of area from which spilled material may reach: |
| County: | |

Actions Taken:

To contain spill:

To clean up spill:

To remove/dispose of spilled substance and cleanup material:

To prevent reoccurrence:

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.

Person responsible for managing spill response:

| | |
|-------|-----------|
| Name | Signature |
| Phone | Email |

Spill Report Form

For spills of reportable quantities that impact soil, surface water or ground water call MDNR 24-hour Environmental Emergency Response at 573-634-2436.

Site: _____ Primary Contractor: _____

Date: _____ Incident Date: _____

Complete for any type of petroleum product or hazardous materials / waste spill or incident. If the spill is of reportable quantity, report must be submitted within five (5) business days.

Keep a copy of this report with the SWPPP Log.

| | |
|------------------------------------|-----------|
| Person Reporting Spill or Incident | |
| Name | Address |
| Organization | |
| Title | |
| Telephone | |
| Email | Signature |

| |
|----------------------------------|
| Type of Spill: |
| Common Name of Spilled Substance |
| Estimated Quantity Spilled |
| Estimated Concentration |
| Date and Duration of Spill |
| Date Clean Up Completed |

| SPILL TO LAND | SPILL TO WATER BODY |
|-----------------|--|
| Name of site: | Name of water body: |
| Street address: | Location of discharge |
| City | Description of area from which spilled material may reach: |
| County: | |

Actions Taken:

To contain spill:

To clean up spill:

To remove/dispose of spilled substance and cleanup material:

To prevent reoccurrence:

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.

Person responsible for managing spill response:

| | |
|-------|-----------|
| Name | Signature |
| Phone | Email |

SECTION 10

Endangered Species Documentation



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
Phone: (573) 234-2132 Fax: (573) 234-2181



IPaC Record Locator: 619-16679092

May 20, 2019

Subject: Consistency letter for the 'Lee's Summit Senior Living Community' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Springfield General Civil:

The U.S. Fish and Wildlife Service (Service) received on May 20, 2019 your effects determination for the 'Lee's Summit Senior Living Community' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause “take”^[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action’s effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Gray Bat, *Myotis grisescens* (Endangered)
- Indiana Bat, *Myotis sodalis* (Endangered)

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

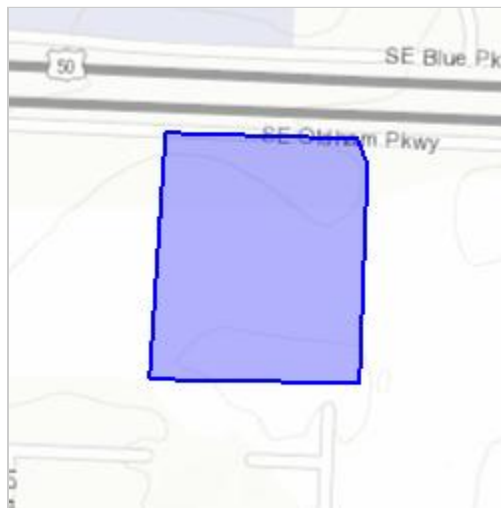
Lee's Summit Senior Living Community

2. Description

The following description was provided for the project 'Lee's Summit Senior Living Community':

The project proposes the development of a vacant tract of land located in Section 10 of Township 47 North, Range 31 West. Approximately 9.9 acres are to be disturbed during construction.

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.90056867514919N94.33194182204286W>

**Determination Key Result**

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

No

2. Will your activity purposefully **Take** northern long-eared bats?

No

3. Is the project action area located wholly outside the White-nose Syndrome Zone?

Automatically answered

No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

No

6. Will the action involve Tree Removal?

No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0



May 8, 2019

Missouri Department of Conservation
Resource Science Division
Missouri Natural Heritage Review Web Site
P.O. Box 180
Jefferson City, MO 65102-0180

We are proposing to construct the O'Reilly's Senior Living Facility in Lee's Summit, Missouri. The site is located at Section-Township-Range: 10-47N-31W in Greene County, Missouri.

Researching on-line at the Missouri Natural Heritage Review web site for endangered species or critical habitat on or near the project site, we received a Level 2 report.

Enclosed please find a copy of the Level 2 report and a copy of the Springfield quadrangle map – Greene County, MO of the proposed area.

Please advise if our project is close enough to impact any resources in question.

If you have any questions or need additional information, please feel free to contact us.

Sincerely,

Brett Mahan
Olsson
(bmahan@olsson.com)



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 Two Report: State Listed Endangered Species and/or Missouri Species/Natural Communities of Conservation Concern

There are records for state-listed Endangered Species, or Missouri Species or Natural Communities of Conservation Concern within or near the defined Project Area. Please contact 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 website 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: O'Reilly's Senior Living Facility #5723

User Project Number: 018-1450

Project Description: Section 10, Township 47 North, Range 31 West; 38.9004, -94.3324; Unnamed Tributary to E. Fork Little Blue River; Jackson County

Project Type: Residential, Commercial and Governmental Building Development

Contact Person: Civil Olsson

Contact Information: SGFGCV@olsson.com or 4178908802

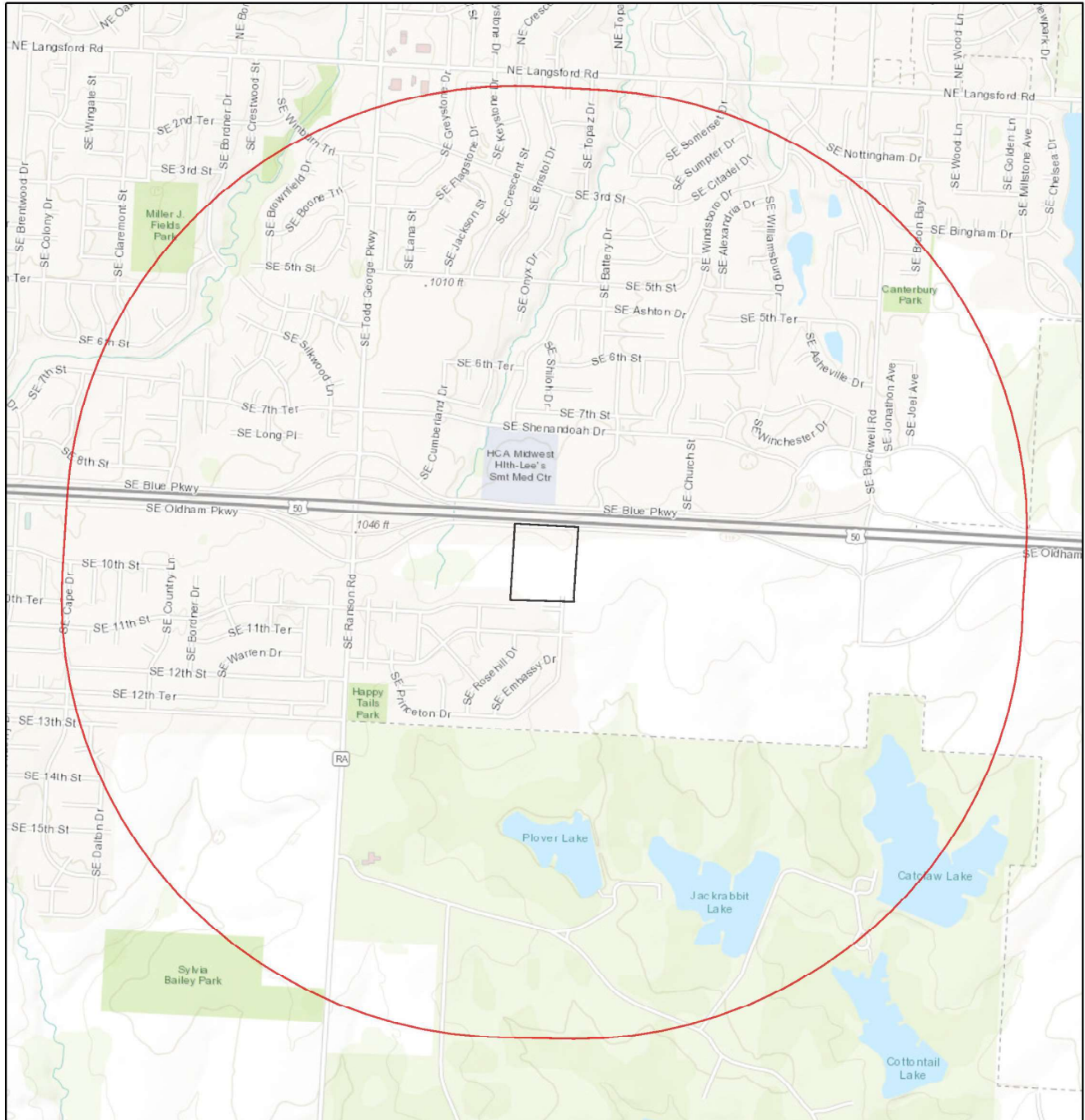
Disclaimer: The NATURAL HERITAGE REVIEW REPORT produced by this website identifies if a species tracked by the Natural Heritage Program is known to occur within or near the area submitted for your project, and shares suggested recommendations on ways to avoid or minimize project impacts to sensitive species or special habitats. 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. The Natural Heritage Program tracks occurrences of sensitive species and natural communities where the species or natural community has been found. Lack of an occurrence record does not mean that a sensitive plant, animal or natural community is not present on or near the project area. Depending on the project, current habitat conditions, and geographic location in the state, surveys may be necessary. Additionally, 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.

