THE CITY OF SAN DIEGO

Storm Water Standards

PART 2

Construction BMP Standards

Effective Date: October 1, 2018

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The City of SAN DIEGO

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List of Acronyms

ASBS	Areas of Special Biological Significance
BMP	Best Management Practice
Cal OES	California Governor's Office of Emergency Services
CASQA	California Stormwater Quality Association
CGP	California Construction General Permit
PWD	Public Works Department
DSD	Development Services Department
EPA	Environmental Protection Agency
JRMP	Jurisdictional Runoff Management Program
LUP	Linear Underground/Overhead Utility Projects
MS4	Municipal Separate Storm Sewer System
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
PDP	Priority Development Project
QCP	Qualified Contact Person
RE	Resident Engineer
SDRWQCB	San Diego Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan
SWRCB	State Water Resources Control Board
WPCP	Water Pollution Control Plan
WTAP	Weather Triggered Action Plan

Glossary of Key Terms

Active	Areas where earth disturbing activities such as grading or trenching are occurring or are scheduled to occur within 14 days. Earth Disturbing activities does include stockpiling.
Areas of Special Biological Significance (ASBS)	Areas described in Attachment B to SWRCB Resolution No. 2012-0012 as amended by Resolution No. 2012-0031, including 34 ocean areas that support an unusual variety of aquatic life that are monitored and maintained for water quality by the State Water Resources Control Board.
Construction BMP	Includes schedules of activities, prohibitions of practices, maintenance procedures, and erosion and sediment control practices to prevent, eliminate, or reduce pollution in storm water runoff from construction sites.
Construction General Permit	A general permit issued by the State Water Resources Control Board that regulates storm water discharges associated with construction activity.
Disturbed Area	Areas where construction activity is currently occurring and includes but is not limited to: clearing, grubbing, demolition, grading, excavating, stockpiling, landscaping, placement of fill, paving, installation of utilities, and construction of buildings or structures that result in soil disturbance.
Groundwater	Subsurface water that occurs beneath the water table in soils and geologic formations that are fully saturated.
Inactive	Areas where earth disturbing activities have permanently ceased or will be temporarily suspended for a period of 14 days or greater. Earth Disturbing activities does include stockpiling.
Municipal Separate Storm Sewer System (MS4)	Per the City Storm Water Ordinance, the MS4 is a conveyance or a system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is/are: (i) owned or operated by the City; (ii) designated or used for collecting or conveying storm water; (iii) not combined with sewer discharges; and (iv) not part of the Publicly Owned Treatment Works as defined in Title 40 of the Code of Federal Regulations section 122.26.
Qualified Contact Person	A person specifically trained in storm water pollution prevention, including the installation and maintenance of sediment and erosion control measures.
Qualified WPCP Preparer	Individual responsible for WPCP preparation when the project is: • Not subject to CGP requirements; and • Determined to be a Priority Development Project (PDP), per Part 1 of the Storm Water Standards; and

- Located in the Los Peñasquitos Watershed, Tijuana River Watershed, adjacent to or directly discharges to an Environmentally Sensitive Area, or discharges to an ASBS.

Possesses at least one of the following registrations or certifications:

1. A California registered civil engineer;
2. A California registered geologist;
3. A California registered landscape architect;
4. A professional hydrologist registered through the American Institute of Hydrology;
5. A certified professional soil scientist registered through the Soil Science Society of America;
6. A certified professional in erosion and sediment control registered through EnviroCert International, Inc.;
7. A certified professional in storm water quality registered through EnviroCert International, Inc.;
8. A certified erosion, sediment, and storm water inspector registered through EnviroCert International, Inc.;
9. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control Inc.; or
10. A certified professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies.

Rain Event	Any precipitation event that produces a measureable (trace) amount of rainfall; An amount measuring at least 0.01 inches.
Rainfall Erosivity Waiver	Applicable to a small construction site (>1 acre and <5 acres) with a rainfall erosivity value less than or equal to 5. This waiver exempts the project from coverage under the CGP.
Storm Water Pollution Prevention Plan (SWPPP)	A written plan submitted to the City and State Water Resources Control Board for projects that are covered under the Construction General Permit. The SWPPP documents the series of phases and activities that characterize the construction site and describes actions which prevent the pollution of storm water discharges from the site.
Water Pollution Control Plan (WPCP)	A written plan submitted to the City for projects that do not require coverage under the CGP (and have no CGP SWPPP). The WPCP documents the series of phases and activities that characterize the construction site and describes actions which prevent the pollution of storm water discharges from the site.

Weather Triggered Action Plan (WTAP)	A WTAP is a written document and corresponding site map designed to be used as a planning tool for the qualified contact person to protect areas of exposed soils and materials prior to forecasted rain.

Chapter 1

Introduction/Purpose

Part 2 of the Storm Water Standards addresses storm water impacts and required controls associated with construction activities in the City of San Diego (City). The purpose of these standards is to provide minimum requirements to prevent construction activities from adversely impacting downstream and onsite resources. The protection of water quality from onsite pollutant sources is attainable when suitable Best Management Practices (BMPs) are planned, installed, and correctly maintained.

These Storm Water Standards include:

- General requirements for construction projects (**Chapter 2**);
- Background on applicable regulations and the City's process for determining project-specific applicability of various codes and regulations (**Chapters 2-3**);
- Required documentation/pollution prevention plans (**Chapter 4**);
- Minimum BMPs required to be installed and maintained throughout the duration of construction projects (**Chapter 5**); and
- Relevant inspection, enforcement, and project close-out requirements (**Chapters 5-7**).

The Storm Water Standards manual is intended for use on private development projects that are authorized through the City Development Services Department (DSD) and on capital projects that are authorized through the City Capital Improvement Program (CIP). The manual differentiates which templates and guidance apply to private development projects or to capital projects. All individuals working on or doing business at a construction site must be mindful of maintaining storm water compliance onsite and protect against inadvertent pollutant discharges related to their activities. Similar to OSHA safety requirements, all individuals working onsite must be educated about proper best management practices implementation and maintenance to ensure the best overall onsite compliance.

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Chapter 2

Determining Applicable Storm Water Regulations

Storm water and non-storm water runoff generated by construction activities in San Diego are subject to regulation by the State Water Resources Control Board (SWRCB) and the San Diego Regional Water Quality Control Board (SDRWQCB). The SDRWQCB is responsible for implementing statewide water quality regulations in the San Diego region, including state programs implemented as delegated under the Federal Clean Water Act and the California Porter-Cologne Water Quality Act. Under these provisions, the SWRCB and SDRWQCB have adopted several permits that impact construction activities. Applicable storm water regulations include the SWRCB Order No. 2009-0009-DWQ, NPDES General Permit for Storm Water Discharges Associated with Construction Activities (CGP), as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ, and the Municipal Separate Storm Sewer System (MS4) Permit Order No. R9-2013-0001 as amended by Order Nos. R9-2015-0001 and R9-2015-0100.

The San Diego Municipal Code establishes Storm Water Ordinances that apply to construction projects. **All construction sites are required to implement construction BMPs in accordance with the performance standards in this manual**. Some sites are additionally required to obtain coverage under the CGP, which is administered and enforced by the SWRCB and the SDRWQCB. The project owner (or owner's representative) is responsible for determining applicability to CGP requirements. The City requirements have been aligned to the CGP requirements where possible; where the requirements differ, the project owner must comply with the more stringent requirement. It should be noted that this manual references the current CGP at time of development (Order No. 2009-0009-DWQ as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) and does not address future updates.

For projects that require coverage under and compliance with the CGP, the construction BMPs must be identified in a Storm Water Pollution Prevention Plan (SWPPP). For all other projects, a Water Pollution Control Plan (WPCP) is required that identifies the pollution prevention measures that will be taken to comply with City standards. If the project qualifies for a Rainfall Erosivity Waiver under the CGP, a WPCP must be submitted in lieu of a SWPPP. A Change of Information must be submitted in SWRCB's Storm Water Multiple Application and Report Tracking System prior to expiration of the Rainfall Erosivity Waiver if the project completion date changes. The project applicant must re-evaluate the rainfall Erosivity factor and if the project no longer qualifies for a waiver, file for coverage under the CGP and submit a SWPPP.

It is the responsibility of the property owner or his/her designee (contractor) to select, install, and maintain appropriate BMPs. The Storm Water Requirements Applicability Checklist (DS-560) shall be submitted as part of the permitting process to document a project's permanent and construction storm water BMP requirements. A list of construction BMPs is provided for reference in **Chapter 5**. 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 statewide storm water BMP manuals (e.g., the California Storm Water Quality Association [CASQA] Construction BMP Online Handbook and the Caltrans Construction Site BMP Manual).

Construction projects have differing requirements based on the degree of threat to receiving waters. These receiving water determinations are grouped into two primary considerations:

- Projects subject to the CGP must calculate the Risk Level (or Linear Underground/Overhead Type) and implement the CGP requirements for that Risk Level (or Linear Underground/Overhead Type); and
- Projects located in the watersheds draining to Areas of Special Biological Significance (ASBS) are prohibited from discharging to an ASBS under the California Ocean Plan unless granted an exception issued by the SWRCB. **Appendix A** shows the watershed delineation for areas draining to the two ASBS in the City (La Jolla and San Diego - Scripps).

If the construction site is in an ASBS watershed, Special Protections contained in Attachment B to SWRCB Resolution No. 2012-0012 as amended by Resolution No. 2012-0031 apply and are summarized below. Discharges composed of storm water runoff shall not alter natural ocean water quality in an ASBS.

According to the SWRCB ASBS Resolution No. 2012-0031, existing storm water discharges into an ASBS are allowed only under the following conditions:

1. The discharges are authorized by an NPDES permit issued by the SWRCB or Regional Water Board;
2. The discharges comply with all of the applicable terms, prohibitions, and special conditions contained in these Special Protections; and
3. The discharges:
   (a) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;
   (b) Are designed to prevent soil erosion;
   (c) Occur only during wet weather; and
   (d) Are composed of only storm water runoff.

Chapter 3

Determining Applicable Non-Storm Water Regulations

Except as provided in Municipal Code section 43.0305, all non-storm water discharges are prohibited.

Allowed non-storm water discharges that may be applicable during construction projects include certain discharges covered under specific National Pollutant Discharge Elimination System (NPDES) permits. The project owner is responsible for determining if coverage under additional NPDES permits is required, or if ASBS regulations further prohibit discharges that might otherwise be allowed outside of an ASBS watershed.

Table 3–1 identifies NPDES Permits and waivers that may require enrollment for certain types of non-storm water discharges during construction projects. Unique sources of non-storm water discharges, such as the discharge of contaminated water that has been treated, may require an individual NPDES permit. Contact the SDRWQCB to determine permit requirements for unique sources of non-storm water discharges.

Table 3-1. NPDES Permits and Waivers for Non-Storm Water Discharges from Construction Sites

Abbreviation	Permit Name/Order Number	Description	Applicability
Discharge to Land	Conditional Waivers of Waste Discharge Requirements for Low Threat Discharges in the San Diego Region. Order R9-2014-0041.	This order is intended to cover temporary discharges of low threat waters to land.	Projects that include short-term dewatering, such as excavation during construction; utility vaults and underground structure water removal; foundation and footing drain water removal; flushing of water lines; and recycled water discharges to land for infiltration. This permit is applicable only when the discharges do not have the potential to reach the MS4 or affect surface water quality(A).

Abbreviation	Permit Name/Order Number	Description	Applicability
Groundwater Dewatering Discharges – San Diego Region including Discharges to San Diego Bay	General Waste Discharge Requirements for Groundwater Extraction Discharges to Surface Waters within the San Diego Region. Order No. R9-2015-0013, NPDES No. CAG919003.	This order is intended to cover all discharges of groundwater extraction wastes to surface waters within the San Diego Region including discharges to the San Diego Bay. Emphasis is placed on groundwater extraction due to construction and other groundwater extraction activities regardless of volume, including discharges less than 100,000 gallons per day.	Projects discharging any temporary flow or volume of extracted groundwater into surface waters, including San Diego Bay[(A)].
Drinking Water Discharges to Surface Waters	Statewide National Pollutant Discharge Elimination System (NPDES) Permit for Drinking Water Discharges to Waters of the United States. Order WQ 2014-0194-DWQ, General Order No. CAG140001.	This order is intended to cover short-term or seasonal planned and emergency discharges of drinking (potable) water from supply wells, transmission systems, water treatment facilities, water distribution systems, and storage facilities. Discharges from these essential activities may have the potential to impact receiving waters due to toxicity, sediment loading, and large volume and/or high velocity of discharges. The Permit requires discharge monitoring for single events that meet specific criterial and annual representative monitoring as well as receiving water monitoring for discharges that exceed effluent limits in the Order. The Order establishes water quality based effluent limitations for total residual chlorine and turbidity.	Activities covered include those that are essential to comply with regulations to provide reliable and safe drinking water. More common activities include distribution system dewatering, flushing, and pressure testing. This permit is applicable only for water lines or related facilities owned and operated by the City and does not apply to new water mains. Contact the RE or building inspector regarding the applicability of this permit. This permit requires that Good Housekeeping BMPs are in place prior to the discharge of drinking water. This includes storm drain inlet protection, check dams to slow the discharge, and cleaning of the discharge path (i.e., gutter) from the point of discharge to the nearest storm drain inlet.

Abbreviation	Permit Name/Order Number	Description	Applicability
Utility Vaults and Structures	General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Waters of the United States. Order WQ 2014-0174-DWQ, NPDES No. CAG990002.	This order applies to utility companies with short-term intermittent discharges of pollutants to surface waters from utility vaults and underground structures.	Utility Vaults and Structures[(A)].

[(A)] Consult the SDRWQCB for details regarding applicability and permit requirements.

Existing foundations or footing drain systems can be encountered during construction. Note that non-storm water discharges to surface waters within the San Diego region from foundation drain or footing drain systems designed to be located at or below the groundwater table to actively or passively extract groundwater during any part of the year are prohibited unless the discharge has coverage under NPDES Permit No. CAG919003. Also, note that non-storm water discharges to surface waters within the San Diego region from foundation drain or footing drain systems designed to be located above the groundwater table at all times of the year, and only expected to discharge non-storm water under unusual circumstances may be prohibited if the City or SDRWQCB identifies the discharge as a source of pollutants to receiving waters. Discharges to the San Diego Bay are prohibited outside of rain events.

Per Attachment A of the MS4 Permit, The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability or occur naturally:

1. Discharges associated with emergency firefighting operations;
2. Foundation and footing drains;
3. Water from crawl space or basement pumps;
4. Hillside dewatering;
5. Naturally occurring groundwater seepage via a storm drain; and
6. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

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Chapter 4

Pollution Control Plan Requirements

In accordance with the MS4 Permit, pollution control plans are required to be developed and submitted by the project applicant. All projects in the City must submit either a SWPPP or WPCP.

