

PHASE II COMMUNITY COOPERATIVE

Pollution Prevention/Good Housekeeping:

**Evaluation Guide
For
Municipal Operations
MCM 6 / BMP3**

POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS:

A GUIDANCE DOCUMENT FOR MUNICIPAL FACILITIES AND FIELD OPERATIONS

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FACILITY EVALUATION FORMS
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

INTRODUCTION

Each municipality regulated under storm water NPDES permits, whether categorized as a Phase I or Phase II municipality, is required to implement storm water management programs and to assess the effectiveness of the program. Although specific program requirements and the level of implementation required differ between Phase I and Phase II municipalities, both prohibit non-storm water discharges into storm drains, and require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP). As part of the program, the municipalities are required to address public agency (municipal) operations to reduce the discharge of pollutants and to assess these efforts. Section 1-3 provides information on some of the necessary elements and steps involved in identifying BMPs for municipal activities occurring at their facilities, whereas Section 4 discusses the components necessary to successfully implement a BMP and evaluate its effectiveness.

As noted municipalities are required to develop and implement a comprehensive storm water management program including the reduction of pollutants from municipal operations. In this guide, a planning process is suggested for municipal operations, which allows the municipality to identify the activities that generate pollutants and the best management practices (BMPs) applicable to the activities. The recommended process includes the following key components:

Inventory: First, inventory all of the municipal facilities and activities that may be a source of pollutants in storm water (Section 1).

Assessment: Next, the activities are evaluated for their potential to discharge pollutants to storm drains and/or to receiving waters (Section 2).

BMP Selection: BMPs are then selected to deal with the identified sources of storm water pollution. Emphasis is placed on source control (procedures) BMPs and proper maintenance of treatment control BMPs (Section 3).

Implementation: BMPs are implemented and their effectiveness evaluated. The monitoring, reporting, and inspection requirements of the BMPs is oriented toward gaining insight into the performance of the BMPs (Section 4).

It is worth noting that some municipal facilities may be classified as an industrial-type facility subject to the State NPDES General Permit for Industrial Activities. If classified as an industrial facility then the reader should use an Industrial and Commercial BMP Handbook. For all other municipal facilities, the planning procedure described here is applicable.

Each municipal facility should be evaluated using these forms. The following sections include examples for each separate practice and will help you during the assessment process. Use these example sections as only a guide, they are not intended to cover all areas, practices, and solutions to storm water pollution prevention. During the evaluation obtain copies of all procedures, training materials, inspection reports, and site plans along with any other materials pertaining to storm water pollution prevention. Be certain to conduct evaluation in conjunction with knowledgeable staff at each specific facility. Upon completion of evaluation the storm water program manager will review and make proposed revisions, changes, additions, and training options to each facilities program in order to meet compliance with NPDES permit.

Once evaluation is completed each facility should have an evaluation file containing the following:

- Facility Evaluation Forms
- Copy of SWPPP (if available)
- Any documentation required by the SWPPP
- List of current BMP
- List of material on site
- Impact priority list
- List of all maintenance procedures
- Current employee training materials
- Descriptions of any processes directed toward pollution prevention
- Site map
- Names of the responsible party for the facility

The end of this manual contains a group of (16) Pollution Prevention/Good Housekeeping BMP training outlines and In House Inspection Checklists that relate to municipal operations, their potential effects on storm water, and common training topics of each area. This information has been formulated as guidance material for implementation of the Storm Water Phase II Municipal Separate Storm Sewer System Permit. It **has not** been designed to be comprehensive in all aspects of each topic. Municipalities should be “flexible” in their use of this information as pertains to their own unique municipal operations. The comprehensive list of BMPs may not apply to all municipal operations and are meant to be adjusted in order to fit each individual municipalities needs.

GLOSSARY OF TERMS

Biochemical oxygen demand – Depletion of dissolved oxygen in water caused by decomposition of chemical or biologic matter.

Catch Basin – A unit that is installed to capture and retain debris, particulate matter, or other solid materials, but allows storm water to “flow through” to its discharge location

Drip Irrigation – irrigation via a perforated device (i.e. hose) that allows for a slow watering method with reduced evaporation and runoff losses

Hydraulic – Referring to water

(IPM) Integrated Pesticide Management – An environmentally sensitive approach to pest management (**not** elimination) that uses the least toxic control method – a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools.

Loading – Term used in conjunction with *sediment* and *hydraulic* to describe excessive amounts (of the term that is described)

Naturescaping – An alternative landscaping technique that incorporates native plants and creates beneficial wildlife habitat – also conserves water and energy, reduces soil/water pollution.

Oil/Water Separator – A unit that is installed “in line” to a wastewater discharge pipe which is devised to capture petroleum derived materials that float on water

Pesticides – Products that are toxic and are used to kill pests - can be classified as insecticides, herbicides, rodenticides, biocides, aquacides.

POTW – Publicly Owned Treatment Works - - a municipal wastewater treatment plant

Scupper – an opening (in a bridge deck) to allow water drainage – it does not capture debris, particulate matter, or other solid materials

Sediments - Small particles of matter that settle to the bottom of a body of water

Silt – Material consisting of mineral soil particles ranging in diameter from 0.02 millimeters to 0.002 millimeters

Storm water - rainwater runoff or snow melt waters – these waters can interact with different types of materials, transporting contaminants to surface waters (i.e. streams, creeks, rivers)

Toxicity –The relative degree of being poisonous

Xeriscaping – An alternative landscaping technique that incorporates slow growing plants to conserve water and reduce yard trimmings

Zero input, low input (lawns) - have minimal need for care (i.e. addition of fertilizers/pesticides, water, etc.)

Pollution Prevention/Good Housekeeping

Facility Identification List and Associated Operations

Park and Recreation operation and maintenance

- Landscaping and Lawn Care
- Spill Response and Prevention
- Pest Control
- Pet Waste Collection
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing
- Alternative Discharge Options for Chlorinated Water
- Hazardous and Waste Materials Management
- Recycle Drop Sites / Illegal Dumping Hotspots
- Public Lake/Pond Operations
- Construction and Land Disturbance

Street maintenance and construction

- Spill Response and Prevention
- Pet Waste Collection
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing
- Hazardous and Waste Materials Management
- Recycle Drop Sites / Illegal Dumping Hotspots
- Construction and Land Disturbance
- Roadway and Bridge Maintenance
- Street Cleaning and Maintenance
- Road Salt Storage and Application

Utility maintenance and construction (water, sewer, storm sewer)

- Spill Response and Prevention
- Catch Basin and Storm Drain System Cleaning
- Construction and Land Disturbance
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing
- Hazardous and Waste Materials Management
- Septic System Management

Vehicle and equipment maintenance

- Spill Response and Prevention
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing

- Hazardous and Waste Materials Management

Solid waste collection

- Spill Response and Prevention
- Pet Waste Collection
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing
- Hazardous and Waste Materials Management
- Recycle Drop Sites / Illegal Dumping Hotspots

Street Dept. Maintenance and storage facility

- Spill Response and Prevention
- Pet Waste Collection
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing
- Hazardous and Waste Materials Management
- Recycle Drop Sites / Illegal Dumping Hotspots
- Construction and Land Disturbance
- Roadway and Bridge Maintenance
- Street Cleaning and Maintenance
- Road Salt Storage and Application

Recycling Facility and Drop off Locations

- Spill Response and Prevention
- Pet Waste Collection
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing
- Hazardous and Waste Materials Management
- Recycle Drop Sites / Illegal Dumping Hotspots
- Construction and Land Disturbance
- Roadway and Bridge Maintenance
- Street Cleaning and Maintenance
- Road Salt Storage and Application

Meadowlark Hills Golf Course

- Landscaping and Lawn Care
- Spill Response and Prevention

- Pest Control
- Pet Waste Collection
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing
- Alternative Discharge Options for Chlorinated Water
- Hazardous and Waste Materials Management
- Recycle Drop Sites / Illegal Dumping Hotspots
- Public Lake/Pond Operations
- Construction and Land Disturbance

Cemetery

- Landscaping and Lawn Care
- Spill Response and Prevention
- Pest Control
- Pet Waste Collection
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing

- Alternative Discharge Options for Chlorinated Water
- Hazardous and Waste Materials Management
- Recycle Drop Sites / Illegal Dumping Hotspots
- Public Lake/Pond Operations
- Construction and Land Disturbance

Kearney Municipal Airport

- Spill Response and Prevention
- Vehicle/Equipment Maintenance
- Vehicle/Equipment Washing
- Hazardous and Waste Materials Management
- Construction and Land Disturbance
- Street Cleaning and Maintenance
- Road Salt Storage and Application

***General storm water awareness training will be given to all employees explaining the background of our program.**

Section 1: Inventory

The first step in the inventory process is to identify all field programs conducted by a municipality. The field program and associated activities that have the potential for pollutant discharges are listed in Table 1-3. This list is not inclusive but serves as a starting point for identifying applicable field programs. The inventory should reflect all those watersheds in which field programs occur. Mapping the field program infrastructure according to watershed may be useful in this step. See Table 1-1 for a more complete list of information that may be collected during the inventory procedure.

Table 1-1 Inventory Information Form		
Facility:		Date:
Address:		Evaluator:
Evaluation Items:	Description:	Comments:
Does the facility follow a SWPPP?	Yes / No	
Is the SWPPP current?	Yes / No	
Are you able to obtain a current copy of the SWPPP and any documentation required by the plan?		
Does the facility currently apply Storm Water BMPs?	Yes / No	
Does the facility have an inspection timeline for the BMPs being used?	Yes / No	
List all materials with the potential of contaminating storm water and receiving waters.		
Are all materials with the potential to contaminate storm water stored under cover or in secondary containment?	Yes / No	
Prioritize impacts, (what materials have the greatest chance of impacting storm water due to exposure, type, quantity, proximity to storm systems).		
Are all hazardous material properly labeled and stored to prevent exposure to storm water runoff?	Yes / No	
Does the facility have procedures in-place for the disposal of hazardous materials?	Yes / No	
Does the facility have a spill response plan?	Yes / No	

List all past significant spills and leaks.		
Are spill kits readily available?	Yes / No If so, locate them on the facility site map.	
List all BMPs in place and proposed BMPs to be installed.	<u>In-place</u>	<u>Proposed</u>
List all maintenance procedures currently in place for this facility. (See example)		
List all current employee training procedures.		
Identify responsible party for training.		