The Natural Heritage Report is not a site clearance letter for the project. It provides an indication of whether or not public lands and sensitive resources are known to be (or are likely to be) located close to the proposed project. Incorporating information from the Natural Heritage Program into project plans is an important step that can help reduce unnecessary impacts to Missouri's sensitive fish, forest and wildlife resources. However, the Natural Heritage Program is only one reference that should be used to evaluate potential adverse project impacts. Other types of information, such as wetland and soils maps and 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. The information within this report is not intended to replace 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 the USFWS Information for Planning and Conservation (IPaC) website at <https://ecos.fws.gov/ipac/> for further information. This site was developed to help streamline the USFWS environmental review process and is a first step in ESA coordination. The Columbia Missouri Ecological Field Services Office may be reached at 573-234-2132, or by mail at 101 Park Deville Drive, Suite A, Columbia, MO 65203.

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 www.modot.mo.gov/ehp/index.htm for additional information on recommendations.

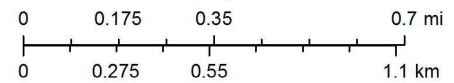
O'Reilly's Senior Living Facility



May 8, 2019

1:20,278

- Project Boundary
- Buffered Project Boundary



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Species or Communities of Conservation Concern within the Area:

There are records for state-listed Endangered Species, or Missouri Species or Natural Communities of Conservation Concern within or near the defined Project Area. Please contact the Missouri Department of Conservation for further coordination.

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

Other Special Search Results:

The project occurs on or near public land, Reed (James A) Mem WA, 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.

Project Location and/or Species Recommendations:

Endangered Species Act Coordination - 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. **If any trees need to be removed for your project, please contact the 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.**

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 <http://mdc.mo.gov/9633> 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 (<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch.aspx>) and the Missouri Department of Natural Resources (DNR) issued Clean Water Act Section 401 Water Quality Certification (<http://dnr.mo.gov/env/wpp/401/index.html>), 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 <http://dnr.mo.gov/env/wpp/permits/index.html> 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.

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

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.

Additional information on Missouri's sensitive species may be found at <http://mdc.mo.gov/discover-nature/field-guide/endangered-species>. Detailed information about the animals and some plants mentioned may be accessed at http://mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx. If you would like printed copies of best management practices cited as internet URLs, please contact the Missouri Department of Conservation.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Missouri Ecological Services Field Office
101 Park Deville Drive
Suite A
Columbia, MO 65203-0057
Phone: (573) 234-2132 Fax: (573) 234-2181



In Reply Refer To:

May 20, 2019

Consultation Code: 03E14000-2019-SLI-1616

Event Code: 03E14000-2019-E-03736

Project Name: Lee's Summit Senior Living Community

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. **Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days.** The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Consultation Technical Assistance

Refer to the Midwest Region [S7 Technical Assistance](#) website for step-by-step instructions for making species determinations and for specific guidance on the following types of projects: projects in developed areas, HUD, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

Federally Listed Bat Species

Indiana bats, gray bats, and northern long-eared bats occur throughout Missouri and the information below may help in determining if your project may affect these species.

Gray bats - Gray bats roost in caves or mines year-round and use water features and forested riparian corridors for foraging and travel. If your project will impact caves, mines, associated riparian areas, or will involve tree removal around these features particularly within stream corridors, riparian areas, or associated upland woodlots gray bats could be affected.

Indiana and northern long-eared bats - These species hibernate in caves or mines only during the winter. In Missouri the hibernation season is considered to be November 1 to March 31. During the active season in Missouri (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags 5 inches diameter at breast height (dbh) for Indiana bat, and 3 inches dbh for northern long-eared bat, that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Tree species often include, but are not limited to, shellbark or shagbark hickory, white oak, cottonwood, and maple. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, Indiana bats or northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas;
 - Trees found in highly-developed urban areas (e.g., street trees, downtown areas);
 - A pure stand of less than 3-inch dbh trees that are not mixed with larger trees; and
 - A stand of eastern red cedar shrubby vegetation with no potential roost trees.
-

Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example ["No Effect" document](#) also can be found on the S7 Technical Assistance website.

2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project other than bats (see #3 below) then project proponents can conclude the proposed activities **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain [Life History Information for Listed and Candidate Species](#) through the S7 Technical Assistance website.

3. If IPaC returns a result that one or more federally listed bat species (Indiana bat, northern long-eared bat, or gray bat) are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** these bat species **IF** one or more of the following activities are proposed:

- a. Clearing or disturbing suitable roosting habitat, as defined above, at any time of year;
- b. Any activity in or near the entrance to a cave or mine;
- c. Mining, deep excavation, or underground work within 0.25 miles of a cave or mine;
- d. Construction of one or more wind turbines; or
- e. Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on listed bat species. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example ["No Effect" document](#) also can be found on the S7 Technical Assistance website.

If any of the above activities are proposed in areas where one or more bat species may be present, project proponents can conclude the proposed activities **may affect** one or more bat species. We recommend coordinating with the Service as early as possible during project planning. If your project will involve removal of over 5 acres of suitable forest or woodland habitat, we recommend you complete a Summer Habitat Assessment prior to contacting our office to expedite the consultation process. The Summer Habitat Assessment Form is available in Appendix A of the most recent version of the [Range-wide Indiana Bat Summer Survey Guidelines](#).

Other Trust Resources and Activities

Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed [voluntary guidelines for minimizing impacts](#).

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to [guidelines](#) developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's [Wind Energy Guidelines](#). In addition, please refer to the Service's [Eagle Conservation Plan Guidance](#), which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

Next Steps

Should you determine that project activities **may affect** any federally listed species or trust resources described herein, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

If you have not already done so, please contact the Missouri Department of Conservation (Policy Coordination, P. O. Box 180, Jefferson City, MO 65102) for information concerning Missouri Natural Communities and Species of Conservation Concern.

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Karen Herrington

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Missouri Ecological Services Field Office

101 Park Deville Drive

Suite A

Columbia, MO 65203-0057

(573) 234-2132

Project Summary

Consultation Code: 03E14000-2019-SLI-1616

Event Code: 03E14000-2019-E-03736

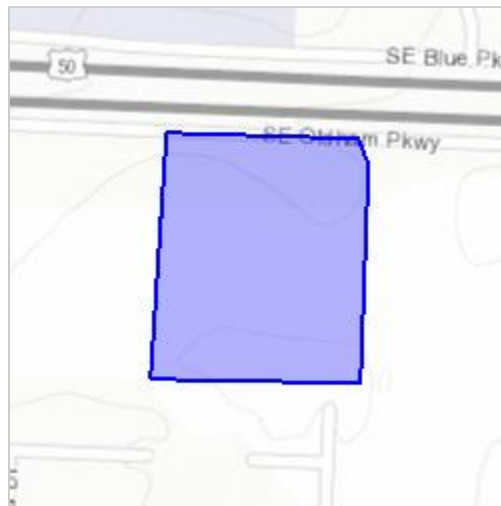
Project Name: Lee's Summit Senior Living Community

Project Type: DEVELOPMENT

Project Description: The project proposes the development of a vacant tract of land located in Section 10 of Township 47 North, Range 31 West. Approximately 9.9 acres are to be disturbed during construction.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.90056867514919N94.33194182204286W>



Counties: Jackson, MO

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

| NAME | STATUS |
|--|------------|
| Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329 | Endangered |
| Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045 | Threatened |

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.



Missouri Department of Conservation Natural Heritage Review Report

June 11, 2019 -- Page 1 of 2

Resource Science Division
P. O. Box 180
Jefferson City, MO 65102
Prepared by: Brittanie Brauner
Brittanie.Brauner@mdc.mo.gov
(573) 522 – 4115 ext. 3182

Brett Mahan
Olsson
417-890-8802
SGFGCV@olsson.com

| | |
|------------------|-----------------------------------|
| Project type: | Land Development |
| Location/Scope: | T47N R31W S10 |
| County: | Jackson |
| Query reference: | O'Reilly's Senior Living Facility |
| Query received: | 5/8/2019 |

This NATURAL HERITAGE REVIEW is not a site clearance letter. Rather, it identifies public lands and sensitive resources known to have been located close to and/or potentially affected by the proposed project. On-site verification is the responsibility of the project. Natural Heritage records were identified at some date and location. This report considers records near but not necessarily at the project site. Animals move and, over time, so do plant communities. To say "there is a record" does not mean the species/habitat is still there. To say that "there is no record" does not mean a protected species will not be encountered. These records only provide one reference and other information (e.g. wetland or soils maps, on-site inspections or surveys) should be considered. Look for additional information about the biological and habitat needs of records listed in order to avoid or minimize impacts. More information is at <http://mdc.mo.gov/discover-nature/places-go/natural-areas> and mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx.

