

**ALIFORNIA COASTAL COMMISSION**

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**RECORD PACKET COPY**

September 24, 2003

**Thu 8b**

**TO: COMMISSIONERS AND INTERESTED PERSONS**

**FROM: DEBORAH LEE, SOUTH COAST DEPUTY DIRECTOR  
SHERILYN SARB, DISTRICT MANAGER, SAN DIEGO  
KERI A. WEAVER, COASTAL PROGRAM ANALYST**

**SUBJECT: STAFF RECOMMENDATION ON CITY OF ENCINITAS MAJOR  
LCP AMENDMENT NO. 1-03 (Grading Ordinance) (For Commission  
Consideration and Possible Action at the Meeting of October 7-10,  
2003)**

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**SYNOPSIS**

The proposed LCP amendment was submitted on June 12, 2003 and was filed on June 20, 2003. A one-year time extension was granted on August 8, 2003. As such, the last date for Commission action on this item is August 21, 2004.

**SUMMARY OF AMENDMENT REQUEST**

The proposed amendment to the City's grading ordinance (Encinitas Municipal Code Chapter 23.24, Grading, Erosion and Sediment Control), which is part of the certified Implementation Program (IP) for the City's LCP, will incorporate certain requirements from the San Diego Regional Water Quality Control Board's (SDRWQCB) Order No. 2001-01. These regulations are intended to strengthen and refine already existing regulations for erosion controls and add requirements for structural and non-structural Best Management Practices (BMPs), with the long range goal of significantly improving the region's water quality. In addition to these substantive changes, a few terms in the existing ordinances are also modified or updated to be consistent with terms used in the new SDRWQCB order. The proposed revisions are intended to address the requirement of the Board's order related to construction activities, existing and future development, and redevelopment. No future amendment regarding the requirements of the SDRWQCB's Order is anticipated.

**SUMMARY OF STAFF RECOMMENDATION**

Staff is recommending denial of the proposed LCP amendment as submitted, and subsequent approval if modified.

The text changes to the grading ordinance are relatively minor in nature and will provide more protective standards to prevent erosion and reduce polluted stormwater runoff. The

proposed amendments do not create any inconsistencies with other sections of the IP or the LCP Land Use Plans (LUP). However, although the proposed amendment refers to the City's existing stormwater management ordinance (Chapter 20.08), and states that in order to meet the requirements of the grading ordinance, the requirements of the stormwater management ordinance must also be met, the City does not propose to incorporate the stormwater management ordinance into the City's certified LCP. Staff recommends that in order to ensure enforceability and consistency between the grading ordinance and the stormwater ordinance, the stormwater management ordinance and appendix be incorporated into the LCP.

The appropriate resolutions and motions begin on page 3. The suggested modifications begin on page 4. The findings for denial of the Implementation Plan Amendment as submitted begin on page 6. The findings for approval of the plan, if modified, begin on page 12.

### **BACKGROUND**

On November 17, 1994, the Commission approved, with suggested modifications, the City of Encinitas Local Coastal Program (both land use plan and implementing ordinances). The City accepted the suggested modifications and, on May 15, 1995, began issuing coastal development permits for those areas of the City within the Coastal Zone. The subject LCPA will be the eleventh amendment to the City's certified LCP.

### **ADDITIONAL INFORMATION**

Further information on the submittal may be obtained from Keri A. Weaver at the San Diego Area Office of the Coastal Commission at 7575 Metropolitan Drive, Suite 103, San Diego, CA 92108-4402, (619) 767-2370.

**PART I. OVERVIEW**

**A. STANDARD OF REVIEW**

Pursuant to Section 30513 of the Coastal Act, the Commission may only reject zoning ordinances or other implementing actions, as well as their amendments, on the grounds that they do not conform with, or are inadequate to carry out, the provisions of the certified land use plan. The Commission shall take action by a majority vote of the Commissioners present.

**B. PUBLIC PARTICIPATION**

The City has held Planning Commission and City Council meetings with regard to the subject amendment request. All of those local hearings were duly noticed to the public. Notice of the subject amendment has been distributed to all known interested parties.

**PART II. LOCAL COASTAL PROGRAM SUBMITTAL - RESOLUTIONS**

Following a public hearing, staff recommends the Commission adopt the following resolutions and findings. The appropriate motion to introduce the resolution and a staff recommendation are provided just prior to each resolution.

- I. MOTION I:** *I move that the Commission reject the Implementation Program Amendment for the City of Encinitas certified LCP as submitted.*

**STAFF RECOMMENDATION OF REJECTION:**

Staff recommends a YES vote. Passage of this motion will result in rejection of Implementation Program and the adoption of the following resolution and findings. The motion passes only by an affirmative vote of a majority of the Commissioners present.

**RESOLUTION TO DENY CERTIFICATION OF THE IMPLEMENTATION PROGRAM AS SUBMITTED:**

The Commission hereby denies certification of the Implementation Program Amendment submitted for the City of Encinitas certified LCP and adopts the findings set forth below on grounds that the Implementation Program as submitted does not meet the requirements of and is not in conformity with the policies of the certified Land Use Plan (LUP). Certification of the Implementation Program would not meet the requirements of the California Environmental Quality Act as there are feasible alternatives and mitigation measures that would substantially lessen the significant adverse impacts on the environment that will result from certification of the Implementation Program as submitted

- II. MOTION II:** *I move that the Commission certify the Implementation Program Amendment for the City of Encinitas certified LCP if it is modified as suggested in this staff report.*

**STAFF RECOMMENDATION:**

Staff recommends a YES vote. Passage of this motion will result in certification of the Implementation Program Amendment with suggested modifications and the adoption of the following resolution and findings. The motion passes only by an affirmative vote of a majority of the Commissioners present.

**RESOLUTION TO CERTIFY THE IMPLEMENTATION PROGRAM AMENDMENT WITH SUGGESTED MODIFICATIONS:**

The Commission hereby certifies the Implementation Program Amendment for the City of Encinitas certified LCP if modified as suggested and adopts the findings set forth below on grounds that the Implementation Program Amendment with the suggested modifications will meet the requirements of and be in conformity with the policies of the certified Land Use Plan. Certification of the Implementation Program Amendment if modified as suggested complies with the California Environmental Quality Act, because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the Implementation Program Amendment on the environment, or 2) there are no further feasible alternatives and mitigation measures that would substantially lessen any significant adverse impacts on the environment.

**PART III. SUGGESTED MODIFICATIONS**

Staff recommends that the following suggested revisions to the proposed LCP be adopted. The underlined sections represent language which the Commission suggests be added, and the ~~struck-out~~ sections represent language which the Commission suggests be deleted from the language as originally submitted.

1. The City's existing stormwater management ordinance (Encinitas Municipal Code Chapter 20.08) as amended herein, including "The City of Encinitas Storm Water Best Management Practices Manual," which is an appendix to Encinitas Municipal Code Chapter 20.08 as provided in subsection 20.08.100, shall be incorporated into the Implementation Plan of the City's Local Coastal Program.
2. Add the following language after subsection 20.08.230 of the stormwater management ordinance as subsection 20.08.240, and renumber the existing subsection 20.08.240 (Severability) as follows:

20.08.240 Amendment. An amendment to any portion of this Chapter constitutes a proposed amendment to the implementing regulations of the City's Local Coastal Program (LCP). A proposed LCP amendment shall comply in form, content and procedure with the provisions of Chapter 30.82 of the Municipal Code. An amendment to this Chapter shall not become effective until certified by the Coastal Commission pursuant to California Public Resources Code Section 30514.

~~20.08.24050~~ Severability. If any section, subsection, or part of this Chapter is declared invalid by a court of competent jurisdiction, the remaining provisions shall continue to be valid and enforceable so as to effectuate the purpose and intent of this ordinance.

3. In the revised grading ordinance (Encinitas Municipal Code Chapter 23.24), change incorrect reference to the stormwater management ordinance as Chapter 64.08, and replace with correct designation of Chapter 20.08, as follows:

**23.24.230 - Permit Limitations and Conditions.** All grading permits shall be subject to the following limitations and conditions: ...

C. Conditions of Approval. In granting any permit under this Code, the City Engineer may attach such conditions as may be reasonably necessary to prevent creation of a nuisance or threat to public or private property. Such conditions may include, but shall not be limited to:

1. Improvements of any existing grading to bring it up to the standards of this Code;
2. Requirements for fencing of excavations of fills which would otherwise be hazardous.

It shall be a condition of every permit issued under this Chapter that the applicant shall comply with all the provisions of the City of Encinitas Watercourse Protection, Storm Water Management and Discharge Control Ordinance in Chapter ~~64.08~~ 20.08 of this Code. (Ord. 2002-03). ...

**23.24.260 - Permit Denial and Revocation** ...

F. 1 (a) ...

(e) Permittee fails to properly provide for wet season activity, as required by this Chapter, or fails to comply with all the provisions of the City of Encinitas Watercourse Protection, Storm Water Management and Discharge Control Ordinance in Chapter ~~64.08~~ 20.08 of this Code. ...

4. Revise subsection 30.82.010 (Local Coastal Program Amendment) of the Encinitas Municipal Code as follows:

**30.82.010 Purpose.** As part of the implementation of the City of Encinitas Local Coastal Program (LCP), the procedures contained in this Chapter provide for the processing of LCP amendments in a manner consistent with the provisions of the California Coastal Act. Amendments to any portion of the Municipal Code previously certified by the Coastal Commission as implementing regulations of the City's Local Coastal Program, including chapter 23.08 ("Design Review"), Chapter 20.08 ("Storm Water Runoff Control and Drainage"), Chapter 23.24

("Grading, Erosion and Sediment Control"), Title 24 ("Subdivisions"), and Title 30 ("Zoning"), are subject to the provisions of this Chapter. ...

**PART IV. FINDINGS FOR DENIAL OF CERTIFICATION OF THE CITY OF ENCINITAS LCP IMPLEMENTATION PLAN AMENDMENT #1-03, AS SUBMITTED, AND APPROVAL IF MODIFIED**

**A. AMENDMENT DESCRIPTION**

The purpose of the amendment is to incorporate certain requirements of the San Diego Regional Water Quality Control Board's (SDRWQCB) Order No. 2001-01 (Order) into the City's grading ordinance (Encinitas Municipal Code Chapter 23.24, Grading, Erosion and Sediment Control), which is part of the certified Implementation Program (IP) for the City's Local Coastal Program (LCP). This amendment from the City of Encinitas is part of a larger effort to improve water quality in the San Diego area. The revised grading ordinance language contained in this amendment was developed to comply with the requirements of the Order, which revises the National Pollution Discharge Elimination System (NPDES) Permit No. CAS0108758 and sets waste discharge requirements for discharges of urban runoff from the municipal separate storm sewer systems (MS4s) draining the watersheds of the County of San Diego, the Incorporated Cities of San Diego County, and the San Diego Unified Port District.

The Order's requirements are intended to strengthen and refine already existing regulations for erosion controls and add requirements for structural and non-structural Best Management Practices (BMPs), with the long range goal of significantly improving the region's water quality. In addition to these substantive changes, a few terms in the existing ordinances are also modified or updated to be consistent with terms used in the new SDRWQCB order.

The Order included findings regarding the effects of urban development and the impairments to water bodies, including the following:

"Urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. As runoff flows over urban areas, it picks up harmful pollutants such as pathogens, sediment (resulting from human activities), fertilizers, pesticides, heavy metals, and petroleum products. These pollutants often become dissolved or suspended in urban runoff and are conveyed and discharged to receiving waters, such as streams, lakes, lagoons, bays, and the ocean without treatment. Once in receiving waters, these pollutants harm aquatic life primarily through toxicity and habitat degradation. Furthermore, the pollutants can enter the food chain and may eventually enter the tissues of fish and humans."

To address the widespread problem of urban runoff, the Order requires that all projects be evaluated for their potential impact to water quality, and that appropriate measures to reduce polluted runoff to the maximum extent practicable are implemented. The Order

requires that projects within certain development categories implement post-construction structural Best Management Practices. Also the Order requires that each Copermittee's General Plan (or equivalent plan) include:

"...water quality and watershed protection principles and policies to direct land-use decisions and require implementation of consistent water quality protection measures for development projects. As part of its Jurisdictional Urban Runoff Management Program document, each Copermittee shall provide a workplan with time schedule detailing any changes to its General Plan regarding water quality and watershed protection."

The Order requires eighteen cities (including the City of Encinitas), the County of San Diego, and the San Diego Unified Port District (collectively known as Municipal Copermittees) to undertake certain actions including:

1. Prohibit non-storm water discharges into their respective MS4s (with certain exemptions);
2. Prohibit discharges of urban runoff containing pollutants which have not been reduced to the maximum extent practicable (MEP) into and from MS4s, including post-development runoff containing pollutants from new development or redevelopment;
3. Prohibit discharges from MS4s that cause or contribute to violations of water quality standards;
4. Establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means.
5. Implement, or require implementation of, best management practices to ensure that pollutant discharges into and from its MS4 are reduced to the MEP;
6. Take appropriate actions to reduce discharges of pollutants and runoff flow during each of the three major phases of urban development, i.e., the planning, construction, and existing development (or use) phases.

The Order requires each Copermittee to implement a Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) that contains the components shown below:

Land-Use Planning for New Development and Redevelopment Component  
Construction Component  
Existing Development Component

- a. Municipal
- b. Industrial
- c. Commercial
- d. Residential

Education Component  
Illicit Discharge Detection and Elimination Component

Public Participation Component  
Assessment of Jurisdictional URMP Effectiveness Component  
Fiscal Analysis Component

These components are intended to minimize the short and long-term impacts to water quality, and reduce pollutants from various land uses within the jurisdiction of the Copermittees. The Order details requirements for each of these components.

The Order requires that the Copermittees certify to the SDRWQCB that they have adequate legal authority to implement and enforce the requirements of the Order, including any new or updated urban runoff related ordinances. Additionally, the Copermittees must also show how they have implemented or upgraded ordinances within each of their jurisdictions to address runoff related specifically to construction activities and existing development. Other Copermittees, who have certified Local Coastal Programs, will similarly have to submit LCP amendments for Commission review and approval in order to comply with the SDRWQCB Order.

The Copermittees are also required to develop a model Standard Urban Storm Water Mitigation Plan (SUSMP), which shows how they will reduce pollutants and runoff flows from all new development and significant redevelopment projects falling within certain priority project categories. The model SUSMP, once approved by the SDRWQCB, will then have to be adopted and implemented by each Copermittee. The Order requires that projects within certain SUSMP development categories implement post-construction structural Best Management Practices. The provisions of these local SUSMPs will address applicable projects during the planning and development stages. The San Diego Copermittees have received approval from the SDRWQCB for their model SUSMP.

The specific amendments requested herein would amend the grading ordinance (Chapter 23.24) of the City's LCP Implementation Plan. The subject revisions to the ordinance refer to the existing stormwater management ordinance (EMC Chapter 20.08), which addresses stormwater management and discharge control, but currently is not a component of the certified LCP. The references require that every permit issued under the grading ordinance shall comply with all provisions of the stormwater management ordinance. The stormwater management ordinance also references the Best Management Practices Manual as an appendix to the subject chapter. The manual is also not currently part of the certified LCP.

**B. PURPOSE AND INTENT OF ORDINANCE**

The purpose of the grading ordinance is to protect the health, safety and welfare of persons, property and the environment by addressing slope stability, erosion control and water quality. The ordinance is attached in strikeout/underline form as Exhibit 1.



**C. MAJOR PROVISIONS OF ORDINANCE**

The grading ordinance contains a number of provisions, including the following:

- when regulations apply and permits are required
- grading within floodplains and environmentally sensitive lands
- erosion controls and liability

**D. ADEQUACY OF ORDINANCE TO IMPLEMENT CERTIFIED LUP/  
DENIAL AS SUBMITTED**

The following goals and policies are part of the certified LUP, which is the standards of review for this ordinance, and are particularly relevant to the provision and protection of coastal resources and recreation facilities:

Resource Management Element:

Goal 10: The City will preserve the integrity, function, productivity, and long term viability of environmentally sensitive habitats throughout the City, including kelp-beds, ocean recreational areas, coastal water, beaches, lagoons and their uplands, riparian areas, coastal strand areas, coastal sage scrub and coastal mixed chaparral habitats. (Coastal Act 30230/30231/30240)

Policy 10.6: The City shall preserve and protect wetlands within the City's planning area. ... There shall be no net loss of wetland acreage or resource value as a result of land use or development ...

Policy 13.1: The City shall plan for types and patterns of development which minimize water pollution, air pollution, fire hazard, soil erosion, silting, slide damage, flooding and severe hillside cutting and scarring. (Coastal Act 30250)

Goal 14: The City shall stringently control erosion and sedimentation from land use and development to avoid environmental degradation of lagoons and other sensitive biological habitat, preserve public resources and avoid the costs of dealing with repair and sedimentation removal. (Coastal Act 30240/30250)

Policy 14.2: The City shall develop a comprehensive program to control sedimentation and erosion. (Coastal Act 30233/30240).

Policy 14.5: To minimize erosion and allow sedimentation control systems to work, no grading or vegetation removal shall be allowed to occur during the wet season, October 1- April 15, without all systems and devices per an approved erosion control plan and program being in place. During other times of the year such systems shall be provided and operative as required by a comprehensive City erosion control ordinance. No grading shall occur during the rainy season within the Special Study Overlay area, or in areas upland of sensitive areas including lagoons, floodplains, riparian or wetland habitat areas, unless by site-specific determination, the grading would not be occurring on

sensitive slopes, in floodplain areas or upland of floodplains, where sedimentation might occur in other sensitive habitat areas. Then, if grading is determined to be allowable, all necessary erosion control devices, including sedimentation basins, must be in place, and shall be monitored and maintained throughout the grading period. (Coastal Act/30251)

Policy 14.6: To achieve the ends of erosion control, a comprehensive erosion control plan shall be required with final building permit and improvement plans, subject to review and approval prior to commencement of grading and construction. (Coastal Act/30251)

The existing grading ordinance was previously certified as consistent with the City's certified LCP. The purpose of the grading ordinance is to provide guidance for grading activities that have the potential to cause erosion, degrade water quality and increase surface water runoff. Although the existing ordinance contains language that addresses non-point source pollution and stormwater standards, new language has been provided for greater specificity of grading requirements and to acknowledge the current status of best management practices (BMPs). The overall effect of the City's proposed modifications will be to strengthen the existing grading ordinance and provide additional resource protection consistent with the SDRWQCB stormwater runoff order and the Coastal Act.

The stormwater management ordinance is not currently part of the City's LCP. It is necessary to ensure that the grading ordinance will adequately address protection of coastal resources, that the grading ordinance remains consistent with the referenced stormwater management ordinance, and that both ordinances are adequately implemented within the coastal zone to ensure maximum protection of coastal resources. The City's proposed amendment to the grading ordinance is not sufficient to meet these requirements without incorporation of the stormwater management ordinance into the LCP. The grading ordinance, by requiring compliance with the stormwater management ordinance, is requiring compliance with an ordinance that has not been reviewed for consistency with the certified LUP.

As provided in the previously-listed policies of the City's Resource Management Element, which is part of the General Plan, the LUP requires a comprehensive erosion control program to prevent erosion and sedimentation from degrading lagoons and other sensitive biological habitat and preserve public resources. Both the grading ordinance and the stormwater management ordinance are necessary to create this comprehensive program. To ensure that the grading ordinance, including the cross-reference to the stormwater management ordinance, conforms with and is adequate to carry out the LUP, it is necessary to review the stormwater management ordinance for consistency with the LUP.

The stormwater management ordinance is designed to work with the grading ordinance for comprehensive management of sedimentation and runoff from existing development, construction activities, new development and redevelopment, and provide the maximum effectiveness and enforceability for development controls and protective measures. Additionally, the City's stormwater Best Management Practices (BMP) Manual (Exhibits

3 and 4) is an appendix to the existing stormwater management ordinance, as provided in subsection 20.08.100. The BMP Manual is intended to provide guidance for meeting the requirements of the City's urban runoff management program. Part II of the Manual, which addresses standards for new development and significant redevelopment, is particularly relevant to the subject LCP amendment.

Without incorporation of the stormwater management ordinance into the LCP, the LUP will not be adequately implemented. Additionally, to ensure that the stormwater ordinance continues to be consistent with the LUP in future, it is also necessary to require that changes to the stormwater management ordinance, including the BMP manual, be done through an LCP amendment. Depending upon the nature and significance of proposed changes, the Commission may be able to review certain changes as de minimis amendments.

#### **E. FINDINGS FOR APPROVAL, IF MODIFIED**

The proposed text changes to the grading ordinance are relatively minor in nature, will increase the protectiveness of existing requirements for erosion prevention and stormwater pollution control, and do not create any inconsistencies with other sections of the certified IP. However, because the City does not propose to incorporate the referenced stormwater management ordinance into the City's certified LCP, it is therefore necessary to include additional language in the City's proposed text revisions to ensure that the City's stormwater management ordinance will remain consistent with the grading ordinance and will be appropriately implemented within the coastal zone.

The purpose of the stormwater runoff and drainage regulations is to regulate drainage facilities, minimize both flood hazards and flood control facilities, minimize impacts to environmentally sensitive lands, implement federal and state regulations and protect the public health, safety and welfare. The ordinance is attached as Exhibit 2. The ordinance defines terms that relate to stormwater management and applicable regulations, and direct the City Engineer to develop a Best Management Practices manual as an appendix to that chapter, based upon priorities for implementation and enforcement. The BMP manual describes how to comply with the permanent improvement and construction phase stormwater requirements for development projects in the City of Encinitas, and guides project applicants through the selection, design, and incorporation of stormwater BMPs into design plans. The SDRWQCB has reviewed and approved the City's stormwater management ordinance and BMP manual, and the Commission's Water Quality Unit has also reviewed and is satisfied with them.

The previously-cited LUP policies of the City's Resource Management element apply to the stormwater management ordinance as well as the grading ordinance. Additional LUP goals and policies that are specifically applicable to water quality requirements include the following:

Resource Management Element

Goal 1: The City will conserve, protect and enhance the water resources in the Planning Area. (Coastal Act 30231)

Policy 1.2: Cooperate with the Federal, State and County governments and surrounding jurisdictions concerning the maintenance and improvement of water quality from local groundwater sources. (Coastal Act 30231)

Policy 2.3: To minimize harmful pollutants from entering the ocean environment from lagoons, streams, storm drains and other waterways containing potential contaminants, the City shall mandate the reduction or elimination of contaminants entering all such waterways; pursue measures to monitor the quality of such contaminated waterways, and pursue prosecution of intentional and grossly negligent polluters of such waterways. (Coastal Act 30230/30231/30233)

Subsection 20.08.030 of the existing stormwater ordinance defines and addresses stormwater discharges into "Environmentally Sensitive Areas," which includes but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control; water bodies designated with the RARE beneficial use by the State Water Resources Control Board; areas designated as preserves or their equivalent under the Multiple Species Conservation Program; and any other similar environmentally sensitive areas which have been identified by the City Engineer. These areas will be identified as high priority areas for the maintenance of water quality. At minimum, the ESAs will include Batiquitos and San Elijo Lagoons and their tributaries. If the stormwater management ordinance is incorporated into the LCP, the ESA designation will add another layer of protection for sensitive coastal resources, but will not replace or weaken existing requirements for protecting environmentally sensitive habitat areas (ESHA) as defined in Sections 30107.5 and 30240 of the Coastal Act, and as provided in the City's Resource Management Element of the General Plan.

Suggested Modification #1 is necessary to ensure that the stormwater management ordinance is incorporated into the LCP IP, and that an enforceable linkage exists between the two ordinances. Suggested Modification #2 provides that any change made to the stormwater ordinance shall be subject to Commission review for both individual and cumulative effect on the City's overall, comprehensive program for erosion control and water quality protection. As provided in subsection 23.24.055 of the existing grading ordinance, an amendment to any portion of the grading ordinance constitutes an amendment to the implementation plan of the City's LCP, and is not effective until certified by the Commission pursuant to California Public Resources Code Section 30514. This modification is necessary for consistency between the two ordinances.

Suggested Modification #2 corrects the title numbering of the stormwater management ordinance, as referenced in the grading ordinance, from Chapter 64.08 to Chapter 23.24. Suggested Modification #3 ensures that subsection 30.82.010 (Local Coastal Program Amendment) of the Encinitas Municipal Code, which addresses LCP amendments,

includes the stormwater management ordinance as part of the LCP IP and requires any amendments to the ordinance to be certified by the Commission before becoming effective.

Incorporation of the ordinance into the LCP Implementation Plan will provide greater assurance that the grading ordinance and the stormwater management ordinance will be implemented concurrently and in a consistent manner, that any changes to the ordinances (including the BMP Manual) will be reviewed for coastal zone impacts, and that necessary LCP updates address both stormwater and grading concerns. The amendments requested herein, if modified as suggested, will add to, broaden, and improve upon, the scope of the existing ordinance. Moreover, incorporation of the stormwater management ordinance will not lessen or weaken any aspect of the existing grading ordinance or other chapters of the City's municipal code. Therefore, the Commission finds that the proposed amendments to the grading ordinance are fully consistent with, and adequate to carry out, the certified City of Encinitas LUP policies. If the suggested modifications are incorporated, the grading ordinance and stormwater ordinance, including the BMP manual, will conform with and will be adequate to carry out the water quality policies of the certified LUP, and will ensure continuing protection of coastal resources.