Table 4-1 identifies which projects require SWPPP or WPCP and the accepted templates. Requirements for each document are further summarized in **sections 4.1 and 4.2**.

Table 4-1. SWPPP/WPCP by Land Disturbance and Project Type

Total Land Disturbance (includes storage/laydown yard)	Required Plan
1 acre or greater that does not qualify for the Rainfall Erosivity Waiver or otherwise require coverage under the CGP	CGP coverage and compliant SWPPP (using CASQA, Caltrans, or equivalent template), and submit the City SWPPP Submittal Checklist (Appendix D)
Less than 1 acre or greater than 1 acre and less than 5 acres that qualifies for the Rainfall Erosivity Waiver or otherwise does not require coverage under the CGP (e.g., routine maintenance)	WPCP Template, Appendix D
Group Job/Linear which are Less than 1 acre or greater than 1 acre and less than 5 acres that qualifies for the Rainfall Erosivity Waiver or otherwise does not require coverage under the CGP (e.g., routine maintenance)	Linear Utility (Group Job) WPCP Template, Appendix D
Less than 5,000 square feet; and Less than 5-foot elevation change	Minor WPCP (Form DS-570), Appendix D
Demolition only projects	Demolition WPCP Checklist, Appendix D

A plan is not required for projects that do not pose a significant threat to water quality. This includes the following project types:

- Electrical Permit;
- Fire Alarm Permit;
- Fire Sprinkler Permit;
- Plumbing Permit;
- Sign Permit;
- Mechanical Permit;
- Spa Permit;
- Individual Right-of-Way Permits that exclusively include one of the following activities and associated curb/sidewalk repair: water service, sewer lateral, or utility service; and
- Right-of-Way Permits with a project footprint less than 150 linear feet that exclusively include only one of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, geotechnical borings, and retaining wall encroachments.

These projects must still comply with all storm water BMPs pursuant to City of San Diego Municipal Code and City Standards. **Appendix B** provides examples of typical construction storm water violations. The CASQA Construction BMP Online Handbook and Caltrans Construction Site BMP Fact Sheets serve as a reference to develop a construction BMP plan. In addition, the Standard Specifications for Public Works Construction (the "WHITEBOOK") may be a resource for capital improvement projects. If the City Engineer determines the project could potentially pose a threat to storm water quality, the City Engineer may require preparation and implementation of a WPCP.

The City has developed an applicability checklist (DS-560) to help project applicants determine which form/template their project requires. The DS-560 is available for download from the development services department website.

4.1 SWPPP Requirements

If a project is subject to CGP, the applicant must develop and submit a SWPPP to the SWRCB's Storm Water Multiple Application and Report Tracking System in accordance with the CGP. The SWPPP must incorporate minimum BMPs as described in **Chapter 5** of this manual per City requirements and must be developed based on the CASQA or Caltrans or an equivalent SWPPP template. For private development, a Waste Discharge Identification number is required prior to issuance of a permit and for capital improvement program projects a Waste Discharge Identification number is required prior to the start of construction. The SWPPP must be kept onsite and made available upon request by a representative of the City, SDRWQCB, or the SWRCB.

Additionally, the CGP has requirements for preparing Site Maps, BMP inspections, discharge monitoring, and reporting that all must be implemented in accordance with CGP requirements. Projects that are required to obtain coverage under the CGP are encouraged to visit the SWRCB's website for permit application instructions. It should be noted that acceptance of a project SWPPP by the City does not constitute approval by the SWRCB. Additionally, the City's SWPPP checklist complies with this manual and the CGP and must be completed and submitted to the City as part of the SWPPP submittal (see **Appendix D**).

Any hydrology or hydraulic calculations, soils report or geotechnical reports prepared in support of a SWPPP must be prepared by a professional engineer with appropriate registration qualifications issued by the State of California.

4.2 WPCP Requirements

For projects not subject to CGP (due to size requirements, a Rainfall Erosivity Waiver, or other considerations), a WPCP which identifies all construction BMP requirements must be submitted with the project submittal (prior to the start of construction).

The WPCP is a report that shall depict the BMPs to be implemented during construction to reduce/eliminate discharges of pollutants to the storm drain conveyance system. The WPCP and Site Map shall be updated with each phase of construction activity. The WPCP must be kept onsite and made available upon request of a representative of the City. WPCP templates are available at the following link:

https://www.sandiego.gov/stormwater/regulations

Any hydrology or hydraulic calculations, soils report or geotechnical reports prepared in support of a WPCP must be prepared by a professional engineer with appropriate registration qualifications issued by the State of California.

4.2.1 Basic Elements to a WPCP

The following steps are to be used to aid in the design and development of erosion and sediment control measures included in the WPCP.

1. Plan the project (establish construction schedule, disturbed area phasing, BMP materials storage).
2. Preserve existing vegetation and delineate clearing limits (orange construction fence, staking with ribbon).
3. Establish construction access points (gravel entrance, shaker plates, tire wash area).
4. Control run-on and runoff (using pipe, drainage swales, berms).
5. Install sediment controls (silt fence, sediment traps, etc.).
6. Stabilize soils (mulch, hydroseed, etc.).
7. Protect slopes (divert water from top of slope, cover with plastic or erosion control blanket).
8. Protect drain inlets (catch basin inserts).
9. Stabilize channels and outlets (cover with grass, riprap).
10. Control pollutants (maintain equipment to prevent leaks, drip pans, covered trash bins).
11. Control dewatering (pump to sediment trap).
12. Maintain BMPs (weekly maintenance/replacement, preparation for storm events).
13. Manage the project (re-assess construction schedule, phasing, contact numbers).
14. Document BMP training of contractor/subcontractor employees.
15. Retain Inspection Notices and Self-Inspection Worksheets for a minimum of 3 years.

A **Qualified WPCP Preparer** shall prepare, amend, and certify the WPCP for projects that meet the following criteria:

- Not subject to CGP requirements; and
- Determined to be a Priority Development Project (PDP), per Part 1 of the Storm Water Standards; and
- Located in the Los Peñasquitos Watershed, Tijuana River Watershed, adjacent to or directly discharges to an Environmentally Sensitive Area, or discharges to an ASBS.

A **Qualified WPCP Preparer** shall meet at least one of the following registrations or certifications:

1. A California registered civil engineer;
2. A California registered geologist;
3. A California registered landscape architect;
4. A professional hydrologist registered through the American Institute of Hydrology;
5. A certified professional soil scientist registered through the Soil Science Society of America;
6. A certified professional in erosion and sediment control registered through EnviroCert International, Inc.;
7. A certified professional in storm water quality registered through EnviroCert International, Inc.;
8. A certified erosion, sediment, and storm water inspector registered through EnviroCert International, Inc.;

9. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control Inc.; or
10. A certified professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies.

4.2.2 Linear Utility (Group Job) WPCP Template

Linear Utility projects involve the replacement and/or rehabilitation of sewer and/or water mains and storm drains along with their associated appurtenances in the public Right-of-Way. Linear Utility projects may also include Americans with Disabilities Act improvements to curb ramps and sidewalk, street repair from full width to trench limits, and traffic improvements. For Linear Utility projects, the applicant must provide a Linear Utility WPCP. The Linear Utility WPCP template is located at the link provided in **Section 4.2**. **This template does not apply to street resurfacing projects**.

4.2.3 Minor WPCP

For projects that create less than 5,000 square feet of ground disturbance and have less than a 5-foot elevation differential over the entire project area, the applicant must provide a Minor Water Pollution Control Plan (Form DS-570). This form is for the applicant's convenience and does not alleviate responsibility on part of the project owner/applicant from BMP planning and implementation to prevent pollutant discharges. Projects of this size may be eligible for a Rainfall Erosivity Waiver under the CGP; refer to requirements in the CGP to determine applicability.

4.2.4 Demolition WPCP Checklist

Demolition-only projects consist primarily of waste and equipment management activities and grading. Demolition activities may include:

- Mobilizing equipment to the site;
- Dismantling structures, foundations, roads, etc.;
- Clearing/grubbing vegetation;
- Segregating materials;
- Stockpiling waste and soil;
- Hauling demolition materials from the site; and
- Demobilizing equipment and demolition materials.

For demolition-only projects, where the demolition is phased separately from future construction, applicants must submit a Demolition WPCP. The Demolition WPCP checklist is located at the link provided in **Section 4.2**. Note that a pre-construction inspection is required prior to commencement of any demolition activities.

4.3 Weather Triggered Action Plans (WTAP)

All projects that require development of a pollution control plan per **Table 4-1** and have a land disturbance greater than 5,000 square feet or greater than a 5-foot elevation differential over the entire project area are required to develop a Weather Triggered Action Plan (WTAP).

A WTAP is a written document and corresponding site map designed to be used as a planning tool for the Qualified Contact Person (QCP) to protect areas of exposed soils and materials prior to forecasted rain. The WTAP must be prepared in advance of rain events per **Table 4-2** to allow for adequate time to implement BMPs. The WTAP must be kept onsite and made available for inspection upon request by a representative of the City, SDRWQCB, or the SWRCB.

A WTAP template to be used for City projects (both CGP and non-CGP projects) is included in **Appendix D**.

Table 4-2. WTAP Implementation Requirements

Trigger Level	Project Applicability	WTAP Implementation Trigger [Probability of Precipitation (POP)][1]	WTAP prepared no later than # hours prior to predicted onset of rain	WTAP implementation completed no later than # hours prior to predicted onset of rain	Trigger Level Justification and Enforcement Status[4]
A	**All Projects[2]**	50% POP	48 hours	Prior to Rain	Currently compliant based on City Inspection
Enhanced WTAP Trigger per City Inspection Results:					
B	**All Projects[2]**	40% POP	48 hours[3]	24 hours	Escalating Enforcement for non-compliant erosion and sediment control BMPs

[1] BMP deployment and active area stabilization timing is based on National Weather Service probability of precipitation (http://www.weather.gov/sgx/); Use project location and hourly forecast.

[2] Project that have a land disturbance less than 5,000 square feet and less than a 5-foot elevation differential over the entire project area are exempt from WTAP requirements.

[3] Sites must be checked at 24 hours prior to the rain event to ensure the WTAP is consistent with current construction conditions.

[4] Trigger Level selected by City RE or Inspector based on non-compliant site conditions. The project will remain at the assigned Trigger Level until compliance is demonstrated to the satisfaction of the City RE or Inspector. The City may move a project back to Trigger A, if compliance is demonstrated for three successive inspections.

Chapter 5

Required Best Management Practices

BMPs collectively refer to a variety of pollution prevention controls implemented throughout the project site at various times during the project. BMPs discussed herein are specifically aimed to control pollution in storm water runoff during the construction phase of the project. In order to meet the requirements of the permits and ordinances mentioned in **Chapter 3**, BMPs must be selected, installed, and maintained properly throughout the duration of construction projects.

The major construction BMP categories as identified in the MS4 Permit are shown in the table below, and the required BMPs are described in **Tables 5–1 through 5–7**. Refer to the CASQA Construction BMP Online Handbook and/or Caltrans Construction Site BMP Fact Sheets for additional BMPs.

BMPs may be used to eliminate or reduce the amount of sediment and pollutants discharged from a construction site. Combining multiple BMPs as a treatment train often creates more benefits than using a single BMP. For example, an erosion control BMP, such as hydromulch, can be used in conjunction with a perimeter control BMP, such as a silt fence, to stabilize slopes, reduce erosion, and capture and retain sediment within the construction limits.

If at any point the Resident Engineer or Inspector determines that the selected BMP is inadequate or that there is a lack of appropriate BMPs onsite, they may request different or additional BMPs be implemented.

BMP implementation must plan for year-round wind and rain events, including those that may occur during the dry season (May 1 to September 30).

Table 5-1: Project Planning	Planning and Scheduling (SWPPP/WPCP) Resource Protection and Areas of Special Biological Significance
Table 5-2: Good Site Management "Housekeeping"	Material Management Stockpile Management Landscape Material Management Solid and Liquid Waste Management Vehicle and Equipment Pollution Prevention Spill Prevention and Control Concrete Waste Management Sanitary/Septic Waste Management
Table 5-3: Non-Storm Water Management	Illegal Discharges/Non-Storm Water Discharges Illicit Connection Detection and Reporting Water Conservation Practices Dewatering Operations
Table 5-4: Erosion Control	Erosion Control Dust Control
Table 5-5: Sediment Control	Perimeter Controls Linear Sediment Controls Storm Drain Inlet Protection Sediment Trap/Basin Tracking Control/Street Sweeping
Table 5-6: Run-on and Runoff Control	Dikes, Swales, and Slope Drains Temporary Energy Dissipation
Table 5-7: Active/Passive Sediment Treatment	Active Treatment Systems Passive Treatment Systems

Table 5-1. Project Planning

<table>
<tr><th>Type</th><th>Description</th></tr>
<tr><td>Planning and Scheduling (SWPPP/WPCP)

<u>Purpose:</u>
Identify potential sources of storm water pollution, describe practices and procedures to reduce pollutants in storm water. Reduce the amount and duration of soil exposure to erosion by wind, rain, runoff, and vehicle tracking.</td><td>In accordance with the MS4 Permit, pollution control plans are required to be developed and submitted by the project applicant. For projects that require coverage under the CGP, a SWPPP must be submitted. For other projects, a WPCP must be submitted.

The SWPPP or WPCP must:

<table><tr><th>SWPPP</th><th>WPCP</th></tr><tr><td>- Incorporate minimum BMPs as described in Chapter 5 of this manual and must be developed based on the CASQA or Caltrans or equivalent SWPPP template.

- Be submitted with a completed SWPPP Submittal Checklist. The SWPPP Submittal Checklist is provided in Appendix D.

- Include BMPs for active and inactive areas and BMPs to be implemented prior to and during rain events (per WTAP).</td><td>- Be prepared in accordance with City-approved templates and include all required information.

- Include BMPs for active and inactive areas and BMPs to be implemented prior to and during rain events (per WTAP).</td></tr></table>
“Active” areas are those undergoing land surface disturbance such as grading, trenching, and landscaping. Track walking alone (i.e., not associated with planned construction or grading activities) does not allow an area to be considered “active.”

“Inactive” areas are areas of construction activity that have been disturbed and are not re-disturbed for 14 days.

The project owner shall develop a scheduling/phasing plan for each phase of construction. This plan must address work and activities and BMP sequencing for each phase (i.e., demolition, mass grading, rough grading, final grading, and stabilization). Scheduling/phasing plan requirements are detailed in the SWPPP Submittal Checklist and WPCP templates.