Level 3 issues: Records of federal-listed (these are also state-listed) species or critical habitats near the project site:

Natural Heritage records identify Bald eagles (*Haliaeetus leucocephalus*) 3.9 miles from project area. Bald eagles nest near streams or water bodies in the project area. Nests are large and fairly easy to identify. While no longer listed as endangered, eagles continue to be protected by the federal government under the Bald and Golden Eagle Protection Act. Work managers should be alert for nesting areas within 1500 meters of project activities and follow federal guidelines at: <http://www.fws.gov/midwest/MidwestBird/EaglePermits/index.html> if eagle nests are seen.

FEDERAL LIST species/habitats are protected under the Federal Endangered Species Act. Contact the U.S. Fish and Wildlife Service (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; 573-234-2132) for Endangered Species Act coordination and concurrence information.

Level 2 issues: Records of state-listed (not federal-listed) endangered species AND / OR state-ranked (not state-listed endangered) species and natural communities of conservation concern. The Department tracks these species and natural communities due to population declines and/or apparent vulnerability.

Natural Heritage records identify no state-listed endangered species within the project area.

Natural Heritage records identify Barn Owl (*Tyto alba*, State Ranked S3 – Imperiled) and American Badger (*Taxidea taxus*, State Ranked S3) 1.3 and 1.2 miles from project area, respectively. It should also be noted that James A. Reed Memorial Wildlife Area is 0.5 miles south of the project area.

See https://nature.mdc.mo.gov/sites/default/files/downloads/2018_SOCC.pdf a complete list of species and communities of conservation concern.

STATE ENDANGERED species are listed in and protected under the Wildlife Code of Missouri (3CSR10-4.111).

General recommendations related to this project or site, or based on information about the historic range of species (unrelated to any specific Natural Heritage records):

- Indiana bats (*Myotis sodalis*, federal and state-listed endangered) and Northern long-eared bats (*Myotis septentrionalis*, federal-listed threatened) hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in 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 and Northern long-eared bats, especially from September to April. **If any trees need to be removed by your project, please contact the 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.**

- Karst: Jackson 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, so check your project site for any karst features and make every effort to protect groundwater in the project area.
- Land Development: Construction should be managed to minimize erosion and sedimentation/runoff to nearby streams and lakes, including adherence to any “Clean Water 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 disturbed areas 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*.
- 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, so inspect and clean equipment thoroughly before moving between project sites.
- 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 ($\geq 140^{\circ}$ F, typically available at do-it-yourself carwash sites), and dry in the hot sun before using again.

These recommendations are ones project managers might prudently consider based on a general understanding of species needs and landscape conditions. Natural Heritage records largely reflect sites visited by specialists in the last 30 years. Many privately owned tracts have not been surveyed and could host remnants of species once but no longer common.



SECTION 11

Historic Preservation Documentation

Section 106 of the 1966 National Historic Preservation Act (as amended) aims to protect historic and cultural properties from unintentional federal action. A federal action can be through a permit, license or funding. If the preceding situations do not apply to this project a Section 106 review is not required. The permittee must still comply with relevant state and local regulations.

Jackson County National Register Listings

1524 Grand Avenue Building, 1524 Grand Blvd., Kansas City (4/15/04)

1901 McGee Street Automotive Service Building, 1901-1907 McGee St., Kansas City (1/22/09)

18th and Vine Historic District (*Historic Resources of the 18th and Vine Area MPDF, MAP* [see **note**]), roughly bounded by 18th St., Woodland Ave., 19th St. and The Paseo, Kansas City (9/09/91; additional documentation 12/05/07)

85th and Manchester "Three Trails" Trail Segment (*Santa Fe Trail MPDF*), NW. corner of 85th & Manchester, Kansas City (8/22/12)

A.B.C. Storage and Van Co. Building, 1015 E. 8th St., Kansas City (2/01/07)

Acme Brass and Machine Works Building, 609-611 E 17th St., Kansas City (7/14/04)

Aines Farm Dairy Building, 3110-30 Gillham Rd., Kansas City (10/01/08)

Alana Apartment Hotel, 2700-2706 Troost Ave. and 1015 E. 27th St., Kansas City (7/05/06)

Ambassador Hotel Historic District, 3527, 3600 Broadway and 435, 441 Knickerbocker Place, Kansas City (2/17/83)

Ambassador Hotel Historic District (boundary increase), 336 W. 36th St; 3543 Broadway, Kansas City (4/10/08)

Argyle Building, 306 E. 12th St., Kansas City (8/17/05)

Armour Boulevard Post-World War II Apartment Building Historic District (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 640 & 701 E Armour Blvd. & 3457 Holmes St., Kansas City (11/07/07)

Attucks School (*Historic Resources of the 18th and Vine Area MPDF*), 1815 Woodland Ave., Kansas City (9/09/91)

Auto Coach Building, 1730-34 Oak St., Kansas City (4/18/07)

Bailey Family Farm Historic District (*Lee's Summit, Missouri MPDF*), SW corner of Bailey and Ranson Rds., Lee's Summit (7/03/06)

Baker-Vawter Building, 915-917 Wyandotte St., Kansas City (5/05/00)

Bancroft School, 4300 Tracy Ave., Kansas City (1/12/12)

Barclay Building, 3613-23 Broadway Blvd., Kansas City (2/8/2007)

Bayles Addition Historic District (*Lee's Summit, Missouri MPDF*), bounded by SW. Jefferson, SW. 3rd, SW. 5th, SW. 4th & SW. Walnut Sts., Lee's Summit (2/13/13)

Bellefontaine Avenue Historic District, 500-24 Bellefontaine Ave., Kansas City (2/14/11)

Bellerive Hotel, 214 E Armour Blvd., Kansas City (2/28/80)

Belmont Hotel, 911 E. Linwood Blvd., Kansas City (8/04/16)

Benton, Thomas Hart, House and Studio (**Thomas Hart Benton Home and Studio State Historic Site**), 3616 Belleview, Kansas City (11/21/80)

Beth Shalom Synagogue, 3400 The Paseo, Kansas City (9/09/82)

Bingham-Waggoner Home and Estate, 313 W Pacific Ave., Independence (5/22/80)

Bixby, Walter E., House, 6505 State Line Rd., Kansas City (11/21/78)

Blackstone Hotel, 817 Cherry St., Kansas City (10/18/03)

Blue Mills (***Santa Fe Trail MPDF***), 3101 Lentz Rd., Independence (4/21/94)

BMA Tower, 700 Karnes Blvd., Kansas City (8/21/02)

Boley Building, 1130 Walnut St., Kansas City (3/09/71)

Bon Air Apartments Building (***Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF***), 4127-4133 Locust St., Kansas City (7/30/08)

Bonfils Building, 1200 Grand Ave., Kansas City (3/22/84)

Braley, Charles A., House, 3 Dunford Cir., Kansas City (10/09/13)

Bryant Building, 1102 Grand Ave., Kansas City (4/24/89)

Bryant, Dr. John S. Jr. and Harriet Smart, House, 519 S Main St., Independence (5/21/92)

Buick Automobile Co. Building, 216 Admiral Blvd., Kansas City (5/05/04)

Bunker Building, 820 Baltimore Ave., Kansas City (9/05/75)

Burnett-Berry House, 1030 W 65th St, Kansas City (2/18/11)

Byram's Ford Historic District, 63rd St. and Manchester Trafficway at Big Blue River, Kansas City (10/16/89)

Campbell--Continental Baking Company Building, 1108 E. 30th St., Kansas City (5/10/16)

Cave Spring, 7100 Blue Ridge Extension, Kansas City (8/10/78)

Chambers Building, 25 East 12th Street, Kansas City (12/28/01)

Chappell, Philip E., House, 1836 Pendleton Ave., Kansas City (8/03/90)

Chatham Hotel, 3701 Broadway, Kansas City (6/24/08)

Cherry Street Colonnades Historic District (***Colonnade Apartment Buildings of Kansas City, MO MPDF; MAP*** [see **note**]), 2523, 2527, 2531, 2535, 2539, 2543, 2547, 2542 and 2544 Cherry St., Kansas City (9/22/05)

Chicago Apartments, 1110-1112 E Armour Blvd., Kansas City (9/11/80)

Christian Church Hospital, 2524 W. Paseo Blvd., Kansas City (10/21/04)

Circle Apartments (***Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF***), 1200 Paseo Blvd., Kansas City (10/22/02)

City Bank Building, 1801 Grand Ave., Kansas City (2/17/83)

Coates House Hotel, 1005 Broadway, Kansas City (2/23/72)

Coca-Cola Building, 2101-11 Grand Ave., Kansas City (8/18/88)

