WQ-10

Best Management Practice (BMP)
Water Quality Protection Guideline
Secondary Containment Design Standards
Fuel Storage on Construction Sites

According to the EPA, the majority of water pollution in our streams today is directly caused by pollutants that have been dumped or spilled onto the ground and that are then washed from these surfaces into our creeks and streams by rainwater. This pollution is caused by many different sources and activities, each of which may seem insignificant when considered in isolation. However, stormwater runoff, acting as nature's bath, collects and combines each of these small pollutant sources, which drain into a local stream and causes significant levels of water pollution.

Improper storage of fuel on construction sites will increase the risk of water pollution that may occur as a result of leaks or spills.

The risk of water pollution associated with the storage of fuels on construction sites can be minimized through the implementation of the simple water quality best management practices (BMPs) contained within this guideline.

With respect to fuel storage on construction sites, this guideline is intended to provide the minimum requirements for compliance with Gwinnett County's Illicit Discharge and Illegal Connection (IDIC) Ordinance (Chapter 100, Gwinnett County Code of Ordinances) and the NPDES General Permit for Stormwater Discharges from Construction Activities (Part III, Section B (1) and Part IV, Section iii). It is expected that individuals and companies involved in the storage of fuels will fully implement these guidelines and take any additional necessary and reasonable actions, as needed on a case-by-case basis, to prevent stormwater pollution.

Section 1. Definitions

For the purposes of this Water Quality Protection Guideline the following terms will be defined as follows:

"Fuel" as used in this guideline refers to any hydrocarbon based liquid that could reasonably be expected to cause water pollution if it were to enter into a stream or drainage system and would include but not be limited to both new and used hydraulic oils, motor oils, gasoline, diesel and other similar products.

"Rainwater waste" in this guideline refers to rainwater that has accumulated within a secondary containment area.

"Polluted rainwater waste" as used in this guideline will refer to rainwater waste that contains fuel contamination.

"Unpolluted rainwater waste" in this guideline will refer to rainwater waste that does not contain any fuel contamination.

"Secondary Containment" refers to a risk management measure that provides a secondary container as backup to a primary container for the purpose of providing adequate volume capacity to contain a spill from the primary container.

"Primary Container" is any container that is used to store fuel for the purpose of refueling vehicles and equipment at a construction site.

"Secondary Container" provides backup containment to a primary container by providing storage capacity in the amount of 110% of the volume of the largest primary container stored within.

Section 2. Purpose

The purpose of this Water Quality Protection Guideline is to:

(1) provide details on water quality BMPs that may be implemented to assist in controlling pollutants associated with the storage of fuel on construction sites;
(2) serve as a reference for regulators, inspectors and others who assess the water quality impacts of operations that store fuels on construction sites;
(3) provide guidance that, if implemented, will assist in securing compliance with Gwinnett County's Illicit Discharge and Illegal Connection (IDIC) Ordinance, and;
(4) provide guidance that, if implemented, will assist in meeting relevant requirements of the NPDES General Permit for Stormwater Discharges associated with Construction Sites.

Section 3. Best Management Practices

All fuels stored within primary containers on construction sites must be provided with secondary containment.

3.1 Design Requirements

(1) Secondary Containment shall be designed and constructed to meet the following criteria:
   (a) provide adequate backup storage capacity that would effectively contain a spill from a primary container; and
   (b) provide a barrier between the primary storage container and the environment, thereby reducing the potential for soil, surface water and ground water contamination; and
   (c) prevent the ingress of rainwater into the secondary container.

(2) These criteria may be achieved through implementation of the following design considerations:
   (a) The secondary container including walls, floors and joints should be constructed of materials that are capable of adequately containing those fuels stored within. Commonly concrete, concrete block, plastic and steel are used; and
   (b) Available capacity of the secondary container shall be at least 110% of the total volume capacity of the largest primary container stored within. The secondary container volume must take into consideration the volume reduction caused by the primary containers themselves; and
   (c) Any drainage valves provided to the secondary container must be liquid tight and able to be locked in the fully closed position.