Pollutant Impacts on Water Quality	
Sediment	Sediment is a common component of storm water, and can be a pollutant. Sediment can be detrimental to aquatic life (primary producers, benthic invertebrates, and fish) by interfering with photosynthesis, respiration, growth, reproduction, and oxygen exchange in water bodies. Sediment can transport other pollutants that are attached to it including nutrients, trace metals, and hydrocarbons. Sediment is the primary component of total suspended solids (TSS), a common water quality analytical parameter.
Nutrients	Nutrients including nitrogen and phosphorous are the major plant nutrients used for fertilizing landscapes, and are often found in storm water. These nutrients can result in excessive or accelerated growth of vegetation, such as algae, resulting in impaired use of water in lakes and other sources of water supply. For example, nutrients have led to a loss of water clarity in Lake Tahoe. In addition, un-ionized ammonia (one of the nitrogen forms) can be toxic to fish.
Bacteria and viruses	Bacteria and viruses are common contaminants of storm water. For separate storm drain systems, sources of these contaminants include animal excrement and sanitary sewer overflow. High levels of indicator bacteria in storm water have led to the closure of beaches, lakes, and rivers to contact recreation such as swimming.
Oil and Grease	Oil and grease includes a wide array of hydrocarbon compounds, some of which are toxic to aquatic organisms at low concentrations. Sources of oil and grease include leakage, spills, cleaning and sloughing associated with vehicle and equipment engines and suspensions, leaking and breaks in hydraulic systems, restaurants, and waste oil disposal.
Metals	Metals including lead, zinc, cadmium, copper, chromium, and nickel are commonly found in storm water. Many of the artificial surfaces of the urban environment (e.g., galvanized metal, paint, automobiles, or preserved wood) contain metals, which enter storm water as the surfaces corrode, flake, dissolve, decay, or leach. Over half the trace metal load carried in storm water is associated with sediments. Metals are of concern because they are toxic to aquatic organisms, can bioaccumulate (accumulate to toxic levels in aquatic animals such as fish), and have the potential to contaminate drinking water supplies.
Organics	Organics may be found in storm water in low concentrations. Often synthetic organic compounds (adhesives, cleaners, sealants, solvents, etc.) are widely applied and may be improperly stored and disposed. In addition, deliberate dumping of these chemicals into storm drains and inlets causes environmental harm to waterways.
Pesticides	Pesticides (including herbicides, fungicides, rodenticides, and insecticides) have been repeatedly detected in storm water at toxic levels, even when pesticides have been applied in accordance with label instructions. As pesticide use has increased, so too have concerns about adverse effects of pesticides on the environment and human health. Accumulation of these compounds in simple aquatic organisms, such as plankton, provides an avenue for biomagnification through the food web, potentially resulting in elevated levels of toxins in organisms that feed on them, such as fish and birds.
Gross Pollutants	Gross Pollutants (trash, debris, and floatables) may include heavy metals, pesticides, and bacteria in storm water. Typically resulting from an urban environment, industrial sites and construction sites, trash and floatables may create an aesthetic “eye sore” in waterways. Gross pollutants also include plant debris (such as leaves and lawn-clippings from landscape maintenance), animal excrement, street litter, and other organic matter. Such substances may harbor bacteria, viruses, vectors, and depress the dissolved oxygen levels in streams, lakes, and estuaries sometimes causing fish kills.
Vector Production	Vector production (e.g., mosquitoes, flies, and rodents) is frequently associated with sheltered habitats and standing water. Unless designed and maintained properly, standing water may occur in treatment control BMPs for 72 hours or more, thus providing a source for vector habitat and reproduction (Metzger, 2002).

Potential Pollutants at Facilities

In addition to the identification of facilities in Step 1, the potential pollutant generating activities and potential pollutants for each facility should be identified and included in the inventory. A list of facility activities that have the potential to generate pollutant discharges and the potential pollutants that are associated with those activities is presented in Table 1-2. This list is not inclusive but does provide a good starting point to identify potential pollutants. In addition to these activities, efforts should be made to compile a list of past significant spills and leaks and list of materials and chemicals stored on-site.

Table 1-2 Potential Pollutants Likely Associated with Facility Activities										
Facility Activity	Potential Pollutants									
	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances	
Building and Grounds Maintenance and Repair										
Parking/Storage Area Maintenance										
Waste Handling and Disposal										
Vehicle and Equipment Fueling										
Vehicle and Equipment Maintenance and Repair										
Vehicle and Equipment Washing and Steam Cleaning										
Outdoor Loading and Unloading of Materials										
Outdoor Container Storage of Liquids										
Outdoor Storage of Raw Materials										
Outdoor Process Equipment										
Landscape Maintenance										

Potential Pollutant in the Field

The potential pollutant generating activities and potential pollutants for each field program must be identified and included in the inventory. A list of field program activities that have the potential to generate pollutant discharges and the potential pollutants that are associated with those activities is presented in Table 1-3.

Table 1-3 Field Program Activities and Associated Potential Pollutants										
Field Programs	Activities	Potential Pollutants								
		Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
Roads, Streets, and Highways Operation and Maintenance	Sweeping and Cleaning									
	Street Repair, Maintenance, and Striping/Painting									
	Bridge and Structure Maintenance									
Plaza, Sidewalk, and Parking Lot Maintenance and Cleaning	Surface Cleaning									
	Sidewalk Repair									
	Graffiti Cleaning									
	Controlling Litter									
Fountains, Pools, Lakes, and Lagoons Maintenance	Fountain and Pool Draining									
	Lake and Lagoon Maintenance									
Landscape Maintenance	Mowing/Trimming/Planting									
	Fertilizer & Pesticide Management									
	Managing Landscape Wastes									
	Erosion Control									
Drainage System Operation and Maintenance	Inspection and Cleaning of Storm water Conveyance Structures									
	Controlling Illicit Connections and Discharges									
	Controlling Illegal Dumping									
	Maintenance of Inlet and Outlet Structures									
Waste Handling and Disposal	Waste Reduction and Recycling									
	Solid Waste Collection									
	Household Hazardous Waste Collection									
	Controlling Litter									
	Controlling Illegal Dumping									
Water and Sewer Utility Operation and Maintenance	Water line Maintenance									
	Sanitary Sewer Maintenance									
	Spill/Leak/Overflow Control, Response, and Containment									

Section 2 Assessment:

This section outlines the procedures for assessing facilities and field programs for BMP selection and implementation. Data gathered during the inventory process should be used to support the assessment process described below.

Assessment of Facilities

The first step in the assessment is to identify BMPs already in place at a facility. These may include pavement sweeping, drain inlet cleaning, covered waste storage bins, and spill prevention and cleanup procedures. This information should be considered when determining which BMPs should be selected and implemented at a site. Worksheet 2-1 provides a checklist that may be helpful in determining existing BMPs at a site. Other BMPs that were installed for reasons unrelated to storm water control, such as berming, covered materials storage, and designated wash areas, should also be identified.

Once the existing BMPs have been identified and the inventory completed per Section 1, an assessment of all municipal activities and potential pollutant sources should be conducted to determine which areas of the facility are likely sources of pollutants in storm water and non storm water discharges, and which pollutants are likely to be present in storm water and non storm water discharges. Worksheet 1 may help with this task.

Facility operators must then decide whether additional or new BMPs should be implemented to reduce storm water pollutants to the maximum extent practicable from a site.

The municipality should consider and evaluate various factors when performing this assessment, such as:

- effectiveness of current BMPs
- type of activities
- type and quantities of significant materials handled, produced, stored, or disposed of
- history of spill or leaks
- non-storm water discharges
- size of facility (including percent impervious)
- proximity to receiving water and/or type of receiving water

The municipality should also consider whether its facility is discharging pollutants identified to be causing impairment in the local water bodies. Worksheet 1 provides an example of a method for assessing a facility for BMP implementation. The worksheet should be utilized for all facilities when applicable.

Worksheet 1

Facility Name: Maintenance Yard

Facility Contact: John Jones

Facility Address: 1111 25th St.

Phone #: 111-222-3333

ACTIVITIES – In the table below check each activity present at the site and evaluate its **potential for pollutant discharge (PPD)**: 1 = high potential, 2= medium potential, 3= low potential

BMP EFFECTIVENESS – In the table below, provide an effectiveness rating using the provided scale.

ACTIVITY AND BMP CHECKLIST		
	APPLICABLE ACTIVITY Yes No PPD	EFFECTIVENESS RATING
A. VEHICLE AND EQUIPMENT FUELING BMPs employed:	[] [] []	1 2 3 4 5
B. VEHICLE AND EQUIPMENT WASHING/STEAM CLEANING BMPs employed:	[] [] []	1 2 3 4 5
C. VEHICLE AND EQUIPMENT MAINTENANCE AND REPAIR BMPs employed:	[] [] []	1 2 3 4 5
D. OUTDOOR LOADING/UNLOADING OF MATERIALS BMPs employed:	[] [] []	1 2 3 4 5
E. OUTDOOR CONTAINER STORAGE OF LIQUIDS BMPs employed:	[] [] []	1 2 3 4 5
F. OUTDOOR PROCESS EQUIPMENT OPERATIONS AND MAINTENANCE BMPs employed:	[] [] []	1 2 3 4 5
G. OUTDOOR STORAGE OF RAW MATERIALS BMPs employed:	[] [] []	1 2 3 4 5
H. WASTE HANDLING AND DISPOSAL BMPs employed:	[] [] []	1 2 3 4 5
I. BUILDING AND GROUND MAINTENANCE BMPs employed:	[] [] []	1 2 3 4 5
J. PARKING/STORAGE AREA MAINTENANCE BMPs employed:	[] [] []	1 2 3 4 5
K. OTHER (describe):	[] [] []	1 2 3 4 5

- 1 **No BMPs used and storm water pollution likely**
- 2 **Some BMPs used but not effective**
- 3 **Some BMPs used and moderately effective**
- 4 **Source control BMPs used and very effective/structural BMPs needed**
- 5 **All necessary BMPs used and very effective**

3. TYPE AND QUANTITY OF MATERIALS USED

Material	Typical Quantity/Frequency	Is Stored Material Likely to Generate Pollutants
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4. HISTORY OF SPILL AND LEAKS

- a) Is there a chronic history of spills and leaks? _____
- b) Is there no evidence of leaks and drips from equipment and machinery? _____
- c) Is there a spill prevention and response team? _____
- d) Are appropriate spill containment and cleanup materials kept on-site and in convenient locations?