The scheduling/phasing plan must be updated for each phase of construction and kept onsite and made available for inspection upon request by a representative of the City, SDRWQCB, or the SWRCB.

Other storm water related provisions shall be included in the SWPPP or WPCP as applicable (e.g. 401 Permit, 404 Permit, Coastal Development Permit, Streambank Alteration Permit, Air Pollution Control District Permit, etc.).</td></tr>
<tr><td>Reference</td><td>SWPPP Submittal Checklist (Appendix D)
WPCP Templates (Appendix D)</td></tr>
</table>

Type	Description
Resource Protection and Areas of Special Biological Significance <u>Purpose:</u> Protect City's municipal separate storm sewer system (MS4) and receiving waters.	1. Discharge of pollutants related to construction activities is prohibited to the City's MS4 or other receiving waters. 2. Year-round implementation of BMPs is required. 3. Additional BMPs must be available to deploy to further protect the site prior to rain. 4. All unauthorized non-storm water discharges are prohibited. 5. Additional restrictions apply to discharges to ASBSs as identified in Chapter 2. 6. If discharges occur or the City identifies that BMPs are not sufficient to control potential discharges, the City may require additional BMPs or otherwise limit work until the project demonstrates that discharges will be prevented.
Reference	Chapter 2 and Chapter 3 of this manual.

Table 5-2. Good Site Management "Housekeeping"

Type	Description
Material Management <u>Purpose:</u> Prevent, reduce, or eliminate the discharge of pollutants from material delivery, storage, and use onsite.	 1. "Material" refers to any item that may be used on a construction site, including but not limited to: a) Materials used for construction of building and other structures; b) Soil stabilizers and binders; c) Erosion and sediment control products; d) Pesticides and herbicides; e) Fertilizers; f) Detergents; g) Plaster; h) Petroleum products such as fuel, oil, and grease; i) Asphalt and concrete components and compounds; j) Hazardous chemicals such as acids, lime, glues, epoxy, adhesives, primers, thinners, paints, solvents, lubricants, and curing compounds; and k) Other materials that may be detrimental if released to the environment. 2. All material delivery and storage must occur in a designated area at least 50 feet away from downstream storm drain facilities. On projects with limited space, material must be stored at least 5 feet away from downstream storm drain facilities. 3. All materials that may contribute pollutants to storm water runoff must be stored off the ground and covered or stored within secondary containment. Keeping materials in a storage container (i.e., Conex box) or indoors satisfies the coverage requirement.

Type	Description
	4. All hazardous materials and hazardous wastes (a waste with properties that make it potentially dangerous or harmful to human health or the environment[1]) must be stored in watertight containers and labelled in accordance with all local, state, and federal regulations. The storage area for these materials and wastes must be enclosed with watertight secondary containment. 5. All materials must be covered at the end of every work day, during rain events, and at least 24 hours prior to rain, in accordance with the WTAP implementation schedule applicable to the project. 6. Absorbent spill cleanup materials must be readily available onsite in all material storage areas. Spent spill cleanup materials must be disposed of properly in accordance with all local, county, state, and federal regulations. 7. Apply soil binders, pesticides, herbicides, and fertilizers only were designated without overspray to prevent potential discharge by storm water or non-storm water runoff.
Reference	CASQA WM-1, WM-2, WM-4 Caltrans WM-01, WM-02 [1] California Department of Toxic Substances Control. (May 25, 2018). *Defining Hazardous Waste*. Retrieved from http://www.dtsc.ca.gov/HazardousWaste/.
Stockpile Management <u>Purpose:</u> To reduce or eliminate air and storm water pollution from stockpiles.	 1. Stockpile management must occur at every stockpile within a construction project year-round. These include but are not limited to soil, sand, portland cement concrete or asphalt concrete rubble, cold mix asphalt, aggregate base or sub base, chemically treated wood, and landscaping materials. 2. Stockpiles must be protected to prevent discharge of sediment or other pollutants beyond the immediate area of the stockpile and offsite either by transport via wind or water. 3. All stockpiles must be stabilized at the end of each day. In addition, all stockpiles must be bermed (i.e. perimeter controls) at the end of each day.

<table>
<tr><th>Type</th><th>Description</th></tr>
<tr><td></td><td>
4. Stockpiles in the right-of-way must be stabilized with an erosion control product and bermed (i.e. perimeter control) at the end of each day.

5. All stockpiles must be stabilized with an erosion control product and bermed (i.e. perimeter control) prior to rain. Projects that are subject to an enhanced WTAP trigger are required to stabilize and berm all stockpiles at a lower probability of precipitation.

Examples of control products include, but not limited to, the following:

<table>
<tr><th>Erosion Control Products</th><th>Perimeter Controls</th></tr>
<tr><td>Hydromulch
Soil Binder / Tackifier
Plastic Cover*</td><td>Straw Wattles (Fiber Rolls)
Gravel Bags
Silt Fence</td></tr>
</table>
*Plastic must be appropriately selected, self-inspected, and maintained to prevent deterioration

6. For stockpiles where only a portion (or “face”) is actively being used, the remaining inactive portion (or faces) must be designated on the site map and stabilized with an erosion control product and bermed at all times. Active faces must be bermed and stabilized at the end of each day and prior to rain as described above in notes 3 and 4.

7. Perimeter controls must be inspected on a daily basis by the Contractor for sediment accumulation. Sediment accumulation must be removed when sediment reaches 1/3 of BMP height and prior to a rain event. For perimeter controls within the City’s right-of-way, sediment accumulation must be removed daily and prior to rain event.

8. All stockpiles must be placed at least 50 feet away from storm drain structures (e.g., inlets, outlets, swales, ditches, etc.). On projects with limited space, material must be stored at least 5 feet away from downstream storm drain facilities. Additional BMPs must be installed downstream if distance is less than 50 feet.

9. All stockpiles must be placed at least 18 inches from the curb face and are prohibited where they obstruct flow including storm drain inlets and drainage ditches.
</td></tr>
<tr><td>Reference</td><td>CASQA WM-3, SE-1, SE-5, SE-6, SE-8
Caltrans WM-03</td></tr>
<tr><td>Landscape Material Management

<u>Purpose:</u>
To reduce or eliminate pollutants related to</td><td>
1. Stage erodible landscape material on pallets and cover when not being used.

2. Discontinue the use of erodible landscape materials within 2 days before a forecasted rain event or during periods of precipitation.

3. Landscaping waste (including plant waste) must be contained, covered in designated areas, and disposed of according to local, state, and federal regulations.
</td></tr>
</table>

Type	Description
landscaping activities.	
Reference	CASQA WM-1, WM-2, WM-5 Caltrans WM-03, WM-05
Solid and Liquid Waste Management <u>Purpose:</u> To prevent or reduce the discharge of pollutants to storm water from solid or liquid construction waste.	 1. Solid wastes include but are not limited to: a) Construction wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non-hazardous equipment parts, Styrofoam, and other materials used to transport and package construction materials; b) Landscaping wastes including vegetative material, plant containers, and packaging materials; and c) Litter generated from the project and public including food containers, beverage cans, coffee cups, paper bags, plastic wrappers, and smoking materials. 2. Debris and non-hazardous waste must be collected, contained, and covered in designated areas and disposed of according to local, state, and federal regulations. 3. Waste containers are not allowed to leak and must be covered and secured at the end of the day and prior to rain. 4. Littering is prohibited in all areas of the construction project and must be collected at the end of every day. Loose trash and waste within the project boundary or that originate from the project must be collected daily and disposed of properly. Waste disposal containers must be inspected for leaks on a weekly basis and must be emptied when they become 95% full. Litter and debris removal from drainage grates, trash areas, and ditches must be performed daily to prevent clogging of storm drainage systems. 5. Waste management areas must be designated using visible signage. 6. Waste storage areas must be located at least 50 feet from drainage facilities and watercourses and must not be located in areas prone to flooding or ponding per site conditions and the Federal Emergency Management Agency flood map database (https://msc.fema.gov/portal). When infeasible, place waste storage areas as far away as possible from drainage facilities and watercourses. 7. Wash down of waste containers is prohibited onsite.

Type	Description
	8. Liquid waste management is applicable for all activities that generate any of the following non-hazardous liquid wastes: drilling slurries and fluids; grease and oil-free wastewater and rinse water; dredging; and other non-storm water liquid discharges not permitted by separate permits. 9. Liquid waste discharges as a result of the creation, collection, and disposal of non-hazardous waste is prohibited. 10. Liquid wastes must be contained in a structurally sound and leak-free container and stored in a controlled area with perimeter controls. 11. Hazardous liquid waste (e.g., used oils, solvents, and paints) and chemicals (e.g., acids, pesticides, additives, and curing compounds) must only be stored in watertight containers in designated hazardous waste storage areas with appropriate labelling, coverage, and watertight secondary containment. The waste storage area must be covered at the end of every work day, and prior to and during rain events. Disposal of these materials must be in accordance with local, state, and federal regulations.
Reference	CASQA WM-5 Caltrans WM-05
Vehicle and Equipment Pollution Prevention <u>Purpose:</u> Prevent or reduce the contamination of storm water resulting from vehicle and equipment storage, cleaning, fueling, and maintenance activities.	 1. Equipment is not permitted to leak. If equipment is found to be leaking it must immediately be repaired or removed. Drip pans must be placed underneath all equipment when not in use to detect leaks. Any visible leaks or accumulation in drip pans or containment must be cleaned daily and before rain. 2. Inspections for equipment leaks must be performed daily by the Contractor. 3. All cleaning, fueling, and maintenance performed onsite must occur in an area designated for the activity which is fitted with appropriate secondary containment and is at least 50 feet away from downstream storm drain facilities. Fueling and maintenance must be performed using drip pans or secondary containment, such as plastic laid out on the ground using a perimeter berm created with gravel bags or fiber rolls under the edge of the plastic.

Type	Description
	4. Topping-off of fuel tanks is prohibited. 5. Absorbent spill cleanup materials must be readily available wherever vehicle and equipment cleaning, fueling, and maintenance activities occur. 6. Employees and subcontractors must be trained in proper spill prevention, control, and cleanup procedures. See Spill Prevention and Control BMP for documentation and reporting procedures. 7. Oil, antifreeze, and other fluids shall be drained from inoperable vehicles intended for recycling or long-term outdoor storage. Drained fluids shall be disposed of in accordance with applicable hazardous materials regulations. 8. Do not clean vehicles or equipment onsite using soaps, solvents, degreasers, steam cleaning equipment, etc.
Reference	CASQA NS-8, NS-9, NS-10 Caltrans NS-08, NS-09, NS-10
Spill Prevention and Control <u>Purpose:</u> Prevent or reduce the discharge of pollutants to storm water from leaks and spills.	 1. Spill prevention and control must occur at every area that uses petroleum products, asphalt, concrete, paints, solvents, soil stabilizers and binders, pesticides, herbicides, fertilizers, detergents, fuels, lubricants, or other products that could harm the environment. 2. All employees and subcontractors must be trained in proper spill prevention, control, and cleanup procedures. Procedures must be posted in open, obvious, and accessible locations adjacent to storage areas. Documentation of training must be per the project SWPPP or WPCP and kept at the construction site with the SWPPP or WPCP. 3. Absorbent spill cleanup materials must be available in work areas and at material staging yards.

<table>
<tr><th>Type</th><th>Description</th></tr>
<tr><td></td><td>
4. Spills must be contained and cleaned immediately in accordance with applicable spill control plan, health and safety plan, and safety data sheets.

5. If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil according to all local, state, and federal regulations. Spills on asphalt or concrete must be contained using booms and cleaned using adsorbent materials (“kitty litter”).

Remove all spent spill cleanup materials and dispose of according to all local, state, and federal regulations. Notify the Resident Engineer (RE) or Inspector after the spill is contained; prior to resuming construction activities.

6. Spills must be covered and protected from storm water run-on during rainfall. If the spill occurs during rain, cover the spill with tarps or other material to prevent contaminating runoff.
7. Minor spillage or overflow of potable water must be contained and must not be allowed to discharge into watercourses or drainage facilities.

8. Any significant release or threatened release of a hazardous material requires immediate reporting by the responsible person to:

<table>
<tr><th>Description</th><th>Phone Number</th></tr>
<tr><td>California Governor’s Office of Emergency Services (Cal OES) State Warning Center</td><td>800-852-7550</td></tr>
<tr><td>San Diego County Hazardous Materials Division</td><td>858-505-6880</td></tr>
<tr><td>Emergency response</td><td>9-1-1</td></tr>
</table>
9. Significant spills must also be reported to the City’s Solid Waste Local Enforcement Agency within 24 hours at 619-533-3688.

10. Federal regulations require that discharges of oil or petroleum products into or on any waters of the State be reported to the Cal OES State Warning Center at 800-852-7550 and the National Response Center at 800-424-8802 (24 hours).

11. For more information on what is classified as a “significant or threatened release of hazardous material,” visit the CAL OES website at www.caloes.ca.gov/FireRescueSite/Pages/Spill-Release-Reporting.aspx.

12. For assistance in determining whether a waste is hazardous, contact the San Diego County Hazardous Materials Division at 858-505-6880 or Cal OES HazMat Section at 916-845-8798.
</td></tr>
<tr><td>Reference</td><td>CASQA WM-4; Caltrans WM-04</td></tr>
</table>

Type	Description
Concrete Waste Management Purpose: Prevent the discharge of pollutants to storm water from concrete waste.	 1. Concrete waste management pertains to waste from concrete ready-mix trucks, masonry operations, slurry, and similar waste. 2. Concrete waste management must occur at every area where concrete or slurries containing Portland cement concrete or asphalt cement is generated, placed, saw cut, cored, grinded, or demolished. 3. Saw cutting slurry shall be vacuumed during the cutting operation and shall not be allowed to sheet-flow more than maximum 18 inches beyond either side of the saw cut line. The vacuum operator shall be within a maximum of five feet of the saw operator to vacuum the slurry. If the slurry was not fully removed from the vacuumed operation, the remainder shall be removed with an appropriate method until no slurry can be dislodged by manual brushing with a wire brush. Slurry/residue must be disposed of properly at the end of each day. 4. Washout from concrete trucks and concrete waste must be collected in a designated concrete washout. 5. Wash out concrete equipment/trucks offsite or in a contained area located a minimum of 50 feet from storm drain facilities and watercourses. For projects with limited space a distance less than 50 feet but greater than 5 feet may be allowed if additional BMPs are installed downstream of wash out area. Concrete washouts must be watertight and fitted with secondary containment to prevent any concrete waste from being able to discharge on to the ground or offsite. 6. Allow concrete to harden and dispose of the material as waste in accordance with all local, state, and federal regulations. 7. Concrete washout containers must be cleaned or exchanged when containment reaches 75% capacity. 8. Concrete washout containers must be covered securely at the end of every work day. 9. Concrete demolition debris must be stored in accordance with the Stockpile Management BMP.

