STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Project:

Lot 2, Market Street Center
Missouri 291 Highway and SW Market Street
Lee's Summit, Jackson County, Missouri

Date: March 08, 2023

Prepared for the Owner & Developer:

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I. NARRATIVE

a. Regulatory Background

The Missouri Department of Natural Resources (MoDNR) has established a program to protect waters of the State of Missouri from construction site storm water runoff. The storm water program requires owners (the permittee) of projects, who engage in construction activities disturbing one (1) or more acres to have authorization (permitted) to discharge storm water runoff under the State construction storm water general permit. Owners must submit a Notice of Intent (NOI) to comply with the general permit at least sixty (60) days before starting construction. Owners must receive a permit from MoDNR prior to commencing any land disturbance activity.

Owners may elect to authorize (in writing) an officer of their contractor to obtain and maintain the permit.

The primary requirement of MoDNR's general construction storm water permit is for the permittee to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The purpose of this "Storm Water Pollution Prevention Plan" (SWPPP) is to provide design, implementation, and maintenance of "Best Management Practices" (BMPs) for the project site. The SWPPP includes, but is not limited to this document, the Erosion and Sedimentation Control Plan included in the Construction Drawings with the Detail Sheets, Site landscaping plans, the Notice of Intent, Co-Permittee or Transfer forms, Permit Authorization, General Permit, Notice of Termination, all records of inspections and activities which are created during the course of the project, and other documents as may be included by reference to this SWPPP. Changes, modifications, revisions, additions, or deletions shall become part of this SWPPP as they occur.

Public Posting (Including SWPPP Information Sign)
Install the SWPPP Information Sign per specification and post Site Maps and Details Sheets on the jobsite trailer wall (or other Owner agreed upon location) before beginning BMP installation. The following information must be posted near the construction exit in a prominent place for public viewing until termination of permit coverage has been obtained by filing the Notice of Termination (NOT): 1) Notice of Intent; 2) Permit Authorization; and 3) The location of the SWPPP on site. Reference the Entrance Sign (SWPPP Information Sign) detail for proper posting of documents.

Retention of Records
A complete copy of the SWPPP, including copies of all inspection reports, plan revisions, etc., shall be kept at the project site (or at the location as specified on the NOI if not at the project site) during the duration of the project (until NOT is filed) and kept in the permanent project records of the General Contractor for at least three years following submission of the Notice of Termination (NOT). The SWPPP shall be made available during inspections.

Contractor/Sub-Contractor List
The General Contractor must provide names and addresses of all subcontractors working on this project who will be involved with the major construction activities that disturb site soil or otherwise affect BMP implementation. This information shall be kept in the SWPPP Binder.

Contractor/Sub-Contractor Certification Form
The General Contractor and all contractors and/or subcontractors that will implement, maintain and/or impact the pollution control measures in the SWPPP and/or are involved in ground-disturbing activities on the site must sign a copy of the Contractor certification included in the Appendix. An authorized representative from each company on the construction project must sign this form certifying that company representatives understand the General Permit authorizing storm water discharges during construction. This information shall be kept in the SWPPP Binder.

Additional Requirements:
This SWPPP was developed to fulfill construction storm water permit requirements for the project. Ultimately, it is the responsibility of the permittee or his general contractor (if so designated) to assure the adequacy of site pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more structural controls than are shown on the plans. (For example, localized concentrations of runoff could make it necessary to install additional sediment barriers.) Assessing the need for additional controls and implementing them or adjusting existing controls will be a continuing aspect of this SWPPP until the site achieves final stabilization.

b. Site Location and Existing Conditions

The site is a 2.58 acre parcel located near the intersection of Missouri Highway 291 and SW Market Street in Lee's Summit, Jackson County, Missouri. The site is located in the SW/4 of Section 29, Township 47, Range 31. The legal description for the parcel is:

Lot 2, Market Street Center, a platted subdivision in the City of Lee's Summit, Jackson County, Missouri.

Existing site conditions consist of undeveloped open space covered with turf grass.