- e) Are cleanup procedures for spills followed regularly and correctly? _____
- f) Are used absorbent materials removed and disposed of in a timely manner? _____
- g) Are personnel regularly trained in the use of spill control materials? _____

5. NON-STORMWATER DISCHARGES

- a) Outfall directly observed during assessment? _____
- b) Are BMPs implemented to prevent, treat, or control non-storm water discharges? _____
- c) Is there a potential for non-storm water discharges (i.e. non-storm water sources observed without BMPs implemented) _____

6. SIZE OF FACILITY (incorporating the size of a facility serves as a surrogate measure for flow)

- a) Total area _____
- b) The impervious area (including parking lot) is _____

7. PROXIMITY TO RECEIVING WATER

Does the facility discharge directly or adjacent to a water body or other environmentally sensitive area? _____

Worksheet 1 (example)

Facility Name: Maintenance Yard

Facility Contact: John Jones

Facility Address: 1111 25th St.

Phone #: 111-222-3333

ACTIVITIES – In the table below check each activity present at the site and evaluate its **potential for pollutant discharge (PPD)**: 1 = high potential, 2= medium potential, 3= low potential

BMP EFFECTIVENESS – In the table below, provide an effectiveness rating using the provided scale.

ACTIVITY AND BMP CHECKLIST		
	APPLICABLE ACTIVITY Yes No PPD	EFFECTIVENESS RATING
A. VEHICLE AND EQUIPMENT FUELING BMPs employed: <ul style="list-style-type: none"> • Employees trained in proper fueling and cleanup procedures. • “Shut-off” valves installed on nozzles. • “Topping off” of fuel tanks is discouraged. • Adsorbent materials used on spills as opposed to hosing down. • Drains labeled within the facility boundary, by stencil to indicate whether they flow to an oil/water separator, directly to the sewer, or to a storm drain. • Fueling area designed to prevent storm water runoff and spills. • Fueling area covered with an overhanging roof structure. 	[x] [] [1]	1 2 3 4 5
B. VEHICLE AND EQUIPMENT WASHING/STEAM CLEANING BMPs employed: <ul style="list-style-type: none"> • Vehicles and equipment are washed at an off-site commercial washing location whenever possible. • On-site washing area is clearly marked as a wash area. • Signs are posted stating that only washing is allowed in wash area and that discharges to the storm drain are prohibited. • Trash containers are provided in wash area. • A map of on-site storm drain locations exists to avoid discharges to the storm drain system. 	[x] [] [2]	1 2 3 4 5
C. VEHICLE AND EQUIPMENT MAINTENANCE AND REPAIR BMPs employed: <ul style="list-style-type: none"> • Idle equipment is stored under cover. • Drip pans are used for leaking vehicle/equipment. • Vehicle maintenance area is designed to prevent storm water pollution (area contains berming and appropriate drainage routing). • Signs are painted on storm drain inlets to indicate that they are not to receive liquid or solid wastes. • The work area is covered to limit exposure to the rain. 	[x] [] [1]	1 2 3 4 5
D. OUTDOOR LOADING/UNLOADING OF MATERIALS BMPs employed:	[] [x] [-]	1 2 3 4 5
E. OUTDOOR CONTAINER STORAGE OF LIQUIDS BMPs employed:	[] [x] [-]	1 2 3 4 5
F. OUTDOOR PROCESS EQUIPMENT OPERATIONS AND MAINTENANCE BMPs employed:	[] [x] [-]	1 2 3 4 5
G. OUTDOOR STORAGE OF RAW MATERIALS		

BMPs employed: <ul style="list-style-type: none"> Materials are stored inside when feasible. All outside storage areas are covered with a roof or enclosed to prevent storm water Outdoor storage containers are kept in good condition. Lids are secured on waste barrels and containers. Drums are stored in a secure area where unauthorized persons cannot gain access. 	[x] [] [2]	1 2 3 4 5
H. WASTE HANDLING AND DISPOSAL BMPs employed:	[] [x] [-]	1 2 3 4 5
I. BUILDING AND GROUND MAINTENANCE BMPs employed:	[] [x] [-]	1 2 3 4 5
J. PARKING/STORAGE AREA MAINTENANCE BMPs employed: <ul style="list-style-type: none"> Parking and storage areas are kept clean and orderly. Site is designed to allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices. Rooftop drains are arranged to prevent drainage directly onto paved surfaces. Lot is designed to include semi-permeable hardscape. 	[] [x] [-]	1 2 3 4 5
K. OTHER (describe):	[] [x] [-]	1 2 3 4 5

- 1 **No BMPs used and storm water pollution likely**
- 2 **Some BMPs used but not effective**
- 3 **Some BMPs used and moderately effective**
- 4 **Source control BMPs used and very effective/structural BMPs needed**
- 5 **All necessary BMPs used and very effective**

3. TYPE AND QUANTITY OF MATERIALS USED

Material	Typical Quantity/Frequency	Is Stored Material Likely to Generate Pollutants
Gasoline	500 gal/day	Yes
Motor Oil	50 gal/wk	Yes
Detergents	50 lb/wk	No

4. HISTORY OF SPILL AND LEAKS

- a) Is there a chronic history of spills and leaks? *NO*
- b) Is there no evidence of leaks and drips from equipment and machinery? *Drip pans in place*
- c) Is there a spill prevention and response team? *Yes*
- d) Are appropriate spill containment and cleanup materials kept on-site and in convenient locations? *Materials are present, but need to be placed near fueling areas*
- e) Are cleanup procedures for spills followed regularly and correctly? *Yes*
- f) Are used absorbent materials removed and disposed of in a timely manner? *Stored spill clean up materials observed on-site, proper disposal of used materials required*

g) Are personnel regularly trained in the use of spill control materials? *Yes*

5. NON-STORMWATER DISCHARGES

a) Outfall directly observed during assessment? *No*

b) Are BMPs implemented to prevent, treat, or control non-storm water discharges? *Yes, but could use improvements*

c) Is there a potential for non-storm water discharges (i.e. non-storm water sources observed without BMPs implemented) *yes, see recommendations*

6. SIZE OF FACILITY (incorporating the size of a facility serves as a surrogate measure for flow)

a) Total area= **325,000 sq. ft.**

b) The impervious area (including parking lot) is = **250,000 sq. ft.**

7. PROXIMITY TO RECEIVING WATER

Does the facility discharge directly or adjacent to a water body or other environmentally sensitive area? **NO**

Section 3: BMP Selection Process

The purpose of this section is to illustrate the process of selecting BMPs for an example fixed facility. Information necessary for this process includes use of the results from the inventory (Section 1) and assessment (Section 2) processes.

The BMPs listed in the example checklist below are the required measures to control the discharge of pollutants to the storm water drainage system for the activities identified during the assessment process (Section 2). The BMPs listed include both those that were currently being implemented at the site as well as recommended BMPs based on the facility assessment. The following BMP fact sheets should be used to identify recommended BMPs for municipal operations, however, note that not all BMPs listed in the fact sheets may be applicable to a given facility. You are encouraged to employ additional BMPs if they will control pollutants in an effective manner.

During the implantation phase of the storm water programs existing BMP fact sheets from other communities will be utilized. Be sure to use the provided information when researching solutions to pollution issues. The links provided below are extremely useful when deciding which BMP has a past history in solving related storm water problems. Many of the methods have been implemented and their effectiveness is known for specific situations.

[EPA - Stormwater Menu of BMPs](#)

[California Stormwater Association Municipal BMPs](#)

Worksheet 2 (example)

Facility Name: Maintenance Yard

Facility Contact: John Jones

Facility Address: 1111 25th St.

Phone #: 111-222-3333

APPLICABLE BMPs

A. VEHICLE AND EQUIPMENT FUELING:

Current

- Employees trained in proper fueling and cleanup procedures.
- “Shut-off” valves installed on nozzles.
- “Topping off” of fuel tanks is discouraged.
- Adsorbent materials used on spills as opposed to hosing down.
- Drains labeled within the facility boundary, by stencil to indicate whether they flow to an oil/water separator, directly to the sewer, or to a storm drain.
- Fueling area designed to prevent storm water runoff and spills.
- Fueling area covered with an overhanging roof structure.

Recommended

- Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.
- Install covered spill kits next to fueling area.

B. VEHICLE AND EQUIPMENT WASHING/STEAM CLEANING:

Current

- Vehicles and equipment are washed at an off-site commercial washing location whenever possible.
- On-site washing area is clearly marked as a wash area.
- Signs are posted stating that only washing is allowed in wash area and that discharges to the storm drain are prohibited.
- Trash containers are provided in wash area.
- A map of on-site storm drain locations exists to avoid discharges to the storm drain system.

Recommended

- Use biodegradable, phosphate-free detergents for washing vehicles as appropriate.
- Consider washing vehicle equipment inside the building to control the targeted constituents by directing them to the sanitary sewer.

C. VEHICLE AND EQUIPMENT MAINTENANCE AND REPAIR:

Current

- Idle equipment is stored under cover.
- Drip pans are used for leaking vehicle/equipment.
- Vehicle maintenance area is designed to prevent storm water pollution (area contains berming and appropriate drainage routing).
- Signs are painted on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- The work area is covered to limit exposure to the rain.

