

CHAPTER 6

CONSTRUCTION SITE RUNOFF



Slope stabilization and silt fence



CHAPTER 6.0 – CONSTRUCTION SITE RUNOFF.....	6-1
6.1 OBJECTIVES OF THE PROGRAM.....	6-1
6.2 CONSTRUCTION PROJECTS SUBJECT TO THE PROGRAM.....	6-1
6.3 EXEMPT PROJECTS	6-3
6.4 REQUIREMENTS TO IMPLEMENT BMPs	6-3
6.4.1 <i>Minimum BMP Requirements for all Construction Projects</i>	6-4
6.4.2 <i>BMP Requirements for Construction Projects</i>	6-5
6.4.3 <i>Proposed Construction Site BMPs</i>	6-5
6.5 INVENTORY OF CONSTRUCTION SITES.....	6-8
6.6 PLAN REVIEW AND APPROVAL.....	6-9
6.6.1 <i>Private Sector Construction Projects</i>	6-11
6.6.2 <i>Capital Improvement Program (CIP) Construction Projects</i>	6-12
6.7 INSPECTION OF CONSTRUCTION SITES.....	6-13
6.7.1 <i>Developer/Contractor Self-Inspection Requirements</i>	6-14
6.7.2 <i>City Inspection of Private Construction Projects</i>	6-15
6.7.3 <i>City Inspection of CIP Construction Projects</i>	6-16
6.8 ENFORCEMENT ACTIONS.....	6-17
6.8.1 <i>Enforcement of Private Construction Projects</i>	6-19
6.8.2 <i>Enforcement of CIP Construction Projects</i>	6-20
6.9 REPORTING NON-COMPLIANCE AND NON-FILERS TO DOH.....	6-21
6.10 TRAINING	6-22
6.11 EDUCATION.....	6-23

Chapter 6.0 – Construction Site Runoff

The following excerpt is from the Permit [Part D.1.d] describing the requirements for Construction Site Runoff Control.

“D.1.d Construction Site Runoff Control

The Permittee shall develop and implement a construction site management program to reduce to the MEP the discharge of pollutants from both private and public construction sites.”

6.1 Objectives of the Program

The goals of the Construction Site Runoff Program are to provide:

- A framework to reduce to the MEP the discharge of pollutants from both private and public construction sites;
- Identify standards and BMPs to be implemented to meet NPDES permit requirements;
- Maintain a system to inventory construction sites;
- Identify procedures for issuing and approving grading and building permits to meet NPDES permit requirements;
- Identify inspection and enforcement procedures for compliance with the NPDES permit; and
- Implement a Training and Education Program.

Municipal operations and maintenance activities including minor construction are covered under Chapter 8.0, Pollution Prevention/Good Housekeeping Program. In developing this Program, the City may modify the Program in response to local conditions. It is not the intent for this Program to restrict city or county planning commissions, Building Officials or their governing bodies from imposing additional storm water management requirements as a condition on construction projects.

6.2 Construction Projects Subject to the Program

A Construction Project is defined as any site where an activity results in the disturbance of soil such as soil movement, grading, excavation, clearing, road construction, structure construction, or structure demolition; as well as any stockpiling site where uncovered storage of materials and wastes such as dirt, sand or fertilizer or other pollutants occur.

Construction projects under the City’s jurisdiction include the following two categories:

- Private sector construction projects, and
- Capital Improvement Program (CIP) construction projects administered by the Department of Design and Construction (DDC), the Board of Water Supply (BWS), the Department of Transportation Services (DTS), and other City departments.

Currently, construction projects are further divided into the five categories as shown in Table 6-1.

**Table 6-1
Current Construction Project Categories**

Category	Description
Category 1	Projects not required to get a grading permit but which require a building permit and where grading, stockpiling or grubbing is to occur.
Category 2	Projects which required a grading permit where the area of zoning lot or portion thereof subject to the permit is less than 15,000 square feet for single-family or two-family dwelling uses and less than 7,500 square feet for other uses.
Category 3	Projects which require a grading permit where the area of zoning lot or portion thereof subject to the permit is 15,000 square feet or more for single-family or two-family dwelling uses, or 7,500 square feet or more for other uses.
Category 4	Projects which required a grading permit where the area including any areas developed incrementally that is to be graded is 15,000 square feet or more for single-family or two-family dwelling uses, or 7,500 square feet or more for other uses, or in the event a proposed cut of fill is greater than 15 feet in height more for single-family or two-family dwelling uses, or 7.5 feet in height more for other uses.
Category 5	Projects which required a grading permit where the area including any areas developed incrementally that is to be graded is more than 5 acres (revised to one acre or more) and State’s NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity, issued by the State of Hawaii Department of Health.

The City will review and update these categories of construction sites to correspond to the City’s MS4 Permit and the State’s NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity, issued by the State of Hawaii Department of Health effective September 2002, (hereinafter referred to as the State’s General Construction Activities Permit). Note that the City’s ordinances classifies projects by graded areas as it applies to issuing Building and Grading Permits while the State’s NPDES permit classifies projects due to disturbed soil areas one acre or greater. This discrepancy will be addressed.

The State’s NPDES General Construction Activity Permit, defines disturbed soil or disturbance of land as the “penetration, turning, or moving of soil or resurfacing of pavement or the exposure of bare soil or ground surface, including the land surface

exposed by construction roads, baseyards, headquarters, and parking areas. It does not include grass or weed cutting, bush or tree trimming or felling that leaves soil or ground intact. It includes “grubbing” in its normal meaning of the use of equipment to knock down and push vegetation out of the way, typically uprooting vegetation and disturbing the ground surface.”

6.3 Exempt Projects

The City may exempt certain types of Construction Projects from the program or require proof of filing a Notice of Intent for coverage under the State’s General Construction Activities Permit that pose a minimum risk of storm water pollution. These projects are exempt from any storm water construction control measures, including the minimum BMP requirements. A specific listing of exempt projects is included in this chapter. Additional exemptions may be determined by the local building official (or equivalent municipal authority) and shall be provided to DOH with a justification for their designation.