Drainage on the site flows southeast to an eexisting detention basin which discharges to an existing Missouri Highway 291 roadside ditch. This ditch is located roughly 30' east of the detention basin. Soils onsite are primarily Arisburg-Urban land complex, Arisburg silt loam, and Udarents-Urban land complex.

c. Proposed Construction and Land Disturbance Activities

Proposed construction activities include the construction of one new hardware store and parking lot. Storm water onsite will be conveyed via curb and gutter to a new private underground enclosed storm sewer system. This system will route the water to an existing above ground detention basin located south of the property. Stormwater will discharge from the detention basin directly to the existing Missouri Highway 291 roadside ditch. Riprap will be placed at storm sewer outlets to dissipate velocity. During construction inlet protect will be provided on all curb inlets to prevent sediment build up in the system. The site will be re-seeded and landscaped upon completion of the finish grading. All seeded and planted areas will be inspected for bare spots, washouts, and healthy growth.

d. Work Schedule/Project Phasing

Construction activities will commence Spring of 2023 with an estimated completion date of Spring of 2024. Onsite working hours will be from 7am to 7pm on Monday through Saturday. The project will be constructed in one phase.

e. Potential Storm Water Contaminants

Pollutants that result from clearing, grading, excavation, and building materials and have the potential to be present in storm water runoff are listed in Table 1. This table includes information regarding the material type, chemical and physical description, and the specific storm water pollutants associated with each material.

Table 1

Potential Construction Site Storm Water Pollutants

Trade Name Material	Chemical/Physical Description[(1)]	Storm Water Pollutants[(1)]
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Various colored to colorless liquid, powder, pellets, or grains	Chlorinated hydrocarbons, organophosphates, carbamates, arsenic
Fertilizer	Liquid or solid grains	Nitrogen, phosphorous
Plaster	White granules or powder	Calcium sulphate, calcium carbonate, sulfuric acid
Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates
Asphalt	Black solid	Oil, petroleum distillates
Concrete	White solid	Limestone, sand
Glue, adhesives	White or yellow liquid	Polymers, epoxies
Paints	Various colored liquid	Metal oxides, Stoddard solvent, talc, calcium carbonate, arsenic
Curing compounds	Creamy white liquid	Naphtha
Wastewater from construction equipment washing	Water	Soil, oil & grease, solids
Sanitary wastes/sewage	Water, fecal matter	Bacteria, ammonia, nutrients
Wood preservatives	Clear amber or dark brown liquid	Stoddard solvent, petroleum distillates, arsenic, copper, chromium
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE
Diesel fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil & grease, naphthalene, xylenes
Kerosene	Pale yellow liquid petroleum hydrocarbon	Coal oil, petroleum distillates
Antifreeze/coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)
Erosion	Solid Particles	Soil, sediment

[(1)]Data obtained from MSDSs when available

Non-storm water discharges that are expected from the site during the construction period:

- Water from waterline flushing
- Uncontaminated groundwater (from excavation)
- Irrigation water

f. Storm Water Controls/Best Management Practices (BMPs)

The primary potential sources of storm water contamination for this project include erosion and construction material spillage.

Erosion and Sediment Control

Soil stabilization and structural controls will be the primary methods of erosion control used on-site to control run-off velocity and protect soil particles from precipitation. Soil stabilization is defined as using in place existing vegetation, or by providing temporary/permanent seeding, parking lots or buildings to stabilize the ground. Structural controls shall consist of temporary and permanent site improvements such as storm sewer piping and inlets and silt fence, rock check dams, diversion berms, gravel entrances, and siltation basins. The following BMPs will be implemented

- silt fence will be placed along the perimeter of the area to be cleared and graded before any clearing or grading occurs.
- All ruts caused by equipment will be graded.
- Within 14 days of clearing and grading, areas not immediately affected by construction activities will be seeded.
- Soil stockpiles will be stabilized with temporary seed no later than 14 days from the last construction activity in that area.
- hydro seed/slurry tech will be applied to steep slopes and drainage ways to control gully and rill erosion.
- Silt dikes will be placed to protect all storm sewer inlets on or near the site.
- Construction entrances shall be provided for off-site vehicles leaving graded areas and entering paved streets. Sufficiently long graveled surfaces shall be provided to reduce the amount of sediment being transported onto pavement. Graveled areas shall also be provided for contractor staging and material storage areas. Paved areas will be cleaned daily to remove any excess mud, dirt or rock.
- Dump trucks hauling material from the construction site will be covered with a tarpaulin.
- Paved streets outside the construction area will be swept to remove excess mud, dirt, or rock tracked from the site.
- Gravel bags, gutter buddies, or other approved inlet protection methods as shown on the plans shall be used to prevent sediment from entering storm water inlets.

Erosion control BMPs, locations and design specifications are included in the Drawings (see Erosion and Sediment Control Plan).