Recommended

- Avoid hosing down your work areas; use dry sweeping.
- Post signs at sinks to remind employees not to pour hazardous wastes down drains.
- Clean yard storm drain inlets(s) regularly and especially after large storms.

D. OUTDOOR LOADING/UNLOADING OF MATERIALS: N/A

E. OUTDOOR CONTAINER STORAGE OF LIQUIDS:	N/A
F. OUTDOOR PROCESS EQUIPMENT OPERATIONS AND MAINTENANCE:	N/A
G. OUTDOOR STORAGE OF RAW MATERIALS:	
<u>Current</u>	
<ul style="list-style-type: none"> • Materials are stored inside when feasible. • All outside storage areas are covered with a roof or enclosed to prevent storm water contact. • Outdoor storage containers are kept in good condition. • Lids are secured on waste barrels and containers. • Drums are stored in a secure area where unauthorized persons cannot gain access. 	
<u>Recommended</u>	
<ul style="list-style-type: none"> • All materials stored outside should have some type of secondary containment system in case of spills or leaks. 	
H. WASTE HANDLING AND DISPOSAL:	N/A
I. BUILDING AND GROUNDS MAINTENANCE:	N/A
J. PARKING/STORAGE AREA MAINTENANCE:	
<u>Current</u>	
<ul style="list-style-type: none"> • Parking and storage areas are kept clean and orderly. • Site is designed to allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices. • Rooftop drains are arranged to prevent drainage directly onto paved surfaces. • Lot is designed to include semi-permeable hardscape. 	
<u>Recommended</u>	
<ul style="list-style-type: none"> • Remove debris in a timely fashion. • Utilize sand filters for oily waste in low concentrations. 	
L. OTHER (describe):	

Section 4: BMP Implementation and Evaluation

Municipal employees perform numerous municipal activities that have the potential to discharge pollutants. Staff should consistently implement the procedures or BMPs applicable to these activities.

Successful implementation of a BMP is dependent on the following components:

- Effective training of municipal and contract employees working in both fixed facilities and field programs.
- Regular inspections of fixed facilities, field programs, and treatment controls.
- Maintenance of treatment controls as needed to ensure proper functioning.
- Periodic evaluation/monitoring of BMP performance consistent with NPDES permit requirements.
- Follow-up action to correct deficiencies in BMP implementation noted during inspections.
- Accurate record keeping, to track training, inspections, monitoring, and BMP maintenance.
- Submittal of an annual report to the applicable NDEQ regarding the effectiveness of the municipal efforts to reduce pollutants from facilities and field programs.
- Documentation showing how the municipality has met its measurable goals, or revisions to those goals with supporting documentation.

Staff Training

Education and training is the key to the success of BMP implementation. Typically, municipalities provide annual training sessions. In addition to municipally sponsored training, staff may also attend local, regional, statewide, or national training seminars or workshops related to storm water management and water quality conducted by other organizations.

In general, a municipality should consider a training program for employees working in facilities and/or field programs. The training program should address the following subjects:

- **Maintenance Procedure Implementation and Inspection –**
In this training effort, proper procedures for performing municipal activities that may adversely affect storm water quality are addressed. Maintenance procedures cover a wide range of municipal activities and the training may address either all maintenance procedures applicable to the municipality or a specific procedure (e.g. fertilizer and pesticide use). This training can be conducted in either a formal or a tailgate-style format.
- **Pollution Prevention/Spill Awareness –**
This training addresses the general techniques municipal staff may implement to prevent pollution, as well as to respond to spills once they have occurred. Training can be tailored to management and other municipal staff who oversee pollution prevention measures, to field staff conducting activities that may result in spills, or to field staff who may encounter spills or illicit discharges.

Site Inspections

Inspections of municipal facilities and field programs should be performed to verify that BMPs are being implemented, that they are appropriate for that facility or program, and that they continue to reduce the discharge of pollutants. Inspections generally consist of the following:

- Facilities –
Inspections are typically performed by a combination of storm water program staff and on-site fixed facility managers. The inspection of a fixed facility may include spot checks of the facility and activities being performed at the facility, and interviews with key line staff.
- Field Programs–
Inspections are typically performed by a combination of storm water program staff and field program supervisors. The inspection of a field program may include spot checks of activities being performed, and interviews with key staff.

Inspection Frequencies

Facility or field program inspection frequency depends on the nature of the facility or program. Annual inspection is typical, with a more frequent schedule for facilities/activities that pose a greater threat to discharge pollutants (e.g. Equipment maintenance yards). In the event of an observed problem, such as ineffective maintenance procedures or detected non-storm water discharges, the inspection frequency should be increased as appropriate to facilitate correction of the problem.

Inspection Documentation Procedures

Inspection forms may be developed and used to properly document all future inspections and gather the necessary information for record keeping and annual reporting. Examples include:

- General Inspection Forms –
These primary forms provide for a general characterization of the facility or field program being inspected, including the type of facility or program, the reason for inspection, activities that may take place, and BMPs applicable for the facility. A general form for all inspections and a single fixed facility specific form should be completed.
- Activity Specific Inspection Forms –
These secondary forms include a series of questions or checklist items about specific activities taking place at a fixed facility or as part of a field program, as well as a list of suggested corrective action plans that can be implemented should a problem be found. All forms applicable to the activities being performed at a fixed facility or field program should be completed.

Treatment Control BMP Maintenance

Maintenance of treatment controls and drainage conveyance systems (e.g. detention and retention basins, infiltration devices, catch basins) is needed to maintain efficient pollutant reduction. If treatment control BMPs are not properly maintained, BMP effectiveness is reduced and water quality deteriorates. Training should be provided where needed. Maintenance schedules should be periodically reviewed and updated as needed to maintain BMP effectiveness. Where regular scheduled maintenance is not appropriate, regular inspections should be scheduled to determine when repairs, cleaning, or replacement are necessary. Where municipal contractors are responsible for maintenance of treatment controls, special attention should be directed toward ensuring proper maintenance procedures are implemented. Contract and lease language should include recommended maintenance procedures and schedules. Regularly scheduled inspections of facilities or programs operated by the contractor should include compliance with BMP maintenance requirements.

Recordkeeping

As applicable, the municipality should maintain records demonstrating successful implementation of BMPs. Recordkeeping may include training, site inspection and maintenance, and if applicable, monitoring.

Training and Workshops

Records of all training sessions provided to staff should be maintained to allow for:

- determining which staff requires which training;
- determining when training sessions must be conducted; and documenting training activities for enforcement and compliance purposes.

Municipal staff may attend training sessions or workshops sponsored by non-Permittees such as local or national organizations. For these sessions, the following information should be recorded:

- Name of Workshop/Training
- Sponsoring Organization
- General Description of the Subject Matter
- Location
- Date
- Attendee information (name, title, department, phone and/or email)

Site Inspection and BMP Maintenance

Inspection reports should be kept to track frequency and results of inspections, BMPs implemented, condition of BMPs inspected, and follow-up actions taken. It is also important to keep a record of maintenance activities or any other BMPs that are of an “action” nature. It is easy to demonstrate that a BMP that involves a physical change, such as berming or covering, has been accomplished. However, actions that relate to good housekeeping can only be demonstrated by recordkeeping. Besides demonstrating compliance, records can assist in BMP management. Keeping a record of catch basin cleaning, for example, also provides insight into how long it takes for the catch basin sump to refill.

Monitoring

Any storm water monitoring information, inspections and visual observations, certifications, corrective actions and follow-up activities, and copies of all reports must be retained for a period of at least three years. These records shall include at a minimum, when applicable:

- Date, place, and time of sampling, visual observations, and/or measurements.
- Individual(s) who performed the sampling, visual observations, and or measurements.
- Visual observation records for storm events.
- Visual observations and inspections of non-storm water discharges.
- Calibration and maintenance records of on-site instruments used.
- Visual observations and sample collection exception records,
- Date and approximate time of analyses.
- Individual who performed the analyses.
- Analytical results, method detection limits, and the analytical techniques or methods used.
- Quality assurance/quality control records and results.
- Sampling and analysis exemption and reduction certifications and supporting documentation.
- Records of any corrective actions and follow-up activities that resulted from the visual observations.

Reporting

Phase II municipalities will be required to submit annual reports to the NDEQ by August 15th of each year, or as otherwise required by the NDEQ. Specific reporting requirements will include:

- Program implementation status.
- Summary of storm water activities performed.
- Results of information collected, such as monitoring data.
- Summary of proposed storm water activities for the next reporting cycle.
- Changes made in BMP selection.
- Changes in storm water management personnel.
- Changes made in program or measurable goals.

