SELECTION OF BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) can be utilized by an individual or agency to control a water quality problem caused by nonpoint source pollution. The BMP concept is based on the premise that individuals and agencies should take the most practical and feasible approach prevent the release of pollutants into the surface and ground waters of the State.

The diffuse and intermittent nature of nonpoint source pollution makes identification of these sources difficult at times. Section 445.203 of the Nevada Administrative Code defines diffuse source as:

1. Agricultural activity, including return flows from irrigation;
2. Silvicultural activity;
3. Mining activity;
4. Construction of buildings, roads, dams, utility lines or other improvements of facilities;
5. Runoff from roads, streets and railroads;
6. Construction or use of recreational trails;
7. Modification of water courses or stream channels; and,
8. Runoff from urban areas.

The Nevada Diffuse Source regulations were adopted in 1982. In 1987, the Federal Clean Water Act was amended to address nonpoint sources of pollution. The U.S. Environmental Protection Agency (EPA) has identified additional categories and subcategories of nonpoint sources of pollution which encompass a wide range of activities.

The following is a summary of the major activities recognized by the State and EPA with the potential for generating nonpoint source pollution in Nevada.

1. Construction
2. Hydrologic Modification
3. Habitat Modification
4. Irrigation and Drainage
5. Cropland
6. Livestock Grazing
7. Feedlots/Animal Holding Units
8. Silviculture
9. Resource Extraction
10. Urban Runoff
11. Land Disposal
12. Waste Management Activities
13. Atmospheric Deposition

Best Management Practices can effectively eliminate or reduce the introduction of

pollutants into receiving waters when applied either before, during, or after pollution producing activities.

The main criteria which should be considered when selecting BMPs to improve water quality are the type of pollutant(s) being generated and the category of pollution generating activity; however, the following factors must also be considered: site-specific physical characteristics, cost-effectiveness, landowner acceptance, public interest and support, legal authority, and agency limitations.

Thus, the selection of BMPs for application to a particular nonpoint source (NPS) pollution problem will be site-specific and modifications may be required to tailor the BMPs to the characteristics of the problem area. However, some general guidelines for BMP selection can be provided based upon the activity which is generating the pollution.

The following is a brief description of the activities and conditions that are potential nonpoint pollution sources. Recommended BMPs for controlling nonpoint source pollution from each category are summarized in Tables VII-1 through VII-8 for easy reference.

1. Construction

Sediment is the primary pollutant generated at construction sites. Runoff from construction and industrial activities potentially generates more sediment per unit acre than from any other land use. In response to this common cause of water quality impairment, EPA promulgated regulations (55 CFR 47990) on November 16, 1990, requiring the permitting of stormwater generated pollution under the National Pollutant Discharge Elimination System (NPDES). The Nevada Division of Environmental Protection (NDEP) has been delegated the authority to administer these federal regulations and has adopted state regulations to administer an NPDES Stormwater program. (For additional information on the Stormwater program, see Category 4. Urban Runoff.)

Pursuant to these federal regulations, an operator must obtain a General Permit under the NPDES Stormwater Dischargers Program for all construction activities five (5) acres or greater. The General Permit requires the implementation of BMPs to reduce pollutant loadings into waters of the State.

Although stormwater permits are not required for construction related activities smaller than five acres, runoff and erosion can be minimized at these sites by implementing the following BMPs:

- diversion structures designed to channel runoff away from disturbed surfaces;
- structures designed to collect, retain and/or treat any water that contacts disturbed surfaces;
- permanent stabilization of exposed surfaces once construction is complete;

- locating roads and access where the effect on water quality will be the least;
- the implementation of good housekeeping practices such as proper storage and spill prevention to prevent runoff from paints, solvents, fuels, etc.; and,

- properly designing, constructing, and maintaining commercial, residential and industrial properties in a manner that will minimize contribution of pollutants to the water.

Nonpoint source pollution loads from construction sites are also controlled through federal, state and local building codes, standard engineering designs, and standardized plans and specifications which are enforced by building, health and public works departments.

