

# I OVERVIEW

## **ABOUT THIS MANUAL**

King County's water resources — its streams, lakes, wetlands, groundwater, and Puget Sound — play an important role in the quality of life we enjoy. They provide us with recreation and drinking water, support tourism and salmon, and are used by industry. These waters, however, are vulnerable to pollution from a wide variety of human activities.

Many of our water pollution problems are due in large part to pollutants that are washed off from land by storms. The quality of "stormwater" from residential properties, public facilities, commercial and industrial businesses, and agricultural lands is an increasing concern nationwide. Many people believe that stormwater is "clean" and does not harm water quality. This perception is understandable since the amount of pollution from any one place is not usually significant by itself. But when all these small amounts are combined, they can cause significant water quality problems.

The federal Clean Water Act mandates that cities and counties control the quality of stormwater runoff. One way to achieve this requirement is to implement pollution prevention measures on individual properties. To meet the requirements of the Clean Water Act and to sustain our quality of life, the King County Council passed King County Code 9.12 (Water Quality) in November 1992.

This manual applies to those residential, commercial, industrial, governmental, and agricultural activities in unincorporated King County that have the potential to contribute pollutants to stormwater runoff or directly to receiving waters. Stormwater runoff may seep into the ground, drain to a storm drain or a drainage ditch, or flow over the ground. Regardless of the way runoff leaves the site, it ends up in a stream, river, lake, wetland, groundwater, or Puget Sound.

Contaminated stormwater can negatively affect every water body it enters. Therefore, this manual provides detailed information on what to do to reduce the contamination of surface water, groundwater, and stormwater from our properties. It shows that we are all doing our part to protect our quality of life.

Chapter I describes what is expected of you as a property owner, business/agency owner, or manager and provides a beginning point on the use of this manual.

Chapter II provides information on how water becomes polluted and the effects of pollutants on water quality.

Chapter III describes stormwater best management practices that are required for various commercial, industrial, public and multifamily residential activities.<sup>1</sup>

Chapter IV describes stormwater best management practices for single family residential properties.

Chapter V provides detailed information on how to implement many stormwater best management practices.

Chapter VI provides information on other programs or services that can provide assistance in implementing the stormwater best management practices.

### **BEST MANAGEMENT PRACTICES...WHAT ARE THEY?**

The methods of improving stormwater quality, and thus surface water and groundwater, are called *best management practices* (BMPs). BMPs encompass a variety of managerial, operational, and structural measures that will reduce the amount of contaminants in stormwater and improve the quality of our water resources.

BMPs are separated into two broad categories: *source control* and *treatment*. As the name implies, source control BMPs prevent contaminants from entering water bodies or stormwater runoff. Some source control BMPs are operational, such as checking regularly for leaks and drips from equipment or vehicles, covering materials that have the potential to add pollutants to surface water if rainwater comes in contact with the materials, and educating employees about site clean-up procedures. Other source control BMPs require use of a structure to prevent rainwater from contacting materials that will contaminate stormwater runoff. Examples of these BMPs include a covered area or berm to prevent clean stormwater from entering work areas.

In contrast, *treatment BMPs* are structures that treat stormwater to remove contaminants. Most treatment BMPs require elaborate planning, design, and construction. No treatment BMP is capable of removing 100 percent of the contaminants in stormwater.

The goal of King County's water quality compliance program is to reduce the contamination of water resources through emphasis on source control BMPs because these are very effective and relatively inexpensive.

### **MANUAL COVERAGE**

This manual applies to all properties in unincorporated King County. It is intended to cover every activity considered to have the potential to contaminate surface, storm, or groundwater. Anyone involved in a particular activity, whether as a property owner, resident, employee, supervisor, manager, or landlord must take part in implementing the appropriate BMPs selected from this manual.

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<sup>1</sup> This manual works in a modular format so that property owners only receive the information that is pertinent to their site. Therefore the activity sheets located in Chapter III (business activities) and Chapter IV (single family residential activities) may need to be obtained by request. The activity sheets can also be found on our Web site at: <http://dnr.metrokc.gov/wlr/dss/sppm.htm>.