Type	Description
Reference	CASQA WM-8, WM-3 Caltrans WM-08
Sanitary/ Septic Waste Management <u>Purpose:</u> Prevent discharge of pollutants to storm water from sanitary and liquid waste.	 1. Sanitary/septic waste management practices are implemented in all areas that use temporary or portable sanitary/septic waste systems (port-a-pottys) in order to minimize or eliminate the discharge of construction site sanitary/septic waste materials to the storm drain system or to watercourses. 2. Temporary sanitary facilities must be located at least 50 feet away from storm drain facilities, watercourses, and traffic circulation. For projects with limited space a distance less than 50 feet but greater than 5 feet may be allowed if additional BMPs are installed downstream of the temporary sanitary facility. 3. Secondary containment must be provided for all temporary sanitary facilities. Water must not be left in the secondary containment tray. 4. Ensure that sanitary/septic facilities are maintained in good working order by a licensed service. Only reputable, licensed sanitary/septic waste haulers must be used. If the sanitary facility requires exterior or interior cleaning, all wash water must be collected, and downstream storm drain inlets must be protected per the Storm Drain Inlet Protection BMP.
Reference	CASQA WM-9, WM-10

Table 5-3. Non-Storm Water Management

Type	Description
Illegal Discharges/ Non-Storm Water Discharges Purpose: Eliminate illegal discharges and non-storm water discharges.	 Illicit discharge and non-storm water discharges are defined as any discharge to the MS4 that is not composed entirely of storm water. The MS4 system includes all conveyances owned by the City designed to collect or convey storm water. Examples of non-storm water include but are not limited to runoff of potable (such as fire hydrant nuisance water) and non-potable water, irrigation runoff, and liquid waste or water from construction activities (such as trench nuisance water) discharging into a storm drain or offsite. 1. Non-storm water discharges must be eliminated or controlled immediately. If a non-storm water discharge leaves the site, the contractor must immediately stop the activity, repair the source of the discharge, and notify the RE of the discharge. 2. Immediately, or as soon as it is safe to do so, remove any and all waste material, sediment, and debris conveyed by a non-storm water discharge from impacted roads, gutters, and storm drain conveyances, and properly dispose of the material. 3. The contractor must ensure construction-related materials, wastes, spills, or residues are prevented from discharging from the construction site to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff. 4. The contractor must ensure non-storm water runoff from equipment or any other activity is contained within the construction site using appropriate BMPs.

Type	Description
	5. Air conditioning condensate discharges shall be controlled to prevent them from reaching storm drains, curbs and gutters, or any other part of the MS4 system.
Reference	CASQA NS-3, NS-6, NS-7, NS-8, NS-9, NS-10, NS-11, NS-12, NS-13 Caltrans NS-01, NS-03, NS-06, NS-07, NS-08, NS-09, NS-10, NS-11, NS-12, NS-14
Illicit Connection Detection and Reporting <u>Purpose:</u> Identify and eliminate illicit connections	 An illicit connection is any man-made physical connection to the MS4 system that conveys or has the potential to convey an illicit discharge (e.g., sanitary sewer connection to the MS4 system). 1. The construction site must be inspected by the contractor for illicit connections and discharges. If observed, action must be taken immediately to eliminate the connection and safely remove any discharge. 2. Illicit connections and discharges must be reported to the City's Solid Waste Local Enforcement Agency at 619-533-3688 within 24 hours of identification.
Reference	CASQA NS-6 Caltrans NS-6

Type	Description
Water Conservation Practices Purpose: Use water during the construction of a project in a manner that avoids causing erosion and/or the transport of pollutants offsite.	1. Water equipment must be kept in good working condition and leaks must be repaired immediately. Cease watering activities immediately if runoff or overspray occurs 2. Do not use toxic agents to clean construction areas. 3. Direct non-contaminated construction water (e.g., water used for dust control or compaction) runoff to areas where it can infiltrate into the ground. 4. Apply water for dust control in a manner that does not produce runoff. 5. Repair broken lines and correct irrigation overspray immediately. 6. Authorized metered connections to hydrants must be inspected by the contractor throughout the duration of the operation to ensure there are no leaks or misconnections. When the connection to a hydrant is established, check dams must be installed downstream and the downstream storm drain inlets must be protected in accordance with the Storm Drain Inlet Protection BMP. If a leak is detected, the discharge must be contained, and the meter must be exchanged before the next day of use. Leaking meters are prohibited. 7. Power washing of streets is allowed in accordance with the Tracking Control/Street Sweeping BMP.
Reference	CASQA NS-1
Dewatering Operations Purpose: Manage the discharge of pollutants when non-storm water and accumulated precipitation must be removed from a work location to proceed with construction work or to provide vector control.	

Type	Description
	1. Groundwater is not permitted to be discharged under this manual. Additional NPDES permit(s) or authorizations from the SDRWQCB and City are required and include: a) Order R9-2014-0041, Conditional Waiver for "Low Threat" discharges to land from short-term construction dewatering operations; b) Order R9-2015-0013, NPDES No. CAG919003, for groundwater extraction discharges to surface waters; and c) An approved Request for Authorization to Discharge Extracted Groundwater to Sewer from the Public Utilities Department's Industrial Wastewater Control Program. 2. Dewatering of contained storm water must comply with the following a) The City must be notified (619-235-1000 or SWPPP@sandiego.gov) prior to discharging into the street, gutter, or storm drain. The gutter from the discharge point to the inlet must be swept clean prior to discharge. b) Water discharging from the site must be clear or field-tested and documented to be less than 20 Nephelometric Turbidity Units (NTU) or demonstrated through a drainage study that the project is not causing and/or contributing to exceedances in the receiving water. c) Discharges from dewatering operations must be directed through an appropriate pollution prevention or treatment system of control measures, such as a filter bag and sediment trap or sediment basin, prior to being discharged from the construction site. d) Ensure that dewatering discharges do not cause erosion at the discharge point by implementing the Temporary Energy Dissipation BMP. 3. Note that the Water Quality Control Plan for the San Diego Region requires that waters be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. The Water Quality Objective for inland surface waters is 20 NTU. The maximum increase in turbidity for lagoons and estuaries is specified in the Basin Plan and ranges from 10 – 20% over natural turbidity levels. Other Basin Plan requirements may apply. 4. Other NPDES permit requirements may apply (e.g., Construction General Permit) it is the project's responsibility to comply with non-City requirements.

Type	Description
Reference	CASQA NS-2 Caltrans NS-02

Table 5-4. Erosion Control

Type	Description
Erosion Controls Purpose: Provide erosion control throughout the construction site to prevent soil particles from being detached and mobilizing.	  1. Temporary measures must be maintained to provide effective coverage that prevents erosion. Deteriorated measures must be replaced or redressed until permanent stabilization is achieved. Refer to the CASQA Construction BMP Online Handbook or Caltrans Construction Site BMP Fact Sheets for guidance on erosion control BMPs (selection, application, and maintenance). 2. Soil preparation (e.g., soil roughening or track-walking – see CASQA EC-15) is required prior to application of soil stabilization practices unless soil preparation conflicts with other project specifications or is otherwise not feasible (e.g., due to site access or slope considerations). 3. Erosion controls must be implemented, installed, and maintained in accordance with CASQA or Caltrans standards. The following Erosion Control BMPs are required to be evaluated and then implemented:

Type	Description

Hydraulic Mulch CASQA BMP EC-3 Caltrans BMP SS-03	**Wood Mulching** CASQA BMP EC-8 Caltrans BMP SS-08	**Compost Blankets** CASQA BMP EC-14
Hydroseeding CASQA BMP EC-4 Caltrans BMP SS-04	**Earth Dikes and Drainage Swales** CASQA BMP EC-9 Caltrans BMP SS-09	**Soil Preparation/ Roughening (not a stand-alone BMP)** CASQA BMP EC-15
Soil Binders CASQA BMP EC-5 Caltrans BMP SS-05	**Velocity Dissipation Devices** CASQA BMP EC-10 Caltrans BMP SS-10	**Non Vegetative Stabilization** CASQA BMP EC-16
Straw Mulch CASQA BMP EC-6 Caltrans BMP SS-06	**Slope Drains** CASQA BMP EC-11 Caltrans BMP SS-11	**Geotextiles and Mats** CASQA BMP EC-7 Caltrans BMP SS-07
Streambank Stabilization CASQA BMP EC-12 Caltrans BMP SS-12		

4. **Inactive areas** must be stabilized prior to the 14th day of inactivity.

5. Erosion onsite shall be repaired and stabilized (for inactive areas) regardless of whether erosion is contributing to offsite discharges or not. Inspection must be completed weekly, prior to the rain, and after rain to identify any erosion that has occurred. Any erosion or rilling greater than 1-inch deep shall be repaired (i.e. redressing) and restabilized within 72 hours of identification, or prior to the next forecasted rain event, whichever is sooner. Additional BMPs shall be installed to prevent a reoccurrence of erosion. An inspection report with an inspection date shall be kept at the jobsite for verification.

6. Hydraulic applications must be applied and re-applied as needed to maintain full coverage of soil in the area to be stabilized without shadowing or thin patches. Where necessary and field conditions allow, apply mulch from multiple directions to provide full coverage. The contractor shall take care not to overspray hydraulic mulch onto roadways, drainage channels, or existing vegetation.

7. **Construction support areas** (e.g., parking, staging, material storage, fabrication areas, etc.) must be stabilized. Due to the nature of activities in these areas, periodic reapplication of temporary stabilization measures or redressing of gravel stabilization is required.

Type	Description
	8. At a minimum, erosion control is required on all disturbed areas prior to a 50% probability of precipitation. Projects that are subject to an enhanced WTAP trigger are required to stabilize disturbed areas at a lower probability of precipitation (Table 4-2). 9. **End of Day Stabilization** is required for work within the City's right-of-way.
Reference	CASQA EC-3, EC-4, EC-5, EC-6, EC-7, EC-8, EC-9, EC-10, EC-11, EC-12, EC-14, EC-15, EC-16 Caltrans SS-03, SS-04, SS-05, SS-06, SS-07, SS-08, SS-09, SS-10, SS-11, SS-12 Caltrans Standard Specifications May 2006 Section 72-2.
Dust Control <u>Purpose:</u> Prevent or alleviate dust nuisance generated by construction activities.	 1. Dust generated by construction activities shall be controlled and is prohibited from leaving the site. 2. Control dust using dust control practices appropriate for the site. See CASQA Fact Sheet WE-1. Water-based dust suppression shall be applied in a way that avoids overwatering and oversaturation. 3. If dust cannot be controlled, discontinue activities generating dust and evaluate the need for additional stabilization. 4. See the Water Conservation Practices BMP in this manual when connecting to fire hydrants.
Reference	CASQA WE-1

Table 5-5. Sediment Control

Type	Description
Perimeter Controls Purpose: Prevent sediment discharges and reduce sediment in runoff	 1. Perimeter controls must be installed along the perimeter to prevent sediment discharges by controlling run-on and runoff at the perimeter of the construction site or limits of grading. 2. Interior perimeter controls must be installed to prevent sediment discharges to the storm drain system. 3. Perimeter controls must be properly installed per CASQA or Caltrans standards prior to grading and remain functional until final stabilization is achieved. Maintenance of perimeter controls must be performed daily and as needed. The following perimeter control BMPs are required to be evaluated and then implemented:

Silt Fence	**Fiber Rolls**	**Gravel Bag Berm**
CASQA BMP SE-1 Caltrans BMP SC-01	CASQA BMP SE-5 Caltrans BMP SC-05	CASQA BMP SE-6 Caltrans BMP SC-06
Sand Bag Barrier	**Manufactured Linear Sediment Control**	**Compost Sock/Berm**
CASQA BMP SE-8 Caltrans BMP SC-08	CASQA BMP SE-12	CASQA BMP SE-13

4. Fiber rolls may be used as a perimeter control on impervious surfaces only if they are properly secured at 4-ft intervals using gravel bags or an equivalent measure, or per manufacturer's recommendation. The same methods may be used for temporary perimeter control on pervious surfaces in active work areas where perimeter controls need to be removed during work hours and replaced at the end of the day

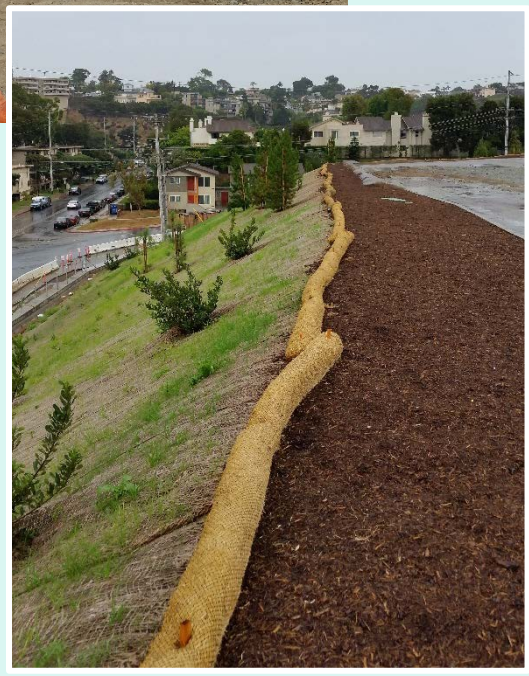
5. Perimeter controls must be inspected/maintained daily and as needed.

6. BMPs must be maintained when there is visible damage (e.g., holes, slumping/sagging). Deteriorated BMPs must be removed and managed in accordance with applicable waste requirements. Sediment accumulation must be removed when sediment reaches 1/3 of BMP height and prior to a rain event. For perimeter controls within the City's right-of-way, sediment accumulation must be removed daily.

7. Perimeter controls have a very limited sediment capture zone (i.e., for silt fence the area contributing runoff must be limited to less than 0.25 acres per 100 linear feet[2]), which can be easily overwhelmed, and must be used in combination with other BMPs to prevent discharges.

