City of Carlsbad

Engineering Standards

Volume 4
SWPPP Manual
CONSTRUCTION BMP'S

2016 Edition

CITY OF CARLSBAD
ENGINEERING STANDARDS

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VOLUME 4

SWPPP MANUAL

REVISIONS/ADDENDUM		
CHAPTER/ PAGE/DWG.	**ITEM**	**REVISION DATE**
All of Volume 4	Update to implement new storm water requirements	3/24/2008
Revised Cover Sheet (all), Table of Contents (all), Introduction (all), Chapter 2 text (all) Chapter 2 Appendix C (all), Chapter 3 text (all) and Chapter 3 Appendix B. Added Chapter 2 Appendix G	Changed all Section references to Chapter references. Minor revisions throughout Chapters 2 and 3 to correct typographical errors, correct certain document references and improve clarity. Update Stormwater Standards Questionnaire on redevelopment projects. Revised list of exempted projects on page 10 of Chapter 3 and on Storm Water Compliance Exemption Form in Appendix B. Cover Sheet revised to read '2004 Version' with listed revision dates. Added Appendix G (Interim Hydromodification Criteria) to Chapter 2. Revised Chapter 2 Appendix C to specify Qualified SWMP Preparer.	6/04/2008
Update Chapter 2	Update priority project type to include 1-acre projects	1/22/10
Update Chapters 1 & 2	Replace entire chapters to implement new model SUSMP requirements as required by Order 2007-01	3/24/10
Update Chapters 1 & 2	Replace entire chapters to incorporate hydromodification requirements as required by Order 2007-01	1/14/11
All	Remove SUSMP added BMP Design Manual (see Volume 5), Update SWPPP Volume	2/16/16

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1. SWPPP Standards Introduction

1.1 Background Information

The Construction Storm Water Pollution Prevention Plan (SWPPP) standards and requirements described herein were established to ensure construction compliance with the City of Carlsbad Storm Water Ordinance and the Municipal Permit, as issued by the San Diego Regional Water Quality Control Board (RWQCB) (see below for Municipal Permit reference details). This chapter must be used in conjunction with other chapters of this manual to ensure full compliance with both construction and post construction storm water requirements. This chapter addresses the need for temporary Best Management Practices (BMPs) during construction activities to minimize the mobilization of pollutants such as sediment and to minimize the exposure of storm water to pollutants.

1.2 Applicable Regulations to Construction Projects

All construction activities within the City are subject to the requirements of Carlsbad Municipal Code (CMC) 11.16, 15.12, 15.16 and 18.48, 2015 Jurisdictional Runoff Management Program (JURMP), and requirements of this manual.

The water quality protection measures and construction procedures described in this chapter of the manual are intended to ensure construction activity compliance with the following State and Regional water quality permits:

Municipal Permit - more particularly described as San Diego California Regional Water Quality Control Board (SDRWQCB) San Diego Region Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100; National Pollutant Discharge Elimination System (NPDES) No. CAS0109266 and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within San Diego Region and any amendment, revision or re-issuance thereof; and,

Construction General Permit (CGP) - more particularly described as NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ amended by 2010-0014 and 2012-0006-DWQ NPDES No. CAS000002, adopted by the State Water Resources Control Board on July 17, 2012 and any amendment, revision or re-issuance thereof.

To obtain a copy of the Municipal Permit and/or CGP, general information about the permits and fact sheets, visit RWQCB website at:

http://www.swrcb.ca.gov/rwqcb9/

2. SWPPP Requirements and Approval process

2.1 SWPPP Tier Levels

Every construction activity within the City that has the potential to negatively affect water quality must prepare a construction storm water pollution prevention plan (SWPPP). To ensure compliance with all the various State and Regional permitting regulations, the City established a three-tiered system for the preparation of SWPPPs. The tiers range from Tier 1 representing the lowest threat to water quality to Tier 3 representing the highest threat to water quality (Refer to section 2.2 of this manual for Tier level determination). Some construction activities are exempt from SWPPP requirements (see Table 1, section 2.2).