*Note: New development activities and significant redevelopment of a site are subject to other stormwater management requirements set forth in the King County Surface Water Design Manual.*

## **EXEMPTIONS**

If you are already implementing BMPs according to another federal, state, or local program, you may not have to implement the BMPs in this manual. In addition, people who are voluntarily implementing BMPs may also be exempt. ***You are exempt if you:***

- Have obtained and are complying with a general or individual permit under the National Pollutant Discharge Elimination System (NPDES) Stormwater Permit Program.
- Are implementing and maintaining a farm management plan approved by the King Conservation District.
- Are implementing BMPs in compliance with King County Code 21A.30, which addresses animal and livestock keeping practices.
- Are a public facility implementing BMPs in compliance with the stormwater management program of the County's NPDES municipal stormwater permit.
- Are engaged in forest practices, with the exception of Class IV general forest practices.
- Are voluntarily implementing other BMPs, which are equivalent measures, methods, or practices to the BMPs in this manual. Contact the King County Water and Land Resources Division (WLRD) to determine equivalency.

Please understand that these exemptions are only from the requirements of this manual. If you are exempted for one or more of the reasons listed above, King County assumes that you are implementing the appropriate BMPs. If the County finds that you have not implemented BMPs, or that the BMPs that you have implemented are not effectively addressing the discharge of contaminants, then you may be required to comply with this manual. Everyone must implement BMPs, but how each individual goes about it, and through what program, may differ from one situation to the next. The following is a step-by-step approach to comply with the BMP requirements.

## **STEP BY STEP APPROACH**

### **Step 1 - Determine Your Status**

Determine if you are obligated to comply with the BMPs by checking the list of exemptions in this chapter. If you are not exempt, then you must comply with the BMPs in this manual.

Determine whether Chapter III or Chapter IV is applicable to your property. Chapter III applies to all commercial, industrial, agricultural, public, and multifamily residential properties. Use Chapter IV for single family residential properties.

## **Step 2 - Evaluate Existing Conditions**

Determine which activities in Chapter III or Chapter IV of this manual are applicable to your property.

Review the applicable activity sheets, then evaluate whether you have any practices or measures already in place that protect water quality from pollutants generated by the activities and determine what additional measures you may need to implement. Activity sheets can be found on our Web site at <http://dnr.metrokc.gov/wlr/dss/sppm.htm>.

You will need to gain familiarity with the stormwater drainage patterns and drainage system on your site. To control stormwater pollution it is important to understand your drainage system. You can use the site plan graph paper (in the back of this chapter) to sketch out the location of the drainage system on your property. This will help you locate storage and activity areas in order to minimize the chance of spills or pollutant discharges to your drainage system.

## **Step 3 - Seek Assistance**

At this point or at any time during this process, you can request a free on-site consultation from WLRD. Engineers are available to walk through your site discussing existing site conditions and necessary BMPs and providing assistance with implementation. To request an on-site consultation, call 206-296-1900.

## **Step 4 - Check Your Internal Floor Drains and Plumbing System Connections**

A common problem that can cause significant stormwater pollution is discharges other than stormwater to the storm drainage system. Examples are discharges from internal floor drains, appliances, industrial processes, sinks, and toilets that are connected to the nearby storm drainage system. These discharges must go to the sanitary sewer system, a holding tank, an on-site process water treatment system, or a septic system. You must correct these illicit discharges. If you have any question as to whether your discharge is allowable, contact WLRD at 206-296-1900.

For information on how to check for illicit connections see BMP Info Sheet 1 in Chapter V. You can also ask for help from your local sewer utility. If you find out that your internal drains are improperly connected to the storm drainage system, they will need to be either removed, permanently plugged, or connected to the sanitary sewer, septic system, on-site treatment system, or a holding tank.

## **Step 5 - Develop an Implementation Strategy**

Look at your property as a whole and determine how the BMPs you implement will work together to improve overall runoff quality from your property. The activity sheets identify specific required BMPs, usually followed with the phrase "or equivalent method, measure, or practice." There may be acceptable BMPs that are not listed in the manual. Be creative in assessing your own needs and the constraints that you may face on your property. You are welcome to implement the stated BMP or an alternative BMP you believe better suits your particular situation. If you are interested in pursuing an alternative BMP, fill out and mail an Alternative BMP Request Form to WLRD. A copy of this form is provided at the end of this chapter.

Your BMP implementation strategy should be a well thought out approach to controlling

runoff pollution from your site. You do not have to develop or submit any written plan.

### **Step 6 - Implement the Nonstructural Source Control BMPs**

First, implement the nonstructural operational BMPs that typically do not require extensive construction. Examples include having spill control and cleanup materials on site, using drip pans or drop cloths when conducting day to day activities, and sweeping instead of hosing down an area to a storm drain.

### **Step 7 - Implement, if Necessary, the Structural Source Control BMPs**

Second, implement the structural source control BMPs that may require a building permit or require larger capital expenditures. Examples include constructing a building to enclose a work activity that is currently in the open, or berming a storage area to redirect runoff.