Construction Materials

To prevent construction materials from washing into receiving water bodies, or the undisturbed areas of the site, the following BMPs will be

- Building sites will be regularly policed and solid waste will be removed at regular intervals. All waste materials will be collected and stored in a securely lidded metal dumpster. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be when full or weekly, whichever comes first.

- On site burning will only be allowed if specifically permitted by local jurisdictional authority. Any on site burning must comply with state and county requirements also.

- All sanitary wastes will be contained and collected from portable units throughout the entire construction phase. They must be utilized by all construction personnel. They will be serviced (emptied) a minimum of weekly, or when full by a licensed sanitary waste management contractor.

- Fertilizers and other soil amendments will be applied only in the minimum amounts recommended by the manufacturer.

- Fertilizers will be covered or stored in sealable containers to avoid spills.

- All vehicles on site will be monitored for leaks and receive regular maintenance to reduce the chance of leakage.

- Petroleum Products
    - Petroleum products will be stored in tightly sealed containers or storage tanks which are clearly labeled. Storage tanks shall be in sound condition free of rust or other damage, which might compromise containment. Hoses, valves, fittings, caps, filler nozzles, and associated hardware shall be maintained in proper working condition at all times. Fueling, servicing, and repair of equipment within 50 feet of a stream is prohibited. Any fuel storage facility over 1000 gallons will require a specific spill prevention plan that meets state and federal requirements.
    - Above ground storage tanks will have secondary containment structures or berms. Secondary containment will be constructed of sufficiently impervious material with enough storage to contain the volume of the tank plus at least 6 inches freeboard.

- All liquid materials stored on-site will be in their original containers, tightly sealed, and kept in a neat, orderly manner.

- All paint containers and curing compounds will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm system, but will be properly disposed according to the manufacturer's instructions.

- Concrete washout from ready mix trucks will be allowed on the construction site, but only in specifically designated containment areas that have been prepared to prevent contact between the concrete and/or wash water and storm water that will be

discharged from the site or in locations where waste concrete can be placed into forms to make riprap or other useful concrete products. The cured residue from the concrete washout containment areas shall be disposed in accordance with applicable state and federal regulations. The jobsite superintendent is responsible for assuring that these procedures are followed. Washout on individual lots will not be permitted. Recycling of concrete wash water and disposal off site is encouraged.

- Form release oil used for decorative stonework will be applied over a pallet covered with an absorbent material to collect excess fluid. The absorbent material will be replaced and disposed of properly, when saturated.

- Building materials, when stored, will be kept away from drainage courses.

- Spill procedures:
    - Spill kits will be included with all fueling sources and maintenance activities.
    - All personnel will be aware of proper spill clean up procedures.
    - Spill containment equipment may include brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, saw dust, containment booms, and metal trash containers. All spills will be cleaned up immediately upon discovery.
    - Large spills of flammable or hazardous materials should be reported immediately to the local fire department by calling 911. Large spills must also be reported to the City &/or County Environmental Departments.

g. Sequence of Major Construction Activities

Described below are the major construction activities that are the subject of this SWPPP. They are presented in the order (or sequence) they are expected to begin, but each activity will not necessarily be completed before the next begins. Also, these activities could occur in a different order if necessary to maintain adequate erosion and sedimentation control. The Contractor shall update all activities and the timeframe (beginning and ending dates) and shall be noted on the Site Map and Record of Stabilization and Construction Activity Dates:

- Construct rock pads for construction entrance/exit. This will be the first construction work on the project.

- Temporary perimeter sediment controls will be installed before any clearing and grading begins.

- Clear and grub the improvement areas. (Sediment barriers already installed down slope per "B" above); Clearing and grading will not occur in an area until it is necessary for construction to proceed (see Project Phasing). Stripping of vegetation on the site will be limited to those areas where construction will start within 14 days or sooner where feasible. All clearing and stripping will follow the construction schedule for the development.

- Construct the stabilized construction site entrance, stabilized staging area.

- Excavation and embankment to form temporary sediment basins, retention/detention ponds or drainage channels;

- Excavation and embankment to form the building pad and pavement areas;

- Underground Utilities - Sediment barriers shall be utilized as required to bound the down slope side of utility construction and soil stockpiles;

- Final Grading - Sediment barriers shall be maintained down slope from disturbed soil during this operation; and

- Paving and Building Construction.

