

Landscaping and Lawn Care

Purpose of SOP: To prevent contamination of storm water by minimizing contact with fertilizer and by using innovative landscaping techniques.

Always:

- Plant vegetation that needs minimal amounts of care (i.e. water, fertilizer).
- Implement landscaping techniques that minimize water usage.
- Water just enough to supplement rainfall – use drip irrigation techniques
- Apply fertilizers based on a soil testing program, soil type, turf function, and assessment by qualified personnel.
- Minimize fertilizer application, use slow release fertilizers.
- Use compost or natural (organic) fertilizers

Whenever Possible:

- Avoid fertilizers during a drought or when soil is dry.
- Apply fertilizers during periods of maximum plant uptake (usually fall and spring)

Never:

- Never fertilize before a heavy rainfall.
- Never phosphorus fertilizers on soil surface.
- Never deposit fertilizers in the water, onto the street or into storm drains.
- Never apply fertilizer to frozen ground.

Lawn Care – Mowing and Irrigation

Purpose of SOP: To protect storm water by using mowing and watering techniques. Proper mowing and irrigation techniques will reduce organic matter and other pollutants from entering the storm drain system and waterbodies.

Always:

- Mow with blades set high, leave grass clippings on the lawn.
- Vary the mowing pattern.
- Base irrigation amounts on monitoring for moisture content.
- Water at appropriate times (when no rain forecasted).
- Manage leaves, clippings, and compost so that runoff does not enter the storm drain system or waterbodies.

Whenever Possible:

- Keep mower blades sharpened to avoid damaging grass leaf tissue.
- Mow when grass is dry to prevent the spread of turf diseases.
- Sweep lawn clippings and debris instead of using water.
- Mulch grass clippings using a mulching mower.
- Fill gas tanks at a controlled location.

Never:

- Never irrigate based on timers/schedules instead of monitoring for moisture content.
- Never dump gas, wastes, or contaminated water down storm drains.
- Never leave mower running in one location.

Lawn Care: Weed and Pest Control

Purpose of SOP: To protect storing, applying, and disposing of herbicides and pesticides.

Always:

- Ensure that pesticides are only applied by personal certified to do so.
- Use, store, and dispose of all chemicals and waste products according to manufacturer's specifications, the Alabama Department of Agriculture and Industries and any local requirements.
- Clean up spilled chemicals.
- Store pesticides and herbicide-contaminated waste materials in a labeled, designated, covered, and contaminated area.
- Use pesticides and herbicides only when necessary.
- Rinse equipment only when necessary and use rinse water to dilute next mix as long as application rates are not exceeded.

Whenever Possible:

- Use alternative methods to control weeds and pests such as Integrated Pest Management strategies, bio rational insecticides (natural soaps and oils) or biological controls.
- Mix/Load pesticides in an area where spills can be contained.
- Pull weeds by hand or mechanically.
- Spot treat affected areas only instead of entire location.
- Apply pest control at life stage when the pest is most vulnerable.
- Choose the least toxic pesticides and herbicides that still achieve results.
- Establish setback distances from pavement, storm drains, and waterbodies; allow these to serve as buffers with disease-resistant plants and minimal mowing.

Never:

- Never Mix or prepare pesticides or herbicides near storm drains.
- Never apply controlled pesticides or herbicides unless certified to do so.
- Never apply pesticides or herbicides before a heavy rainfall.
- Never discharge rinse water or excess chemicals to storm drain, sewer, or ground surface in excess of labeled rates.

General Facility Housekeeping

Purpose of SOP: To protect stormwater by maintaining a clean, organized facility.

Always:

- Keep a tidy facility.
- Store hazardous materials as specified by the manufacturer.

Whenever possible:

- Store materials and wastes inside or under cover if outside.
- Substitute less or non-toxic materials for toxic ones.
- Perform a routine cleaning of the facility.
- Inspect facility (interiors, exteriors, parking areas, etc.) for stains.
- Conduct regular employee training to reinforce proper housekeeping.