Exempt - Construction activities that pose no threat to storm water quality are exempt from the preparation of a SWPPP; however, the construction activities must still comply with all construction BMPs required pursuant to Title 15 of the CMC and these standards.

Tier 1 SWPPP – Construction activities that impact less than one acre and pose a low threat to storm water quality must prepare a Tier 1 Construction SWPPP in conformance with City Standards.

Tier 2 SWPPP – Construction activities that impact less than one acre and that pose a moderate threat to storm water quality must prepare a Tier 2 Construction SWPPP in conformance with City Standards.

Tier 3 SWPPP - Construction activities covered under the CGP or that, pose a significant potential for storm water quality impairment, must prepare a Tier 3 Construction SWPPP in conformance with the standards and requirements of the Construction General Permit and City Standards.

2.2 Determination of SWPPP Tier Level

City Form E-32 “Determination of Project’s SWPPP Tier Level and Construction Threat Level”, available on the City website, shall be used to determine the appropriate tier level of SWPPP for a proposed construction project. It provides threshold triggers or criteria for each of the three tier levels and provides list of exempt projects.

Form E-32 is also used to determine the appropriate construction threat level (high, medium or low) to storm water. The project’s construction threat to storm water quality relates to the frequency of storm water compliance inspections required under the Municipal Permit and is one of the factors used to determine the City Construction SWPPP inspection fee. The completed Form E-32 shall be submitted with applications for each construction permit submitted to the City including building permits, grading permits and right-of-way permits.

Exempt projects must still comply with all storm water best management practices pursuant to Title 15 of the CMC and City Standards. If in the opinion of the City Engineer or Building

Official, an otherwise exempt project is, or potentially could pose, a threat to storm water quality, the City Engineer or Building Official may require preparation and implementation of a SWPPP at a tier level commensurate with the storm water threat.

Table 1

City Construction Permit Types Exempt from SWPPP Requirements

Electrical Permit	Roof Mounted Solar Array
Fire Additional Permit	Patio Deck
Fire Alarm Permit	Plumbing Permit
Mechanical Permit	Sign Permit
Mobile Home Permit	Spa – Factory Made
Re-Roofing Permit	Sprinkler Permit

Cautionary Note - The Project Threat Assessment Worksheet represents the project proponent's assessment of the threat posed by a proposed construction project. City staff has responsibility for making the final assessment regarding the need for and tier level of SWPPP required The City staff decision is made after submission of the plan review application. A staff determination that the construction plan review application is subject to the preparation of a SWPPP, or is subject to more stringent SWPPP requirement than initially assessed by the applicant (project proponent), will result in the return of the plan review application as incomplete.

If applicants are unsure about the meaning of any of the assessment criteria described in the worksheet or need help in determining how to respond to one or more of the assessment criteria, they are strongly encouraged to seek assistance from Development Services staff prior to preparation of the SWPPP and submission for construction plan review.

2.3 Qualified Persons to Prepare Construction SWPPP

Tier 3 SWPPPs shall be prepared in accordance with the requirements of the CGP. Section VII.B of CGP provides SWPPP Certification requirements. The discharger shall ensure that the Tier 3 SWPPP is written, amended and certified by a Qualified SWPPP Developer (QSD).

Tier 2 SWPPPs shall be prepared in accordance with the requirements of this manual. Unless otherwise approved, all Tier 2 SWPPPs shall be written, and amended by an appropriate certified professional.

No special qualification is required to prepare a Tier 1 SWPPP, however the City highly recommends that the SWPPP be prepared by a qualified erosion control professional.

2.4 Required Elements for Tier 3 SWPPP

A Tier 3 SWPPP must contain all of the elements required by the CGP. To aid in the preparation of a Tier 3 SWPPP, the preparer may utilize the SWPPP template included in

the latest version of the "*California Stormwater BMP Handbook Construction"* prepared by the California Storm Water Quality Association (CASQA) of this manual.