2. Hydrological Modification

Hydrological modifications such as streambank modification/destabilization, channelization, dredging, dam construction, flow regulation/modification, and bridge construction may contribute large amounts of sediment to waters of the State.

Hydrological modifications can result from natural conditions or can include activities directed by man such as straightening, widening, deepening, or relocating existing stream channels and clearing or snagging operations. These forms of hydromodification are intended to result in more uniform channel cross sections, steeper stream gradients and reduced average pool depths. These activities are usually overseen by the Army Corp of Engineers 404 permitting process.

Whether natural or man-made, hydrological modifications can increase sediment loadings, decrease or interfere with surface water contact to overbank areas, and destroy riparian areas and wildlife habitat.

3. Habitat Modifications

In the context of this manual, habitat modification is a general term used to describe the loss of riparian habitat due to hydrologic modifications, trampling and overgrazing by all forms of livestock, and silvicultural and mining activities.

Riparian zones are lands adjacent to streams where the vegetation is strongly influenced by the presence of water. The loss of riparian vegetation increases runoff and erosion by exposing soils to the drying effects of wind and sunlight, reduces the water storage capacity of the riparian area, reduces shade which increases in-stream water temperature and reduces the filtration of sediment necessary for building streambanks, wet meadows and floodplains. Theses factors typically result in degraded water quality, lost of livestock forage, reduced numbers and diversity of fish and wildlife, reduced property

values and increased potential for severe flooding.

4. Irrigation and Drainage

Return flows, runoff and leachate from irrigated lands may transport sediment, organic solids, nutrients, pesticides, salts, metals, bacteria, viruses and other microorganisms to surface or ground water systems. The manner in which irrigation and drainage water is managed may determine whether these pollutants actually reach waters of the State.

The 1985 Farm Bill requires all ranchers to have and implement Farm Plans that address water quality and soil erosion problems associated with irrigation and other farming\ranching practices. The plans are written by the Soil Conservation Service and approved by the Conservation Districts.

5. Cropland

Hay dominates crop production in Nevada and occupies the largest amount of irrigated land. Nonpoint source pollutants associated with crop production are similar to those produced from irrigation and drainage activities. Preventing and mitigating nonpoint source pollution from cropland and other associated agricultural activities is overseen through educational activities and policies directed by the Soil Conservation Service, and Conservation Districts. The Army Corp of Engineers and the Bureau of Reclamation also work in conjunction with irrigation districts on projects to improve water quality.

6. Livestock Grazing

The impacts of overgrazing in riparian areas are discussed in Section 3 (Habitat Modification). Improper upland grazing and maintenance of pasture lands can cause reduced water infiltration and accelerated runoff and erosion resulting in the formation of rills and gullies and the loss of soil and wildlife habitat.

The development of management plans for both riparian and upland areas is useful for protecting water quality and habitat. The plans may include the development of livestock water facilities away from streams to protect riparian areas.

Management plans for grazing lands should at a minimum consider livestock density, and livestock location--especially access to riparian areas and bodies of water, and ensure
adequate forage and ground cover with diverse, native species. For any grazing management system to work, it must be tailored to fit the needs of the vegetation, terrain, class or kind of livestock, and particular type of operation involved.

7. Feedlots\Animal Holding Units

Livestock containment facilities are structures built or used to hold livestock including but not limited to corrals, cattlelots, feedlots and other similar structures. The following pollutants may be contained in manure, associated bedding materials, runoff and process wastewater: sediments, bacteria, viruses, and other microorganisms; oxygen-demanding substances; nitrogen, phosphorus, and other major and minor nutrients or other deleterious materials; organic solids; and salts.

