



## Chapter 5

# Select Mitigation Projects for High Priority Activities

### 5-1 Introduction

Once users have created an inventory of activities occurring on a property, described the current mitigation efforts in place (Forms 3 and 6), and identified whether there is an opportunity to apply P2 solutions (Form 6, Part 3), the next step is to determine whether enhanced mitigation efforts are necessary and, if so, identify the best solution to achieve the site objectives. This chapter provides instructions on how to complete Parts 4 and 5 of Form 6 by

- assessing the feasibility of implementing enhanced mitigation projects, such as structural or nonstructural BMPs;
- selecting the performance objectives for the potential BMP;
- selecting the most appropriate BMP;
- identifying performance, design, construction, maintenance, and cost factors for the selected BMP; and
- developing cost estimates.

This chapter also lends additional assistance in identifying and selecting BMPs for typical activities. Appendix D contains an expanded list of available BMP guidance.

### 5-2 Identifying Best Mitigation Efforts or Best Management Practices

Identifying the best BMP or group of BMPs for an activity or site can be difficult, especially in the project's conceptual phase. In general, a BMP should be chosen on the basis of its ability to cost-effectively achieve site-specific objectives.

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The following factors should be considered when selecting appropriate BMPs:

- Watershed
- Terrain
- Stormwater treatment suitability
- Physical feasibility
- Community and environment
- Location and permitting.<sup>1</sup>

More detail on a step-by-step screening process is provided below.

### **5-2.1 Form 6, Part 4—Determine Project Objectives**

This part of Form 6 helps you determine whether enhanced mitigation efforts are needed at the activity. From your answers, you can also determine the BMP objectives. The following instructions help you complete Part 4 of Form 6 for each priority activity. In answering the questions in Part 4, you should review your answers to Parts 1 and 2.

- Question 27a. *Does the municipality want to reduce the amount of pollutants entering receiving waters?* At a minimum, if you noted in Blocks 14, 15, 16, or 19 of Form 7 that the activity discharges a pollutant of concern, answer “yes.”
- Question 27b. *Does the municipality want to reduce runoff velocities or mimic predevelopment runoff flow volumes?* At a minimum, if you answered “yes” in Block 14, or checked “cause erosion” or “uncontrolled storm water runoff” in Block 13 of Form 7, answer “yes.”
- Question 27c. *Does the municipality want to improve reliability and ease of maintenance of existing BMPs?* To answer this question, you should confer with the maintenance staff.
- Question 27d. *Does the municipality want to achieve permit requirements (for pollutant removal or flow control)?* At a minimum, if the activity has a NPDES permit, answer “yes.”

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<sup>1</sup> This approach is based on the Center for Watershed Protection and Maryland Department of the Environment Water Management Administration *Maryland Department of Environment’s 2000 Maryland Stormwater Design Manual Volumes I and II* available at [http://www.mde.state.md.us/environment/wma/stormwatermanual/Manual\\_CD/Introduction.pdf](http://www.mde.state.md.us/environment/wma/stormwatermanual/Manual_CD/Introduction.pdf).

- Question 27e. *Does the municipality want to reduce life cycle costs of existing operations or BMPs?* To answer this question, you should confer with the activities maintenance staff for suggested improvements.
- Question 27f. *Does the municipality want to restore natural habitat?* To answer this question, determine whether the activity affects natural habitat and whether an opportunity exists to restore the natural habitat on or surrounding it.
- Question 27g. *Does the municipality have other objectives?* Describe any other objectives not addressed above.

Other factors that influence project objectives include the following:

- State, local, or other special considerations. Is the project located in a part of the municipality or watershed that has special design objectives or constraints that must be met? Table 4-1 of the Maryland Stormwater Design Manual, outlines BMP restrictions or additional design requirements that should be considered if a project lies within a critical area, a coldwater watershed, a sensitive watershed, an aquifer protection area, a water supply reservoir, or a shellfish or beach protection zone. (Your state may have specific requirements that must be met; check your state's regulations.)
- Terrain. Is the project located in a portion of the state that has particular design constraints imposed by local terrain or underlying geology? The Maryland Stormwater Design Manual details BMP restrictions for regions that have karst, mountainous terrain, or low relief.
- Stormwater treatment suitability. Can the BMP meet stormwater sizing criteria at the site, or is a combination of BMPs needed? The solution should meet sizing criteria. Designers can screen the BMP list using local sizing criteria for volume and flow to determine whether the solution will work.
- Physical feasibility. Do any physical constraints at the project site restrict or preclude the use of a particular BMP? In this step, designers can determine whether the soils, water table, drainage area, slope, or head conditions present at a particular development site might limit the use of a BMP.