Colonnade Apartment Building at 4302 Oak Street (*Colonnade Apartment Buildings of Kansas City, MO MPDF*), 4302 Oak St., Kansas City (9/04/08)

Columbia Building, 2006-2012 Wyandotte St., Kansas City (05/05/00)

Commerce Tower, 911 Main St., Kansas City (4/11/14)

Commerce Trust Company Historic District, bounded by E. 9th, Walnut, E. 10th & Main Sts., Kansas City (11/9/15)

Continental Hotel (*Hotels in Downtown Kansas City TR* [see **note***]), 106 W 11th St., Kansas City (8/08/83)

Corrigan, Bernard, House, 1200 W 55th St., Kansas City (1/18/78)

Corrigan, Thomas, Building, 1828 Walnut, Kansas City (9/16/82)

Creamery Package Manufacturing Company Building (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 1408-1410 W. 12th St., Kansas City (11/07/16)

Crestwood Historic District (**MAP** [see **note**]), roughly bounded by Oak St., the jct. of Cherry and Locust Sts., Holmes St., and 56th St., Kansas City (10/08/98)

Crossroads Historic Freight District (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 214 West 21st St.; 101-112 West 22nd St.; 2000-2028 Baltimore; 2101-2133 Broadway; 2030-2114 and 2101-2121 Central; 2000-2124 and 2019-2043 Wyandotte, Kansas City (12/22/00)

Curtiss, Louis, Studio Building, 1116-1120 McGee St., Kansas City (6/19/72)

Dean, O.H., Building, 3625-3635 Main St., Kansas City (9/03/09)

Dierks Building, 1000-1006 Grand Blvd., Kansas City (1/29/2009)

Disney, Walt, House and Garage, 3028 Bellefontaine Ave., Kansas City (5/22/78)

District I (*Armour Boulevard MRA* [see **note***]), Armour Blvd. between Broadway and Baltimore Aves., Kansas City (7/28/83)

District I (*Hotels in Downtown Kansas City TR* [see **note***]), roughly bounded by Baltimore Ave., W 12th, W 13th, and Wyandotte Sts., Kansas City (8/08/83)

District II (*Armour Boulevard MRA* [see **note***]), Armour Blvd. between Warwick and Kenwood Aves., Kansas City (7/28/83)

District III (*Armour Boulevard MRA* [see **note***]), Armour Blvd. between Charlotte St. and The Paseo, Kansas City (7/28/83)

District III (boundary Increase; *Armour Boulevard MRA* [see **note***]), 3424 and 3426 Harrison Blvd., Kansas City (6/13/06)

Dorson Apartment Building, 912-918 Benton Blvd., Kansas City (5/05/87)

Drumm, Andrew, Institute, 3210 Lee's Summit Rd., Independence (11/03/06)

East 27th Street Colonnades Historic District (*Colonnade Apartment Buildings of Kansas City, MO MPDF*, **MAP** [see **note**]), 1300-02, 1312-14, 1320-22 E. 27th St., Kansas City (6/28/06)

Ellsworth Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 928 Paseo Blvd., Kansas City (10/22/02)

Elmwood Cemetery, 4900 Truman Rd., Kansas City (7/28/83)

Emery, Bird and Thayer Building, 1016-1018 Grand Ave., Kansas City (1/07/72; demolished)

Exchange Building, 1201-1207 Grand Blvd., Kansas City (6/13/03)

Fairfax Building, The, 101 W. 11th St., Kansas City (7/22/2015)

Faultless Starch Co. Building (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 1025 West Eighth Street, Kansas City (5/9/02)

Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City (4/10/07)

Federal Reserve Bank of Kansas City (**Additional Documentation**), 925 Grand Blvd., Kansas City (2/02/15)

Fidelity National Bank and Trust Co. Building, 911 Walnut St., Kansas City (8/14/97)

Fire Department Headquarters, Fire Station #2, 1020 Central Ave., Kansas City (9/02/82)

Firestone Building, 2001 Grand Ave., Kansas City (1/03/86)

Floyd, Jacobs, House (*Residential Structures by Mary Rockwell Hook TR* [see **note***]), 5050 Sunset Dr., Kansas City (9/08/83)

Fort Osage, N edge of Sibley on the MO River, Sibley (10/15/66; NHL 11/05/61)

Fort Osage Archaeological District, address restricted (3/17/72)

Four Gates Farm (*Residential Structures by Mary Rockwell Hook TR* [see **note***]), 13001 Little Blue Rd., Kansas City (7/15/91)

Fowler, Henry T. House (*Armour Boulevard MRA* [see **note***]), 3 E Armour Blvd., Kansas City (7/28/83)

Gary, Hunter, House, 1228 W. 56th St., Kansas City (2/13/08)

Gate City National Bank Building, 1111 Grand Ave., Kansas City (9/02/82)

George, Todd M. Sr., House (*Lee's Summit, Missouri MPDF*), 408 SE 3rd St., Lee's Summit (2/12/10)

Georgen, John and Adele, House, 933 South Main St., Independence (05/05/00)

German Evangelical Pastors' Home Historic District (**MAP** [see **note**]), 1808-1812 W Walnut and 300-311 19th Terrace, Blue Springs (10/13/88)

Gillham Court Apartments Building (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 3411 Gillham Rd., Kansas City (11/07/07)

Globe Storage and Transfer Co. Building, 1712 Main St., Kansas City (4/18/07)

Gloyd Building, 921 Walnut, Kansas City (7/25/85)

Goodenow Textiles Co. Building, 3710 Main St., Kansas City (4/18/03)

Grand Avenue Garage, 718 Grand Ave., Kansas City (2/03/15)

Grand Avenue Temple and Grand Avenue Temple Building, 205 E 9th St. and 903 Grand Ave., Kansas City (5/08/85)

Grandview Residential Historic District (**MAP** [see **note**]), 807-1111 Highgrove Rd., 13016-13020 and 13019 Grandview Rd. and 13006-13018 10th St. (11/15/05)

Graphic Arts Building, 934 Wyandotte St., Kansas City (8/04/05)

Greenlease Cadillac Building, 2900 Gillham Rd., Kansas City (6/13/03)

Guadalupe Center, 1015 Avenida de Cesar Chavez, Kansas City (9/02/03)

Gumbel Building, 801 Walnut St., Kansas City (1/25/79)

Harris, Col. John, House, 4000 Baltimore Ave., Kansas City (10/18/72)

Heim, Ferd., Brewing Company Bottling Plant, 507 N. Montgall Ave., Kansas City (6/07/16)

Helping Hand Institute Building, 523 Grand Blvd., Kansas City (05/05/00)

Henderson, Dr. Generous, House, 1016 The Paseo, Kansas City (2/28/79)

Hesse Carriage Co. Building, 1700 Oak St., Kansas City (3/21/07)

Hiland Telephone Exchange Building, 1020 E. 63rd St., Kansas City (5/06/05)

Holy Name Catholic Church, 2800 E. 23rd St., Kansas City (9/25/03)

Holy Rosary Historic District, roughly bounded by 5th and Campbell, 5th and Harrison and 9th E. Missouri Ave., Kansas City (2/07/07)

Hook, Mary Rockwell, House (***Residential Structures by Mary Rockwell Hook TR*** [see **note***]), 4940 Summit St., Kansas City (9/08/83)

Hotel Phillips, 106 W 12th St., Kansas City (6/04/79)

House at 5011 Sunset Drive (***Residential Structures by Mary Rockwell Hook TR*** [see **note***]), 5011 Sunset Dr., Kansas City (9/08/83)

House at 54 E 53rd Terrace (***Residential Structures by Mary Rockwell Hook TR*** [see **note***]), 54 E 53rd Terrace, Kansas City (9/08/83)

Howard Neighborhood Historic District (***Lee's Summit, Missouri MPS***), roughly bounded by SE 5th St., SE Green St., SE 7th St., and SE Miller St., Lee's Summit (7/03/07)

Howe, Frank M., Residence, 1707 Jefferson St., Kansas City (4/18/85)

Hughes, Mollie and Josephine, House, 801 S Main St., Independence (4/07/94)

Hyde Park East Historic District, Old (**MAP** [see **note**]), roughly bounded Armour Blvd., Walnut St., 39th St., and Gillham Rd., Kansas City (5/27/04)

Hyde Park Historic District (**MAP** [see **note**]), Hyde Park, Kansas City (11/21/80)

Hyde Park West Historic District, Old (**MAP** [see **note**]), roughly bounded by Linwood Blvd., Central, 39th St., and Baltimore St., Kansas City (5/27/04)

Imperial Brewing Co. Brewery (***Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF***), 2825 Southwest Blvd., Kansas City (2/11/11)

Independence Boulevard Christian Church, 606 Gladstone Blvd., Kansas City (1/14/15)

Insurance Building-Consumers Cooperative Association Building, 318-320 E. 10th St., Kansas City (11/25/05)

Interstate Bakeries Corporation Headquarters, 12 E. Armour Blvd., Kansas City (9/01/15)