Nevada Administrative Code (NAC) 445.140 exempts operators from obtaining an NPDES discharge permit for discharges of pollutants from agricultural and silvicultural activities, including irrigation return flow and runoff from orchards, cultivated crops, pastures, rangelands and forest lands. This exclusion does not apply to the following:

- Discharges from facilities which confine animals if the facilities contain, or at any time during the previous 12 months contained, for a total of 30 days or more, any of the following types of animals at or in excess of the number listed for each type of animal:

--slaughter and feeder cattle	1,000
--mature dairy cattle (whether milkers or dry cows)	700
--swine weighing over 55 pounds	2,500
--horses	500
--sheep	10,000
--turkeys	55,000
--laying hens and broilers, if the animal confinement facility has continuous overflow watering	100,000
--laying hens and broilers, if the animal confinement facility has liquid manure handling system	30,000
--ducks	5,000

- Discharges from facilities which confine animals if such facility or facilities contain, or at any time during the previous 12 months contained, for a total of 30 days or more, a combination of animals such that the sum of the following numbers is 1,000 or greater:

  --the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied 1.4, plus the number of swine weighing over 55 pounds multiplied by 0.4, plus the number of sheep

multiplied by 0.1, plus the number of horses multiplied by 2.0.

As previously stated, facilities containing fewer than the number of head listed above are not required to obtain an NPDES discharge permit. The goal of implementing BMPs at feedlots is to minimize the discharge of contaminants in both facility wastewater and in storm runoff.

8. Silviculture

Forestry operations may degrade several water quality characteristics in waterbodies receiving drainage from forest lands. Sediment concentrations can increase due to accelerated erosion. Water temperatures can increase due to removal of overstory riparian shade. Slash and other organic debris can accumulate in waterbodies, depleting dissolved oxygen. Organic and inorganic chemical concentrations can increase due to harvesting and fertilizer application. These potential increases in water quality contamination are usually proportional to the severity of site disturbance.

Silvicultural activities related to runoff and erosion control are regulated through a permit program operated by the Nevada State Forester Firewarden under the Nevada Forest Practice Act. These regulations also mandate that environmental concerns be properly addressed before major silvicultural activity takes place.

9. Resource Extraction (Including gas, oil, and geothermal)

Several activities associated with mining operations including exploration projects, mine access and haul roads, waste rock dumps, ore stockpiles, landfills, and product storage areas have the potential to be sources of nonpoint pollutants such as sediment, salts, metals and organic compounds.

Nonpoint source discharges associated with mining activities are addressed by federal, state, and in certain situations, local governments through special use permits and county bond requirements. The State Mine Reclamation regulations (NAC 519A.260) require all exploration projects to submit a detailed plan on the measures which will be taken to minimize the sedimentation of surface waters during the life of the project and after the site is closed. Mining operations must comply with the requirements specified in NAC 519A.270 which require, in part, that the mining operation identify, 1) all surface water bodies within one-half-mile down gradient of the operation which may be impacted by excess sedimentation; 2) the technical criteria used to determine the final gradient and stability of slopes created or affected by the mining operation; 3) the measures which will be used to minimize sediment loading to surface waters during operation and reclamation; 4) and a description of reclamation which is necessary because of instream mining.

Federal land management agencies require reclamation plans as specified in the

Code of Federal Regulations (CFR). The NDEP has entered into a Memorandum of Understanding with both the Bureau of Land Management and the U.S. Forest Service which provides for a multi-agency review and permitting process for all exploration and mining operations in the State affecting greater than five acres.

Nevada Administrative Code, 445.242 through 445.24388, specifies the regulations governing design, construction, operation and closure of mining operations. These regulations
contain provisions to insure the immobilization of pollutants from process components and waste rock dumps after the cessation of mining.

Additionally, pursuant to federal regulations, an operator must obtain a General Permit under the NPDES Stormwater Dischargers Program if mining is being conducted at any size facility for copper, lead, zinc, gold, and/or molybdenum. The General Permit requires the implementation of BMPs to reduce pollutant loadings into the waters of the State.

10. Urban Runoff

In 1987, the Clean Water Act was amended to mandate EPA to establish regulations for permitting requirements for stormwater discharges under the National Pollutant Discharge Elimination System (NPDES). EPA promulgated regulations (55 CFR 47990) on November 16, 1990. NDEP was delegated this program and has subsequently adopted applicable regulations.

Under this program, permits must be obtained for stormwater runoff associated with industrial activity and medium and large separate storm sewers (serving a population of greater than 100,000 or 250,000 people, respectively). A stormwater discharge permit may also be required if the State determines that a storm water discharge contributes to the violation of water quality standards or is a significant contributor of pollutants to waters of the United States.