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- Community and environment. Do the remaining BMPs have any important community or environmental benefits or drawbacks that might influence the selection process? The Maryland Stormwater Design Manual contains a checklist to compare BMP options in regard to maintenance, habitat, community acceptance, cost, and other environmental factors.
  - Location and permitting. What environmental features must be avoided or considered when locating the BMP system at a site to fully comply with local, state, and federal regulations? In this step, designers can use Table 4.6 of the Maryland Stormwater Design Manual, as a checklist that asks whether any of the following are present at the site: wetlands, waters of the United States, stream or shoreline buffers, floodplains, forest conservation areas, and development infrastructure. The manual provides guidance on how to locate BMPs to avoid impacts to sensitive resources.

### **5-2.2 Factors in Developing Project Objectives**

When developing objectives, you should be fully aware of the situation for which the BMP is being considered. Municipalities start the BMP selection process for different reasons, including the following:

- *New construction or activity.* BMPs are selected to control the estimated runoff rates or pollutant loadings as part of a site development plan for new construction or a new activity. In these situations, municipalities usually have longer planning horizons and more influence in layout and BMP selection. However, most states provide minimum design and regulatory standards for BMPs proposed as part of new construction.
- *Retrofitting existing activities or developed areas.*
  - BMPs are selected to control known (sampled) runoff flow rates or pollutant loadings as a retrofit to an existing single industrial activity. Municipalities usually have shorter planning horizons due to the compliance agreements and less latitude in selecting BMPs due to space and operational constraints. All states provide regulatory criteria for controlling point source discharges from existing industrial activities. In addition to regulating point source discharges, some states provide regulatory criteria for controlling runoff flows.

- BMPs are selected to control known (sampled) runoff flow rates or pollutant loadings as a retrofit to an existing multiple-use developed site (such as one containing both industrial activities and typical urban land uses). Municipalities usually have medium planning horizons due to the complex nature of the solutions and more latitude in selecting BMPs or groups of BMPs.
- *Restoring water bodies or watersheds to achieve designated uses.* BMPs are selected to achieve a waterbody's or watershed's designated use, such as lowering the temperature of a discharge to allow the receiving water body to meet temperatures necessary for fish survival.
- *Restoring natural habitat.* BMPs are selected to modify habitat (such as in streams, wetlands, or riparian buffers) to restore natural predevelopment conditions or mitigate the impacts on current development conditions. Municipalities should only implement these types of BMPs after upstream flows and pollutant loadings are controlled.
- *Changing or creating operating and maintenance procedures for existing assets.* For example, a municipality may switch from applying road salt to sand during winter weather conditions.

Refer to Parts 1 and 2 of Form 6 to review the impacts caused by a specific activity.

### 5-3 Selecting Best Solution

Using the strategic asset management approach, BMP solutions are evaluated on the basis of their return on investment and whether they are achievable with municipal resources. Municipalities determine each solution's return on investment by calculating the change in asset valuation—the difference between asset values based on the current environmental burden (TABS score) and future environmental burden—per unit cost. Municipalities then rank potential improvements on the basis of their return on investment and municipal budgetary constraints.

Strategic asset management and asset valuation techniques are still in their infancy. Therefore, the *Municipal Watershed Impact Assessment Process* only provides environmental burden improvement and project costs rather than change in asset valuation. We suggest that municipalities use the environmental burden improvement and project costs as inputs to their strategic asset management systems to evaluate and rank projects on the basis of return on investment and total cost.

