5.0 CONSTRUCTION COMPONENT

5.1 INTRODUCTION

This update to the Authority SWMP is in response to the requirements of the 2013 Municipal Permit. All Copermittees are required to reduce discharges of pollutants in storm water from construction sites to the MEP and to effectively prohibit NSWDs from construction sites into the MS4.

The SWMP update process included internal meetings and a workshop to incorporate comments from key stakeholders. Municipal Permit Provision F.2.a encourages the Authority "to seek public and stakeholder participation and comments early and often during the development of this document." Final proposed updates must be submitted to the RWQCB concurrently with the submittal of the final WQIP for various watersheds. Section 5.0 has been revised to include the San Diego Bay WQIP strategies and goals submitted to the RWQCB in June 2015.

This section addresses the requirements in Municipal Permit Provisions E.4 and E.7.a that are relevant to the construction component. As listed below, these provisions require the Authority to:

- E.4.a—Require the development of a pollution control plan, a construction BMP plan, and/or an erosion and sediment control plan prior to obtaining a permit to begin construction. The Authority must confirm that the plans achieve full compliance with (1) local ordinances; (2) the Municipal Permit; and (3) the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) (the Construction General Permit [CGP]). Section 5.4 has been prepared to address this requirement.
- E.4.b—Maintain an inventory of all construction sites and identify all construction sites within its jurisdiction that represent a high threat to downstream surface water quality. The Authority is required to maintain and update, at least quarterly, a watershed-based inventory of all construction projects that have been issued a local permit that allows ground-disturbing or soil-disturbing activities that can potentially generate pollutants in storm water runoff. The Authority is also required to identify all construction sites within its jurisdiction that represent a high threat to downstream water quality. These designations must consider site locations within a hydrologic subarea where sediment is known or suspected to contribute to high-priority water quality conditions identified in the WQIP; sites within the same hydrologic subarea and tributary to a 303(d)-listed waterway; sites adjacent to, or discharging to, a receiving water within an ESA; or other sites determined by the Authority or the RWQCB as a high TTWQ. Section 5.2 has been prepared to address this requirement.
- E.4.c—Implement, or require the implementation of, effective BMPs to reduce discharges of pollutants into storm water from construction sites to the MEP and to effectively prohibit NSWDs from construction sites into the MS4. These BMPs must be site-specific, seasonally appropriate, and construction-phase appropriate. Section 5.3 has been prepared to address this requirement.
- E.4.d—Inspect construction sites to require and confirm compliance with local permits and the Municipal Permit. Priority for site inspections must consider TTWQ pursuant to Provision E.4.b. Inspections must be planned and conducted at the appropriate frequency for each phase of construction. Based upon inspection findings, the Authority must implement follow-up actions to confirm site compliance. Construction inspections must assess compliance with applicable permits, BMP implementation and maintenance, and the adequacy and effectiveness of BMPs. Construction inspections must make visual observations of NSWDs, sediment and construction material discharges, and illicit connections. All violations and necessary corrections must be documented in accordance with the ERP. All inspections at all inventoried construction sites must be tracked and recorded. These records must be retained electronically or in tabular form and be available to the RWQCB upon request. The inspections must include site name, date, and rainfall data since last inspection,

description of violations or findings, explanatory comments, description of enforcement actions, and resolution of problems with the date that each was resolved. Section 5.5 has been prepared to address this requirement.

- E.4.e—Enforce its legal authority established pursuant to Municipal Permit Provision E.1 for all its inventoried construction sites, as necessary, to achieve compliance with requirements of the Municipal Permit in accordance with the ERP. Section 5.6 has been prepared to address this requirement.
- E.7.a.(3)—Promote and encourage the development of programs, management practices, and behaviors that reduce the discharge of pollutants in storm water to the MEP, prevent controllable NSWDs from entering the MS4, and protect water quality standards in receiving waters. The public education program must be implemented in accordance with the strategies in the WQIP and must include, at a minimum, appropriate education and training measures for specific target audiences, such as construction site operators. Section 5.7 has been prepared to address this requirement.

5.1.1 SOURCE CHARACTERIZATION

The construction component of the SWMP addresses demolition, grading, excavation, clearing, and structure and road construction, which can disturb soil and/or produce materials that can transport trash, debris, sediment, and other pollutants to the storm water conveyance system. Construction grading and clearing can expose underlying soil, making it susceptible to erosion from rainfall, wind, or improper water use. Natural vegetation root structures normally stabilize underlying soil and increase infiltration, which typically decreases storm water runoff volume and velocity. Excess sediment that is eroded in the absence of vegetation at a construction site is considered a pollutant because it degrades aquatic life by interfering with photosynthesis, respiration, growth, and reproduction.

Sediment particles eroding from construction sites can provide a substrate to which other pollutants can attach (e.g., trace metals, hydrocarbons, conventional pollutants, pesticides, and coliform bacteria). In addition, construction materials and waste can have significant detrimental effects on downstream receiving waters if they are not properly handled and contained. The magnitude of the storm water impacts depends on the nature of construction activities, climatic conditions, site conditions, material- and waste-handling protocols, and appropriately implemented and maintained BMPs. After construction is completed, an increase in impervious surface coverage can have a lasting negative impact on drainage patterns, runoff velocities and downstream erosion, and downstream drainage systems and natural waterways. The impacts of development and associated BMPs to reduce them are outlined in Section 4.0.

Sources of construction pollutants identified by the Authority include any existing or future construction sites at SAN. Designated minimum construction BMPs, as outlined in Section 5.3, are required to be implemented at all construction sites. When necessitated by project- or site-specific characteristics, construction phasing, and/or the season, additional BMPs will also be required. The minimum BMPs, as well as any required additional project-specific BMPs, are intended to reduce the discharge of trash, debris, sediment, and other pollutants from the site to the MEP and to prevent the site from causing or contributing to a violation of water quality standards.