Garbage Storage

Purpose of SOP: To protect storm water from contamination by properly storing garbage. Garbage and leachate can be transported by storm water and enter the storm drain system and receiving waterbodies.

Always:

- Dispose of hazardous materials according to the manufacturer's specifications and applicable regulations.
- Cover rubbish and leachate in and wind and rain out.

Whenever possible:

- Store garbage containers beneath a covered structure or inside to prevent contact with storm water.
- Install berms, curbing, or vegetation strips around storage areas to control water entering/leaving storage areas.
- Locate dumpsters on flat, concrete surface that does not slope or drain directly into the storm drain system.
- Locate dumpster and trash can in convenient, easily observable areas.
- Provide properly-labeled recycling bins to reduce the amount of garbage disposed.
- Inspect garbage bins for leaks regularly, have repairs made immediately by responsible party.
- Keep bins free of improperly discarded trash.
- Provide training to employees to prevent improper disposal of general trash.
- Minimize waste by purchase recyclable products that have minimal packaging.
- Request/use dumpster without drain holes.

Never:

- Never place hazardous wastes in a dumpster or trash bin.

Spill Prevention

Purpose of SOP: To prevent contamination of stormwater by using proper washing techniques, proper washing locations, and proper disposal of wash water.

Always:

- Monitor equipment storage areas, materials storage areas, and waste storage areas, checking for: fluid leaks, uncovered containers, and correct any problems that are noted.
- Remove spilled sand from the sand loading area and use or properly store.
- Document any and all inspection activities on the proper forms.

Whenever possible:

- Inspect secondary containment systems (i.e. oil, fuel storage tanks) as necessary, and empty them as necessary.
- Monitor oil/water separators and their downstream discharges. An oily discharge indicates that the unit is either not functioning properly or needs to be “pumped out”.
- Install oil absorbent materials in floor drains and/or catch basins, and inspect, remove/replace as appropriate.
- Monitor floor drains and storm drains and storm receiver inlets and outlets for excessive amounts of contaminants, and clean out as necessary.

Spill Cleanup

Purpose of SOP: To protect storm water by educating employees on proper spill clean-up procedures, state reporting requirements and preventative actions.

Always:

- Stop the source of the spill.
- Contain any liquids.
- Cover the spill with absorbent material such as kitty litter, sawdust, or oil absorbent pads. Do not use straw. Dispose of used absorbent material properly.
- Use water only when necessary and minimize use.
- Train employees in spill response procedures and equipment.
- Keep a spill kit in areas where petroleum or hazardous materials are stored.
- Deploy containment booms if spill could potentially reach a storm drain or waterbody.
- Position pans to contain drips from equipment or vehicles until they can be repaired.

Whenever:

- Seal the floor with paint to prevent absorption of fluids into concrete.
- Install low-level or low-pressure alarms and/or cut-off systems on hydraulic equipment.

Never:

- Never wash a spill into a storm drain or a water body.
- Never leave a spill without cleaning it up.

Vehicle and Equipment Fueling

Purpose of SOP: To protect stormwater from petroleum products that may drip or leak from vehicles and equipment being stored or from dirt and sediment that accumulate in the storage areas.

Always:

- Fuel carefully to minimize drips to the ground surface.
- Maintain clean fuel dispensing areas using dry clean-up methods.
- Utilize fueling safeguards. Clearly label and tag all valves to reduce human error.
- Train employees and subcontractors on proper fueling methods and spill clean techniques.
- Maintain fuel storage tanks in accordance with local, state, and federal laws.
- Have absorbent spill cleanup kits and materials available at fueling areas.
- Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

Whenever possible:

- Install a canopy or roof over above ground storage tank.
- Regularly inspect fueling equipment for corrosion and structural failure, cracks in foundations, and physical damage to container systems.
- Use designated fueling areas built upon a level impervious surface (hard cement is best). If paved with asphalt, add a protective coating to create an impervious surface.
- Design fueling areas to minimize storm water exposure. Prevent run-on and ponding of water, and use secondary containment systems.
- Protect storm drains from fueling equipment using berms and dikes.
- Add automatic shutoff mechanisms and vapor recovery nozzles to fueling equipment.
- Install protective guards around fueling equipment, tanks, and piping to prevent collisions.