Section 5: Annual Assessment Forms

City of _____ Storm Water Management Program Annual Site / Program Assessment

Facility: _____ Facility Contact: _____ Contact Phone #: _____	Yes	No	Not Applicable
Facility's SWPPP easily accessible in each building?			
Awareness of SWPPP by facility personnel? (Random survey of employees of site.) # Employees Surveyed _____			
Facility's Emergency Response Plan easily accessible in each building?			
Awareness of Emergency Response Plan by facility personnel? (Random survey of employees on site.) # Employees Surveyed _____			
Annual Evaluation Checklist (page 2 of 2) completed?			
Was any storm water pollution prevention training conducted during the year?			
Were non-storm water discharge visual observations conducted? List Dates:			
Were storm water discharge visual observations conducted? List Dates:			

Evaluation Notes:

Corrective Measures Recommended:

Evaluation Conducted By:

This completed evaluation was reviewed and completed on: (date)

Operation Representative (signature):

Yearly Assessment Checklist

Activities – Check each activity present at the site.	Effectiveness Rating*
Vehicle and Equipment Fueling: 1. Fueling area is designed to prevent run on of storm water and the runoff of spills 2. Employees are trained in proper fueling and cleanup procedures 3. Absorbent materials are used on small spills rather than hosing down 4. Daily inspections. 5. Pump island is inspected regularly for spills and/or leaks	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Vehicle and Equipment Washing/Steam Cleaning 1. A designated wash are is used 2. The wash area is equipped with a clarifier and is connected to a sanitary sewer 3. The designated wash area is properly designed 4. The clarifier is cleaned regularly	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Vehicle and Equipment Maintenance and Repair 1. Maintenance is done in a designated area only 2. Equipment is kept clean, with no build-up of oil and grease. 3. Drip pans and containers are used under areas that may drip 4. Used oil and oil filters, antifreeze, batteries, fluids, etc. are recycled	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Outdoor Loading/Unloading of Materials 1. Delivery vehicles are parked so spills and leaks can be contained 2. The loading/unloading dock is covered to reduce exposure of materials to rain 3. The loading/unloading area is designed to prevent storm water run on 4. Fork lift operators are properly trained	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Outdoor Container Storage of Materials 1. Materials are covered to protect from rainfall 2. Materials are protected from run on and runoff of storm water 3. Waste dumpsters are covered 4. Hazardous materials are stored in a properly designed storage area	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Outdoor Process Equipment O & M 1. The area is covered with a permanent roof 2. Berming and drainage routing is used to minimize contact of storm water 3. The equipment are is swept after each use of machine or at the end of each day	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Outdoor Storage of Raw Materials/Products 1. The storage area is covered with a roof 2. Materials are covered with a temporary plastic covering 3. Berms and curbing are used to prevent materials from entering the storm drain system 4. Parking lots and/or other surface areas are swept regularly near the material storage area	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Waste Handling and Disposal 1. Usage and disposal inventory is used to limit waste generation	① ② ③ ④ ⑤

2. Materials are recycled whenever possible 3. Wastes are segregated and separated 4. Storage area is covered, enclosed and bermed	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Building and Grounds Maintenance 1. Pesticides and fertilizers are used and stored properly 2. Paved areas are swept instead of washed down 3. Wash water, sweepings and sediments are disposed of properly 4. Planting of natural vegetation reduces water, fertilizer and/or pesticide needs	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Building Repair, Remodeling and Construction 1. Materials used in repair and remodeling (paints, etc.) are stored properly 2. Soil erosion control techniques are used 3. Good housekeeping practices are used	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤
Contaminated or Erodible Surface Areas 1. Erosion can be controlled by preservation of natural vegetation 2. Surface area is regularly inspected to determine if revegetation is needed 3. Geosynthetics are used as an alternative for the surface area 4. Sandbags or berms are needed to prevent storm water pollution	① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤ ① ② ③ ④ ⑤

*

- ① No BMPs used and storm water pollution likely.
- ② Some BMPs used but not effective.
- ③ Some BMPs used and moderately effective.
- ④ Source control BMPs used and very effective/structural BMPs needed.
- ⑤ All necessary BMPs used and very effective.

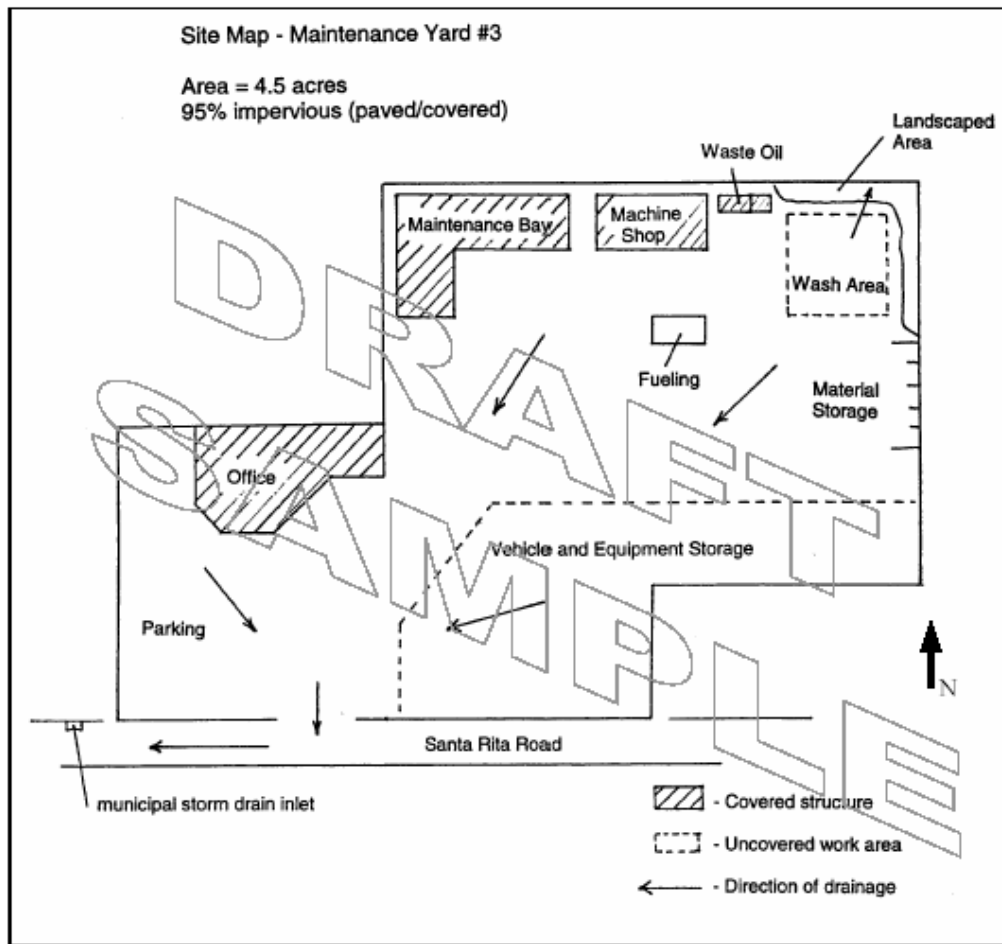
APPENDIX

A-?

Contents

Current Training Outlines
Facility Site Maps
BMP's in place, located on the site map
Facility SWPPP

Example: Facility Site Map



STORMWATER REFERENCE INFORMATION

Many sources of information concerning storm water are available. The sources listed below were used to develop the Guidance Document:

New York State Dept. of Transportation – (<http://www.dot.state.ny.us>) - use the search function to locate the Environmental Handbook for Transportation Operations document and other related information

Cornell University - (<http://www.cornell.edu>) – the Dept. of Horticulture has information pertaining to pest control, landscaping and lawn care

U.S. Environmental Protection Agency - (<http://www.epa.gov>) – the National Menu of Best Management Practices (BMPs) for NPDES Storm Water Phase II document can be found at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm> within the EPA website, along with other storm water related information Rick\StWtrOutlineInfo

California Department of Transportation, *Guidance Manual: Stormwater Monitoring Protocols*, 2nd ed., July 2000. Available at www.dot.ca.gov/hq/env/stormwater/special/index.htm

Metzger, M.E., D.F. Messer, C.L. Beitia, C.M. Myers, and V.L. Kramer. 2002. *The Dark Side of Stormwater Runoff Management: Disease Vectors Associated with Structural BMPs*. *Stormwater* 3(2): 24-39.

Urban Runoff Quality Management. Water Environment Federation/American Society of Civil Engineers. 1998. On-line: <http://www.wef.org>

City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central

Coast Regional Water Quality Control Board. *Model Urban Runoff Program, A How-To Guide for Developing Urban Runoff Programs for Small Municipalities*. July 1998 (Revised February 2002).

City of Watsonville, City of Monterey, Monterey Bay National Marine Sanctuary, California Coastal Commission, and Central Coast Regional Water Quality Control Board, 2000. *Model Urban Runoff Program, Supplementary 2000 Workbook: A Resource for Implementing Your Municipal Urban Runoff Program*.

Los Angeles County Stormwater Quality Model Programs. Public Agency Activities http://ladpw.org/wmd/npdes/model_links.cfm

Orange County Stormwater Program. http://www.ocwatersheds.com/StormWater/swp_documents_intro.asp

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Plan. 2001. *Municipal Activities Model Program Guidance*. November 2001.

The background of the entire page is a close-up photograph of water with numerous ripples, creating a textured, blue-toned surface. The ripples are concentric circles of varying sizes, suggesting raindrops or small stones hitting the water. The overall color palette is shades of blue, from deep navy to lighter, shimmering highlights.

POLLUTION PREVENTION/GOOD HOUSEKEEPING

TRAINING OUTLINES

IN-HOUSE INSPECTION CHECKLISTS

LANDSCAPING AND LAWN CARE
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS OF STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Nutrient loading (nitrogen and phosphorous) from fertilizer runoff can cause excessive aquatic plant growth

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Purchase only enough lawn care products necessary for one year – store properly to avoid waste generation (spills, leaks)
 - Use slow release or naturally derived (organic) fertilizers
 - Train employees in the proper application of lawn care products
 - Develop zero input/low input lawns
 - Consider alternative landscape techniques (i.e. naturescaping, xeriscaping)
 - Plant trees away from sewer lines or other underground utilities
 - Use drip irrigation techniques for landscaping

4. INSPECTION PROCEDURES
 - Routinely monitor lawns to identify problems during their early stages
 - Identify nutrient/water needs of plants, inspect for problems by testing soils

5. MAINTENANCE PROCEDURES
 - Minimize/eliminate fertilizer application
 - Leave grass clippings on lawn, or mulch clippings into lawn
 - Limit watering as necessary to supplement rainwater (1 inch/week is adequate)
 - Mow with sharpened blades set high (3 inches) – remove only the top 1/3 of the leaves
 - Water plants in the early A.M.