5.2 CONSTRUCTION SITE INVENTORY AND TRACKING

5.2.1 SITE INVENTORY

The Authority maintains an inventory of completed and active construction projects at the SAN. The inventory exists in a Web-based database management system maintained by P&EAD. The database manages, and tracks completed, ongoing, and upcoming construction projects. Project information is initially entered into the database during the project intake (PIT) process, described in Section 5.4.

The database records the following specific details required by the Municipal Permit and other pertinent information for each project:

- Project name and location (by address and/or by latitude and longitude);
- Owner's name, address, telephone number, and email address;
- Contractor's name, address, telephone number, and email address;
- Project manager's name, address, telephone number, and email address;
- Construction manager or site superintendent's name, address, telephone number, and email address;
- Qualified SWPPP Developer's name, address, telephone number, and email address;
- Qualified SWPPP Practitioner (QSP) name, address, telephone number, and email address;
- Start and completion dates;
- Size of the site;
- Approximate disturbed soil area (DSA);
- TTWQ designation;
- Required inspection frequency;
- Copy of the SWPPP or Water Pollution Control Plan (WPCP);
- Date on which the SWPPP or WPCP was received by P&EAD;
- Date on which the SWPPP or WPCP was approved by P&EAD;
- WDID number, if any; and
- Minutes and notes from any pertinent pre-bid, pre-construction, or construction progress meetings.

The database is also used to track:

- Current construction phase;
- Inspections; and
- Ongoing enforcement actions.

The Municipal Permit requires that the Authority also record the hydrologic subarea in which each project lies, so that a watershed-based inventory can be maintained. However, this hydrologic information is not recorded in the Authority's database, because all construction projects at the SAN lie in the same watershed (namely, the Pueblo San Diego hydrologic unit, San Diego Mesa hydrologic area, Lindbergh HSA [908.21]).

The Municipal Permit requires the construction site inventory to be updated at least quarterly. The database of construction projects at the SAN can provide up-to-the-minute information about completed and ongoing

construction projects and suffices as the updated inventory, or it can be used to produce an electronic or hard-copy report at any time.

5.2.2 THREAT TO WATER QUALITY

Municipal Permit Provision E.4.b.(2), requires that "each Copermittee must identify all construction sites within its jurisdiction that represent a high threat to downstream surface water quality." Like other Copermittees, the Authority refers to "threat to downstream surface water quality" as "threat to water quality." Factors to consider when designating high TTWQ must include:

- Whether the site is located within a hydrologic subarea where sediment is known or suspected to contribute to the highest priority water quality conditions identified in the WQIP;
- Whether the site is located within the same hydrologic subarea and tributary to a water body segment listed as impaired for sediment on the 303(d) list;
- Whether the site is located within, directly adjacent to, or discharging directly to a receiving water within an ESA; and
- Whether it is another site determined by the Copermittees or the RWQCB to be a high TTWQ.

ESAs are areas that include 303(d)-listed impaired water bodies, areas designated as an ASBS, State Water Quality Protection Areas, water bodies designated with the RARE beneficial use, areas designated as preserves or their equivalents under the Multiple Species Conservation Program, and any other equivalent area identified by the Copermittees.

In considering the factors used to identify the TTWQ, the Authority notes that:

1) There are currently no hydrologic subareas identified in the San Diego Bay WQIP where sediment is known to contribute to, or is suspected of contributing to, the highest priority water quality conditions.
2) The Authority's jurisdiction does not lie in a hydrologic subarea and is not tributary to a 303(d)-listed water body segment that is currently listed as impaired for sediment.
3) Only one of the six criteria for an ESA applies to the discharges from the Authority's jurisdiction: if a particular construction site is directly adjacent to or discharging directly into San Diego Bay because the bay is designated with RARE beneficial use in the Water Quality Control Plan for the San Diego Basin (Basin Plan; 2012, Table 2-3). Note that most of the runoff from the Authority's jurisdiction does not drain directly into San Diego Bay, but rather is commingled with runoff from other jurisdictions, including the City of San Diego, the Port of San Diego, and the United States Marine Corps.

The Authority has determined that construction projects subject to the CGP are considered high TTWQ. Given all of the above, the Authority has developed a two-tiered methodology for determining the TTWQ of any particular construction project. This methodology is presented in Table 5-1.

Table 5-1. Level of Threat to Water Quality Criteria

TTWQ	Authority Criteria
High	Site is directly adjacent to or discharging directly to San Diego Bay without commingling runoff from another jurisdiction (i.e., within Drainage Basins 12 or 15); or Site is subject to the CGP and does not qualify for an erosivity waiver from the CGP.
Low	Site is not directly adjacent to nor discharging directly to San Diego Bay (i.e., is not within Drainage Basins 12 or 15); and Site is not subject to the CGP because of the size of the DSA or because it qualifies for an erosivity waiver from the CGP.

As stated in the Municipal Permit, either the Copermittee or the RWQCB may unilaterally determine that a particular construction project should be identified as a high TTWQ for reasons not listed above. It is possible that a project that is initially identified by the Authority as a low TTWQ could become a high TTWQ site merely because an erosivity waiver expires before the project is completed. In addition, as the San Diego Bay WQIP and the 303(d) list are updated, the Authority will revise its TTWQ determination methodology as necessary. Table 5-2 presents the inventory of planned and active construction sites as of March 2023.