Lists of specific types of Construction Projects that are deemed to be exempt include:

- Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility;
- Emergency construction activities required to immediately protect public health and safety;
- Interior remodeling with no outside exposure of construction materials or construction waste to storm water;
- Mechanical permit work; and
- Sign permit work.

6.4 Requirements to Implement BMPs

The following excerpt is from the Permit [D.1.d(1)] describing the requirements for Construction Site Runoff Control.

“D.1.d The construction site management program shall include the following minimum elements:

- (1) *Requirements to Implement BMPs. The Permittee shall continue to require proposed development projects to implement BMPs and standards described in:*
 - *Rules Relating to Storm Drainage Standards*
 - *Rules Relating to Soil Erosion Standards and Guidelines*
 - *Best Management Practices Manual for Construction Sites in Honolulu*

These rules and guidance shall be reviewed within two (2) years of the effective date of this permit to determine if any modification is necessary. The Permittee shall notify DOH of the results of the review and when modifications, as necessary, will be made.”

The City will continue to implement the BMPs and standards adopted and published in the following rules and guidance documents for all private sector and CIP Projects under its jurisdiction:

- Rules Relating to Storm Drainage Standards January 2000;
- Rules Relating to Soil Erosion Standards and Guidelines April 1999; and
- Best Management Practices Manual for Construction Sites in Honolulu May 1999.

Copies of these rules and guidelines are presented in Appendices C.1 to C.3. All Construction Projects will implement the BMPs required in these rules and guidance documents until they are revised. Appendix C.4 describes the plan to revise these standards.

6.4.1 Minimum BMP Requirements for all Construction Projects

Unless specifically exempted, all private and CIP construction projects, regardless of size or category, are required to implement best management practices (BMPs) necessary to reduce pollutants to the Maximum Extent Practicable (MEP) to meet the minimum water quality protection requirements. All construction projects are responsible to comply with the Rules Relating to Soil Erosion Standards and guidelines and Section 14-12.23(a) of the Revised Ordinances of Honolulu (ROH), as amended, which states “it shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in State Waters, or causes a violation of any provision of the City’s NPDES permit or the water quality standards of the State of Hawaii.”

6.4.2 BMP Requirements for Construction Projects

Currently, construction projects are required to implement BMPs as shown in Table 6-2.

Table 6-2
Current BMP Requirements by Project Categories

Category	Current BMP Requirements
Category 1	Minimum BMPs for Small Projects as defined in “Rules Relating to Soil Erosion Standards and Guidelines”.
Category 2	Minimum BMPs for Small Projects as defined in “Rules Relating to Soil Erosion Standards and Guidelines”.
Category 3	Minimum BMPs for Large Projects as defined in “Rules Relating to Soil Erosion Standards and Guidelines”.
Category 4	Minimum BMPs for Large Projects as defined in “Rules Relating to Soil Erosion Standards and Guidelines” and City-approved Erosion Control Plan.
Category 5	Minimum BMPs for Large Projects as defined in “Rules Relating to Soil Erosion Standards and Guidelines”, City-approved Erosion Control Plan, and State’s NPDES General Construction Activity Permit. Prepare a Notice of Intent (NOI) and submit it to the DOH no later than thirty (30) days before the proposed starting date of the construction activity.

Special Requirements for Class 1 or Class AA Water

For any project, regardless of its category, which could discharge into Class 1 or Class AA Waters, either directly or indirectly, consideration will be given to BMP measures that would further reduce or eliminate the impacts of any discharge. DPP may also require additional BMP measures after reviewing the Erosion Control Plan (ECP).

The City will review and update these current rules and guidance documents within two years of the effective date of the Permit. Once the rules and guidance documents are revised and adopted by the City, they will serve as the new rules and guidance documents that need to be followed.

6.4.3 Proposed Construction Site BMPs

The City will revise the “Best Management Practices Manual for Construction Sites in Honolulu,” dated 1999, to include updated Construction Site BMPs to assist contractors and developers in meeting the requirements of this SWMP and General Construction Activities Permit, including the appropriate selection, implementation, and maintenance of appropriate BMPs on all construction projects.

The Construction Site BMP Manual is currently under review for revisions. The Manual will include Fact Sheets that identify the proper use, installation, and maintenance of the BMPs. Specific BMPs for each of the categories is shown in Table 6-3. The revised Manual will include the following six major categories of BMPs:

- Erosion Control: BMPs that prevent erosion and keep soil particles from entering storm water, lessening the eroded sediment that must be trapped, both during and at the completion of construction.
- Sediment Control: BMPs that trap eroded sediments so as to prevent a net increase in sediment load in storm water discharges from the site.
- Wind Erosion Control: BMPs to prevent or alleviate erosion of soil by wind from the construction site from entering storm water, drainage systems, or receiving waters.
- Tracking Control: BMPs to prevent or reduce vehicles tracking of sediment from entering storm water, drainage systems, or receiving waters.
- Non-Storm Water Management: Source control BMPs to prevent or reduce potential pollutants from non-storm water sources before they come in contact with storm water and therefore entry into storm water, drainage systems, or receiving waters.
- Waste Management and Material Pollution Control: Source control BMPs to manage construction materials and wastes to prevent or reduce potential pollutants from these sources before they come in contact with storm water and therefore entry into storm water, drainage systems, or receiving waters.