6. ADVISORY

LANDSCAPING AND LAWN CARE INSPECTION CHECKLIST

Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Grass/plant condition	Wilted/brown leaves	Yes No	Add water
General area	Barren soils	Yes No	Re-seed, cover with hay or burlap to prevent runoff

Comments: _____

Date of Inspection _____

Name _____

Frequency _____

SPILL RESPONSE AND PREVENTION
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY MATERIALS THAT IMPACT STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Liquids associated with vehicle/equipment maintenance products (oils, fuels, antifreeze, etc.)
 - Rock salt
 - Chemicals (fertilizers, pesticides)

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Keep all materials properly stored in closed, labeled containment systems
 - Use secondary containment systems where appropriate
 - Obtain spill recovery materials for immediate response to a spill

4. INSPECTION PROCEDURES
 - Inspect secondary containment systems, oil/water separators periodically
 - Inspect containers for leaks, areas near storm receiver inlets and outlets, floor drains for indications of spills

5. MAINTENANCE PROCEDURES
 - Use reusable spill clean up materials (sponge mops, oil absorbent pads, etc.)
 - Pump out oil water separators as needed
 - Protect drains with oil absorbent materials
 - Clean out receivers on regular schedule
 - Remove spilled salt from salt loading area

SPILL RESPONSE PREVENTION AND INSPECTION CHECKLIST

Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Products/waste storage areas	Uncovered/deteriorating containers Materials spilled, leaks	Yes No	Cover/replace Clean up
Equipment storage areas	Fluid leaks	Yes No	Clean up
Secondary containment systems	Structural deterioration Leakage of fluids	Yes No	Repair/replace Clean up
Oil/water separators	Excessive amounts of contaminants	Yes No	Pump out
Floor drains, storm receiver inlets and outlets	Accumulation of contaminants	Yes No	Clean up/remove

Comments: _____

Date of Inspection _____

Name _____

Frequency _____

PEST CONTROL
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Runoff of pesticides may harm aquatic life, may contaminate water
2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)
3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Purchase only enough pesticides necessary for one year – store properly to avoid
 - waste generation (spills, leaks, product deterioration)
 - Minimize/eliminate pesticide application, use lowest toxicity pesticides
 - Do not apply pesticides immediately prior to or during rain events
 - Ensure that employees are properly trained and certified in pesticide application
 - techniques and safety
 - Develop zero input, low input lawns
 - Eliminate food, water, and shelter for pests
 - Adopt integrated pest management (IPM) techniques
 - Adopt alternatives to pesticides options (i.e. use mechanical traps, physical
 - methods for removal, or biological controls)
4. INSPECTION PROCEDURES
 - Identify pests – are levels acceptable or must action be taken to control pests?
 - Inspect pesticide inventory – properly dispose of out-of-date pesticide materials
5. MAINTENANCE PROCEDURES
 - Inspect pest traps (i.e. bait boxes) regularly – remove (and properly dispose of)
 - dead pests
 - Block/eliminate access to buildings/structures for pests
 - Remove pests (insects) by hand
6. ADVISORY
 - Refer to the Cornell University website (Dept. of Horticulture)

PEST CONTROL INSPECTION CHECKLIST

Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Pesticide storage area	Excessive amounts of pesticides Spilled pesticides Empty containers No security or access control	Yes No	Reduce volumes, implement IPM Clean up Properly dispose Install security system
Application equipment	Improper amounts of pesticides applied	Yes No	Properly calibrate
Floor	Drain system Not curbed around perimeter No impermeable surface	Yes No	Eliminate Install curbing Install impermeable surface

Comments: _____

Date of Inspection _____

Name _____

Frequency _____

PET WASTE COLLECTION
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Municipal animal shelters
 - Parks
 - Hike/Bike Trails

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - House all animals in an enclosed, roofed structure
 - ID/utilize "permitted" waste disposal facilities for animal wastes

4. INSPECTION PROCEDURES
 - Inspect shelter regularly for necessary cleanup/removal of wastes

5. MAINTENANCE PROCEDURES
 - Remove spilled food, animal wastes on a regular basis

6. ADVISORY

PET FACILITY MAINTENANCE INSPECTION CHECKLIST

Facility Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Animal Housing area	Excessive amounts of waste	Yes / No	Remove/rinse to floor drain (to sanitary sewer) Bag and remove
	Dead animals	Yes / No	
Facility's floor drain	Discharges directly to environment	Yes / No	Connect to sanitary sewer

Comments: _____

Frequency of Inspection Daily _____

Name _____

Date _____

SEPTIC SYSTEM MANAGEMENT POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Ponding of improperly treated wastewaters (on the surface of a leach field or a sand filter system) can increase the biochemical oxygen demand of receiving waters.
 - Excessive amounts of disinfectant (i.e. chlorine) applied to a wastewater discharge from a sand filter system can cause toxicity to aquatic plants and animals

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Divert storm water runoff (i.e. from roof drains) away from septic system
 - Divert groundwater (sump pump) discharges away from septic system
 - Locate swimming pools away from the septic system (at least 20' from the septic tank, at least 35' from the closest edge of the leach field or sand filter system)
 - Prevent problems caused by vegetation - growth of woody plants on the system
 - Prevent hydraulic loading - "Spread out" the use of devices which use large volumes of water across the entire day – clothes washing, dish washing, bathing, repair leaky fixtures
 - Minimize water usage by using flow restrictors on potable water distribution devices (i.e. shower heads, water faucets)

4. INSPECTION PROCEDURES
 - Physical evidence of problems:
 - "back up" of wastewater in sewer lines
 - sewage odors
 - leach field/sand filter - wetness/ponding on surface
 - overflow of wastes from system components
 - heavy vegetation (woody plants) growth on system components

5. MAINTENANCE PROCEDURES
 - "Pump out" the septic tank as needed (NYSDEC recommends once/year)
 - Mow surface vegetation regularly
 - Prevent "heavy equipment" from driving on top of the system components

6. ADVISORY
 - Obtain site plan/site sketch of system, and retain for reference

SEPTIC SYSTEM MANAGEMENT INSPECTION CHECKLIST

Unit ID: _____ Permit # _____ Location _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Septic tank cover	Broken/cracked?	Yes/ No	Replace
Distribution box	sewage overflowing,	Yes / No	Clean out
	distribution box level?	Yes / No	Re-level
Leach field or sand filter	sewage on surface, odors,	Yes / No	Clean out distribution lines
	excessive vegetation growth	Yes / No	Cut vegetation
Disinfection system (if present)	Operating improperly	Yes / No	Check/repair equipment
Outfall	Improper chlorine residual	Yes / No	Perform monitoring, sampling/analysis as permit requires

Frequency of Inspection _____
 Last pump out (date) _____
 Date of Inspection _____
 Name _____
 (If unit is a HOLDING TANK, pump out schedule) _____

**VEHICLE/EQUIPMENT MAINTENANCE
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES**

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Trace amounts of metals/hydrocarbons are found in materials (i.e. fuels, antifreeze, batteries, motor oils, grease, parts cleaning solvents) that are typically used in maintenance operations
2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)
3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)
 - Conduct maintenance work indoors – if work must be performed outside, guard against spillage of materials that could discharge to storm receivers
 - Seal floor drains that discharge directly to the environment, if possible
 - Initiate single purpose use of vehicle bays – dedicate one (or more) bays that have no (or sealed) floor drains for repairs/maintenance
 - Clean up spilled materials immediately, using “dry” methods
 - Install pretreatment systems (oil/water separators) where necessary in sewer lines to capture contaminants (oil, grit), and maintain as needed
 - Never leave vehicles unattended while refueling
 - Identify appropriate recycling/disposal options for wastes
4. INSPECTION PROCEDURES
 - Inspect (for maintenance purposes) floor drain systems, oil/water separators
 - Monitor “parked” vehicles/equipment for leaks
5. MAINTENANCE PROCEDURES
 - Maintain a clean work area – remove contaminants from floors, drains, catch basins, using “dry” methods
 - Use non-hazardous cleaners. Use non chlorinated solvents instead of chlorinated solvents
 - Repair or replace any leaking containers
 - Use steam cleaning /pressure washing instead of solvent for parts cleaning
 - Store waste fluids in properly capped, labeled storage containers
 - Store batteries in leak-proof, compatible (i.e. non reactive) containers
 - Rinse grass from lawn care equipment on permeable (grassed) areas
 - Protect against pollution if outside maintenance is necessary (cover storm receivers, use secondary containment vessels, etc.)
6. ADVISORY
 - Refer to NDEQ for guidance information (Nebraska Department of Environmental Quality)

VEHICLE AND EQUIPMENT MAINTENANCE/STORAGE AREA INSPECTION CHECKLIST

Unit ID: _____ Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Truck/equipment storage area	Leaks/spills	Yes / No	Clean spill, repair leak, capture fluids in drip pan
Salt/sand	Improper storage of product	Yes / No	Alternative storage
Storage and Equipment	Discharge rates / calibration	Yes / No	Recalibrate
Lawn care equipment	Improper operation / leaks	Yes / No	Inspect/repair

Date of Inspection _____

Name _____

Frequency _____

**VEHICLE/EQUIPMENT WASHING
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES**

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Nutrients (biodegradable soaps)
 - Metals
 - Petroleum based wastes (organic pollutants)
2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)
3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)
 - Initiate single purpose use of vehicle bays - dedicate only one bay for washing (with floor drain system)
 - Perform cleaning with pressurized cold water, without the use of soaps, if wastewaters will flow to a **storm sewer** system
 - Use minimal amounts of biodegradable soaps **only** if wastewaters will discharge to a **sanitary sewer** system
 - Rinse with hoses that are equipped with automatic shutoff devices and spray nozzles
 - Steam clean (without soap) where wastes can be captured for proper disposal (i.e. oil/water separator)
4. INSPECTION PROCEDURES
 - Inspect floor drain systems regularly - use only those that discharge to a sanitary sewer, identify the need for cleaning of catch basins, oil/water separators
5. MAINTENANCE PROCEDURES
 - Map storm drain locations accurately to avoid illegal discharges
 - Perform steam cleaning or pressure washing where wastes can be captured for proper disposal
 - Take precautions against excess use of/spillage of detergents
6. ADVISORY
 - Ordinance to connect floor drain systems to sanitary sewers (if available)
 - Refer to NDEQ for guidance information (Nebraska Department of Environmental Quality)

