

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Developed for

**CHARLOTTE AREA TRANSIT SYSTEM –
LIGHT RAIL MAINTENANCE FACILITY
CHARLOTTE, NORTH CAROLINA**

**Prepared in Accordance with
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1.0 INTRODUCTION

The Charlotte Area Transit System (CATS) – Light Rail Maintenance facility is where City staff conducts maintenance activities on light rail trains as well as stages maintenance activities for the entire light rail system. Train washing occurs onsite in an enclosed area. There are no vehicle fueling activities on site.

2.0 SITE PLAN

2.1 Site Location

The CATS Light Rail Maintenance facility is located at 3200 South Boulevard in Charlotte, NC. The site covers approximately 11.32 acres. There are 120 employees working at the facility. The facility operates 24 hours a day, 7 days a week. All storm water runoff discharges to a municipal separate storm sewer system (MS4) and eventually discharges to a tributary of Irwin Creek in the Catawba River Basin.

2.2 Site Description

The site, facility layout and surface drainage diagram are shown in **Figure 1**. The diagram shows the drainage pattern of storm water leaving the site. Approximately 92% of the drainage area is impervious. There are four storm water outfalls, three of which receive storm water from adjacent industrial areas.

- SW Outfall #1: Storm water from the front parking lot flows through an underground stormwater treatment device (Stormceptor Unit) towards the east, discharging to the municipal separate storm sewer system (MS4).
- SW Outfall #2: Storm water from the Train Storage Area flows towards the southwest and connects to the MS4.
- SW Outfall #3: Storm water from the generator, trash dumpsters and employee parking flows through an underground stormwater treatment device (Vortechinics Unit), then towards the northeast before discharging to the MS4.
- SW Outfall #4: Storm water from the train line and Equipment/Material Storage Area flows north before discharging to the MS4.

All light rail maintenance activities are conducted indoors. Trains and miscellaneous inert materials and equipment are stored outside in the train yard. Two generators containing diesel fuel within double-walled tanks are located outside. Also located outside are a trash bin, recycling bin and scrap metal bin. All of the bins are covered. Drains located inside the shop are plumbed to an oil/water separator that leads to the sanitary sewer system. The oil/water separator is maintained on a bi-annual basis. Bulk quantities of parts washer chemicals, used oil, used hydraulic fluid, new motor oil, new hydraulic fluid, and washing detergents are all located inside the shop. Based on processes taking place and materials stored on site, potential pollutants that could reasonably be expected to be present in storm water runoff are heavy metals.

A No-Exposure Certification, NCGNE0499, was approved for the facility in March 2008. As part of the requirements for the No-Exposure Certification personnel from the City of Charlotte and Mecklenburg County Storm Water Services inspect the facility and maintain documentation for the re-certification.

3.0 SPILL PREVENTION AND RESPONSE PLAN (SPRP)

3.1 Spill Response Team

Team Objectives: The goal of the Spill Response Team is to ensure that all practical measures are taken to prevent spills and, in the event a spill occurs, the team will be responsible for responding in accordance with the Spill Prevention Response Plan (SPRP) and Spill Prevention, Control and Countermeasures Plan (SPCC).

The team will be responsible for general implementation of the Storm Water Pollution Prevention Plan and specifically responsible for the following tasks:

- * Inspecting and maintaining existing storm water controls (including documentation of all semi-annual inspections) and containment structures for potential pollution sources;
- * Cleaning of all minor spills immediately and hiring an environmental clean-up company to assist with major spills or spills involving hazardous material;
- * Notifying the proper authorities when spills occur (see spill notification contacts);
- * Maintaining spill response and safety equipment in areas where spills are likely to occur;
- * Maintaining records of all inspections, spills and cleanup activities for a minimum of five (5) years.

3.2 Spill Response Procedures

The following actions may need to occur simultaneously or in a different order than listed depending on the actual event:

- 1) Assess the situation and decide if outside assistance is needed from an environmental contractor or fire department. Outside help may be needed if any of the following exist:
 - a. large volume (>25 gal.) or extent of affected area (use the “step across method”)
 - b. hazardous waste
 - c. uncontrolled/continuous release
 - d. especially dangerous hazardous material (oxidizer, water reactive, flammable, etc.)
 - e. unknown material
 - f. material entered storm drain or waterway.
- 2) If it can be done safely, shut off or control the source of the spill immediately; otherwise, perform this task when it is safe to do so (do not come into contact with the material without proper PPE).
- 3) Contact emergency response contractor and 911 if necessary.
- 4) Notify your site’s spill response contact(s) and other onsite personnel. Enlist the help of others to respond to the spill.
- 5) Don personal protective equipment and collect spill response materials.
- 6) Shut down ignition sources.