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Use the following steps in filling out Form 6, Part 5, to select the BMPs, determine costs, and determine sources of funds:

- Review Exhibit 5-1, which summarizes innovative BMPs that are low cost, low impact, low maintenance, and effective in reducing pollutants in water bodies. Consider the site's physical characteristics (refer to Form 5) when selecting a BMP.
- From your assessment, select mitigation efforts that provide the most cost-effective impact reduction. Enter the name and a description of the proposed mitigation effort in Block 28. Describe the proposed BMP or control technology that can better mitigate the activity's impact.
- For each mitigation project considered, calculate its planning, design, and permitting costs, and enter the amount in Block 29a. Estimate purchase price or construction costs, and enter the amount in Block 29b. Estimate annual O&M costs, and enter the amount in Block 29. (Appendix E contains references for costing BMPs.)
- Rescore the activity's baseline score using the same scoring approach used in Part 2 of Form 6. Estimate your answers as if the proposed BMP was in place. Enter the new TABS in Block 30.
- Calculate the cost-effectiveness of the project by dividing the revised TABS score (Block 30) by the total start costs (Block 29). Enter the cost-effectiveness in Block 31. We suggest that municipal managers use the TABS scores for the pre-BMP condition (Block 23) and post-BMP condition (Block 30) and total costs (Block 29) as inputs to their strategic asset management system to evaluate projects. The project return on investment may be determined using the TABS scores to calculate the change in asset valuation and the project costs to provide expense cash flows. If the municipality does not have a strategic asset management system, the cost-effectiveness in Block 31 may be used to rank potential projects.
- In Block 32, note the project sheet number that contains the detailed project description. Since Exhibit 5-1 contains just a summary description, you need to prepare a detailed project summary sheet or project description. (Appendix G contains a sample project summary write-up sheet.)
- In Block 33, enter the appropriate source of funds.
- In Block 34, enter whether the project is eligible for other funding sources, such as state revolving loans or grants.

## 5-4 What to Do if Multiple Mitigation Efforts Are Possible

If multiple mitigation efforts are possible for a particular activity, select the alternative that provides the greatest reduction in TABS per dollar spent.

**Exhibit 5-1. Typical BMPs and Mitigation Efforts for High Priority Activities**

Typical activity	Typical mitigation activities	References for additional BMP data
Buildings	<ul style="list-style-type: none"> <li>Use low impact development technologies</li> <li>Use proper erosion and sediment controls during construction operations</li> <li>Install sand filters</li> <li>Redirect roof runoff</li> </ul>	<ul style="list-style-type: none"> <li><i>Whole Building Design Guide</i> for environmentally sound site layout at <a href="http://www.wbdg.org/index.asp">http://www.wbdg.org/index.asp</a></li> <li>EPA's <i>Watershed Academy Module on Land Development</i> at <a href="http://www.epa.gov/watertrain/-management">http://www.epa.gov/watertrain/-management</a></li> <li>The Stormwater Manager's Resource Center at <a href="http://www.stormwatercenter.net/">http://www.stormwatercenter.net/</a></li> <li>Low Impact Development Center at <a href="http://lowimpactdevelopment.org/links.htm - bmp_gen">http://lowimpactdevelopment.org/links.htm - bmp_gen</a></li> </ul>
Construction and other ground-disturbing activities	<ul style="list-style-type: none"> <li>Control erosion—stabilizing exposed soils prevents storm water run-on and runoff (use geotextile materials where appropriate to prevent erosion)</li> <li>Use dry detention basins</li> <li>Cover excavated soils</li> <li>Remove contaminated soils and dispose of properly</li> </ul>	<ul style="list-style-type: none"> <li><i>NRCS Planning and Design Manual for the Control of Erosion, Sediment, and Stormwater</i> at <a href="http://abe.msstate.edu/csd/p-dm/index.html">http://abe.msstate.edu/csd/p-dm/index.html</a></li> </ul>
Dams, culverts, or dredging	<ul style="list-style-type: none"> <li>Regularly check effectiveness of dams and culverts</li> <li>Ensure proper placement of fill activities for dredging</li> </ul>	<ul style="list-style-type: none"> <li>The Stormwater Manager's Resource Center at <a href="http://www.stormwatercenter.net/">http://www.stormwatercenter.net/</a></li> </ul>
Deicing material application	<ul style="list-style-type: none"> <li>Reduce use or replace with environmentally friendly materials</li> <li>Collect and reuse materials (such as in aircraft deicing)</li> </ul>	<ul style="list-style-type: none"> <li>DoD Joint Services P2 Library at <a href="http://p2library.nfesc.navy.mil/Fact_Sheets/DSDATA/sortbysection.html#10">http://p2library.nfesc.navy.mil/Fact_Sheets/DSDATA/sortbysection.html#10</a></li> <li>NASA water pollution control at <a href="http://www.wff.nasa.gov/~code205/Services/Water_Pollution/water_pollution_control.htm">http://www.wff.nasa.gov/~code205/Services/Water_Pollution/water_pollution_control.htm</a></li> <li>New Hampshire Department for Environmental Services at <a href="http://www.des.state.nh.us/wmb.htm">http://www.des.state.nh.us/wmb.htm</a></li> </ul>

