INSTRUCTIONS FOR DEVELOPING A STORMWATER MANAGEMENT PLAN FOR REGULATED ACTIVITIES IN THE

CITY OF DANBURY

AQUIFER PROTECTION AREA

February 2013

CITY OF DANBURY AQUIFER PROTECTION AGENCY
155 DEER HILL AVENUE
DANBURY, CONNECTICUT 06810

INSTRUCTIONS

This document contains information obtained from, and prepared by, the State of Connecticut Department of Energy and Environmental Protection ("DEEP"). It is intended to assist you with the stormwater management plan requirements of the City of Danbury Aquifer Protection Area Program. When the City of Danbury Aquifer Protection Agency or the City of Danbury Aquifer Protection Area Regulations requires a stormwater management plan, the plan shall ensure that stormwater run-off generated by the regulated activity is managed in a manner so as to prevent pollution of ground water.

Because many of the facilities in the Aquifer Protection Area have already registered for the DEEP General Permit Associated with Commercial Activity (GP-Commercial) or the General Permit for the Discharge of Stormwater Associated with Industrial Activity (GP-Industrial), those forms and the accompanying Stormwater Management Plan or Pollution Prevention Plan serve as the basis for the City of Danbury Aquifer Protection Agency Stormwater Management Plan (the "Plan"). Due to the sensitivity of aquifer protection area within the City, there are some special considerations beyond those in the general permits, so additional information is required in the form of a stormwater Supplement.

The information required in the Supplement should guide the revision of an existing registered Stormwater Management Plan or Pollution Prevention Plan. Facilities without an existing stormwater general permit should complete a registration form for GP-Commercial and develop the associated stormwater management plan. Such plan should include information below and required for the Supplement.

All stormwater management plans shall meet the requirements for the DEEP General Permit of the Discharge of Storm Water associated with a Commercial Activity (Commercial GP). Such requirements shall include:

1. A **Registration Form** that provides facility information, indicates the type of activity, and identifies stormwater discharge information including the number and type of conveyance.

2. A **Stormwater Management Plan** that includes measures for pollution prevention, pavement sweeping, outdoor storage and washing restriction, illicit discharge control, spill control/response, and maintenance and inspection of storm water structures. It shall also contain detailed information relative to the following:

    - The Pollution Prevention Team or individual responsible for implementation of the plan;
    - Identification of discharge points or potential pollution sources;
    - Housekeeping measures;
    - Spill control and response measures;
    - Maintenance and inspection provisions and checklists;
    - Employee training;
    - Regular compliance evaluations;

- Future Considerations;
- Record keeping requirements;
- Monitoring requirements for industrial uses only;
- Plan Certification (see Attachment A); and

3. A **Stormwater Supplement** that addresses additional areas of concern to groundwater including the provision of measures necessary to prevent contaminated stormwater discharges/releases to the ground, application of stormwater discharge and treatment measures to protect groundwater quality, and encouragement of safe recharge of stormwater where it does not endanger groundwater quality. Additional management measures include: prevention of illicit discharges to stormwater discharged to the ground, provision of necessary impervious pavement in high potential pollutant release areas or "storm water hot spots" such as storage and loading areas, fueling areas, intensive parking areas and roadways, and discharge of paved surface runoff to aboveground type land treatment structures including surface drains, sheet flow surface swales, depressed grass islands, detention/retention and infiltration basins, and wet basins. These measures take advantage of natural treatment processes in soil and vegetation before discharge to the groundwater and promote natural aquifer recharge. The DEEP 2004 Connecticut Stormwater Quality Manual provides comprehensive stormwater guidance including potential groundwater concerns and is available on the DEEP's website at www.ct.gov/deep/stormwater.

   While the emphasis of the Plan and Supplement should be to minimize groundwater quality impacts of the runoff, a plan should be balanced and the extent possible include a combination of approaches to protect all water resources concerns including surface water quality and water quantity changes between pre-development and post-development runoff rates and volumes where possible. Most alternative site design designs, low impact development, and green infrastructure techniques will benefit groundwater except for certain direct infiltration techniques.