Table 5-2. Inventory of Planned and Active Construction Sites as of August 2023

#	Sponsor	Project Name	Project Description	Start Date	Priority
1	Authority	CIP#104251 Northside Apron Improvements	Pavement rehabilitation on the cargo ramp	Planning Phase as of January 2023	Low
2	Authority	CIP#104252 Northside Utility Infrastructure	Underground utilities associated with new cargo facility. Construction will be done under the Design Build Contract for Airport Support Facilities (ASF).	Planning Phase as of January 2021	Low
3	Authority	CIP#104205 Widen Sassafras Street Intersection	Widening of east side of Sassafras and Pacific Highway intersection.	Construction began week beginning 8/22/2022	Low
4	Authority	CIP#104274 East Solid and Liquid Waste Facilities	Includes 2,800-square-foot canopy enclosure for separate food, recycling, and nonrecycling waste streams. Provide expanded solid waste management capacity, reduce VSR congestion.	Construction began week beginning 1/3/2022	High
5	Authority	CIP#414002 SAN Administration Building	4-story Administration Building, an asphalt/concrete-paved parking lot, concrete walks, plazas, three concrete driveways. landscaping features. and both wet and dry utilities that will feed the new Administration Building.	Construction began week beginning 1/17/2022	High

Table 5-2. Inventory of Planned and Active Construction Sites as of August 2023 (continued)

#	Sponsor	Project Name	Project Description	Start Date	Priority
7	Authority	CIP#411001 Airport Development Program (ADP) Airside Improvements	Terminal 1 apron, Taxiway A, East RON parking apron, shift and reconstruction of Taxiway B from existing Taxiway B4 to existing Taxiway B6 to 400-foot offset from runway, shift of Taxiway B6 to Taxiway B10 to 400-foot offset from runway.	Construction began 1/9/2022	High
8	Authority	CIP#413002 Shuttle Lot Relocation	Regrading of a Port of San Diego-owned lot on Pacific Highway for shuttle bus parking.	Construction began July 2022	High
9	Authority	CIP#21012 FedEx Truck Deck Airside	Renovations to the existing FedEx truck deck.	Construction began August 2022	Low
10	Authority	CIP#104263 Terminal 2 East Electrical Modernization	Construction of new electric vehicle chargers to Terminal 2, near Gate 33.	Construction began August 2022	Low
11	Authority	CIP#21013 New T1 Hydrant System	Development of the new fuel hydrant system to Terminal 1.	Construction began August 2022	Low
12	Authority	CIP#21005 East Truck Rack Demolition & Line Replacement	Demolition of former Remote Fueling Facility.	Construction began July 2022	Low
13	Authority	CIP#21022 SDFC Fuel Pump System & Tank Upgrades	Miscellaneous fuel tank upgrades.	Construction began May 2023	Low
14	Authority	CIP#413001 NT1	Construct a new Terminal 1 encompassing aircraft arrivals, parking plaza, and airport access road.	Construction began November 2020.	High

CIP = capital improvement project
RON = remain overnight

5.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Each construction site must be protected by an effective combination of site planning, erosion, and sediment controls; materials and waste management controls; and other BMPs to prevent or reduce the discharge of storm water pollution and to prohibit NSWDs from construction sites to the MEP. Effectiveness depends on properly implementing and maintaining these BMPs. This section designates the BMPs required for all construction sites at the SAN, depending on their applicability to the activity at hand.

5.3.1 GENERAL BMP REQUIREMENTS

All projects and construction activities are required to implement construction BMPs. The project proponent must identify the construction BMPs to be implemented in accordance with the performance standards in this section. For projects disturbing one acre or more, the construction BMPs must be identified in a SWPPP in accordance with the CGP. For projects disturbing less than one acre, a WPCP is required, because all projects require some form of BMP plan per Municipal Permit Provision E.4.a to identify the pollution prevention measures that will be taken during construction.

It is the responsibility of the project proponent to ensure the proper selection, installation, and maintenance of appropriate BMPs. Storm water BMPs for construction sites typically require frequent maintenance to maintain effectiveness. BMPs may require relocation, revision, and re-installation, particularly as project phases change. Therefore, the project proponent for any construction project within the Authority's jurisdiction must retain a dedicated qualified person, specifically a QSP as defined in the CGP (even if the project is not subject to the CGP). The QSP must be on the construction site daily to evaluate site conditions with respect to storm water pollution prevention planning and implementation of the SWPPP or WPCP and the BMPs.

All construction project proponents and contractors are required to ensure that the QSP conducts and documents self-inspections of the project site on a weekly basis. (Note that the CGP has additional inspection requirements that must be met.) Documentation of self-inspections must record, among other information as discussed in Section 5.5, the date, time, the condition of the BMPs, the effectiveness of the BMPs, and the need for changes to either the SWPPP or WPCP, or the BMPs, or both. Documentation must be kept onsite and made available for inspection by the Authority upon request.

The primary purposes of self-inspections are to ensure that:

- The owner/contractor takes full responsibility for managing storm water pollution caused by the project site's construction activities;
- Storm water BMPs are properly documented, implemented, and functioning effectively; and
- BMP maintenance (e.g., sediment removal) and repair needs are identified and addressed.

BMPs must be installed in accordance with an industry-recommended standard or in accordance with the requirements of the CGP. More information about BMPs is provided in the CASQA Stormwater BMP Handbook Portal: Construction.

BMP requirements differ, depending upon the type of the project, the topography of the site, and the season (i.e., the rainy wet season from October 1 through April 30, or the dry season, from May 1 through September 30).

5.3.2 PERFORMANCE STANDARDS

The Authority will evaluate the adequacy of the project proponent's construction site management for storm water pollution prevention, including BMP implementation. These evaluations will be based on performance standards for storm water BMPs, which include:

- Pollution prevention measures designed so that there is no increase of project-related pollution (including sediment) in runoff from the site;
- Prevention of slope erosion; and
- Mitigation of runoff discharge velocity to less than or equal to pre-construction levels.