**Exhibit 5-1. Typical BMPs and Mitigation Efforts for High Priority Activities (Continued)**

Typical activity	Typical mitigation activities	References for additional BMP data
Drainage wells and canals	<ul style="list-style-type: none"> <li>▪ Construct vegetative strip and filters to catch sediment before it reaches the infiltration device</li> <li>▪ Perform required maintenance and cleaning, primarily to prevent clogging</li> </ul>	<ul style="list-style-type: none"> <li>▪ EPA's general BMPs at <a href="http://www.epa.gov/seahome/inject/src/gbest.htm">http://www.epa.gov/seahome/inject/src/gbest.htm</a></li> </ul>
Fixed-wing and rotary-wing aircraft maintenance activities	<ul style="list-style-type: none"> <li>▪ Use separate containers for disposal of wastes</li> <li>▪ Recycle scrap metal</li> <li>▪ Dispose of degreasing and other solvent materials properly</li> <li>▪ Store containers on an impervious surface and properly cover against weather</li> <li>▪ Provide equipment training</li> </ul>	<ul style="list-style-type: none"> <li>▪ NASA Water Pollution Control at <a href="http://www.wff.nasa.gov/~code205/Services/Water%20Pollution/water_pollution_control.htm">http://www.wff.nasa.gov/~code205/Services/Water Pollution/water pollution_control.htm</a></li> <li>▪ Aerospace Industry Notebook at <a href="http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/aerospace.html">http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/aerospace.html</a></li> <li>▪ DoD Joint Services P2 Library at <a href="http://p2library.nfesc.navy.mil/index.htm">http://p2library.nfesc.navy.mil/index.htm</a></li> </ul>
Fueling stations and operations	<ul style="list-style-type: none"> <li>▪ Connect drains from vehicle washing areas to the municipal sewer or sanitary sewer system</li> <li>▪ Provide temporary protection of storm drains (temporary placement of absorbent material, storm drain covers, or shutoff valves)</li> <li>▪ Equip fueling equipment with automatic shutoff nozzles</li> <li>▪ Discourage topping off and unattended fueling</li> <li>▪ Install oil-water separators or sand filters</li> </ul>	<ul style="list-style-type: none"> <li>▪ EPA BMP Database at <a href="http://www.bmpdatabase.org/">http://www.bmpdatabase.org/</a></li> <li>▪ The Stormwater Manager's Resource Center at <a href="http://www.stormwatercenter.net/">http://www.stormwatercenter.net/</a></li> <li>▪ Maryland Stormwater Management Program at <a href="http://www.mde.state.md.us/environment/wma/stormwatermanual/">http://www.mde.state.md.us/environment/wma/stormwatermanual/</a></li> <li>▪ EPA's general BMPs at <a href="http://www.epa.gov/seahome/inject/src/gbest.htm">http://www.epa.gov/seahome/inject/src/gbest.htm</a></li> </ul>
Motor pools and vehicle maintenance centers	<ul style="list-style-type: none"> <li>▪ Park tank trucks or delivery vehicles away from unprotected storm drains and manholes or provide temporary protection</li> <li>▪ Install sand filters, oil-water separators, or other BMPs that treat the runoff</li> <li>▪ Perform maintenance inside or in an outside area where spills cannot enter storm drains</li> </ul>	<ul style="list-style-type: none"> <li>▪ EPA <i>Solutions to Pollution</i> at <a href="http://www.epa.nsw.gov.au/small_business/autoservicing.htm">http://www.epa.nsw.gov.au/small_business/autoservicing.htm</a></li> <li>▪ DoD Joint Services P2 Library at <a href="http://p2library.nfesc.navy.mil/index.htm">http://p2library.nfesc.navy.mil/index.htm</a></li> </ul>
NPDES-permitted industrial point source discharges	<ul style="list-style-type: none"> <li>▪ Participate in basinwide management plans that allow tradeoffs for maximum ecological and economic benefits (Great Lakes and Chesapeake Bay programs are examples of major holistic plans)</li> <li>▪ Involve community, schools, and other citizens in water sampling</li> </ul>	<ul style="list-style-type: none"> <li>▪ DoD Joint Services P2 Library at <a href="http://p2library.nfesc.navy.mil/index.htm">http://p2library.nfesc.navy.mil/index.htm</a></li> <li>▪ EPA Industrial Activities at <a href="http://www.cfpub.epa.gov/npdes/stormwater/indust.cfm">http://www.cfpub.epa.gov/npdes/stormwater/indust.cfm</a></li> <li>▪ EPA BMP database at <a href="http://www.bmpdatabase.org/">http://www.bmpdatabase.org/</a></li> </ul>
Non-permitted mobile sources	<ul style="list-style-type: none"> <li>▪ Establish shared and alternative transportation programs to reduce air emissions, traffic congestion, and conserve energy</li> <li>▪ Increase use of parking spaces and pedestrian crossings</li> </ul>	<ul style="list-style-type: none"> <li>▪ Air Pollution Prevention (P2) Guide at <a href="https://www.denix.osd.mil/denix/DOD/Library/Air/Airmgt/aqtoc.html">https://www.denix.osd.mil/denix/DOD/Library/Air/Airmgt/aqtoc.html</a></li> </ul>