The NPDES permitting program requires the medium and large municipalities to develop and institutionalize stormwater management programs. The pollutant discharges from municipal storm sewers are highly intermittent and are usually characterized by very high flow rates occurring over relatively short time intervals. The nature and extent of pollutants in discharges from municipal systems is also variable and depends on the activities occurring on the lands which contribute runoff to the system. Potential pollutants include sediment, nutrients, salts, organic materials and compounds, and metals. Thus, management programs will have a wide variety of structural and non-structural BMPs.

Identified industrial discharges (specified Standard Industrial Codes [SIC]) are also required to obtain a General Permit. The General Permit outlines BMPs which need to be

implemented to reduce pollutant loading.

Smaller municipalities and some activities are presently not covered by the NPDES permit requirements such as construction activities on sites that result in the disturbance of less than 5 acres.

11. Land Disposal (Runoff/Leachate/Infiltration)

Sludge disposal, wastewater, leachate from unlined landfills, industrial land treatments and hazardous waste spills are potential sources of pollutants such as nutrients, salts, metals and organic compounds to both surface and ground waters. On-site wastewater systems (i.e. septic tanks) can cause problems if the density is too great in a given area.

State and federal laws regulate the design, operation and maintenance of wastewater treatment facilities and landfills. Sludge, effluent application and rapid infiltration basins are also regulated.

12. Waste Management Activities

Improperly designed waste storage structures, leaking underground storage tanks, highway maintenance and runoff, and spills are sources of pollutants such organic compounds, metals, salts and nutrients to surface and ground waters.

13. Atmospheric Deposition

Airborne sediments can not only directly affect water quality, but can affect productive capability of the land, air quality, and health and safety.

Table VII-1

Best Management Practices (BMPs) Related To Activities And Conditions That Are Potential Pollution Sources										
Pollution Source	BMP 1-1	BMP 1-2	BMP 1-3	BMP 1-4	BMP 1-5	BMP 2-1	BMP 2-2	BMP 2-3	BMP 2-4	BMP 2-5
Construction	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Hydrologic Modification	✓	✓	✓	✓		✓	✓	✓	✓	✓
Habitat Modification	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Irrigation and Drainage	✓	✓	✓	✓		✓	✓	✓	✓	✓
Cropland	✓	✓	✓	✓		✓	✓	✓	✓	✓
Livestock Grazing			✓							✓
Feedlots / Animal Holding Units	✓	✓	✓	✓		✓	✓	✓		
Silviculture	✓	✓	✓	✓		✓	✓	✓		
Resource Extraction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Urban Runoff	✓	✓	✓			✓			✓	
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Atmospheric Deposition	✓	✓	✓	✓	✓	✓				

BMP 1-1: DEVELOPMENT SITE PLAN (pg 1-2)
BMP 1-2: GRADING SEASON & PRACTICES (pg 1-4)
BMP 1-3: ACCESS ROADS (pg 1-5)
BMP 1-4: DUST CONTROL (pg 1-8)
BMP 1-5: TOPSOIL MANAGEMENT (pg 1-10)

BMP 2-1: EROSION & SEDIMENT CONTROL STRUCTURES (pg 2-2)
BMP 2-2: RUNOFF INTERCEPTOR TRENCH OR SWALE (pg 2-5)
BMP 2-3: DIVERSION DIKE (pg 2-8)
BMP 2-4: DIVERSION DAM (pg 2-11)
BMP 2-5: LEVEL SPREADER (pg 2-14)