Never:

- Never leave vehicles/equipment unattended while refueling.
- "Top off" fuel tanks. Post signs to remind employees.
- Hose down or bury a fuel spill.

Vehicle and Equipment Storage

Purpose of SOP: To protect storm water from petroleum products that may drip or leak from vehicles and equipment being stored or from dirt and sediment that accumulate in the storage areas.

Always:

- Inspect parking areas for staining/leaks on a schedule established by the appropriate personnel.
- Use drip pans for vehicles that drip a lot (provide a labeled location to empty and store drip pans).
- Clean up spilled materials immediately, using dry methods (absorbents).

Whenever possible:

- Store vehicles inside.
- Conduct maintenance work indoors—dedicate specific vehicle bays, seal floor drain systems.
- If work is performed outside, protect storm water drainage conveyances from spills.
- Store vehicles on paved areas if you can street sweep regularly to remove drips/leaks/dirt.
- Maintain vehicles to prevent leaks from occurring.
- Perform a pre-trip inspection of vehicles.

Never:

- Never store leaking vehicles over a storm drain.

Vehicle and Equipment Washing

Purpose of SOP: To protect stormwater from petroleum products that may drip or leak from vehicles and equipment being stored or from dirt and sediment that accumulate in the storage areas.

Always:

- Rinse grass from lawn care equipment over permeable, vegetated areas.
- Wash vehicles and equipment in a designated area.
- Discharge all wash water containing degreasers, acids, bases, and/or metal brighteners to a vegetated buffer.

Whenever possible:

- Use biodegradable, phosphate free soap.
- Use a commercial car wash for light duty vehicles.
- Wash cars on gravel, grass, and other permeable surfaces.
- Maintain vehicles and equipment to prevent leaks/drips, which would easily enter wash water.
- Obtain and use drain guards (filter insets) to catch sediments, petroleum products, etc. that might enter the storm drains as a result of vehicle washing.
- Minimize water and soap use when rinsing or washing vehicle.

Never:

- Never perform engine washing outside or over a storm drain.
- Never wash vehicles over a storm drain or near drinking water wells.

Catch Basin and Storm Drain System Cleaning

Purpose of SOP: To protect storm water by maintaining the ability of catch basins to trap sediments, organic matter, and litter. This reduces clogging in the storm drain system as well as the transport of sediments and pollutants into receiving waterbodies.

Always:

- Inspect catch basins for structural integrity and evidence of illicit discharges during cleaning.
- Conduct a chemical analysis if sediment is suspected of contamination to determine if the recovered materials meet the EPA criteria for hazardous waste.
- Dispose of catch basin residue properly.
- When cleaning ditches, remove obstacles/debris.
- Identify excessive siltation in ditch – may indicate the need to re-grade the ditch.
- During ditch scraping, maintain vegetation (downstream in ditch) to capture sediment.

Whenever possible:

- Inspect each catch basin at least annually, during catch basin cleaning.
- Create a checklist for catch basins to help classify which catch basins require maintenance and how often.
- Discharge fluids collected during catch basin cleaning to a sanitary WWTP.
- During cleaning, identify the need to repair of structure (also pertains to manholes, piping).
- Clean catch basins when debris has filled it 1/3 of the way of the outlet.
- Cut/remove vegetation (as opposed to ditch scraping) to allow capture sediment.

Storm Drain Repair

Purpose of SOP: To protect storm water by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of the storm drain system.