A site is considered inactive if construction activities have ceased for a period of 14 or more consecutive calendar days. At any time of year, an inactive site must be fully protected from erosion and discharges of sediment. It is also the project proponent's responsibility (for both active and inactive sites) to implement a plan to address all potential NSWDs.

Regardless of inspections conducted by the Authority, project proponents are required to prevent any construction-related materials, wastes, spills, or residues from entering a storm water conveyance system. More detailed performance standards that each project will be evaluated against are captured as part of the Project Intake (PIT) process, described in Section 5.4.2.

5.3.3 MINIMUM REQUIREMENTS

The following requirements are the minimum standards for a construction site. Additional BMPs may be required to comply with the performance standards detailed in Section 5.4.2. P&EAD may further amend these requirements on a case-by-case basis.

The minimum BMPs must be implemented unless the justification for their exception is submitted and approved during the SWPPP or WPCP review process (e.g., projects that will not be using concrete and therefore will not generate concrete waste). The justification must be documented in the SWPPP or WPCP, and annotated on the PIT process form. Such exceptions to the minimum BMPs can be approved only by P&EAD.

The Authority's designated set of minimum BMPs for use at all construction projects, regardless of the project's TTWQ (unless approved by the Authority as not applicable, as described above) are presented in Table 5-3.

Table 5-3. Designated Minimum BMPs for All Construction Projects

BMP Category, CASQA Identification Number,[1] and Title	
Erosion Control BMPs:	
EC-1–Scheduling	EC-16–Non-Vegetative Stabilization
EC-15–Soil Preparation	
Temporary Sediment Control BMPs:	
SE-1–Silt Fence	SE-7–Street Sweeping and Vacuuming
SE-5–Fiber Rolls	SE-10–Storm Drain Inlet Protection
SE-6–Gravel Bag Berm	SE-13–Compost Socks and Berms
Wind Erosion Control BMPs:	
WE-1–Wind Erosion Control	
Temporary Tracking Control BMPs:	
TC-1–Stabilized Construction Entrance and Exit	
Non-Storm Water Management BMPs:	
NS-1–Water Conservation Practices	NS-9–Vehicle and Equipment Fueling
NS-3–Paving and Grinding Operations	NS-12–Concrete Curing
NS-6–Illicit Connection/Discharge	NS-13–Concrete Finishing
Waste Management and Materials Pollution Control BMPs:[2]	
WM-1–Material Delivery and Storage	WM-5–Solid Waste Management
WM-2–Material Use	WM-8 Concrete Waste Management
WM-3–Stockpile Management	WM-9–Sanitary/Septic Waste Management
WM-4–Spill Prevention and Control	

Note that some BMPs may be not applicable to certain construction projects, such as one with no use of concrete.

(1) Details of the Authority's minimum BMPs are in the CASQA Stormwater BMP Handbook Portal for Construction at https://www.casqa.org/resources/bmp-handbooks. BMPs must be employed to industry standards, as outlined in the CASQA *Construction Handbook*.

(2) For sites with pre-existing soil contamination issues, BMP WM-7, Contaminated Soil Management, must be added to the SWPPP or WPCP.

The 2007 Municipal Permit (Order No. R9-2007-0001) indicated that erosion prevention is to be "used as the most important measure for keeping sediment onsite during construction, but never as the single method." Sediment controls should be used as a "supplement to erosion prevention for keeping sediment onsite during construction." BMPs at each construction site must be site-specific, seasonally appropriate, construction-phase appropriate, and implemented year-round, as applicable. Year-round requirements include, but are not limited to:

- Erosion control BMPs must be installed and maintained to comply with detailed performance standards from Section 5.4.2.
- Perimeter protection BMPs must be installed and maintained to comply with detailed performance standards from Section 5.4.2.
- Sediment control BMPs must be installed and maintained to comply with detailed performance standards from Section 5.4.2.

- BMPs to control sediment tracking must be installed and maintained at entrances and exits to comply with detailed performance standards from Section 5.4.2.
- Materials needed to install standby BMPs necessary to completely protect the exposed portions of the site from erosion and to prevent sediment discharges must be stored onsite. Areas already protected from erosion through implementation of physical stabilization or established vegetation stabilization BMPs (as described below) are not considered to be "exposed" for purposes of this requirement.
- Deployment of physical or vegetation erosion control BMPs must begin as soon as grading and/or excavation has been completed for any portion of the site. The project proponent may not continue to rely on the ability to deploy standby BMP materials to prevent erosion of areas where grading has been completed.
- All slopes must be protected and stabilized during rain events.
- All vegetation erosion control must be established prior to the rainy season to be considered as a BMP.
- A disturbed area that is not completed but is not being actively graded must be fully protected from erosion if left idle for 14 or more calendar days. The ability to deploy standby BMP materials is not sufficient for these areas; BMPs must actually be deployed.
- A washout area must be designated and maintained for materials such as concrete, stucco, paint, caulking, sealants, and drywall plaster.
- Materials and wastes must be stored in properly protected, designated storage areas.
- Trash and debris must be removed and properly stored or disposed of daily.
- Storage, service, cleaning, and maintenance areas for vehicles and equipment must be identified and protected accordingly.
- Materials for spill control and containment must be stockpiled onsite.
- NSWDs must be eliminated or controlled to the MEP.

In addition to the minimum BMPs listed above, construction projects must select and implement additional BMPs, when necessary, to sufficiently address all anticipated activities at the site throughout the project's duration and phases. For sites with pre-existing soil contamination issues, BMP WM-7, Contaminated Soil Management, must be added to the SWPPP or WPCP.

5.3.4 ADDITIONAL REQUIREMENTS FOR HIGH TTWQ CONSTRUCTION SITES

P&EAD may, as part of the project approval process, require incorporation of multiple BMPs in each of the required minimum BMP categories to provide "multiple lines of defense" for high-TTWQ construction sites. Construction projects determined to be high-TTWQ sites also must incorporate the following requirements into the SWPPP or WPCP for the project.

