



Procedure Number: 400.23

Subject: Stormwater Pollution Prevention Plan for Vehicle Maintenance,
Recreational Activities and Facilities Management Operations

Reference: Tennessee Water Quality Control Act of 1977, Federal Water Pollution
Control Act, as amended by the Clean Water Act of 1977 and the Water
Quality Act of 1987

Implementation Date: September 2011

Review Date: Annually

Purpose and Objective

East Tennessee State University's National Pollutant Discharge Elimination System (NPDES) General MS4 Permit, Tracking No. TNS075370, requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) emphasizing best management practices (BMP's).

The SWPPP has two major objectives:

- Help identify the sources of pollution that affect the quality of industrial stormwater discharges, and
- Describe and ensure the implementation of BMP's to reduce pollutants in industrial stormwater discharges.

Vehicle Fueling & Maintenance Operations

ETSU's vehicle maintenance activities are located in the Facilities Management Building(s) that consists of the campus Motor Pool, Grounds and Turf Management Departments as well as other Facilities Maintenance shops. Automotive maintenance facilities are considered to be stormwater "hot spots" that

can negatively affect the quality of stormwater. Therefore, ETSU places an emphasis on stormwater compliance within this area.

The Motor Pool maintains the University's vehicle fleet with minor repair work and includes a gasoline/diesel fueling station and two indoor repair bays. There is several storage tanks located at the Motor Pool:

1. 900 gallon AST for E-85
2. 15,000 UST for unleaded gasoline
3. 4,000 UST for diesel
4. 275 gallon poly used oil container

Potential Discharges to Stormwater at Motor Pool

Discharges to a stormwater drain could occur during tank transfer operations, hose rupture, tank rupture, equipment/piping failure or overfilling. The tanker trucks are designed with safety precautions that would minimize a discharge. A discharge from the 900 gallon AST would most likely flow into a concrete stormwater drainage ditch that is located along a curb. A discharge from a drum or the 275 gallon poly tank located inside the garage could be contained within the spill pallets or on the concrete floor with spill cleanup material kept within Motor Pool. All floor drains are sealed off.

These storage tanks are described in more detail within ETSU's Spill Prevention Control and Countermeasures Plan (SPCC) that is managed by the Office of Environmental Health and Safety. Furthermore, the UST's are equipped with leak detection systems, are located within diked areas and line/tank leak detector tests are performed annually on the UST's as well as a cathodic protection test every three years. These records are kept within the EHS Office. ETSU also contracts with Quantum Environmental & Engineering Services as well as First Response, Inc. as our spill and emergency response consultants.

Wastes generated within the Motor Pool and Grounds/Turf Management facilities

- Solvents (degreasers, paint thinners, etc)
- Antifreeze
- Brake fluid
- Battery acid
- Motor oil and lubricating grease
- Fuel (unleaded, diesel, kerosene)

Good Housekeeping

Good housekeeping is essentially the maintenance of a clean and orderly work environment. It is a good indication of the implementation of BMP's by well trained personnel. A clean and orderly work area reduces the possibility of accidental spills caused by mishandling of equipment and should reduce safety hazards to personnel. Examples of good housekeeping practices employed by ETSU Motor Pool include:

- Neat and orderly storage of chemicals in a proper manner and area.
- Prompt cleanup/removal of spillage.
- Regular garbage pickup and disposal.
- Maintenance of floors.
- Provisions for proper storage and inspection of containers, drums and storage tanks.
- Prevention of accumulation of liquid and solid chemicals on the ground or floor.

ETSU practices four major procedures to promote good housekeeping. These include (1) improved equipment operation and maintenance, (2) proper material storage practices, (3) routine campus inspections and (4) training of all personnel working in "hot spot" areas. A more detailed description of each follows:

➤ **Operation and Maintenance**

Improved operation and maintenance procedures are designed to ensure that equipment is working in an orderly fashion. Applicable ETSU personnel implement the following equipment operation and maintenance BMP's as part of the facility's good housekeeping program:

1. Work surfaces, floors and ground surfaces are kept clean and dry by using brooms, vacuum cleaners or other cleaning devices.
2. Garbage and other solid waste material is regularly picked up and disposed of accordingly.
3. Equipment is routinely inspected for leaks or conditions which could lead to discharges of pollutants or contact of stormwater with raw or waste materials.
4. Equipment which is not working properly is promptly taken out of service for repair.
5. The EHS Office provides periodic information and necessary training concerning spill prevention and clean up procedures.
6. Floor drains within the departments are sealed off to prevent accidental releases.
7. Fueling dispensed by trained motor pool personnel only.