#### **PART V. CONSISTENCY WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

Section 21080.5 of the California Environmental Quality Act (CEQA) exempts local government from the requirement of preparing an environmental impact report (EIR) in connection with its local coastal program. Instead, the CEQA responsibilities are assigned to the Coastal Commission and the Commission's LCP review and approval program has been found by the Resources Agency to be functionally equivalent to the EIR process. Thus, under CEQA Section 21080.5, the Commission is relieved of the responsibility to prepare an EIR for each LCP.

Nevertheless, the Commission is required in an LCP submittal or, as in this case, an LCP amendment submittal, to find that the LCP, or the LCP amendment, does conform with CEQA provisions. The LCP amendment as submitted does not ensure that the grading ordinance will be implemented in a manner consistent with the requirements of the Coastal Act. If the amendment is modified as suggested to ensure that the grading ordinance is implemented in compliance with the LCP and with the additional standards specified in the suggested modifications, the amendment will not result in any adverse impacts to the environment. The Commission finds that the proposed amendment, if modified as suggested, does conform to CEQA provisions. Therefore, the Commission finds that approval of the LCP amendment will not result in any significant unmitigated adverse environmental impacts.



ORDINANCE NO: 2002-15

AN ORDINANCE OF THE CITY OF ENCINITAS, CALIFORNIA  
AMENDING CHAPTER 23.24 OF THE MUNICIPAL CODE TO  
REGULATE GRADING AND PROTECT WATER QUALITY

SECTION 1:

Section 23.24.020 of the Encinitas Municipal Code

*D. Ensuring that soil erosion, sedimentation, and storm water runoff are regulated to reduce, to the maximum extent practicable, pollutants entering the Storm Water Conveyance System and Waters of the State to protect water quality;"*

SECTION 2:

Section 23.24.030 of the Encinitas Municipal Code

*A. Applicant: Any person, corporation, partnership, limited liability company, non-profit entity, joint venture, association of any type, public entity or any other legal entity which submits an application to the City Engineer for a permit pursuant to this Chapter.*

*E. Best Management Practices or BMPs: means schedules of activities, practices or devices, prohibitions of practices, site designs, procedures, and other methods to prevent or reduce the discharge of pollutants directly or indirectly to Storm Water, the Storm Water Conveyance System, or Waters of the State. BMPs may be structural or non-structural. BMPs may include any type of pollution prevention and pollution control measure which the City Engineer finds is necessary to reduce pollutants entering the Waters of the State to the maximum extent practicable.*

*X. Runoff:  
Storm Water- that portion of water from rain or melted snow that flows over the ground  
Nuisance runoff- runoff generated from unnatural sources.*

*EE. Wet Season or Rainy Season: The period from October 1 thru April 30.*

SECTION 3:

Section 23.24.030 of the Encinitas Municipal Code shall be amended to add the following definitions in alphabetical order, and the section shall be re-alphabetized as necessary:

*"Maximum Extent Practicable or MEP- the standard established by Congress in Clean Water Act section 402(p)(3)(B)(iii) that municipal dischargers of Storm Water must not exceed. MEP is an acceptability standard for Best Management Practices based on a level of pollutant reduction that can be achieved by the most effective set of BMPs that can be*

EXHIBIT NO. 1  
Encinitas LCPA #1-03

Grading Ordinance  
Chapter 23.24

implemented and still remain practicable; MEP generally emphasizes pollution prevention and source control BMPs as the first line of defense in combination with treatment methods as a backup.

*Person-* An individual, corporation, partnership, limited liability company, non-profit entity, joint venture, association of any type, or any other legal entity

*Pollutant-* any agent that may cause or contribute to the degradation of water quality, including, but not limited to, Earth Materials.

*Storm Water Conveyance System-* private and public drainage facilities within the City of Encinitas by which Storm Water may be conveyed to Waters of the United States, including but not limited to, streets, roads, catch basins, natural and artificial channels, natural and artificial drainage features, aqueducts, canyons, stream beds, gullies, curbs, gutters, ditches, and storm drains. Historic and current development make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the Storm Water Conveyance System regardless of whether they are natural, man-made, or partially modified features.

*Waters of the State-* any water, surface or underground, including saline waters within the boundaries of California. The definition of the "Waters of the State" is broader than that for the "Waters of the United States" in that all water in the State is considered to be a "Waters of the State" regardless of circumstances or condition. Under this definition, a municipal storm sewer system (MS4) is always considered to be a "Waters of the State". [California Water Code Section 13050 (e)].

*Waters of the United States-* water subject to the regulatory jurisdiction of the United States under the Federal Clean Water Act and applicable case law. In general, this includes "navigable" waters, waters tributary to "navigable" waters, and adjacent wetlands. [40 Code of Federal Regulations section 122.2.]"

#### SECTION 4:

Section 23.24.120 of the Encinitas Municipal Code shall be amended to add Item "L" to the following:

23.24.120 - Permit Application. The application for a permit must include all of the following items:

- A. Application form.
- B. Site Map and Grading Plan.
- C. Interim Erosion and Sediment Control Plan.
- D. Final Erosion and Sediment Control Plan, where required.
- E. Soil Engineering Report, where required.
- F. Engineering Geology Report, where required.
- G. Landscape and Irrigation Plan, where required.
- H. Work schedule (prior to issuance of permit).



- I. Application fees.
- J. Acceptable security (prior to issuance of permit).
- K. Any supplementary material required by the City Engineer.
- L. *Applicants subject to the Statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities must provide evidence of existing coverage under the General Construction Permit.*

#### SECTION 5:

Section 23.24.160 of the Encinitas Municipal Code shall be amended to add Item number 5 to subsection B:

23.24.160 - Final Erosion and Sediment Control Plan. All the following information shall be provided by a California registered civil engineer with respect to conditions existing on the site after final structures and improvements (except those required under this Section) have been completed and where these final structures have not been covered by an Interim Plan:

A. Maximum runoff from the site shall be calculated using the method approved by the City Engineer.

B. The Final Plan shall also contain the following information:

- 1. a description of and specifications for sediment retention devices;
- 2. a description of and specifications for surface runoff and erosion control devices;
- 3. a description of vegetative measures prepared by a landscape architect;
- 4. a graphic representation of the location of all items in Subsections (1)-(3) above;
- 5. *A description of the maintenance necessary for proper functioning of the storm water runoff and erosion control methods used for the site, a maintenance schedule, and names and addresses of the persons who will perform the maintenance.*

C. An estimate of the costs of implementing all final erosion and sediment control measures must be submitted in a form acceptable to the City Engineer.

D. Upon approval of the City Engineer, the required elements of the Grading Plan and the Final Erosion and Sediment Control Plan may be combined onto one plan.

#### SECTION 6:

Section 23.24.230, of the Encinitas Municipal Code shall be amended to add the following sentence at the end of subsection C:

23.24.230 - Permit Limitations and Conditions. All grading permits shall be subject to the following limitations and conditions:

A. General Conditions. The issuance of a grading permit shall constitute an authorization to do only that work which is described or illustrated on the application for the permit, or on the grading plans and specifications approved by the City Engineer.

B. Jurisdictions of Other Agencies. Permits issued under the provisions of this code shall not relieve the owner of the responsibility for securing permits or licenses that may be required from other City departments or other governing agencies.

C. Conditions of Approval. In granting any permit under this Code, the City Engineer may attach such conditions as may be reasonably necessary to prevent creation of a nuisance or threat to public or private property. Such conditions may include, but shall not be limited to:

1. Improvements of any existing grading to bring it up to the standards of this Code;
2. Requirements for fencing of excavations of fills which would otherwise be hazardous.

*It shall be a condition of every permit issued under this Chapter that the applicant shall comply with all the provisions of the City of Encinitas Watercourse Protection, Storm Water Management and Discharge Control Ordinance in Chapter 64.08 of this Code.*

D. Modification of Approved Plans. Any modifications of or changes to the approved grading plans must be approved by the City Engineer. Modifications which significantly affect the tract layout, land use, or conditions of approval must have the approval of the appropriate legislative body. Approval shall only be considered at a properly noticed public meeting. All property owners within 300 feet of the permit site shall be notified of the meeting.

#### SECTION 7:

Section 23.24.260 of the Encinitas Municipal Code shall be amended by substituting the following sentence for the first sentence in Subsection A:

A. Hazardous Grading. *The City Engineer shall not issue a grading permit in any case where the City Engineer finds that the work, as proposed by the applicant, will damage any private or public property, or interfere with any existing drainage course in a manner which may cause damage to any adjacent property, or result in the depositing of debris on any public way, or create an unreasonable hazard to person or property, or cause or contribute to an exceedance of state water quality objectives, or fail to reduce pollutants from the site to the maximum extent practicable.*

If it can be shown, to the satisfaction of the City Engineer, that the hazard can be essentially eliminated by the construction of retaining structures, buttress fills, drainage structures or facilities, or by other means, the City Engineer may issue the grading permit on the condition that such construction work be performed.

#### SECTION 8:

Section 23.24.260 F.1(e) of the Encinitas Municipal Code shall be amended to read as follows:

F. Permit Revocation. The City Engineer shall first have resort to the procedures set forth in this Section before any other enforcement procedure set forth in this Chapter.

1. The City Engineer shall suspend the permit and issue a stop work order, and Permittee shall cease all work on the work site, except work necessary to remedy the cause of the suspension, upon notification of such suspension when:

(a) the City Engineer determines that the permit was issued in error or on the basis of incorrect information supplied, or in violation of any ordinance or regulation or the provisions of this ordinance;

(b) Permittee fails to submit reports when required under this Chapter;

(c) inspection by the City Engineer reveals that the work or the work site:

(1) is not in compliance with the conditions set forth in this Chapter; or

(2) is not in conformity with the Grading Plan, or the Interim or Final Erosion and Sediment Control Plans, as approved or as modified under this Chapter; or

(3) is not in compliance with an order to modify under this Chapter;

(d) Permittee fails to comply with an order to modify within the time limits imposed by the City Engineer;

(e) *Permittee fails to properly provide for wet season activity, as required by this Chapter, or fails to comply with all the provisions of the City of Encinitas Watercourse Protection, Storm Water Management and Discharge Control Ordinance in Chapter 64.08 of this Code.*

## SECTION 9:

23.24.270- No Improvements Planned. *Where an applicant does not plan to construct permanent improvements on the site, or plans to leave portions of the site graded but unimproved, applicant shall:*

- A. Meet all the requirements of this Chapter, including an Interim Plan designed to control runoff and erosion on the site for the period of time during which the site, or portions thereof, remain unimproved, and also shall include a description of the maintenance necessary for proper functioning of the storm water runoff and erosion control methods used for the site, a maintenance schedule, and names and addresses of the persons who will perform the maintenance; and*
- B. Submit an executed contract, secured by the methods described in section 23.24.210 of this Chapter, for maintenance of Interim Plan runoff and erosion control measures for the period of time that the site remains graded but unimproved.*

## SECTION 10:

Section 23.24.310 E of the Encinitas Municipal Code shall be amended to read as follows:

23.24.310 - Completion of Work. Upon completion of the rough grading work and at the final completion of the work under the grading permit but prior to the issuance of building permits or release of grading securities or issuance of a certificate of use and occupancy, the City Engineer may require:

A. An as-graded grading plan prepared by the civil engineer, which shall include corrected original ground surface elevations, if necessary, graded ground surface elevations, lot drainage patterns, manufactured slope inclination, and location of all drainage facilities and subdrains.

B. A written approval by the civil engineer approving the grading as being substantially in conformance with the approved grading plan and which specifically approves the following items as appropriate to the project and stage of grading:

1. Construction of line and grade for all engineered drainage devices and retaining walls (rough and final grading releases).
2. Staking of property corners for proper building location if appropriate (rough grading release).
3. Setting of all monuments in accordance with the recorded tract map if applicable (rough or final grading release).
4. Location of permanent walls or structures on property corners or property lines where monumentation is not required (final grading release).

5. Location and inclination of all manufactured slopes (rough and final grading release).

6. Construction of earthen berms and positive building pad drainage (rough and final grading releases).

C. A soil engineering report prepared by the soil engineer, including type of field testing performed, suitability of utility trench and retaining wall backfill, summaries of field and laboratory tests and other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the soil engineering investigation report. Each field density test shall be identified, located on a plan or map, the elevation of test and finish grade elevation shown, and the method of obtaining the in place density described, either ASTM Soil Compaction Test D-1557-70 or the approved equal shall be so noted. The soil engineer shall provide a written approval as to the adequacy of the site for the intended use, as affected by soil engineering factors. The City Engineer may require that the soil tests or testing be performed by an approved testing agency under the supervision by a licensed civil engineer.

D. A geology report if required prepared by the engineering geologist, including a final description of the geology of the site including any new information disclosed during the grading, and the effect of same on recommendations incorporated in the approved grading plan. He shall provide a written approval as to the adequacy of the site for the intended use as affected by geologic factors and when required by the City Engineer, shall submit an as-built geologic map.

*E. An executed contract, secured by the methods described in section 23.24.210 of this Chapter, for maintenance of Final Erosion Control Plan runoff and erosion control measures for up to a three year period (rough or final).*

F. Partial Release. The City Engineer may, at his discretion, allow portions of the permitted work receipt of rough and final grading releases. Prior to partial release of any work, the appropriate items listed (a) through (f) in this Section shall be provided.

G. The permitted grading work will not be considered complete until all requirements of this Section have been fulfilled and the grading permit receives a final approval signature by the City Engineer.

#### SECTION 11:

Section 23.24.330 C of the Encinitas Municipal Code shall be amended to read as follows:

#### 23.24.330 - Violations.

A. Any grading commenced or done contrary to the provisions of this Chapter, or other violation of this Chapter, shall be, and the same is declared to be, a public nuisance. Upon order of the City Council, the City Attorney shall commence necessary proceedings

for the abatement of any such public nuisance in the manner provided by law. Any failure, refusal, or neglect to obtain a permit as required by this Chapter shall be prima facie evidence of the fact that a public nuisance has been committed in connection with any grading commenced or done contrary to the provisions of this Chapter.

B. In the event that grading is commenced without a permit, the City Engineer shall cause such work to be stopped until a permit is obtained. The permit fee, in such instance, shall then be double that which would normally be required. The payment of such double fee shall not relieve any person from fully complying with the requirements of this Chapter and the performance of the work. Such fee shall not be construed to be a penalty, but for enforcement of the provisions of this Chapter in such cases.

In the event that any grading is commenced or done contrary to the provisions of this Chapter or of the grading permit, the City Engineer may cause to be recorded with the County Recorder a notice of grading violation for the property. The City Engineer shall cause the notice of grading violation to be removed when the City Engineer determines that the violation no longer exists.

*C. Any person who commences or does any grading in violation of this Chapter is guilty of a misdemeanor. Every day that a violation of this Chapter is committed, continued or permitted to exist is a separate violation, punishable as provided in this Code.*

D. Any grading or clearing which, according to a field inspection of the property, was done in violation of this Ordinance, shall be grounds for denying all applications for grading permits, use permits, major and minor subdivisions, rezones, specific plans, specific plan amendments, and general plan amendments proposed for the property on which the violation occurred until the land and vegetation unlawfully disturbed are completely restored to their pre-grading/clearing condition. Upon application of the property owner, the City Council may excuse all or a portion of the restoration on such terms and conditions as are deemed appropriate to protect the environment and the public interest.

#### SECTION 12:

Section 23.24.340 D of the Encinitas Municipal Code is amended to read as follows:

23.24.340 - Action Against Security. The City Engineer may act against the appropriate security if any of the conditions listed in Subsections (a)-(d) below exists. The City Engineer shall use funds from the appropriate security to finance remedial work undertaken by the City or a private contractor under contract to the City, and to reimburse the City for all direct costs incurred in the process of the remedial work.

A. The Permittee ceases land-disturbing activities and/or filling and abandons the work site prior to completion of the Grading Plan.

B. The Permittee fails to conform to the Interim Plan or Final Plan, as approved or as modified under this Chapter and has had his/her permit revoked under provisions of this Chapter.

C. The techniques utilized under the Interim or Final Plan fail within 1 year of installation, or before a Final Plan is implemented for the site or portions of the site, whichever is later.

D. *The City Engineer determines that action by the City is necessary to provide for the public safety, to prevent excessive erosion from occurring on the site, or to otherwise protect water quality.*

### SECTION 13:

Section 23.24.350 of the Encinitas Municipal Code shall be amended to add the following:

23.24.350 - Release of Security. Security deposited with the City for faithful performance of the grading and erosion control work and to finance necessary remedial work shall be released according to the following schedule:

A. Securities held against the successful completion of the Grading Plan and the Interim Erosion Control Plan shall be released to the Permittee at the completion of work, provided no action against such security is filed prior to that date.

B. Securities held against the successful completion of the Final Erosion Control Plan shall be released to the Permittee 1 year after completion of work, provided no action against such security has been filed prior to that date.

C. *Securities held for maintenance of runoff and erosion control measures shall be held for the period required by this Chapter.*

### SECTION 14 and 15:

Section 23.24.370 A of the Encinitas Municipal Code shall be amended to read as follows and shall be amended to substitute the date "April 30" for the date "April 15" wherever it appears.

#### 23.24.370 - Wet Season Work

A. *Grading shall be minimized during the wet season to the extent feasible. If grading does occur during the wet season, the City Engineer may require the applicant to implement additional best management practices for any rain events which may occur. No grading permit shall be issued for work occurring from October 1 to April 30 unless the plans include details of protective measures, including desilting basins or other temporary drainage control measures, or both, as may be deemed necessary by the City Engineer to protect adjoining public and private property or the Waters of the State from*

*damage by erosion, flooding, or the deposit of mud or debris which may originate from the site or result from grading operations.*

B. If grading is begun prior to October 1st, all protective measures shall be installed prior to October 1st. If grading is begun on or after October 1st, all protective measures shall be installed before grading is begun. All protective measures shall be maintained in good working order until April 15 30 th of the succeeding year, where grading is done between October 1st and December 31st, or until April 15 30th of the same year where grading is done between January 1st and April 15 30 th, unless their removal at an earlier date is approved by the City Engineer.

C. Where a grading permit is issued and the work is commenced after April 15 30 th and before September 15th of any year, and the permit was issued without an Interim Erosion and Sediment Control Plan, and it appears that the grading and installation of the permanent drainage devices as authorized by the permit will not be completed prior to October 1, then on or before September 15th, the owner of the site on which the grading is being performed shall file or cause to be filed with the City Engineer an Interim Erosion and Sediment Control Plan as provided for in this Chapter and shall implement the measures contained in the approved plan by October 1. The plan check fee for the Interim Erosion and Sediment Control Plan shall be paid at the time of plan submittal and shall be in the amount provided for in this Chapter.

D. For continuation of grading activities, other than installation, maintenance, or repair of measures on the Erosion Control Plans, during the wet season, Permittee must apply for and receive, every seven days, special permission to proceed.

E. The City Engineer shall grant permission under this section on the basis of weather forecasts, site conditions, experience and other pertinent factors which indicate the activity may commence or continue without excessive erosion occurring.

F. Should the Permittee fail to submit the plans, fail to provide the protective measures or fail to obtain permission for wet season activities as required by this Chapter by the dates specified therein, it shall be deemed that a default has occurred under the conditions of the grading permit security. Thereupon the City Engineer may enter the property for the purpose of installing, by City forces or by other means, the drainage and erosion control devices shown on the approved plans, or if there are not approved plans, as he may deem necessary to protect adjoining property from storm damage, or the City Engineer may cause the owner of the site to be prosecuted as a violator of this code, or he may take both actions.

G. The City Engineer shall have the authority to require implementation of all erosion control systems and requirements at any time of the year.

#### SECTION 16:



Section 23.24.380 A of the Encinitas Municipal Code shall be amended to read as follows:

23.24.380 - Erosion Control System.

A. *Erosion prevention shall be considered the most important erosion control measure, with sediment controls as a backup. The faces of cut and fill slopes and the project site shall be prepared and maintained to control against erosion and runoff in accordance with this Chapter. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted only upon approval of the City Engineer."*

SECTION 17:

Section 23.24.390 A of the Encinitas Municipal Code shall be amended to add the following sentence at the end of the paragraph:

23.24.390 - Erosion Control Maintenance.

A. *After each rainstorm exceeding 1/4-inch in a 12 hour period, silt and debris shall be removed from all temporary check berms and desilting basins and the basins pumped dry. The requirement to clean and pump permanent desilting basins will be addressed on a case by case basis. No person shall allow the removed silt and debris to enter the Storm Water Conveyance System.*

SECTION 18:

Section 23.24.390 E of the Encinitas Municipal Code shall be amended to read as follows:

E. *The contractor, the Permittee, and project owner shall be jointly and severally responsible for the continued maintenance of the devices during the wet season. In the event of failure or refusal by the contractor, permittee or project owner to maintain the devices, the City Engineer may cause emergency maintenance work to be done to protect adjacent private property, public property or the Waters of the State. The cost shall be charged to the owner and shall include an initial mobilization cost plus the cost of doing the work as provided for in this Chapter.*

SECTION 19:

Section 23.24.390 G of the Encinitas Municipal Code shall be amended to read as follows:

G. *If any grading subject to the provisions of this Chapter has commenced on private property without a valid grading permit, the property owner shall be required to prepare and implement an erosion control plan which has been approved by the City Engineer.*

*In the event of failure by the property owner to install an approved erosion control system, the City Engineer may cause emergency work to be done to protect adjacent private property, public property or the Waters of the State.*

#### SECTION 20:

Section 23.24.450 B of the Encinitas Municipal Code shall be amended to add the following sentence to the end of the paragraph:

##### 23.24.450 - Cuts.

A. General. Unless otherwise recommended in the approved soil engineering and/or engineering geology report, cuts shall conform to the provisions of this Section.

B. Slope. The slope of cut surfaces shall be no steeper than is safe for the intended use. Cut slopes shall be no steeper than two horizontal to one vertical. Slopes steeper than two to one may be permitted under special circumstances where the intent of the steeper slope is to provide a slope of varying steepness to order to more closely approximate a natural appearing embankment. All proposed deviations from the two to one limit shall be accompanied by a soils report containing the results of surface and subsurface exploration and analysis and certifications from the soils engineer and engineering geologist that in their professional opinions the underlying bedrock and soil supporting the slope have strength characteristics sufficient to provide a stable slope and will not pose a danger to persons or property. In no case shall the average slope exceed two to one. *All slopes shall be protected against erosion and any unstable slopes shall be stabilized.*

C. Drainage and Terracing. Drainage and terracing shall be provided as required by this Subarticle.

D. Buttress Cuts. All proposed buttress cuts that would exceed a vertical depth of 25 feet, a horizontal distance of 100 feet or are proposed to remain exposed for more than 5 working days and would lie immediately adjacent to a public right-of-way or offsite structures shall receive special, specific approval from the City Engineer.