<table>
<tr><th>Type</th><th>Description</th></tr>
<tr><td>Reference</td><td>CASQA SE-1, SE-5, SE-6, SE-8, SE-14
Caltrans SC-01, SC-05, SC-06, SC-08
[2] United States Environmental Protection Agency. (2012, April). Stormwater Best Management Practice – Silt Fence. Retrieved on May 25, 2018 from https://www3.epa.gov/npdes/pubs/siltfences.pdf.</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Linear Sediment Controls

<u>Purpose:</u>
Prevent sediment discharges and reduce sediment in runoff</td><td>



Linear sediment controls must be implemented at the boundaries of interior work areas (e.g., transitions from lots to interior or private streets).
Linear sediment controls are required on all areas prior to rain, including, but not limited to, slopes, graded lots, dirt roads, and pads. In addition, linear sediment controls are required on inactive areas prior to 14th day of inactivity.
Install linear sediment controls along the top and toe of slope and at grade breaks of exposed slopes to comply with the following sheet flow lengths

<table>
<tr><th>Slope Percentage</th><th>Maximum Sheet Flow Length</th></tr>
<tr><td>0-25%</td><td>20 feet</td></tr>
<tr><td>25-50%</td><td>15 feet</td></tr>
<tr><td>Over 50%</td><td>10 feet</td></tr>
</table>
<ol start="4">
Linear sediment controls must be properly installed per CASQA or Caltrans standards upon completion of grading, prior to rain, or during periods of inactivity, and remain functional until final stabilization is achieved.

</td></tr>
</table>

<table>
<tr><th>Type</th><th>Description</th></tr>
<tr><td></td><td>
Maintenance of linear sediment controls must be performed daily and prior to rain. A combination of the following BMPs are required to be evaluated and then implemented:
<table>
<tr><td>Silt Fence

CASQA BMP SE-1
Caltrans BMP SC-01</td><td>Fiber Rolls

CASQA BMP SE-5
Caltrans BMP SC-05</td><td>Gravel Bag Berm

CASQA BMP SE-6
Caltrans BMP SC-06</td></tr>
<tr><td>Sand Bag Barrier

CASQA BMP SE-8
Caltrans BMP SC-08</td><td>Manufactured Linear Sediment Control

CASQA BMP SE-12</td><td>Compost Sock/Berm

CASQA BMP SE-13</td></tr>
</table>
5. Linear sediment controls must be inspected/maintained daily and as needed.

6. BMPs must be maintained when there is visible damage (e.g., holes, slumping/sagging). Deteriorated BMPs must be removed and managed in accordance with applicable waste requirements. For sediment controls within the City's right-of-way, sediment accumulation must be removed daily and prior to rain event.

7. Linear sediment controls have a very limited sediment capture zone (i.e., for silt fence the area contributing runoff must be limited to less than 0.25 acres per 100 linear feet[2]), which can be easily overwhelmed, and must be used in combination with other BMPs to prevent discharges.
</td></tr>
<tr><td>Reference</td><td>CASQA SE-1, SE-5, SE-6, SE-7, SE-8, SE-12, SE-13
Caltrans SC-01, SC-05, SC-06, SC-08
[2] United States Environmental Protection Agency. (2012, April). Stormwater Best Management Practice – Silt Fence. Retrieved on May 25, 2018 from https://www3.epa.gov/npdes/pubs/siltfences.pdf.</td></tr>
</table>

Type	Description
Storm Drain Inlet Protection <u>Purpose:</u> Prevent pollutants from entering the storm drain during dry weather only.	 1. Storm drain inlet protection must be implemented during dry weather at every storm drain inlet that has the potential to receive construction related pollutants from active construction areas. Refer to CASQA Fact Sheet SE-10 or Caltrans Fact Sheet SC-10 for more information. 2. Interior inlets adjacent to grading activities must be protected at all times except when the inlet protection causes the storm water to bypass the inlet and negatively impact a public inlet downstream. Combined curb inlet/grate inlets and curb inlets/curb cuts to structural BMPs must be protected. 3. Erosion and sediment controls such as soil stabilization, check dams, gravel bags, and berms must be used upstream of all inlets to reduce the amount of sediment that reaches the storm drain inlet protection. 4. Storm drain inlet protection measures must be inspected/maintained daily and as needed. Maintaining storm drain inlet protection measures must include replacing damaged BMPs and removing and disposing of accumulated sediment, trash, and debris. Sediment accumulation must be removed at the end of each day and prior to a rain event. 5. All gravel bags placed in the right-of-way must be stamped/stenciled with the contractor or BMP installer company name. 6. Remove all inlet protection measures when final stabilization is complete at all areas. **DURING WET WEATHER ONLY**: Inlet protection in the public right-of-way for streets open to the public must be temporarily removed prior to a rain event to ensure no flooding occurs and reinstalled after rain is over. Inlet protection for inlets interior to grading activities with the potential for by-pass and flooding must be temporarily removed prior to a rain event to ensure no flooding occurs and reinstalled after rain is over.
Reference	CASQA SE-10, SE-14 Caltrans SC-10

Type	Description
Sediment Trap/Basin <u>Purpose:</u> Temporarily detain sediment-laden runoff to allow sediment to settle out before runoff is discharged.	 1. When appropriate, implement sediment traps and basins within the downstream section of a construction site or at discharge points. 2. Any construction site with a sediment trap or basin must include site-specific dewatering protocols in the SWPPP or WPCP that includes the means and methods to dewater retained water within 96 hours to prevent vector production or to maintain capacity and document that sediment or other pollutants are not discharged during dewatering. 3. Sediment traps are only allowed for tributary drainage areas below 5 acres and must meet the requirements of CASQA Fact Sheet SE-3 or Caltrans Fact Sheet SC-03, including depth limits and overflow requirements. 4. Sediment basins must be used for tributary drainage areas between 5 and 75 acres. A California Registered Civil Engineer is required to design the sediment basin in accordance with CASQA Fact Sheet SE-2 to ensure it has sufficient capacity. Sizing calculations must be provided in the SWPPP. 5. Maintain or repair traps and basins (to maintain capacity and functionality) in accordance with CASQA or Caltrans Fact Sheets.
Reference	CASQA SE-2, SE-3 Caltrans SC-03

Type	Description
Tracking Control / Street Sweeping Purpose: Reduce the potential discharge of sediment to storm drain inlets or receiving waters.	 1. Stabilized construction entrance/exits must be sufficiently implemented at every construction project to control and prevent sediment tracking from the site. Construction entrances/exits must be constructed with a length of 50 feet or as allowable by project site conditions and width of 10 feet or the minimum necessary to accommodate vehicles and constructed per guidance in CASQA or Caltrans Fact Sheet. Stabilized entrances for private driveways are required between lots and private streets. 2. Sweeping and vacuuming must be implemented daily and as-needed on all paved areas within and adjacent to construction sites. Do not sweep any unknown substance or any object that may be potentially hazardous. 3. Observable track-out requires the use of additional BMPs or modification of current BMPs to minimize tracking, including rumble plates, wheel wash, redirecting traffic, or suspending traffic until condition improve. Tracking must be cleaned until there are no areas with sediment that may be dislodged by brushing by hand. 4. If hosing down or power washing streets to clean up tracking is implemented, downstream storm drain inlets must be sealed, and wash water must be collected immediately. 5. Sweeping is evaluated based on performance. Methods that physically collect and remove sediment must be used. 6. All employees, subcontractors, and suppliers must be required to utilize the stabilized construction access. 7. All construction entrances and exits must be removed post-construction.
Reference	CASQA TC-1, TC-2, SE-7 Caltrans TC-01, TC-02, SC-07

Table 5-6. Run-on and Runoff Control

Type	Description
Dikes, Swales, and Slope Drains Purpose: Intercept run-on, divert or control runoff, or channel water to a desired location using compacted and stabilized soil and/or pipes.	 1. Dikes, swales, and pipes used to direct runoff must be properly sized to convey the 10-year, 6-hour storm event. Refer to CASQA or Caltrans Fact Sheets for sizing, installation, and maintenance. 2. Vegetation, geotextiles, or mats must be used to stabilize swales and dikes. Temporary devices must be removed upon final stabilization. 3. Dikes, swales, and slope drains can be combined to safely convey runoff down a slope, direct runoff to a stabilized channel, reduce potential for flooding, or direct runoff to sediment traps/basins. 4. Slope drains require energy dissipation at discharge points, which shall be free of sediment. 5. Swales and dikes shall be monitored for erosion and cleared of debris, silt, and mud after each rain event. If rilling greater than 1-inch deep occurs, the swale or dike shall be repaired within 72 hours or before the next forecasted rain event, whichever is sooner. 6. Pre-rain implementation is required for all Runoff Control BMPs and must to be implemented in accordance with the WTAP implementation requirements outlined in Table 4-2.
Reference	CASQA EC-9, EC-11 Caltrans SS-09, SS-11

Type	Description
Temporary Energy Dissipation Purpose: Prevent scour at the outlet of a pipe or channel caused by concentrated, high velocity flows.	 1. Rock, rip rap, or similar material shall be installed at pipe outlets, channel linings, and transitions from stabilized to un-stabilized conveyances for temporary purposes. The area must be lined with filter fabric prior to placing rock or rip rap. 2. The size of the energy dissipation area must be designed according to flow rate and/or pipe size per City Standard Drawing SDD-104.
Reference	CASQA EC-10 Caltrans SS-10

Table 5-7. Active/Passive Sediment Treatment

Type	Description
Active Treatment Systems	 Active treatment systems are any systems that use flocculants to enhance removal of soil particles from storm water runoff. Any active treatment system must be operated per CASQA Fact Sheet SE-11.
Reference	CASQA SE-11
Passive Treatment Systems	Passive Treatment Systems include the use of sediment control BMPs or flow-through BMPs such as check dams or inlet protection in conjunction with flocculant logs or other delivery methods. Use of Passive Treatment Systems is under evaluation at the state level and currently not allowed.

5.1 Implementation

BMPs must be designed and implemented to control offsite discharges and prevent sediment-laden water and other pollutants from impacting adjacent properties or entering the City's public storm system and/or adjacent or downstream rivers, streams, and sensitive areas. BMPs must be designed and implemented so as not to adversely affect any public Right-of-Way. Downstream sediment controls within the project limits (e.g., perimeter controls, inlet protection, sediment traps) must be implemented prior to the start of any earth disturbing activity.

For projects in the City Right-of-Way, contractors are not required to address sediment and/or debris from upstream of the construction limits as long as effective run-on controls are implemented to divert the sediment and/or debris around or through the construction limits.

5.2 Effectiveness

BMPs must be routinely evaluated for their effectiveness. Self-inspection must be used to determine the effectiveness of BMPs. **Section 7.2** provides guidance on self-inspections. Additional BMPs must be implemented as dictated by site conditions throughout all phases of the project. The contractor must contact the SWPPP developer or WPCP preparer as applicable if BMPs are found to be ineffective. As described in **Chapter 7**, the City Inspector may require additional measures depending on individual site conditions.

5.3 Maintenance

BMP measures as previously described in this manual must be maintained in fully functional condition until no longer required for a completed phase of work or final stabilization has been achieved.

5.4 Project Close-Out

For projects with coverage under the CGP, projects must be closed in accordance with termination requirements in the CGP. The Engineer of Record must submit a completed DS-563 certification of post construction BMPs to the City prior to close-out. For capital improvement projects, the form is filled out on the D-sheet as part of the as-built process. DS-563 can be found in **Appendix D**.

For all other projects, the project owner must verify the following:

1. All disturbed areas have been stabilized in accordance with the project's final stabilization plan (e.g., SWPPP, WPCP, landscaping and paving plan).
2. All BMPs, construction materials, and construction wastes have been removed from the site.

Chapter 6

Permanent BMP Inspections During Construction

For Priority Development Projects, a City inspection is required to verify permanent BMPs have been installed in accordance with the Storm Water Quality Management Plan (SWQMP); see Part 1 of this manual for additional information. A copy of the Permanent Construction BMP Self Certification Form (Form DS-563) is available from the Development Services Department.

The contractor is prohibited from making modifications to the permanent BMPs shown on the plans. To propose modifications:

- For private projects, the engineer of record is required to submit a revised SWQMP to DSD for approval prior to installation.
- For capital improvement projects, the contractor is required to obtain approval from the City Engineer responsible for the design of the plans.

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Chapter 7

Compliance Verification and Enforcement

7.1 Agency Inspections

It is the responsibility of the property owners or contractors to abide by inspection requirements. Regardless of any inspections conducted by the City, property owners or contractors are required to prevent any construction-related materials, trash, wastes, spills, or residues from entering a storm water conveyance system.

The City is responsible for performing periodic storm water compliance inspections of construction sites within its jurisdiction. All project owners must allow City Inspectors onto the project site for these inspections. All construction sites are subject to site inspections by City staff in accordance with the City's Municipal Code, the MS4 Permit, the City's policies and procedures, and these standards.

City Inspectors have the authority at any phase of construction to require additional BMPs including enhanced WTAP requirements (see Section 4.3) if the SWPPP/WPCP is not protective of water quality.

Projects may also be subject to inspection by staff of the SWRCB, SDRWQCB, or U.S. Environmental Protection Agency (EPA). Inspection procedures for those agencies are separate and carry different enforcement actions and mechanisms.

Construction site priority determines the frequency of inspections that will be conducted by City staff and is described below. Risk Level and Linear Underground/Overhead Project (LUP) Type determinations for projects under CGP compliance can be made using the Risk Determination Worksheet located in the CGP.

Each construction site shall be inspected by City staff for compliance with storm water standards at the minimum frequencies shown in **Table 7–1**. Site-specific inspection frequencies are re-assessed periodically, especially when grading activities are planned during the wet season. City inspection requirements are summarized in **Appendix C**. City staff may conduct additional inspections and modify site priority based on several factors including, but not limited to:

- Site conditions;
- Developer/Contractor previous violations and past performance;
- Rain events during the dry season
- Grading during wet season;
- Proximity to water bodies; and
- Site enforcement status.

Table 7-1. Minimum Inspection Frequency

Site Priority	Description	Wet Season (October 1 to April 30)	Dry Season (May 1 to September 30)
ASBS	Projects located in the ASBS watershed A map of the ASBS watersheds can be found in Appendix A.	Weekly	Quarterly
High	a) Projects that qualify as Risk Level 2 or Risk Level 3 per the CGP and not located in an ASBS watershed. b) Projects that qualify as LUP Type 2 or LUP Type 3 per the CGP and not located in an ASBS watershed.	Bi-weekly	Quarterly
Medium	a) Projects that are not located in an ASBS watershed or designated as a high priority site. b) Projects that qualify as Risk Level 1 or LUP Type 1 per the CGP and not located in an ASBS watershed. c) WPCP projects located within the Los Peñasquitos Watershed Management Area.	Monthly	Quarterly
Low	Projects not subject to a medium or high site priority designation and are not located in an ASBS watershed.	Quarterly	As-Needed

For projects subject to the CGP, the SDRWQCB is responsible for verifying and enforcing detailed requirements of the CGP. **The City inspection staff will only verify whether a project is covered under the CGP but will enforce the city's Municipal Codes and this manual to prevent pollutant discharges to the City's MS4 system.**

The City inspection staff will work with SDRWQCB staff to ensure compliance at these construction sites. City staff will document observations of potential violations and will notify the SDRWQCB of the noncompliance in accordance with Order R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, if the noncompliance poses a threat to human or environmental health.