Inter-State Building, 417 E. 13th St./1300 Locust St., Kansas City (6/12/08)

Ivanhoe Masonic Temple, 2301 E Linwood Blvd. and 3201 Park Ave., Kansas City (5/02/85)

Jackson County Courthouse, bounded by Lexington and Maple Aves., and Liberty and Main Sts., Independence (10/18/72)

Jackson County Jail and Marshal's House, 217 N Main St., Independence (6/15/70)

Janssen Place Historic District (**MAP** [see **note**]), Janssen Pl., Kansas City (11/07/76)

Jenkins Music Company Building, 1217-1223 Walnut St., Kansas City (3/02/79)

Jensen-Salsbery Laboratories (Cooper's Animal Health Inc., Wellcome Animal Health Inc.), 520 W 21st St., Kansas City (7/16/85)

Jones, Lewis, House (***Santa Fe Trail MPDF***), 104 S Forest St., Independence (4/21/94)

Jones, R. Bryson, House, 1045 W. 56th St., Kansas City (4/15/09)

Kansas City Athenaeum, 900 E Linwood Blvd., Kansas City (10/11/79)

Kansas City Club Building, 1228 Baltimore Ave., Kansas City (11/19/02)

Kansas City Cold Storage Co. Building (***Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF***), 500 E. 3rd St., Kansas City (6/01/05)

Kansas City Live Stock Exchange, 1600 Genessee St., Kansas City (4/05/84)

Kansas City Masonic Temple, 903 Harrison St., Kansas City (11/14/80)

Kansas City, Missouri Western Union Telegraph Building, 100-114 E. 7th St., Kansas City (2/12/03)

Kansas City Parks and Boulevards Historic District (***Kansas City System of Parks and Boulevards MPDF***) roughly bounded by Missouri R., Hardesty Ave., Armour Blvd., and State Line, Kansas City (8/09/16)

Kansas City Police Station Number 4 (***Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF***), 115 W. 19th St., Kansas City (10/26/05)

Kansas City Power and Light Co. Building, 1330 Baltimore Ave., Kansas City (1/09/03)

Kansas City Public Library, 500 E 9th St., Kansas City (5/23/77)

Kansas City Southern Railway Building (***Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF***), 114 W. 11th St., Kansas City (5/06/04)

Kansas City Terminal Railway Co. Roundhouse Historic District, 27th St. and Southwest Blvd., Kansas City (1/26/01)

Kansas City Title and Trust Building, 927 Walnut St., Kansas City (6/25/05)

Kansas City Water Department Building, 201 Main St., Kansas City (4/07/94)

Katz, Michael H. and Rose, House, 5930 Ward Pkwy., Kansas City (3/22/04)

Keith, Charles S., House, 1214 W. 55th St., Kansas City (03/31/00)

Kelley-Reppert Motor Co. Building, 422 Admiral Blvd., Kansas City (11/12/04)

Kelly's Westport Inn (Albert G. Boone Store), Westport Rd. and Pennsylvania Ave., Kansas City (9/07/72)

Kemper Arena, 1800 Genessee St., Kansas City (9/09/16)

Kessler Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 924 Paseo Blvd., Kansas City (10/22/02)

Kirkwood Building, 1737-1741 McGee Street, Kansas City (7/25/01)

Knickerbocker Apartments, 501-535 Knickerbocker Place, Kansas City (6/13/03)

Knight, William Baker and Mary, House, 3534 Walnut St., Kansas City (10/18/03)

Kritser House, 115 E Walnut, Independence (4/10/85)

Kuehne-Schmidt Apartments (*Colonnade Apartment Buildings of Kansas City, MO MPDF*), 3737-39 and 3741-43 Main Sts., Kansas City (2/13/07)

Land Bank Building (Riss Building, Hanover Building), 15 W 10th, Kansas City (1/18/85)

Lee's Summit Christian Church Building, SE Douglas and SE Fourth Sts., Lee's Summit (4/20/11)

Lee's Summit Downtown Historic District (*Lee's Summit, Missouri MPDF*), roughly bounded by Second St., Douglas St., Fourth St., and Market St., Lee's Summit (8/17/05; AD approved 8/02/07)

Lewis-Webb House, 302 W Mill, Independence (2/06/86)

Liberty Memorial, 100 W 26th St., Kansas City (10/06/00; NHL 9/20/06)

Lincoln High School (*Kansas City, Missouri School District Pre-1970 MPDF*), 2111 Woodland Ave., Kansas City (1/15/14)

Linwood Presbyterian Church and Home for Convalescent Employed Women, 1801 Linwood Blvd., & 3212 Michigan Ave., Kansas City (8/07/12)

Liquid Carbonic Co. Building, 2000 Baltimore St., Kansas City (4/29/94)

Locust Street Apartments (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 3421 & 3425 Locust St., Kansas City (4/29/11)

Loew's Midland Theater-Midland Building, 1232-1234 Main St. and 1221-1233 Baltimore Ave., Kansas City (9/28/77)

Long, R. A., Building, 928 Grand Blvd., Kansas City (1/08/03)

Long, R. A., House, 3218 Gladstone Blvd., Kansas City (11/14/80)

Longview Farm, 11700 and 850 SW Longview Road, Lee's Summit (10/24/85)

Loose, Jacob, House (*Armour Boulevard MRA* [see **note***]), 101 E Armour Blvd., Kansas City (7/28/83)

Loretto Academy, 1111 W 39th St., Kansas City (7/28/83)

Love, Emily Rockwell, House (*Residential Structures by Mary Rockwell Hook TR* [see [note*](#)]), 5029 Sunset Dr., Kansas City (9/08/83)

Lowe and Campbell Sporting Goods Building, 1509-13 Baltimore Ave., Kansas City (1/12/12)

Maine Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 1300 Paseo Blvd., Kansas City (10/22/02)

Mainstreet Theatre, 1400 Main St., Kansas City (2/15/07)

Majestic Apartments (*Colonnade Apartment Buildings of Kansas City, MO MPDF*), 701-707 Benton Blvd., Kansas City (10/17/03)

Majors, Alexander, House, 8145 State Line Rd., Kansas City (also located in Johnson County, KS) (4/03/70)

Maples Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 1401 E. 10th St., Kansas City (10/22/02)

Marks and Garvey Historic District (**MAP** [see [note](#)]), 2429, 2433, 2437 Tracy Ave., Kansas City (6/28/06)

Marty, Albert, Building (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 1412-1418 W. 12th St., Kansas City (2/05/13)

Maryland Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 930 Paseo Blvd., Kansas City (10/22/02)

McConahay Building, 1121-1131 E 31st St., Kansas City (5/22/78)

McIntire, Levi, House (*Armour Boulevard MRA* [see [note*](#)]), 710 E Armour Blvd., Kansas City (7/28/83)

McMahon Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 1106 Paseo Blvd., Kansas City (10/22/02)

Mercantile Bank & Trust Building, 1101 Walnut St., Kansas City (12/31/09)

Meyer, August, House, 4415 Warwick Blvd., Kansas City (9/09/82)

Midwest Hotel (*Working Class Hotels at 19th and Main Streets, Kansas City, Missouri MPDF*), 1925 Main St., Kansas City (5/06/04)

Milo Apartments (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 1014-1020 W. 44th St., Kansas City (10/25/11)

Mineral Hall (Midland Theater/Midland Office Building, Roland E. Bruner House), 4340 Oak St., Kansas City (7/12/76)

Minor, Charles, House, 314 N Spring, Independence (3/22/84)

Missouri Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 1304 Paseo Blvd., Kansas City (10/22/02)

Missouri Pacific Depot, 600 S Grand, Independence (1/29/79)

Monroe Hotel (*Working Class Hotels at 19th and Main Streets, Kansas City, Missouri MPDF*), 1904-06 Main St., Kansas City (5/06/04)

Montgomery Ward and Company General Merchandise Warehouse (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 819 E 19th St, Kansas City (7/08/10)

Morningside Acres Historic Ranch House District (*Lee's Summit, Missouri MPDF*), roughly 600 blk. E. of Independence Ave. between SE 3rd Ter. & SE. 5th St., Lee's Summit (2/03/12)

Mount Washington School (*Kansas City, Missouri School District Pre-1970 MPDF*), 570 S. Evanston Ave., Independence (4/23/13)

Murdock, C.A., Manufacturing Company Building, 1225-1227 Union Ave., Kansas City (5/10/16)

Mutual Ice Co. Building, 4142-4144 Pennsylvania Ave., Kansas City (8/04/04)

Mutual Musician's Foundation Building, 1823 Highland Ave., Kansas City (2/07/79; NHL 12/21/81)

Myers, George J., House (*Armour Boulevard MRA* [see **note***]), 633 E Armour Blvd., Kansas City (7/28/83)

National Bank of Commerce Building, 922-924 Walnut St., Kansas City (5/5/99)

National Garage, 1100-1110 McGee St., Kansas City (05/05/00)

Nettleton, George H., Home, 5125 Swope Pkwy., Kansas City (10/14/99)