#### SECTION 21:

Section 23.24.460 B of the Encinitas Municipal Code shall be amended to add the following sentence to the end of the paragraph:

B. Slope. Fill slopes shall not be constructed steeper than is safe for intended use. Fill slopes shall be no steeper than two horizontal to one vertical. Slopes steeper than two to one may be permitted under special circumstances where the intent of the steeper slope is to provide a slope of varying steepness to order to more closely approximate a natural appearing embankment. All proposed deviations from the two to one limit shall be accompanied by a soils report containing the results of surface and subsurface exploration and analysis and certifications from the soils engineer and engineering geologist that in their

professional opinions the underlying bedrock and soil supporting the slope have strength characteristics sufficient to provide a stable slope and will not pose a danger to persons or property. In no case shall the average slope exceed two to one. *All slopes shall be protected against erosion and any unstable slopes shall be stabilized.*

#### SECTION 22:

Section 23.24.510 A of the Encinitas Municipal Code shall be amended to delete the first sentence and replace it with the following and add the following sentence to the end of the paragraph:

A. Planting. *The surface of slopes shall be protected against damage from erosion by planting with grass or ground cover plants. If grass or ground cover is not established by the beginning of the wet season, temporary erosion control measures such as erosion control mats or blankets shall be installed on the slopes.*

Slopes exceeding fifteen feet in vertical height shall also be planted with shrubs, spaced at not to exceed ten feet on centers; or trees, spaced at not to exceed twenty feet on centers; or a combination of shrubs and trees at equivalent spacings, in addition to the grass or ground cover plants. The plants selected and planting methods used shall be suitable for the soil and climatic conditions of the site. Plant material shall be selected which will produce a permanent planting coverage effectively controlling erosion. Consideration shall be given to deep-rooted plant material needing limited watering; to low maintenance during the lifetime of the project; to high root to shoot ratio (weight above ground parts versus root system); wind susceptibility and fire retardant characteristics. Planting need not be provided for cut slopes rocky in character and not subject to damage by erosion and any slopes protected against erosion damage by other methods when such methods have been specifically recommended by a soils engineer, engineering geologist, or equivalent authority and found to offer erosion protection equal to that provided by the planting specified in this Section. *Planting shall be done as early as feasible.*

#### SECTION 23:

Section 23.24.190 of the Encinitas Municipal Code shall be amended to add the following sentence to the end of the paragraph:

23.24.190 - Landscape and Irrigation Plan. A landscape and irrigation plan and cost estimate, when required by the City Engineer, shall be prepared by a California state licensed landscape architect, except when said plan applies to one single family dwelling unit on one legal parcel in which case the plan need not be prepared by licensed landscape architect. All landscape and irrigation plans prepared shall conform to all the requirements set forth in the City Landscape Guidelines Manual. *All landscaping and irrigation shall be done as early as feasible.*

#### SECTION 24:

Section 23.24.150 of the Encinitas Municipal Code shall be amended to add the following at the end:

23.24.150 - Interim Erosion and Sediment Control Plan. All the following information shall be provided by a California registered civil engineer with respect to conditions existing on the site during land-disturbing or filling activities or soil storage:

A. Maximum surface runoff from the site shall be calculated using the method approved by the City Engineer.

B. The Interim Plan shall also contain the following information:

1. a delineation and brief description of the measures to be undertaken to retain sediment on the site, including, but not limited to, the designs and specifications for sediment detention basins and traps, and a schedule for their maintenance and upkeep;

2. a delineation and brief description of the surface runoff and erosion control measures to be implemented, including, but not limited to, types and method of applying mulches, and designs and specifications for diverters, dikes and drains, and a schedule for their maintenance and upkeep;

3. a delineation and brief description prepared by a landscape architect of the vegetative measures to be used, including, but not limited to, types of seeds and fertilizer and their application rates, the type, location and extent of preexisting and undisturbed vegetation types, and a schedule for maintenance and upkeep.

C. The location of all the measures listed by the Applicant under Subsection (b) above, shall be depicted on the Grading Plan, or on a separate plan at the discretion of the City Engineer.

D. An estimate of the cost of implementing and maintaining all interim erosion and sediment control measures must be submitted in a form acceptable to the City Engineer.

*The City Engineer may require the applicant to temporarily stabilize and reseed disturbed soil areas to protect the Waters of the State.*

#### SECTION 25:

Section 23.24.140 K of the Encinitas Municipal Code shall be amended to add the following sentence to the end of the paragraph:

23.24.140 - Grading Plan. The Grading Plan shall be prepared and signed by a California registered civil engineer and if a soils and geology report is required, the grading plan shall

also be signed by a registered soils engineer and a certified engineering geologist. The grading plan shall contain the following information:

A. Existing and proposed topography of the site taken at a contour interval sufficiently detailed to define the topography over the entire site. Ninety percent (90%) of the contours shall be plotted within one contour interval of the true location.

B. Contours shall extend a minimum of 50 feet off-site, or a sufficient distance to show on- and off-site drainage.

C. Site's property lines and existing and proposed easements shown in true location with respect to the plan's topographic information.

D. Location and graphic representation of all existing natural and proposed man-made drainage facilities.

E. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices to be constructed with or as a part of the proposed work, together with a map showing the drainage area and the estimated runoff of the area served by any drain.

F. Location and graphic representation of proposed excavations and fills, of onsite storage of soil and other earth material, and of onsite disposal.

G. Location of existing trees with trunks greater than 4 inches 3 feet above natural grade and the location and type of vegetation to be left undisturbed.

H. Location of proposed final surface runoff, erosion and sediment control measures.

I. Quantity of soil or earth material in cubic yards to be excavated, filled, stored or otherwise utilized onsite.

J. Outline of the methods to be used in clearing vegetation, and in storing and disposing of the cleared vegetative matter.

K. Proposed sequence and schedule of excavation, filling and other land-disturbing and filling activities, and soil or earth material storage and disposal. *Grading shall be phased whenever the City Engineer finds that phasing is feasible and necessary to protect the Waters of the State. Areas that are cleared and graded shall be minimized to only portions of the site that are necessary for construction, and the exposure time of disturbed soil areas shall be minimized.*

L. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within 15 feet of the property or which may be affected by the proposed grading operations.

M. An estimate of the cost of implementing all grading improvements submitted in a form acceptable to the City Engineer.

N. 100 year flood plain as shown on County flood plain map, if applicable.

SECTION 26:

23.24.090 - General Exemptions. All land-disturbing or land-filling activities or soil storage shall be undertaken in a manner designed to minimize surface runoff, erosion and sedimentation and to safeguard life, limb, property, and the public welfare. A person performing such activities need not apply for a permit pursuant to this Chapter, if all the following criteria are met:

- A. The land area which is disturbed or filled is 10,000 square feet or less.
- B. Natural and finished slopes are less than 10%.
- C. Volume of soil or earth materials stored *or graded* is 50 cubic yards or less.

D. Rainwater runoff is diverted, either during or after construction, from an area smaller than 5,000 square feet.

E. An impervious surface, if any, of less than 5,000 square feet is created.

F. No drainageway is blocked or has its storm water carrying capacities or characteristics modified.

G. The activity does not take place within 100 feet by horizontal measurement from the top of a coastal bluff, the bank of a watercourse, the mean high watermark (line of vegetation) of a body of water or within the wetlands associated with a watercourse or water body, whichever distance is greater.

H. *No retaining wall is constructed higher than four feet measured from the top of the wall to the lowest adjacent grade.*

Notwithstanding the provisions of this Section, such activities are not exempt from the permit requirements of this Chapter if the City Engineer determines a grading permit is required to meet the provisions of this Code regulating storm water.

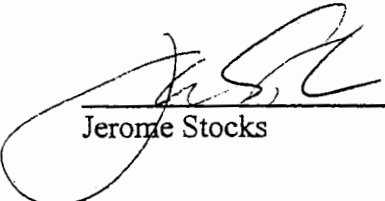
PASSED AND ADOPTED this 22<sup>nd</sup> day of January, 2003, by the following vote to wit:

AYES: Bond, Guerin, Houlihan, Stocks.

NAYS: None.

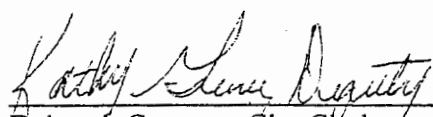
ABSTAIN: None.

ABSENT: Dalager

  
Jerome Stocks

**ATTESTATION AND CERTIFICATION:**

I hereby certify that this is a true and correct copy of Ordinance 2002-15, which has been published pursuant to law.

  
for Deborah Cervone, City Clerk







City of  
Encinitas

RECEIVED

JUL 08 2003

CALIFORNIA  
COASTAL COMMISSION  
SAN DIEGO COAST DISTRICT

July 7, 2003

California Coastal Commission  
San Diego District  
Attention: Keri L. Akers, AICP, Coastal Program Analyst  
7575 Metropolitan Drive, Suite 103  
San Diego, CA 92108-4421

Subject: Amendment to the Encinitas LCP – Modification of Chapter 23.24 of the Encinitas Municipal Code to amend the grading ordinance (LCPA Case No. 02-02)

Dear Ms. Akers,

Attached is Encinitas Municipal Code (EMC) 20.08 (Storm Water Management Ordinance) as you requested in your letter dated June 25, 2003. This ordinance is referenced in our Grading Ordinance (EMC 24.23) as EMC 64.08. The numbering of the Stormwater Management Ordinance was changed at the same time as the Grading Ordinance was modified so that the new number was not incorporated. The new Storm Water Ordinance number will be incorporated into the Grading Ordinance as a housekeeping task that does not require City Council action.

If you have any further questions regarding our submittal, please contact Masih Maher at (760)633-2776 or Meleah Ashford at (760)943-2285.

Sincerely,

Masih Maher, P.E.  
Senior Civil Engineer

Coastal Submittal\_Grading Ord

EXHIBIT NO. 2
Encinitas LCPA #1-03
Stormwater Mgmt. Ordinance Chapter 20.08
California Coastal Commission



RECEIVED

JUL 08 2003

01/03

CALIFORNIA  
COASTAL COMMISSION  
SAN DIEGO COAST DISTRICT

20.08.010

**CHAPTER 20.08**  
**STORM WATER MANAGEMENT**  
**(Ordinance 2002-14)**

**20.08.010 Title.** This Chapter shall be known as the "City of Encinitas Watercourse Protection, Storm Water Management and Discharge Control Ordinance".

**20.08.020 Purpose and Intent.** The purpose of this Chapter is to protect the health, safety and welfare of the public by regulating all discharges into the Storm Water Conveyance System and the Waters of the State in order to preserve and enhance water quality for beneficial uses by:

- (A) Prohibiting non-storm water discharges to the Storm Water Conveyance System;
- (B) Eliminating pollutants in Storm Water to the Maximum Extent Practicable, including pollutants from both point and non-point sources;
- (C) Prohibiting activities which cause, or contribute to, exceedance of state and federal Receiving Water quality objectives.
- (D) Protecting Watercourses from disturbance and pollution.

The intent of this Chapter is to use the police power of the city to regulate water quality in a manner which complies with all applicable laws related to water quality, including the federal Clean Water Act, the state Porter-Cologne Water Quality Control Act, and the conditions of any NPDES permit issued to the city.

**20.08.030 Definitions.**

For purposes of this Chapter, only the terms below have the following meaning:

**Beneficial Uses** means uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals. "Beneficial Uses" of the Waters of the State that may be protected against include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. Beneficial Uses are equivalent to Designated Uses under federal law. [California Water Code Section 13050(f)].

**Best Management Practices or "BMPs"** means schedules of activities, pollution treatment practices or devices, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, operation and maintenance procedures, and

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other management practices or devices to prevent or reduce the discharge of pollutants directly or indirectly to Storm Water, Receiving Waters, or the Storm Water Conveyance System. BMPs may be structural or non-structural. Best Management Practices include, but are not limited to, site design, source control, treatment control, natural design methods, low flow diversions to the sewer, and structures such as infiltration basins, clarifiers, , oil and grease separators and filters. BMPs may include any type of pollution prevention and pollution control measure the can help to achieve compliance with this Chapter.

Clean Water Act Section 303(d) Impaired Water Body or Impaired Water Body means an impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the Clean Water Act. The discharge of urban runoff to these water bodies is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Discharge when used as a verb, means to allow pollutants to directly or indirectly enter Storm Water, or to allow Storm Water or non-storm water to directly or indirectly enter the Storm Water Conveyance System or Receiving Waters, from an activity or operations. When used as a noun, "Discharge" means the pollutants, Storm Water and/or non-storm water that is discharged.

Discharger means any person engaged in activities or operations, or owning facilities, which may result in pollutants entering Storm Water, the Storm Water Conveyance System or Receiving Waters. "Dischargers" include, but are not limited to, real and personal property owners, occupants, tenants, lessees, contractors, developers, managers and employees.

Environmentally Sensitive Areas include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and County of San Diego; and any other similar environmentally sensitive areas which have been identified by the City Engineer. "Directly adjacent" means situated within 200 feet of the Environmentally Sensitive Area. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.

Illegal Connection means a physical connection to the Storm Water Conveyance System or Receiving Waters which has not been reviewed and authorized by the City; or a permitted connection which conveys Illegal Discharges.

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**Illegal Discharge** is any discharge to the Storm Water Conveyance System that is not composed entirely of Storm Water or is not discharged in compliance with this Chapter

**Impervious Surface** means constructed or modified surfaces that cannot effectively infiltrate rainfall such as building rooftops, pavement, sidewalks, driveways, etc.

**Impervious Surface Area** means the ground area covered or sheltered by an impervious surface, measured in plan view, i.e., as if from directly above. For example, the "impervious surface area" for a pitched roof is equal to the ground area it shelters, rather than the surface area of the roof itself.

**Maximum Extent Practicable or MEP** refers to the standard established by Congress in Clean Water Act section 402(p)(3)(B)(iii) that municipal dischargers of Storm Water must meet; MEP is an acceptability standard for Best Management Practices based on a level of pollutant reduction that can be achieved by the most effective set of BMPs that can be implemented and still remain practicable; MEP generally emphasizes pollution prevention and source control BMPs as the first line of defense in combination with treatment methods as a backup.

**Non Point Source** refers to diffuse, widespread sources of pollution. These sources may be large or small, but are generally numerous throughout a watershed. Non Point Sources include but are not limited to urban, agricultural, or industrial areas, roads, highways, construction sites, communities served by septic systems, recreational boating activities, timber harvesting, mining, livestock grazing, as well as physical changes to stream channels, and habitat degradation. Non Point Source Pollution can occur year round any time rainfall, snow melt, irrigation, or any other source of water runs over land or through the ground, picks up pollutants from these numerous, diffuse sources and deposits them into rivers, lakes, and coastal waters or introduces them into ground water.

**Non-Storm Water** consists of all discharges to and from a Storm Water Conveyance System that do not originate from precipitation events, i.e., all discharges from a conveyance system other than Storm Water. Non-storm water includes illegal discharges, non-prohibited discharges, and NPDES permitted discharges.

**NPDES Permit** means a National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency, the State Water Resources Control Board ("SWRCB"), or the California Regional Water Quality Control Board for the San Diego Region ("RWQCB").

**Person** means an individual, corporation, partnership, limited liability company, joint venture, non-profit organization, trust, association or governmental agency.

Pollutant is broadly defined as any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated, including but not limited to, dredged spoil, rock, sand, or silt (excluding sediment, silt, or substances in quantities which would enter Storm Water from a natural undeveloped watershed); solid waste, animal waste, sewage, garbage, or medical waste; wrecked or discarded equipment; radioactive materials; industrial waste; any organic or inorganic contaminant; fecal coliform, fecal streptococcus, and enterococcus bacteria and other pathogens that pose a threat to human health; volatile organic carbon, surfactants, oil and grease, petroleum hydrocarbons, total organic carbon, lead, copper, chromium, cadmium, silver, nickel, zinc, cyanides, phenols, and biocides; any contaminant which can significantly degrade the quality of Receiving Waters by altering pH, total suspended or settleable solids, biochemical oxygen demand, chemical oxygen demand, nutrients, or temperature.

Pollution is the alteration of the quality of the Receiving Waters to a degree that unreasonably affects the Beneficial Use of the Receiving Waters or the facilities that serve the beneficial uses. "Pollution" also includes contamination which creates a hazard to the public health through poisoning or the spread of disease.

Point Source means any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged.

RWQCB means the California Regional Water Quality Control Board for the San Diego Region.

Receiving Waters means all waters that are "Waters of the State" within the scope of the State Water Code, including but not limited to, natural streams, creeks, rivers, reservoirs, lakes, ponds, water in vernal pools, lagoons, estuaries, bays, the Pacific Ocean, and ground water.

Significant Redevelopment means the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces.

State General Construction Storm Water Permit means NPDES Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Associated with Construction Activities, and any amendments thereto.

State General Industrial Storm Water Permit means NPDES Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities, and any amendments thereto.

Storm Water means runoff which originates from precipitation events. "Storm Water" is that portion of precipitation that flows across a surface to the storm drain system or Receiving Waters. Examples of this phenomenon include: the water that flows off a building's roof when it rains (runoff from an impervious surface); the water that flows into streams when snow on the ground begins to melt (runoff from a semi-pervious surface); and the water that flows from a vegetated surface when rainfall is in excess of the rate at which it can infiltrate into the underlying soil (runoff from a pervious surface). During precipitation events in urban areas, rain water picks up and transports pollutants through Storm Water Conveyance Systems, and ultimately to Receiving Waters.

Storm Water Conveyance System means private and public drainage facilities within the City of Encinitas by which Storm Water may be conveyed to waters of the United States, including but not limited to, streets, roads, catch basins, natural and artificial channels, natural and artificial drainage features, aqueducts, canyons, stream beds, gullies, curbs, gutters, ditches, and storm drains. Historic and current development make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the Storm Water Conveyance System regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both a Storm Water Conveyance System and a Receiving Water.

Structural BMP means a BMP that relies on either a physical condition (other than an entirely natural and undisturbed condition), or on a constructed or installed device to reduce or prevent pollutants in stormwater discharges and exempt non storm water discharges. Constructed or enhanced BMPs that depend on natural materials and processes (e.g., constructed drainage swales or buffers, or constructed wetlands), that require periodic maintenance to function as designed, are Structural BMPs.

SWRCB means the State Water Resources Control Board.

Watercourse means any natural or artificial stream, river, creek, ditch, channel, canal, conduit, culvert, drain, waterway, gully, ravine, arroyo or wash, in which surface waters flow in a definite direction or source, either continuously or intermittently, and which has a definite channel and a bed or banks. A channel is not limited to land covered by minimal or ordinary flow, but also includes land covered during times of high water.

Waters of the State means any water, surface or underground, including saline waters within the boundaries of California. The definition of the "Waters of the State" is broader than that for the "Waters of the United States" in that all water in the State is considered to be a

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**“Waters of the State” regardless of circumstances or condition. Under this definition, a municipal storm sewer system (MS4) is always considered to be a “Waters of the State”. [California Water Code Section 13050 (e)].**

**Waters of the United States means water subject to the regulatory jurisdiction of the United States under the Federal Clean Water Act and applicable case law. In general, this includes “navigable” waters, waters tributary to “navigable” waters, and adjacent wetlands. [40 Code of Federal Regulations section 122.2.]**

**Wet season means October 1 thru April 30.**

**20.08.040 Illegal Discharges.**

**A. Discharge of Storm Water. No person shall discharge Storm Water directly or indirectly into the Storm Water Conveyance System or Receiving Waters, unless discharged in compliance with this Chapter.**

**B. Discharge of Non-storm water Prohibited. No person shall discharge non-storm water directly or indirectly into the Storm Water Conveyance System or Receiving Waters.**

**C. Exemptions.**

**1 Separately Permitted Discharges. Storm Water discharges regulated under a valid facility-specific NPDES permit or facility specific RWQCB Waste Discharge Requirements permit are exempt from discharge prohibitions established by this Chapter, provided compliance with all relevant permit conditions is maintained to the satisfaction of the RWQCB and the City Engineer. Facilities and activities whose Storm Water discharges are regulated under a general permit, including the State General Industrial Storm Water Permit, State General Construction Storm Water Permit and the State General De-Watering Permit, are not exempted from this Chapter.**

**2 Categorically Exempt Discharges. The following categories of non-storm water discharges are exempt from discharge prohibitions established by this Chapter, if all required BMPs are installed, implemented and maintained:**

- a. air conditioning condensation;**
- b. discharges from potable water sources other than water main breaks;**
- c. diverted stream flows (provided required permits are obtained);**
- d. flows from emergency fire fighting activities;**
- e. flows from riparian habitats and wetlands;**
- f. foundation drains (not including active groundwater dewatering systems);**
- g. individual residential washing of vehicles;**



- h. irrigation water;
- i. landscape irrigation;
- j. lawn watering;
- k. rising ground water;
- l. springs;
- m. swimming pool discharges (if dechlorinated to less than one PPM chlorine);
- n. uncontaminated ground water infiltration to storm drains;
- o. uncontaminated pumped ground water;
- p. water from crawl space pumps;
- q. water from footing drains (not including active groundwater dewatering systems);
- r. water line flushing.

3. **Public Health and Safety Exemptions.** Discharges determined by the City Engineer to be necessary to protect public health and safety are exempt from discharge prohibitions established by this Chapter, provided any conditions on such discharges imposed by the City Engineer are satisfied and the City Engineer makes written findings supporting the exemption.

4. **On-Site Wastewater Systems.** Discharges to the subsurface from properly functioning permitted site waste water systems are not prohibited by this Chapter.

5. **Exemptions Not Absolute.** Any exempt discharge described above which the City Engineer determines is a significant source of pollutants to Receiving Waters shall be prohibited unless the Discharger complies with additional BMPs imposed by the City Engineer to reduce pollutants in the discharge to the Maximum Extent Practicable and the BMPs are effective. Such prohibitions shall take effect after written notice to the Discharger by the City Engineer containing a schedule for compliance based on the necessity to protect public health and safety or the environment.

#### **20.08.050 Notification and Mitigation of Illegal Discharges.**

A Discharger shall immediately notify the City Engineer of an Illegal Discharge and take immediate action to control and contain the Illegal Discharge. The Discharger shall also mitigate any damage caused by the Illegal Discharge.

The City Engineer may order the Discharger to prepare and implement an approved mitigation plan with a time schedule for completion.

**20.08.060 Illegal Connections.** No person shall establish, use, or maintain an Illegal Connection to the Storm Water Conveyance System or the Receiving Waters.

**20.08.070 Littering and Sweeping.**

No person shall throw, deposit, leave, maintain, keep or permit to be thrown, deposited, placed, left or maintained, any refuse, pet waste, rubbish, garbage, or other discarded or abandoned objects, in or upon any street, alley, parking lot, sidewalk, curb, gutter, storm drain, catch basin, conduit, or other drainage structure or lot except in receptacles maintained for the regular disposal of garbage. Impervious surfaces which drain directly or indirectly into the Storm Water Conveyance System shall be kept free of dirt and debris by regular sweeping. The sweepings shall be placed in garbage receptacles and shall not be allowed to enter the Storm Water Conveyance System.

**20.08.080 Compliance with Best Management Practices.**

No Discharger shall fail to implement, install, use or maintain Best Management Practices established by the City Engineer pursuant to this Chapter.

**20.08.090 Conclusive Determination of Maximum Extent Practicable.**

The Best Management Practices established by the City Engineer shall reduce pollutants from the use or activity to the Maximum Extent Practicable. For purposes of enforcement of this Chapter, the City Engineer's determination of the Maximum Extent Practicable shall be conclusive.

**20.08.100 Establishment and Prioritization of Best Management Practices For Construction Activities, New Development, Significant Redevelopment and Existing Development.**

A. The City Engineer shall establish written Best Management Practices for the following uses:

1. Construction Activities
2. New Development and Significant Redevelopment
3. Existing Industrial Development
4. Existing Commercial Development
5. Existing Residential Development.
6. Existing Municipal Areas and Activities
7. Agricultural Activities
8. Any other use if it is necessary to reduce Pollutants entering receiving waters to the Maximum Extent Practicable.

The document containing the Best Management Practices established by the City Engineer shall be entitled the "The City of Encinitas Storm Water Best Management Practices Manual" and shall be considered an appendix to this Chapter. The appendix may be adopted by Resolution of the City Council. (Ord. 2002-01).

- B. The City Engineer shall establish priorities for implementation and enforcement of Best Management Practices based on the threat to water quality for each use described in the subsection above.**

**1. Each site of Construction Activities shall be categorized as a high, medium, or low priority threat to water quality by considering the following:**

- a. soil erosion potential;**
- b. site slope;**
- c. project size and type;**
- d. sensitivity of receiving water bodies;**
- e. proximity to receiving water bodies;**
- f. non-storm water discharges;**
- g. any other relevant factors.**

**2. Each site of New Development or Significant Redevelopment in the following list shall be categorized as a high priority threat to water quality:**

- a. Home subdivisions of 100 housing units or more. This category includes single-family homes, multi-family homes, condominiums, and apartments.**
- b. Home subdivisions of 10-99 housing units. This category includes single-family homes, multi-family homes, condominiums, and apartments.**
- c. Commercial developments greater than 100,000 square feet. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; commercial airfields; and other light industrial facilities.**
- d. Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.**

e. **Restaurants.** This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet.

f. **All hillside development greater than 5,000 square feet.** This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.

g. **Environmentally Sensitive Areas:** All development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (where discharges from the development or redevelopment will enter Receiving Waters within the environmentally sensitive area), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition.

h. **Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff.** Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

i. **Street, roads, highways, and freeways.** This category includes any paved surface which is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

Natural BMPs such as constructed wetlands, grassed swales, biofilters, wet ponds, and vegetated filter strips, shall be utilized whenever practicable for all New Development and Significant Redevelopment.

3. Each site of Existing Industrial Development shall be categorized as a high, medium, or low priority threat to water quality by considering the following:

- a. type of industrial activity (SIC Code);
- b. materials used in industrial processes;
- c. wastes generated;
- d. pollutant discharge potential;
- e. non-storm water discharges;
- f. size of facility;
- g. proximity to receiving water bodies;
- h. sensitivity of receiving water bodies;

- i. whether the industrial site is subject to the statewide General Industrial Permit;
- j. any other relevant factors.

At a minimum the high priority industrial sites shall include the following:

- a. industrial facilities that are subject to section 313 of Title III of the Superfund amendments and Reauthorization Act of 1986 (SARA);
- b. industrial facilities tributary to a Clean Water Act Section 303(d) Impaired Water Body, where a facility generates pollutants for which the water body is impaired;
- c. industrial facilities within or directly adjacent to or discharging directly to coastal lagoons or other Receiving Waters within Environmentally Sensitive Areas;
- d. facilities subject to the statewide General Industrial Permit;
- e. all other industrial facilities that the City Engineer determines are contributing significant pollutant loading to its Storm Water Conveyance System, regardless of whether such facilities are covered under the statewide General Industrial Permit or other NPDES permit.