Project proponents for high TTWQ construction projects must:

- Implement a weather-triggered action plan (WTAP) as necessary. The QSP is responsible for monitoring the weather and for ensuring that the WTAP is implemented as needed. The 5-day weather forecast will be monitored daily and a WTAP will be developed whenever there is a 40 percent or greater chance of precipitation forecast over the next 5 days by the National Weather Service. The WTAP must outline any necessary additional BMPs to be implemented prior to a rain event, the person responsible for implementing additional BMPs, any changes required in the construction schedule, any changes required in the activities underway for the particular construction phase, a listing of the types of tradesmen and subcontractors active on the construction site, and their relevant

contact information. The WTAP must be deployed/activated whenever the National Weather Service forecasts the chance of precipitation as 50 percent or greater at any time in the next 48-hour period.

High-TTWQ construction projects discharging directly to San Diego Bay will:

- Use high-performance erosion control methods, such as bonded fiber matrix or anchored erosion control blankets, on all exposed soils;
- Ensure at least two lines of defense for sediment control where site drainage is directed to an inlet that conveys flow to San Diego Bay, with each line of defense designed to independently control sediment to the MEP;
- Fully protect stockpiles and locate them as far from any inlets as possible; and
- Ensure that no flow concentration points are present that could scour soil or overwhelm erosion and sediment control measures.

5.4 PROJECT APPROVAL PROCESS

All construction projects at the SAN undergo the review described below, as part of the project approval process. This section describes the steps that will be taken to require and verify the implementation of the designated minimum BMPs at all construction sites. The detailed content and organization of this section reflect the specific processes used by the Authority.

Section 4.0 of this SWMP outlines the process for approving development or improvement projects carried out by the Authority or airport tenants. In short, P&EAD receives project information for evaluation and review to assess environmental impacts. The conditions of approval for an airport tenant project become part of the lease or use permit. Conditions of approval for the Authority's own projects are incorporated into the planning, design, and contracting as the project goes before the Authority Board for approval. This process leads to the identification and imposition of the construction and post-construction BMPs required for the project. In general, conditions of approval require the project proponent and project management team to prepare a construction site SWPPP or WPCP, depending upon the size and type of the project, as described below. These plans are reviewed and approved by P&EAD.

5.4.1 POLLUTION PREVENTION PLANNING

To facilitate both the preparation and review of construction project SWPPPs, the Authority has developed two templates that are required to be used by project proponents. One template is for a SWPPP in accordance with the CGP and the other template is for a WPCP for those projects not subject to the CGP.

The templates are designed to ensure that the specific information that the Authority requires to be in a SWPPP or WPCP for construction at the SAN are addressed. The templates include:

- The minimum BMPs required to be implemented at all construction sites (including BMP cut sheets from CASQA, illustrating proper installation); and
- A checklist for additional BMPs to be selected on a per-project basis, depending on specific site characteristics, the season or the likelihood of rainfall, and the construction phases.

5.4.2 PROJECT INTAKE

Once the project proponent or project management team has developed the requisite SWPPP or WPCP, it is submitted to P&EAD for review and approval. P&EAD has developed a PIT process to obtain the information needed in reviewing the plans for any construction project at SAN.

In addition to providing a signed copy of the WPCP or certified SWPPP, the project proponent or project management team must provide the following information on the PIT form (Appendix G):

- Project name and location (by address and/or by latitude and longitude);
- Owner's name, address, telephone number, and email address;
- Contractor's name, address, telephone number, and email address;
- Project manager's name, address, telephone number, and email address;
- Construction manager's or site superintendent's name, address, telephone number, and email address;
- QSP's name, address, telephone number, and email address;
- WDID number (for projects subject to the CGP);
- Qualified SWPPP Developer's name, address, telephone number, and email address (for projects subject to the CGP);
- Start and completion dates;
- Size of the site;
- Approximate DSA in acres;
- Project proponent's self-assessed level of TTWQ, based on whether:
  - The site is directly adjacent to or discharging directly to San Diego Bay;
  - The site is subject to the CGP and does not qualify for an erosivity waiver from the CGP;
- A list of any minimum BMPs required by the Authority that do not apply to the project, because the BMP is related to activities that are not expected to occur;
- A list of any minimum BMPs required by the Authority that will not or cannot be implemented on the project and the justification for their exception, with the justification included in the SWPPP/WPCP;
- A description of how the project has been scheduled so that grading in the wet season is avoided or minimized;
- A description of how the project has been scheduled so that the areas to be cleared and graded are minimized to only the portion of the site that is necessary for construction;
- A description of how the project has been scheduled so that the exposure time of DSAs is minimized;
- A description of the measures put in place to ensure that the maximum DSA stated in the SWPPP/WPCP is not exceeded;
- A description of how active slopes will be stabilized prior to a rain event;
- Confirmation that any pre-existing soil contamination issues will be addressed by appropriate safety measures and BMPs; and
- Confirmation that the provisions have been addressed in the SWPPP or WPCP to begin deployment of physical or vegetation erosion control BMPs as soon as grading and/or excavation has been completed for any portion of the site.

For construction projects that are self-assessed to be high-TTWQ construction projects, the project proponent or project management team must also provide:

- Confirmation that the provisions have been addressed in the SWPPP or WPCP to implement a WTAP as necessary.