The use of the SWPPP template does not guarantee compliance with the CGP or these standards. Additionally, using the outline to generate a Tier 3 Construction SWPPP is not a substitute for knowledge of the permit requirement. The outline serves as a guidance document only. A site specific Tier 3 Construction SWPPP must be combined with proper and timely installation of the BMPs, frequent inspections, maintenance, and documentation.

To avoid unnecessary SWPPP amendments through the RWQCB, do not upload the SWPPP to the SMARTS until reviewed and accepted by the City. After City review of the Tier 3 SWPPP and prior to signature of the grading plans and/or issuance of grading permit, the project proponent (owner/developer/applicant) must obtain coverage under the CGP by filing the required documentation through the RWQCB's Storm water Multi-Application and Report Tracking System (SMARTS) website.

Upon filing of the NOI, the project will be assigned a Waste Discharger's Identification (WDID) number by the SMARTS. The WDID number must be added into the Tier 3 Construction SWPPP and affixed onto the respective construction plans.

The project is only considered covered by CGP upon receipt of a WDID number assigned and sent by the SMARTS system. In order to demonstrate compliance with CGP, the project proponent must present documentation of a valid WDID upon request. (See CGP II.A and B).

The QSD and Qualified SWPPP Practitioner (QSP) are responsible for ensuring full compliance with the CGP and for the implementation of all elements of the Tier 3 SWPPP including storm water and non-storm water visual observations, monitoring, sampling and analysis, preparation of annual compliance evaluation and elimination of all unauthorized discharges.

2.5 Required Elements for Tier 2 and Tier 1 Construction SWPPP

The project proponent shall utilize the applicable City's Tier 1 or Tier 2 SWPPP templates and include all applicable elements provided in the template. The city's SWPPP templates are available on the City website.

Tier 1 and Tier 2 SWPPP templates include standard storm water prevention construction notes, a project information block, a Storm Water Compliance Statement, City approval block and a Best Management Practice (BMP) Checklist Table. The BMP Checklist Table is intended to help the project proponent select appropriate BMPs best suited to the project. Additionally, the SWPPP shall include a site plan showing the proposed project site and depicting the areas of proposed construction and proposed locations of construction BMPs. The Tier 1 and Tier 2 SWPPP plans shall be submitted as additional sheets to the construction plan set.

The use of the template does not guarantee compliance with these standards. Additional BMPs may be required if the selected BMP(s) are shown to be ineffective or not relevant to a particular construction activity. Tier 1 and Tier 2 SWPPP must be combined with proper and timely installation of the BMPs, thorough and frequent inspections, maintenance, and documentation. The project proponent is responsible for ensuring that the selected BMPs are

appropriately incorporated into the site design and if necessary, employ a qualified professional to ensure proper installation and maintenance of the BMPs.

2.6 Inspection Fee Commensurate to Construction Threat

The Municipal Permit mandates that the City provide inspection commensurate with a project's perceived construction threat to storm water quality. The projects perceived construction threat to storm water quality relates to the frequency of storm water compliance inspections and is one of the factors used to determine the City SWPPP inspection fee. The perceived construction threat level is determined using Form E-32 (see section 2.2). For more detailed information on storm water compliance inspections please refer to Chapter 3.4 of this manual.

3. Construction BMP Standards

3.1 Background Information

As construction activities occur, the City requires projects to plan for and implement temporary construction BMPs to mitigate the water quality impacts of land disturbance and non-storm water discharges related to construction activities. BMPs are the schedules of activities, prohibitions of practices, maintenance procedures and other management practices employed during construction activities to prevent or reduce pollution of the ocean, lagoons, lakes, streams and other sensitive water bodies and water courses. Construction BMPs also include the physical devices and structural construction control measures designed to prevent soil erosion from occurring or to contain sediment before it leaves the construction site. BMPs are also intended to protect the health, safety and welfare of the public and to prevent damage to adjoining public and private property resulting from construction activities.