4. Each site of Existing Commercial Development in the following list shall be categorized as a high priority threat to water quality:

- a. Automobile mechanical repair, maintenance, fueling, or cleaning;
- b. Airplane mechanical repair, maintenance, fueling, or cleaning;
- c. Boat mechanical repair, maintenance, fueling, or cleaning;
- d. Equipment repair, maintenance, fueling, or cleaning;
- e. Automobile and other vehicle body repair or painting;
- f. Mobile automobile or other vehicle washing;
- g. Automobile (or other vehicle) parking lots and storage facilities;
- h. Retail or wholesale fueling;
- i. Pest control services;
- j. Eating or drinking establishments;
- k. Mobile carpet, drape or furniture cleaning;
- l. Cement mixing or cutting;
- m. Masonry;
- n. Painting and coating;
- o. Botanical or zoological gardens and exhibits;
- p. Landscaping;
- q. Nurseries and greenhouses;
- r. Golf courses, parks and other recreational areas/facilities;

- s. Cemeteries;
- t. Pool and fountain cleaning;
- u. Marinas;
- v. Port-a-Potty servicing;
- w. Other commercial sites or sources that the City Engineer determines may contribute a significant pollutant load to the Storm Water Conveyance System;
- x. Any commercial site or source tributary to a Clean Water Act section 303(d) impaired water body, where the site or source generates pollutants for which the water body is impaired;
- y. Any commercial site or source within or directly adjacent to or discharging directly to a coastal lagoon or other receiving water within an Environmentally Sensitive Area.

5. The City Engineer shall identify residential areas and activities which are a high priority threat to water quality. At a minimum, these shall include:

- a. Automobile repair and maintenance;
- b. Automobile washing;
- c. Automobile parking;
- d. Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
- e. Disposal of household hazardous waste (e.g., paints, cleaning products);
- f. Disposal of pet waste;
- g. Disposal of green waste;
- h. Any other residential source that the City Engineer determines may contribute a significant pollutant load to the Storm Water Conveyance System;
- i. Any residence tributary to a Clean Water Act Section 303(d) Impaired Water Body, where the residence generates pollutants for which the water body is impaired;
- j. Any residence within or directly adjacent to or discharging directly to a coastal lagoon or other Receiving Waters within an Environmentally Sensitive Area.

6. Each Existing Municipal Area or Activity shall be categorized as a high, medium, or low threat to water quality by considering the following:

- a. type of municipal area or activity;
- b. materials used;
- c. wastes generated;
- d. pollutant discharge potential;
- e. non-storm water discharges;
- f. size of facility or area;
- g. proximity to receiving water bodies;

- h. sensitivity of receiving water bodies;
- i. any other relevant factors.

At a minimum, the high priority municipal areas and activities shall include the following:

- (1) Roads, streets, highways, and parking facilities.
  - (2) Flood management projects and flood control devices.
  - (3) Areas and activities tributary to a Clean Water Act Section 303(d) Impaired Water Body, where an area or activity generates pollutants for which the water body is impaired.
  - (4) Areas and activities within or adjacent to or discharging directly to coastal lagoons or other Receiving Waters within Environmentally Sensitive Areas.
  - (5) Municipal waste facilities such as active or closed municipal landfills; publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems; municipal separate storm sewer systems; incinerators; solid waste transfer facilities; land application sites; uncontrolled sanitary landfills; corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; sites for disposing and treating sewage sludge; and hazardous waste treatment, disposal, and recovery facilities.
  - (6) Municipal airfields.
  - (7) Other municipal areas and activities that the City Engineer determines may contribute a significant pollutant load to the Storm Water Conveyance System.
7. All agricultural activities are subject to this Chapter, including activities that are not subject to a grading permit. The BMPs established by the City Engineer for agricultural activities shall be in addition to the BMPs established for the activity in another category such as Construction Activities, Existing Commercial, New Development or Significant Redevelopment

**20.08.110 Site Specific Best Management Practices.**

The City Engineer may establish written Best Management Practices for a specific site or activity if necessary to reduce pollutants to the Maximum Extent Practicable or to comply with an order of the San Diego Regional Water Quality Control Board.

**20.08.120 Alternative Best Management Practices.**

The City Engineer may establish written alternative Best Management Practices. The allowable use of alternative BMPs at a specific site shall be determined at the sole discretion of the City Engineer.

**20.08.130 Additional Best Management Practices.**

The City Engineer may establish additional written Best Management Practices for a specific site if the City Engineer determines that the Best Management Practices implemented at the site have not reduced the pollutants to the Maximum Extent Practicable.

**20.08.140 Minimum Best Management Practices.**

All Dischargers shall install, implement and maintain at least the following minimum Best Management Practices:

A. Eroded soils. Prior to the rainy season, Dischargers must remove or secure any significant accumulations of eroded soils from slopes previously disturbed by clearing or grading, if those eroded soils could otherwise enter the Storm Water Conveyance System or Receiving Waters during the rainy season. Slopes more than five feet in height, more than 250 square feet in total area, and steeper than 3:1 (run-to-rise) that have been disturbed at any time by clearing, grading, or landscaping, shall be continuously protected from erosion.

B. Parking Lots. Dischargers with parking lots or impervious surfaces used for similar purposes shall clean the surfaces frequently and thoroughly in a manner that does not cause non-storm water discharge to the Storm Water Conveyance System. In most cases, this will require dry cleaning methods such as sweeping and removal of dirt and debris. The dirt and debris shall be disposed of in a manner which prevents it from entering the Storm Water Conveyance System or the Receiving Waters. At least one cleaning shall be completed in September of each year.

C. Storage of Materials and Wastes. All materials and wastes with the potential to pollute urban runoff shall be stored in a manner that either prevents contact with rainfall and Storm Water, or contains contaminated runoff for treatment and disposal.

D. Use of Materials. All materials with the potential to pollute urban run off, including but not limited to, cleaning and maintenance products used outdoors, fertilizers, pesticides and herbicides, shall be used in accordance with label directions. If a label cautions against use of a product where it may enter water or waterways, or cautions that the product may be toxic or have toxic effects, the product may not be disposed of or rinsed into Receiving Waters or the Storm Water Conveyance System.



E. Self Inspection for Illegal Discharges. All Dischargers, except residential single family home Dischargers, shall inspect their facilities, activities, operations and procedures at least annually to detect illegal connections and illegal discharges. The self inspection shall be documented in records kept on the premises for at least five years

F. Inspection, Maintenance, Repair and Upgrading of BMPs. Structural BMPs must be inspected by the Discharger before predicted rain events and following actual rain events. These BMPs must be maintained so that they continue to function as designed. Structural BMPs which fail must be repaired as soon as it is safe to do so. If the failure of a structural or nonstructural BMP indicates that the BMPs in use are inappropriate or inadequate to the circumstances, the BMPs must be modified or upgraded to prevent any further failure in the same or similar circumstances. All sediment and debris in catch basins must be removed prior to the wet season and disposed of in a manner which prevents it from entering the Storm Water Conveyance System or the Receiving Waters.

**20.08.150 Discharger Sampling, Testing, Monitoring, and Reporting.**

The City Engineer may require Dischargers to perform sampling, testing, monitoring and reporting of results as a Best Management Practice. In addition, the City Engineer may order a Discharger to conduct testing or monitoring and to report the results to the City if

1. the city Engineer determines that testing or monitoring is needed to determine whether BMPs are effectively preventing or reducing pollutants in Storm Water to the Maximum Extent Practicable, or to determine whether the facility is a significant source of contaminants to Waters of the State; or
2. the City Engineer determines that testing or monitoring is needed to assess the impacts of an illegal discharge on health, safety or the environment; or
3. an Illegal Discharge has not been eliminated after written notice by the City Engineer; or
4. the Discharger is in violation of any provision of this Chapter; or the Regional Water Quality Control Board requires the City to provide information on the Discharger's activities.

Testing and monitoring ordered pursuant to this section may include the following:

1. Visual monitoring of dry weather flows, wet weather erosion, or BMPs;
2. Visual monitoring of premises for spills or discharges;

3. Laboratory analyses of Storm Water or non-storm water discharges for Pollutants;
4. Background or baseline monitoring or analysis; and
5. Monitoring of Receiving Waters or sediments that may be affected by Pollutant discharges by the Discharger.

The City Engineer may direct the time and manner in which the results of required testing and monitoring are reported, and shall determine when required sampling, testing or monitoring may be discontinued. The sampling, testing, monitoring and reporting shall be at the expense of the Discharger.

**20.08.160 City Authority to Sample, Inspect and Monitor.**

A. Regulatory Inspections. The City Engineer or his designee may inspect the premises of any Discharger at reasonable times and in a reasonable manner to carry out the purposes of this Chapter. If a Discharger refuses to allow entry for an inspection, an inspection warrant shall be obtained prior to inspection.

B. Scope of Inspections. Inspections may include all actions necessary to determine whether any Illegal Discharges or Illegal Connections exist, whether the BMPs installed and implemented are adequate to comply with this Chapter, whether those BMPs are being properly maintained, and whether the Discharger complies with other requirements of this Chapter. This may include sampling, metering, monitoring, visual inspections, and records review. Where samples are collected the Discharger may request and receive split samples. Records, reports, analyses, or other required information may be inspected and copied, and photographs taken for purposes of enforcement of this Chapter.

C. Installation of Sampling Devices. As part of the inspection, the City Engineer may authorize the installation of sampling or metering devices.

**20.08.170 Establishment of a Fee.**

The City Council may establish a fee by resolution to recover the cost of inspection, sampling, metering or monitoring by the City Engineer.

**20.08.180 Local Storm Water Pollution Prevention Plan.**

The City Engineer may require a Discharger to prepare and submit a Local Storm Water Pollution Prevention Plan (Local SWPPP) for approval as a Best Management Practice (BMP). In addition, the City Engineer may require a Discharger to prepare and submit a Local SWPPP for approval if (1) the Discharger is not in compliance with this Chapter; or (2) the facility or activity is a significant source of pollutants to the Receiving Waters despite

compliance with this Chapter. Any Discharger required to submit and to obtain approval of a Local SWPPP shall install, implement and maintain the BMPs specified in the approved Local SWPPP.

The Local SWPPP shall identify the BMPs that will be used by the Discharger to prevent or control pollutants in Storm Water to the Maximum Extent Practicable. If the facility is an industrial facility, the Local SWPPP submitted to the City shall at a minimum meet the requirements of the State NPDES General Industrial Storm Water Permit. If the activity at issue is a construction or land disturbance activity, the Local SWPPP submitted to the City shall at a minimum meet the requirements of the State NPDES General Construction Storm Water Permit.

Additional minimum Local SWPPP requirements are;

1. An inventory of all materials on site that may adversely affect Storm Water quality.
2. A description of measures which will be taken to reduce the possibility of accidental spillage resulting from equipment failure or employee error.
3. A description of onsite spill control procedures and equipment to prevent pollutants from entering the Storm Water Conveyance System.
4. A site map showing all building structures, materials and waste storage areas, outdoor equipment storage areas, vehicle service areas, paved areas, areas of existing and potential erosion, storm drain inlets, points of discharge to the Storm Water Conveyance System, and an estimate of the size of the facility and the size of the Impervious Surface Area.
5. A description of the Storm Water monitoring program conducted on the site, if any.
6. A documented employee training program which includes, but is not limited to, the following topics:
  - a. Laws, regulations and local ordinances relating to Storm Water pollution prevention, and an overview of the potential impacts of pollutants in Storm Water on the Receiving Waters.
  - b. Proper handling of all materials and wastes to prevent spillage.
  - c. Proper mitigation of spills, including spill response, containment and cleanup procedures.
  - d. Visual monitoring of all effluent streams to ensure that no Illegal Discharges enter the Storm Water Conveyance System.
  - e. Discussion of the differences between the Storm Water Conveyance System and the sanitary sewer system.
  - f. Identification of all onsite connections to the Storm Water Conveyance System.

- g. Preventative maintenance and good housekeeping procedures.
- h. Material management practices employed by the facility to reduce or eliminate pollutant contact with Storm Water.

Training materials shall be kept onsite and records of attendance shall be retained for at least five years.

**20.08.190 Violation of a State NPDES Permit.** A violation of a State NPDES General Construction Storm Water Permit, a State NPDES General Industrial Storm Water Permit or a State General De Watering Permit shall also be considered a violation of this Chapter and may be enforced as such.

**20.08.200 Watercourse Protection.**

A. Every person owning or occupying real property through which a Watercourse passes shall keep and maintain the Watercourse within the property free of trash, debris, excessive vegetation, and other obstacles which would pollute, contaminate or retard the flow of water through the Watercourse; shall maintain the private structures on the property in a manner which will prevent the structures from interfering with the use, maintenance and physical integrity of the Watercourse; shall not remove vegetation in a manner which will increase erosion or remove more healthy vegetation than is necessary for maintenance of the flow.

B. No person shall commit, or cause to be committed, the following acts, unless a written permit has been obtained from the City Engineer and the appropriate state and federal agencies:

1. Discharge pollutants into or connect any pipe or channel to a Watercourse;
2. Modify the natural flow of water in a Watercourse;
3. Carry out development within fifty feet of any Receiving Water;
4. Deposit in, plant in, remove any material from a Watercourse, including its banks, except as required for ordinary and necessary maintenance;
5. Construct, alter, enlarge, connect to, change, or remove any structure in a Watercourse; or
6. Place any loose or unconsolidated material (including animal manure) along side of or within a Watercourse so as to cause a diversion of the flow, or to allow the material to be carried away by Storm Water.
7. A grading permit or building permit may satisfy the requirements of this subsection at the discretion of the City Engineer. Any City permit does not affect the permit requirements of state or federal agencies.

**20.08.210 Permits and Approvals.**

Compliance with this Chapter shall be a condition of every permit or approval granted or issued by the City. Failure to comply with this Chapter shall be grounds for revocation of any such permit or approval.

**20.08.220 Violation is a Nuisance.**

The City Council hereby declares that any violation of this Chapter is a public nuisance.

**20.08.230 Enforcement of this Chapter.**

A. **Misdemeanor Violation.** Notwithstanding any other provision of this Code, a violation of this Chapter is a misdemeanor punishable by a fine of not more than one thousand dollars (\$1,000) or imprisonment in the County Jail for a period of not more than six months or both fine and imprisonment. Any such violation may be charged as an infraction at the discretion of the City Attorney. Any person convicted of an infraction under the provisions of this Chapter shall be punishable by a fine not to exceed two hundred fifty dollars (\$250) for a first or second offense in one year, and not to exceed five hundred dollars (\$500) for a third violation in one year.

B. **Orders of the City Engineer.** The City Engineer is authorized to issue Cease and Desist Orders or Stop Work Orders to any person who is in violation of this Chapter. Failure to comply with a written order of the City Engineer shall be a violation of this Chapter and shall be grounds for the imposition of the civil penalties described in this section.

C. **Civil Penalties.** Any person who violates a provision of this Chapter may be assessed a civil penalty not to exceed one thousand dollars (\$1,000) for each violation, for each day the violation is committed, continued, permitted or maintained. The civil penalties may be imposed by the City Manager after written notice and a hearing before the City Manager or his designee at which the person may present evidence and cross examine the witnesses in support of the charges. Civil penalties may also be assessed by the court in a civil action filed by the City to enforce the provisions of this Chapter.

D. **Abatement.** Any violation of this Chapter may be abated as a public nuisance and costs of abatement may be recovered by the City as allowed by law.

E. **Administrative Fines.** Any violation of this Chapter is subject to administrative fines as provided by this Code.

F. **Judicial Action.** This Chapter is enforceable by any judicial action allowed by law, including, but not limited to, injunctive relief.

G.     **Liens.** Costs of enforcement of this Chapter, including but not limited to, costs of investigation, sampling and monitoring costs, and unpaid administrative fines and civil penalties, shall constitute a lien against the real property on which the violation occurs and on the real property of any person who violates this Chapter until such lien is satisfied. The lien may be recorded and executed in the same manner as a judgment lien. Prior to the recordation of the lien, the property owner shall be given written notice of the lien and an opportunity to contest the validity of the lien and the amount at a hearing held by the City Manager or his designee.

H.     **Remedies Not Exclusive.** Remedies under this Chapter shall be in addition to each other, and in addition to any other legally available remedy, and do not limit or supersede any other enforcement action, civil, criminal or administrative.

20.08.240 Severability. If any section, subsection, or part of this Chapter is declared invalid by a court of competent jurisdiction, the remaining provisions shall continue to be valid and enforceable so as to effectuate the purpose and intent of this ordinance.

City of Encinitas  
Storm Water Best Management Practices  
Manual, Part I

EXHIBIT NO. 3
Encinitas LCPA #1-03
Stormwater BMP Manual – Appendix to CH 20.08 Part I
California Coastal Commission





## INTRODUCTION

The City of Encinitas Storm Water Pollution Control Manual has been put together to comply with the requirements of the Federal Clean Water Act-National Pollutant Discharge Elimination System Program (NPDES) and the San Diego County NPDES Permit No. 2001-01. The intent of these programs is to maintain and improve the quality and beneficial uses of our water resources. The widespread implementation of best management practices is regarded as one of the best solutions to achieving this goal. This manual provides detailed information on ways to implement best management practices in the City of Encinitas.

## OVERVIEW

The City of Encinitas water resources-its ocean, lagoons, wetlands, and creeks play an important role in the quality of life we enjoy. They provide us with recreation, support tourism, provide habitat to numerous species and provide open space enjoyment. These waters, however, are vulnerable to pollution from a number of human activities.

Many of our water pollution problems are due in large part to pollutants that are washed off from land by storms. Many people believe that storm water is "clean" and does not harm water quality. This perception is understandable since the amount of pollution from any one spot is not usually significant by itself. But when all these small amounts combine, they can cause big water quality problems downstream.

This manual applies to construction, commercial, industrial, municipal and construction activities that have the potential to contribute pollutants to runoff or directly to receiving waters. Storm water runoff may seep into the ground, drain into a storm drain, flow across parking lots but either way it eventually ends up in a creek, lagoon or ocean.

Contaminated storm water can negatively affect every water body it enters. Therefore, this manual provides detailed information on what we are all required to do to reduce the contamination of urban runoff (dry-weather) and storm water runoff (wet-weather) from our properties.

## BACKGROUND

### *Storm Water Runoff*

In open space areas rain water seeps into the ground. However, when rain falls on paved and other hard surfaces it runs off and is conveyed through the storm drain system directly to our creeks, lagoons and ocean. Storm water runoff although starting as rain, collects pollutants when it hits the ground and travels. For instance, runoff from parking lots picks up oil and grease dripped from cars, asbestos from worn brake linings and zinc from tires. Pesticides, herbicides, and fertilizers are washed off from landscaped areas, and soils are washed away from construction sites. Any substance found on the ground can wind up in storm water runoff.

### *Storm Drains Lead to Creeks, Lagoons and the Pacific Ocean*

Storm drainage systems are designed to decrease the chance of flooding. The rainwater that used to seep into vegetated areas now must be collected and carried elsewhere. The storm drain system collects this storm water runoff and carries it to the nearest creek, lagoon and then the Pacific Ocean. The storm drain system is meant to only carry rainwater. By allowing oil,

antifreeze, detergents and other material to enter the storm drain system is the same as dumping directly into the creek, lagoon and ocean.

#### *Storm Drains vs. Sewer Lines*

In Southern California the storm drain system is separate from the sewer system. All gutters, parking lots and paved surfaces eventually transport pollutants to the waterways and Pacific Ocean. Therefore any litter, gas, fertilizers or sediment left on the surface of the ground will end up on the beach after a storm event. The sewer system is a closed system that directly transports waste from each household to the wastewater treatment plant.

#### *Best Management Practices*

Best Management Practices (BMPs) are defined as any program, technology, process, siting criteria, operating method, measure or device which controls prevents, removes, or reduces pollution. For instance;

- Source Control BMPs – are operational practices that prevent pollution by reducing potential pollutants at the source. They typically do not require maintenance or construction.
- Treatment Control BMPs – are methods of treatment to remove pollutants from storm water.

#### *Sources of Pollutants*

Many people know that it is illegal to dump toxic chemicals down a storm drain. But you are also polluting if you allow pollutants to be washed into a storm drain with storm water runoff or with wash water. For instance, you may be polluting if you:

- Allow wash water from engine or equipment washing to enter a storm drain
- Spill antifreeze or other material on your site without cleaning it up
- Clear land without taking steps to prevent erosion
- Allow pet waste to enter the storm drain system
- Hose off sidewalks and parking lots
- Clean the kitchens of restaurants into the storm drain system

Virtually anything on the ground surface can become a water pollutant.

#### *Pollutants*

Any substance that can render water harmful to people, fish, or wildlife or impair recreation or other beneficial uses of water is considered a pollutant. The categories of pollutants are identified below:

- Oils and Greases
- Metals – Industrial areas, paints, pesticides and automobile emissions and brakes pads.
- Sediments- Cleared construction sites, agricultural lands
- Oxygen-Demanding Substances – Food wastes, chemicals
- Nutrients- Fertilizers, animal wastes, detergents, lawn clippings
- Toxic Organic Compounds – Pesticides and PCBs
- Total/Fecal Coliform Enterococcus bacteria – Pet waste, fertilizers – This will close the beaches to recreational activities

This Best Management Practices Manual is designed for Commercial/Industrial, Municipal, Construction, and Residential practices throughout the City of Encinitas. Each category is unique in its ability to control urban runoff. This manual provides the minimum level of BMPs available to date. This field is changing rapidly therefore, any supplemental ideas or suggestions will be evaluated on a case by case basis.

## **Commercial/Industrial - Best Management Practices (BMPs)**

The Commercial/Industrial section provides a description of minimum BMPs options for high priority categories. High priority commercial establishments included are:

- Automobile mechanical repair, maintenance, fueling or cleaning
- Equipment repair, maintenance, fueling, or cleaning
- Automobile and other vehicle body repair or painting
- Automobile parking lots and storage facilities
- Retail or wholesale fueling
- Pest control services
- Eating or drinking establishments
- Mobile carpet, drape or furniture cleaning
- Cement mixing or cutting
- Painting and coating
- Botanical or zoological gardens and exhibits
- Landscaping
- Nurseries and greenhouses
- Golf courses, parks and other recreational areas
- Pool and fountain cleaning

### **A. POLLUTION PREVENTION**

The following pollution prevention principles apply to most commercial sites:

- Use smaller quantities of toxic materials or substitute less-toxic materials.
- Minimize the volume of cleaning water to decrease wastewater.
- Provide signage to remind or instruct employees and customers.
- Implement a spill response plan.
- Segregate and recycle wastes.
- Provide a schedule of preventive maintenance.
- Train employees in pollution prevention initially and then periodically as needed.

### **B. MINIMUM BMPs FOR HIGH PRIORITY COMMERCIAL FACILITIES**

#### **1. Non-Structural BMPs**

Non-structural control BMPs consist of procedures and practices that prevent pollutants from entering the storm drain system. Because of their low cost and simplicity, source control BMPs should be considered first in the development of a facility's BMP program. Many of these methods already may exist as part of the standard operating procedures for a site:

##### **A) Good Housekeeping Practices**

Good housekeeping practices are designed to maintain a clean and orderly work environment. A clean work environment reduces the possibility of accidental spills caused by mishandling of chemicals or equipment and should reduce safety hazards to facility personnel. Good housekeeping measures are or will be implemented in an effort to prevent pollutants from entering storm water discharges.

- Information on good housekeeping practices should be distributed during employee training sessions.
- Good housekeeping measures should be discussed at employee meetings.

- Employees should be informed of activities that could potentially cause contamination of storm water and the importance of carefully conducting these activities in areas that do not discharge/drain to storm drains.
- Good housekeeping tips and reminders should be posted on employee bulletin boards.

#### B) Preventive Maintenance

Onsite equipment needs to be maintained in good working condition. The preventive maintenance program shall include regular inspections and testing of facility equipment. The storm water preventive maintenance program and BMPs shall expand the current preventive maintenance program to include storm water considerations.

#### C) Material Storage Practices

Hazardous waste and materials used shall be properly identified, handled, and stored; and instructions shall be given to all site personnel. Improper storage of these materials can result in accidental spills and the release of materials. Any underground or aboveground storage tanks shall be designed and managed in accordance with applicable regulations, be identified as a potential pollution source, and have secondary containment, such as a berm or dike with an impervious surface.

#### D) Material Inventory Procedures

Site personnel should maintain an up-to-date inventory of all hazardous materials and wastes used at the facility. Chemicals used at the facility should be handled with adequate precaution. Hazardous and toxic materials used at the site must be identified, quantified, and managed in compliance with federal, state, and local regulations. In addition, materials should be recycled, reclaimed, and/or reused to reduce the volume of materials brought into the facility when possible, and less toxic or non-toxic materials should be substituted for toxic materials.