For construction projects that are self-assessed to be high-TTWQ construction projects discharging directly to San Diego Bay, the project proponent or project management team must also provide:

- Confirmation that provisions for the use of high-performance erosion control methods (such as bonded fiber matrix or anchored erosion control blankets) on all exposed soils have been addressed in the SWPPP or WPCP;
- Confirmation that provisions have been addressed in the SWPPP or WPCP to ensure that there are at least two lines of defense for sediment control where site drainage is directed to an inlet that conveys flow to San Diego Bay and that each line of defense is designed to independently control sediment to the MEP;
- Confirmation that stockpiles are fully protected and located as far from any inlets as possible; and
- Confirmation that provisions are in the SWPPP or WPCP to ensure that no flow concentration points are present that could scour soil or overwhelm erosion and sediment control measures.

P&EAD uses the PIT process to verify (as required by the Municipal Permit) that those projects subject to the CGP have obtained coverage.

Once the PIT form and the SWPPP or WPCP are submitted, P&EAD has 14 days to review the documents. P&EAD will either approve or reject the SWPPP or WPCP, and the information on the PIT process form. If a plan is rejected, the project proponent or project management team will be advised as to the reasons for rejection. The project cannot begin construction until approved by P&EAD.

5.5 CONSTRUCTION SITE INSPECTIONS

P&EAD inspects all construction sites to monitor and enforce compliance with the Authority's ordinances, permits, approvals, the Municipal Permit, and this SWMP. This section discusses the processes and procedures for these inspections.

5.5.1 INSPECTION FREQUENCY

The Municipal Permit requires the Authority to establish the inspection frequency for construction projects on the basis of the TTWQ designation, the phase of construction, and WQIP highest water quality priorities. However, there are several issues related to the operation of an airport in an urban center in close proximity to San Diego Bay that led the Authority to establish a year-round weekly inspection frequency for all construction projects at the SAN, regardless of their TTWQ designation.

5.5.2 INSPECTION CONTENT

The inspection by P&EAD includes (1) a review of the SWPPP or WPCP and associated documentation, and (2) a site walk to observe the correlation of project documentation with actual field conditions and the adequacy and effectiveness of the BMPs being implemented. Required documentation of SWPPP or WPCP implementation includes updated site layout plans and figures, and weekly self-inspection reports. If the project is subject to the CGP, then the inspection will also include a review of SWPPP supporting documentation, such as reports for other required inspections (e.g., rain event, etc.), plan amendments, personnel training records, and runoff monitoring results, as applicable. The objectives of the construction site inspection are to:

- Assess compliance with the Authority's permits, approvals, applicable ordinances, rules, and regulations related to pollution prevention, including the implementation and maintenance of applicable BMPs;
- Assess BMP adequacy and effectiveness;

- Observe actual NSWDs;
- Observe actual or potential discharge of sediment and/or construction-related materials from the site;
- Observe actual or potential illicit connections; and
- Verify coverage under the CGP (when applicable).

The inspector carries the following forms and equipment during the inspection: (1) a tablet or cellular telephone, with a backup paper inspection form in case of technical difficulties, to be completed during the inspection (see Appendix G); (2) a copy of the PIT process form with which to review and verify the contents of the SWPPP or WPCP; and (3) a camera, to document site conditions.

After reviewing the documentation associated with the project, including the inspection history and compliance status, the inspector evaluates conditions across the entire site, including:

- The perimeter;
- Run-on and discharge points;
- Materials, equipment, and waste storage areas;
- Storm drain inlets;
- Access roads;
- Outside perimeter of the site (including nearby storm drain inlets);
- All active and inactive areas; and
- Supplies of BMPs stored onsite in readiness for a rain event.

5.5.3 INSPECTION TRACKING AND RECORDS

P&EAD inspector documents the results of the inspection, including any issues identified (such as inadequate implementation or maintenance of required BMPs, inadequate SWPPP or WPCP documentation, and missing inspection records) via the Web-based database management system, described in Section 5.2. When issues are identified, the inspector can also capture images and location information (such as Global Positioning System [GPS] coordinates) that can be stored in the inspection database system. The Web-based database allows P&EAD to effectively and efficiently share the inspection results with the project proponent and the project management team. The database records the information from all inspections and re-inspections.

At a minimum, the inspection records include:

- The project site name, location (address and hydrologic subarea), and WDID number (if applicable);
- The inspection date;
- The approximate amount of rainfall since last inspection;
- A description of problems observed with BMPs and an indication of need for BMP additions, repairs, or replacements, along with any scheduled re-inspection, and date of such re-inspection;
- Any other specific inspection comments, which must, at a minimum, include rationales for the allowance of longer compliance timeframes, if any;
- A description of enforcement actions issued in accordance with the Authority's SWMP ERP; and
- Confirmation that issues noted during the inspection have been resolved and the date of resolution.

While onsite, the P&EAD inspector will discuss the results of the inspection with the project proponent or project management team and the project-dedicated QSP. The project proponent and project management team receive the inspection report in an email or as a hard copy. The project proponent and/or project management team accesses the Web-based database to view additional inspection detail and to provide information (text, maps, and pictures) about how and when issues have been resolved. The P&EAD inspector uses the information in the database provided by the project proponent or project management team to confirm compliance, request further action, or escalate enforcement.

5.6 CONSTRUCTION SITE ENFORCEMENT

5.6.1 ENFORCEMENT RESPONSE PLAN FOR CONSTRUCTION SITES

All construction activities undertaken in the Authority's jurisdiction are required to maintain compliance with the Authority Rules and Regulations, Storm Water Code (Article 8), SWMP, the Municipal Permit, the CGP (if applicable), project permits and approvals, and contracts and leases. Provision E.6 of the Municipal Permit requires each Copermittee to develop an ERP to enforce its legal authority to achieve compliance. Each component of the ERP must describe the enforcement response approaches that will be used to compel compliance. The description must include the protocols for implementing progressively stricter enforcement responses ("escalating enforcement").