**Exhibit 5-1. Typical BMPs and Mitigation Efforts for High Priority Activities (Continued)**

Typical activity	Typical mitigation activities	References for additional BMP data
NPDES storm water discharges	<ul style="list-style-type: none"> <li>▪ Implement stormwater BMPs, including bioengineered and low impact development approaches that combine hydrologically functional site designs with pollution prevention measures to reduce negative impacts on hydrology and water quality. (Low impact development projects apply a “natural remedy” to prevent potential problems, thereby reducing high costs of some conventional types of construction techniques)</li> </ul>	<ul style="list-style-type: none"> <li>▪ EPA’s Office of Wastewater’s Storm Water BMP Fact Sheets at <a href="http://www.cpub.epa.gov/npdes/stormwater/menuofbmps.cfm">http://www.cpub.epa.gov/npdes/stormwater/menuofbmps.cfm</a></li> <li>▪ State of Maryland Storm Water BMP Design Manual at <a href="http://www.mde.state.md.us/environment/wma/stormwatermanual/index.html">http://www.mde.state.md.us/environment/wma/stormwatermanual/index.html</a></li> <li>▪ Low Impact Development Center at <a href="http://lowimpactdevelopment.org/">http://lowimpactdevelopment.org/</a></li> <li>▪ EPA Industrial Activities at <a href="http://www.cpub.epa.gov/npdes/stormwater/indust.cfm">http://www.cpub.epa.gov/npdes/stormwater/indust.cfm</a></li> <li>▪ Planning and Design Manual for the Control of Erosion, Sediment, and Stormwater at <a href="http://abe.msstate.edu/csd/p-dm/index.html">http://abe.msstate.edu/csd/p-dm/index.html</a></li> </ul>
Paved roads, parking lots, railroads, curbs, and sidewalks	<ul style="list-style-type: none"> <li>▪ Use low impact development technologies</li> <li>▪ Replace impervious materials with pervious materials (such as permeable pavers or pavement)</li> <li>▪ Install sand filters to treat stormwater runoff from large buildings, access roads, and parking lots</li> <li>▪ Eliminate curbs</li> <li>▪ Treat runoff in vegetated swales</li> <li>▪ Increase pervious areas—replace shoulder area with pervious materials such as gravel</li> </ul>	<ul style="list-style-type: none"> <li>▪ Low Impact Development Center at <a href="http://lowimpactdevelopment.org/">http://lowimpactdevelopment.org/</a></li> <li>▪ The Stormwater Manager’s Resource Center at <a href="http://www.stormwatercenter.net/">http://www.stormwatercenter.net/</a></li> </ul>
Permitted stationary sources	<ul style="list-style-type: none"> <li>▪ Implement air pollutant control BMPs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Air Pollution Prevention (P2) Guide <a href="https://www.denix.osd.mil/denix/DOD/Library/Air/Airmgt/aqtoc.html">https://www.denix.osd.mil/denix/DOD/Library/Air/Airmgt/aqtoc.html</a></li> <li>▪ DoD Joint Services P2 Library at <a href="http://p2library.nfesc.navy.mil/index.htm">http://p2library.nfesc.navy.mil/index.htm</a></li> </ul>