   The Supplement shall provide the following information.

   A. The identification of additional stormwater and site features of concern to groundwater (as applicable):

   - Outline of buildings, sheds or other storage structures, pavement
   - Stormwater structures and conveyances to the ground- drainage flow direction, infiltration areas and structures, and treatment or controls
   - Location of fueling stations
   - Location of loading/unloading areas
   - Location of wastewater disposal systems- sewer line or septic system
   - Location of waste storage and disposal areas including: dumpsters, used oil storage tanks, and other waste storage
   - Location of liquid storage areas including: underground and above ground storage tanks, and their filling and discharging or distribution lines Location of any other

outdoor structures or processing service areas that may impact groundwater or have materials exposed to precipitation.

B. A description of methods to prevent illicit discharges to the stormwater system.

Nothing but stormwater, uncontaminated groundwater seepage or permitted discharges are allowed into the stormwater system. Methods of discharge should be tested and analyzed to ensure that there are no unpermitted nonstormwater discharges at the facility. Testing methods should be documented and may include, but not be limited to, visual inspections of the facility and review of site plans, dry weather inspection of storm drains to ensure that there is no dry-weather flow, and dye or smoke testing if necessary. A testing schedule shall be identified. All plans should contain a statement that no washing of equipment or vehicles shall be permitted to take place outside where it can flow to the storm drain system. All washing must take place indoors, in an area where a permit has been obtained to discharge wastewater through an approved oil/water/grit separator to a municipal sewage treatment facility, or in an area where all wastewater discharges to a holding tank.

C. An approved site plan and statement contained within the Stormwater Management Plan that ensures no there is no outside storage of hazardous materials.

Outside storage of hazardous materials (including salt storage) is prohibited in the Aquifer Protection Area. All hazardous materials much be stored in a building or under a roof, on an impermeable surface that is protected from stormwater, inclement weather or hazards that can lead to a direct discharge into the ground. Regular inspection of all hazardous materials storage is required. Inspection schedules and reports shall be kept on site.

D. A list of all runoff management practices.

The Supplement shall list any runoff management practices used at the facility. Note appropriate descriptions or qualifications to the practices listed, such as the portion of the site affected. Runoff management practices may include catch basins, drainage swales, riprap channels or pools, detention/retention basins, infiltration basins or structures, impervious areas, sheet flow, biofilters or other measures used to manage/treat runoff. Management practices to be followed include directing runoff from paved surfaces to above-ground land treatment structures, surface drains, sheet flow, surface swales, depressed grass islands, detention/retention and infiltration basins, and wet basins. These practices provide an opportunity for volatilization of volatile organic compounds to the extent possible before the stormwater can infiltrate into the ground. Direct infiltration structures such as galleries, drywells, and leaching trenches do not allow for attenuation of salt or other soluble compounds that may be contained in parking lot runoff. New direct infiltration structures should not be installed and existing structures should be considered for replacement. If clean roof runoff can be segregated from stormwater, it is

a good source of recharge to the aquifer. In this case, subsurface infiltration structures such as dry wells, galleries, or leaching trenches are appropriate and encouraged.

While the emphasis is to minimize groundwater quality impacts of the runoff, a plan should be balanced and the extent possible include a combination of approaches to protect all water resources concerns including surface water quality, water quantity changes between predevelopment and post-development runoff rates and volumes. Most alternative site designs, low impact development, and green infrastructure techniques will be beneficial to groundwater except for certain direct infiltration techniques. Non-structural measures to dissipate and treat runoff are encouraged, including sheet flow from uncurbed pavement and vegetated swales/basins.

If a stormwater collection system must be installed, it should discharge to an above-ground outlet point (swales, basins, channels, etc.) to prevent illicit discharges and fuel/chemical pollution releases to the ground.