This section describes the ERP as it applies to construction activities at SAN. In accordance with the Municipal Permit, the ERP has been updated concurrently, with submittal of the final San Diego Bay WQIP in June 2015, so that the ERP aligns with WQIP strategies.

Any findings or violations noted during a site inspection by the P&EAD inspector will be discussed onsite with the project proponent or project management team and the project-dedicated QSP. The P&EAD inspector will discuss the issues, and the inspection report will detail the corrective actions required and the timeframe in which corrective actions must be completed. Findings and violations will be described and recorded in the inspection database (and include photographs, GPS, or other location information, as applicable).

The Authority requires that corrective actions must be started immediately and be completed prior to the next predicted rain event or within a maximum of 72 hours, whichever is sooner. Depending on the nature of the finding, some corrective actions may take longer to complete. In those cases, the project proponent will provide an explanation to the P&EAD inspector and a suggested timeframe for completion, which the P&EAD inspector will either agree upon or reject and provide a preferred timeframe. (Note: corrective actions must be completed within 24 hours for Enforcement Level 2 violations, as described below.) The project proponent or project management team must document the corrective action taken by responding to P&EAD through the Web-based database. Project proponents and project management teams who cannot complete corrective actions in the time required must explain in detail, through the Web-based database, the specific causes of delay, and must propose a new schedule for compliance. P&EAD has the sole discretion to grant an extension or pursue escalated enforcement. All corrective actions, as well as the time periods allowed and dates of actual completion, are recorded in the inspection database.

The enforcement mechanisms used by the Authority are listed below. The Authority generally obtains compliance using the first four mechanisms listed here. The remaining enforcement mechanisms can be used, as necessary, to increase the severity of penalties and to compel compliance as soon as possible.

1) Verbal and written warnings;
2) Written notices of violation;
3) Written notices to clean, test, or abate;
4) Order to cease and desist (stop work orders);

5) Fines;

6) Denial or revocation of permits and approvals;

7) Administrative and criminal penalties;

8) Bonding requirements; and

9) Liens.

The Authority's ERP for construction has two levels of enforcement. Enforcement is initiated and escalated by standard mechanisms for each level. The Authority has the discretion to initiate or escalate enforcement using any enforcement mechanism available, depending on the nature of the concerns, existing site and weather conditions, and actions by the project proponent or project management team to control or correct the finding or violation. The general enforcement process is as follows:

- Enforcement Level 1 is initiated by the finding of a BMP deficiency in the BMP categories of general housekeeping, waste management, non-storm water management issues, erosion controls, sediment controls, tracking controls, run-on and runoff controls, and plan implementation (e.g., lack of self-inspections or documentation thereof, lack of ongoing training or documentation thereof, or failure to adequately update the SWPPP or WPCP to reflect site conditions). A verbal warning and written notification of the finding are used to initiate enforcement and corrective actions are expected to be observed during a re-inspection after 7 days. Photos of the corrective action should be date-stamped to show completion within 72 hours, or the agreed upon timeframe, if longer. If the finding is not corrected upon re-inspection, a written notice of violation may be issued to escalate enforcement and compliance is expected by the next reinspection. Upon the second re-inspection, if the finding is still not corrected a second written notice of violation may be issued, which may include an order to clean, test, or abate, and compliance is again expected by the next reinspection. Continued failure to correct the violation in the time allowed will result in a mandatory meeting between the project proponent or project management team and the Director of P&EAD and/or Vice President of Development to discuss the reasons for failing to comply and the means of resolving the issue. The Authority also has the discretion to increase inspection frequencies for any project from weekly to daily.
- Enforcement Level 2 is initiated when a prohibited offsite discharge, caused by a construction project, occurs. A written notice to clean, test, or abate, and/or an order to cease and desist (stop work order), is used to initiate enforcement and compliance is expected within 24 hours. If the violation is not corrected upon re-inspection, the project proponent or project management team must attend a mandatory meeting with the Director of P&EAD and/or Vice President of Development to discuss the reasons for failing to comply and the means of resolving the issue.

In accordance with Municipal Permit Provision E.6.e, the Authority will notify the RWQCB in writing or email within 5 days of issuing an escalated enforcement action between levels to a site that it has designated as a significant TTWQ. A construction site that poses a significant TTWQ as a result of violations or other non-compliance with its permits and applicable ordinances, regulations, rules, and the requirements of the Municipal Permit is considered by the Authority to be any site at which there has been any spill, release, or discharge of sewage, petroleum, or a hazardous material listed in accordance with 40 CFR Parts 117 or 302 that enters the storm water conveyance system and that is not fully contained and cleaned up and/or that reaches San Diego Bay. (40 CFR Part 117 addresses the determination of such quantities of hazardous substances that may be harmful pursuant to Section 311(b)(3) of the Clean Water Act. 40 CFR Part 302 addresses the designation, reportable quantities, and notification requirements for the release of substances designated under Section 311(b)(2)(A) of the Clean Water Act.)

Penalties for violations, including failure to correct a finding or violation, generally include (1) submittal of a written report that outlines the cause of the violation and the actions taken to prevent or minimize a reoccurrence of the violation; (2) attendance at a relevant training session and documentation of such; (3) attendance at an Authority-sponsored or presented relevant training session; (4) attendance at a

mandatory meeting between the project proponent or project management team and the Director of P&EAD and/or Vice President of Development; and (5) monetary penalties. The Authority may exercise its discretion to use any and all penalties available, depending on the nature of the concerns and actions by the project proponent or project management team to control or correct the violation.

5.6.2 RE-INSPECTIONS

The enforcement process requires project proponents or project management teams to take corrective actions within a specified time period. To confirm that corrective actions have been completed effectively and on time, findings or violations typically require re-inspection by P&EAD within one or 7 days, depending on the nature of the issues, whether or not escalated enforcement is being pursued, and the type and level of enforcement. The following are the general time periods for re-inspection by P&EAD associated with each level of enforcement:

- Enforcement Level 1 requires a re-inspection within one or 7 days; and
- Enforcement Level 2 requires a re-inspection within 1 day (24 hours).