- Once construction activity ceases permanently in an area, that area will be stabilized with permanent seed (or sod) and landscaping.

- Vegetated swales, bio-retention cells, and other post construction infiltration BMPs will not be constructed until the entire site is stabilized.

h. BMP Inspection and Maintenance Procedures

Visual inspections of all cleared and graded areas of the construction site will be performed at a minimum of once every 14 days or within 24 hours of the end of a storm with rainfall amounts greater than 0.5 inches. The inspections will be conducted by the SWPPP Coordinator or a designated team member. The inspection will verify that the structural BMPs are in good condition and are minimizing erosion. The inspection will also verify that BMPs used to contain construction materials and petroleum products are effective. The following inspection and maintenance practices will be used to maintain erosion and sediment controls:

- Built up sediment will be removed from perimeter controls when it has reached one-half the height of the control.
- Silt fences will be inspected for depth of sediment, undermining, tears, and attachment to fence posts. Posts will also be inspected to make sure they are firmly in the ground.
- If failure is recurrent, some other sediment control must be substituted and noted in the SWPPP (note the location and type of substitute BMP on the Erosion and Sediment Control Plan).
- Temporary and permanent seeding will be inspected for bare spots, washouts, and healthy growth.
- Stabilized construction entrances will be inspected to determine if soil is leaving the site. A layer of clean gravel should be placed whenever excess soil has accumulated on the surface of the construction entrance.

Visual inspections of all cleared and graded areas of the construction site will be performed at a minimum of once every 14 days and within 24 hours of the end of a storm with rainfall amounts greater than 0.5 inches. Based on the results of the inspection, necessary control modifications shall be implemented within 7 days. Visual inspection activities can be documented as needed using other appropriate forms/logs, and attached to the SWPPP. If construction activities or BMPs change during this project, the SWPPP will be amended appropriately.

i. Project Contacts and Coordination

The construction site SWPPP Coordinator for the project shall be determined prior to construction.

SWPPP Coordination duties include:

- implement the SWPPP with the aid of the SWPPP team;
- oversee maintenance practices identified as BMPs in the SWPPP;
- notify the City Inspector after installation of perimeter sediment controls and prior to any significant deviations from the SWPPP;
- conduct or provide for inspection and BMP maintenance activities;
- identify other potential pollutant sources and make sure they are added to the SWPPP;
- identify any deficiencies in the SWPPP and make sure they are corrected; and
- ensure that any changes in construction plans or BMPs are addressed in the SWPPP.

II. DRAWINGS

a. Erosion and Sediment Control Plan

III. PERMITS

a. MoDNR Land Disturbance Permit (to be added when available)

IV. SITE INSPECTION FORMS/LOGS

(Permittee or Contractor shall attach all site inspection forms, daily activity logs, etc.)

a. **Maintenance Inspection Report**
b. **Record of Site Stabilization and Construction Activity Dates**
c. **Rainfall Log**
d. **SWPP Modification Log**

Maintenance Inspection Report #_____

Date of Inspection:_____ Reason for inspection*_____

Project Name/Location:_____

Owner: _____

Weather Conditions:_____

Rain in last 24 hours (inches):_____

Inspector Name (print) and Signature:_____

Stage of Construction:

_____ Pre-construction Meeting
_____ Installation of Perimeter ESC Measures
_____ Clearing and Grubbing
_____ Rough Grading
_____ Other (Describe:_____)
_____ Temporary Stabilization
_____ Finish Grading
_____ Public Improvements
_____ Building Construction

Inspection Checklist:

BMP Condition	Yes	No	N/A	If "no", list locations needing BMPs and/or maintenance.
Storm Sewer Inlet Barriers (sand bags, gutter buddies)				
Are storm sewer inlet barriers properly placed?				
Are storm sewer inlet barriers in good condition?				
Are barriers controlling flows into the inlet?				
Is sediment height less than ½ the barrier height?				
Are all storm water inlets protected?				
Are storm sewer boxes and/or pipes free of sediment?				
Perimeter Controls (diversions, silt fence, etc.)				
Is offsite storm water drainage diverted?				
Are perimeter controls up and in good condition?				