7.2 Self-Inspection

Storm water BMPs for construction sites are typically temporary measures that require frequent maintenance to maintain effectiveness. These measures may require relocation, revision and re-installation, particularly as project grading progresses. Therefore, owner/contractor self-inspections are required. Self-inspections shall be performed by the owner's/contractor's QCP specifically trained in storm water pollution prevention site management and storm water BMPs, including installation and maintenance of sediment and erosion control measures. Additional qualified persons may perform inspection activities under the direction of the QCP.

For projects covered under the CGP, the QCP must be a Qualified SWPPP Practitioner (as defined in the CGP) or someone trained by and working under the direction of the Qualified SWPPP Practitioner (i.e., a QSP delegate). A QCP is required for all construction sites year-round.

The primary purpose of self-inspections conducted by owners and contractors include the following:

1. To ensure that the owner/contractor takes full responsibility for managing storm water pollution caused by the project site's construction activities;
2. To ensure that storm water BMPs are properly documented, implemented, and functioning effectively;
3. To identify maintenance (e.g., sediment removal) and repair needs; and
4. To ensure that project proponents implement site-specific SWPPPs or WPCPs.

A self-inspection checklist, noting date, time, conditions, and inspection date, must be kept onsite and made available for inspection upon request. Additional self-inspection requirements may apply for projects subject to CGP requirements.

Self-inspections must be performed by a QCP according to the following schedule:

Description	Frequency
During extended rainfall events	24-hour intervals
As grading operations are being conducted during the wet season	Daily[1]
In the dry season during grading operations	Weekly (every 7 days)

[1]Documentation of daily inspections is at the discretion of the QCP

Additionally, weather forecasting must be performed daily and a WTAP is required for every project. See **section 4.3** for WTAP implementation requirements and timelines.

7.3 Enforcement

The San Diego Municipal Code establishes Storm Water Ordinances that apply to construction projects. All project owners and their contractors (as applicable) must meet the requirements of all applicable codes prior to, during, and after construction. The purpose of these ordinances is to control the discharge of urban pollutants, improve water quality, and comply with the San Diego Regional MS4 Permit requirements.

The City is responsible for storm water quality compliance from City facilities and capital improvement projects. The City enforces its codes and ordinances to maintain compliance with the MS4 Permit

through development and implementation of this manual. For construction of City capital improvement projects where a contractor performs work, the City is the Legally Responsible Party for projects over 1 acre of soil disturbance that are subject to CGP requirements. However, for both CGP and non-CGP projects implemented by a contractor, the contractor is responsible to perform work in accordance with the project SWPPP or WPCP to maintain compliance with all City codes and ordinances, this manual, and NPDES regulations.

The City has the ability to issue a stop work order for non-compliant work and penalties may be issued. Any penalties leveraged against the City by regulators can be passed to the contractor in accordance with enforcement authority established in its codes and ordinances, as well as by contract documents.

Storm water requirements are contained in the following chapters of the San Diego Municipal Code (https://www.sandiego.gov/city-clerk/officialdocs/legisdocs/muni):

- Chapter 4 Article 3 Division 3 – Storm Water Management and Discharge Control
- Chapter 14 Article 2 Division 1 – Grading Regulations
- Chapter 14 Article 2 Division 2 – Storm Water Runoff and Drainage Regulations

The City has the legal authority to implement the requirements of the MS4 Permit through the enforcement of its Codes and Ordinances.

Section §43.0304 *Illicit Discharges* of the City of San Diego Municipal Code states, "(a) Except as provided in San Diego Municipal Code section 43.0305, it is unlawful for any person to cause a non-storm water discharge to the MS4. (b) It is unlawful for any person to cause either individually or jointly any discharge into or from the MS4[1] that results in or contributes to a violation of the MS4 permit." Section §43.0307(a) requires implementation of BMPs set forth in the Jurisdictional Runoff Management Program (JRMP). The City established a JRMP per requirements in the MS4 Permit. The City's JRMP contains this manual as an appendix; therefore all BMPs in this manual are required by Section §43.0307(a).

In effect, all construction sites (no matter the size) must have measures in place at all times during construction that comply with this manual and control pollutants in site runoff. Even those sites not required to submit permit applications must comply with the City's Storm Water Management Ordinance. City Inspectors are charged with enforcement of the City's storm water regulations and will investigate complaints or inspect any construction site for compliance. A Correction Notice or Notice of Violation (NOV) may be issued on a first visit. The NOV is not a citation but a notice to the responsible party that compliance with the storm water quality regulations is required. In accordance with §43.0311, the enforcement official may seek injunctive relief, civil penalties, or pursue any

[1]Municipal separate storm sewer system (MS4) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) owned or operated by the City; (ii) designated or used for collecting or conveying storm water; (iii) which is not a combined sewer; and (iv) which is not part of the Publicly Owned Treatment Works as defined at 40 Code of Federal Regulations section 122.26.

administrative remedy provided in the San Diego Municipal Code, if warranted. These enforcement actions could include:

- municipal citations;
- administrative civil penalties up to $10,000 per day per violation;
- No Further Inspection Notices;
- Hold Work Notices; and
- Stop Work Notices.

More information on these requirements is available online at:

- Section 43.03 of the City of San Diego Municipal Code (http://docs.sandiego.gov/municode/MuniCodeChapter04/Ch04Art03Division03.pdf)
- Storm Water Management and Discharge Control (http://www.sandiego.gov/stormwater/regulations/index.shtml); and
- Storm Water Division Regulations; and Think Blue (http://www.sandiego.gov/thinkblue/)

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Appendix A

ASBS Maps

The GIS shape file for the ASBS watershed is available at the following link:

https://www.sandiego.gov/stormwater/regulations

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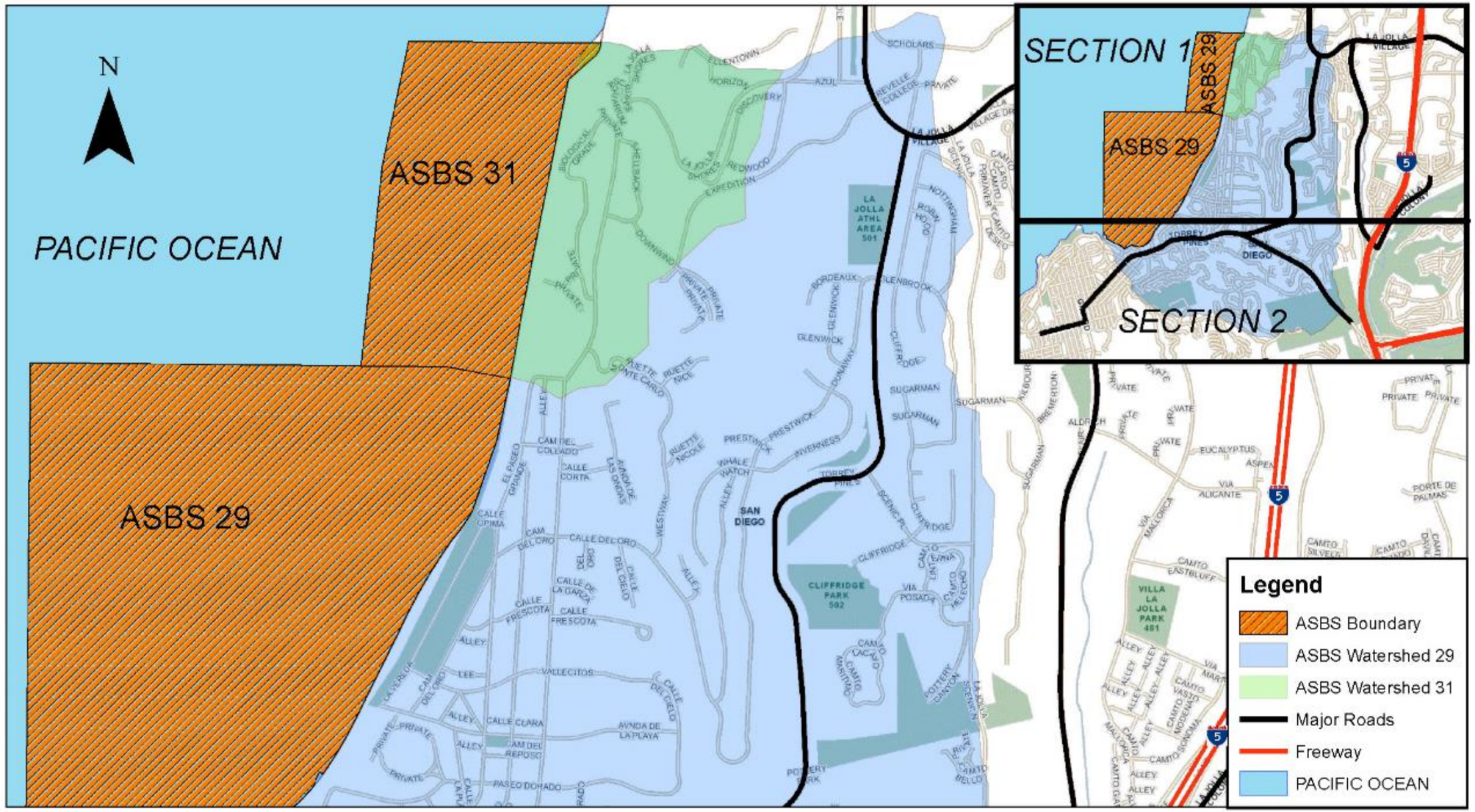
ASBS WATERSHED - SECTION 1



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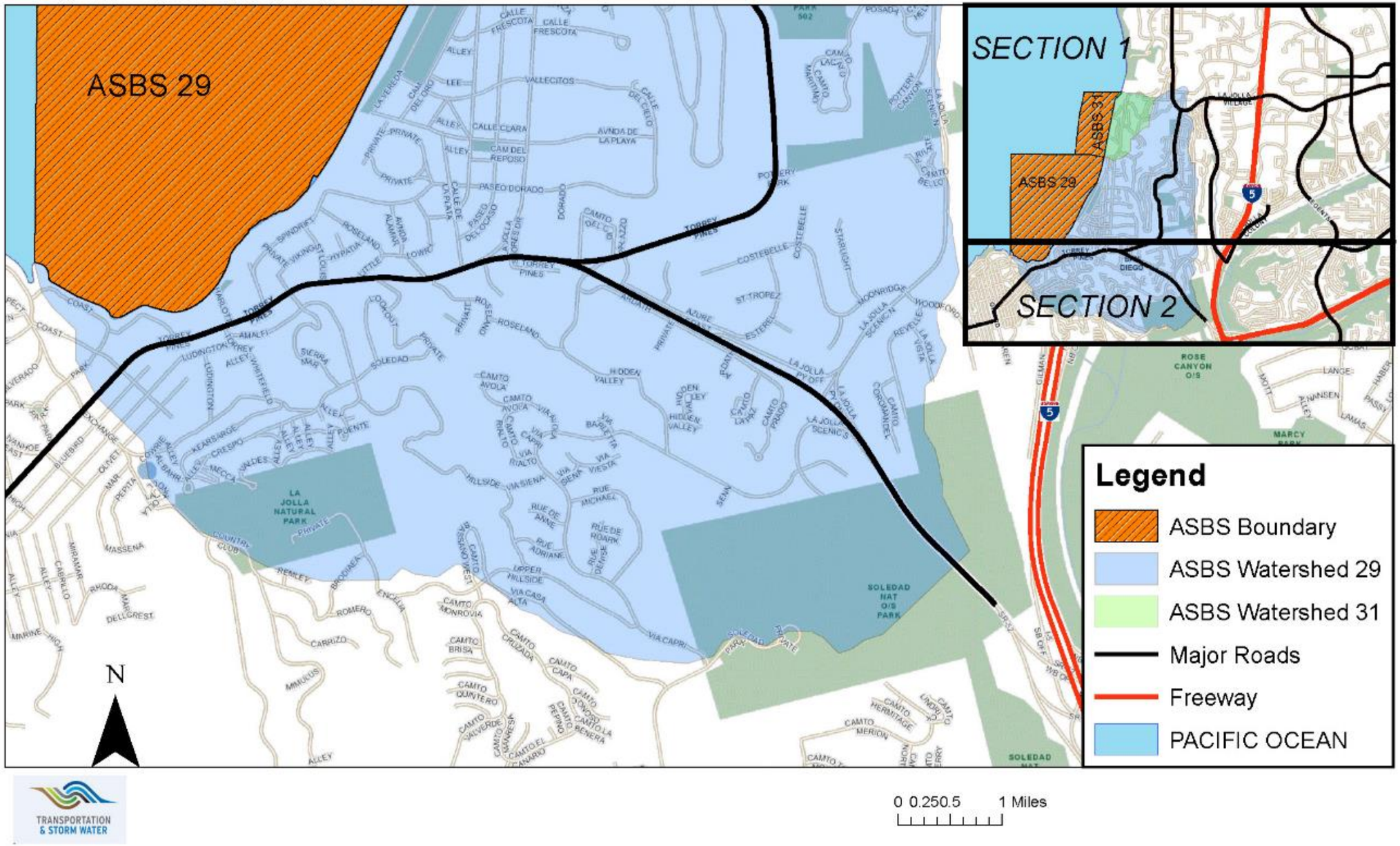
ASBS WATERSHED - SECTION 2



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Appendix B

Best Management Practices

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Category	Typical Construction Storm Water Permit Violations			
	Compliant		Non-Compliant	
Good Housekeeping	Prevent storm water pollution with good housekeeping practices, proper concrete washouts, materials storage and waste disposal.		Poor containment of trash, hazardous material spills, and vehicle leakage.	
	Use secondary containment, such as drip pans or bermed plastics for containment of trash, hazardous materials, and vehicle leakage.		Lack of drip pan or secondary containment for leaking equipment.	
	Stockpiles must be stabilized and bermed per the requirements in this manual.		Lack of coverage for inactive stockpiles.	