### **Step 8 - Implement, if Necessary, a Treatment BMP**

If a treatment BMP is determined to be necessary for your site, you must have an acceptable design prepared and approved by WLRD before it is constructed or installed. You may be required to use the King County Surface Water Design Manual when designing and receiving approval of treatment BMPs. Once your BMP design has been approved by WLRD and a permit issued (if necessary) from the Department of Development and Environmental Services, the construction process may begin.

### **Step 9 - Keep Records**

Keep copies of your appropriate activity sheets and other documentation on implementing BMPs. You may use records to illustrate your compliance with this manual, and as references for information on BMPs and whom to call for assistance. You can also use the manual as a training tool for new employees.

### **Step 10 - Maintain your BMPs**

Business owners and property managers must ensure employees are carrying out operational or nonstructural source control BMPs. Employee education should be a continuous process for effective BMP implementation. The best way to make BMP maintenance routine is to schedule BMP checks and designate responsible individuals to be your BMP inspectors. As new employees join your company or agency, make sure to involve them in your pollution control efforts.

Single family residential properties are also required to maintain any needed BMPs, for example maintaining your storm drainage system.

### **Step 11 - Evaluate Your BMPs**

After a year of implementing BMPs take some time to evaluate your BMPs and your decisions. Be aware of new technology. Is everything working as expected? Has your property use changed? Do you now know of something that can be done better?

### **Step 12 - Questions?**

If you have questions or need assistance, please call WLRD at 206-296-1900.

## **MEASURING COMPLIANCE**

Compliance with the manual means implementing the required Best Management Practices (or approved alternatives) and preventing the discharge of contaminants into the storm drainage system, surface waters, and groundwater. There are no requirements for monitoring your discharges or for submitting a BMP plan. Please keep in mind that the intent of the County code and the BMPs is to reduce the contamination of surface and stormwater or groundwater in the most efficient and least costly way.

In the manual, the County has identified general sets of required BMPs to reduce such discharges. The BMPs are intended to comprehensively cover all activities and give flexibility for the variety of properties in the county. There are properties, however, where implementing the minimum BMPs may not adequately reduce the discharge of pollutants. Therefore, it is important to spend time evaluating your property and your activities before simply implementing the minimum requirements. You are encouraged to contact WLRD for an on-site consultation for assistance in evaluating your site and implementing the BMPs.

You may find that an alternative BMP would work better on your site. To implement an alternative you must complete a short application (included in the back of this chapter) and submit it to King County WLRD for approval.

If you are implementing the minimum BMPs and there are still significant contaminated discharges from your site, WLRD staff will ask you to address those discharges even though you are doing the minimum BMPs. If you have implemented BMPs but have not maintained them and they are not working, you will need to take additional action. This action will be decided in consultation with you and could include additional source control BMPs, installation of treatment BMPs, or other actions to control the pollutants.

In determining the need for additional BMPs and the time frame for action, WLRD will consider whether you have made substantial progress and a good faith effort in reducing contaminated discharges and improving the quality of your stormwater. The County's intent is to work with you to implement the BMPs most appropriate for your situation to prevent contamination of our water resources.

If you have questions or need assistance in determining appropriate BMPs for your property, call WLRD at 206-296-1900.

## **IMPLEMENTATION SCHEDULE**

By law, the County's first response to BMP implementation is to provide technical assistance to property owners. Once contact is made between WLRD and a property owner, an individualized implementation schedule will be established.

BMPs that require a building permit may take longer to implement. People will not be held liable for noncompliance for delays associated with obtaining a building permit. WLRD also recognizes that some property owners will have more requirements to meet than others. WLRD will be looking for evidence that a property owner is actively pursuing compliance, meaning a good faith effort to implement the BMPs. This may mean

implementing the nonstructural BMPs according to the schedule, showing progress in providing required information, and actively planning for completion of more costly ones. A schedule of expected implementation will inform the WLRD of your effort toward gaining compliance. The County will not take enforcement action if a good faith effort by the property owner is being pursued to implement BMPs.



## OTHER AGENCY REQUIREMENTS

Please note that other federal, state, and local agencies enforce regulations that may relate to your implementation of Best Management Practices. For example, before discharging process wastewater to the sanitary sewer, you will need to obtain permission from your local sewer authority and the King County Wastewater Treatment Division Industrial Waste Section (if within the service area).