Always:

- Create an inspection and cleaning schedule for the municipal storm sewer system, including storm water detention ponds, energy dissipaters and associated structures.
- Practice preventative maintenance and inspect at least one time per year for cracks, leaks, and other conditions that could cause breakdowns in the system.
- Repair defective structures or equipment identified during an inspection as soon as possible. Dispose of collected materials according to state regional and local regulations to avoid negative environmental impacts.
- Document inspections, cleanings and repairs and maintain complete records in a record keep system.
- Use appropriate erosion and sediment control practices when repairs.

Whenever possible:

- Research and implement new technology that will improve the overall performance of the storm drain system.
- Perform street sweeping on a regular basis to reduce the amount of sediment, debris and organic matter with entering the storm sewer system, which in turn reduces the frequency with which the system will need to be cleaned.

Never:

- Never allow defective equipment or structures to go unrepaired.

Catch Basin Repair

Purpose of SOP: To protect storm water by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of storm water structures.

Always:

- Practice preventative maintenance and inspect on a regular schedule for cracks, leaks, and other conditions that could cause breakdowns in the system (this can be done during the cleaning process).
- Repair defective equipment or structures identified during an inspection as soon as possible.
- Document inspection and repairs and maintain complete records in a record keeping system.
- Educate personnel on preventative maintenance inspections.

Whenever possible:

- Research and implement new technology that will improve the overall performance of the catch basin.

Never:

- Never allow defective equipment or structures to go unrepaired.

Outfall Repair

Purpose of SOP: To protect storm water by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of storm water structures.

Always:

- Locate all outfalls in the municipality and create an inspection schedule.
- Practice preventative maintenance and inspect at least one time per year for cracks, leaks and other conditions that could cause breakdowns in the system.
- Repair defective structures or equipment identified during an inspection as soon as possible.
- Document inspections and repairs and maintenance complete records in a record keeping system.
- Educate personnel on preventative maintenance inspections.

When possible:

- Research and implement new technology that will improve the overall performance of the outfall.

Never:

- Never allow defective equipment or structures to go unrepaired.

Road Maintenance – Sand Storage

Purpose of SOP: To protect storm water by properly storing deicing materials. Sand used during winter can be transported by runoff into the storm drain system and eventually into waterbodies if not stored properly.

Always:

- Cover sand and sand piles that are situated on impervious surfaces.
- Store sand in a properly sized covered structure.
- Unload sand deliveries directly into storage area or move to the store area immediately.
- Clean up sand immediately after storm events to minimize material reaching the storm sewer system and the waterbodies.

Whenever possible:

- Control spread patterns to concentrate the material where it is most effective.
- Use diversion berms to minimize run-on to storage areas.

Never:

- Never dispose of wash water from sanding trucks into the trucks into the storm drain system, a waterbody or septic system drain fields.

Street Sweeping

Purpose of SOP: To remove sediments, debris and other pollutants from streets, parking areas, and paved surfaces through regular, properly timed sweeping schedules.

Always:

- Dispose sweeping residual properly.
- Sweep in a pattern that prevents materials from being pushed into storm drains/catch basin inlets.
- Prioritize street cleaning and perform maintenance routinely.
- Sweep and immediately after snow and ice events.

Whenever possible:

- Locate storage and disposal areas and manage street sweeping waste so that wastes cannot be transported into storm sewer systems, waterbodies, or wetlands.

Never:

- Never store street sweeping residuals in areas where storm water could transport fines to the storm sewer system or waterbodies.

Roadway and Bridge Maintenance

Purpose of SOP: To prevent contamination of storm water as it flows over debris that is deposited on road infrastructure and bridges.

Always:

- Pave only in dry weather.
- Cover manholes and catch basins prior to paving, patching, etc.
- Maintain roadside vegetation and restrict pesticides use.
- Sweep bridge decks and structures prior to washing.
- Use tarps and vacuums during sandblasting/painting activities.

Whenever possible:

- Sweep/vacuum roadways and shoulders to remove debris and particulate matter.

Never:

- Never wash a bridge if flaking paint is present.