New England Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 1116 Paseo Blvd., Kansas City (10/22/02)

New Santa Fe "Three Trails" Trail Swales (*Santa Fe Trail MPDF*), W. Santa Fe Trail, 1/2 blk. W. of jct. with Madison Ave., Kansas City (8/22/12)

New York Life Building, 20 W 9th St., Kansas City (7/08/70)

Newbern Hotel, 525 E Armour Blvd., Kansas City (9/23/80)

Newcomer's, D. W., Sons Funeral Home, 1331 Brush Creek, Kansas City (8/09/83)

Nicholson, George E., House, 1028 W. 58th St., Kansas City (11/25/05)

Noland, Smallwood V., House (*Santa Fe Trail MPDF*), 1024 S Forest St., Independence (4/21/94)

Norman School (*Kansas City, Missouri School District Pre-1970 MPDF*), 3514 Jefferson St., Kansas City (1/15/14)

Northeast Douglas Street Residential Historic District (*Lee's Summit, Missouri MPDF*), NE Douglas St. roughly between Elm and Maggie Sts., Lee's Summit (8/27/08)

Northeast Forest Avenue and Northeast Green Street Residential Historic District (*Lee's Summit, Missouri MPDF*), 108, 110, 114 NE Forest Ave. and 310, 312 NE Green St., Lee's Summit (8/27/08)

Northeast Green and 1st Streets Residential Historic District (*Lee's Summit, Missouri MPDF*), roughly bounded by NE Douglas St., Maple St., 1st St., and NE Johnson St., Lee's Summit (8/27/08)

Old New England Building, 112 W 9th St., Kansas City (10/25/73)

Old Town Historic District, roughly bounded by Independence Ave., 2nd, Delaware and Walnut Sts., Kansas City (6/07/78)

Old Town Historic District (boundary increase I; **MAP** [see **note**]), 119, 207 and 213 Walnut St., Kansas City (7/01/05)

Old Town Historic District (boundary increase II), 136 Main St., Kansas City (10/05/05)

Old Town Historic District (boundary increase III), 140 Walnut St., Kansas City (2/14/06)

Old Town Historic District (boundary increase IV), roughly bounded by E. 2nd, Locust, & Walnut Sts. & E. Missouri Ave., Kansas City (1/17/12)

Ostertag, Robert, House (*Residential Structures by Mary Rockwell Hook TR* [see **note***]), 5030 Summit St., Kansas City (9/08/83)

Overfelt-Campbell-Johnston House, 305 S Pleasant St., Independence (9/05/75)

Owens-McCoy House (**Santa Fe Trail MPDF**), 410 W Farmer Ave., Independence (4/21/94)

Palace Clothing Co. Building, 1126-1128 Grand Ave., Kansas City (1/18/85)

Parade Park Maintenance Building, 1722 Woodland Ave., Kansas City (7/24/08)

Paris and Weaver Apartment Buildings (*Colonnade Apartment Buildings of Kansas City, MO MPDF*), 3944-46 and 3948-50 Walnut St., Kansas City (7/05/06)

Park Lane Apartments, 4600-4606 J.C. Nichols Parkway, Kansas City (5/05/04)

Park Manor Historic District, 910 Ward Pkwy, 920 Ward Pkwy. and 4826 Roanoke Pkwy, Kansas City (2/01/06)

Parkview, The (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 1000 Paseo Blvd., Kansas City (10/22/02)

Paseo YMCA (*Historic Resources of the 18th and Vine Area MPDF*), 1824 The Paseo, Kansas City (9/09/91)

Peck, George B., Dry Goods Co. Building, 1044 Main St., Kansas City (4/30/80)

Pendergast, Thomas J., Headquarters, 1908 Main St., Kansas City (10/25/11)

Pennbroke Apartments (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 604 W. 10th St., Kansas City (4/15/09)

Peppard, Joseph Grear, House, 1704 Jefferson St., Kansas City (3/26/85)

Perfection Stove Company Building (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 1200 Union Ave., Kansas City (7/07/2014)

Peters, Charles and Josephine, House, 1228 W. 55th St., Kansas City (3/15/16)

Peters, Nelle E., Troost Avenue Historic District (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 2719-37 Troost Ave.; 2730 Troost Ave., Kansas City (7/23/09)

Pickwick Hotel, Office Building, Parking Garage and Bus Terminal, 901-937 McGee St., 301-311 E. 9th St., 300-310 E. Tenth St., 906-912 Oak St., Kansas City (3/29/05)

Pilgrim Lutheran Church for the Deaf of Greater Kansas City and Parsonage, 3801-3807 Gillham Road, Kansas City (1/25/01)

Pink House (*Residential Structures by Mary Rockwell Hook TR* [see **note***]), 5012 Summit St., Kansas City (9/08/83)

Plaza House Apartments (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 4712 Roanoke Pkwy., Kansas City (10/16/13)

Plaza Towers (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 209 Emanuel Cleaver II Blvd., Kansas City (2/23/16)

Pratt and Whitney Plant Complex, address restricted (8/28/13)

President Gardens Apartments Historic District (**MAP** [see **note**]), roughly along President Ave., 83rd St., and 82nd Terrace between Lydia and Troost Aves., Kansas City (12/10/98)

President Hotel (*Hotels in Downtown Kansas City TR* [see **note***]), 1327-1335 Baltimore Ave., Kansas City (8/08/83)

Professional Building (Bryant Building), 1101-07 Grand Ave., Kansas City (7/17/79)

Quality Hill, roughly bounded by Broadway, 10th, 14th, and Jefferson Sts., Kansas City (7/07/78)

Repp, William D., House (*Armour Boulevard MRA*), 3500 Charlotte St., Kansas City (7/28/83)

Rice-Tremonti House, 8801 E 66th St., Raytown (3/02/79)

Richards and Conover Hardware C., 200 W 5th St., Kansas City (1/21/99)

Ridenour-Baker Grocery Company Building (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 933 Mulberry St., Kansas City, Jackson County (4/21/14)

Rieger Hotel (*Working Class Hotels at 19th and Main Streets, Kansas City, Missouri MPDF*), 1922 Main St., Kansas City (5/06/04)

Rockhill Neighborhood (**MAP** [see **note**]), both sides of 47th St. from Locust St. (S Pierce St.) to both sides of Harrison St. (N to Brush Cr. Blvd.), Kansas City (7/21/75)

Rockwell, Bertrand, House (*Residential Structures by Mary Rockwell Hook TR* [see **note***]), 1004 W 52nd St., Kansas City (9/08/83)

Row House Building, 3401 Main and 1-7 E 34th St., Kansas City (5/22/78)

Row House Buildings (boundary increase), 3401 Main, and 1-7 and 9-23 E 34th St., Kansas City (1/15/85)

Sacred Heart Church, School and Rectory, 2540-2544 Madison Ave. and 910 W 26th St., Kansas City (11/14/78)

Safeway Stores and Office and Warehouse Building, 2029-2043 Wyandotte St., Kansas City (05/05/00)

St. Mary's Episcopal Church, 1307 Holmes St., Kansas City (11/07/78)

St. Paul's Episcopal Church, 5th and S Green Sts., Lee's Summit (10/03/85)

St. Regis Hotel, 1400-1402 E. Linwood Blvd., Kansas City (12/03/13)

St. Teresa's Academy Music and Arts Building, 5600 Main St., Kansas City (11/15/00)

Santa Fe Place Historic District (**MAP** [see **note**]), roughly bounded by 27th St., Linwood Blvd., Indiana and Prospect Aves., Kansas City (5/30/86)

Santa Fe Trail – Minor Park, Kansas City, Trail Segments (***Santa Fe Trail MPDF***), Red Bridge Rd. E of jct. with Holmes Rd., Kansas City (6/30/94)

Santa Fe Trail – Santa Fe Trail Park, Independence Trail Segments (***Santa Fe Trail MPDF***), Santa Fe Rd., Independence (4/21/94)

Savoy Hotel and Grill, 219 W 9th St. (9th and Central Sts.), Kansas City (12/30/74)

Scarritt Building and Arcade, corner of 9th and Grand Sts., and 819 Walnut St., Kansas City (3/09/71)

Scarritt, Edward Lucky, House (Scarritt-Royster House), 3500 Gladstone Blvd., Kansas City (5/23/77)

Scarritt, Rev. Nathan, House, 4038 Central St. (305 Lawrence), Kansas City (5/08/78)

Scarritt, William Chick, House (Kindercare Nursing Home), 3240 Norledge Ave., Kansas City (3/21/78)

Scarritt Point North Historic District (**MAP** [see **note**]), roughly along Gladstone Blvd., Windsor, Bales, Indiana, and Norledge Aves., Kansas City (12/01/97)

Scarritt Point South Historic District (**MAP** [see **note**]), roughly along Gladstone and Benton Blvds., and Thompson Ave., Kansas City (12/01/97)