Pollution prevention practices and the minimum BMPs are required year-round. BMPs and other erosion control practices must be implemented as the most important "first line of defense". The City has adopted the CASQA 'Stormwater Best Management Practices Handbook: Construction', latest edition, as its preferred source for construction BMPs. All BMP reference numbers used in this manual correspond to the BMP Fact Sheets included in the CASQA construction handbook unless specifically noted otherwise. With the approval of the City Engineer, or designee, the City may accept comparable BMPs from reputable alternative sources (e.g. Caltrans).

This manual is not intended as a comprehensive engineering or design manual on BMPs. The QSD or other qualified storm water professional must utilize their knowledge and experience with the tools and reference materials described in this manual to prepare an appropriate and adequate SWPPP.

The BMP categories below coincide with the BMP categories described in the CASQA construction handbook and provide a checklist of the BMPs that are to be included in a Construction SWPPP. The combination of BMPs included in the SWPPP must reflect the specific conditions at the proposed construction site. An effective SWPPP includes combination of BMPs that are designed to work together.

3.2 Minimum BMP Requirements

The City has established a set of minimum BMPs for all projects. Because all sites, regardless of priority, must be protected to prevent discharges, the minimum BMP requirements are the same for each priority. Each site must be protected by an effective combination of site and seasonally specific erosion and sediment controls, materials and waste management controls, and site management controls.

In addition, inactive sites must also be fully protected from erosion and discharges of sediment. A site is considered inactive if construction activities cease for a period of fourteen days or more consecutive days. It is also the project proponent's responsibility at both active and inactive sites to implement a plan to address all potential discharges. The City requires the following minimum BMPs components for all construction sites:

1. Project Planning;
2. Good site management "Housekeeping", including waste management;
3. Non-storm water management;
4. Erosion control;
5. Sediment control;
6. Run-on and Run-off control.

If particular BMPs are infeasible at any specific site, the owner/developer/contractor must install other equivalent or additional BMPs. At any time of the year, an inactive site must be fully protected from erosion and discharges of sediment. A site will be considered inactive if construction activities have ceased for a period of fourteen (14) or more consecutive days. It is also the owner/developer/contractors responsibility at both active and inactive sites to implement a plan to address all potential storm water and non-storm water discharges.

The following describes the minimum BMPs for each of the above BMP components that must be incorporated into each SWPPP.

3.3 Erosion and Sediment Control BMPs

Erosion and sediment control BMPs are the structural and non-structural practices that keep sediment in place (erosion control) and to capture sediment displaced by stormwater before it leaves the site (sediment control). Erosion and sediment control are the heart of any effective SWPPP. The SWPPP should rely on erosion controls as the primary means of preventing stormwater pollution. Sediment controls provide a necessary second line of defense to properly designed and installed erosion controls.

3.4 Erosion Control BMPs

Erosion control is any source control practice that protects the soil surface and prevents soil particles from being detached by rainfall, flowing water or wind. Erosion control is referred to as soil stabilization. Erosion control consists of preparing the soil surface and implementing one or more of the BMPs shown in Table 2.

Table 2
Erosion Control BMPs

CASQA BMP#	BMP Name
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 & Mats
EC-8	Wood Mulching
EC-9	Earth Dikes and Drainage Swales
EC-10	Velocity Dissipation
EC-11	Slope Drains
EC-12	Streambank Stabilization
EC-16	Non-vegetative stabilization

All inactive soil-disturbed areas on the project site, and most active areas prior to the onset of rain, must be protected from erosion. Soil disturbed areas may include relatively flat areas as well as slopes. Typically, steep slopes and large exposed areas require the most robust erosion controls; flatter slopes and smaller areas still require protection, but less costly materials may be appropriate for these areas, allowing savings to be directed to the more robust BMPs for steep slopes and large exposed areas. To be effective, erosion control BMPs must be implemented at slopes and disturbed areas to protect them from concentrated flows.