BMP Condition	Yes	No	N/A	If "no", list locations needing BMPs and/or maintenance.
Perimeter Controls (continued)				
Have all offsite properties and drainages been protected by perimeter controls?				
Stabilized Construction Entrances				
Is there adequate clean gravel present?				
Is soil and gravel staying onsite?				
Are contractors using the stabilized construction entrance?				
Stream Crossings				
Are temporary crossings controlling erosion?				
Are culverts adequately sized?				
Temporary Stabilization				
Are seeded areas properly established?				
Is mulch crimped in and holding seed in place?				
Are erosion control blankets and mats in good condition?				
Are soil piles seeded, mulched and bordered down slope by sediment barriers?				
Sediment Basin				
Is the basin less than ½ full of sediment from original design?				
Are side slopes in good condition?				
Is the basin containing storm water flows?				
Is the outfall in good condition?				

BMP Condition	Yes	No	N/A	If "no", list locations needing BMPs and/or maintenance.
Swales and Drainage Ways				
Are ditch bottoms protected from undercutting and erosion?				
Are ditch checks properly maintained?				
Are outfalls properly stabilized?				
Slope Protection				
Are all slopes protected with vegetative cover, terraces or erosion control blankets?				
General Site Conditions				
Is trash and construction debris properly contained onsite?				
Are porta-potties properly located and maintained?				
Are all vehicles properly maintained to avoid leakage?				
Are all chemicals properly containerized and stored?				
Are concrete washout areas established and maintained?				

Corrective Measures: For all areas needing BMPs or maintenance, describe corrective measures and implementation timeframe?

* Reason for Inspection note: Visual inspections of all cleared and graded areas of the construction site will be performed at a minimum once every 14 days and within 24 hours of the end of a storm with rainfall amounts greater than 0.5 inches. Based on the results of the inspection, necessary control modifications shall be implemented within 7 days. This report shall be kept on file by the General Contractor as part of the Storm Water Pollution Prevention Plan for at least **3 years** from the date of completion and submission of the Notice of Termination.

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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: _____

Address: _____

Phone: _____

_____Date: _____
(Authorized Signature**)

**It is the Owners (Permittee) responsibility to insure that the inspector has been properly authorized under the applicable General Permit Regulations to sign these inspection forms.

RECORD OF SITE STABILIZATION and CONSTRUCTION **ACTIVITY DATES**

A record of dates when stabilization measures are initiated, when major grading activities occur, and when construction activities temporarily or permanently cease on a portion of the site shall be maintained until final site stabilization is achieved and the Notice of Termination is filed. Make additional copies of this form and keep with SWPPP as needed.

MAJOR STABILIZATION AND GRADING ACTIVITIES

Description of Activity:_____
Site Contractor: _____
Begin (date): _____ End(date):_____
Location:_____
_____

Description of Activity:_____
Site Contractor: _____
Begin (date): _____ End(date):_____
Location:_____
_____

Description of Activity:_____
Site Contractor: _____
Begin (date): _____ End(date):_____
Location:_____
_____

Description of Activity:_____
Site Contractor: _____
Begin (date): _____ End(date):_____
Location:_____
_____

Description of Activity:_____
Site Contractor: _____
Begin (date): _____ End(date):_____
Location:_____
_____

RAINFALL LOG

Month: Year:

Project Name:

Project Location:

City Project #: Stormwatch Gauge # or Other:

DATE	RAINFALL (inches)	INSPECTION REQUIRED		DATE	RAINFALL (inches)	INSPECTION REQUIRED
1				15		
2				16		
3				17		
4				18		
5				19		
6				20		
7				21		
8				22		
9				23		
10				24		
11				25		
12				26		
13				27		
14				28		

Observe and record rainfall totals on each business day at a minimum. Rainfall occurring on nonbusiness days may be collected and measured on the subsequent business day. If no measurement is made (i.e. on a weekend or holiday) record 'n/a". If no rainfall is received record 0.0 inches.

A SWPPP inspection is required whenever a rainfall total of:
(1) 0.5 inches or greater is recorded for a single observation, or
(2) 0.5 inches or more is measured in two consecutive observations when the first observation is less than 0.5 inches. "n/a" as directed above is not considered to be an observation. A measurement of 0.0 inches is considered to be an observation.

SWPPP Modification Log

Include additions of new BMPs, replacement of failed BMPs, significant changes in the activities or their timing on the project, changes in personnel, changes in inspection and maintenance procedures, updates to site maps, etc.

Amendments, as defined in MoDNR Stormwater Runoff Construction Activities General Permit, require approval by the City and authorization from MoDNR.

Modification #	Description/Location of Modification	Date of Modification

Modification #	Description/Location of Modification	Date of Modification