#### E) Solid Waste Handling and Recycling

Waste disposal areas should be kept free of litter and debris. Waste receptacles must have a cover or lid to prevent the contents from being dispersed by the wind or coming in contact with storm water. All recyclable wastes such as batteries, solvents, waste oil and anti-freeze should be stored in a covered area that prevents contact with storm water.

#### F) Train Employees

Create a training manual and retain records of employees attending.

#### G) Spill Response Plan

Spills and leaks are one of the largest contributors of storm water pollutants. An effective plan shall have spill prevention and response procedures that identify potential spill areas, specify material handling procedures, describe spill response procedures, and provide spill clean-up equipment. The plan should take steps to:

- Identify and characterize potential spills
- Eliminate and reduce spill potential
- Respond to spills when they occur in an effort to prevent pollutants from entering the storm water drainage system.

#### H) Record Keeping

Record keeping and internal reporting represent good operating practices as they increase the efficiency of the facility and the effectiveness of BMPs. A good record keeping system facility minimizes incident recurrence, responds with appropriate cleanup activities, and complies with legal requirements.

A record keeping and reporting system shall be set up to document spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Spills and other discharges are to be reported in accordance legal requirements. Incident records describe the quality and quantity of non-storm water discharges to the storm sewer. These records should contain the following information:

- Date and time of the incident
- Weather conditions
- Duration of the spill/leak/discharge
- Cause of the spill/leak/discharge
- Response procedures implemented
- Persons notified
- Environmental problems associated with the spill/leak/discharge

#### 2. Structural BMPs

Structural BMPs consist of specialized equipment, structural components, or engineered technologies that can be used when source control BMPs are ineffective. Because structural BMPs are site specific, the facility operator needs to evaluate each proposed use. Proper installation and regular maintenance of structural BMPs are imperative to their effectiveness. Examples are as follows: (Appendix D)

- Overhead coverage of outdoor work areas or chemical storage;
- Retention ponds, basins, or surface impoundments that confine urban runoff to the site;
- Constructed wetlands
- Berms and concrete swales or channels that divert run-on and runoff away from pollutant sources;
- Secondary containment structures; and treatment controls, e.g., infiltration devices and oil/water separators; to reduce pollutants in storm water
- Biofilters
- Storm drain media inserts
- Divert to the sewer system.

#### 3. BMP Standard

BMPs must be able to reduce pollutants in storm water runoff *to the maximum extent practicable*.

#### 4. Designated High Priority Commercial Facilities

The following activities at high priority commercial sites must implement the BMPs addressed in the attached tables in Appendix A:

- |  |           |
|--|-----------|
| • Hazardous Material Storage                 | (Table 1) |
| • Solid Waste Storage                        | (Table 2) |
| • Loading/unloading of Significant Materials | (Table 3) |
| • Vehicle Fueling                            | (Table 4) |
| • Landscaping/grounds keeping                | (Table 5) |

- Vehicle/Equipment Washing (Table 6)
- Cleaning and maintaining parking lots (Table 7)
- Outdoor Equipment Storage (Table 8)
- Cleaning and maintaining rooftops (Table 9)
- Wastewater Treatment (Table 10)
- Vehicle Maintenance (Table 11)

#### **5. Hazardous Materials Management**

Many commercial facilities handle hazardous materials during different stages of operation. All hazardous materials and hazardous wastes must be handled, stored, or disposed of as required by all applicable local, state, and federal regulations. For more information, facility operators should contact their County Hazardous Materials inspector or the County Hazardous Materials Division duty specialist at (619) 338-2231. Operators of plant (flora) production facilities (greenhouses and nurseries) and certain non-plant-production operations (golf courses, pest control services, botanical or zoological gardens, cemeteries, parks, and recreational facilities) should contact the County Department of Agriculture, Pesticide Regulatory Program, at (858) 694-3122 for information regarding the storage and handling of hazardous materials and wastes.

## **Municipal Program - Best Management Practices (BMPs)**

This section provides a description of the goals and objectives, types of activities that have the potential to discharge pollutants, types of conveyances, potential pollutants and a list of potential BMP options for each minimum high priority category. Particular BMPs are not advocated and are presented here as recommended minimums.

### **Designated BMPs for Specific Municipal Activities/Areas**

#### **1. ROADS, STREETS, HIGHWAYS, and PARKING FACILITIES**

##### **A) Program Goal and Objectives**

This program component is applicable to the Streets Department. The goal of this program is to ensure storm water pollution prevention practices are considered when conducting activities on or around these locations.

##### **B) Potential Pollutant Generating Activities**

- Vehicle Use
- Minor repairs
- Potholing
- Construction (placement of pedestrian ramps, sidewalks)
- Maintenance of drainage channels
- Repaving activities
- Washing
- Sweeping
- Degreasing
- Parking of Vehicles and Equipment

##### **C) Possible Pollutants of Concern**

- Heavy Metals-Brake linings
- Oils and Grease-leaking engines
- Herbicides-vegetation control
- Pesticides-animal control
- Paints-pavement painting
- Solvents-used when painting
- Battery Acid
- Anti-freeze-leaking radiators
- Litter
- Green waste-road side clipping, mowing
- Sediment-construction and moving of earth
- Detergents

##### **D) Best Management Practices (BMPs)**

Once potential and existing sources of storm water contamination have been identified, the next step is to select proper measures BMPs to eliminate or reduce pollutant loadings in the storm water discharges, and to prevent storm water from becoming contaminated with pollutants. These may include processes, procedures, and structural controls, and are selected to prevent contamination by stressing the importance of storm water management and employee awareness of potential pollutant sources. BMPs must be selected and implemented, where applicable, that are appropriate to prevent or mitigate pollution generated from the specific activities at the site.

a) Street Sweeping

Street sweeping is widely recognized as an effective method of reducing the amount of pollutants (litter, green waste, oils and grease and sediment) on street surfaces that may impact storm water. Trucks that collect the trash instead of pushing it around are the preferred alternative. The City uses two types of street sweepers depending on the type of debris to be removed. A broom sweeper is utilized to remove heavy silt and debris and a vacuum sweeper is utilized to collect litter and leaves. Both sweepers are in compliance with air quality requirements of Rule 1186. The frequency of street sweeping depends on traffic volume, arterial streets, such as Highway 101, and collector streets, such as Santa Fe Road, are swept weekly. Residential areas are swept monthly.

b) Litter Control

This program consists of street sweeping and removal of litter and debris from roadways, right-of-ways, drainage channels, parks and open space on an as-needed basis. Public Works crew initiate litter collection based on visual observations during routine maintenance activities, citizen complaints, and routine collection in areas of known debris accumulation. Litter is collected by Public Works crews and County Probation crews.

c) Roadway and Bridge Maintenance

The regular maintenance activities for roads and bridges may include, filling potholes, minor construction for sidewalks, and maintenance of drainage channels. To minimize the impact to storm water resulting from the maintenance of these facilities, the following BMP's are suggested;

- Repair potholes to reduce sediment loss and erosion.
- Be sure that all spare filling material on the road is collected.
- Conduct maintenance measures during dry weather
- Barricading drain inlets to reduce sediment or waste from entering the drain during maintenance and construction activities
- Storing materials away from conveyance systems.
- Constructing temporary onsite washout areas.
- Managing concrete cutting waste properly
- Inspect maintenance equipment for leaks.

d) Parking Surface Cleaning

Parking facilities are required to be cleaned on a regular basis to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions. If possible use dry cleaning methods to prevent the discharge of pollutants into the storm water conveyance system. Sweeping or vacuuming the parking facility is encouraged over any other method. If water is used to clean a parking facility the rinsate is not allowed to enter any storm water conveyance systems or receiving waters. Wash water should be directed toward the sanitary sewer or collected and discharged to a pervious surface. Seal storm drains with an impervious material before washing begins. Structural BMPs such as storm drain inlet filters can be very effective in reducing the amount of pollutants discharged from parking facilities during periods of rain.

e) Housekeeping Practices

Soapy water remaining in mop or wash buckets should be discharged to the sanitary sewer through a sink, toilet, clean-out or wash area with drain. Routinely sweep, shovel and dispose of litter in the trash. Use dry clean-up techniques for chemical or oil spills. (e.g. scatter absorbent on the spill, let it completely absorb then sweep it all up and dispose of it in the proper manner).



## **2. CORPORATE STORAGE YARDS FOR MATERIALS, WASTE, EQUIPMENT AND VEHICLE MAINTENANCE, PUBLIC BUILDINGS, LANDSCAPE AND RECREATIONAL FACILITIES**

### **A) Program Goal and Objectives**

Activities at these facilities may generate waste, spills or leaks that could reach the storm drain system and receiving waters. The goal of this program is to ensure storm water pollution prevention practices are considered when conducting activities at these municipal facilities. For the purposes of this program, a public vehicle maintenance facility is determined to be any City-owned or operated facility that conducts industrial activity, operates equipment, performs fleet vehicle maintenance on ten or more vehicles per day (this includes repair, maintenance, washing, or fueling), or performs maintenance or repair of heavy industrial machinery/equipment.

A material storage facility stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control, and Counter-measures (SPCC) plan.

### **B) Pollutants of concern and sources**

At a minimum, the potential for the following pollutants shall be addressed:

- Waste oil,
- Scrap metal,
- Used antifreeze,
- Used oil filters,
- Oily rags or towels,
- Sediment,
- Sludge, and
- Normal refuse associated with daily operations.
- Nutrients
- Pesticides
- Herbicides
- Nutrients
- Bacteria
- Metals
- Oils and Grease

### **C) Best Management Practices (BMPs)**

Once potential and existing sources of storm water contamination have been identified, the next step is to select proper measures (BMP's) to eliminate or reduce pollutants in storm water discharges, and to prevent storm water from becoming contaminated with pollutants. These may include processes, procedures, and structural controls, and are selected to prevent contamination by stressing the importance of storm water management and employee awareness of potential pollutant sources. BMP's must be selected and implemented, where applicable, that are appropriate to prevent or mitigate pollution generated from the specific activities at the site.

#### **a) Good Housekeeping**

Good housekeeping practices are designed to maintain a clean and orderly work environment. A clean work environment reduces the possibility of accidental spills caused by mishandling of chemicals or equipment and should reduce safety hazards to facility personnel. Good housekeeping measures are or will be implemented in an effort to prevent pollutants from entering storm water discharges.

- Information on good housekeeping practices should be distributed during employee training sessions.
- Good housekeeping measures should be discussed at employee meetings.
- Employees should be informed of activities that could potentially cause contamination of storm water and the importance of carefully conducting these activities in areas that do not discharge/drain to storm drains.
- Good housekeeping tips and reminders should be posted on employee bulletin boards.

b) Improved Operation and Maintenance

Establish proper operation and maintenance practices to ensure processes and equipment are working well to lead to a reduction of materials entering the environment. Review current maintenance activities, evaluate if the maintenance efforts can directly or indirectly contribute pollutants to receiving waters, revise procedures or adopt additional BMPs as necessary to reduce the contribution of pollutants to receiving waters during maintenance activities, and educate employees on revised procedures.

c) Material Storage Practices

Hazardous waste and materials used shall be properly identified, handled, and stored; and instructions shall be given to all site personnel. Improper storage of these materials can result in accidental spills and the release of materials. Any underground or aboveground storage tanks shall be designed and managed in accordance with applicable regulations, be identified as a potential pollution source, have secondary containment, such as a berm or dike with an impervious surface.

d) Material Inventory Procedures

Site personnel should maintain an up-to-date inventory of all hazardous materials and wastes used at the facility. Chemicals used at the facility should be handled with adequate precaution. Hazardous and toxic materials used at the site must be identified, quantified, and managed in compliance with federal, state, and local regulations. In addition, materials should be recycled, reclaimed, and/or reused to reduce the volume of materials brought into the facility when possible, and less or non-toxic materials should be substituted for toxic materials.

e) Preventive Maintenance

Onsite equipment needs to be maintained in good working condition. The preventive maintenance program shall include regular inspections and testing of facility equipment. The storm water preventive maintenance program and BMP's shall expand the current preventive maintenance program to include storm water considerations.

f) Spill Prevention and Response

Spills and leaks are one of the largest contributors of storm water pollutants. An effective plan shall have spill prevention and response procedures that identify potential spill areas, specify material handling procedures, describe spill response procedures, and provide spill clean-up equipment. The plan should take steps to:

- Identify and characterize potential spills,
- Eliminate and reduce spill potential, and
- Respond to spills when they occur in an effort to prevent pollutants from entering the storm water drainage system.

g) Vehicle and Equipment Maintenance Operations

Many vehicle and equipment maintenance operations use materials or create wastes that are harmful to humans and the environment. Storm water runoff from areas where these activities occur can become polluted by variety of contaminants. Parked vehicles should be monitored closely for leaks and pans should be placed under any leaks to collect the fluids for proper disposal or recycling. The number of solvents used at the facility should be kept to a minimum to make recycling easier and to reduce hazardous waste management cost. Mechanics should clean vehicle parts without using liquid cleaners wherever possible to reduce waste. Steam cleaning and pressure washing may be used instead of solvent parts cleaning. The wastewater generated from steam cleaning must be discharged to an on-site oil water separator that is connected to a sanitary sewer or blind sump. Non-caustic detergents should be used instead of caustic cleaning agents, detergent-based or water-based cleaning systems in place of organic solvent degreasers, and non-chlorinated solvent in place of chlorinated organic solvents for parts cleaning.

h) Waste Disposal and Recycling

Waste disposal areas should be kept free of litter and debris. Waste receptacles must have a cover or lid to prevent the contents from being dispersed by the wind or coming in contact with storm water. All recyclable wastes such as 28 batteries, solvents, waste oil and anti-freeze should be stored in a covered area that prevents contact with storm water.

i) Vehicle and Equipment Washing

Washing vehicles and equipment outdoors or in areas where wash water flows onto the ground can pollute storm water. Wash water can contain high concentrations of oil and grease, phosphates, and suspended solid. Vehicle wash water is considered a process wastewater and needs to be disposed of properly. The City should use biodegradable, phosphate-free detergents for washing vehicles as appropriate. All washing of vehicles or equipment should be done inside on an impervious surface. The wash water must be collected and treated at the facility and either recycled or discharged to the sanitary sewer system or collected and disposed of as an industrial waste. If it is not feasible to wash the vehicles or equipment inside, then a designated area outside should be assigned for washing. This area must be bermed to collect the wash water and graded to direct the wash water to a treatment or disposal facility.

j) Loading and Unloading Materials

Loading and unloading operations usually take place outside on docks or terminals. Materials spilled, leaked, or lost during loading and unloading may collect in the soil or on other surfaces and be carried away by rainfall runoff or when the area is cleaned. Rainfall may wash off pollutants from machinery used to unload or load materials. If feasible employees should load and unload all materials and equipment in covered areas such as building overhangs at loading docks. Roof drains should be directed away from this area.

k) Storage Tanks

Accidental releases of chemicals from storage tanks can contaminate storm water with many different pollutants. Materials spilled, leaked, or lost from storage tanks may accumulate in soils or on other surfaces and be carried away by rainfall runoff. All specific standards set by Federal and State laws concerning the storage of oil and hazardous materials must be met. Employees shall be well trained to reduce human errors that lead to accidental releases or spills. Regular inspections of the integrity of all containers (i.e. tanks, drums) should be performed. All tanks and drum storage areas, whether permanent or temporary, should have a secondary containment system.

l) Outside Storage

Raw materials, by-products, finished products, containers, and other materials stored in areas exposed to rain and/or runoff can pollute storm water. Storm water can become contaminated by a wide range of pollutants when solid or liquid materials wash off or dissolve into the storm water, or when containers spill or leak. The City should store all materials inside. If this is not feasible, then all outside storage areas should be covered with a roof, and bermed, or enclosed to prevent storm water contact. At the very minimum, a temporary waterproof covering should be used over all materials stored outside. All materials stored outside should have some type of secondary containment system in case of spills or leaks.

m) Landscape Waste

Landscape waste consists of clippings, cuttings and droppings of leafy and woody materials. The following procedures should be implemented where applicable, to assure that exposed materials and accumulated trimmings and litter will be disposed of properly and not to the storm drain system.

- Require all employees and contractors who generate landscape waste to dispose of it at a approved composting location or permitted landfill; include such provisions in landscape maintenance contracts.
- Place temporary stockpiled material away from watercourses, and berm or cover stockpiles to prevent material releases to the storm drain system.

n) Facility and Grounds Maintenance

The implementation of best management practices for campground, trail, and parking lot activities is designed to prevent pollutants from these areas from entering storm water conveyance systems. Litter and debris are collected and disposed of properly. All paved surfaces are swept if necessary and the waste is collected and disposed of properly. All storm drain inlets, culverts and dry creeks or swales are kept clean and free from debris.

All storm drain inlets should be covered when hosing the parking lot then wet-vac back into the sanitary system.

*Minimizing the Use*

Consider specific alternative products in lieu of pesticides to control insects, fungi and weeds: Certain insects, such as lacewing and ladybugs, can be used against unwanted pests. Compost and soil amendments can be used as natural alternatives to fertilizers. For more information on alternatives, contact agencies such as the Bio-Integral Resource Center (BIRC) in Berkeley, which conducts research and produces brochures and a newsletter on Integrated Pest Management. Modern gardening guides, such as the Sunset books, also include information on fertilizer and pesticide alternatives.

o) Pesticide, Herbicide, and Fertilizer Application and Handling

The Federal Pesticide, Fungicide, and Rodenticide Act and California Title 3, Division 6, Pesticides and Pest Control Operations place strict controls over pesticide application and handling and specify training, annual refresher, and testing requirements. The regulations generally cover: a list of approved pesticides and selected uses, updated regularly; general application information; equipment use and maintenance procedures; and record keeping. The California Department of Pesticide Regulations and the County Agricultural Commission coordinate and maintain the licensing and certification programs. The City of Encinitas endorses the Integrated Pest Management document created by Dr. Donald Trotter for implementation on the Cities public facilities.

### *Minimizing the Use*

Consider specific alternative products in lieu of pesticides to control insects, fungi and weeds: Certain insects, such as lacewing and ladybugs, can be used against un-wanted pests. Compost and soil amendments can be used as natural alternatives to fertilizers. For more information on alternatives, contact agencies such as the Bio-Integral Resource Center (BIRC) in Berkeley, which conducts research and produces brochures and a newsletter on Integrated Pest Management. Modern gardening guides, such as the Sunset books, also include information on fertilizer and pesticide alternatives.

### *p) Facility Repair, Remodeling and Construction*

During repair, remodeling and construction activities, there are a number of best management practices that should be implemented. Some examples include:

- Limiting the impervious area as much as possible
- Protect storm drain inlets to prevent the discharge of pollutants
- Employ erosion and sediment control if there is disturbed soil that has the potential to be discharged into a conveyance or receiving water
- If construction is due to start just prior to the forecast of inclement weather, divert all runoff away from the construction site

## **2. INDUSTRIAL FACILITIES**

Industries are required to prepare a SWPPP (Storm Water Pollution Prevention Plan) and implement the BMPs prescribed therein. The following minimum BMPs are required for industrial sites:

- Maintain an up-to-date SWPPP for facility, and perform monitoring as required by the State General Industrial Permit. Monitoring results must be sent to the City of Encinitas annually.
- Vehicles must be cleaned in designated washing areas that provide for water recycling or discharge to the sewer system. These areas must be graded or bermed to prevent storm water run-on, use phosphate-free and biodegradable products whenever possible, and train staff on proper maintenance measures for the wash areas.
- Re-fueling areas are required to have readily accessible spill response equipment (including portable absorbent booms), to consider overhead coverage, train employees on methods to minimize spills and respond to spills, and provide readily available and bottom-sealed trash receptacles.
- Parking lots are required to be regularly (weekly or monthly) broom (dry) swept (cleaning with water is prohibited). Trash receptacles are required in parking lots to discourage litter. Fluid spills shall be cleaned up immediately with absorbent rags or material.
- Vehicle maintenance must be performed under cover with proper disposal of used fluids, parts, and rags.
- Prompt containment, cleanup, and reporting of any spills that may pose a threat to human or environmental health, including any spills to the storm drain system.

### **Reporting and Record Keeping**

Record keeping and internal reporting represent good operating practices because they can increase the efficiency of the facility and the effectiveness of BMPs. A good record keeping system helps the facility minimize incident recurrence, correctly respond with appropriate cleanup activities, and comply with legal requirements. A record keeping and reporting system shall be set up by the City documenting spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Spills and other discharges are to be reported in accordance

with the permit. Incident records describe the quality and quantity of non-storm water discharges to the storm sewer. These records should contain the following information:

- Date and time of the incident
- Weather conditions
- Duration of the spill/leak/discharge
- Cause of the spill/leak/discharge
- Response procedures implemented
- Persons notified
- Environmental problems associated with the spill/leak/discharge

Separate record keeping systems have been established to document housekeeping and preventive maintenance inspections, and training activities. All housekeeping and preventive maintenance inspections should be documented. Inspection documentation will contain the following information:

- The date and time the inspection was performed
- Name of the inspector
- Items inspected
- Problems noted
- Corrective action required
- Date corrective action was taken

Other means to document and record inspection results are field notes, timed and dated photographs, videotapes, and drawings and maps. All records shall be retained at the facility for at least one year after the expiration of the permit.

City owned and operated Industrial facilities have regulatory requirements placed on them in addition to the Permit. Each industrial facility must also meet specific waste discharge requirements and require compliance with a separate NPDES Permit. They include the following:

- Municipal Airports
- Active or inactive landfills
- Hazardous waste treatment, disposal and recovery facilities
- Water Treatment facilities/systems

In the City of Encinitas the only Industrial sites are the San Elijo Wastewater Facility and the Bus Depot at San Dieguito High School

### **Residential Best Management Practice (BMP)**

The Residential Community can also improve water quality by minimizing the amount of pollutants generated and therefore the need to dispose of. By educating the public about the wastes generated by residential communities and the effect on the environment and water quality we can stop pollution before it begins.

## **1. AUTOMOBILE REPAIR AND MAINTENANCE**

### ***(a) Pollution Prevention***

- (1) Encourage residents to use routine preventative maintenance practices.
- (2) Encourage and/or facilitate reductions in vehicle use:
  - Changes in driving habits
  - Carpooling
  - Increased use of public transportation
  - Biking or walking for short trips
- (3) Encourage residents to make timely vehicle repairs.

### ***(b) Leaks and Spills***

- (1) Encourage or require residents to prevent leaks and spills from contacting storm water
  - Use drip pans, plastic sheeting, or other materials to contain spills
  - Work indoors or under shelter
  - If working outdoors, don't do it in the rain
  - Require that leaks and spills be cleaned up when they occur
  - Use absorbent materials to clean up spills
  - Establish cleanup standards
  - Require that tools and parts be cleaned only in contained areas

### ***(c) Materials and Waste Management***

- (1) Require residents to properly manage and dispose of automotive wastes and materials:
  - Proper and lawful disposal of wastes
  - Recycling of oil and antifreeze
  - Storage of materials and wastes indoor or under cover
  - Use of secure and watertight containers when storing materials and wastes outside

### ***(d) Restrictions on Activity***

- (1) Encourage or require residents to use commercial repair and maintenance facilities to avoid the potential for pollution in residential areas.

## **2. AUTOMOBILE WASHING**

### ***(a) Pollution Prevention***

- (1) Encourage residents to wash vehicles over porous areas.
- (2) Encourage residents to contain washwater on private property.

**(b) Management / Reduction of Wash Water**

- (1) Encourage residents to turn off the water when not in use or use a controllable spray nozzle.
- (2) Encourage or require residents to contain, capture, or divert wash water from the conveyance system (berms, etc.).
- (4) Encourage or require residents to wash vehicles over porous surfaces (grass, dirt, etc.).
- (5) Encourage or facilitate the establishment of neighborhood wash areas where wash water and contaminants can be properly managed.
- (6) Encourage residents to clean their vehicles using damp cloths, avoiding the generation of wash and rinse water.

**(c) Materials and Waste Management**

- (1) Encourage residents to properly dispose of soapy water or bucket rinse water (sanitary sewer or soak into lawn).
- (2) Encourage residents to launder rags and towels or dispose of them in the trash.
- (3) Encourage residents to use dry methods to degrease or clean especially dirty parts prior to wet washing and rinsing (e.g., remove grease or brake dust using towels, etc.).

**(d) Restrictions on Activity**

- (1) Encourage residents to use commercial wash facilities to avoid the potential for pollution in residential neighborhoods.

**3. AUTOMOBILE PARKING**

- (1) Encourage or require the proper design and construction of parking areas in residences.
- (2) Establish and enforce design standards for parking areas in residences.
- (3) Encourage residents to park over pervious surfaces (over lawns, dirt, etc.).
- (4) Encourage residents to use routine preventative maintenance practices and to make timely vehicle repairs.
- (5) Encourage cleaning of parking areas with dry cleaning methods.