Some erosion control BMPs can be used effectively to temporarily prevent erosion by concentrated flows. These BMPs, used alone or in combination, prevent erosion by intercepting, diverting, conveying, and discharging concentrated flows in a manner that prevents soil detachment and transport. Temporary concentrated flow conveyance controls may be required to direct run-on around or through the project in a non-erodible fashion.

3.5 Sediment Control BMPs

Sediment control is any practice that traps soil particles after they have been detached and moved by rain, flowing water, or wind. Sediment control measures are usually passive systems that rely on filtering or settling the particles out of the water or wind that is transporting them. Sediment control practices include the BMPs listed in Table 3.

Table 3
Sediment Control BMPs

CASQA BMP#	BMP Name
SE-1	Silt Fence
SE-2	Sediment Basin
SE-3	Sediment Trap
SE-4	Check Dam
SE-5	Fiber Rolls
SE-6	Gravel Bag Berm
SE-7	Street Sweeping and Vacuuming
SE-8	Sandbag Barrier
SE-9	Straw Bale Barrier
SE-10	Storm Drain Inlet Protection
SE-12	Manufactured Linear Sediment Control

Sediment control BMPs include those practices that intercept and slow or detain the flow of stormwater to allow sediment to settle and be trapped. Sediment control practices can consist of installing linear sediment barriers (such as silt fence, sandbag barrier, and straw bale barrier); providing fiber rolls, gravel bag berms, or check dams to break up slope length or flow; or constructing a sediment trap or sediment basin. Linear sediment barriers are typically placed below the toe of exposed and erodible slopes, down-slope of exposed soil areas, around soil stockpiles, and at other appropriate locations along the site perimeter.

A few BMPs may control both sediment and erosion, for example, fiber rolls and sand bag barriers. The CASQA Construction Handbook classifies these BMPs as either erosion control (EC) or sediment control (SE) based on the BMPs most common and effective use. Sediment control BMPs are most effective when used in conjunction with erosion control BMPs. The combination of erosion control and sediment control is usually the most effective means to prevent sediment from leaving the project site and potentially entering storm drains or receiving waters. The City requires that the discharger implement an effective combination of erosion and sediment controls.

Under limited circumstances, sediment control, alone may be appropriate. For example, applying erosion control BMPs to an area where excavation, filling, compaction, or grading is currently under way may not be feasible when storms come unexpectedly. Use of sediment controls by establishing perimeter control on these areas may be appropriate and allowable provided the following conditions are met:

- Weather monitoring is under way.
- Inactive soil-disturbed areas have been protected with an effective combination of erosion and sediment controls.
- An adequate supply of sediment control materials is stored on-site and there are sufficient forces of labor and equipment available to implement sediment controls on the active area prior to the onset of rain.
- The SWPPP adequately describes the methods to protect active areas.

3.6 Wind Erosion Control BMPs

Wind erosion control consists of applying water or other dust palliatives to prevent or alleviate dust nuisance. Wind erosion control best management practices BMPs are shown in Table 4.

Table 4
Wind Erosion Control BMPs

CASQA BMP#	BMP Name
WE-1	Wind Erosion Control

Other BMPs that are sometimes applied to disturbed soil areas in order to control wind erosion are BMPs EC-2 through EC-7, shown in Chapter 3.3.2.1 above. Be advised that many of the dust palliatives may contain compounds that have an unknown effect on stormwater. A sampling and analysis protocol to test for stormwater contamination from exposure to such compounds is required in the SWPPP.

3.7 Tracking Control BMPs

Tracking control consists of preventing or reducing the tracking of sediment off-site by vehicles leaving the construction area. Tracking control best management practices (BMPs) are shown in Table 5.