E. Identification and mitigation of existing subsurface infiltration devices in stormwater hot spots.

Stormwater "hot spots" are areas or activities on the site with greater potential for high pollutant loads that may threaten groundwater quality. Examples of these include salvage areas, fueling facilities, dumpster or chemical storage areas, loading docks and large parking lots. In these areas, existing direct infiltration structures (galleries, dry wells, leaching trenches) are of particular concern as they can serve as a direct conduit for chemical pollutants to enter the groundwater and do not allow for attenuation of those chemical pollutants. Management of these stormwater hot spots should include measures to reduce potential impacts to groundwater such isolation of the "hot spot" by separating the activity or moving the activity to another location on the site. Examples include construction of a berm surrounding the activity to isolate it and redirect the stormwater runoff away from the infiltration device, construction of a swale to take the drainage from the hot spot away from the infiltration device, or relocation of an activity so that it does not drain to an infiltration structure. Stormwater discharge may also be pre-treated by modifying the infiltration device to include a grass or stone filter strip area around entrance, an oil-water separator, or media filters or inserts.

The Plan and Supplement shall also include regular monitoring and inspection of the area by employees, the keeping of temporary spill control devices on site such as speedy dry and absorbent pads, and regular maintenance and cleaning of the drainage area and infiltration structure.

F. Inclusion of employee training program details in the Plan and Supplement.

An employee training program is part of the required protocol on site and employees must be made aware of basic information regarding the importance of protecting the underlying aquifer. Training manuals should be kept on site and verification forms signed regularly attesting to employee training.

CONCLUDING INFORMATION

To reiterate, if there is an existing Stormwater Management Plan or Pollution Prevention Plan for the site or activity, review the plan to ensure it addresses items A-F above as required for the Supplement. If not, modify the Plan to address each item or add the supplemental information as an attachment. Once modifications are made (if any are necessary), add the required certification (see Attachment A). The certification must be signed and dated.

Please keep in the following in mind when completing the Plan and Supplement:

1. If any section does not apply to the facility, indicate it is not applicable. Do not skip an answer/item or leave it blank.
2. Forms are not required to be typed as long as it is legible.
3. If other similar information has already been prepared for the site for other purposes (i.e. site plans, emergency response procedures, spill plans, etc.) and meets the Plan and Supplement requirements, it may be submitted as an attachment.

Stormwater Management Plans are required by the City of Danbury Aquifer Protection Area Regulations to be kept on file at the facility and used in maintaining the site.

Below are DEEP telephone numbers that may be useful in assembling a Plan.

Aquifer Protection Area Program: 860-424-3020
Pollution Prevention: 860-424-3297
Bureau of Materials Management and Compliance Assistance: 860-424-3023
Wastewater Permitting and Enforcement: 860-424-3018
Emergency Response and Spill Prevention
Emergency Line: 860-424-3333 OR 860-424-3338 (to report spills)
General Information: 860-424-3024 (for questions on underground storage tanks or spill preparedness)

ATTACHMENT A

Aquifer Protection Certification for Owner/Operator and Professional Engineer

Stormwater Management Plans for activities within the City of Danbury Aquifer Protection Area must be certified by both a professional engineer and the facility owner/operator. This form must be printed, signed and dated, and attached to the Stormwater Management Plan submitted to the Agency and kept on site.

Certification by owner/operator

"I certify that the Stormwater Management Plan and Supplemental Information prepared for _____[_____(the site) meets the criteria set forth in Sections 22a-354i-9(b) of the Aquifer Protection Area Regulations. This certification is based on my review of the Stormwater Management Plan for the site and an inspection of the site. I am aware that there are significant penalties for false statements in this certification, including the possibility of fine and imprisonment for knowingly making false statements."

_____ _____

Owner/Operator Signature Date

_____

Owner/Operator Name (printed or typed)

Certification by professional engineer

"I certify that, in my professional judgment, the Stormwater Management Plan prepared for _____ (the site) meets the criteria set forth in Sections 22a-354i-9(b) of the Aquifer Protection Area Regulations. This certification is based on my review of the Stormwater Management Plan for the site and an inspection of the site. I am aware that there are significant penalties for false statements in this certification, including the possibility of fine and imprisonment for knowingly making false statements."

_____ _____

P.E. Signature P.E. Number and Seal

_____ _____

P.E. Name (printed or typed) Date