Re-inspections are also documented in the inspection database in the same manner as are regularly scheduled inspections.

5.7 EDUCATION AND TRAINING

5.7.1 EDUCATION

Municipal Permit Provision E.7 requires that the Authority implement a public education and participation program in accordance with the WQIP to promote and encourage the development of programs, management practices, and behaviors that reduce the discharge of pollutants to the MEP, effectively prohibit NSWDs from construction sites into the MS4, and protect water quality standards in receiving waters. The Authority's public education program includes appropriate education and training measures for specific target audiences, such as those involved in construction activity at SAN, including Authority management and staff, project proponents, planners and reviewers, contractors, construction site managers, and onsite personnel. The Authority's storm water construction education focuses on construction activities and their relationship to urban runoff impacts on water quality. The Authority has developed internal and external outreach programs to present the following objectives to this audience, as appropriate:

- Federal, state, and local water quality laws and regulations that apply to construction projects;
- Methods to minimize impacts on receiving water quality resulting from construction;
- The connection between project implementation decisions and short- and long-term water quality impacts; and
- Methods to integrate the consistent application of reasonable and effective BMPs, pollution prevention strategies, and BMP requirements into the Authority's construction management process.

The construction education program uses available guidance mechanisms, BMP information, and training programs to create the awareness of (1) pollution-causing activities related to construction sites, and (2) methods used to minimize these pollutants. This program is designed to address the following primary objectives:

- Provide useful guidance in developing outreach and training programs that will support the successful implementation of the Authority SWMP and the project-specific SWPPP/WPCP;
- Encourage participation by all construction personnel; and

- Maximize consistency in information and help adapt education and outreach to the appropriate construction personnel, raising their knowledge and awareness of the issues related to storm water and urban runoff.

5.7.2 TRAINING

The Authority uses formal and informal training mechanisms to educate construction personnel about storm water pollution prevention and BMPs. The most comprehensive training is provided annually to Authority management and staff. This training involves classroom training at a divisional level for the ADC (including Project Managers and Construction Managers) and the P&EAD staff.

The annual training provides construction project proponents, project managers, inspection staff, and other relevant persons with an understanding of the following topics:

- Federal, state, and local water quality laws and regulations applicable to construction and grading activities;
- Municipal Permit and CGP requirements, as applicable;
- Water quality impacts of land development and control measures to address them;
- The connection between construction activities and water quality impacts (e.g., impacts from land development and urbanization and impacts from construction-related material such as sediment);
- Proper implementation of erosion and sediment controls and other BMPs to minimize the impacts on receiving water quality resulting from construction activities;
- The Authority's construction SWPPP review, inspection, and enforcement policies and procedures;
- Compliance construction site inspections and self-inspections;
- Preventive maintenance;
- Spill response, containment, and recovery;
- Current advancements in BMP technologies; and
- Prohibited discharges to the MS4 and the Authority's IDDE program.

The annual training may be a joint effort between the P&EAD and ADC staffs to emphasize the relationships among the requirements of the Municipal Permit, the CGP, the SWMP, the SWPPP or WPCP, and the specific project plans and contract documents. Continuous training may also include in-house presentations, emails, joint field-walk inspections, new-hire reviews, and training programs put on by outside agencies.

P&EAD and ADC will also provide or support training directed at the contractors and subcontractors working on construction projects underway within the Authority's jurisdiction. Such project- and site-specific training will address the Authority's storm water pollution prevention policies, procedures, and expectations. Training for contractors and subcontractors may be conducted during:

- Pre-bid, pre-construction, and ongoing project progress meetings;
- On-site inspections, tailgate safety and training meetings, and site visits;
- Seasonal training sessions to emphasize the expectations for an upcoming dry or wet season; and
- Refresher training sessions conducted by P&EAD every 6 months for projects scheduled to last more than 1 year.

The Authority may also use the following educational mechanisms to provide training to the construction activity audience:

- Development and distribution of BMP guidance for specific construction activities;
- Workshops;
- Community meetings;
- Posters, pamphlets, and flyers;
- Educational videos;
- Authority newsletter articles;
- Airport tenant notices and advisories;
- Website updates;
- Outreach to business associations; and
- Participation in joint outreach efforts (e.g., the Think Blue campaign).

When feasible, the Authority will help sponsor outreach to and/or training of representatives from other municipal and quasi-governmental agencies, private construction, and the development industry. It is also anticipated that those business communities and trade associations related to construction activities will train their colleagues in response to their own experiences related to preventing construction storm water pollution within the Authority's jurisdiction.

Finally, the Authority employs enforcement actions that require supplemental education in response to violations and non-compliance issues at construction sites. The enforcement process and the Director of P&EAD will dictate when and how often additional education is required. The following resources are examples of the types of education and training that might be required through the enforcement process:

- Free online training courses without certifications, but with self-documentation of completion:
  - www.dot.ca.gov/hq/construc/stormwater/interactive.html, and
  - www.dot.ca.gov/hq/construc/stormwater/swppp_training.html.
- Online training courses with certifications:
  - www.waterboards.ca.gov/water_issues/programs/stormwater/training.shtml,
  - www.owp.csus.edu/courses/stormwater-bmp.php, and
  - www.ieca.org/education.
- Registration and attendance at a conference relating to storm water and erosion control:
  - www.stormcon.com/preconference.html,
  - www.casqa.org/events, and
  - www.ieca.org/conference/annual/ec.asp.
- Subscriptions to a journal on erosion control, construction, or similar topics:
  - http://www.erosioncontrol.com/EC/EChome.aspx.