VEHICLE AND EQUIPMENT WASHING AREA INSPECTION CHECKLIST

Facility location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Designated “wash only” area	No impermeable pad with wastewater collection system	Yes / No	Designate/construct area
Wastewater discharge location	Does not flow to either a holding tank or to sanitary sewers	Yes / No	Properly relocate discharge
Washing/degreasing compounds Floor drain sump	Solvent based Nonexistent	Yes / No Yes / No	Change to biodegradable products Install and maintain sump, remove debris
Oil/water separator	Excessive oils/sludges	Yes / No	Clean out contaminants
Catch basin	Non existent, accumulation of contaminants	Yes / No	Install/maintain catch basin

Comments: _____

Date of Inspection _____

Name _____

Frequency _____

**ROADWAY AND BRIDGE MAINTENANCE
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES**

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Road salt components - sodium, calcium, and chlorides
 - Hydrocarbons
 - Particulates – such as dry paint or abrasive compounds, road debris
 - Debris

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)
 - Incorporate preventive maintenance and planning for regular operations & maintenance activities
 - Pave in dry weather only.
 - Stage road operations and maintenance activity (patching, potholes) to reduce spillage.
 - Cover catch basins and manholes during this activity.
 - Clean up fluid leaks or spills from paving equipment/materials immediately
 - Restrict the use of herbicides/pesticide application to roadside vegetation
 - Use porous asphalt for pothole repair and shoulder work
 - Sweep and vacuum paved roads and shoulders to remove debris and particulate matter
 - Maintain roadside vegetation; select vegetation with a high tolerance to road salt
 - Control particulate wastes from bridge sandblasting operations
 - Use calcium magnesium acetate for deicing around bridges to minimize corrosion
 - Clean out bridge scuppers and catch basins regularly
 - Direct water from bridge scuppers to vegetated areas
 - Mechanically remove (i.e. sweep) debris from bridge deck and structure prior to washing

4. INSPECTION PROCEDURES
 - Inspect paving, sweeping, vacuuming, and all other maintenance vehicles/equipment as appropriate
 - Inspect roads and bridges for implementation of applicable BMP's

5. MAINTENANCE PROCEDURES
 - Clean bridge scuppers routinely and keep free of debris
 - Direct runoff water from bridges to vegetated areas
 - Install catch basins in place of bridge scuppers
 - Use tarps, booms, and vacuums during painting or blasting activities (refer to reference information to control/capture particulate matter)
 - Repair leaking/defective containers or equipment on paving equipment

6. ADVISORY
 - Refer of NDEQ for further information

ROADWAY AND BRIDGE MAINTENANCE INSPECTION CHECKLIST

Bridge No.: _____ BIN: _____ Carried: _____ Crossed: _____

Wetlands Present: Y / N Stream Restriction: Y / N If yes, Dates: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Bridge Deck (Top Side)	Debris Along Curb	Yes / No	Sweep bridge, deposit debris on bank 50' from sweep and spread out Wash Bridge Deck
Bridge Seats at Abutment, or Top of Piers	Debris on Seat or Top of Pier	Yes / No	Remove debris, deposit on stream banks Bird Nest Present? If yes, wait until nesting is complete. Wash Abutment & Pier
Washing of Superstructure	Debris – Salts on Superstructure	Yes / No	Bird Nest Present? If yes, wait until nesting is complete. Flaking Paint Present? If yes, do not wash. Stream Restriction? If yes, wait until restrictions are removed. Wash Superstructure

ALTERNATIVE DISCHARGE OPTIONS FOR CHLORINATED WATER POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Discharge of chlorinated (i.e. swimming pool, POTW) waters to surface waters can injure or kill aquatic life
2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)
3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)
 - Dechlorinate pool water before any discharge, be it over land or to the sanitary sewer, or allow the “disinfectant” to dissipate with sunlight, use, etc. prior to discharge
 - Use ultraviolet radiation or osmosis to disinfect water/wastewater
 - Backwash water should be discharged to the sanitary sewer, if available – if not available, discharge water over vegetated areas, not to surface waters
4. INSPECTION PROCEDURES
 - Check chlorine residuals prior to discharge.
 - Do not discharge wastewaters into the sanitary sewer system during periods of high flow.
5. MAINTENANCE PROCEDURES
 - Maintain proper levels of chlorine residuals in pool.
 - Allow disinfectant to dissipate prior to discharge of pool waters.
6. ADVISORY
 - Obtain permission from the City PW department prior to discharging any chlorinated pool waters to a sanitary sewer system.

ALTERNATIVE DISCHARGE OPTIONS FOR CHLORINATED WATER INSPECTION CHECKLIST

Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Pools, hot tubs	Need to empty unit and replace water	Yes / No	Discharge to sanitary sewers or to vegetated areas after the disinfectant dissipates, not to storm sewers or surface waters

Comments: _____

Date of Inspection _____

Name _____

Frequency _____

HAZARDOUS AND WASTE MATERIALS MANAGEMENT POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Lube oils
 - Coatings and their compatible solvents (paints, thinners, etc.)
 - Anti freeze
 - Cleaning agents
 - Fuels (gas, diesel, kerosene)

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following?
(Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Ensure that all materials are stored in closed, labeled containers – if stored outside, drums should be placed on pallets, away from storm receivers – inside storage areas should be located away from floor drains
 - Eliminate floor drain systems that discharge to storm drains, if possible
 - Use a pretreatment system to remove contaminants prior to discharge
 - Reduce stock of materials “on hand” – use “first in/first out” management technique
 - Use the least toxic material (i.e. non hazardous) to perform the work
 - Install/use secondary containment devices where appropriate
 - Eliminate wastes by reincorporating coating/solvent mixtures into the original coating material for reuse
 - Recycle materials if possible, or ensure proper disposal of wastes

4. INSPECTION PROCEDURES
 - Physical on-site verification of sealed floor drains (or redirected to sanitary sewer)
 - Regular inspection of material storage areas (inside and outside)
 - Regular inspection and cleaning of oil/water separators by qualified contractor
 - Inspect storm water discharge locations regularly (for contaminants, soil staining, plugged discharge lines)

5. MAINTENANCE PROCEDURES
 - Repair or replace any leaking/defective containers, and replace labels as necessary
 - Maintain caps and/or covers on containers
 - Maintain aisle space for inspection of products/wastes

6. ADVISORY
 - Refer to the NDEQ for further information. (Nebraska Department of Environmental Quality)

HAZARDOUS AND WASTE MATERIALS MANAGEMENT INSPECTION CHECKLIST

Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Outside storage areas	Weathering	Yes No	Protect from weathering – store on pallets, cover
Salt piles (Indoor / Outdoor)	Salt staining	Yes No	Cover with tarps
Soil staging areas	Silt runoff	Yes No	Cover with tarps, install physical barriers
Aboveground storage tanks	Deterioration	Yes No	Inspect/repair/maintain, install secondary containment
Inside storage areas	Potential for discharges	Yes No	Seal floor drains, install secondary containment
Drums, other containers	Deterioration Uncovered	Yes No	Repair/replace Cover/cap

Comments: _____

Date of Inspection _____

Name _____

Frequency _____

**RECYCLE DROP SITES / ILLEGAL DUMPING HOTSPOTS
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES**

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Potential for leaching of toxic and biologic contaminants to receiving waters
2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity, Type)
3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Post “no dumping” signs
 - Illuminate area if possible
 - Prevent access – erect barriers
 - Identify the by products/wastes that should be recycled (i.e. paper, cardboard) or can be legally disposed of on municipal lands (i.e. deer carcasses)
4. INSPECTION PROCEDURES
 - Regularly scheduled inspections - for maintenance concerns
 - Unscheduled patrolling of areas by police
5. MAINTENANCE PROCEDURES
 - Clean up and dispose of “illegally dumped” materials, trash/debris in accordance with environmental regulations
 - Cut and remove vegetation
6. ADVISORY
 - Refer to the NDEQ for further information. (Nebraska Department of Environmental Quality)

**RECYCLE DROP SITES / ILLEGAL DUMPING HOTSPOTS
INSPECTION CHECKLIST**

Location _____
(Example- Temporary dumping areas for bulky trash items)

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Condition of general area	Possible runoff to/ contamination of storm sewer or water body	Yes No	Remove Fix
Type of material/waste observed?	Appropriate?	Yes No	Remove to appropriate container/location
Security	Regular policing of area, Location properly secured/closed/locked?	Yes No	Secure waste area
Disposal	Past disposal date?	Yes No	Dispose timely

Comments: _____

Inspection Frequency _____

Date of Inspection _____

Last Clean-up Date _____

Name _____

CATCH BASIN AND STORM DRAIN SYSTEM CLEANING POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - **Catch basins** capture grit and debris, which, if not removed in a timely fashion, can discharge toxic and biological pollutants during rain and/or snow melt events
 - **Storm drainage systems**, while not designed for capture of solid materials, can perform in the same manner with similar results.
 - **Storm ditches**, if stripped of vegetation during cleaning, can result in silt deposition in receiving waters

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
Address:
 - storm drain receivers and (below grade) storm sewer systems
 - parking lot receivers
 - open ditches
 - catch basins and floor drain systems inside of buildings should be either:
 - sealed to prevent discharge
 - “permitted” by NYSDEC
 - discharged to sanitary sewers
 - Contaminated wastewaters should not be discharged to a catch basin/street receiver/ditch
 - Increase frequency of cleaning, as necessary
 - Repair/replace storm drain receiver and catch basin receiver grates as necessary

4. INSPECTION PROCEDURES
 - Physical inspection – prioritize storm drain systems and catch basins – catch basins on steep grades may need more frequent cleaning
 - Clean catch basin when depth of deposits are >1/3 the depth from the bottom of the basin to the invert of the lowest pipe/opening into or out of basin – Institute temporary street parking bans to facilitate access to catch basins
 - Ditch inspections – ID problems while traveling to job site
 - Storm event inspection – identify pollution problems (i.e. sediments) to determine the need for additional protective measures
 - Post storm event inspection – ID problems (i.e. blockages)

5. MAINTENANCE PROCEDURES
 - Catch basins/storm sewer pipe – cleaning in spring to remove sand/grit/salt from winter road maintenance, cleaning in fall to remove leaves/silt/debris