**Table 6-3
Proposed Construction Site BMPs**

CATEGORY	BMP #	BMP NAME
Erosion Control BMPs	EC-1	Scheduling
	EC-2	Preservation of Existing Vegetation
	EC-3	Hydraulic Mulch
	EC-4	Hydroseeding
	EC-5	Soil Binders
	EC-6	Straw Mulch
	EC-7	Geotextiles, Plastic Covers & Erosion Control Blankets/Mats
	EC-8	Wood Mulching
	EC-9	Earth Dikes/Drainage Swales & Lined Ditches
	EC-10	Outlet Protection/Velocity Dissipation Devices
	EC-11	Slope Drains
	EC-12	Stream bank Stabilization
Sediment Control BMPs	SC-1	Silt Fence
	SC-2	Desilting Basin
	SC-3	Sediment Trap
	SC-4	Check Dam
	SC-5	Fiber Rolls
	SC-6	Gravel Bag Berm
	SC-7	Street Sweeping and Vacuuming
	SC-8	Sandbag Barrier
	SC-10	Storm Drain Inlet Protection
	Wind Erosion Control BMPs	WE-1
Tracking Control BMPs	TC-1	Stabilized Construction Entrance/Exit
	TC-2	Stabilized Construction Roadway
	TC-3	Entrance/Outlet Tire Wash
Non-Storm Water Control BMPs	NS-1	Water Conservation Practices
	NS-2	Dewatering Operations
	NS-3	Paving and Grinding Operations
	NS-4	Temporary Stream Crossing
	NS-5	Clear Water Diversion
	NS-6	Illicit Connection/Illegal Discharge Detection and Reporting
	NS-7	Potable Water/Irrigation
	NS-8	Vehicle and Equipment Cleaning
	NS-9	Vehicle and Equipment Fueling
	NS-10	Vehicle and Equipment Maintenance
	NS-11	Pile Driving Operations
	NS-12	Concrete Curing
	NS-13	Concrete Finishing
	NS-14	Material and Equipment Use Over Water
	NS-15	Structure Demolition/Removal Over or Adjacent to Water
	NS-16	Temporary Batch Plants
Waste Management & Materials Pollution Control BMPs	WM-1	Material Delivery and Storage
	WM-2	Material Use
	WM-3	Stockpile Management
	WM-4	Spill Prevention and Control
	WM-5	Solid Waste Management
	WM-6	Hazardous Waste Management
	WM-7	Contaminated Soil Management
	WM-8	Concrete Waste Management
	WM-9	Sanitary/Septic Waste Management
	WM-10	Liquid Waste Management

The main references for these proposed Construction Site BMPs and Fact Sheets include the following:

- State of California Department of Transportation (Caltrans), Storm Water Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003.
- California Storm Water Best Management Practice Handbook, Construction, January 2003.

6.5 Inventory of Construction Sites

In order to implement an effective Construction Site Runoff Control Program, it is essential to have a complete inventory of construction sites in order to implement effective permitting, inspection, and enforcement programs.

The following excerpt is from the Permit [D.1.d(2)] describing the requirements for Construction Site Runoff Control:

“D.1.d(2) Inventory of construction sites. The Permittee shall develop, within one (1) year of the effective date of this permit, a system to track construction activity that falls within categories 1-5. Descriptions of each category may be found in the City’s “Rules Relating to Soil Erosion Standards and Guidelines (April 1999).” This system shall track information on the project (including permit or file number, if available), status of plan review and approval, inspection dates, and if applicable, enforcement actions and whether the project has applied for coverage under HAR, Chapter 11-55, Appendix C, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Construction Activity (General Construction Activity Storm Water permit) (unless the project will disturb less than one acre of land) and satisfied any other applicable requirements of the NPDES permit program (i.e., an individual NPDES permit).”

The City has an inventory of all construction sites in the database. These include all construction projects covered by the General Construction Activities Permit, Grading Permit or Building Permit, and CIP construction. This inventory serves as the basis for inspection, enforcement, and reporting elements of the program. The database will be updated to include required information from the permit.

6.6 Plan Review and Approval

The following excerpt is from the Permit [D.1.d(3)] describing the requirements for Construction Site Runoff Control:

D.1.d(3) Plan Review and Approval. The Permittee shall:

- a. Document their process whereby, prior to approval of local construction and grading permits, all proposed construction and grading projects are required to implement measures to ensure that the discharge of pollutants from the site will be reduced to the MEP and will not cause or contribute to an exceedance of water quality standards;*
- b. Ensure that, prior to issuing a grading permit for any project requiring coverage under the General Construction Activity Storm Water permit and/or any other applicable requirements of the NPDES permit program, the project operator has provided proof of filing a Notice of Intent (NOI) or NPDES application for permit coverage and that a Construction BMPs Plan has been prepared; and*
- c. Not allow construction to commence on any contract, in-house, or permit project unless and until it has verified that the project has received from DOH a General Construction Activity Storm Water permit (unless the project will disturb less than one (1) acre of land) and satisfied any other applicable requirements of the NPDES permit program (i.e., an individual NPDES permit).*

Within 180 days of the effective date of this permit, the Permittee shall develop and submit for approval a checklist that its reviewers shall use in evaluating the BMP Plans pursuant to this paragraph. Copies of this checklist shall be provided to applicants for permits and to contractors for their use in developing construction BMPs Plans for City-contracted construction projects.”

The Department of Planning and Permitting submitted a revised checklist to DOH on July 20, 2006 for review. DOH did not approve the checklist so it is currently being revised based on DOH’s comments. The revised checklist will be resubmitted to DOH under separate cover.

Construction projects under the City’s jurisdiction include the following two categories:

- Private sector construction projects, and
- Capital Improvement Program (CIP) construction projects administered by the Department of Design and Construction (DDC) the Board of Water Supply (BWS), the Department of Transportation Services (DTS), and other departments.

A summary of the plan review and approval process for both private and public sector projects is presented in Table 6-4.