(d) The secondary container should be stored under adequate cover to prevent rainwater ingress.

(3) Total capacity (gal) of all primary and secondary containers should be clearly marked on all containers.

(4) Please refer to Appendix 1 for secondary containment examples.

3.2 Cover for Secondary Containment

(1) Rainwater shall not be allowed to collect within the secondary container.
(2) Adequate cover must be provided to the secondary container so as to prevent the ingress of rainwater.
(3) Depending on the type of secondary container used, adequate cover could include a tarpaulin, fitted lid or roof. Where temporary cover such as a tarpaulin or fitted lid is used it must be securely fastened so as to remain effective during inclement weather.
(4) Temporary covers shall be in place during all rain events, overnight, and during any extended period of time when the site will be left unattended, such as weekends and holidays.
(5) Any rainwater waste that does collect within the secondary containment structure must be removed immediately so that it does not reduce the capacity of the secondary container to contain fuels that may subsequently be spilled within. See requirements for handling this waste water is sections 3.2.1 and 4.0 below.
(6) Polluted rainwater waste is a waste stream that may be problematic and expensive to dispose of legally. For this reason, preventing the generation of this waste through use of adequate cover will provide a cost savings.

3.2.1 Rainwater Waste Testing Requirements

(1) In circumstances where rainwater has collected within the secondary container, all such rainwater waste must initially be handled as if it were polluted and be properly assessed to determine whether pollutants do actually exist in the collected rainwater waste.
(2) The owner of the fuel stored within the secondary containment structure is deemed the generator of the rainwater waste and is therefore responsible for its storage and disposal.
(3) To be considered unpolluted rainwater waste, such rainwater waste must not contain any visible pollution on the surface of the water. Additional analytical testing may also be necessary to ensure the rainwater waste is not polluted.
(4) Results of any testing or other assessment should be recorded and kept on file.
(5) Any rainwater waste that tests or is assessed positive for any pollutants (polluted rainwater waste) must not be discharged onto the ground or into a storm drain or waterway.
(6) Collected rainwater waste that tests or is assessed negative for relevant pollutants (unpolluted rainwater waste) is considered rainwater and may be discharged to the ground.
(7) The generator of rainwater waste is responsible for making an accurate determination as to whether that rainwater waste is polluted or unpolluted. As such the generator should take all reasonable care in making such a determination.
(8) Gwinnett County reserves the right to make a final determination on whether rainwater waste is polluted or not. The generator may be found in violation of the County's Illicit Discharge and Illegal Connection Ordinance or NPDES General Permit for Stormwater Discharges associated with Construction Sites where the county determines that polluted rainwater waste was discharged to the ground, a storm drain or waterway.

(9) Once rainwater waste is deemed polluted the generator must make a determination on how the rainwater waste should be disposed of. Disposal options consist of onsite or offsite disposal. See Section 4 below.
(10) Any drainage valve provided to a secondary container must remain closed and locked at all times when not in use and should only be opened to drain a spill or polluted rainwater waste in a controlled manner to a collection tanker or other appropriate container or disposal location, or to allow unpolluted rainwater waste to escape. Only employees familiar with the contents of this guideline should be authorized to unlock and open the valve.
(11) A notice which states "Do not drain this container without authorization from the site supervisor" should be posted on the outside of the secondary container.