**4. HOME AND GARDEN CARE ACTIVITIES AND PRODUCT USE**

**(a) Pollution Prevention**

- (1) Encourage the use of safe substitutes and alternative methods for garden use:
  - Teach and encourage integrated pest management techniques
  - Recommend the use of native plants and drought tolerant species to reduce water use and greenery waste produced
  - Encourage planting techniques to attract beneficial insects
  - Encourage the use of biological controls
  - Encourage composting, vermiculture and yard waste recycling
- (2) Recommend and encourage practical purchasing practices for pesticides and fertilizers:
  - Encourage residents to identify "pests" before attempting to eliminate them
  - Encourage residents to always read label instructions and follow the instructions for garden care products



- (3) Encourage water conservation practices:
  - Encourage the use of xeriscape gardening
  - Encourage the use of drip irrigation
  - Encourage the use of soaker hoses
  - Encourage the use of micro-spray systems
  - Encourage the repair or adjustment of irrigation that allows excessive runoff
- (4) Encourage planting or mulching of hillsides and slopes to prevent erosion.

***(b) Leaks and Spills***

- (1) Recommend immediate cleanup of spills of gardening chemicals, fertilizers, and soils.
- (2) Encourage residents to return spilled materials to the container for future use or proper disposal.

***(c) Materials and Waste Management***

- (1) Encourage the storage of lawn care products in closed labeled containers and in covered areas.
- (2) Discourage the use of materials during windy or rainy days.
- (3) Encourage or require stockpiles of soil, compost, or fertilizers be covered with plastic tarps to prevent dispersal by wind or rain.
- (4) Require disposal of household chemicals to household hazardous waste collection facilities or scheduled events.
- (5) Encourage or require dry sweeping techniques for clean up.
- (6) Encourage recycling of lawn clippings and greenery waste through local programs.

***(d) Restrictions on Activities***

- (1) Restrict hosing of paved surfaces to the street or gutter.
- (2) Prohibit disposal of hazardous waste to the trash, landfill or storm drain.

**5. HOME CARE AND MAINTENANCE**

***(a) Pollution Prevention***

- (1) Encourage purchasing practices that reduce waste.
- (2) Encourage the use of safe substitutes for home cleaning and maintenance.
- (3) Recommend product use only according to label instructions.
- (3) Encourage the use of water based paints when possible.

***(b) Leaks and Spills***

- (1) Require the cleanup of hazardous materials spills immediately.
- (2) Encourage the use of techniques for spill cleanup and proper waste disposal.

***(c) Materials and Waste Management***

- (1) Encourage storage of household hazardous materials in closed labeled containers in a covered area.
- (2) Encourage recycling of latex paint through community programs.

- (3) Encourage the disposal of unwanted household hazardous waste through household hazardous waste collection facilities.
- (4) Encourage recycling of unused, unwanted products.
- (5) Encourage recycling of unwanted appliances and household equipment.

**(d) Restrictions**

- (1) Restrict the disposal of wash waters (carpet cleaning, mop water, paint wash-up) from disposal to the street, gutter or storm drain.

**6. DISPOSAL OF PET WASTE**

Public awareness about the urban runoff problems associated with pet waste has increased greatly over the past few years.

**(a) Pollution Prevention**

- (1) Encourage or facilitate the use of spay / neuter programs to reduce feral dog and cat populations.

**(b) Waste Management / Disposal**

**(c)**

- (1) Encourage or require that pet owners clean up after their pets when walking them in public places.
- (2) Encourage residents to clean up feces from their yards if pets are allowed to defecate outside.
- (3) Require the proper disposal of pet feces (toilet or trash).

**(d) Manure Management (Horses and Other Large Animals)**

- (1) Encourage or require the proper management of manure (including the preparation of manure management plans when appropriate).
- (2) Encourage or require the composting of manure.

## **Construction Best Management Practices (BMP)**

### **1. INTRODUCTION**

The goal of this program is to eliminate non-storm water discharges, reduce storm water runoff from construction sites, to minimize or avoid the impacts of construction activities. Construction sites include any site where an activity such as grading, excavation, clearing, road construction, structure construction, or demolition results in the disturbance of soil. Construction site runoff may be laden with sediment from erosion and can be contaminated with materials used on the construction site (i.e. oil and grease).

### **2. SITE MANAGEMENT REQUIREMENTS**

#### **Dry Season Requirements (May 1 through September 30)**

- A. Exposed disturbed areas must have erosion protection BMPs properly installed. This would include all building pads, unfinished roads and slopes. The only relief from this requirement for slopes greater than 3:1(Horizontal vs. Vertical) is if the site has properly designed de-silting basins at all discharge points.
- B. Adequate perimeter protection BMP's must be installed and maintained.
- C. Adequate sediment control BMP's must be installed and maintained.
- D. Adequate BMP's to control off-site sediment tracking must be installed and maintained.
- E. A minimum of 125% of the material needed to install standby BMP's necessary to completely protect the exposed portions of the site from erosion, and to prevent sediment discharges, must be stored on site. Areas that have already been protected from erosion using physical stabilization or established vegetation stabilization BMP's as described below are not considered to be "exposed" for purposes of this requirement.
- F. The Project proponent must have an approved "weather triggered" action plan and have the ability to deploy standby BMP's as needed to completely protect the exposed portions of the site within 48 hours of a predicted storm event. A predicted storm event is defined as a forecasted, 50% chance of rain. On request, the project proponent must provide proof of this capability.
- G. Deployment of physical or vegetation erosion control BMP's must commence as soon as slopes are completed for any portion of the site. The project proponent may not continue to rely on the ability to deploy standby BMP materials to prevent erosion of slopes that have been completed.

- H. The area that can be cleared or graded and left exposed at one time is limited to the amount of acreage that the project proponent can adequately protect prior to a predicted rainstorm.

This last requirement will require grading to be phased at larger sites. For example, it may be necessary to deploy erosion and sediment control BMP's in areas that are not completed but are not actively being worked before additional grading is done.

### **Rainy Season Requirements (October 1 through April 30)**

In addition to the requirements listed under the Dry Season Requirements:

- A. Perimeter protection and sediment control BMP's must be upgraded if necessary to provide sufficient protection for storms likely to occur during the rainy season.
- B. Adequate physical or vegetation erosion control BMP's must be installed and established for all completed slopes prior to the start of the rainy season. These BMP's must be maintained throughout the rainy season. If a selected BMP fails, it must be repaired and improved, or replaced with an acceptable alternate as soon as it is safe to do so. The failure of a BMP shows that the BMP, as installed, was not adequate for the circumstances in which it was used. Repairs or replacements must therefore put a more robust BMP in place.
- C. The amount of exposed soil allowed at one time shall not exceed that which can be adequately protected by deploying standby erosion control and sediment control BMP's prior to a predicted rainstorm.
- D. A disturbed area that is not completed but that is not being actively graded must be fully protected from erosion if left for 10 or more days. The ability to deploy standby BMP materials is not sufficient for these areas. BMP's must actually be deployed.

### **3. CONSTRUCTION BMPS**

#### Project Requirements

Construction activities such as, mass grading, clearing and grubbing, remove vegetation and disrupt the structure of the soil surface. This disruption leaves the soil susceptible to erosion. Grading and clearing activities cause rain to runoff at higher velocities and transport sediment downstream. Sediment can be detrimental to aquatic life by interfering with photosynthesis, respiration, growth and reproduction.

The construction conditioning process requires that any person submitting a grading permit application must also document that appropriate BMPs will be used to prevent storm water pollution from their project site. Depending on the size of the proposed project either of two documents must be completed and submitted with the initial grading permit application.

1. Certificate of Compliance with the California General Permit for Construction Activities:  
This form must be completed if construction activities will result in a soil disturbance or clearing of 5 acres or more.
2. Storm Water Management Checklist – This form must be completed for all construction activities that disturb less than 5 acres of soil, but still pose a risk of storm water pollution.

The grading and construction activities will be reviewed by Storm Water staff during plan check and site inspections to verify compliance with the Grading Ordinance. Failure to comply with these regulations can result in Notice of Violations, Stop Work Orders, Citations and Fines.

An effective storm water management plan is one which all potential pollutants are recognized and a plan to control/prevent them is designed. The plan must include a combination of BMPs to target each potential pollutant. This should include the following control measures.

- a) Planning and scheduling
- b) Erosion Control
- c) Flow Control
- d) Sediment Control
- e) Waste Management

#### **A) Planning and Scheduling**

Grading and clearing should be phased to reduce the amount and the duration of sediment exposure. If possible schedule grading during the dry season (Mid-April through October) particularly avoiding December through February.

Consult with the National Weather Service at (619) 289-1212 to determine the forecast during the wet season. Plan to have erosion control methods in place 24 hours prior to a rain event.

#### **B) Erosion Control**

##### **1) Physical Stabilization**

- a) Geotextiles/Mats – Used for temporary or permanent soil stabilization, and are especially effective on steep slopes and channels. Geotextiles and mats are used to reduce erosion from rainfall impact, hold soil in place, and absorb and hold moisture near the soil surface.
- b) Hydraulic Mulch – Hydraulic mulching is an erosion control measure that consists of applying a mixture of shredded wood fiber and tackifier with hydromulching equipment. Mulches protect the soil from rainfall impact or wind.
- c) Soil Binders – Soil binding consists of applying and maintaining polymeric or lignin sultanate soil stabilizers. Soil binders typically are applied to disturbed areas requiring temporary protection from erosion.
- d) Hydroseeding – Hydroseeding consists of applying a mixture of wood fiber, seed, fertilizer and stabilizing emulsion with hydromulch equipment. It is typically applied to disturbed areas requiring temporary protection against erosion.

2) Vegetation Stabilization

- a) Preservation of existing vegetation
- b) Seeding and planting
- c) Establish permanent landscaping

C) Flow Controls

Earth Dikes— These are structures that intercept, divert, and convey surface runoff, generally sheet flow, to a sediment-trapping device or stabilized outlet.

Drainage Swales & Lined Ditches – Divert off-site runoff around the construction site, divert runoff from stabilized areas around disturbed areas, and direct runoff into sediment basins or traps.

Outlet Protection/Velocity Dissipation Devices – Physical devices composed of rock, grouted riprap, or concrete rubble placed at pipe outlets to prevent scour and reduce the velocity and/or energy of exiting storm water flows. Outlet protection is needed where discharge velocities and energies at the outlets of culverts, conduits or channels are sufficient to erode the immediate downstream reach

Slope Drains – A slope drain is a temporary pipe or lined channel to drain the top of a slope to a stable discharge point at the bottom. Slope drains are usually lined ditches used to intercept and direct surface flow away from slope areas to protect cut or fill slopes. The slope drain is applicable for any construction site where concentrated surface runoff can accumulate and must be conveyed down the slope in order to prevent erosion.

D) Sediment Control

Storm Drain Inlet Protection – Devices used at storm drain inlets to detain and/or filter sediment-laden runoff to allow sediment to settle and/or to filter sediment.

Silt Fence – A silt fence is a temporary barrier of permeable fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from exposed, erodible soil. Silt fences may be used for perimeter control, placed upstream of the point(s) of discharge of sheet flow from a site. They may also be used as interior controls below disturbed areas where runoff may occur in the form of sheet or rill erosion, and perpendicular to minor swales or ditch lines.

Sandbag Barrier – A sandbag barrier is a temporary sediment barrier consisting of stacked sandbags designed to intercept and slow the flow of sediment-laden sheet flow runoff. Sandbag barriers allow sediment to settle from runoff before water leaves the construction site.

Fiber Rolls – A fiber roll consists of materials rolled or bound into a roll and placed on a slope to intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide some removal of sediment from the runoff.

Gravel Bag Berm – A gravel bag consists of gravel bags that are installed end-to-end to form a barrier across a slope to intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide some removal of sediment from the runoff.

Check Dam – A check dam is a small device constructed of rock or sandbags placed across a natural or man-made channel or drainage ditch. Restricting the velocity of flow in the ditch reduces erosion of the drainage ditch.

Desilting Basin – Sediment-laden runoff is directed to a designed temporary basin that allows sediment to settle out before the runoff is discharged. A desilting basin is generally less extensive than a Sediment Basin.

Sediment Trap – A sediment trap is a small temporary ponding area with a controlled release structure formed by excavating or constructing an earthen embankment across a waterway or low drainage area. Its purpose is to collect and store sediment from sites cleared and/or graded during construction for a *short* period of time (6 months).

Sediment Basin – A sediment basin is designed with controlled release structures and is constructed by excavating or constructing an earthen embankment across a ditch or low drainage area. Its purpose is to collect and store sediment from sites cleared and graded during construction for *extended* periods of time before reestablishment of permanent vegetation and/or construction of permanent drainage structures. They should be located at the storm water outlet for the site, but not in any natural or undisturbed stream.

#### Off-Site Sediment Tracking

- a) Stabilized construction entrances/exits – Stabilized entrance to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- b) Construction road stabilization – A temporary access road connecting existing public roads to a remote construction area. It is designed for the control of dust and erosion created by vehicular tracking.

#### **E) Waste Management**

Below are some methods to manage construction wastes to prevent runoff into the drainage system.

- a) Spill Prevention and Control
- b) Solid Waste Management
- c) Hazardous Waste Management
- d) Concrete Waste Management
- e) Liquid Waste Management

#### Spill Prevention and Control

Each contractor must have a spill prevention and control plan in place prior to grading operations. The plan will include:

- Contact phone numbers, emergency and after-hours of responsible parties.
- Coordination with the City of Encinitas Public Works Department and Fire Department.
- Ability to control runoff through berms, gravel bags, sandbags or storm drain covers.
- Absorbent material on site.

#### Basic Guidelines:

- Spills shall not be buried or washed with water.
- Water used for cleaning and decontamination shall not be allowed to enter storm drains or watercourses.
- Water overflow or minor water spillage shall be contained and shall not be allowed to discharge into drainage facilities.
- Proper storage, clean up and spill reporting instructions for hazardous materials stored or used on the project site shall be posted at all times.

#### Minor Spills

- Use absorbent materials and do not hose down or bury the material.
- Remove the absorbent material and dispose of properly.

#### Semi-Significant Spills

- Contain the spill.
- Notify the Inspector.
- Clean up with dry methods.
- If the spill occurs in dirt areas, contain the spill with an earthen dike.
- Dig up and properly dispose of the material.
- If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

#### Significant Spills

- Notify the Inspector immediately and follow up with a report
- Notify 911
- Notifications to external agencies will require a phone call and a written report.
- Obtain the services of a Haz-Mat team immediately. Construction personnel shall not attempt to clean up the job site.

#### Solid Waste Management

This is the practice to minimize or eliminate the discharge of pollutants resulting from the creation of stockpiling, and removal of construction waste.

- Place trash cans on construction sites
- Prevent storm water run-on and run-off through the use of berms, dikes and temporary diversion structures.
- Solid waste storage areas shall be located at least 15 m from drainage facilities and watercourses and shall not be located in areas prone to flooding or ponding.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Have hazardous waste hauled to an appropriate disposal and/or recycling facility.



### Hazardous Waste Management

This is the practice to minimize or eliminate the discharge of pollutants from construction site hazardous waste to the storm drain system or to watercourses.

Hazardous waste on construction projects is generated from the use of:

Petroleum products	Asphalt products
Concrete curing compounds	Pesticides
Palliatives	Acids
Septic Waste	Paints
Stains	Solvents
Wood Preservatives	Roofing Tar

Or any material deemed a hazardous waste in California, Title 22.

Major components of the hazardous waste management are education, proper storage and disposal procedures, maintenance and inspection.

### Concrete Waste Management

This is the practice to minimize or eliminate the discharge of pollutants of concrete waste materials to the storm drain system. The discharge of pollutants to storm water from concrete waste can be prevented. Some ways to reduce concrete wastes in storm water are:

- Store dry and wet materials under cover
- Avoid mixing excess amounts of fresh concrete on-site
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams
- Perform the washout of concrete trucks off-site or in designated areas
- Do not allow excess concrete to be dumped on-site, except in designated areas
- On-site washout areas should be located at least 50 ft. from storm drains, creeks, ditches.
- Do not wash out slurries generated from saw-cutting, coring, grinding, grooving, and hydro-concrete demolition into the storm drain or drainage course.
- Educate employees, subcontractors and suppliers on concrete waste management
- Once concrete wastes are washed into the designated areas and allowed to harden, the concrete shall be broken up, removed, and disposed of.
- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be back-filled and repaired.
- Inspect weekly.

### Liquid Waste Management

This is the practice to prevent discharge of pollutants to the storm drain system as a result of the creation, collection, and disposal of non-hazardous liquid waste.

Some ways to reduce liquid waste in storm water are:

- Employee, subcontractor and suppliers training

- Contain liquid waste in a controlled area, such as a holding pit, sediment basin or portable tank.
- Capture all liquid waste running off a surface, which has the potential to affect the storm drain system.
- Do not allow liquid wastes to flow or discharge uncontrolled.
- Inspect employees and subcontractors to ensure appropriate practices.
- Inspect containment areas.

## **POST CONSTRUCTION BMPS**

### **Treatment BMPs**

#### Biofiltration: Strips and Swales

Vegetated areas are "treatment zones" that enhance infiltration and pollutant removal.

#### Infiltration Basins

These devices store runoff and allow it to infiltrate into the ground. Infiltration effectively prevents pollutants in the captured runoff from reaching surface waters.

#### Infiltration trenches

Infiltration trenches function in a similar manner to infiltration basins. The trenches are often elongated, allowing them to be used in constricted areas.

#### Sand Filters

Sand filters are vaults or tanks with a layer of sand through which storm water flows by gravity. Filters are preceded by detention devices that provide pretreatment and protection.

#### Dry-Weather Flow Diversion

Dry weather flows from the storm drain system may be diverted to the sewer system. During wet weather, the diversion is suspended because wet weather flow volumes are greater than can be normally managed at POTWs.

**Appendix A**  
**Best Management Practice (BMP) Tables**

**Table 1. Hazardous Materials Storage**

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Outdoor storage of hazardous materials	Storage	Spills	Hazardous liquids	Required	<ul style="list-style-type: none"> <li>• Provide a Site Map</li> <li>• Maintain records for training of employees</li> <li>• Provide inspection reports from the County's Industrial Compliance Program</li> <li>• Segregate &amp; separate waste</li> <li>• Label drums properly</li> <li>• Keep drums closed &amp; in good condition</li> <li>• Provide secondary containment</li> <li>• Provide readily accessible spill response equipment</li> <li>• Report spills promptly</li> <li>• Provide overhead coverage</li> </ul>
	Stock rotation	Leaks Weathering	Petroleum products		

Ex 3

Outdoor containers	Aboveground storage tanks	Spills	Diesel	• Required	<ul style="list-style-type: none"> <li>• Practice good housekeeping</li> <li>• Provide secondary containment</li> <li>• Provide readily accessible spill response equipment</li> <li>• Report spills promptly</li> <li>• Conduct periodic inspections</li> <li>• Provide overhead coverage</li> <li>• Maintain all wash water on site or send to sanitary sewer</li> </ul>
Storage of liquids	Tank loading/unloading		Waste oil		
			Motor oil		
			Hydraulic fluid		
			Transmission fluid		

**Table 2. Solid Waste Storage**

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Dumpster area	Trash storage & disposal	Debris Trash Green waste Liquid waste	Total organic carbon Cast-off items Garbage Litter	Required	<ul style="list-style-type: none"> <li>• Practice good housekeeping</li> <li>• Dry sweep area routinely</li> <li>• Train employees</li> <li>• Keep lids closed</li> <li>• Berm or enclosure to prevent runoff</li> <li>• Consider overhead coverage</li> <li>• Provide adequate number of containers in good condition</li> <li>• Increase pick-up frequency when necessary</li> <li>• Secure area from after-hours dumping</li> <li>• Physically connect the drainage to the sewer system</li> </ul>

Table 3. Loading and Unloading of Significant Materials

Area	Activity	Potential Pollutant Source	Type of Pollutant/Quantity	Required or Recommended	Best Management Practices
Loading docks	Loading & unloading	Spilled raw materials and motor fluids  Dust & debris		<ul style="list-style-type: none"> <li>• Required</li> </ul>	<ul style="list-style-type: none"> <li>• Regular broom dry-sweeping of area</li> <li>• Train material-control staff to inspect incoming vehicles for leaking fluids</li> <li>• Train personnel to respond to spills of materials</li> <li>• Arrange rooftop drains to prevent drainage directly into loading areas</li> <li>• Pave loading areas with concrete instead of asphalt</li> <li>• Cover the loading dock</li> <li>• Avoid placing storm drains in the area or route to sewer</li> <li>• Install curbs/berms around the loading area</li> <li>• Grade the loading area to be sloped to direct flow toward an inlet with a shut-off valve. Keep the valve closed at all times. Use berms or slopes to prevent run-on so that stormwater is not generally directed to the loading area.</li> <li>• Connect the inlet to the sanitary sewer, if allowed by local wastewater authority, and discharge to established limits</li> </ul>

Loading dock	Breakdown of shipping containers, including disposable ones	Binding & packing materials	Litter: Paper, plastic, metal bands, staples, packing materials (styrofoam), cardboard		<ul style="list-style-type: none"> <li>• Cover loading areas</li> <li>• Grade properly &amp; install berms,</li> <li>• Seal door skirt between trailer and building</li> <li>• Divert storm water away from loading area</li> <li>• Cover storm drain inlet during dry weather</li> </ul>
	Material delivery & storage	Spills Leaks	Soil, pesticides, fertilizers, detergents, plaster, petroleum products, & hazardous chemicals		<ul style="list-style-type: none"> <li>• Minimize on-site storage of hazardous materials</li> <li>• Store equipment and supplies in specifically designated areas with secondary containment, e.g., berms, pallets, &amp; flow diversion</li> <li>• Conduct regular inspections</li> <li>• Train and educate employees &amp; subcontractors</li> </ul>
	Misuse or spillage of stored materials	Spills Leaks	Various		<ul style="list-style-type: none"> <li>• Label all containers according to their contents (e.g., solvent, gasoline)</li> <li>• Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous)</li> <li>• Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations)</li> </ul>
	Transport of drums, containers and storage boxes carrying potential pollutants	Fractured or ruptured containers	Various		<ul style="list-style-type: none"> <li>• Move drums by using a barrel cart or by placing the drum on a pallet and moving it with a forklift</li> <li>• Provide a minimum of two persons to assist forklift operator in transferring a drum to or from a pallet</li> <li>• Secure stacked drums with metallic strapping</li> </ul>
					<ul style="list-style-type: none"> <li>• Retrofit doorways used for loading with rubber or plastic door skirts to provide a strip barrier enclosing and sealing open end of the trailer with the open loading dock door</li> </ul>

	Loading & unloading	Spills  Leaks  Accidents  Flooding	Vehicular fluids  Raw materials-dry and liquid  Metal (brake linings)		<ul style="list-style-type: none"> <li>• Maintain forklifts in good condition</li> <li>• Provide SPCC materials</li> <li>• Check trucks for leaks</li> <li>• Dry sweep routinely &amp; practice good housekeeping</li> <li>• Unclog drains &amp; provide grates, as needed</li> <li>• Train employees</li> <li>• Post written instructions&amp; provide a sign-in log</li> <li>• Block stormwater drains during activities</li> <li>• Maintain log of activities</li> </ul>
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**Table 4. Vehicle Fueling**

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Fueling area	Re-fueling of vehicles	Spills	Diesel	• Required	<ul style="list-style-type: none"> <li>• Cover storm drains in the vicinity during transfer</li> <li>• Provide readily accessible spill response equipment</li> <li>• Report spills promptly</li> <li>• Train employees</li> <li>• Consider overhead coverage</li> <li>• Consider concrete surface separated from other areas</li> <li>• Bag trash from break/lunch room</li> <li>• Post "no littering" signs</li> <li>• Secure illegal dumping after hours</li> <li>• Report leaking vehicles to fleet maintenance</li> </ul>
	Re-fueling of equipment	Leaks	Gasoline		
	Replacement of equipment	Employee habits	Oil/grease		
			Trash		
			Litter		
					<ul style="list-style-type: none"> <li>• Design fueling area to prevent storm water runoff and spills</li> <li>• Cover area and use a perimeter drain or slope pavement inward with drainage to sump; pave area with concrete rather than asphalt.</li> </ul>
Intake area of underground or aboveground storage tanks	Refilling of storage tanks				<ul style="list-style-type: none"> <li>• Store portable absorbent booms (long flexible shafts or barriers made of absorbent material) in unbermed fueling areas</li> </ul>
					<ul style="list-style-type: none"> <li>• Use structural controls such as a low-flow sump, oil/water separator, wet pond or infiltration basin so that spilled material is not discharged into the rest of the storm drain system</li> </ul>



			Petroleum compounds, grease, floatable debris, & settleable solids		<ul style="list-style-type: none"> <li>• Use oil/water separators or underground vaults, such as a three-chamber separators, that allow for sedimentation, removal of oil and grease, and prevention of surcharge pressure</li> </ul>
			Settleable solids		<ul style="list-style-type: none"> <li>• Install inlet catch basin equipped with a small sedimentation basin or grit chamber to remove large particles from storm water in highly impervious areas</li> </ul>