- 7) Cover/block any drains/catch basins in the spill area to prevent material from entering into the stormwater or sanitary sewer systems.
- 8) Use absorbent materials and other control measures to contain the spill. Apply absorbent materials first at the leading edge of the spill, work your way around the perimeter, and then cover the entire spill area. Work from the perimeter of the spill area and do not come in contact with the spilled material if possible.
- 9) Wait for spilled product to be fully absorbed, then clean up the contaminated materials, placing them into appropriate bags or containers for disposal. If the spill entered soil, consult with the City of Charlotte Environmental Services Division (E&PM Department) regarding proper testing and cleanup of the soil.
- 10) Dispose of contaminated materials in accordance with the law (depends on the type of waste).
- 11) Restock spill response equipment.
- 12) Fill out spill response forms located in the Stormwater Pollution Prevention Plan and, if your site has one, the SPCC Plan.

3.3 Spill Kit & MSDS Locations

Spill kits are at the following location(s):

Material Safety Data Sheets are at the following location:

3.4 Spill Notification Contacts

Minor Spills (generally <25 gallons)

- * Contact Brent Roland at (704) 432-4765 and/or Gary Lee (704) 432-5010
- * Notify Charlotte-Mecklenburg Storm Water Services (CMSWS) from 8:00-5:00 by calling (704) 336-5592 or (704) 336-7605; after hours contact on-call phone number (704) 281-0938;
- * Notify North Carolina Department of Environment and Natural Resources (NCDENR) Mooresville Regional Office at (704) 663-1699 within 24 hours if any spillage reaches surface waters.

Major Spills (generally >25 gallons or any amount of chemical/fuel that reaches surface water or a storm drain)

- * Call 911 immediately if you don't have control over the spill, if there is a hazardous waste involved, or if a significant health and safety hazard exists (flammability, injury, etc.);
- * Contact Brent Roland at (704) 432-4765 and/or Gary Lee (704) 432-5010
- * Notify CMSWS from 8:00-5:00 at (704) 336-5592 or (704) 336-7605; after hours contact the on-call phone number (704) 281-0938;

- * Hire environmental clean-up contractor (if necessary);
- * Notify NCDENR Mooresville Regional Office at (704) 663-1699 and The National Response Center at 1-800-424-8802 within 24 hours;
- * Complete a Reportable Spill Information Form (**See Form A**).

4.0 PREVENTATIVE MAINTENANCE AND GOOD HOUSEKEEPING PLAN

The Facility Property Supervisor for Light Rail and the Manager of Rail Car Maintenance will oversee all activities associated with preventative maintenance and good housekeeping at the facility. The facility and the grounds should be maintained in a clean and orderly fashion. This should include, but is not limited to:

- Assisting with semi-annual inspections of equipment, material storage areas, and control devices for condition and signs of pollution (see **Form B**);
- Documentation of all semi-annual inspections of equipment and storm water controls shall include: date, time, name of inspector, weather conditions, what was observed, and follow-up action(s) needed/taken. Inspections of Storm Water Discharge Outfalls (SDO) will be conducted as part of the inspections. All documentation of inspections shall be recorded on Form B and kept on file at the facility for a minimum of five (5) years.
- Maintain good housekeeping practices in all outside storage areas;
- Maintain adequate spill clean-up equipment such as: absorbent materials, drip pans, rags, brooms, wet/dry vacuums, and disposal containers. These materials should be located in an area that can be easily accessed by staff in the event of a spill;
- Safety equipment should be made available to staff, including: personal protective equipment, fire extinguisher, and material safety data sheets (MSDS).