Section 4. Polluted Rainwater Waste Disposal Options

4.1 On-Site Disposal

4.1.1 Disposal to Sanitary Sewer

(1) Disposal of polluted rainwater waste to the sanitary sewer must meet the sanitary sewer discharge standards which are administered by Gwinnett County Department of Public Utilities. Common discharge standards* are as follows:
   a. Temperature: Less than 150° F;
   b. PH: Between 5.5 and 10.5;
   c. Oils and Grease: Less than 200 mg/L;
   d. Solids or viscous substances may only be discharged in amounts that will not obstruct sewer flow;
   e. Toxic Pollutants identified in Section 307(a) of the Clean Water Act;
   f. Lead: 116 ug/L;
   g. Copper: 109 ug/L;
   h. Total Petroleum Hydrocarbon (TPH): 20 ug/L;
   i. Biological Oxygen Demand (BOD_5): 700 (350**) mg/L;
   j. Total Suspended Solids (TSS): 700 (350**) mg/L;

   *Please note: This is not a complete list. If you have questions about the discharge limits of a specific pollutant please contact the Department of Public Utilities at 678-376-6700.

   **Requirement in "No Business Creek"

(2) All discharges to the sanitary sewer must be free of grease, oil, grit or any other material that could possibly clog the sewer. The Department of Public Utilities requires filtering the wash water through a 400 micron filter before discharging. The waste left in the filter may be bagged, dried and placed in a dumpster.
(3) Any wastewater that may contain oil or grease must be discharged to the sanitary sewer through an oil/water separator.
(4) Discharges to the sanitary sewer must not contain pollutants that could create fire or explosion hazard.
(5) Waste water must only be discharged to parts of the sanitary sewer that are privately owned. Rainwater waste must **not** be discharged directly into the publicly owned sanitary sewer system.
(6) Unpolluted rainwater waste must not be disposed of into the sanitary sewer system.
(7) No more than 50 gallons of polluted rainwater waste of acceptable quality may be discharged to the sanitary sewer within a 24-hour period. Larger volumes may be discharged upon

receipt of prior approval from Gwinnett County's Department of Public Utilities – Water Reclamation Division. Please contact this division at 678-376-7000 for additional information.

4.1.2 Disposal to Septic System

(1) Most septic systems are only permitted by the Environmental Health section of the Gwinnett County Board of Health to receive bathroom and kitchen type wastewater (domestic wastewater). Additional permits through the Georgia Environmental Protection Division would be needed to discharge non-domestic wastewater to septic systems. Non-domestic wastewater would likely include polluted rainwater waste.
(2) Prior to discharging polluted rainwater waste to a septic system, the waste generator must confirm that the discharge is covered by the appropriate EPD permit. Please contact EPD's Georgia Geologic Survey - Underground Injection Control Coordinator at (404) 656-3214 for more information.
(3) Generators must not discharge waste water to septic systems in violation of the terms of the permit.
(4) Volumes of polluted rainwater waste otherwise eligible for discharge to a septic system, when combined with waste water from other sources, must not exceed the volume of waste water the system was designed to handle.

4.1.3 Disposal to Storm Drain

(1) Only rainwater and unpolluted rainwater waste may be discharged to a storm drain.
(2) Discharge to the storm drain of polluted rainwater waste will constitute a violation of the county's Illicit Discharge and Illegal Connection Ordinance and all appropriate penalties may be applied.
(3) Gwinnett County reserves the right to make a final determination on whether rainwater waste is polluted or not. The generator or discharger may be found in violation of the County's Illicit Discharge and Illegal Connection Ordinance where the county determines that polluted rainwater waste was discharged to a storm drain.
(4) If you have any doubt as to whether your rainwater waste water would meet all of the requirements for discharge to the storm drain it should be collected and disposed of via one of the other methods mentioned in this water quality guideline.

4.2 Off-Site Disposal

(1) If on-site disposal methods cannot be utilized because of the restrictions contained within section 4.1 above, all polluted rainwater waste must be collected and disposed of off-site.
(2) All generated polluted rainwater waste must be collected.
(3) Off-site disposal locations must be permitted to accept and handle the collected polluted rainwater waste.
(4) Polluted rainwater waste must be transported in a manner that ensures that no discharge occurs between the waste generation location and the permitted off-site disposal location.
(5) The generator should keep records of all off-site disposal, including at a minimum the time, date, volume and name of the disposal company along with receipts for payment. Note: other waste manifest documentation may also need to be completed and retained.

