

## ATTACHMENT “E”

### BEST MANAGEMENT PRACTICES PLAN

The purpose of the Best Management Practices (BMP) plan is to evaluate potential sources of sediment and other pollutants at the project site and put controls in place that will effectively prevent pollutant discharges to surface and ground waters. The following general pollution control requirements should be addressed in the BMP Plan, as applicable:

1. control limited threat discharges to minimize impacts to water quality;
2. prevent the discharge of pollutants associated with construction activities to surface waters;
3. retain soil and sediment on site;
4. permanently stabilize disturbed soils.

Specific guidance for completing the Best Management Practices (BMP) Plan is provided below. The BMP Plan must be submitted with the Notice of Intent (NOI) to obtain coverage under the General Permit. Use the attached form for preparing the BMP plan.

#### Limited Threat Discharge Control

This section of the BMP Plan addresses the measures taken to minimize or eliminate the impacts of the discharge to water quality and the environment. Options may include, but are not limited to, dechlorination of potable water, filtering or settling of solids and other pollutants, diverting flows around disturbed areas using stabilized conveyance systems, and energy dissipation of water flow to slow water velocity in conveyance systems and prevent erosion and flooding.

**Indicate on the BMP Plan what methods will be used to treat the discharge and prevent pollutants from impacting water quality and the environment. Options may include, but are not limited to:**

- **Dechlorination of potable water**
- **Ponds, trenches or basins for settling solids, or cooling**
- **Vegetated filter strips or swales**
- **Physical filter for solids, dissolved solids or total petroleum hydrocarbons (e.g., dirt bag, filter canister, activated carbon filter, sand filter)**
- **Stabilized conveyance systems**
- **Energy dissipation (structures designed to prevent erosion and slow water velocity associated with conveyance systems)**
- **Diverting flows around disturbed areas or other pollutant sources using stabilized conveyances**
- **Flow controls to prevent erosion and flooding**

## Sediment Control at Construction Sites

Where soils will be disturbed by clearing, grading, excavation or other processes sediment control BMPs are required at appropriate locations along the construction site perimeter and at all locations that discharge to surface waters, including internal inlets to the storm drain system. Effective filtration devices, barriers, and settling devices shall be selected, installed and maintained properly. The sediment control plan must also include provisions to temporarily stabilize construction access points such that soil, sediment, and other construction related materials are not tracked beyond the site perimeter by equipment or vehicles.

**Indicate on the BMP Plan sediment controls that will be used at the site. Options may include, but are not limited to:**

### **Filter barriers -**

- **fiber rolls/logs**
- **silt fence**
- **straw bale barriers**
- **gravel inlet filters**

### **Retention structures -**

- **sediment traps**
- **settling basins**

### **Stabilized access points/good housekeeping –**

- **crushed rock**
- **mulch**
- **landing mats**
- **frequent sweeping**

## Stabilization and Erosion Prevention

All disturbed areas of the construction site must be stabilized from erosion once construction is complete.

**Indicate on the BMP Plan what stabilization measures will be used at the site. Options may include, but are not limited to:**

- **Seeding and/or planting (including hydro mulching/seeding)**
- **Mulching (wood chips, gravel, other) in combination with seeding/planting**
- **Installing erosion blankets (typically used on steeper disturbed slopes or unlined drainage ditches in combination with permanent seeding/planting)**
- **Placing rip rap**
- **Other**

## Spill Prevention and Control

The BMP Plan must describe measures to prevent and control potential leaks/spills of petroleum products such as fuels and lubricating materials, and other potentially hazardous materials. Secured storage areas for fuels and chemicals should be established and sufficient spill cleanup materials should be at the site to respond to accidental spills.

**Indicate on the BMP Plan what spill prevention and control measures will be used. Options include, but are not limited to:**

- **Covered material storage**
- **Material storage containment (berms, lined surfaces, secondary containment devices etc.)**
- **Regular equipment leak inspections**
- **Drip pans**
- **Absorbents**

## Maintenance, Inspection, and Repair

BMPs implemented at the site must be properly maintained to be effective. The BMP plan shall include provisions to inspect and maintain all BMPs identified in the plan throughout the duration of the project. Sites that are inactive during inclement or winter weather should be checked periodically to ensure the controls continue to be effective. For sites where construction activity is conducted through the wet season, the Discharger must ensure that BMPs remain effective at all times.