**Table 5. Landscaping and Groundskeeping**

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Throughout property	Landscape irrigation (daily)	Irrigation run-off	Sediment Fertilizers Herbicides	<ul style="list-style-type: none"> <li>Required</li> </ul>	<ul style="list-style-type: none"> <li>Minimize use of fertilizers and herbicides</li> <li>Store chemicals off-site by contracted landscaping firm</li> <li>Train employees</li> </ul>
	Pruning	Green waste	Total organic carbon		<ul style="list-style-type: none"> <li>Sweep (dry) and collect for composting or trash removal</li> </ul>
	Excavating		Sediment/rocks/sand		<ul style="list-style-type: none"> <li>Confine excavated materials to pervious surfaces away from sidewalks, pavement, &amp; ditches</li> <li>Cover piles during rains</li> </ul>
	Pest control		Herbicides/pesticides		<ul style="list-style-type: none"> <li>Plan &amp; implement an Integrated Pest Management system</li> </ul>
Garage	Equipment fueling Equipment maintenance		Oil/grease Gasoline Waste oil		<ul style="list-style-type: none"> <li>Keep spill response materials readily accessible</li> <li>Perform repairs indoors or on impervious or covered surfaces</li> <li>Use proper funnel, drains, &amp; pans</li> </ul>

Grounds &  
medians

- Utilize water delivery rates that do not exceed the infiltration rate of the soil
- Periodically observe areas that are watered to identify and correct damaged sprinkler systems, to adjust sprinkler heads, and to identify areas of excess watering and runoff
- Where practical, use automatic timers to minimize runoff
- Avoid overspray to minimize runoff and contact with equipment in the areas surrounding the targeted landscape
- Use fertilizer/herbicide/pesticide in accordance with manufacturer instructions
- Prevent overspray or application of chemicals outside of the targeted landscaped area

**Table 6. Vehicle/Equipment Washing**

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Outdoor or indoor area	Washing	Vehicle body or engine  Equipment	Oil/grease  Antifreeze  Spent solvents  Heavy metals  Toxic chemicals	<ul style="list-style-type: none"> <li>• Required</li> </ul>	<ul style="list-style-type: none"> <li>• Mark the area clearly as a wash area</li> <li>• Post signs stating that only washing is allowed in wash area</li> <li>• Provide trash container in wash area</li> <li>• Install sumps or drain lines to collect wash water to the sewer system</li> <li>• Cover the wash area when not in use to prevent contact with rain water</li> <li>• Grade or berm area to prevent run-on</li> <li>• Wash in designated washing facilities</li> <li>• Use phosphate-free and biodegradable products whenever possible</li> <li>• Train staff on proper maintenance measures for the wash area</li> </ul>

Table 7. Parking Lots

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Parking lots		Automobile fluid leaks  Trash	Heavy metals: Zn, Cd, Pb, Cu  Vehicular fluids: antifreeze, motor oil, brake fluid, steering fluid, gasoline, transmission fluid  Litter/debris: rubber, grease, solids, leaves, grass, trash	<ul style="list-style-type: none"> <li>• Recommended</li> </ul>	<ul style="list-style-type: none"> <li>• Regularly broom (dry) sweep parking lot to minimize cleaning with water</li> <li>• Provide trash receptacles in parking lot to discourage litter</li> <li>• Clean up fluid spills immediately with absorbent rags or material</li> <li>• Allow sheet runoff to flow into biofilters (vegetated strip and swale) and infiltration devices</li> <li>• Utilize sand filters or oleophilic collectors for oily waste in low quantities.</li> <li>• Arrange rooftop drains to prevent drainage directly onto paved surfaces</li> <li>• Design lot to include semi-permeable hardscape</li> </ul>

**Table 8. Outdoor Equipment Storage**

Area	Activity	Potential Pollutant Source	Type of Pollutant/	Required or Recommended	Best Management Practices
Outdoor equipment storage	Storage		Lubricants and other petro-chemicals	<ul style="list-style-type: none"> <li>Required</li> </ul>	<ul style="list-style-type: none"> <li>Drain all lubricants and other petrochemicals prior to storage and dispose of them properly</li> <li>Block all storm drains during dry weather</li> </ul>
			Heavy metals		<ul style="list-style-type: none"> <li>Inspect equipment weekly for leaks or spills</li> <li>Cover equipment storage areas and dispose of rainwater inside the berm as a waste</li> </ul>
Outdoor storage yard	Long-term storage	Leaks Weathering Debris	Rust Hydraulic fluids Oil/grease	<ul style="list-style-type: none"> <li>Required</li> </ul>	<ul style="list-style-type: none"> <li>Block all storm drains during dry weather</li> <li>Remove, recycle, or sell cast-offs as scrap material</li> <li>Practice good housekeeping</li> <li>Drain fluids before storage, where feasible, and dispose of them properly</li> <li>Train employees</li> </ul>
	Short-term storage	Spills Leaks Run-on			<ul style="list-style-type: none"> <li>Train employees</li> <li>Practice good housekeeping</li> <li>Isolate area with berms or curbs to protect against run-on materials</li> <li>Install overhead coverage</li> </ul>

Table 9. Rooftops

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Roof-HVAC	Cooling	Condensate	Heavy metals: Cu, Zn	Recommended	
Roof	Rain	Runoff	Asphalt aggregate Particulates Heavy metals		<ul style="list-style-type: none"> <li>Route to recycler</li> </ul>
Work areas	Rain, air emissions, control	Runoff, specific systems e.g baghouse filters	Particulates Heavy metals		<ul style="list-style-type: none"> <li>Route downspouts away from work areas and toward lawns</li> <li>Conduct preventative maintenance</li> </ul>
	Emergency generators	Leaks	Diesel		<ul style="list-style-type: none"> <li>Conduct preventative maintenance</li> </ul>

Table 10. Wastewater Treatment

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Facility	Maintenance activities (pipe/line cleaning) & repair	Overflow events	Bacteria Viruses Fecal coliform	<ul style="list-style-type: none"> <li>Required</li> </ul>	<ul style="list-style-type: none"> <li>Use vacuum equipment in the case of a spill to divert the sewage from the storm drains</li> <li>Covering or barricading storm drain inlets and other immediate downstream stormwater conveyance systems</li> <li>Report spill immediately</li> <li>Storing materials away from storm drains</li> <li>Constructing temporary washout areas</li> <li>Inspecting equipment for leaks</li> <li>Collecting and removing waste for proper disposal</li> </ul>

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Table 11. Vehicle Maintenance

Area	Activity	Potential Pollutant Source	Type of Pollutant	Required or Recommended	Best Management Practices
Indoor garage	Change oil, routine engine work	engine	Oils, grease, antifreeze, heavy metals, paint	<ul style="list-style-type: none"> <li>• Required</li> </ul>	<ul style="list-style-type: none"> <li>• Block indoor drainage</li> <li>• Keep equipment clean; avoid build up of grease and oil</li> <li>• Drain fluids from any retired vehicles stored on site</li> <li>• Inspect equipment in the yard</li> <li>• Maintain the yards storm drain outlets with regular cleanings</li> <li>• Areas are kept clean by "dry" sweeping</li> </ul>
Outdoor	Change oil, routine engine work	engine	Oils, grease, antifreeze, heavy metals, paint	<ul style="list-style-type: none"> <li>• Required</li> </ul>	<ul style="list-style-type: none"> <li>• Cover storm drain during dry weather</li> <li>• Keep drip pans or containers under the vehicles at all times</li> <li>• Provide a designated area for vehicle maintenance</li> <li>• Provide berms around storm drains</li> <li>• Cover the work area so as to limit exposure to the rain when not in use</li> </ul>

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City of Encinitas  
Storm Water Best Management Practices  
Manual, Part II

STORM WATER MANUAL  
FOR NEW DEVELOPMENT  
AND REDEVELOPMENT

A Manual for Construction & Permanent Post Construction  
Storm Water Best Management Practices Requirements

Introduced: November 12, 2002  
Adopted: December 11, 2002  
Modified: April 9, 2003

EXHIBIT NO. 4

Encinitas LCPA #1-03

Stormwater BMP Manual  
Appendix to CH 20.08  
Part II

California Coastal Commission

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## I. INTRODUCTION

### I.1. Best Management Practice Manual Part II Organization

This manual describes how to comply with the permanent improvement and construction phase storm water requirements for new development projects in the City of Encinitas. This manual further guides the project applicant through the selection, design, and incorporation of storm water BMPs into the project's design plan.

This manual groups development-related storm water BMPs into two categories:

1. *construction BMPs*, which are practices, procedures, devices or materials used to prevent the transport and introduction of pollutants both on and from a project site during construction; and
2. *permanent BMPs*, which are the site design features, source control features, and treatment control BMPs that become a permanent part of a project's design and remain functioning throughout the "use" phase of a project site. (See the definitions for site design, source control and treatment control BMPs in this appendix).

Section I, "Introduction," describes storm water pollution background information and legal or regulatory requirements associated with storm water pollution control.

Section II, "Project Review & Permitting Process," outlines the project plan review and approval process all permits. Applicants should use Section II as the roadmap to navigate through this manual and ensure storm water requirements are accurately and efficiently incorporated into their projects during project review. The remaining sections provide technical information necessary to incorporate the storm water requirements.

Section III, "Permanent Storm Water BMP Selection Procedure," lists the permanent storm water BMP requirements, which are organized into a progression intended to demonstrate a typical project planning and design process and to maximize storm water protections while minimizing project costs. Section IV, "Construction Storm Water BMP Performance Standards," describes the City's construction storm water BMP standards. Section V, "Implementation & Maintenance of Requirements," describes how the implementation and the maintenance of construction and permanent BMPs must be assured for all permits. For permanent BMPs, this section provides a process and the requirements for executing a maintenance agreement with the City. Section VI contains appendices to the Best Management Practice Manual Part II that are either necessary or designed to provide guidance in completing the storm water requirements in this manual.

### I.2. Background

Urban runoff discharged from municipal storm water conveyance systems has been identified by local, regional, and national research programs as one of the principal causes of water quality problems in most urban areas. The City of Encinitas' storm water conveyance system, which collects runoff and rainwater from our streets, rooftops,

driveways, parking lots, and other impervious areas and conducts flows directly to our beaches and lagoons without receiving treatment (our storm water conveyance system is separate from our sanitary sewer system). Urban runoff potentially contains a host of pollutants like trash and debris, bacteria and viruses, oil and grease, sediments, nutrients, metals, and toxic chemicals. These contaminants can adversely affect receiving and coastal waters, associated wildlife, and public health. Urban runoff pollution is a year-round problem because of the many urban water uses that discharge runoff to the storm water conveyance system.

Storm water pollution can negatively affect human health and aquatic plant and animal life. Potentially harmful viruses and bacteria are now found in our coastal waters along with soil particles, solids/debris, litter, oil, grease, and chemical compounds. Oil and grease from parking lots, pesticides, cleaning solvents, and other toxic chemicals can contaminate storm water and these contaminants can be transported into receiving waters—the beaches, lagoons, and creeks we all enjoy. Fertilizer constituents from nurseries, lawns, and golf courses or leaking septic tanks can cause algal blooms and encourage microbial growth to create an increasing spiral of biological activity known as eutrophication. Disturbances of the soil from construction can allow silt to wash into storm channels and receiving waters making them muddy, turbid, and inhospitable to natural aquatic organisms. Many artificial surface treatments such as galvanized metal, paint, or preserved wood containing metals contribute to pollution by storm water run-on or leaching by storm water as the surfaces corrode, flake, dissolve, or decay. Heavy metals, such as copper from automobile brakes and lead and chromium from paints and primer coatings, are toxic to aquatic organisms and may bio-accumulate.

Land development and construction activities significantly alter drainage patterns and contribute pollutants to urban runoff primarily through erosion, the removal or change of existing natural vegetation during construction, and the creation of new impervious surfaces such as parking lots, which often permanently contribute pollutants throughout the “use” of the project site. When homes, work places, recreational areas, roads, parking lots, and structures are built, new impervious areas are built- creating the potential for a “double-negative” impact to water quality. First, the natural landscape’s ability to infiltrate and cleanse storm water and urban runoff is “capped” by the impervious surfaces. As impervious surfaces increase, water that normally would have percolated into the soil to be naturally filtered flows over the land surface directly to downstream wetlands, creeks, and eventually the Pacific Ocean. Accordingly, increases in impervious cover can increase the frequency and intensity of storm water flows. Second, new impervious surfaces often become a source of pollutants associated with development which include automotive fluids, cleaning solvents, toxic or hazardous chemicals, detergents, sediment, metals, pesticides, oil and grease, and food wastes. These pollutants, which are often temporarily captured on impervious surfaces, are transported to the storm water conveyance system by storm water and urban runoff. The pollutants flow untreated through the storm water conveyance system and ultimately into our creeks, rivers, beaches, and lagoons. With the growing concerns of urban runoff and storm water pollution, local, state, and federal agencies devised regulations requiring development planning and construction controls to treat storm water-related pollution from new development projects before it reaches any receiving waters.

The Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit (Municipal Permit), issued on February 21, 2001 to the City of Encinitas, the County of San Diego, the Port of San Diego, and 17 other cities in the region by the San Diego Regional Water Quality Control Board (Regional Board), requires the development and implementation of storm water regulations addressing storm water pollution issues in development planning and construction associated with private and public development projects. Specifically, private and public development projects are required to include storm water best management practices (BMPs) both during construction, and in the projects permanent design in order to reduce pollutants discharged from the project site to the maximum extent practicable (see Appendix G for a detailed description of the various types and categories of BMPs discussed in this manual).

The primary objectives of the Best Management Practice Manual Part II requirements are to:

1. Effectively prohibit non-storm water discharges; and
2. Reduce the discharge of pollutants from storm water conveyance systems to the Maximum Extent Practicable (MEP statutory standard) both during construction and throughout the use of a developed site.

To address pollutants that may be generated from new development once the site is in use, the Municipal Permit further requires that the City implement a series of permanent BMPs described in a document called the Model Standard Urban Storm Water Mitigation Plan, or SUSMP (pronounced "sue-sump"), which was approved by the Regional Board on June 12, 2002.

This manual is an uncodified ordinance adopted pursuant to the City of Encinitas Watercourse Protection, Storm Water Management and Discharge Control Ordinance codified in Chapter 20.08 of the Encinitas Municipal Code. It is Part II of the City of Encinitas Storm Water Best Practices Manual and provides instructions on the City's construction phase and permanent BMP requirements, based on the Model SUSMP, for new projects in the City of Encinitas. It applies to all projects even if the project is currently under review or previous approvals have been obtained.

### **I.3. Legal Framework**

The requirement to implement storm water BMP requirements for development projects is based on Section 402 (p) of the Clean Water Act. The Federal Clean Water Act amendments of 1987 established a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES program. Under the Federal Clean Water Act, municipalities throughout the nation are issued a Municipal NPDES Permit. The primary goal of the Municipal Permit is to stop polluted discharges from entering the storm water conveyance system and local receiving and coastal waters.

In California, the State Water Resources Control Board (SWRCB), through the nine Regional Boards, administers the NPDES storm water municipal permitting program. Based on the San Diego Municipal Permit issued by the San Diego Regional Board, the



City is required to develop and implement construction and permanent storm water BMPs addressing pollution from new private and public development projects. In order to comply with the conditions of the Municipal Permit, the City of Encinitas adopted the City of Encinitas Watercourse Protection, Storm Water Management and Discharge Control Ordinance ("Storm Water Ordinance") codified in Chapter 20.08 of the Encinitas Municipal Code. This manual is an uncodified ordinance adopted by reference as Part II of the City of Encinitas Storm Water Best Practices Manual. The Municipal Permit requires the City to categorize and prioritize land uses in order to establish effective BMPs. The Storm Water Ordinance authorizes the City Engineer to establish Best Management Practices (BMPs), including permanent improvements, for all types of land uses.

The City Engineer may establish alternative Best Management Practices. The allowable use of alternative BMPs at a specific site shall be determined at the sole discretion of the City Engineer. The City Engineer may establish Best Management Practices for a specific site or activity if necessary to reduce Pollutants to the Maximum Extent Practicable or to comply with an order of the San Diego Regional Water Quality Control Board. The City Engineer may also establish additional Best Management Practices for a specific site if the City Engineer determines that the Best Management Practices implemented at the site have not reduced the pollutants to the Maximum Extent Practicable."

## **II. PROJECT REVIEW & PERMITTING PROCESS**

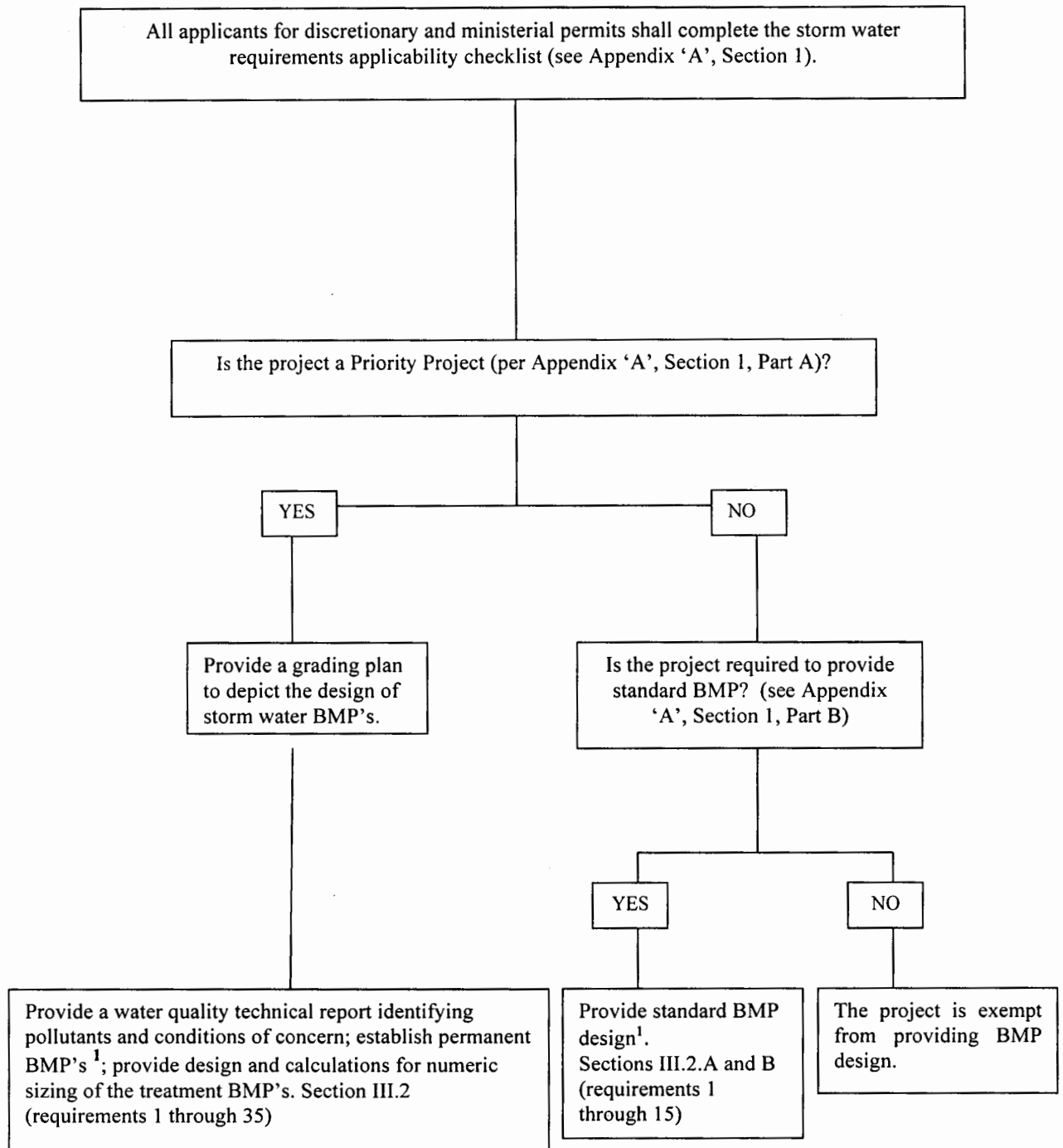
The City of Encinitas Storm Water Management Ordinance requires that all new development and redevelopment activities comply with the storm water pollution prevention requirements per the Municipal Code Chapter 20.08 and Grading and Erosion Control Chapter 23.24. These storm water pollution prevention requirements, which are described in detail in Section III, "Permanent Storm Water Best Management Practices Selection Procedure," and Section IV, "Construction Storm Water Best Management Practices Performance Standards," are site specific and vary based on the project's potential impact on the quality of receiving waters.

The steps below describe the elements of the plan review and permitting processes for storm water best management practice (BMP) requirements. The flow chart in Figure I, "Post-Construction Storm Water Quality Review Process", demonstrates how storm water requirements are incorporated into projects requiring subdivision approvals, development permits or other discretionary actions. The flow chart in Figure II, "Construction Storm Water Quality Review Process", describes how storm water requirements are incorporated into projects during the construction permit review process.

### **II.1 Step 1: Determine Applicable Storm Water BMP Requirements**

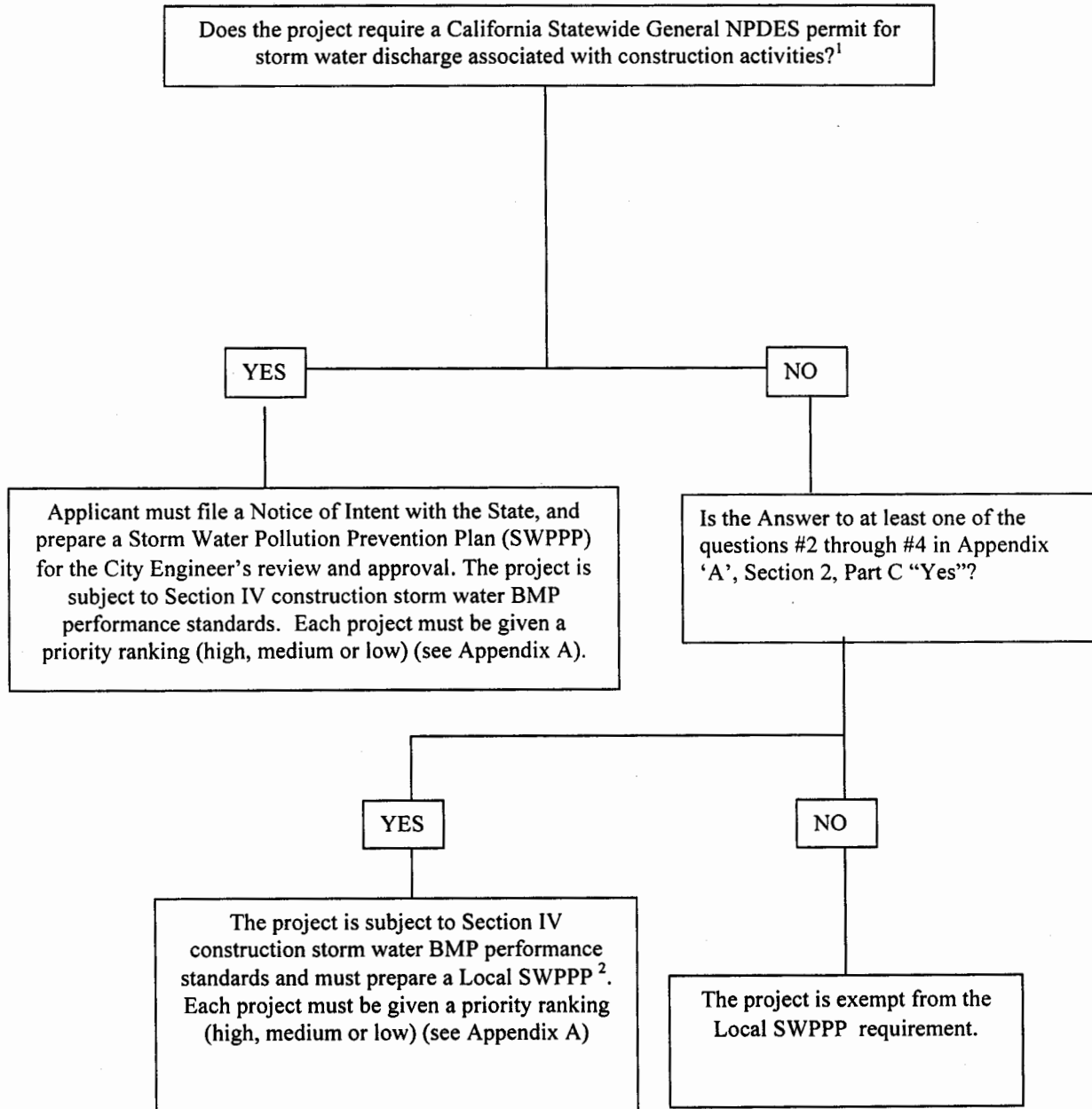
Prior to submittal of plan check documents, applicants must complete the "Storm Water Requirements Applicability Checklist" in Appendix A to determine if their project is subject to permanent and construction storm water best management practice (BMP) requirements. (Note: this form must be completed for all permit applications, even if previous approvals exist. Projects with previous approvals will be required to comply with the storm water requirements in this document). This checklist must be completed, signed by the responsible party for the project, and submitted with the permit application. For private projects, the project design must include all required permanent BMPs for the application package to be deemed complete.