5.0 VEHICLE/EQUIPMENT WASHING AND FUELING

5.1 Vehicle/Equipment Washing

Light rail trains are washed with the use of recycled water in an enclosed area and is not exposed to stormwater. Three storage tanks are used as part of the water reclamation washing process:

- 500-Gallon Detergent Tank – This tank is single-walled and is not surrounded by a containment structure.
- 1000-Gallon Recycle Water Tank – This tank is single-walled and is not surrounded by a containment structure.

- 1,500-Gallon Recycle Water Tank – This tank is single-walled and is not surrounded by a containment structure.

Any water not reclaimed during the recycling process discharges into the sanitary sewer through an oil/water separator that is maintained on a biannual schedule.

5.2 Vehicle/Equipment Fueling

No large equipment is fueled at this facility. Only small engines are fueled using handheld fuel cans and are stored in fuel cabinets when not being used.

6.0 EMPLOYEE TRAINING

Employees at all levels, including new employees, shall be trained in the goals and components of the Plan. Refresher training sessions should be scheduled whenever changes are made to the plan and annually at the very minimum. CMSWS and the Light Rail Maintenance Manager or his/her designee shall assist with employee training. Employee training including refresher training must be documented and inserted into the SWPPP. Documentation shall include: employee signature, date, time, name of trainer, and type of training. All documentation shall be maintained on file at the facility for a minimum of five (5) years.

FORM A
Reportable Spill Information Form
Charlotte Area Transit System – Light Rail Maintenance Facility

Instructions: For purposes of this Plan, a reportable spill is greater than 25 gallons of any polluting substance or any amount that reaches surface water or the storm water collection system. In the event that such a discharge occurs (refer to Page 3), immediately contact 911 (City of Charlotte Fire Department) and notify NCDENR Mooresville Regional Office and the National Response Center within 24 hours. Upon such an occurrence, this form should be completed and forwarded to the proper authorities.

Spill Date and Time: _____

Type of Material Spilled: _____

Estimated Quantity Spilled: _____

Estimated Quantity Entering Surface Water: _____

Source of Spill: _____

Description of Affected Area: _____

Cause of Spill: _____

Corrective Action Taken: _____

Names of Parties/Agency Contacted: _____

FORM B: EQUIPMENT / MATERIAL / AREA INSPECTION FORM					Date: _____	
Charlotte Area Transit System – Light Rail Maintenance Facility Charlotte, North Carolina					Inspector: _____	
Instructions: Two (2) times a year, the following areas should be inspected and documented on this form.						
Equipment/ Material / Area	Existing Controls	Exposed to Storm Water (Y/N)	Condition (good/bad)	Signs of Pollution (No / Specify)	Adequate Spill Controls (Y/N)	Corrective Action Recommended
Light Rail Train Maintenance Area	Inside; drains to sanitary sewer. Spill kits.					
Light Rail Train Washing Area	Inside; drains to sanitary sewer.					
Indoor Material Storage Area	Inside; stored on pallets and spill containment devices.					
Outdoor Equipment Storage Area	Bins are covered; other materials are inert					
Waste/Recycling Receptacles	Covered and sealed along base.					
Outfall #1						
Outfall #2						
Outfall #3						
Outfall #4						
Instructions: Two (2) times a year, the following areas should be inspected and documented on this form.						

FORM C: Storm Water Discharge Qualitative Monitoring Report Form

Charlotte Area Transit System – Light Rail Maintenance Facility Charlotte, North Carolina

Instructions: Two (2) times a year, storm drain discharge outfalls should be inspected and documented on this form (Preferably during a rain event).

	Spring Event				Fall Event			
Date								
Time								
Inspector								
Weather Condition								
Outfall #	1	2	3	4	1	2	3	4
Color (specify)								
Odor (specify)								
Clarity*								
Floating Solids**								
Suspended Solids***								
Foam (Y/N)								
Oil Sheen (Y/N)								
Deposition at Outfall (Y/N)		n/a	n/a	n/a		n/a	n/a	n/a
Erosion at Outfall (Y/N)		n/a	n/a	n/a		n/a	n/a	n/a
Other Indicators (specify)								

* Choose the number which best describes the clarity of the discharge where 1 is clear and 10 is very cloudy

** Choose the number which best describes the amount of floating solids where 1 is no solids and 10 is the surface covered with solids

*** Choose the number which best describes the amount of suspended solids where 1 is no solids and 10 is extremely muddy.

Figure 1

