



**STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
ENVIRONMENTAL COMPLIANCE OFFICE**  
SUITE 900 - JAMES K. POLK BUILDING  
505 DEADERICK STREET  
NASHVILLE, TENNESSEE 37243-0334

**TDOT STANDARD OPERATING PROCEDURE - ENVIRONMENTAL**

**NO.**  
016

**Subject: VEHICLE WASH OPERATIONS**

Reviewed and  
approved by:

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02-12-18

Date

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Environmental Bureau Chief, TDOT Environmental Planning Bureau

04-26-18

Date

Status: Revised and re-approved with minor changes.

Version 5 – Replaces  
Version 4 dated April 2017

## 1.0 PURPOSE AND SCOPE

TDOT vehicle and equipment washing shall be conducted in a manner to prevent wash water from being discharged onto the ground surface, into storm water run-off, or into storm water run-off control systems. TDOT vehicles and equipment shall be either washed at an offsite location (e.g., commercial or other appropriate TDOT facility) or on a dedicated wash pad. TDOT-dedicated wash pads shall be constructed and operated so that the resulting wash water is either (1) discharged to the sanitary sewer or (2) collected in a holding tank for later transport to a publicly owned treatment works. In addition, the sludge that accumulates over time from washing operations must be drummed and managed as Special Waste. To assist those engaged in vehicle washing activities, information pertaining to various aspects of this work is provided in the sections below.

## 2.0 OVERVIEW

Vehicle wash water processing systems are available at a large number of TDOT facilities across the state, including all regional and district garages, along with many county locations. In general, the systems are comprised of a wash pad and an oil/water separator (OWS). The wash water processing systems are simple to operate, have few moving parts, and will provide reliable service if maintained properly. A diagram of a typical system is included in Figure 1.

The wash pad may be a sectioned, or be constructed of concrete or asphalt. Most of the pads of the latter variety are covered, either by a building roof or a fabric-covered framework, to prevent rainwater from entering the system and being processed and to provide some

protection from cold and inclement weather. The pads are designed to capture the wash water and direct it to the OWS unit for processing, normally via a pump located in an auxiliary sump (most concrete pads).

The OWS system consists of three tanks: (1) a grit chamber where the majority of larger particles drop out; (2) an oil separation chamber where the oil coalescing plates are located, along with the oil skimmer unit; and (3) a pump-out chamber where processed wash water is discharged to either the local sewer system or to a holding tank for subsequent disposal. In some instances, where the system configuration allows, the OWS pump has been removed to allow the processed water to gravity flow from the third tank to the sewer system, thereby simplifying the overall operation.

The oil separated from the wash water in the second tank is removed by an oil skimmer belt and drained to a decanter system, where it ultimately flows through a hose to a used oil collection container (generally a 5-gallon plastic bucket). This oil is periodically transferred to the facility's used oil tank for subsequent recycling.

### 3.0 WASHING OPERATIONS

The following conditions apply to the washing of vehicles at TDOT facilities:

1. Vehicles must be cleaned on wash pads designed to capture and process the resulting wash water. If wash water is not captured in this manner, then the activity is considered an unauthorized discharge by the state. As such, all vehicle washing (to include the spraying out of truck beds and/or spraying off of equipment) must be performed on the wash pad surface.
2. If soap is used in the cleaning process, then it must be one of the approved products. (Approved soaps are listed Attachment A of this SOP.)
3. To the extent practicable, washing should be accomplished using a pressurized spray washer to conserve water and minimize the quantity of wash water to be processed. The use of high-volume hoses can result in significantly higher flows to the OWS, negatively impacting its effectiveness.
4. When not in use, doors/door flaps associated with covered wash pads should be closed to prevent rainwater from entering the system and being processed.

**Note:** To minimize the generation of Special Waste sludge, as well as to reduce the frequency of sump clean out, material should be shoveled from the beds and surfaces of vehicles prior to washing. Depending on the materials involved, they can generally be added to onsite spoil piles for use as fill material. Excess salt can be returned to the salt pile.

### 4.0 SYSTEM MAINTENANCE

While the wash water processing systems are relatively simple in design and automated to a large degree, a minimal level of attention by facility staff is required to keep the systems in good working order and extend the equipment's service life. The following maintenance actions should be taken at the specified times/intervals:

### *Pre-Wash Checks*

1. Place pumps back into sumps (as applicable).
2. Inspect sumps for accumulated debris that could restrict the flow of wash water from the pad surface to the processing equipment.
3. If a holding tank is used to collect processed wash water, then ensure that sufficient capacity is available to handle the additional anticipated volume.

### *Post-Wash Actions*

1. Rinse off the wash pad to remove accumulated salt, dirt, etc. This material cannot be discharged onto the ground surface.
2. Employ freeze protection measures, as applicable, at the site. For example, some facilities, primarily those using holding tanks, blow out lines to remove water and prevent freezing.

### *Upon Use*

1. Check for leaks (water or oil) on floor and system components.
2. Check to ensure oil skimmer wiper blades are free of debris.

### *Weekly*

1. Clean oil skimmer wiper blades of any accumulated debris.
2. Clean top of skimmer decanter box.
3. Check accumulated oil in collection container to ensure adequate capacity exists and that no significant water is present.
4. Check for accumulation of sludge in wash pad sump and auxiliary sumps, if applicable, particularly if vehicle washing has been especially active.

### *Monthly*

1. Open valves under OWS tanks for a few seconds to purge accumulated sludge from the system. If the OWS purge line is not configured to discharge back to the wash pad or auxiliary sump, then the sludge and water must be captured in some manner for manual transport back to the wash pad. ***This material cannot be discharged to the ground surface.***
2. Test all components of the wash water system to ensure operability of all pumps, the skimmer unit, and any float switches, etc.
3. If wash pad is equipped with a fabric-covered framework, then inspect cover for rips and tears and check roll-up door for proper operation, etc.

### *As Needed*

1. Remove sludge from wash pad sump and auxiliary sumps (if applicable). Drum material as Special Waste.
2. Clean wash pad surface of any accumulated debris and trash, etc.

### *“Summer-izing” of Systems (after salt season is over)*

1. Flush all system components with fresh water to reduce salt content and limit long-term exposure of system components to salt water. Several hundred gallons of fresh water should be slowly added to the center sump (concrete pad) to provide sufficient volume/time for the salt water to be displaced. This material cannot be discharged to the ground surface.
2. The ECO will be contacted within 48 hours if the above steps have been taken and the system fails to operate properly.

**Note:** The intervals listed above are considered a conservative starting point for maintaining a system in good working order under normal operating conditions. Actual operating experience at a specific facility may suggest shorter or longer maintenance intervals. In addition, seasonal adjustments in the frequency of maintenance may be appropriate in some instances (e.g., during periods where vehicle washing is less prevalent). Maintenance logs must be completed weekly and document all activities.

## **5.0 PROHIBITED USES**

The following activities shall not be conducted inside the wash pad:

1. Vehicle parking,
2. Vehicle or equipment maintenance,
3. Paint truck/paint spray tip cleaning,
4. Application of Lubraseal, and
5. Storage of product materials.

**ATTACHMENT A**  
**APPROVED SOAPS**

**APPROVED SOAPS**

<b>Product Name</b>	<b>Manufacturer</b>
Gosh Industrial Strength Plus	Selig
Formula D	Viking
ChemStation Product #40046	ChemStation