STORM WATER POLLUTION PREVENTION PLAN

August 2019

SEQUOIA

LEE'S SUMMIT, MO

Prepared by:

Renaissance Infrastructure Consulting

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Project Information

Project Name: Sequoia

Address: W of the intersection of NW Olive St and NW Orchard Dr
Lee's Summit, MO 64129

Owner: Dick Burton
Cherokee Flight LLC
8 SW AA Highway Kingsville, MO 64061

Project Representative/Superintendent:

Name: Dick Burton

Phone: (816) 405-6688

Owner's Representative:

Name:

Phone:

GENERAL INFORMATION

Project Background

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the above-mentioned project. The proposed Sequoia project is located in the City of Lee's Summit, Jackson County, Missouri, in the northwest quarter of Section 6 Township 47 North, Range 31 West. Activities include the construction of 36 townhome units and associated infrastructure.

Prior to any construction of this project the contractor will be required to place erosion control fence along the downhill side of each disturbed area, as discussed more specifically in the site land disturbance plan. After final grading of the site, erosion control measures shall be maintained until turf/vegetation has been established.

The Erosion Control / Land Disturbance Plan shows erosion control/stabilization practices typical for the project location. These measures may need to be altered or additional measures put into place during construction. The Erosion Control / Land Disturbance Plan and this Storm Water Pollution Prevention Plan will be updated as needed throughout the project.

The discharge points for the proposed site are as follows:

Discharge Point A: Runoff is conveyed NW across the ProNW sub basin to a discharge point in the NW corner of the proposed lot. Discharge is conveyed to existing railroad right-of-way.
Discharge Point B: Runoff is conveyed SE across the ProSE sub basin to an existing roadway ditch and discharge point in the SE corner of the proposed lot.
Discharge Point C: Runoff is conveyed SW across the ProS sub basin to a discharge point in the NW corner of the ProS sub basin. Discharge is conveyed to existing rail road right-of-way.

The entire site is located within the Cedar Creek – Little Blue River watershed. The use of a 404/401 Clean Water Act Permit is not foreseen as there are no jurisdictional waters of the Army Corps of Engineers that fall within the site's property.

Site Description

Web soil survey lists the project location soil type as Sharpsburg-Urban Land Complex (88.4% of project area, 2-5% slopes), Arisburg-Urban Land Complex (9.6% of project area, 1 to 5% slopes), and Udarents-Urban Land-Sampsel Complex (2.0% of project area, 5% - 9% slopes).

The major soil constituent (Sharpsburg-Urban Land Complex) is a very deep, moderately well drained soil formed in loess. The existing site drainages East and West away from a ridge separating the existing site drainage areas. Existing vegetation consists of short turf grasses and mature trees around the proposed property line. The following aerial, topographic images, and soil maps have been provided for reference of the proposed project:

Burton Townhomes, Lee's Summit

Scale: 1" = 1000'

Location Map
18-0251
Prepared: 08/12/19

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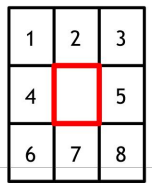
Burton Townhomes Topographic Map

QUADRANGLE LOCATION



ADJOINING QUADRANGLES

1 Kansas City
2 Independence
3 Blue Springs
4 Grandview
5 Lake Jacomo
6 Belton
7 Raymore
8 Pleasant Hill

Scale: 1" = 2000'

Project Number: 18-0251
Prepared: 08/12/2019

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Soil Map—Jackson County, Missouri
(18-0251 Burton Townhomes Soil Map)

Map Scale: 1:1,240 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
10082	Arisburg-Urban land complex, 1 to 5 percent slopes	0.4	9.6%
10128	Sharpsburg-Urban land complex, 2 to 5 percent slopes	3.4	88.4%
10181	Udarents-Urban land-Sampsel complex, 5 to 9 percent slopes	0.1	2.0%
Totals for Area of Interest		**3.8**	**100.0%**

BEST MANAGEMENT PRACTICES / CONTROL MEASURES

WASTE DISPOSAL:

Waste Materials (see on-site materials later in this report as sources of pollution)

All waste materials will be collected and stored in a secured, covered trash receptacle. The dumpster will meet all local and State of Missouri solid waste management regulations. Trash will be disposed of in the proper manner in accordance with applicable local ordinances. No construction waste materials will be buried onsite. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer and the general contractor will be responsible for seeing that these procedures are followed.

Hazardous Waste

All hazardous materials shall be contained in original containers on-site and shall also be stored in a secondary containment structure or unit. All hazardous waste materials will be disposed of in the manner specified by local or State regulation or by the manufacturer. Site personnel will be instructed in these practices and the general contractor will be responsible for seeing that these practices are followed.

Sanitary Waste

All sanitary waste will be collected from the portable units a minimum of one time per week by a licensed Jackson County sanitary waste management contractor, as required by local regulation. Number of portable units shall be adequate for number of personnel on the site and may need to be adjusted throughout the development process.

Offsite Vehicle Tracking:

A stabilized construction entrance will be provided at each site to help reduce vehicle tracking of sediments. The paved street along the construction access road will be cleaned as needed to remove any excess mud, dirt, or rock tracked from the site. Dump trucks hauling material from the construction site will be covered with a tarpaulin. Entrance to the sites shall be restricted to the stabilized construction entrance throughout construction activities.