Table 5
Tracking Control BMPs

CASQA BMP#	BMP Name
TR-1	Stabilized Construction Ingress/Egress
TR-2	Stabilized Construction Roadway
TR-3	Ingress/Egress Tire Wash

Attention to control of tracking sediment off site is highly recommended, as dirty streets and roads near a construction site create a nuisance to the public and generate constituent complaints to elected officials and regulators. These complaints often result in immediate inspections and regulatory actions.

3.8 Non-Storm Water Management BMPs

Carlsbad standards prohibit the discharge of materials other than stormwater and authorized non-stormwater discharges. It is recognized that certain non-stormwater discharges may be necessary for the completion of construction projects. Such discharges include but are not limited to irrigation of vegetative erosion control measures, pipe flushing and testing, and street cleaning.

Non-stormwater management BMPs are source control BMPs that prevent pollution by limiting or reducing potential pollutants at their source or eliminating off-site discharge. These practices involve day-to-day operations of the construction site and are usually under the control of the contractor. These BMPs are also referred to as “good housekeeping practices” which involve keeping a clean, orderly construction site.

Non-stormwater management BMPs also include procedures and practices designed to minimize or eliminate the discharge of pollutants from vehicle and equipment cleaning, fueling, and maintenance operations to stormwater drainage systems or to watercourses.

Table 6 lists standard non-stormwater management BMPs. All these BMPs must be implemented depending on the conditions and applicability of deployment described as part of the BMP.

Table 6
Non-Storm Water Management BMPs

CASQA BMP#	BMP Name
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/Discharge
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
NS-15	Demolition Adjacent to Water
NS-16	Temporary Batch Plants

It is recommended that owners and contractors be vigilant regarding implementation of these BMPs, including making their implementation a condition of continued employment, and part of all prime and subcontract agreements. By doing so, the chance of inadvertent violation can be prevented, potentially saving thousands of dollars in fines and project delays. Also, if procedures are not properly implemented and/or if BMPs are compromised then the discharge is subject to sampling and analysis requirements contained in the CGP.

3.9 Waste Management and Materials Pollution Control BMPs

Waste management and materials pollution control BMPs, like non-stormwater management BMPs, are source control BMPs that prevent pollution by limiting or reducing potential pollutants at their source before they come in contact with stormwater. These BMPs also involve day-to-day operations of the construction site, are under the control of the contractor, and are additional "good housekeeping practices" which involve keeping a clean, orderly construction site.

Table 7
Waste Management and Materials Pollution Control BMPs

CASQA BMP#	BMP Name
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

Waste management consists of implementing procedural and structural BMPs for handling, storing, and disposing of wastes generated by a construction project. The objective is to prevent the release of waste materials into stormwater runoff or discharges through proper management of the following types of wastes:

- Solid
- Sanitary
- Hazardous
- Equipment-related wastes

Materials pollution control (also called materials handling) consists of implementing procedural and structural BMPs in the handling, storing, and the use of construction materials. The BMPs are intended to prevent the release of pollutants during stormwater and non-stormwater discharges. The objective is to prevent or reduce the opportunity for contamination of stormwater runoff from construction materials by covering and/or providing secondary containment of storage areas, and by taking adequate precautions when handling materials. These controls must be implemented for all applicable activities, material usage, and site conditions.

Table 7 lists the waste management and materials pollution control BMPs. It is important to note that these BMPs should be implemented depending on the conditions/applicability of deployment described as part of the BMP.