Category	Typical Construction Storm Water Permit Violations			
	Compliant		Non-Compliant	
Non-Storm Water Management - Potable Water Discharges	Monitoring of discharges for chlorine, turbidity, and pH (for superchlorinated discharges only) is required. Superchlorinated discharges consist of water that is dosed with chlorine in order to adequately sanitize and disinfect. An appropriate handheld chlorine measuring device that is US EPA-approved must be used. A quality assurance and quality control protocol must be implemented. Flushing should be controlled & monitored by the contractor at all times.		Non-visible pollutants such as an exceedance of chlorine is prohibited. Clean downstream gutters prior to testing.	
Erosion Control	Sites are required to be stabilized per the requirements in this manual.		Fiber rolls alone are not considered erosion control and must be in combination with soil stabilization.	

Category	Typical Construction Storm Water Permit Violations			
	Compliant		Non-Compliant	
Sediment Control – Perimeter Controls	Install silt fences, gravel bags, and other BMPs to intercept runoff and settle out sediment while allowing storm water to run through.		Inadequate and poorly maintained perimeter controls lead to the transportation of sediment offsite	
Sediment Control - Sweeping and Dust Control	Sweeping shall be performed after the trenches have been backfilled and covered with cold mix or a permanent trench cap.		Visible dust and tracking indicate that sweeping and dust control methods are inadequate.	
Sediment Control – Storm Drain Inlet Protection	Use inlet protection BMPs to capture sediment and other pollutants before they enter the storm drain. Prior to rain events, remove inlet protection BMPs. Maintain and replace as necessary.		Poorly installed and maintained inlet protection allows pollutants into storm drains and/or water bodies. Install check dams upstream of inlets to further reduce debris load.	

Category	Typical Construction Storm Water Permit Violations			
	Compliant		Non-Compliant	
Sediment Control - Vehicle Tracking	Provide rock pads, shaker plates, and other tracking BMPs to knock sediment off tires before it is tracked offsite.		Vehicles track sediment onto public roads. Paved surfaces are not swept daily and BMPs are not maintained or inspected.	
WTAP Implementation - Source Control prior to rain	Prevent runoff pollution by covering exposed trenches, properly anchoring covers, and using run-on controls to slow flows (e.g., Gravel bag chevrons).		Work site perimeter, active disturbed soil areas, and material stockpiles not properly stabilized / protected prior to rain.	

Appendix C

Municipal Inspector Checklists

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

1. Check for coverage under the CGP (Notice of Intent and/or Waste Discharge Identification No.) during initial inspection;
2. Ensure compliance with the City's Storm Water Standards (this manual) as well as applicable ordinances, permits, and other site-specific requirements;
3. Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and
4. Create a written or electronic inspection report.

City inspection staff will utilize the following framework when conducting an inspection:

1. Determine whether BMPs are effective and being maintained properly; and
2. Determine whether the owner/developer/contractor is making appropriate adjustments when ineffective BMPs are found.

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STORM WATER CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs) AND DISCHARGE ENFORCEMENT RESPONSIBILITIES				
ROLES	**INSPECTION & ENFORCEMENT OF CONSTRUCTION BMPs**		**ENFORCEMENT FOR SW DISCHARGE***	**ENFORCEMENT OF MUNICIPAL CODE**
PERMIT TYPE	**DSD – Building Construction & Safety Division**	**PWD - Construction Management and Field Services**	**T & SW – Storm Water Division Code Enforcement**	**DSD – Neighborhood Code Compliance Division**
Capital Improvement Project	None	YES	DISCHARGE ONLY*	None
Construction Permits (Grading or Right-of-Way)	None	YES	DISCHARGE ONLY*	None
Building Permit	YES	None	DISCHARGE ONLY*	None
Demolition Permit	YES	None	DISCHARGE ONLY*	None
Small Construction Not Requiring Any Permit	None	None	DISCHARGE ONLY*	None
Abandoned Sites with Active Permits	YES for Building Permits and refer to DSD Engineering Section	YES for grading and public improvements and refer to DSD Engineering Section	DISCHARGE ONLY*	None
Abandoned Sites with Expired Permits	None	None	YES**	YES
Illegal Construction (No Permit Obtained)	None	None	DISCHARGE ONLY*	YES
*Report discharges to Think Blue Hotline at 619-235-1000. **Storm Water Division is responsible for enforcing Minimum BMPs per respective land use.				

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Appendix D

Templates and Forms

The following templates are available at https://www.sandiego.gov/stormwater/regulations

- Water Pollution Control Plan (WPCP) Template
- Linear Utility (Group Job) WPCP Template
- Demolition WPCP Checklist
- Weather Triggered Action Plan Template
- SWPPP Submittal Checklist

The following forms are available from Development Services Department:

- Form DS-570: Minor WPCP Template
- Form DS-563: Permanent BMP Construction Self Certification

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Weather Triggered Action Plan (WTAP)

Project Name:		**Date:**	
City Project Tracking Number:		**Permit Number:**	
Predicted % chance of rain: [Attach National Weather Service hourly forecast (http://www.weather.gov/sgx/)]		**Date Rain Predicted to Occur:**	
Total Project Area:			
Current Disturbed Area:			

Site Information:

Street Name, City and Zip Code

Qualified Contact Person (QCP):

Name, Company, E-mail, Emergency Phone Number (24/7)

General Contractor:

Name, Company, E-mail, Emergency Phone Number (24/7)

Owner:

Name, Company, E-mail, Emergency Phone Number (24/7)

Erosion and Sediment Control Contractor – Labor Force contracted for the site:

Name, Company, E-mail, Emergency Phone Number (24/7)

Stormwater Sampling Agent (if applicable for CGP sites):

Name, Company, Emergency Phone Number (24/7)

City of San Diego WTAP Implementation Requirements
(Refer to Table 4-2 in the Storm Water Standards Manual, Part 2)

Check one	Trigger Level	Project Applicability	WTAP Implementation Trigger [Probability of Precipitation (POP)][1]	WTAP prepared no later than # hours prior to predicted onset of rain	WTAP implementation completed no later than # hours prior to predicted onset of rain	Trigger Level Justification and Enforcement Status[3]
	A	All Projects	50% POP	48 hours	Prior to Rain	Currently compliant based on City Inspection
Enhanced WTAP Triggers per City Inspection Results:						
	B	All Projects	40% POP	48 hours[2]	24 hours	Escalating Enforcement for non-compliant erosion and sediment control BMPs

[1] BMP deployment and active area stabilization timing is based on National Weather Service probability of precipitation (http://www.weather.gov/sgx/); Use project location and hourly forecast.
[2] Sites must be checked at 24 hours prior to the rain event to ensure the WTAP is consistent with current construction conditions.
[3] Trigger Level selected by City RE or Inspector based on non-compliant site conditions. The project will remain at the assigned Trigger Level until compliance is demonstrated to the satisfaction of the City RE or Inspector. The City may move a project back to Trigger A, if compliance is demonstrated for three successive inspections.

City of San Diego WTAP Requirements (to be done by Site QCP)

- ❑ Cover waste containers, material and stockpiles per WTAP implementation requirements.
- ❑ Stabilize areas of exposed soils (active and inactive areas) per WTAP implementation requirements.
- ❑ Inspect the entire Site and all known discharge points.
- ❑ Complete pre-rain BMP inspection and repair and maintain Site BMPs.
- ❑ Complete Required Weather Triggered Actions (Page 3).
- ❑ Prepare WTAP Exhibit (instructions provided on Page 4).
- ❑ Keep a copy of each WTAP and WTAP Exhibit in the onsite project SWPPP or WPCP.

Current Active Phase(s) and Activities

Check ALL the boxes below that apply to your site

❑ ***Grading and Land Development:***

- ❑ Demolition
- ❑ Rough Grade
- ❑ Soil Amendment(s):
- ❑ Rock Crushing
- ❑ Equip. Maintenance/Fueling
- ❑ Vegetation Removal
- ❑ Finish Grade
- ❑ Excavation (_____ sq. feet)
- ❑ Erosion and Sediment Control
- ❑ Material Delivery and Storage
- ❑ Vegetation Salvage-Harvest
- ❑ Blasting
- ❑ Soils Testing
- ❑ Surveying
- ❑ Other: _____

❑ ***Streets and Utilities:***

- ❑ Finish Grade
- ❑ Equip. Maintenance/Fueling
- ❑ Curb and Gutter/Concrete Pour
- ❑ Utility Install
- ❑ Storm Drain Installation
- ❑ Masonry
- ❑ Paving Operations
- ❑ Material Delivery & Storage
- ❑ Other: _____

❑ ***Vertical Construction:***

- ❑ Framing
- ❑ Masonry
- ❑ Drywall/Interior Walls
- ❑ Equip. Maintenance/Fueling
- ❑ Exterior Siding
- ❑ Flooring
- ❑ Carpentry
- ❑ Electrical
- ❑ Plumbing
- ❑ HVAC
- ❑ Insulation
- ❑ Roofing
- ❑ Concrete/Forms/Foundation
- ❑ Painting
- ❑ Stucco
- ❑ Tile
- ❑ Landscaping & Irrigation
- ❑ Other: _____

❑ ***Final Landscaping & Site Stabilization:***

- ❑ Stabilization
- ❑ Finish Grade
- ❑ Drainage Inlet Stencils
- ❑ Vegetation Establishment
- ❑ Storage Yard/ Material Removal
- ❑ Irrigation System Testing
- ❑ Inlet Filtration
- ❑ E&S Control BMP Removal
- ❑ Landscape Installation
- ❑ Other: _____
- ❑ Perm. Water Quality Ponds

❑ ***Inactive Construction Site:***

- ❑ E&S Control Device Installation
- ❑ E&S Control Device Maintenance
- ❑ Routine Site Inspection
- ❑ Street Sweeping
- ❑ Trash Removal
- ❑ Other: _____

Trades Active on Site during Current Phase(s)

Check ALL the boxes below that apply to your site

- ❑ Storm Drain Improvement
- ❑ Street Improvements
- ❑ Material Delivery
- ❑ Trenching
- ❑ Concrete Pouring
- ❑ Foundation
- ❑ Demolition
- ❑ Material Delivery
- ❑ Tile Work- Flooring
- ❑ Drywall
- ❑ HVAC installers
- ❑ Exterior Siding
- ❑ Insulation
- ❑ Fireproofing
- ❑ Steel Systems
- ❑ Grading Contractor
- ❑ Water Pipe Installation
- ❑ Sewer Pipe Installation
- ❑ Gas Pipe Installation
- ❑ Electrical Installation
- ❑ Communication Installation
- ❑ Erosion and Sediment Control
- ❑ Equipment Fueling/Maintenance
- ❑ Utilities (e.g., Sewer, Electric)
- ❑ Roofers
- ❑ Stucco
- ❑ Masons
- ❑ Landscapers
- ❑ Riggers
- ❑ Utility Line Testers
- ❑ Surveyor- Soil Technician
- ❑ Sanitary Station Provider
- ❑ Electrical
- ❑ Carpentry
- ❑ Plumbing
- ❑ Masonry
- ❑ Water, Sewer, Electric Utilities
- ❑ Rock Products
- ❑ Painters
- ❑ Carpenters
- ❑ Pest Control
- ❑ Water Feature Installation
- ❑ Utility Line Testers
- ❑ Irrigation System Installation
- ❑ Other: _____

Information Provided to the Trade Contractors

Check ALL the boxes below that apply to your site.

- ❑ Educational Material Handout
- ❑ Contractual Language
- ❑ Other:
- ❑ Tailgate Meetings
- ❑ Fines and Penalties
- ❑ Other:
- ❑ Training Workshop
- ❑ Signage
- ❑ Other: _____

Trade or Activity	Required Actions to be perform prior to rain event
❑ Information & Scheduling	❑ Inform trade supervisors of predicted rain ❑ Check scheduled activities and reschedule as needed ❑ Alert erosion/sediment control provider ❑ Alert sample collection contractor (if applicable) ❑ Schedule staff for extended rain inspections (including weekends & holidays) ❑ Check Erosion and Sediment Control material stock ❑ Prepare WTAP Exhibit ❑ Other:_____
❑ Trade operations	❑ Exterior operations shut down for event (e.g., no concrete pours or paving) ❑ Soil treatments (e.g., fertilizer) ceased within 24 hours of event ❑ Materials and equipment (ex: tools) properly stored and covered ❑ Waste and debris disposed in covered dumpsters or removed from site ❑ Trenches and excavations protected ❑ Perimeter controls around disturbed areas ❑ Fueling and repair areas covered and bermed ❑ Other:_____
❑ Material and stockpile management	❑ Material elevated and covered or stored within secondary containment (including indoors) ❑ Stockpiles bermed and covered ❑ Material and stockpiles located at least 50 feet away from storm drain facilities. ❑ Other:_____
❑ Waste management	❑ Waste and recycling containers covered and secured ❑ Drain holes plugged ❑ Portable toilet containment pans maintained ❑ Other:_____
❑ Vehicles and equipment pollution prevention	❑ Vehicles free of leaks and parked with drip pans ❑ Drip pans maintained ❑ Other:_____
❑ Spill prevention and control	❑ All spills and drips are cleaned ❑ Spills that cannot be properly cleaned prior to the rain event must be covered ❑ Other:_____
❑ Concrete waste management	❑ Adequate capacity for rain ❑ Washout bins covered ❑ Other:_____
❑ Erosion controls	❑ Temporary erosion controls deployed for all active areas, inactive areas, and construction support areas ❑ Other_____
❑ Sediment controls	❑ Perimeter protection in place and maintained ❑ Storm drain inlets are protected, except when inlet is within City streets open to the public. For storm drain inlets within the City ROW, inlet protection is to be removed and the area must be cleared of sediment and debris. ❑ Temporary linear sediment controls deployed around perimeter of disturbed areas, stockpiles, and on slopes ❑ Adequate capacity in sediment basins and traps ❑ Roads swept; site ingress and egress points stabilized ❑ Other:_____
❑ Run-on and runoff controls	❑ Temporary runoff controls in place (e.g., check dams and chevrons) ❑ Drainage controls (e.g., swales, dikes, berms) maintained ❑ Temporary energy dissipation installed and maintained ❑ Other_____
❑ Other / Discussion	

Weather Triggered Action Plan (WTAP) Exhibit

Instructions: A WTAP Exhibit identifying BMPs currently in place and BMPs which will be implemented prior to rain must be prepared with each WTAP. The WTAP Exhibit and WTAP Exhibit Legend shall be posted in the construction trailer (or otherwise available onsite if a trailer is not present). The QCP (or QSD/QSP if the project has a SWPPP) must update the current SWPPP/WPCP Site Map by hand or prepare current representative photographs (aerial or other) to depict BMPs. Contractor may develop their own WTAP Exhibit Legend under the following conditions:

- The exhibit must clearly depict installed BMPs;
- The exhibit must clearly depict BMPs to be installed prior to the rain event; and
- The legend must be posted with the WTAP Exhibit.