### ***King County Surface Water Design Manual***

- Drainage requirements and erosion and sediment control for new development and redevelopment

### ***King County Critical Areas and Clearing and Grading Ordinances***

- Land use regulations protecting environmentally sensitive areas and public health and safety

### ***King County Fire Code***

- Storage and handling of flammable, combustible, and hazardous materials

### ***King County Animal Regulations (Livestock)***

- Raising and keeping of livestock

### ***Seattle-King County Department of Public Health***

- Solid waste
- Septic systems
- Structural pesticide applicators

### ***King County Wastewater Treatment Division Industrial Waste Section and Local Sewer Authorities***

- Acceptance of process water or stormwater to sanitary sewers

### ***Washington State Department of Ecology***

- National Pollution Discharge Elimination System (NPDES) Stormwater Permits
- Discharge of process wastewater to surface water
- Underground storage tanks
- Spill prevention and control plans
- Dangerous waste generators
- Groundwater quality protection
- Oil spill prevention and cleanup plans (with U.S. EPA)

### ***Washington State Department of Agriculture***

- Pesticide regulations

### ***Puget Sound Clean Air Agency***

- Fugitive dust
- Outside painting

### ***U.S. Coast Guard***

- Transfer of petroleum products on Puget Sound



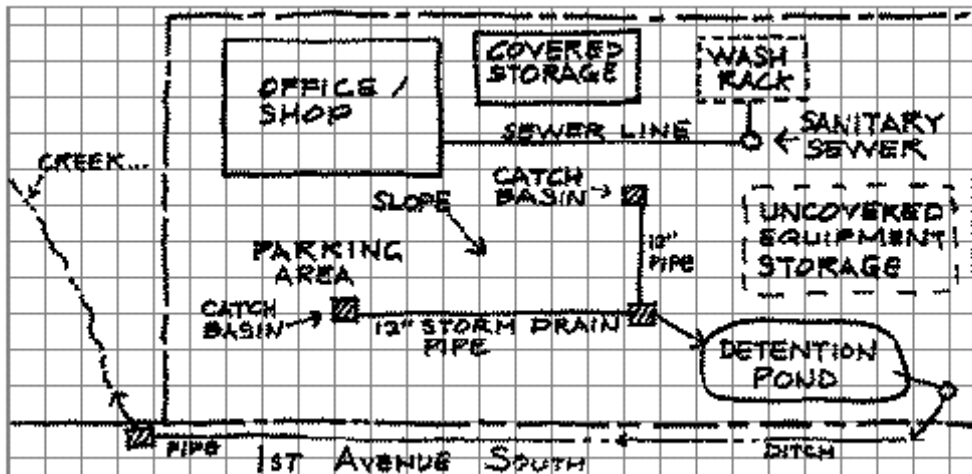
# ON-SITE STORM DRAINAGE SYSTEM WORKSHEET