**Table 6-4
Plan Review and Approval Requirements**

		City	Contractor/Developer
PRIVATE PROJECTS	Projects less than one acre (category 1-3)	<ul style="list-style-type: none"> ▪ Issue grading and/or building permit 	<ul style="list-style-type: none"> ▪ Apply for grading or building permit ▪ Acknowledge requirement to implement and comply with the minimum BMPs
	Projects less than one acre (category 4)	<ul style="list-style-type: none"> ▪ Issue grading and/or building permit 	<ul style="list-style-type: none"> ▪ Apply for local grading or building permit ▪ Acknowledge requirement to implement and comply with the minimum BMPs ▪ Prepare and submit Erosion Control Plan to City for approval
	Projects that disturb one acre or greater (category 5)	<ul style="list-style-type: none"> ▪ Review and approve Erosion Control Plan ▪ Verify coverage under the DOH General Construction Activities Storm Water Permit prior to issuing a permit and allowing construction to commence 	<ul style="list-style-type: none"> ▪ Prepare and submit Erosion Control Plan to City for approval ▪ Prepare a BMP Plan, including an Erosion Control Plan ▪ Prepare and submit NOI for coverage under the State NDPES General Construction Activities Permit to DOH ▪ Apply for local grading or building permit (show proof of NOI)
CIP PROJECTS	Projects less than one acre (category 1-3)	<ul style="list-style-type: none"> ▪ Issue grading and/or building permit ▪ Contract Specifications to include the implementation of minimum BMPs requirements 	<ul style="list-style-type: none"> ▪ Apply for grading or building permit ▪ Comply with minimum BMPs requirements Contract Specifications
	Projects less than one acre (category 4)	<ul style="list-style-type: none"> ▪ Issue grading and/or building permit ▪ Contract Specifications to include the implementation of minimum BMP requirements ▪ Contract Specifications to include the preparation and implementation of an Erosion Control Plan 	<ul style="list-style-type: none"> ▪ Apply for local grading or building permit ▪ Comply with minimum BMP requirements Contract Specifications ▪ Prepare and submit Erosion Control Plan to City for approval
	Projects that disturb one acre or greater (category 5)	<ul style="list-style-type: none"> ▪ Contract Specifications to include the preparation and submittal of NOI for coverage under the State NPDES General Construction Activities Permit to DOH ▪ Contract Specifications to include the preparation and implementation of BMP Plan and Erosion Control Plan ▪ Review and approve Erosion Control Plan ▪ Verify coverage under the DOH General Construction Activities Storm Water Permit prior to issuing a permit and allowing construction to commence 	<ul style="list-style-type: none"> ▪ Prepare and submit Erosion Control Plan to City for approval ▪ Prepare a BMP Plan ▪ Prepare and submit NOI for coverage under the State NDPES General Construction Activities Permit to DOH ▪ Apply for grading or building permit (show proof of NOI)

6.6.1 Private Sector Construction Projects

Construction Projects less than one acre (Category 1-3)

As a condition for issuing a grading or building permit, applicants shall be required to acknowledge that they understand and will comply with the minimum requirements defined in Table 6-2. As part of the standards revisions, the City will review the current BMP requirements in all City-issued building permits and update the permits, as necessary. In addition, for Category 3 Projects, the BMPs identified will be shown on the grading plans.

Construction Projects less than one acre (Category 4)

Prior to issuing a grading or building permit, the City will require applicants to comply with the minimum requirements defined in Table 6-2 including the submittal of an Erosion Control Plan.

The City will review and approve the Erosion Control Plan for conformance with “Rules Relating to Soil Erosion Standards and Guidelines.” The City plan reviewer will document the review process by completing the current “Best Management Practices (BMP) Checklist for Construction Plan Approval.” The project information will be entered into the Construction Site inventory database.

Construction Projects subject to the State’s General NPDES Permit (Category 5)

All construction projects greater than or equal to one acre of disturbed soil, or less than one acre but is part of a larger common plan or development that exceeds one acre, are subject to coverage under the State’s NPDES General Construction Activities Permit.

In addition to the minimum requirements defined in Table 6-2, construction sites subject to coverage under the General Construction Activities Permit are required to prepare a Notice of Intent (NOI) and submit it to the DOH no later than thirty (30) days before the proposed starting date of the construction activity.

Prior to issuing a grading or building permit, the City will require applicants to demonstrate the following:

- Proof of filing a Notice of Intent (NOI) with the DOH;
- Site-specific BMP Plan has been prepared and certified by the owner/developer in compliance with the General Construction Activities Permit; and
- An approved Erosion and Sediment Control Plan has been prepared and certified by the owner/developer.

The City will review and approve the Erosion Control Plan for conformance with “Rules Relating to Soil Erosion Standards and Guidelines.” The City plan reviewer will document the review process by completing the current “Best Management Practices

(BMP) Checklist for Construction Plan Approval.” The City will not issue a grading or building permit unless the applicant has satisfied the requirements on the Plan Review Checklist. The project information is then entered into the database.

For private projects, the project owner, developer, or contractor will prepare the NOI and submit it to the DOH. The NOI shall contain a site-specific BMP Plan, including a county-approved Erosion Control Plan (ECP) and a description of measures that will minimize the discharge of pollutants after construction is finished (see Chapter 7.0, Post-Construction Storm Water Management).

The City will not allow construction to commence on any contract, in-house, or permit project unless it has verified that the project has received from DOH a General Construction Activities Storm Water permit.

Once project construction is completed and the site fully complies with the requirements of the State’s NPDES General Construction Activities Permit, the owner/developer will provide applicable documentation to DPP when the project is completed.

6.6.2 Capital Improvement Program (CIP) Construction Projects

All Capital Improvement Program (CIP) construction contracts administered by the City are governed by the “General Conditions of Construction Contracts of the City and County of Honolulu” and represent the City’s policy relating to construction projects as authorized by the Hawaii Revised Statutes, Chapter 103D, and the Hawaii Administrative Rules (HAR), Title 3, Department of Accounting and General Services.

The Standard Specifications and Special Provisions impose specific construction practices, such as Best Management Practices for CIP construction. In general, the Contractor is required to keep informed of, and at all times observe and comply with state and federal laws and county and municipal ordinances and regulations. As part of the standards revisions, the City will review the current Contract Specifications to include the below requirements.