Table VII-2

Best Management Practices (BMPs) Related To Activities And Conditions That Are Potential Pollution Sources										
Pollution Source	BMP 2-6	BMP 2-7	BMP 2-8	BMP 2-9	BMP 2-10	BMP 2-11	BMP 2-12	BMP 2-13	BMP 2-14	BMP 3-1
Construction	✓	✓		✓	✓	✓	✓		✓	✓
Hydrologic Modification	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Habitat Modification	✓	✓	✓	✓		✓		✓		✓
Irrigation and Drainage		✓	✓	✓	✓	✓	✓	✓	✓	✓
Cropland						✓		✓	✓	✓
Livestock Grazing						✓		✓		✓
Feedlots / Animal Holding Units				✓	✓					
Silviculture	✓	✓	✓	✓	✓		✓			✓
Resource Extraction	✓	✓	✓	✓	✓	✓	✓		✓	✓
Urban Runoff	✓	✓		✓	✓	✓	✓	✓	✓	✓
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Atmospheric Deposition						✓	✓			✓

BMP 2-6: SILTATION OR FILTER BERMS (pg 2-17)
BMP 2-7: FILTER OR SILT FENCE (pg 2-20)
BMP 2-8: FILTER STRIPS (pg 2-23)
BMP 2-9: SEDIMENT BARRIERS (pg 2-27)
BMP 2-10: SEDIMENT BASINS (pg 2-31)
BMP 2-11: GRASSED WATERWAYS & OUTLETS (pg 2-34)
BMP 2-12: ROCK LINED DITCH OR SWALE (pg 2-36)
BMP 2-13: WATERSPREADING (pg 2-39)
BMP 2-14: PERMANENT WATERWAY (pg 2-41)
BMP 3-1: SEEDING PRACTICES (pg 3-2)

Table VII-3

Best Management Practices (BMPs) Related To Activities And Conditions That Are Potential Pollution Sources											
Pollution Source	BMP 3-2	BMP 3-3	BMP 3-4	BMP 3-5	BMP 3-6	BMP 3-7	BMP 3-8	BMP 4-1	BMP 4-2	BMP 4-3	BMP 5-1
Construction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hydrologic Modification	✓	✓	✓		✓			✓	✓	✓	✓
Habitat Modification	✓	✓	✓			✓	✓	✓			
Irrigation and Drainage	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Cropland				✓							✓
Livestock Grazing				✓							✓
Feedlots / Animal Holding Units				✓							✓
Silviculture	✓	✓	✓		✓	✓	✓	✓		✓	✓
Resource Extraction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Urban Runoff					✓	✓	✓	✓	✓	✓	✓
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓		✓	✓	✓	✓		✓	✓
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓			✓	✓
Atmospheric Deposition	✓	✓	✓		✓	✓	✓			✓	

BMP 3-2: WATTLING (pg 3-5)
BMP 3-3: BRUSH LAYERING (pg 3-9)
BMP 3-4: BRUSH MATTING (pg 3-11)
BMP 3-5: WINDBREAKS (pg 3-13)
BMP 3-6: ROCK & GRAVEL MULCHES (pg 3-17)
BMP 3-7: WOOD CHIP, STRAW & BARK MULCHES (pg 3-19)
BMP 3-8: JUTE & SYNTHETIC NETTING (pg 3-21)
BMP 4-1: SLOPE SHAPING (pg 4-2)
BMP 4-2: RETAINING STRUCTURES (pg 4-4)
BMP 4-3: ROCK RIPRAP (pg 4-8)
BMP 5-1: INFILTRATION TRENCH OR BASIN (pg 5-2)

Table VII-4

Best Management Practices (BMPs) Related To Activities And Conditions That Are Potential Pollution Sources											
Pollution Source	BMP 5-2	BMP 5-3	BMP 5-4	BMP 6-1	BMP 6-2	BMP 6-3	BMP 6-4	BMP 6-5	BMP 6-6	BMP 7-1	BMP 7-2
Construction	✓	✓	✓	✓	✓	✓	✓	✓			
Hydrologic Modification			✓	✓	✓	✓	✓	✓	✓	✓	
Habitat Modification			✓	✓	✓	✓			✓		✓
Irrigation and Drainage	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Cropland			✓	✓	✓	✓				✓	✓
Livestock Grazing			✓	✓	✓	✓			✓		
Feedlots / Animal Holding Units											
Silviculture			✓	✓	✓	✓			✓		
Resource Extraction			✓	✓	✓	✓	✓	✓			
Urban Runoff	✓	✓		✓	✓	✓	✓	✓			
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Atmospheric Deposition			✓		✓	✓					