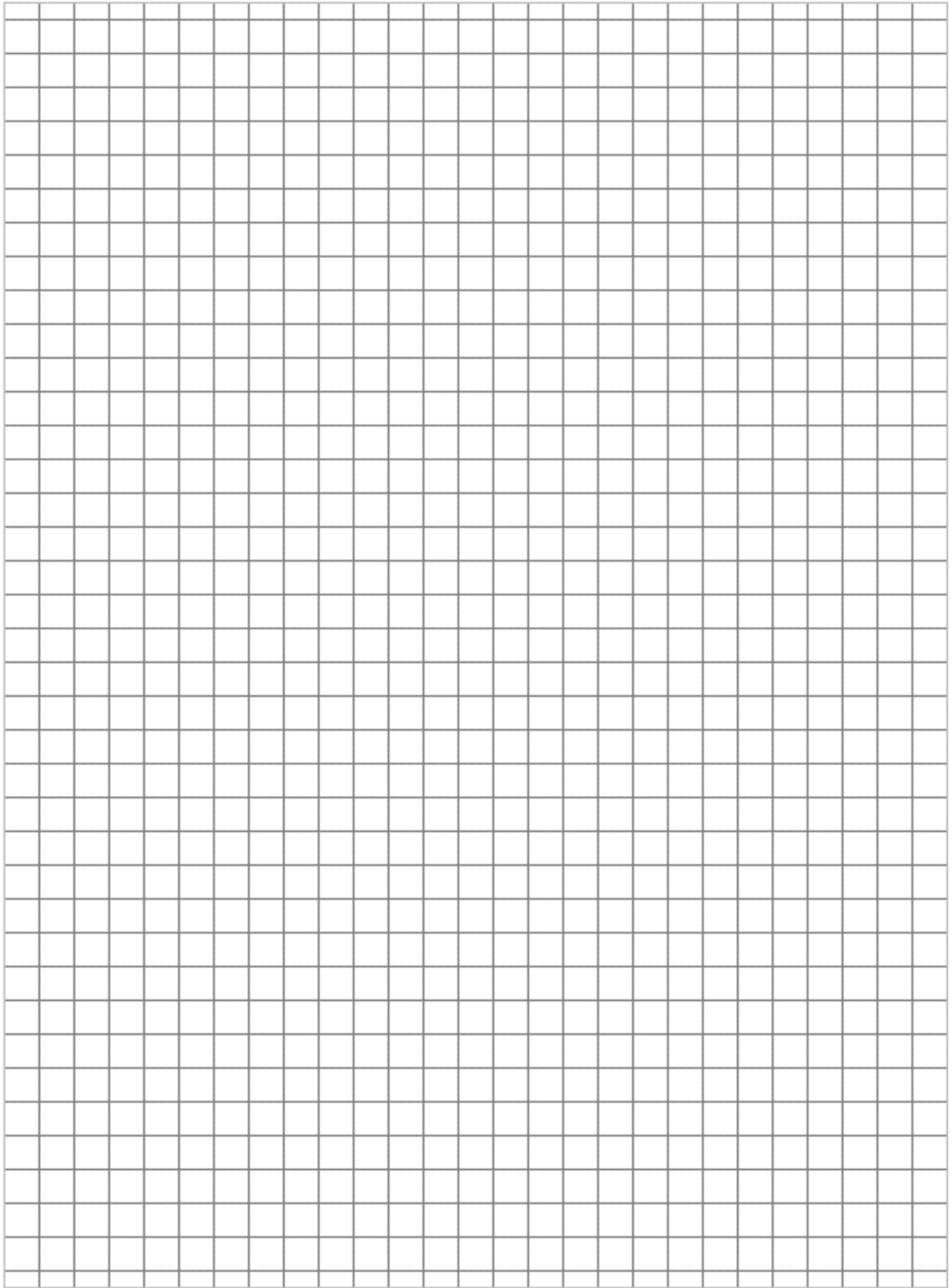
## INSTRUCTIONS

If you have a set of plans/blueprints of your site and the associated storm drainage system, familiarize yourself and your employees with drainage patterns and drainage structure location.

- ◆ If you do NOT have a set of plans, prepare a rough sketch that shows the following:
  - Drainage structures, i.e., catch basins, pipes, ditches, ponds, vaults, etc.
  - Buildings
  - Storage structures/sheds
  - Storage areas
  - Places/points where stormwater leaves your site
- ◆ Use the back of this sheet for your sketch. A rough sketch will familiarize you with your on-site drainage system and aid in the implementation of best management practices. If you have any questions call 206-296-1900.

## EXAMPLE





## **ALTERNATIVE BEST MANAGEMENT PRACTICES (BMP) REQUEST**

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**THIS FORM** is to be used to request the use of an alternative **BMP** to one or more of the minimum **BMP** requirements or for a major modification to one of the required **BMPs** as stated in the King County Stormwater Pollution Prevention Manual. It can be used by those who already have **BMPs** on their site that may differ from the requirements or in cases where implementation of one or more of the required **BMPs** is not the best or preferred solution.

**AFTER RECEIVING THIS REQUEST**, Stormwater Services staff will: (1) Review the request; (2) Notify the applicant the request was received and when a decision will be made; and (3) Notify the applicant in writing of approval or denial, and an explanation of the decision.

### **INSTRUCTIONS:**

1. Answer each question on this form as briefly as possible while still conveying relevant information.
2. Additional pages can be used if necessary.
3. Return this request to:

**King County DNRP, Water and Land Resources Division**

**201 S. Jackson Street, KSC-NR-0600**

**Seattle, WA 98104-3855**

**Attn: Stormwater Services Section (Water Quality Compliance)**

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### **TO BE COMPLETED BY THE APPLICANT:**

Date: \_\_\_\_\_ Applicant's name: \_\_\_\_\_

Facility name (if applicable): \_\_\_\_\_ Owner name: \_\_\_\_\_

Facility address: \_\_\_\_\_

Phone number: \_\_\_\_\_ Type of property (brief description): \_\_\_\_\_

Specify activity under consideration for BMP:

What the manual requires:

Why this will not work on site or is not as desirable:

**OVER**

**ALTERNATIVE BMP** (Page 2)

Describe the alternative BMP:
Explain why this alternative may work:
Constraints or limitations of this alternative BMP (application or seasonal limitation, environmental constraints):
Other comments:

*Please do not write below this line.*

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**TO BE COMPLETED BY COUNTY:**

Approved

Approved with Conditions

Denied

Date: \_\_\_\_\_ Signature: \_\_\_\_\_ Title: \_\_\_\_\_