For CIP construction projects, the BWS, DDC, and DTS, or authorized representatives, are responsible for construction management including inspection of the construction project to ensure that the contractor complies with the contract specifications and special conditions, including minimum Construction Site BMPs, Erosion and Sediment Control Plans (ESCP), and BMP Plans as submitted in the NOI for coverage under the General Construction Activities Permit.

Construction Projects less than one acre (Category 1-3)

For CIP Projects, the Contract Specifications will require the Contractor to implement and comply with the minimum requirements defined in Table 6-2. As part of the standards revisions, the City will review the current Contract Specifications to include these minimum BMP requirements.

Construction Projects less than one acre (Category 4)

For CIP Projects, the Contract Specifications will require the Contractor to implement and comply with the minimum requirements defined in Table 6-2 including the preparation and submittal of an Erosion Control Plan.

The City will review and approve the Erosion Control Plan for conformance with “Rules Relating to Soil Erosion Standards and Guidelines.” The City plan reviewer will document the review process by completing the current “Best Management Practices (BMP) Checklist for Construction Plan Approval.” The project information will be entered into the Construction Site inventory database.

As part of the standards revisions, the City will review the current Contract Specifications to include these minimum BMP requirements.

Projects Covered by the State’s General NPDES Permit (Category 5)

For CIP Projects, the Contract Specifications will require the Contractor to implement the requirements of the General Construction Activities Permit for projects that disturb one or more acres of soil. The City, or authorized representatives, will prepare the NOI, including the BMP Plan and approved ECP, and submit it to the DOH.

The City will not allow construction to commence on any contract, in-house, or permit project unless it has verified that the project has received from DOH a General Construction Activities Storm Water permit.

Once the project is completed, the contractor will submit applicable documentation that the project is completed to the City.

6.7 Inspection of Construction Sites

Construction Projects are routinely inspected to verify that the construction work is being performed in accordance with the contract specifications and plans, building and grading permits, and/or applicable municipal codes. When a project is in violation of these permits or codes, inspectors have the authority to enforce respective permit conditions by issuing verbal warnings, written notices, or stop work orders. Additional administrative actions may be taken, including revoking the building or grading permit or issuing fines.

The following excerpt is from the Permit [D.1.d(4)] describing the requirements for Construction Site Runoff Control:

“D.1.d(4) Inspections. The Permittee shall conduct inspections in accordance with the City's guidance "Inspection and Enforcement Program for Construction Sites (January 2000)," "Rules Relating to Soil Erosion Standards and Guidelines (April 1999)" and updates accepted by DOH. Inspections shall include a review of site Erosion and Sediment Controls, good housekeeping practices, and compliance with approved erosion control plans or construction BMPs plans. Inspectors shall use an inspection checklist, or equivalent, and the Permittee shall track inspection results in a database or equivalent system.”

Currently, the City conducts inspection and implements enforcement procedures for both private and public construction in accordance with the City's guidance document “Inspection and Enforcement Program for Construction Sites (January 2000)” and “Rules Relating to Soil Erosion Standards and Guidelines (April 1999).” Copies of these guidance documents are included in Appendix C.5 and Appendix C.2.

As part of the standards revisions, the City will review and update the current inspection program and the enforcement procedures for both private and public construction sites to determine compliance with applicable ordinances, building and grading permits and NPDES Permits.

The Construction Site Inspection and Enforcement Program includes procedures for both private and public construction projects, including inspection frequencies, procedures, documentation, enforcement, and non-compliance reporting. The Construction Site Inspection and Enforcement Program will include a revised database that will be used to track and document all construction site inspections and enforcement actions conducted by the City or authorized representatives, including consultants contracted to do construction management.

6.7.1 Developer/Contractor Self-Inspection Requirements

Construction is a dynamic operation where changes are expected. Construction site BMPs are usually temporary measures that require frequent maintenance to maintain their effectiveness and may require relocation and re-installation, particularly as the construction project progresses. Therefore, the contractor/developer has the primary responsibility for inspections of BMPs. The DPP will require that the contractor/developer will conduct self-inspections to:

- Ensure that BMPs are properly implemented and functioning effectively, and
- To identify maintenance (e.g., sediment removal) and repair needs.

The contractor/developer will document the self-inspections on the Contractor's Construction Site BMP Checklist (or an equivalent). As part of the standards revisions,

the City will review and update the current Construction Site BMP Checklist for compliance with the City's MS4 requirements.

The contractor/developer self-inspection checklist must be kept on-site and made available to City's inspectors, or City's representatives, for their review when requested. At a minimum, the contractor/developer self-inspections must be performed according to the schedule on Table 6.5.

6.7.2 City Inspection of Private Construction Projects

For private sector construction projects, the DPP is responsible for the inspection and enforcement of grading ordinances and any grading permit conditions. At a minimum, the DPP inspectors will address the following during inspections:

- Inspect construction site for conformance with building/grading permits and City ordinances;
- Review contractor's self-inspection checklist to determine whether minimum self-inspections (identified on Table 6-5) have been performed;
- Inspection of minimum BMP requirements to determine if they are properly implemented and maintained on the construction site;
- Review the BMP Plan, including the Erosion Control Plan (if applicable) and determine whether the requirements of the Plans are being implemented and maintained properly on the construction site; and
- Determine whether the contractor is making appropriate adjustments when ineffective BMPs are found.

The DPP inspections will be conducted at the frequencies shown in Table 6-5. When conducting inspections of the construction projects, the DPP inspector will use the Construction Site BMP Checklist (or an equivalent) to evaluate conformance with building/grading permits, City ordinances, BMP and Erosion Control Plans (if required), and to document deficiencies and corrective actions.