**Indicate on the BMP Plan how BMPs will be inspected and repaired in accordance with the following minimum program:**

- **Cease construction through wet season and winterize to prevent erosion and pollutant discharges**
- **Inspect BMPs before and after storm events**
- **Inspect BMPs once each 24-hour period during extended storm events**
- **Implement repairs or design changes as soon as feasible depending upon worker safety and field conditions**
- **Have provisions to respond to failures and emergencies**

## References

For detailed information on developing BMPs, the EPA document *Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-005) is a useful resource. This document may be purchased as item PB 922 359 51 from the National Technical Information Service (703-605-6000 or <http://www.ntis.gov/>) or may be downloaded as separate chapters from the following website location:

[http://cfpub.epa.gov/npdes/pkeyword.cfm?keywords=EPA+832-R-92-005&program\\_id=0](http://cfpub.epa.gov/npdes/pkeyword.cfm?keywords=EPA+832-R-92-005&program_id=0)

A good source for overall BMP design criteria and modifications for cold climates *Stormwater BMP Design Supplement for Cold Climates* by Caraco and Claytor can be downloaded from the following website:

<http://www.cwp.org/cold-climates.htm>

For detailed information on dechlorination of potable water and measurement of total residual chlorine, the document *Guidance Manual for the Disposal of Chlorinated Water* by Tikkanen, et al. is a useful resource and can be downloaded from the following website location:

<http://vita-d-chlor.com/specs/AWWARFDechlorGuides.pdf>

Additional information may be also be obtained by contacting the Lahontan Regional Water Quality Control Board.

## BEST MANAGEMENT PRACTICES PLAN

Discharger Name: \_\_\_\_\_

Site Name: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_

County: \_\_\_\_\_

Use the template provided below to identify BMPs to be implemented at the project site. Check the boxes next to the BMPs that will be used. If other BMPs will be used, describe them in the space provided for "Other BMP." Attach additional sheets if needed.

### LIMITED THREAT DISCHARGE TREATMENT AND CONTROL

Limited threat discharges will be treated and controlled by the following method(s):

- Dechlorination of potable water**
- Ponds, trenches or basins**
- Vegetated filter strips and swales**
- Physical filter for solids, dissolved solids or total petroleum hydrocarbons (e.g., dirt bag, filter canister, activated carbon filter, sand filters)**
- Stabilized conveyance systems**
- Energy dissipation / flow diversion / flow controls**
- Other (describe below)**

## BEST MANAGEMENT PRACTICES PLAN

### SEDIMENT CONTROL AT CONSTRUCTION SITES

Sediment will be prevented from running off the site or to storm drain inlets by the following method(s):

**Filter barriers -**

- fiber rolls
- silt fence
- straw bale barriers
- gravel inlet filters

**Retention structures -**

- sediment traps
- settling basins

**Stabilized access points/good housekeeping –**

- crushed rock
- mulch
- landing mats
- frequent sweeping

- Other (describe below)

## BEST MANAGEMENT PRACTICES PLAN

### STABILIZATION TO PREVENT EROSION

Disturbed soil areas not covered with impervious surfaces will be permanently stabilized at the completion of the project by the following method(s):

- Seeding and/or planting (including hydro mulching/seeding)**
- Mulching (wood chips, gravel, other) in combination with seeding/planting**
- Installing erosion blankets (typically used on steeper disturbed slopes or unlined drainage ditches in combination with permanent seeding/planting)**
- Placing rip rap (describe location)**
- Other (describe below)**

### SPILL PREVENTION AND CONTROL

The following BMPs will be implemented to prevent and control potential leaks/spills of petroleum products such as fuels and lubricating materials, and other potentially hazardous materials, as appropriate:

- Material storage containment (covered storage, berms, lined surfaces, secondary containment devices, etc.)**
- Regular equipment leak inspections**
- Drip Pans**
- Absorbents**
- Other (describe below)**

## BEST MANAGEMENT PRACTICES PLAN

### MAINTENANCE, INSPECTION, AND REPAIR

BMPs will be inspected and repaired in accordance with the following minimum program:

**For inactive construction sites during wet season (October 15 – May 1)**

- Cease construction through wet season and winterize to control pollutants

**For active construction sites during wet season (October 15 – May 1)**

- Inspect BMPs, and repair if needed, before and after storm events
- Inspect BMPs once each 24-hour period during extended storm events
- Implement repairs or design changes as soon as feasible depending upon worker safety and field conditions
- Have provisions to respond to failures and emergencies (describe below)
- Other (describe below)