BMP 5-2: DRY WELL (pg 5-6)
BMP 5-3: FRENCH DRAIN (pg 5-7)
BMP 5-4: WETLANDS (pg 5-9)
BMP 6-1: CRITICAL AREA PROTECTION (pg 6-2)
BMP 6-2: CRITICAL AREA STABILIZATION (pg 6-4)
BMP 6-3: STREAM PROTECTION & STABILIZATION (pg 6-7)
BMP 6-4: FLOODWATER RETARDING STRUCTURE (pg 6-10)
BMP 6-5: FLOODWATER DIVERSION (pg 6-12)
BMP 6-6: PRESCRIBED USE OF FIRE (pg 6-15)
BMP 7-1: IRRIGATION WATER MANAGEMENT (pg 7-2)
BMP 7-2: IRRIGATED CROPLAND MANAGEMENT (pg 7-6)

Table VII-5

Best Management Practices (BMPs) Related To Activities And Conditions That Are Potential Pollution Sources										
Pollution Source	BMP 7-3	BMP 7-4	BMP 7-5	BMP 7-6	BMP 7-7	BMP 7-8	BMP 7-9	BMP 7-10	BMP 7-11	BMP 8-1
Construction										✓
Hydrologic Modification										
Habitat Modification					✓	✓	✓			✓
Irrigation and Drainage	✓	✓	✓	✓	✓					
Cropland	✓	✓	✓	✓	✓	✓	✓			
Livestock Grazing	✓	✓	✓			✓	✓	✓		
Feedlots / Animal Holding Units			✓			✓	✓		✓	
Silviculture					✓					✓
Resource Extraction					✓					
Urban Runoff										
Land Disposal (runoff/leachate/infiltration)	✓		✓	✓						
Waste Management Activities			✓	✓						
Atmospheric Deposition		✓		✓						✓

BMP 7-3: NATIVE MEADOWLAND IRRIGATION MANAGEMENT (pg 7-9)
BMP 7-4: PASTURE & HAYLAND MANAGEMENT (pg 7-11)
BMP 7-5: SALINITY CONTROL (pg 7-13)
BMP 7-6: CHISELING OR SUBSOILING (pg 7-16)
BMP 7-7: SOIL AMENDMENT, FERTILIZER & PESTICIDE MANAGEMENT (pg 7-17)
BMP 7-8: PLANNED GRAZING SYSTEM (pg 7-21)
BMP 7-9: PROPER GRAZING USE (pg 7-25)
BMP 7-10: RANGE IMPROVEMENTS (pg 7-27)
BMP 7-11: LIVESTOCK FACILITIES (pg 7-30)
BMP 8-1: ACCEPTED FOREST PRACTICES (pg 8-2)

Table VII-6

Best Management Practices (BMPs) Related To Activities And Conditions That Are Potential Pollution Sources										
Pollution Source	BMP 8-2	BMP 8-3	BMP 9-1	BMP 9-2	BMP 9-3	BMP 9-4	BMP 9-5	BMP 9-6	BMP 10-1	BMP 10-2
Construction	✓	✓		✓	✓		✓		✓	✓
Hydrologic Modification			✓	✓	✓	✓	✓	✓	✓	✓
Habitat Modification	✓	✓	✓	✓		✓		✓		
Irrigation and Drainage					✓		✓	✓		
Cropland										
Livestock Grazing		✓								
Feedlots / Animal Holding Units										
Silviculture	✓	✓			✓					
Resource Extraction			✓	✓	✓	✓	✓	✓	✓	✓
Urban Runoff					✓				✓	✓
Land Disposal (runoff/leachate/infiltration)				✓	✓	✓	✓	✓	✓	✓
Waste Management Activities			✓	✓	✓	✓	✓	✓	✓	✓
Atmospheric Deposition	✓			✓		✓	✓			