If the construction site is not in compliance with the above requirements, the DPP inspectors will immediately direct compliance (verbal warning) and conduct follow-up inspections as necessary to confirm that compliance is attained. The DPP inspector, or ENV, will implement appropriate enforcement actions (see Section 6.8).

The DPP inspector's completed Construction Site BMP checklist will be inputted into the database to track all private sector construction site BMP inspections, including appropriate enforcement actions.

6.7.3 City Inspection of CIP Construction Projects

For CIP construction projects, the City is responsible for the inspection and enforcement of grading ordinances and any grading permit conditions. At a minimum, the City inspectors will address the following during inspections:

- Inspection of conformance with the contract documents and City ordinances;
- Review contractor's self-inspection checklist to determine whether minimum self-inspections have been performed;
- Inspection of minimum BMP requirements to determine if they are properly implemented and maintained on the construction site;
- Review the BMP Plan, including Erosion and Sediment Control Plan (if applicable) and determine whether the requirements of the Plans are being implemented and maintained properly on the construction site; and
- Determine whether the contractor is making appropriate adjustments when ineffective BMPs are found.

Inspections on City projects will be conducted at the frequencies shown in Table 6-5. When conducting inspections of the construction projects, the City inspectors will use the Construction Site BMP Checklist (or an equivalent) to evaluate conformance with the contract specifications, BMP and Erosion Control Plan (if required), and to document deficiencies and corrective actions.

If the construction site is not in compliance with the above requirements, the City inspectors will immediately direct compliance (verbal warning) and conduct follow-up inspections as necessary to confirm that compliance is attained. The inspector will implement appropriate enforcement actions (see Section 6.8).

The City inspector's completed Construction Site BMP checklist will be inputted into a database to track all CIP construction site BMP inspections, including appropriate enforcement actions.

**Table 6-5
Contractor and City Inspection Frequency**

		City Responsibility	Contractor/Developer Responsibility
PRIVATE PROJECTS	Projects less than one acre (category 1-3)	<ul style="list-style-type: none"> ▪ Monthly, or ▪ As needed to ensure compliance with building permit and City ordinances 	<ul style="list-style-type: none"> ▪ Weekly ▪ As needed to ensure compliance with building permit and City ordinances
	Projects less than one acre (category 4)	<ul style="list-style-type: none"> ▪ Monthly 	<ul style="list-style-type: none"> ▪ Weekly ▪ As needed to ensure compliance with building/grading permit, Erosion Control Plan, and City ordinances
	Projects one acre or greater (category 5)	<ul style="list-style-type: none"> ▪ Twice a month ▪ As needed to ensure compliance with building/grading permit, Erosion Control Plan, General Construction Activities Permit, and City ordinances 	<ul style="list-style-type: none"> ▪ Daily
CIP PROJECTS	Projects less than one acre (category 1-3)	<ul style="list-style-type: none"> ▪ Monthly, or ▪ As needed to ensure compliance with contract documents and City ordinances 	<ul style="list-style-type: none"> ▪ Weekly ▪ As needed to ensure compliance with contract specifications and City ordinances
	Projects less than one acre (category 4)	<ul style="list-style-type: none"> ▪ Monthly, or ▪ As needed to ensure compliance with contract documents, Erosion Control Plan and City Ordinances 	<ul style="list-style-type: none"> ▪ Weekly ▪ As needed to ensure compliance with contract specifications, Erosion Control Plan, and City ordinances
	Projects one acre or greater (category 5)	<ul style="list-style-type: none"> ▪ Twice a month ▪ As needed to ensure compliance with building/grading permit, Erosion Control Plan, General Construction Activities Permit, and City ordinances 	<ul style="list-style-type: none"> ▪ Daily

6.8 Enforcement Actions

Enforcement of construction projects will be undertaken by the City inspectors and/or other staff who possess internal enforcement authority through established policies and procedures. There are several enforcement mechanisms and penalties to ensure compliance with local ordinances, building/grading permits, and contract documents.

The following excerpt is from the Permit [D.1.d(5)] describing the requirements for the Construction Site Runoff Control:

“D.1.d(5) Enforcement. The Permittee shall enforce its ordinances (including applicable ordinances in Chapter 14, Public Works Infrastructure Requirements) and permits (grading and other applicable permits) at all construction sites as necessary to maintain compliance with this permit. The Permittee shall further develop and implement written procedures for appropriate corrective actions and follow-up inspections when an inspected project is not in full compliance with the NPDES permit, the General Construction Activity Storm Water permit, or any other applicable requirements under the NPDES permit program. These enforcement procedures shall be submitted to DOH for review and acceptance within one (1) year of the effective date of this permit.”

The levels of enforcement and associated penalties are typically issued at the discretion of the authorized municipal officer with consideration of relevant circumstances regarding the violation. Different types of enforcement actions are summarized below. Table 6-6 outlines the enforcement steps that can be taken by inspectors for private construction projects and for CIP construction projects.

**Table 6-6
Enforcement Actions for Construction Projects**

PRIVATE CONSTRUCTION PROJECTS	CIP CONSTRUCTION PROJECTS
Verbal Warning	Verbal Warning
Written Warning <ul style="list-style-type: none"> ▪ Notice of Non-Compliance ▪ Administrative Compliance Order ▪ Administrative Citations or Fines ▪ Cease and Desist Order 	Written Warning <ul style="list-style-type: none"> ▪ Notice of Non-Compliance
Stop Work Order	Enforcement of Contract
Revocation of Permit(s) and/or Denial of Future Permits	<ul style="list-style-type: none"> ▪ Stop Work Order ▪ Withholding of Payment ▪ Bond ▪ Fines ▪ Revocation of Contract
Refer Enforcement Action to ENV	Refer Enforcement Action to ENV
ENV to Refer Non-Compliance to DOH for Further Action	ENV to Refer Non-Compliance to DOH for Further Action

6.8.1 Enforcement of Private Construction Projects

DPP Inspectors will enforce compliance with the grading or building permit, and the General Construction Activities Permit (if required). Depending on the severity of the violation(s), enforcement could range from a verbal warning, to a written notice, revocation of permit(s), stop work order and referral to DOH for further action.