3.10 General Site Management Requirements

The following are the minimum BMPs required at all sites throughout the year:

1. All graded areas must have erosion protection BMPs properly installed;
2. Adequate perimeter protection BMPs must be installed and maintained;
3. Adequate sediment control BMPs must be installed and maintained;
4. Adequate BMPs to control offsite sediment tracking must be installed and maintained;
5. A minimum of 125% of the material needed to install standby BMPs to protect the exposed areas from erosion and prevent sediment discharges, must be stored onsite. Areas already protected from erosion using physical

stabilization or established vegetation stabilization BMPs are not considered to be “exposed” for purposes of this requirement;

6. The project proponent must have an approved “weather triggered” action plan and be able to deploy standby BMPs to protect the exposed portions of the site within 48 hours of a predicted storm event (a predicted storm event is defined as a 40% chance of rain within a 5-day National Weather Service forecast). On request, the project proponent must provide proof of this capability;
7. Deployment of physical or vegetation erosion control BMPs must commence as soon as slopes are completed. The project proponent may not rely on the ability to deploy standby BMP materials to prevent erosion of slopes that have been completed;
8. The area that can be cleared, graded, and left exposed at one time is limited to the amount of acreage that the contractor can adequately protect prior to a predicted rain event. For larger sites, grading should be phased. It may be necessary to deploy erosion and sediment control BMPs in areas that are not completed, but are not actively being worked before additional grading is completed.
9. All exposed disturbed areas must have erosion protection BMPs properly installed. This includes all building pads, unfinished roads, and slopes;
10. Perimeter protection and sediment control BMPs will be upgraded, if necessary, to provide sufficient protection from runoff during rain events;
11. Deployment of erosion control BMPs will commence as soon as slopes are completed. Erosion control BMPs will be installed and maintained for all completed slopes throughout the year;
12. All disturbed areas that are not completed and/or not being actively graded must be fully protected from erosion if left for 14 or more days. The ability to install BMP materials in a prompt manner is NOT sufficient; BMPs need to be installed in these areas;
13. BMPs must be stockpiled at various locations throughout the project site throughout the year. Whenever there is a 40% chance or greater of a rain within a three (3) day forecast, the inspector will verify that BMPs are adequately stockpiled. BMPs must be stockpiled and ready for deployment when there is 50% chance of a rain within a 48 hour forecast. Failure to comply with this requirement could result in the issuance of a Stop Work Notice or other enforcement action;
14. When a Rain Event Action Plan is required, it must be prepared in accordance with the CGP. The plan shall include, in detail, any and all actions to be taken in advance (50% chance or greater) of a rain event forecast by the National Weather Service. A copy of each updated action plan must be placed in the project SWPPP and be available for review by the city inspector;
15. All treatment and erosion control BMPs must be inspected weekly and prior to a forecasted rain event of greater than 50%, and after a rain event. In addition, treatment control BMPs must be serviced as need throughout the year;

16. Inspections at sites covered under the CGP shall be conducted by the QSD/QSP or designee prior to a forecasted event, during and after a rain event, at weekly throughout the year, and as necessary to ensure site compliance; and
17. All construction employees must be trained on the importance of storm water pollution prevention and BMP maintenance.

For projects subject to the CGP, the RWQCB is responsible for verifying and enforcing requirements of that permit. The City will continue to work with RWQCB staff in assuring compliance at these sites. City staff will document observations of potential violations and will notify the RWQCB of the noncompliance in accordance with the Municipal Permit. Regardless of any inspections conducted by the City, project proponents are required to prevent any construction-related materials, trash, wastes, spills or residues from entering a storm water conveyance system.

3.11 Additional Controls for Construction Sites within the High Priority Focus Area

The High Priority Focus Area is located south of Buena Vista Lagoon, north of Agua Hedionda Lagoon, and west of Interstate 5 (refer to Carlsbad WQIP). There is also a small designated area located west of El Camino Real and south of Highway 78. For project sites located within the High Priority Focus Area, the following additional controls are required to be implemented at all times and to the maximum extent possible:

1. Maintain vegetative cover, as much as possible, by developing the project in a phased approach to reduce the amount of exposed soil at any one time.
2. Limit the areas of active construction to five acres at any one time.
3. Provide 100 percent soil cover for areas of inactive construction throughout the duration of the project.
4. Provide perimeter control at all appropriate locations along and at all storm drain inlets. Perimeter protection will be upgraded and must provide sufficient protection from run off during rain events.
5. Provide vegetated buffer strips between the active construction area and any water bodies.
6. Provide stabilized construction entrances that limit vehicle and foot traffic.