Seven Oaks School (***Kansas City, Missouri School District Pre-1970 MPDF***), 3711 Jackson Ave., Kansas City (10/09/12)

Sewall Paint and Glass Co. Building (***Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF***), 1009-1013 West Eighth Street, Kansas City (5/9/02)

Shelley, William Francis, House, 3601 Baltimore Ave., Kansas City (3/17/78)

Sherwood Manufacturing Co. Building (***Lee's Summit, Missouri MPDF***), 123 SE 3rd St., Lees' Summit (10/28/10)

Simpson-Yeomans Country Side Historic District, roughly bounded by 51st Terr., Wornall Rd., Wyandotte and 54th Sts., Kansas City (9/06/84)

Simpson-Yeomans Country Side Historic District (boundary increase), general vicinity of W51 Terrace, Wornall Rd., W F7, W 57th St., Kansas City (05/26/00)

Simpson-Yeomans-Country Side Historic District (boundary increase II; **MAP** [see **note**]), E. 52nd St., Brookside Blvd., Oak, E. 57th & Main Sts., Kansas City (7/14/11)

Smith and Sons Manufacturing Co. Building (***Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF***), 1400-26 Guinotte Ave., Kansas City (12/18/07)

Sophian Plaza, 4618 Warwick Blvd., Kansas City (7/05/83)

South Hyde Park Historic District (**MAP** [see **note**]), bounded by E 39th St., Gillham Pkwy., Brush Creek Blvd. & Troost Ave., Kansas City (11/14/07)

South Side Historic District (**MAP** [see **note**]), roughly bounded by 38th, 40th, Walnut, and Baltimore Sts., Kansas City (6/09/83)

Southeast Grand Avenue and Fifth Street Residential Historic District (*Lee's Summit, Missouri MPDF*), roughly comprised of E side of SE Grand between SE 4th and SE 5th and N side of SE 5th between SE Grand and SE Howard, Lee's Summit (4/20/11)

Southeast Green Street Historic Cottage District (*Lee's Summit, Missouri MPDF*), 311-330, and 400 and 401 SE Green St, Lee's Summit (10/14/10)

Southeast Third Street and Southeast Corder Avenue Ranch House Historic District (*Lee's Summit, Missouri MPDF*; **MAP** [see **note**]), roughly the S. side of SE. 3rd. E. of Independence Ave., along SE. Corder Ave. N. of SE. 4th & 5 E. lots S. of 4th., Lee's Summit (9/15/11)

Southeast Third Street Residential Historic District (*Lee's Summit, Missouri MPDF*), roughly comprised of the 400 block of SE Third St btw SE Grand and SE Howard, Lee's Summit (10/14/10)

Southwest Market Street Historic District (*Lee's Summit, Missouri MPDF*), 314 through 418 SW Market St., Lee's Summit (2/27/13)

Southwest Third and Southwest Madison Historic District (*Lee's Summit, Missouri MPDF*), 202 through 300 SW. 3rd St., Lee's Summit (2/13/13)

Spofford Home for Children, 5501 Cleveland Ave., Kansas City (8/23/16)

Squibb, E.R. and Sons, Building, 2500 W Pennyway, Kansas City (12/07/10)

Squier Park Historic District (*Historic Residential Suburbs in the United States, 1830-1960 MPDF*), roughly bounded by Armour Blvd., The Paseo, 39th St., & Troost Ave., Kansas City (4/24/12)

Standard Theatre, 300 W 12th St., Kansas City (6/05/74)

Stenzel, R.O. and Co. Warehouse (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 1811 Walnut, Kansas City (7/20/07)

Stevens, Edward A., House, 3223 Gladstone Blvd., Kansas City (10/24/16)

Stine and McClure Undertaking Co. Building, 924-926 Oak St., Kansas City (7/19/90)

Studna Garage Building (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), 415 Oak St., Kansas City (7/05/06)

Sweeney Automobile and Tractor School, 215 W. Pershing Rd., Kansas City (4/11/14)

Swinney, E.F., School (*Kansas City, Missouri School District Pre-1970 MPDF*), 1106 W. 47th St., Kansas City (10/16/13)

Switzer School Buildings, generally bounded by Madison Ave. and Summit St., 18th to 20th Sts., Kansas City (12/18/09)

Temple Block Building (Produce Exchange Building), 531 Walnut, Kansas City (6/19/85)

Temple Site (Morman Temple Site), Lexington Ave. and River Blvd., Independence (9/22/70)

Ten Main Center, 920 Main St., Kansas City (11/2/15)

Tocoma (The Netherlands), 3835 Main St., Kansas City (11/24/82)

Toll, Alfred, House (***Armour Boulevard MRA*** [see **note***]), 3502 Warwick Blvd., Kansas City (7/28/83)

Town of Kansas Site (***Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF***), address restricted, Kansas City (6/28/11)

Townley Metal and Hardware Co. Building, 200-210 Walnut St., Kansas City (4/14/94; additional documentation 1/24/01)

Traders National Bank Building, 1125 Grand Blvd., Kansas City (5/10/16)

Triangle Battery and Service Co. Building, 3001-03 Gillham Rd., Kansas City (10/17/03)

Trinity Episcopal Church, 409 N Liberty St., Independence (4/27/79)

Tromanhauser, Norman, House, 3603 West Roanoke Drive, Kansas City (1/26/01)

Truman, Harry S, Historic District, Range 32 West, Township 49 North, Sections 2 and 3; Range 32 West, Township 50 North, Sections 34 and 35, Independence (NHL 11/11/71; AD and boundary increase 7/13/11)

Truman, Harry S, National Historic Site (Harry S Truman National Historic Site), 219 N Delaware St., 601 and 605 W. Truman Rd. and 216 N. Delaware St., Independence (5/31/85)

Truman, Harry S, National Historic Site (boundary increase; **Harry S Truman National Historic Site**), 219 N Delaware St., 601 and 605 W. Truman Rd. and 216 N. Delaware St., Independence (2/23/05)

TWA Corporate Headquarters' Building, 1735-1741 Baltimore Ave.-1740 Main St., Kansas City (11/20/02)

Twenty-Ninth Street Colonnaded Apartments Historic District (***Colonnade Apartment Buildings of Kansas City, MO MPDF***), 900-906 E. 29th St. and 2843 N. Campbell; 910-912 E. 29th St.; 914 E. 29th St., Kansas City (2/07/07)

Twenty-Two Grand Building (***Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF***), 2008-2020 Grand Blvd., Kansas City (4/16/12)

Union Cemetery, 227 East 28th Terrace, Kansas City (4/19/16)

Union Station, generally bounded by Kansas City Terminal RR tracks, W. Pennway, Pershing Rd. and Main St., Kansas City (2/01/72; **boundary increase** 5/06/04)

U.S. Courthouse and Post Office - Kansas City, MO, 811 Grand Blvd., Kansas City (11/20/07)

United States Post Office-Kansas City, 315 W. Pershing Rd., Kansas City (5/26/04)

Unity School of Christianity Historic District, jct. US 50 and Colborn Rd., Unity Village (4/12/89)

Uptown Building and Theatre, 3700-3712 Broadway, Kansas City (6/27/79)

Vaccaro, Joe, Soda Water Manufacturing Co. Building, 918-922 E. 5th St., Kansas City (10/18/03)

Vaile, Harvey M., Mansion (Vaile Park), 1500 N Liberty St., Independence (10/01/69)

Valentine on Broadway Hotel, 3724 Broadway Blvd., Kansas City (8/01/08)

Van Noy, Ira C. and Charles S., House, 6700 and 6800 Elmwood, Kansas City (7/08/87)

Villa Serena Apartment Hotel, 325 Ward Pkwy., Kansas City (4/15/09)

Virginia Apartments (*Apartment Buildings on the North End of the Paseo Boulevard in Kansas City, Missouri MPDF*), 1100 Paseo Blvd., Kansas City (10/22/02)

Vitagraph Film Exchange Building, 1703 Wyandotte St., Kansas City (2/28/08)

Volker, William, House, 3717 Bell St., Kansas City (5/20/93)

Waldo Water Tower (Frank T. Riley Memorial), 75th St. and Holmes Rd., Tower Park, Kansas City (4/18/77)

Walnut Street Warehouse and Commercial Historic District (**MAP** [see **note**]), roughly bounded by Main St., 15th St., Grand St. and 17th St., Kansas City (9/17/99)

Walnut Street Warehouse and Commercial Historic District (boundary increase I), 1612, 1616, 1620 & 1624 Grand Blvd. & 1705-07 & 1709 Walnut St., Kansas City (6/13/08)

Walnut Street Warehouse and Commercial Historic District (boundary increase II), 1526, 1524, 1520, 1516-18, 1512-14, and 1508 Grand Blvd., Kansas City (12/17/08)

Waltower Building, 823 Walnut Street, Kansas City (8/8/01)

Ward, Seth E., Homestead, 1032 W 55th St., Kansas City (2/17/78)

Warner, Maj. William, House, 1021 Pennsylvania Ave., Kansas City (5/23/77)