Verbal Warnings

The initial method of requesting corrective action and enforcing compliance will be a verbal warning from the City inspector to the contractor/developer. Verbal warnings are often sufficient to achieve correction of the violation, often while the inspector is present at the construction site. The inspector will notify the developer/contractor's project supervisor of the violation, and document the violation and the notification on the Construction Site BMP Checklist. A specific time frame for correcting the problem and a follow-up inspection date will be documented by the inspector.

Written Warnings

If a deficiency that was noted in a prior verbal warning is not corrected by the next inspection, or the severity of the violation is such that a verbal warning is not strong enough, a written warning will be issued. The written warning will describe the deficiency that is to be corrected, suggested corrective action(s), and the specific time frame for correction and a date for a follow-up inspection.

A copy of the written warning will be provided to the contractor's project supervisor and another copy will be provided to the owner/developer. A copy will be placed in the active inspection file and documented on the BMP Checklist. Once the violation has been corrected to the satisfaction of the inspector, the inspector will document compliance in the inspection file.

Stop Work Orders

If a written warning has not been addressed by the next inspection, or if the developer/contractor has not complied with their permit requirements, or if a significant threat to water quality is observed (such as a failure of BMPs resulting in a significant release of sediment or other pollutants off site), a stop work order will be issued by the appropriate official. Stop work orders prohibit further construction activity until the problem is resolved and provide a time frame for correcting the problem.

The stop work order will describe the infraction and specify what corrective action must be taken. A copy of the stop work order will be given to the contractor's project supervisor and owner/developer, and placed in the active inspection file. To restart work once a stop work order has been issued, the contractor's project supervisor must request the inspector to re-inspect the project and verify that the deficiencies have been

satisfactorily corrected. If the inspector is satisfied with the corrections, the inspector may sign off on that phase of the project, and work may proceed.

Revocation of Permit(s) and/or Denial of Future Permits

In severe cases of non-compliance or significant discharges, it may be necessary to revoke the grading and/or building permit that a developer/contractor is working under, withhold final approval, or deny future permits on the project. The developer/contractor would then have to re-apply for permits and meet any requirements that the City may place on the project. Criteria and procedures will be developed in the permit-issuing program to implement this enforcement tool. Legal counsel should be sought before proceeding with revocation or denial of permits.

6.8.2 Enforcement of CIP Construction Projects

City inspectors will enforce compliance with the contract documents and the State's NPDES General Construction Activities Permit (if required). Depending on the severity of the violation(s), enforcement could range from a verbal warning, to a written notice of non-compliance, enforcement of the contract and referral to DOH for further action.

Verbal Warnings

The initial method of requesting corrective action and enforcing compliance will be a verbal warning from the City inspector to the contractor. Verbal warnings are often sufficient to achieve correction of the violation, often while the inspector is present at the construction site. The inspector will notify the contractor's project supervisor of the violation, and document the violation and the notification to the contractor's project supervisor in the inspection file. A specific time frame for correcting the problem and a follow-up inspection date will be documented by the inspector.

Written Warnings

Depending on the severity of the violation(s), the options for issuing written warnings for enforcement may include Notice of Non-Compliance, Administrative Compliance Order, Administrative Citations or Fines, and/or Cease and Desist Order.

Notice of Non-Compliance

If a deficiency that was noted in a prior verbal warning is not corrected by the next inspection, or the severity of the violation is such that a verbal warning is not strong enough, a notice of non-compliance will be issued. The Notice of Non-Compliance is given when the violation occurred unknowingly; the threat level is insignificant; there is no environmental harm; the violation was isolated and had a short duration; and the contractor readily complies and corrects the problem. The notice will describe the

deficiency that is to be corrected, suggested corrective action(s), and the specific time frame for correction and a date for a follow-up inspection.

Contract Enforcement Mechanisms

If a contractor is performing construction of a CIP project, the provisions within the contract will be used for enforcement of non-compliance. Language will be included into construction contracts that give the City inspector the right to enforce established policies and procedures such as withhold payment(s), use contractor's bonds, apply fines, stop work (without time penalties) or termination of contracts if the contractor performing the construction activities does not comply with contract documents and local ordinances, and the General Construction Activities Permit (if required).

6.9 Reporting Non-Compliance and Non-Fileers to DOH

In the event that the City has exhausted all the above enforcement procedures and cannot bring the contractor's or developer's construction site or construction operations into compliance or otherwise deems the construction site to pose an immediate and significant threat to water quality, human or environmental health, then the DOH will be notified by the City as described in this section.

The following excerpt is from the Permit [D.1.d(6)] describing the requirements for Construction Site Runoff Control:

“D.1.d(6) In the event the Permittee has exhausted its use of sanctions and cannot bring a construction site or construction operator into compliance with its ordinances or this permit, or otherwise deems the site to pose an immediate and significant threat to water quality, the Permittee shall provide oral notification to DOH within one (1) week of such determination. Such oral notification shall be followed by written notification and a copy of all inspection checklists, notes, and related correspondence within two (2) weeks of the determination. In instances where an inspector identifies a site that has not applied for the General Construction Activity Storm Water permit coverage or any other applicable requirements of the NPDES permit program, the Permittee shall provide written notification to DOH within two (2) weeks of the discovery.”

The City will provide verbal notification to the DOH within one week if the aforementioned enforcement procedures cannot bring the contractor's or developer's construction site or construction operations into compliance. Such verbal notification shall be followed up by a written report and submitted to the DOH within two weeks of the above determination. Written notification(s) will identify the type(s) of non-compliance, describe the actions necessary to achieve compliance, and include all inspection checklists (including notes and related correspondence).