Where the provisions described above cannot be accommodated, additional or supplemental controls shall be recommended. The City Engineer or designee has the authority to approve supplemental or alternative control methods based upon an evaluation of the proposed control and the sites potential threat to storm water quality.

4. Storm Water BMP Inspection and Maintenance

4.1 General information

Construction is a dynamic operation where changes are expected. Storm water BMPs for construction sites are usually temporary measures that require frequent inspection and maintenance in order to remain effective. Relocation, revision and re-installation, particularly as project grading progresses, may also be necessary.

4.2 Inspection of Construction Sites

The City inspects all construction projects. Inspectors are responsible for grading, infrastructure, CIP, right-of-way, storm water, and engineering projects and for ensuring construction activities are performed in accordance with the City Standards, building and grading permits, and all applicable codes, regulations and ordinances. In addition, owner/developer/contractors are required to perform self-inspection of construction sites, for projects requiring SWPPP, in accordance with these standards.

The City will evaluate the adequacy of the owner's/contractor's site management for storm water pollution prevention, inclusive of BMP implementation, on construction sites based on performance standards for storm water BMPs.

4.3 City Storm Water BMP Inspection Frequency

The inspection frequencies for determining compliance with the City and RWQCB requirements are based upon the perceived Construction Threat Level as determined using Form E-32 available in the city website (refer to section 2.2). The inspection frequencies are shown in Table 8 below. Site-specific inspection frequencies are re-evaluated periodically, particularly when grading activities are being conducted during the rainy season. The need for additional inspections may vary depending upon several factors including:

- Site conditions;
- Previous violations;
- History of developer or contractor past performance;
- Grading during rainy season; and,
- Weather patterns.

Table 8: Inspection Frequency Based on Threat Prioritization

Threat Priority	Minimum Inspections Required												Minimum Wet Season Inspections	Minimum Dry Season Inspections	Minimum Required Inspections
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun			
High**	2	2	2	4	4	4	4	4	4	4	2	2	28	10	38
High	1	1	1	2	2	2	2	2	2	2	1	1	14	5	19
Medium**	1	1	1	2	1	2	1	2	1	2	1	1	11	5	16
Medium	1	0	1	1	1	1	1	1	1	1	0	1	6	3	9
Low	0	0	1	0	0	1	0	0	1	0	0	1	2	2	4

**Inspection frequency for projects located within a WQIP Focus Area. Based on the City's identification of WQIP Focus Areas, the inspection frequency will be different in these areas vs. non Focus Areas.

If inspected sites do not comply with the City's requirements, inspectors will immediately direct compliance and conduct follow-up inspections to assure compliance. Enforcement procedures are used when necessary and may include verbal or written warnings, stop work orders, revocation of permits, and/or legal action.

4.4 City Storm Water BMP Inspection Requirements

City inspection of construction sites for storm water compliance shall include, but not be limited to the all of the following:

1. Assessment of BMP effectiveness including implementation of an effective combination of erosion, sediment and non-stormwater BMPs to meet the City's minimum water quality protection requirements and prevent the discharge of pollutants into storm water and receiving waters;
2. Checking for coverage under the CGP if applicable;
3. Assurance of compliance with the City's applicable ordinances, permits and other site-specific requirements;
4. Visual observations for non-stormwater discharges, potential illicit connections and potential discharge of sediment and other construction related pollutants in stormwater runoff;
5. Documentation of violations and escalation of appropriate enforcement actions, when required;
6. Assurance of proper implementation of SWPPP (plans and specifications);
7. Education and outreach on stormwater pollution prevention as needed;