Webster School, 1644 Wyandotte St., Kansas City (9/02/82)

West Bottoms-North Historic District (*Railroad Related Historic Commercial and Industrial Resources in Kansas City, Missouri MPDF*), W. 9th St., St. Louis Ave., Union Ave. from Wyoming to W. of Mulberry Sts., Kansas City (11/15/16)

West Eleventh Street Historic District (**MAP** [see **note**]), Central and W 11th Sts., Kansas City (9/09/82)

West Ninth Street-Baltimore Avenue Historic District (**MAP** [see **note**]), roughly bounded by Main, 8th, 10th and Central Sts., Kansas City (11/07/76)

West Ninth Street-Baltimore Avenue Historic District (boundary increase I; **MAP** [see **note**]), West 100 blk. of 10th St. and 1000 blk. of Baltimore Ave., Kansas City (11/20/02)

West Ninth Street-Baltimore Avenue Historic District (boundary increase II), 807-815 Wyandotte, Kansas City (10/12/10)

Western Newspaper Union Building, 304 W. 10th St., Kansas City (3/21/07)

Westminster Congregational Church, 3600 Walnut St., Kansas City (2/28/80)

Westport High School (Kansas City, Missouri School District Pre-1970 MPDF), 315 E. 39th St., Kansas City (2/03/15)

Westport Junior High School (*Kansas City, Missouri School District Pre-1970 MPDF*), 300 E. 39th St., Kansas City (4/15/14)

Wholesale District (**MAP** [see **note**]), roughly bounded by 6th, Wyandotte, 8th, May, 11th, and Washington Sts., Kansas City (10/25/79)

Wholesale District (boundary increase I), 701 Broadway & 330 W. 8th St., Kansas City (4/23/13)

William S. Mitchell (boat), 2 Grand Ave. (Grand Ave. and Missouri River), Kansas City (10/09/85; destroyed by flood 7/93)

Windsor Hall Apartments (*Working-Class and Middle-Income Apartment Buildings in Kansas City, Missouri MPDF*), 3420 Locust St, Kansas City (1/14/11)

Wiltshire Apartment Hotel, The (*Working-Class and Middle-Income Apartment Building in Kansas City, Missouri MPDF*, 703 E. 10th St., Kansas City (6/27/14)

Woodson-Sawyer House (Araby West), 1604 W Lexington, Independence (3/20/86)

Woolworth, F. W., Building, 3120-3122 Troost Ave., Kansas City (5/06/05)

Wornall, John B., House, 146 W 61st Terrace, Kansas City (5/21/69)

Young, Solomon, Farm (**Truman Home Farm**, part of **Harry S Truman National Historic Site**), 12121 and 12301 Blue Ridge Extension, Grandview (5/05/78; NHL 2/04/85)

SECTION 12

Inspection Reports

- Log of Inspections
- Inspection Reports
- Inspector Credentials

Log of Inspections

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Stormwater Construction Site Inspection Report

| General Information | | | |
|---|--|---|--|
| Project Name | | Date of Inspection | |
| Permit Number | | Time of Inspection | |
| Inspector's Name(s) | | Inspector's Title | |
| Inspector's Contact Information | | | |
| Describe present phase of construction | | | |
| Type of Inspection: <input type="checkbox"/> Routine <input type="checkbox"/> Post-storm event | | | |
| Weather Information | | | |
| Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, provide: | | | |
| Storm Start Date: | | Approximate Amount of Precipitation (in): | |
| Weather at time of this inspection? | | | |
| <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds <input type="checkbox"/> Other: _____ Temperature: _____ | | | |
| Were any discharges noted at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, describe: | | | |

| BMP Effectiveness |
|---|
| Were BMPs operating effectively during inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| If no, does SWPPP need to be amended? |
| List any non-effective BMPs in the corrective action log on the next page. |
| List any amendments to the SWPPP that were identified as being necessary during inspection: |
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| Areas Where Land Disturbance Operations Have Permanently or Temporarily Stopped | | |
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CERTIFICATION STATEMENT

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.

Print name and title: _____

Signature: _____ Date: _____

| # | BMP Location | Corrective Action Needed | Date Corrected | Corrective Actions Taken |
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Stormwater Construction Site Inspection Report

| General Information | | | |
|---|--|---|--|
| Project Name | | Date of Inspection | |
| Permit Number | | Time of Inspection | |
| Inspector's Name(s) | | Inspector's Title | |
| Inspector's Contact Information | | | |
| Describe present phase of construction | | | |
| Type of Inspection: <input type="checkbox"/> Routine <input type="checkbox"/> Post-storm event | | | |
| Weather Information | | | |
| Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, provide: | | | |
| Storm Start Date: | | Approximate Amount of Precipitation (in): | |
| Weather at time of this inspection? | | | |
| <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds <input type="checkbox"/> Other: _____ Temperature: _____ | | | |
| Were any discharges noted at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, describe: | | | |

| BMP Effectiveness |
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| Were BMPs operating effectively during inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No |
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| List any amendments to the SWPPP that were identified as being necessary during inspection: |
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| Areas Where Land Disturbance Operations Have Permanently or Temporarily Stopped | | |
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Stormwater Construction Site Inspection Report

| General Information | | | |
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| Project Name | | Date of Inspection | |
| Permit Number | | Time of Inspection | |
| Inspector's Name(s) | | Inspector's Title | |
| Inspector's Contact Information | | | |
| Describe present phase of construction | | | |
| Type of Inspection: <input type="checkbox"/> Routine <input type="checkbox"/> Post-storm event | | | |
| Weather Information | | | |
| Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, provide: | | | |
| Storm Start Date: | | Approximate Amount of Precipitation (in): | |
| Weather at time of this inspection? | | | |
| <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds <input type="checkbox"/> Other: _____ Temperature: _____ | | | |
| Were any discharges noted at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, describe: | | | |

| BMP Effectiveness |
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| Were BMPs operating effectively during inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| If no, does SWPPP need to be amended? |
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| List any amendments to the SWPPP that were identified as being necessary during inspection: |
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| Areas Where Land Disturbance Operations Have Permanently or Temporarily Stopped | | |
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Print name and title: _____

Signature: _____ Date: _____

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Stormwater Construction Site Inspection Report

| General Information | | | |
|---|--|---|--|
| Project Name | | Date of Inspection | |
| Permit Number | | Time of Inspection | |
| Inspector's Name(s) | | Inspector's Title | |
| Inspector's Contact Information | | | |
| Describe present phase of construction | | | |
| Type of Inspection: <input type="checkbox"/> Routine <input type="checkbox"/> Post-storm event | | | |
| Weather Information | | | |
| Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, provide: | | | |
| Storm Start Date: | | Approximate Amount of Precipitation (in): | |
| Weather at time of this inspection? | | | |
| <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds <input type="checkbox"/> Other: _____ Temperature: _____ | | | |
| Were any discharges noted at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, describe: | | | |

| BMP Effectiveness |
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| Were BMPs operating effectively during inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| If no, does SWPPP need to be amended? |
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| List any amendments to the SWPPP that were identified as being necessary during inspection: |
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| Areas Where Land Disturbance Operations Have Permanently or Temporarily Stopped | | |
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Signature: _____ Date: _____

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Stormwater Construction Site Inspection Report

| General Information | | | |
|---|--|---|--|
| Project Name | | Date of Inspection | |
| Permit Number | | Time of Inspection | |
| Inspector's Name(s) | | Inspector's Title | |
| Inspector's Contact Information | | | |
| Describe present phase of construction | | | |
| Type of Inspection: <input type="checkbox"/> Routine <input type="checkbox"/> Post-storm event | | | |
| Weather Information | | | |
| Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, provide: | | | |
| Storm Start Date: | | Approximate Amount of Precipitation (in): | |
| Weather at time of this inspection? | | | |
| <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds <input type="checkbox"/> Other: _____ Temperature: _____ | | | |
| Were any discharges noted at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| If yes, describe: | | | |

| BMP Effectiveness |
|---|
| Were BMPs operating effectively during inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| If no, does SWPPP need to be amended? |
| List any non-effective BMPs in the corrective action log on the next page. |
| List any amendments to the SWPPP that were identified as being necessary during inspection: |
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| Areas Where Land Disturbance Operations Have Permanently or Temporarily Stopped | | |
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CERTIFICATION STATEMENT

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.

Print name and title: _____

Signature: _____ Date: _____

| # | BMP Location | Corrective Action Needed | Date Corrected | Corrective Actions Taken |
|---|--------------|--------------------------|----------------|--------------------------|
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SECTION 13

Regulatory Correspondence

Pertinent correspondence from regulatory agencies relating to this project can be located here.

SECTION 14

Notice of Termination

This section should contain the completed Notice of Termination for the project that can be accessed through the Missouri Gateway for Environmental Management at <https://dnr.mo.gov/mogem/>.

Documentation of acceptance from the DNR should also be kept here and all documents must be retained for 3 years after the date of NOT acceptance.