If the City identifies a construction site that is subject to coverage under the State's NPDES General Construction Activities Permit and has not filed an NOI to DOH to apply for coverage or any other applicable requirements of the NPDES permit program, the City shall provide written notification to DOH within two weeks of the discovery.

6.10 Training

Training is one of the keys to a successful storm water program. The City has implemented training programs and will continue to implement training programs for appropriate City staff involved with construction activities to promote a clear understanding of the potential for construction activities to pollute storm water.

The following excerpt is from the Permit [D.1.d(7)] describing the training requirements for Construction Site Runoff Control:

“D.1.d(7) Training. The Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including plan review and construction inspection staff) regarding the requirements of the SWMP and this permit within one (1) year of the effective date of this permit and annually thereafter.”

The City conducted and documented the training of various City personnel within one year of the effective date of the permit. Training was tailored to target City personnel performing two different functions, that of Plan Reviews and that of Inspections. Training for Plan Reviewers were DPP plan reviewers, DDC architects and engineers as well as BWS and DTS. Inspection training included inspectors working with DPP, DDC, ENV, BWS and DTS. Appendix B.3 documents the training that was conducted along with the slide presentations, handouts and exercises used in the classes.

The minimum Construction Site Runoff Control training requirements are:

- General Program Management Training. This training consisted of overall program administration and implementation. The content of the training included:
 - Goals and objectives of the Construction Site Runoff Control Program;
 - Regulatory Background;
 - Inventory of Construction Sites;
 - Plan Review and Approval;
 - Overview of BMPs for Construction Sites; and
 - Overview of the Inspection Program and Enforcement Requirements.
- Construction Site BMP Inspection Training. In addition to the above training, building/grading permit inspectors and/or other staff involved in inspections of construction sites received training that consisted of procedures for inspecting construction sites and what to look for in the field when inspecting construction site BMPs.

6.11 Education

Along with training city staff, education of permit applicants, contractors, developers, property owners, and other responsible parties to ensure they have an understanding of the storm water requirements is essential.

The following excerpt is from the Permit [D.1.d(8)] describing the requirements for the Construction Site Runoff Control:

“D.1.d(8) Education. Within one (1) year of the effective date of this permit, the Permittee shall implement an education program to ensure that project applicants, contractors, developers, property owners, and other responsible parties have an understanding of the stormwater requirements they need to implement.”

The City will implement an education program for the above targeted groups as described in Chapter 4.0 - Public Education and Outreach Plan.

Figure 6-1 shows the tasks associated with Construction Site Runoff and the responsible party.

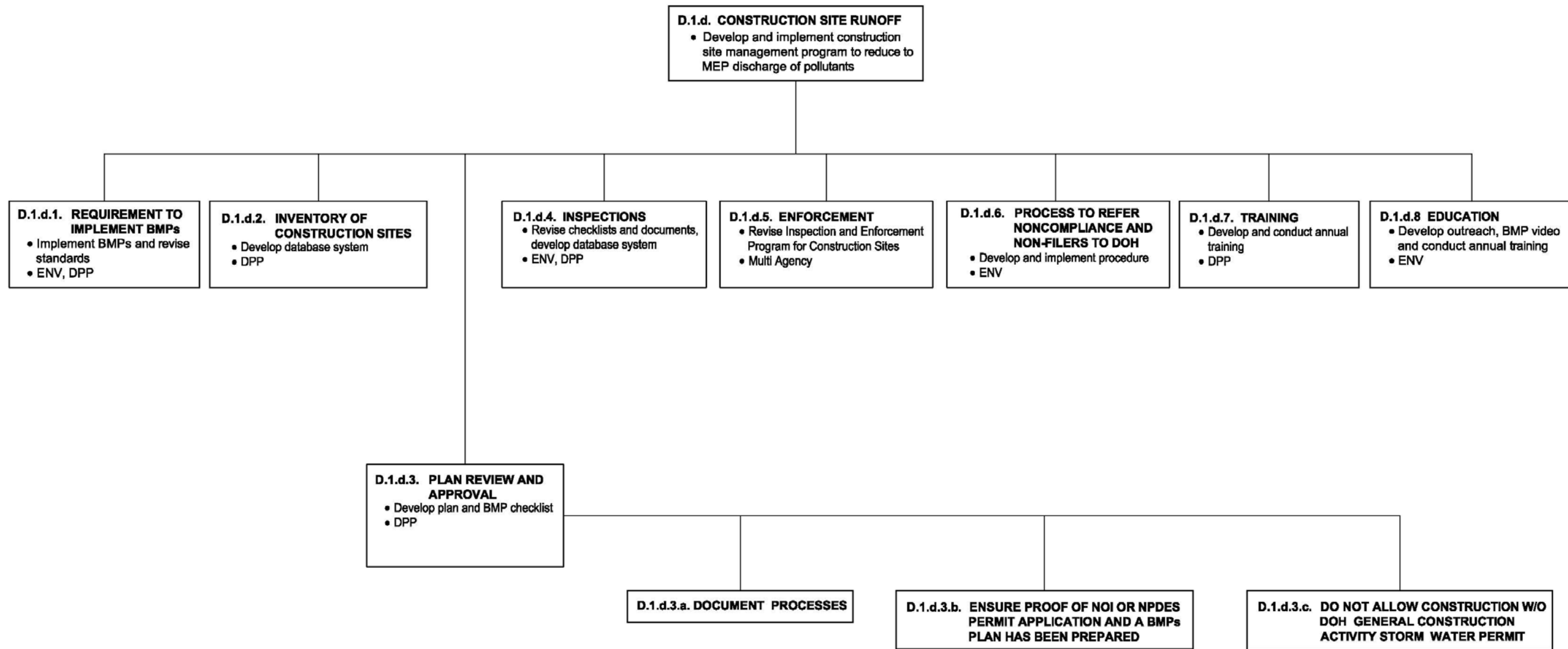


FIGURE 6-1
Responsible Agency
Construction Site Runoff