Example symbols for the WTAP Exhibit Legend are provided below

Drainage Patterns and Monitoring (Show in Black or Blue on Exhibit)

Symbol	
	Flow Direction
	Discharge Locations

BMPs Currently Installed (Highlight BMPs on SWPPP / WPCP Site Map or Depict on Aerial Photo to create WTAP Exhibit)

Symbol	BMP	Installed	Condition*	Date Repairs Completed for BMPs in Poor Condition.
	Erosion Control	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Sediment Basin/Traps	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Perimeter/Linear Controls	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Inlet Protection	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Check Dams	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Tracking Control	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Dike, Swales, Slope Drains	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Waste Management	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Materials Management	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Stockpile Management	❒ Yes ❒ NA	❒ Good ❒ Poor	
	Other	❒ Yes ❒ NA	❒ Good ❒ Poor	

* BMPs in poor conditions must be repaired at least 48 hours prior to a storm event.

BMPs to be Installed (Show in Red on Exhibit)

Symbol	BMP	Description/Type/Product	Installation Date (must be consistent with WTAP implementation schedule)
	Erosion Control		
	Sediment Basin/Traps		
	Perimeter/Linear Controls		
	Inlet Protection		
	Check Dams		
	Tracking Control		
	Dike, Swales, Slope Drains		
	Waste Management		
	Materials Management		
	Stockpile Management		
	Other		

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SWPPP Submittal Checklist

Project Name:	
City Project Tracking Number:	**Permit Number:**
SWPPP Date:	**WDID:**
Project Address:	
Total Disturbed Area:	**Risk:**

Project Owner:
Address:

Email:
Phone:

Qualified SWPPP Developer:
Address:

Email:
Phone:

The following checklist is required to be completed by the Qualified SWPPP Developer (QSD) preparing the Storm Water Pollution Prevention Plan (SWPPP) for submittal to the City of San Diego prior to the issuance of applicable grading or building permits. It is the responsibility of the QSD to ensure that the SWPPP is prepared within the guidance set forth in the City of San Diego Storm Water Standards Part 2 Construction BMP Standards. This checklist does not alleviate the QSD's responsibility to determine the appropriate level of BMP planning and implementation to prevent pollutant discharges. The SWPPP must be prepared using California Stormwater Quality Association (CASQA) or Caltrans or equivalent Template.

Complete the checklist by identifying the applicable page or section in the SWPPP for each set of requirements below.

I. General Requirements	
Page or Section	
	Contact information, including phone number and email address, for Project Owner, QSD, and Qualified Contact Person.
	Project and site description including construction activities, existing site conditions, and relevant prior land use.
	Construction Schedule information including the anticipated start and end dates of construction, phases of significant grading activities, and work near drainages or receiving waters.
	City's Weather Triggered Action Plan (WTAP) Template that addresses the City's WTAP requirements.
	Risk Factors and back-up for site-specific factors (if required).
	Vicinity Maps showing surrounding area and major crossroads.
	SWPPP Maps which meet the requirements of the Construction General Permit and include a clear access route for the City inspector.

SWPPP Submittal Checklist

II. Scheduling/Phasing Plan	
Page or Section	
	The scheduling/phasing plan must address work activities and BMP sequencing for each phase (i.e., demolition, grading, streets and utilities, vertical construction, and landscaping).
	Identify steps the project will implement to reduce the amount of soil exposed at any one time and during periods of high precipitation potential; maintain stabilized areas; and minimize work areas, staging areas, and construction roads.
	For sites less than 10 acres, this plan must consist of a listed sequence of construction activities and BMP installation activities which identifies the specific order in which construction activities and BMPs must be implemented.
	If the project will disturb 10 acres or more, then additional information is required to be included in the scheduling/phasing plan. This expanded scheduling/phasing plan must meet the requirements stated above and clearly describe narratively, by providing the information below, how the site will be protected and will properly implement prescribed BMPs to prevent pollutant discharges during each phase of construction and transitions or significant milestones with phases. The following phases must be addressed as applicable: a) Demolition; b) Mass Grading; c) Rough Grading; d) Final Grading; and e) Stabilization. The plan must include the following information to demonstrate that planning and scheduling will be used to protect the site with respect to storm water compliance: a) BMP contractor information; b) Specific erosion and sediment control products; c) Timing of BMP deployment related to phase transitions and prior to forecasted rain; d) Resources for BMP deployment to demonstrate adequate planning (e.g., external BMP contractor vs. trained onsite crew); and e) Location of BMP materials onsite or offsite (specific information is required if materials are located offsite). **Note**: The expanded scheduling/phasing plan must be prepared for each phase of construction and kept onsite and made available for inspection upon request by a representative of the City, SDRWQCB, or the SWRCB.

III. Good Site Management "Housekeeping" BMPs	
Page or Section	*The SWPPP addresses the following BMPs and includes City-specific requirements as identified in Storm Water Standards Part 2 Chapter 5:*
	Material Management
	Stockpile Management
	Landscape Material Management
	Solid and Liquid Waste Management
	Vehicle and Equipment Pollution Prevention
	Spill Prevention and Control
	Concrete Waste Management
	Sanitary/Septic Waste Management

SWPPP Submittal Checklist

IV.	Non-Storm Water Management BMPs
Page or Section	*The SWPPP addresses the following BMPs and includes City-specific requirements as identified in Storm Water Standards Part 2 Chapter 5:*
	Illegal Discharges/Non-Storm Water Discharges
	Illicit Connection Detection and Reporting
	Water Conservation Practices
	Dewatering Operations

V.	Erosion Control BMPs
Page or Section	*The SWPPP addresses the following BMPs and includes City-specific requirements as identified in Storm Water Standards Part 2 Chapter 5:*
	Erosion control for Construction Support Areas
	Erosion Control for inactive areas
	Erosion Control for all areas prior to rain
	End-of-Day stabilization for work within City Right-of-Way
	Dust Control

VI.	Sediment Control BMPs
Page or Section	*The SWPPP addresses the following BMPs and includes City-specific requirements as identified in Storm Water Standards Part 2 Chapter 5:*
	Linear Sediment Controls/Perimeter Controls
	Storm Drain Inlet Protection
	Sediment Trap/Basin, must include procedures dewatering to address capacity and vector control.
	Tracking Control/Street Sweeping

VII.	Runoff Control BMPs
Page or Section	*The SWPPP addresses the following BMPs and includes City-specific requirements as identified in Storm Water Standards Part 2 Chapter 5:*
	Dikes, Swales, and Slope Drains
	Temporary Energy Dissipation

I have prepared this SWPPP and certify that it is compliant with the requirements set forth in the City's Storm Water Standards Manual.

Name Certification # Date

SWPPP Submittal Checklist

A scheduling/phasing plan must be developed for each project to address the major construction phases and activities included in the project and the implementation of BMPs in relation to construction activities. It is the responsibility of the QSD to develop a project-specific scheduling/phasing plan clearly denoting BMP installation activities. Activities must be presented in the order (sequence) they are expected to be completed, with BMP installation activities indicated *in italics*. Note: Construction activities and BMPs may occur or reoccur at different times throughout some projects.

A scheduling/phasing plan must be prepared for each phase before the work is performed. The scheduling/phasing plan must be kept onsite and made available for inspection upon request by a representative of the City, SDRWQCB, or the SWRCB.

An example sequence of BMP installation activities for each phase is provided below for reference.

Example SWPPP Phase 1 - Mobilization and Grading

Activity	Start Date	End Date
1. Survey and flag construction and laydown area boundaries		
2. *Install perimeter control BMPs as shown on the SWPPP Map*		
3. *Install construction entrances (rock) as shown on SWPPP Map*		
4. Prepare temporary parking and staging areas		
5. *Install inlet protection as shown on SWPPP Map*		
6. Begin clearing and grubbing		
7. *Temporarily stabilize disturbed areas throughout construction*		
8. *Begin permanent stabilization as areas are brought to final grade*		

Example SWPPP Phase 2 - Foundations, Utilities, & Roadways Construction

Activity	Start Date	End Date
1. *Implement material management and waste management BMPs*		
2. *Inspect and maintain Phase 1 BMPs*		
3. *Stabilize disturbed areas that will be inactive for 14 days or more.*		
4. *Install concrete washout*		
5. Begin excavations for utilities and foundations		
6. Install utilities and storm drains		
7. *Install inlet protection devices as inlets are completed*		
8. Start construction of foundations		
9. Stabilize access roadways with asphalt pavement		

Example SWPPP Phase 3 - Vertical Construction and Final Stabilization

Activity	Start Date	End Date
1. *Inspect and maintain Phase 1 and Phase 2 BMPs*		
2. *Stabilize disturbed areas that will be inactive for 14 days*		
3. Pave site		
4. Perform vertical construction activities		
5. Complete grading of site and install permanent stabilization at all disturbed areas		

Appendix E

Construction BMP General Notes

PRIOR TO ANY SOIL DISTURBANCE, TEMPORARY SEDIMENT CONTROLS SHALL BE INSTALLED BY THE CONTRACTOR OR QUALIFIED PERSON(S) AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY OF SAN DIEGO "STORM WATER STANDARDS MANUAL" MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED GRADING/IMPROVEMENTS CONSISTENT WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND/OR WATER POLLUTION CONTROL PLAN (WPCP) FOR CONSTRUCTION LEVEL BMPS AND, IF APPLICABLE, THE STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) FOR POST-CONSTRUCTION BMPS.
2. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL STORM DRAIN INLET PROTECTION. INLET PROTECTION IN THE PUBLIC RIGHT-OF-WAY MUST BE TEMPORARILY REMOVED PRIOR TO A RAIN EVENT TO ENSURE NO FLOODING OCCURS AND REINSTALLED AFTER RAIN IS OVER.
3. ALL CONSTRUCTION BMPS SHALL INSTALLED AND PROPERLY MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
4. THE CONTRACTOR SHALL ONLY GRADE, INCLUDING CLEARING AND GRUBBING, AREAS FOR WHICH THE CONTRACTOR OR QUALIFIED CONTACT PERSON CAN PROVIDE EROSION AND SEDIMENT CONTROL MEASURES.
5. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SUB-CONTRACTORS AND SUPPLIERS ARE AWARE OF ALL STORM WATER BMPS AND IMPLEMENT SUCH MEASURES. FAILURE TO COMPLY WITH THE APPROVED SWPPP/WPCP WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS, CIVIL PENALTIES, AND/OR STOP WORK NOTICES.
6. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF ALL SILT, DEBRIS, AND MUD ON AFFECTED AND ADJACENT STREET(S) AND WITHIN STORM DRAIN SYSTEM DUE TO CONSTRUCTION VEHICLES/EQUIPMENT AND CONSTRUCTION ACTIVITY AT THE END OF EACH WORK DAY.
7. THE CONTRACTOR SHALL PROTECT NEW AND EXISTING STORM WATER CONVEYANCE SYSTEMS FROM SEDIMENTATION, CONCRETE RINSE, OR OTHER CONSTRUCTION-RELATED DEBRIS AND DISCHARGES WITH THE APPROPRIATE BMPS THAT ARE ACCEPTABLE TO THE RESIDENT ENGINEER AND AS INDICATED IN THE SWPPP/WPCP
8. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CLEAR DEBRIS, SILT, AND MUD FROM ALL DITCHES AND SWALES PRIOR TO AND WITHIN 3 BUSINESS DAYS AFTER EACH RAIN EVENT OR PRIOR TO THE NEXT RAIN EVENT, WHICHEVER IS SOONER.
9. IF A NON-STORM WATER DISCHARGE LEAVES THE SITE, THE CONTRACTOR SHALL IMMEDIATELY STOP THE ACTIVITY AND REPAIR THE DAMAGES. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OF THE DISCHARGE, PRIOR TO RESUMING CONSTRUCTION

ACTIVITY. ANY AND ALL WASTE MATERIAL, SEDIMENT, AND DEBRIS FROM EACH NON-STORM WATER DISCHARGE SHALL BE REMOVED FROM THE STORM DRAIN CONVEYANCE SYSTEM AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

10. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ONSITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID DEPLOYMENT OF CONSTRUCTION BMPS WHEN RAIN IS IMMINENT.
11. THE CONTRACTOR SHALL RESTORE AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL BMPS TO WORKING ORDER YEAR ROUND.
12. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DUE TO UNFORESEEN CIRCUMSTANCES TO PREVENT NON-STORM WATER AND SEDIMENT-LADEN DISCHARGES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
14. ALL EROSION AND SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED SWPPP/WPCP SHALL BE INSTALLED AND MAINTAINED. ALL EROSION AND SEDIMENT CONTROLS FOR INTERIM CONDITIONS SHALL BE PROPERLY DOCUMENTED AND INSTALLED TO THE SATISFACTION OF THE RESIDENT ENGINEER.
15. AS NECESSARY, THE RESIDENT ENGINEER SHALL SCHEDULE MEETINGS FOR THE PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED CONTACT PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER, AND THE RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION AND SEDIMENT CONTROL MEASURES AND OTHER BMPS RELATIVE TO ANTICIPATED CONSTRUCTION ACTIVITIES.
16. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CONDUCT VISUAL INSPECTIONS AND MAINTAIN ALL BMPS DAILY AND AS NEEDED. VISUAL INSPECTIONS AND MAINTENANCE OF ALL BMPS SHALL BE CONDUCTED BEFORE, DURING, AND AFTER EVERY RAIN EVENT AND EVERY 24 HOURS DURING ANY PROLONGED RAIN EVENT. THE CONTRACTOR SHALL MAINTAIN AND REPAIR ALL BMPS AS SOON AS POSSIBLE AS SAFETY ALLOWS.
17. **CONSTRUCTION ENTRANCE AND EXIT AREA**. TEMPORARY CONSTRUCTION ENTRANCE AND EXITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CASQA FACT SHEET TC-1OR CALTRANS FACT SHEET TC-01 TO PREVENT TRACKING OF SEDIMENT AND OTHER POTENTIAL POLLUTANTS ONTO PAVED SURFACES AND TRAVELED WAYS. WIDTH SHALL BE 10’ OR THE MINIMUM NECESSARY TO ACCOMMODATE VEHICLES AND EQUIPMENT WITHOUT BY-PASSING THE ENTRANCE.
    (a) NON-STORM WATER DISCHARGES SHALL BE EFFECTIVELY MANAGED PER THE SAN DIEGO MUNICIPAL CODE CHAPTER 4, ARTICLE 3, DIVISION 3 “STORM WATER MANAGEMENT AND DISCHARGE CONTROL”.