- Established ditch:
 - Maintain proper slope
 - Maintain vegetation by cutting (to capture sediment) – Do not allow vegetation to grow to a height that would impair sight lines of drivers of motor vehicles
 - Remove obstacles/ debris – (i.e. trash, tree branches, brush, cut vegetation)
 - Excavation/ditch scraping – if necessary, use devices (i.e. hay bales, silt fence) to capture sediment prior to storm water discharge into receiving waters, reseed ditch
- New installation – capture particulate matter – install sediment basins/other devices in ditch
- Proper disposal of debris

6. ADVISORY

- Refer to NDEQ for further information. (Nebraska Department of Environmental Quality)

CATCH BASIN AND STORM DRAIN SYSTEM CLEANING INSPECTION CHECKLIST

Road Name: _____ Road Number: _____ Road Section: From: _____ To: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION	LOCATION (House number, distance from intersection) (Inlet GIS ID#)
Catch Basin/ Drop Inlet	Deterioration of Structure	Yes / No	Repair Structure or Grate Replace Structure or Grate	
	Clogged Inlets During or After Storm Event	Yes / No	Clean Grate / Inlet	
	Deposits in Structure	Yes / No	Clean Out Structure	
Storm Manhole	Deterioration of Structure	Yes / No	Repair Structure or Cover	
Storm Sewer Piping	Deposits in Structure	Yes / No	Replace Structure or Cover	
	Clogged Pipe	Yes / No	Clean Out Structure	
	Deteriorated Pipe	Yes / No	Clean Out Pipe Replace Pipe	
Ditches (Pollutants)	Excessive Vegetation	Yes / No	Mow Vegetation	
	Debris (branches, litter, garbage, etc.)	Yes / No	Scheduled Ditch Cleaning	
	Excessive Siltation	Yes / No	Clean Out Ditch Clean Out & Regrade Ditch	
Roadside / Cross Culverts	Clogged Pipe	Yes / No	Clean Out Review Size & Replace Clean Out & Regrade Ditch	
	Deteriorated Pipe	Yes / No	Replace Pipe Line Pipe	
Sediment Basins	Excessive Vegetation Excessive Sediment Deposits	Yes / No Yes / No	Mow Clean Out Basin	
Outfall	Pollutants	Yes / No	Rip-rap	

Date of Inspection _____ Name _____ Frequency _____

**STREET CLEANING AND MAINTENANCE
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES**

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATER (SURFACE WATERS)
 - Poorly maintained streets allow for a “build up” of trash, grit, and debris, from which sediment and toxic/biological pollutants can be “washed out” during rain and /or snow melt events.
 - Street repair/paving processes use materials that can contaminate receiving waters if they interact with storm water.

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following?
(Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Street sweeping/vacuuming - at regular intervals, and “as needed”
 - Perform operations such as paving in dry weather only.
 - Prior to road reconstruction, consider/evaluate the use of “shouldered roads” instead of “curbed roads”
 - Maintain roadside vegetation; select plants/trees that can withstand the action of road salt. Direct runoff to these areas.

4. INSPECTION PROCEDURES
 - Inspect streets, and plan (as needed) for maintenance/repairs
 - Prioritize – some streets (i.e. those with high traffic flows, on flat grades, or with many trees) may need more frequent cleaning

5. MAINTENANCE PROCEDURES
 - Spring sweeping/vacuuming – remove salt/sand residues
 - Fall sweeping, collection of leaves at appropriate time intervals
 - Dry sweep or vacuum streets during dry weather
 - Initiate temporary street by street parking bans to allow access for cleaning
 - Maintain equipment - check for/repair fluid leaks
 - Stage road operations and maintenance activity (patching, pothole repair) to reduce spillage of materials. Cover catch basins and manholes during activity

6. ADVISORY
 - Refer to NDEQ for further information (Nebraska Department of Environmental Quality)

STREET CLEANING AND MAINTENANCE INSPECTION CHECKLIST

Location/Section of Road _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Roads (curb line)	Debris, grit, stone	Yes / No	Shovel or Vacuum
Milling	Broken pavement (excavated material)	Yes / No	Cover storm inlets, shovel, vacuum
Paving	Tack coat overspray	Yes / No	Cover storm inlets
Storm drain inlets	Broken brick, block, mortar	Yes / No	Repair
Roadside vegetation	Too high None observed	Yes / No Yes / No	Cut Re-seed

Comments: _____

Date of Inspection _____

Name _____

Frequency _____

ROAD SALT STORAGE AND APPLICATION POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Salt is very soluble in water, and, in high concentrations, can have a deleterious effect on plants and aquatic life.

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Require covered facility for salt storage (prevents lumping and run-off loss), and size properly for seasonal needs
 - Store salt on highest ground elevation to allow for infiltration of storm water
 - Calibrate salt spreaders for proper application
 - Consider alternative deicing materials (i.e. calcium chloride, magnesium chloride)
 - Use a wetting agent with salt to minimize "bouncing" during application
 - Cover salt loading area, or build into storage shed
 - Unload salt deliveries directly into storage facility, or if not possible, move inside immediately

4. INSPECTION PROCEDURES
 - Look for physical evidence of problems:
 - inspect salt storage shed for leaks, structural problems
 - inspect salt piles for proper coverage, tarps for leaks or tears
 - inspect salt application equipment
 - inspect salt regularly for lumping or water contamination
 - inspect surface areas for evidence of runoff – salt stains on ground near and around the salt shelter, loading area, or down slope
 - inspect for excessive amounts of salt on roads

5. MAINTENANCE PROCEDURES
 - Service trucks and calibrate spreaders regularly to ensure accurate, efficient distribution of salt
 - Educate and train operators on hazards of over-salting to roads and environment
 - Repair salt storage shed – structural problems can lead to salt spillage
 - Repair/replace tarps

ROAD SALT STORAGE AND APPLICATION INSPECTION CHECKLIST

Unit ID: _____ Location _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Storage shed	Salt outside of shed	Yes No	Move salt into shed
Truck loading area	Salt on ground	Yes No	Pick up, load onto truck do not overfill truck
Roads – (sites of application)	Excessive salt on ground	Yes No	Remove by sweeping?
Salt spreader	Excessive salt on ground	Yes No	Recalibrate salt spreader?

Comments: _____

Date of Inspection _____

Name _____

**PUBLIC LAKE/POND OPERATIONS
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES**

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Liquids associated with boat maintenance products (oils, fuels, antifreeze, wood preservatives, etc. and particulate matter (i.e. boat bottom paint from hull sanding) can contain toxics
 - Boat sewage can contain pathogenic bacteria that contribute increased biochemical oxygen demand to waterways
 - Barren soils can contribute to sedimentation

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Construct and maintain pump out stations (for sanitary wastes)
 - Build and maintain fish cleaning stations
 - Stabilize shoreline
 - Designate locations for boat maintenance away from the water
 - Minimize impervious areas – install vegetated buffer strips (i.e. grass, shrubs)
 - Provide covered trash receptacles, spill clean up kits at fueling stations
 - Educate (posters, signage) boaters and other marina users of potential problems

4. INSPECTION PROCEDURES
 - Identify areas of runoff that lack vegetation
 - Regularly inspect fueling stations (including tanks and piping), maintenance areas for spills, other potential sources of pollution
 - Regularly check (and empty as necessary) fish cleaning stations, sewage pump out stations, trash cans

5. MAINTENANCE PROCEDURES
 - Empty trash cans and pump out stations as needed
 - Maintain vegetated areas between the water and work areas
 - Replace spill clean up kits as necessary

6. ADVISORY
 - Refer to: Shipshape Shores and Waters: A Handbook for Marina Operators and Recreational Boaters -<http://www.epa.gov/>

PUBLIC LAKE/POND INSPECTION CHECKLIST

Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Trash cans, sewage pump out stations	Full	Yes / No	Empty, dispose of wastes properly
Fish cleaning stations, catch and release regulations	Full	Yes / No	Empty, dispose of wastes properly
Fueling stations	Spills	Yes / No	Clean up
Vegetated areas	Barren soils	Yes / No	Re-vegetate

Comments: _____

Date of Inspection _____

Name _____

Frequency _____

**CONSTRUCTION AND LAND DISTURBANCE
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES**

1. IDENTIFY IMPACTS TO/ON STORM WATER/RECEIVING WATERS (SURFACE WATERS)
 - Sediment runoff (i.e. silt, debris) can affect fish reproduction and habitat
 - Removal of shade trees from stream banks can increase water temperature which can result in reduced dissolved oxygen content in streams

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Which materials are most likely to contaminate storm water due to the following? (Exposure, Proximity to drain system, Containment, Quantity)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Plan the construction and/or land clearing activities so that soil is not exposed for long periods of time
 - Minimize compaction of soils and impervious cover
 - Maximize opportunities for infiltration
 - Install sediment control devices before disturbing soil
 - Limit grading to small areas
 - Stabilize site to protect against sediment runoff
 - Protect against sediment flowing into storm drains
 - Maintain native vegetation (especially near waterways)
 - Install sediment barriers on slopes or divert storm water

4. INSPECTION PROCEDURES
 - Regularly scheduled inspections (of sediment control devices, erosion safeguards)
 - Inspect during storm or snow melt events

5. MAINTENANCE PROCEDURES
 - Check/repair all devices that have been installed to ensure protection against erosion

6. ADVISORY
 - Refer to City Ordinances
 - Standards and Specifications for Sediment and Erosion Control
 - Storm Water Management Design Manual

CONSTRUCTION AND LAND DISTURBANCE INSPECTION CHECKLIST

Location: _____

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY	ACTION
Sediment control devices	None observed In disrepair	Yes / No Yes / No	Install Repair
Sediment barrier devices	None observed In disrepair	Yes / No Yes / No	Install Repair
NPDES Permit	Onsite	Yes / No	Is permit current?
SWPPP	Being implemented	Yes / No	Take necessary steps in order to coincide with SWPPP

Comments: _____

Date of Inspection _____

Name _____

Frequency initial, and as needed (coinciding with storm events)