TIMING OF CONTROL MEASURES

As indicated in the Sequence of Major Activities on the associated Erosion Control/Land Disturbance Plans, the construction entrance will be constructed prior to clearing or grading of any other portions of the site. Upon implementation of site land disturbance activities, all erosion control amenities, as specified in the associated Erosion Control/Land Disturbance Plans shall be installed and functional. Erosion control measures referenced herein, include but are not limited to gravel construction entrances, silt fencing, curb & area inlet protection, and any other amenities indicated on the associated Erosion Control/Land Disturbance Plans.

Upon initiation of land disturbance, all erosion control amenities, as specified in the associated Erosion Control/Land Disturbance Plans, and all updates to those plans, shall be installed and functional. Areas where construction activity temporarily ceases for more than 14 days will be stabilized with a temporary seed and mulch within 7 days of the last disturbance. Once construction activity ceases permanently in an area, that area will be stabilized with permanent seed and mulch. After the entire site is stabilized, or substantial portions, silt fences and straw bale dikes may be removed subject to approval of the engineer.

The general sequence of major soil disturbing activities is expected to be as follows:

A. Install erosion control measures.
B. Clearing and grubbing.
C. Mass Grading.
D. Final site grading.
E. Upon establishment of turf, removal of erosion control measures.

The general sequence may be altered during construction, and actual start dates will be reflected in the Major Construction Activity Log.

DESCRIPTION OF CONTROL MEASURES

Erosion control measures to be utilized on site where appropriate include but are not limited to:

gravel construction entrances; and (Temporary)

Installation: Reference APWA Standard Drawing Number ESC-01 for construction entrance installation method.

Location/Purpose: Installed at the temporary construction entrance to prevent soil from leaving the construction site and tracking on the public roadway.

silt fencing; (Temporary)

Installation: Reference APWA 5100, Section 5108.5 Silt Fence, pg 5100-24 thru 5100-25 for silt fence installation requirements. Reference APWA Standard Drawing Number ESC-03 for additional Silt Fence instillation requirements.

Location/Purpose: Along the project disturbance limits to prevent soils from exiting the project site during construction.

curb inlet protection (Temporary)

Installation: On-grade type: Reference APWA Standard Drawing Number ESC-06 for curb inlet protection instillation method.

Location/Purpose: In front of the proposed curb inlet to prevent soil from entering the proposed storm sewer during construction.

area inlet protection (Temporary)

Installation: On-grade type: Reference APWA Standard Drawing Number ESC-07 for area inlet protection instillation method.

Location/Purpose: Around the proposed area inlet to prevent soil from entering the proposed storm sewer during construction.

Any other amenities are indicated on the associated erosion control/land disturbance plans.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

The storm water pollution prevention plan reflects Federal requirements for storm water management and erosion and sediment control, as established in EPA Document # 832-R-92-0005. To ensure compliance, this plan was prepared in accordance with the guidance set forth by the Missouri Department of Natural Resources. The Storm Water Pollution Prevention Plan and the attached site development plans reflect City of Kansas City requirements for storm water management and erosion and sediment control.

MAINTENANCE/INSPECTION PROCEDURES

Erosion and Sediment Control Inspection and Maintenance Practices

These are the inspection and maintenance practices that will be used to maintain erosion and sediment controls.

- The temporary cover crop will be maintained until permanent vegetation is installed.
- All control measures will be inspected at least once per week and/or within 24 hours of any 0.5-inch rainfall during construction activities.
- All measures will be maintained in good working order; if a deficiency is noted by the report, the permittee shall promptly notify site contractors responsible for operation and maintenance of BMP's and require repair within seven (7) calendar days.
- Built up sediment will be removed from silt fences when it has reached one-third the height of the fence.
- Silt fences will be inspected for depth of sediment, for tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- A maintenance inspection report will be made after each inspection. Copies of each inspection report shall be submitted to the City of Lee's Summit.
- The owner or general contractor will select qualified individuals who will be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance report.

The owner will be responsible for inspection and maintenance of BMP's. Personnel selected for inspection and maintenance responsibilities will have received training necessary for inspection and maintenance. They will have been trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

Non-Storm Water Discharges

It is expected that the following non-storm water discharges will occur from the site during the construction period:

- Uncontaminated groundwater.

Sediment from Non-Storm Water Discharges is expected to be controlled through proper installation and maintenance of on-site controls including silt fences, straw bales, and inlet protection.

INVENTORY FOR POLLUTION PREVENTION PLAN

The materials or substances listed below are expected to be present onsite during construction:

Concrete
Asphalt
Gravel
Wood
Petroleum Based Products

SPILL PREVENTION
Material Management Practices

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.

Good Housekeeping:

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job.
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The site superintendent will inspect daily to ensure proper use and disposal of materials onsite.

Hazardous Materials:

These practices are used to reduce the risks associated with hazardous materials.

- Products will be kept in original containers unless they are not resealable.
- Original labels and material safety data will be retained; they contain important product information.
- If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.

Product Specific Practices

The following product specification will be followed onsite:

Petroleum Products:

All onsite vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

Fertilizers:

Fertilizers used will be applied only in the minimum amounts as recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer, will be transferred to a sealable plastic bin to avoid spills.

SPILL CONTROL PRACTICES

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup.

- Manufacturers' recommended methods for spill cleanup will be available at the site office and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.

- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, sand, sawdust, and plastic and metal trash containers specifically for this purpose.

- All spills will be cleaned up immediately after discovery.

- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

- Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size.

- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

- The general contractor will be the spill prevention and cleanup coordinator.

Post Construction Project Closeout

Upon completion of all land disturbance activities, and upon established ground cover throughout the disturbed areas, the owner shall file the Request for Termination of Operating Permit with the Missouri Department of Natural Resources.