BMP 8-2: WILDLAND/URBAN INTERFACE MANAGEMENT (pg 8-4)
BMP 8-3: FUELS MANAGEMENT (pg 8-7)
BMP 9-1: MINERAL EXPLORATION (pg 9-2)
BMP 9-2: EXCAVATION STABILIZATION (pg 9-4)
BMP 9-3: SURFACE RUNOFF MANAGEMENT (pg 9-8)
BMP 9-4: WASTE ROCK DUMP MANAGEMENT (pg 9-11)
BMP 9-5: IMPOUNDMENT MANAGEMENT (pg 9-12)
BMP 9-6: RECLAMATION (pg 9-15)
BMP 10-1: STREET RUNOFF COLLECTION (pg 10-2)
BMP 10-2: STORM DRAINAGE STRUCTURES (pg 10-7)

Table VII-7

Best Management Practices (BMPs) Related To Activities And Conditions That Are Potential Pollution Sources										
Pollution Source	BMP 10-3	BMP 10-4	BMP 10-5	BMP 10-6	BMP 10-7	BMP 10-8	BMP 10-9	BMP 10-10	BMP 10-11	BMP 10-12
Construction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hydrologic Modification	✓	✓					✓			✓
Habitat Modification				✓						
Irrigation and Drainage		✓	✓		✓	✓	✓	✓		✓
Cropland			✓		✓	✓				
Livestock Grazing										
Feedlots / Animal Holding Units										✓
Silviculture		✓								
Resource Extraction		✓					✓	✓		✓
Urban Runoff	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Land Disposal (runoff/leachate/infiltration)		✓		✓	✓	✓	✓	✓	✓	✓
Waste Management Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Atmospheric Deposition				✓						

BMP 10-3: SANDBAG CURB INLET SEDIMENT BARRIER (pg 10-11)
BMP 10-4: CULVERTS (pg 10-13)
BMP 10-5: IRRIGATION (pg 10-16)
BMP 10-6: LANDSCAPING (pg 10-18)
BMP 10-7: FERTILIZER MANAGEMENT (pg 10-20)
BMP 10-8: PESTICIDE/HERBICIDE MANAGEMENT (pg 10-22)
BMP 10-9: SNOW DISPOSAL PRACTICES (pg 10-25)
BMP 10-10: ROAD SALT STORAGE & RELATED PRACTICES (pg 10-27)
BMP 10-11: STREET CLEANING PRACTICES (pg 10-29)
BMP 10-12: WELLHEAD PROTECTION (pg 10-31)

Table VII-8

Best Management Practices (BMPs) Related To Activities And Conditions That Are Potential Pollution Sources									
Pollution Source	BMP 11-1	BMP 11-2	BMP 11-3	BMP 11-4	BMP 11-5	BMP 11-6	BMP 11-7	BMP 12-1	BMP 12-2
Construction	✓	✓	✓	✓	✓	✓		✓	✓
Hydrologic Modification								✓	✓
Habitat Modification									
Irrigation and Drainage								✓	✓
Cropland									
Livestock Grazing									
Feedlots / Animal Holding Units		✓	✓	✓	✓	✓		✓	
Silviculture									
Resource Extraction		✓	✓	✓	✓	✓		✓	✓
Urban Runoff	✓	✓					✓		
Land Disposal (runoff/leachate/infiltration)	✓	✓	✓	✓	✓	✓		✓	
Waste Management Activities	✓	✓	✓	✓	✓	✓		✓	
Atmospheric Deposition									

BMP 11-1: UNDERGROUND STORAGE TANKS (pg 11-2)
BMP 11-2: WASTE MANAGEMENT SYSTEMS (pg 11-4)
BMP 11-3: RURAL WASTE DISPOSAL MANAGEMENT (pg 11-6)
BMP 11-4: WASTE TREATMENT LAGOON (pg 11-8)
BMP 11-5: WASTE STORAGE POND (pg 11-10)
BMP 11-6: WASTE STORAGE STRUCTURE (pg 11-12)
BMP 11-7: HOUSEHOLD HAZARDOUS WASTE MANAGEMENT (PG 11-13)
BMP 12-1: IMPERVIOUS SEALS (pg 12-2)
BMP 12-2: WATER STORAGE RESERVOIR (pg 12-5)