Section 5. Spill Remediation and Reporting Requirements

(1) In the event that a fuel spill occurs appropriate actions must immediately be taken to reduce the possibility of land or water contamination.
(2) The Georgia Oil and Hazardous Material Spill or Releases Act (O.C.G.A. 12-14-1 et seq.) requires that all reportable spills in the state of Georgia are immediately reported to the State Operations Center at (404) 656-4300 and to the Federal National Response Center (NRC) at 1-800-424-8802.
    (a) A spill is considered reportable if it is:
        i. A spill of a hazardous substance above the reportable quantity listed in 40 CFR 302.4
        ii. A spill of a petroleum product which reaches the waters of the state (including streams, rivers, storm sewers, and drainage ditches) and causes a sheen.
(3) Appropriate spill response equipment must be available on-site at all times.
(4) Clean up and remediation of any contamination resulting from a spill is the responsibility of the generator of the waste.

5.1 Spills Onto Unpaved Ground

(1) In the event of a spill onto unpaved ground, the contaminated soil should be immediately excavated to a depth where the soil appears visually clean. Contaminated soil should then be placed into an adequately sealed and secured container.
(2) Clean up must be completed immediately to prevent contamination of surface and ground waters.

5.1.1 Soil Analysis and Disposal

(1) Analysis of the contaminated soil may be necessary to determine requirements regarding appropriate disposal.
(2) Waste disposal contractors should be contacted to determine their requirements for accepting such waste.
(3) Records of off-site disposal, including at a minimum the time, date, volume and name of the disposal company, should be kept by the generator. Other waste manifest documentation may also need to be completed and retained.

5.2 Spills onto a Paved Surface or into a Storm Drain or Waterway

(1) In the event of a spill into a storm drain or waterway or onto a paved surface such as a parking lot, street, driveway or other surface connected to the storm water drainage system, the owner of the fuel must immediately take action to contain the spill.
(2) If the spill enters into a storm drain the following notifications should be made immediately:
    a. Gwinnett County Stormwater Management Division: 678-376-7000 (24 hours)
    b. Gwinnett County Hazardous Materials: 770-339-3240 (or 911)
(3) If the spill has also entered into a waterway the following notification should also be made immediately:
    a. Georgia Environmental Protection Division: 1-800-241-4113
(4) Once contained the spill must be cleaned up. As an initial step this may involve collecting any bulk material and placing it in a secure container for later disposal. Follow up cleaning will also be required to remove residues from paved or other hard surfaces. Power

washing may be utilized, however generated wastewater must be collected for appropriate disposal. See WQ-1 “Surface Cleaning” for additional information.

Section 6. General

(1) It is illegal to dispose of any waste or pollutants into the storm sewer system. Penalties for non-compliance include fines of up to $1,000 and/or 60 days in county jail.

(2) To report a spill or discharge into the storm sewer system contact Gwinnett County’s Storm Water Management Division’s 24-hour call center at 678-376-7000.

(3) Additional information regarding water quality, storm water programs and storm water best management practice implementation can be obtained by contacting Gwinnett County’s Storm Water Management Division at 678-376-6949 or visiting www.gwinnettstormwater.com.

Attachment 1
Secondary Containment – Fuel Storage on Construction Sites

Temporary secondary containment without cover

Standalone covered spill pallet capable of holding up to four 55-gallon drums.

Cinder block secondary containment on slab with roof

Pullover cover made of heavy-duty vinyl keeps rainwater and debris out of sump area when stored outdoors.

Custom-fitted cover that can quickly pull over drums to keep rainwater out of pallets.

Note: Products displayed above are available from many vendors. Vendors may be accessed by searching for "secondary containment" within an internet search engine. Above photos came from www.spill911.com. These photos are provided for information only. Please note that mention of company names or products does not constitute an endorsement by Gwinnett County.