➤ **Material Storage Practices and Routine Inspections**

ETSU encourages proper material storage in order to prevent the release of materials and pollutants that may cause stormwater runoff pollution. Proper storage techniques include:

1. Store materials so that there is adequate aisle space to facilitate material transfer and easy access for inspections (quarterly SPCC inspections are performed in Motor Pool).
2. All containers are properly placarded and/or signage is visible where required (used oil containers, hydraulic fluid, parts washers, etc are labeled).
3. Store containers and drums indoors or in enclosed storage units and away from direct traffic routes to prevent accidental spillage.
4. Drums are stored on spill pallets where applicable.

➤ **Material Inventory Controls**

Improved material inventory practices can reduce the waste that results from overstocking and the disposal of out dated chemicals and materials. Careful tracking of all materials ordered results in more efficient material usage. The following material inventory BMP's are implemented in ETSU Facility Management operations:

1. Material Safety data Sheets (MSDS) are maintained for all products used for vehicle maintenance operations. MSDS's are located within the department as well as via the campus website.
2. Containers are labeled to show the name and type of substance contained therein and hazard if applicable.
3. The EHS Office inspects all oil and waste oil tanks and containers on a quarterly basis.

➤ **Employee Stormwater Training**

Employee training is essential to the effective implementation of the SWPPP. The purpose of the employee training program is to inform personnel at all levels of responsibility of the components and goals of the SWPPP. Training will address each component of the SWPPP including how and why tasks are to be implemented. Training topics will include spill prevention and response, good housekeeping and material management practices.

Furthermore, there are currently four ETSU Facility Management employees that have completed the Level 1 Fundamentals of Erosion Prevention and Sediment Control for Construction Sites training course. The Certificate of Completion card for each of these employees is on file in the EHS Office.

Landscaping and Athletic Fields Stormwater Pollution Prevention

ETSU takes great pride in the maintaining of its beautiful natural landscape throughout the campus as well as its athletic fields and complexes. However, lawn and garden activities can contaminate stormwater with pesticide, soil and fertilizer runoff. ETSU's Grounds and Turf Management Departments apply proper landscape management techniques that effectively reduce water use, contaminant runoff and enhance the campus's aesthetics. Environmentally friendly landscape management practices such as routine soil analysis, careful planning and design techniques, appropriate plant selection, use of practical turf areas and mulch, efficient water use and appropriate maintenance are just some of the measures taken to protect the quality of the stormwater leaving ETSU.

ETSU, in conjunction with the City of Johnson City, Tennessee Public Works Department, has installed an underground water storage tank below the newly constructed Betty Basler softball field. This 60,000 gallon tank collects and holds all of the stormwater from the site, filters it, and then a pump recirculates the water for irrigation of the field.

This stormwater collection system will aid ETSU in complying with its Phase II Stormwater Permit as follows:

- Reduction in downstream flooding.
- Reduction in fertilizer usage.
- Prevent the discharge of contaminated stormwater runoff into the storm drainage system.
- Improve the quality of surface water and ground water by preventing illicit discharges.

Grounds and Turf Management Stormwater Pollution Prevention Practices

- Use pesticides and fertilizers sparingly.
- When chemicals must be used, they are used according to the manufacturer's instructions.
- Do not apply chemicals when raining or expected to rain.
- Pesticides are applied only by a licensed chemical applicator. The EHS Office maintains a database of those individuals.
- Sweep and collect debris from sidewalks and paved areas as opposed to washing it into waterways.
- Maintain landscaped areas to prevent soil erosion.
- User native plants that require low maintenance to landscape.
- Cover bare spots in grassy areas to prevent erosion.
- Do not over water landscaping.

- Do not leave grass clippings on the streets, sidewalks or other impervious surfaces. Blow them back onto grassy areas or collect.
- Cover piles of mulch, dirt, etc. being used in landscaping projects to prevent erosion during storm events.
- Plant along roadways and sidewalks as this helps to filter out pollutants from runoff.
- Receive annual stormwater training through the EHS Office.
- All waste chemicals, pesticides, fertilizers, etc. are managed by EHS Office.

Facilities Management Yard Stormwater Pollution Prevention Practices

- All spills are cleaned up immediately.
- Maintain vehicles to ensure proper function and reduce oil and fluid leakage.
- Vehicles and mowing equipment are never left unattended while fueling.
- Spill kits are available in all Facilities Management areas and are maintained by EHS Office.
- Ensure that any equipment or materials stored outside do not have the potential to contaminate stormwater when exposed to rainfall.
- All containers and drums of materials are stored inside chemical storage building or under a covered building/shed.
- Maintain unpaved areas with sufficient gravel to minimize erosion of sediment.