**Exhibit 5-1. Typical BMPs and Mitigation Efforts for High Priority Activities (Continued)**

Typical activity	Typical mitigation activities	References for additional BMP data
Septic systems or Class V wells	<ul style="list-style-type: none"> <li>▪ Recycle and reuse wastewater</li> <li>▪ Collect and recycle petroleum-based fluids, coolants, and battery acids drained from vehicles</li> <li>▪ Wash parts in self-contained, recirculating solvent sink, with spent solvents being recovered and replaced by the supplier</li> <li>▪ Use absorbents to clean up minor leaks and spills and place used materials in approved waste containers, disposing of them properly</li> <li>▪ Use a wet vacuum or mop to pick up accumulated rain or snow melt</li> <li>▪ Regularly pump, inspect, and maintain wells</li> <li>▪ Connect floor drains to permitted publicly owned wastewater treatment plant</li> <li>▪ Replace with advanced treatment technologies or hook up to POTW</li> </ul>	<ul style="list-style-type: none"> <li>▪ EPA at <a href="http://www.epa.gov/safewater/uic/classv.html">http://www.epa.gov/safewater/uic/classv.html</a></li> <li>▪ Minnesota's Individual Treatment Systems Program at <a href="http://www.pca.state.mn.us/programs/lsts/index.html">http://www.pca.state.mn.us/programs/lsts/index.html</a></li> <li>▪ EPA BMPs Class V wells at <a href="http://www.epa.gov/seahome/inject/src/best.htm">http://www.epa.gov/seahome/inject/src/best.htm</a></li> <li>▪ Rhode Island Checkup at <a href="http://www.state.ri.us/dem/pubs/regs/regs/water/isdsbook.pdf">http://www.state.ri.us/dem/pubs/regs/regs/water/isdsbook.pdf</a></li> </ul>
Unpaved and service roads	<ul style="list-style-type: none"> <li>▪ Keep vegetative cover</li> <li>▪ Conduct scheduled maintenance of grounds</li> <li>▪ Use environmentally friendly low-water crossing designs</li> </ul>	<ul style="list-style-type: none"> <li>▪ EPA's <i>Recommended Practices Manual: A Guideline for Maintenance and Service of Unpaved Roads</i> at <a href="http://www.epa.gov/owow/nps/unpavedroads.html">http://www.epa.gov/owow/nps/unpavedroads.html</a></li> <li>▪ <i>Road Management &amp; Engineering Journal</i> at <a href="http://www.usroads.com/journals/rmej/9806/rm980604.htm">http://www.usroads.com/journals/rmej/9806/rm980604.htm</a></li> <li>▪ Seneca Mineral at <a href="http://www.senecamineral.com/dustcontrolproducts.htm">http://www.senecamineral.com/dustcontrolproducts.htm</a></li> <li>▪ Corps of Engineers Construction Engineering Research Laboratory Soil and Erosion Control at <a href="http://www.cecer.army.mil/td/tips/products/details.dfm?ID=489&amp;TOP=1">http://www.cecer.army.mil/td/tips/products/details.dfm?ID=489&amp;TOP=1</a></li> </ul>
Underground storage tank (UST) leaks	<ul style="list-style-type: none"> <li>▪ Meet UST requirements—certify that tanks and piping are installed properly according to industry codes; install devices that prevent spills and overfills; protect tanks and piping from corrosion; and install leak detection systems</li> </ul>	<ul style="list-style-type: none"> <li>▪ DoD Joint Services P2 Library at <a href="http://p2library.nfesc.navy.mil/index.htm">http://p2library.nfesc.navy.mil/index.htm</a></li> </ul>

**Exhibit 5-1. Typical BMPs and Mitigation Efforts for High Priority Activities (Continued)**

Typical activity	Typical mitigation activities	References for additional BMP data
Water supply or ground water withdrawal wells treatment	<ul style="list-style-type: none"> <li>▪ Consider the effects of the cone of depression on adjacent users and uses</li> <li>▪ Consider the downstream effects of the pumped water and soil salinity</li> <li>▪ Implement water conservation efforts, including facility and grounds areas</li> </ul>	<ul style="list-style-type: none"> <li>▪ U.S. Army Source Water Protection Guide at <a href="http://water.usgs.gov/usaec/">http://water.usgs.gov/usaec/</a></li> <li>▪ EPA's general BMPs at <a href="http://www.epa.gov/seahome/inject/src/gbest.htm">http://www.epa.gov/seahome/inject/src/gbest.htm</a></li> </ul>

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