**Figure I: Post-Construction Storm Water Quality Review Process**



<sup>1</sup> BMP selection and design are subject to the approval of the City Engineer

**Figure II: Construction Storm Water Quality Review Process**



*1. Projects propose land disturbance of more than 1 acre.*

*2. BMP selection and design are subject to the approval of the City Engineer*

II.1.A. Permanent Storm Water BMP Requirements

*II.1.A.i. Standard Requirements.* Projects subject to standard permanent storm water requirements must incorporate the site design and source control requirements identified in Sections III.2.A and B (requirements 1 through 15) into the project (see Table 1). Refer to Step 2: "Prepare & Submit Appropriate Plans," for guidance in the BMP design process.

*II.1.A.ii. Priority Project Requirements.* Projects subject to priority project permanent storm water requirements must incorporate all applicable requirements in Section III.2, "Establish Permanent Storm Water Best Management Practices," (requirements 1 through 33) into the project design. The major difference between the BMP requirements for priority projects and non-priority projects (standard BMPs) is that treatment control BMPs for priority projects must be sized based on the numeric sizing criteria (Section III.2 requirement 31). Non-priority projects are not required to meet numeric sizing criteria. Priority projects BMP requirements include the site design and source control BMPs, BMPs applicable to individual priority project categories, and treatment control BMPs. If a priority project meets more than one priority project category definition, as shown in Table 1, the project is subject to all BMPs applicable to individual priority project categories. For example, if a project proposes to build 50 attached residential units and a 6,000 square foot restaurant with a 70-space surface parking lot, the project would be subject to the individual priority project category BMP requirements for "Attached Residential Development", "Restaurants", and "Parking Lots" as shown in Table 1 below. Refer to Step 2, "Prepare & Submit Appropriate Plans", for guidance in the permanent BMP design process.

**Table 1. Standard Development Project & Priority Project Storm Water BMP Requirements Matrix.**

	Site Design BMPs <sup>(1)</sup>	Source Control BMPs <sup>(2)</sup>	BMPs Applicable to Individual Priority Project Categories <sup>(3)</sup>										Treatment Control BMPs <sup>(4)</sup>
			a. Private Roads	b. Residential Driveways & Guest Parking	c. Dock Areas	d. Maintenance Bays	e. Vehicle Wash Areas	f. Equipment Wash Areas	g. Outdoor Processing Areas	h. Surface Parking Areas	i. Fueling Areas	j. Hillside Landscaping	
<b>Standard Projects</b>	R	R	O	O	O	O	O	O	O	O	O	O	O
<b>Priority Projects:</b>													
Detached Residential Development	R	R	R	R								R	S
Attached Residential Development	R	R	R										S
Commercial Development >100,000 ft <sup>2</sup>	R	R			R	R	R		R				S
Automotive Repair Shop	R	R			R	R	R	R			R		S
Restaurants	R	R			R			R					S
Hillside Development >5,000 ft <sup>2</sup>	R	R	R									R	S
Parking Lots	R	R								R <sup>(5)</sup>			S
Streets, Highways & Freeways	R	R											S
<p>R = Required; select one or more applicable and appropriate BMPs from the applicable steps in Section III.2.A-D, or equivalent as identified in Appendix B.</p> <p>O = Optional/ may be required by City staff. Applicants are encouraged to incorporate treatment control BMPs and BMPs applicable to individual priority project categories into the project design as appropriate. City staff may require one or more of these BMPs where appropriate.</p> <p>S = Select one or more applicable and appropriate treatment control BMPs from Appendix B.</p> <p>(1) Refer to Section III.2.A.</p> <p>(2) Refer to Section III.2.B.</p> <p>(3) Priority project categories must apply specific storm water BMP requirements where applicable. Priority projects are subject to the requirements of all priority project categories that apply.</p> <p>(4) Refer to Section III.2.D.</p> <p>(5) Applies if the paved area totals &gt;5,000 square feet or has &gt;15 parking spaces and is potentially exposed to urban runoff.</p>													

#### II.1.B. Construction Storm Water BMP Requirements

Projects subject to the construction storm water best management practices requirements must comply with the standards included in Section IV, "Construction Storm Water BMP Performance Standards", as appropriate given site conditions, season, project design, and construction methods. Each project must be given a priority ranking (high, medium or low) for the construction phase (see Appendix A). The prioritization will determine the inspection frequency by City staff but will not change the construction BMP requirements. Refer to Step 2-B "Construction Storm Water BMPs".

## **II.2 Step 2 – Prepare & Submit Appropriate Plans.**

After determining the general categories of storm water requirements that apply to the project in Step 1 (e.g., construction BMPs, standard permanent BMPs, and/or priority project permanent BMPs), refer to the instructions in this step (see below) to determine what analysis and/or specific BMP requirements in Sections III and IV of the Best Management Practice Manual Part II must be provided and/or incorporated into the project<sup>1</sup>.

### **II.2.A. Permanent Storm Water BMPs**

Section III, "Permanent Best Management Practices Selection Procedure", contains a process for reviewing the project site location and preliminary project design before progressively identifying and incorporating site design BMPs, source control BMPs, requirements for individual priority project types, and treatment control BMPs into the project design. The procedure is organized so that the level of analysis required is commensurate with the potential pollutant type and quantity, the location of the project relative to sensitive receiving waters, and the type of storm water requirements that apply to a particular project.

*II.2.A.i. Standard Requirements.* Projects subject to only standard permanent BMP requirements need only to complete the "Identify Pollutants from the Project Area" procedure (Section III.1.A) and then incorporate the requirements in Section III.2.A, "Site Design BMPs", and Section III.2.B, "Source Control BMPs" (requirements 1-15). Applicants must incorporate all necessary permanent BMPs into the project plans prior to submittal, regardless of project type. Analysis of the project's anticipated pollutants of concern must also be included with the project submittal.

*II.2.A.ii. Priority Project Requirements.* Projects subject to the priority project permanent BMP requirements must complete all of the analyses required in Section III.1, "Identify Pollutants and Conditions of Concern", and incorporate all of the applicable BMP requirements in Section III.2, "Establish Storm Water BMP Requirements" (requirements 1-33). Applicants must incorporate all necessary permanent BMPs into the project plans prior to submittal, regardless of project type. In addition, projects subject to priority project requirements must prepare and submit a Water Quality Technical Report in accordance with Appendix C. Analysis of the project's anticipated pollutants of concern, anticipated pollutants of concern in downstream receiving waters, and conditions of concern must also be included in the Water Quality Technical Report as part of the project submittal.

### **II.2.B. Construction Storm Water BMPs**

Section IV, "Construction Storm Water BMP Performance Standards", describes the construction site management requirements with which contractors must comply. In

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<sup>1</sup> Projects are only required to provide applicable BMPs. For example, an attached residential development project subject to the priority project requirements would not have to meet the "private road" requirements in this manual if no private roads were proposed. In addition, the City Engineer may approve proposed alternatives to the BMP requirements in this manual if they are determined to be applicable and equally effective.

addition, Section IV lists the performance standards that construction sites must meet and provides a list of erosion control, sediment control, and materials management BMPs for reference. Each project must be given a priority of high, medium or low (see Appendix A).

(Note: Prioritization of construction projects will determine the inspection frequency by City staff and may be changed during the construction process based on the potential for pollutants to be discharged from the site.)

*II.2.B.i. Construction Projects Over 5 Acres (until March 10, 2003 – see below).* Those projects that have been determined to require construction BMPs in Step 1 must identify the construction BMPs to be implemented in accordance with the performance standards in Section IV, "Construction Storm Water BMP Performance Standards". If a project disturbs 5 acres or more (to be reduced to 1 acre on March 10, 2003), the applicant must provide a Storm Water Pollution Prevention Plan (SWPPP) identifying all construction BMP requirements required by Section IV, in accordance with Order No. 99-08-DWQ of the State General Permit for Storm Water Discharges Associated with Construction Activity (State General Construction Permit). Consistent with the State General Construction Permit, the City will require that BMPs be installed and maintained for all applicable projects in addition to good housekeeping and site and materials management. Appendix E provides general guidelines for preparation of a SWPPP as well as a more detailed checklist on how to meet the requirements. The City of Encinitas BMP Manual also provides general guidelines and design for construction projects. The City requires that a copy of the NOI and SWPPP be submitted with the plan check package.

*II.2.B.ii. Construction Projects Under 5 Acres (until March 10, 2003 – see below).* Those projects that have been determined to require construction BMPs in Step 1 must identify the construction BMPs to be implemented in accordance with the performance standards in Section IV, "Construction Storm Water BMP Performance Standards." For projects that disturb less than 5 acres (to be reduced to 1 acre on March 10, 2003) and are determined to have a potential to impact water quality during construction, the applicant must provide a Local SWPPP, which identifies all construction BMP requirements required by Section IV with the project submittal. The Local SWPPP shall depict the BMPs to be implemented during construction in order to reduce/eliminate discharge of pollutants into the storm drain conveyance system. The Local SWPPP shall include but not be limited to erosion and sediment control BMPs, good housekeeping measures, and site and materials management. The City of Encinitas BMP Manual also provides general guidelines and design for construction projects.

After preparing plans and supporting documents according to the requirements in this manual, submit plans to the City Engineering for review (See Step 3).

### **II.3 Step 3 – Determine Adequacy of Proposed Plans.**

The City Engineer will review submitted plans for compliance with the applicable storm water requirements contained in this manual. The City Engineer may approve proposed alternatives to the BMP requirements in this manual if they are determined to be applicable



and equally effective. Additional analysis or information may be required to enable staff to determine the adequacy of proposed BMPs and will be requested through plan check comments following the conclusion of a staff review cycle. After all storm water requirements have been approved by the City Engineer, proceed to Step 4 to assure implementation and maintenance of the approved BMPs through permit conditions, plan notes, and if necessary, maintenance agreements.

#### **II.4 Step 4 -- Assure Implementation & Maintenance of Requirements.**

Applicants must provide assurances that permanent storm water BMPs will be constructed and permanently maintained throughout the use of a developed site, and that construction BMPs will be implemented and maintained until construction is complete. The summaries below describe how construction and permanent BMP requirements must be assured during permit review processes. After the City Engineer has approved all construction and/or permanent BMPs, refer to Section V, "Implementation & Maintenance Of Requirements" to determine how construction and permanent BMP implementation and maintenance will be assured.

##### **II.4.A. Permanent Storm Water BMPs**

For all projects, permanent storm water maintenance requirements shall be incorporated into the project design and be shown on the plans. The maintenance plans for permanent BMPs shall be prepared by a registered civil engineer in the State of California and approved by the City Engineer prior to approval of the discretionary permit and/or final permits (grading, public improvements, building, or other ministerial permits). The permit approval shall include the "Permanent BMP Implementation And Maintenance Requirement" listed in Section V.3, "Implementation & Maintenance Of Requirements". In addition, permanent BMP maintenance requirements shall be noted on the plans. No modifications of the permanent storm water BMPs are allowed unless the City Engineer has approved the modifications and a permit showing the proposed changes has been obtained from the City Engineer.

##### **II.4.B. Construction BMPs**

For projects requiring construction permits, construction BMP requirements shall be incorporated into the project design and shown on the plans prior to the issuance of any permits. Construction BMP maintenance requirements shall also be noted on the plans. Any construction BMP requirements that cannot be shown graphically must be noted on the plans.

### III. PERMANENT BEST MANAGEMENT PRACTICES SELECTION PROCEDURE

All projects must complete the analysis required in the subsections of Section III.1.A. below. Priority projects should also complete sections III.1.B and III.1.C.

#### III.1. Identify Pollutants and Conditions of Concern

##### III.1.A. Identify Pollutants from the Project Area

Using Table 1, identify the project's anticipated pollutants. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern. Projects meeting the definition of more than one project category shall identify all general pollutant categories that apply.

**Table 2. Anticipated and Potential Pollutants Generated by Land Use Type.**

Project Categories	General Pollutant Categories								
	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P <sup>(1)</sup>	P <sup>(2)</sup>	P <sup>(1)</sup>	X
Commercial Development >100,000 ft <sup>2</sup>	P <sup>(1)</sup>	P <sup>(1)</sup>		P <sup>(2)</sup>	X	P <sup>(5)</sup>	X	P <sup>(3)</sup>	P <sup>(5)</sup>
Automotive Repair			X	X <sup>(4)(5)</sup>	X		X		
Restaurants					X	X	X	X	
Hillside Development >5,000 ft <sup>2</sup>	X	X			X	X	X		X
Parking Lots	P <sup>(1)</sup>	P <sup>(1)</sup>	X		X	P <sup>(1)</sup>	X		P <sup>(1)</sup>
Streets, Highways & Freeways	X	P <sup>(1)</sup>	X	X <sup>(4)</sup>	X	P <sup>(5)</sup>	X		
X = anticipated P = potential (1) A potential pollutant if landscaping exists on-site. (2) A potential pollutant if the project includes uncovered parking areas. (3) A potential pollutant if land use involves food or animal waste products. (4) Including petroleum hydrocarbons. (5) Including solvents.									

### III.1.B. Identify Pollutants of Concern in Receiving Waters

For priority projects, identify all the pollutants that the proposed project generates based on Table 2 and list the pollutant on the Water Quality Technical Report.

### III.1.C. Identify Conditions of Concern

For priority projects, the following analysis shall be conducted and reported in the project's Water Quality Technical Report:

1. Evaluate the project's conditions of concern in a drainage study report prepared by a registered civil engineer in the State of California, with experience in the science of stream and river generated surface features (i.e., fluvial geomorphology) and water resources management. The report shall consider the project area's location (from the larger watershed perspective), topography, soil and vegetation conditions, percent impervious area, natural and infrastructure drainage features, and any other relevant hydrologic and environmental factors to be protected specific to the project area's watershed.
2. As part of the drainage study, the applicant's civil engineer shall conduct a field reconnaissance to observe and report on downstream conditions, including undercutting erosion, slope stability, vegetative stress (due to flooding, erosion, water quality degradation, or loss of water supplies) and the area's susceptibility to erosion or habitat alteration as a result of any future upstream development.
3. The drainage study shall compute rainfall runoff characteristics from the project area including, at a minimum, runoff peak flow rates before and after development, velocities, time of concentration, and retention volume. These characteristics shall be developed for the two-year and 10-year frequency, Type B storm, of six-hour or 24-hour duration (Based on County of San Diego Hydrology Manual, Intensity Duration Design), during critical hydrologic conditions for soil and vegetative cover<sup>2</sup>. The drainage study shall also report the project's conditions of concern based on the hydrologic and downstream conditions discussed above. Where downstream conditions of concern have been identified, the drainage study shall establish that pre-project hydrologic conditions that minimize impacts on those downstream conditions of concern would be either improved or maintained by the proposed project, satisfactory to the City Engineer, by incorporating the permanent BMP requirements identified in Section III.2, below.

### **III.2. Establish Permanent Storm Water Best Management Practices**

After identifying the project's pollutants of concern, and conditions of concern (for priority projects) in Section III.1, projects subject to standard or priority project requirements shall implement all applicable site design and source control BMPs listed below. Projects subject to priority project requirements must also implement the BMPs applicable to individual priority project categories as well as structural treatment control BMPs. Applicants may employ alternative comparable and equally effective site design and source control BMPs (including requirements applicable to individual priority project categories) that are satisfactory to the City Engineer.

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<sup>2</sup>. Design storms can be found at <http://www.wrcc.dri.edu/pcpnfreq.html>.

Projects are encouraged to address these objectives through the creation of a hydrologically functional project design that attempts to mimic the natural hydrologic regime. Mimicking a site's natural hydrologic regime can be pursued by:

- Reducing imperviousness, conserving natural resources and areas, maintaining and using natural drainage courses in the storm water conveyance system, and minimizing clearing and grading.
- Providing runoff storage measures dispersed uniformly throughout a site's landscape through the use of a variety of detention, retention, and runoff practices.
- Implementing on-lot hydrologically functional landscape design and management practices.

These design principles offer an innovative approach to urban storm water management, one that does not rely on the conventional end-of-pipe or in-the-pipe structural methods but instead uniformly or strategically integrates storm water controls throughout the urban landscape. Useful resources for applying these principles, referenced in the appendix, include *Start at the Source* (1999), and *Low-Impact Development Design Strategies* (1999) (see Appendix E). Effective source controls offer another strategy to reduce a project's need for treatment. Therefore, projects shall incorporate, where applicable, storm water BMPs into the project design, in the following progression:

- Site Design BMPs
- Source Control BMPs
- BMPs for Individual Priority Project Categories (these are site design and source control BMPs)
- Treatment Control BMPs

The series of best management practices listed in Section III.2 have been organized sequentially to allow the applicant and design professional to incorporate site design BMPs, source control BMPs, and where necessary, requirements applicable to individual priority project categories and treatment control BMPs in this progression.

### III.2.A. Site Design BMPs

#### Maintain Pre-Development Rainfall Runoff Characteristics

Control post-development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion by applying the following concepts:

1. Minimize impervious footprint. (1) Increase building density (number of stories above or below ground); (2) construct walkways, trails, patios, overflow parking lots and alleys, and other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials; (3) construct streets, sidewalks, and parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised; and (4) minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.
2. Conserve natural areas. (1) Concentrate or cluster development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition; and (2) Use natural drainage systems to the maximum

extent practicable. Refer to the Environmentally Sensitive Lands regulations of the Land Development Code (LDC § 142.01, et. seq.) for more guidance in protecting environmentally sensitive lands.

3. Minimize Directly Connected Impervious Areas. (1) Where landscaping is proposed, drain rooftops into adjacent landscaping prior to discharging to the storm water conveyance system; and (2) where landscaping is proposed, drain impervious parking lots, sidewalks, walkways, trails, and patios into adjacent landscaping.
4. Maximize canopy interception and water conservation. (1) Preserve existing native trees and shrubs; and (2) plant additional native or drought tolerant trees and large shrubs in place of non-drought tolerant exotics.

#### Protect Slopes and Channels

5. Convey runoff safely from the tops of slopes.
6. Vegetate slopes with native or drought tolerant vegetation.
7. Stabilize permanent channel crossings.
8. Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.

### III.2.B. Source Control BMPs

#### Design Outdoor Material Storage Areas to Reduce Pollution Introduction

9. Hazardous materials with the potential to contaminate urban runoff shall be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with rain, runoff, or spillage into the storm water conveyance system; and (2) protected by secondary containment structures such as berms, dikes, or curbs. The storage area shall be paved and sufficiently impervious to contain leaks and spills, and it shall have a roof or awning to minimize direct precipitation within the secondary containment area.

#### Design Trash Storage Areas to Reduce Pollution Introduction

10. Trash storage areas shall: (1) be paved with an impervious surface, designed not to allow run-on from adjoining areas, and screened or walled to prevent off-site transport of trash; ~~or~~ and, (2) contain attached lids on all trash containers that exclude rain or (3) contain a roof or awning to minimize direct precipitation.

*Limited exclusion: detached residential homes.*

#### Use Efficient Irrigation Systems & Landscape Design

11. Employ rain shutoff devices to prevent irrigation during and after precipitation.
12. Design irrigation systems to each landscape area's specific water requirements.
13. Use flow reducers or shutoff valves triggered by a pressure drop to control water loss

in the event of broken sprinkler heads or lines.

*Limited exclusion: detached residential homes.*

#### Provide Storm Water Conveyance System Stenciling and Signage

14. Provide concrete stamping, or the equivalent, of all storm water conveyance system inlets and catch basins within the project area with prohibitive language (e.g., "No Dumping – I Live Downstream"), satisfactory to the City Engineer. Stamping may also be required in Spanish.
15. Post signs utilizing prohibitive language and/or graphical icons prohibiting illegal dumping at public access points along channels and creeks within the project area, trailheads, parks, and building entrances.

#### III.2.C. BMPs Applicable to Individual Priority Project Categories

Where identified in Table 1, the following requirements shall be incorporated into applicable priority projects. Projects shall adhere to each of the individual priority project category requirements that apply to the project (e.g., a restaurant with more than 15 parking spaces would be required to incorporate the requirements for "g. Equipment Wash Areas" and "h. Parking Areas" into the project design).

##### *a. Private Roads*

16. The design of private roadway drainage shall use at least one of the following (for further guidance, see Start at the Source [1999]): (1) rural swale system- street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, and culverts under driveways and street crossings; (2) urban curb/swale system- street sloping to the curb, periodic swale inlets drain to vegetated swale/biofilter; or (3) dual drainage system- precipitation up to 0.6" or rainfall intensity of up to 0.2 inch/hour captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder.

##### *b. Residential Driveways & Guest Parking*

17. Driveways shall have one of the following: (1) shared access; (2) wheel strips (paving only under tires); or (3) design allowing the drainage of runoff into landscaping prior to discharging to the storm water conveyance system.
18. Uncovered temporary or guest parking on private residential lots shall be: (1) paved with a permeable surface; or (2) designed to drain into landscaping prior to discharging to the storm water conveyance system.

##### *c. Dock Areas*

19. Loading/unloading dock areas shall include the following: (1) covered loading dock areas or design drainage to preclude urban run-on and runoff; and (2) Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

##### *d. Maintenance Bays*

20. Maintenance bays shall include at least one of the following: (1) indoor repair/maintenance bays ; or, (2) design to preclude urban run-on and runoff.
21. Maintenance bays shall include a repair/maintenance bay drainage system to capture all wash water, leaks, and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm water conveyance system is prohibited.

*e. & f. Vehicle & Equipment Wash Areas*

22. Areas for washing/steam cleaning of vehicles and areas for outdoor equipment/accessory washing and steam cleaning shall be self-contained to preclude run-on and run-off, covered with a roof or overhang, and equipped with a clarifier or other pretreatment facility, or properly connected to the sanitary sewer with written permission from the local sewer district.

*g. Outdoor Processing Areas*

23. Outdoor processing areas shall: (1) cover or enclose areas that would be the most significant source of pollutants; or, (2) slope the area toward a dead-end sump;
24. Grade or berm processing area to prevent run-on from surrounding areas.
25. Installation of storm drains in areas of equipment repair is prohibited.

*h. Surface Parking Areas*

26. Where landscaping is proposed in surface parking areas (both covered and uncovered), incorporate landscape areas into the drainage design.
27. Overflow parking (parking in excess of the project's minimum parking requirements) may be constructed with permeable paving.

*i. Non-Retail Fueling Areas*

Non-Retail fueling areas shall be designed with the following:

28. Fuel dispensing area that is: (1) paved with Portland cement concrete or equivalent smooth impervious surface (asphalt concrete is prohibited); (2) designed to extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less; (3) sloped to prevent ponding; (4) separated from the rest of the site by a grade break that prevents run-on of urban runoff; and (5) designed to drain to the project's treatment control BMP(s) prior to discharging to the storm water conveyance system.
29. Overhanging roof structure or canopy that is: (1) equal to or greater than the area within the fuel dispensing area's grade break; and (2) designed not to drain onto or across the fuel dispensing area.

*j. Hillside Landscaping*

30. Hillside areas disturbed by project development shall be landscaped with deep-rooted, drought tolerant plant species selected for erosion control, to the satisfaction of the

City Engineer.

### III.2.D. Treatment Control BMPs

31. Where identified in Table 1, and after site design and source control BMPs have been incorporated into the project, applicants of priority projects shall design a single or combination of treatment control BMPs designed to infiltrate, filter, and/or treat runoff from the project footprint to one of the "Numeric Sizing Treatment Standards" listed in Table 3, below. Applicants must use the Structural Treatment BMP Selection Procedure outlined in Section III.2.D.i below to select appropriate treatment control BMPs. Applicants are encouraged to design projects so that runoff is treated by site design BMPs such as rooftop runoff treated in landscaping, so that it may be applied towards the numeric sizing treatment standards, satisfactory to the City Engineer. In addition, applicants are encouraged to apply a "drainage basin approach" in meeting the treatment requirements. Treating entire hydrologic sub-drainages, which often extend off-site, is an equitable, environmentally sound regional solution that applies treatment requirements to hydrologically defined areas, rather than legally defined parcels. When integrated with other projects, this approach can provide a more efficient and cost effective method of treatment by locating fewer, more effective BMPs to treat entire sub-drainages once, like pieces of a puzzle. In all instances, structural treatment BMP(s) may be located on- or off-site, used singly or in combination, or shared by multiple new developments, pursuant to the following criteria:
- (a) All structural treatment control BMPs shall infiltrate, filter, and/or treat the required runoff volume or flow prior to discharging to any receiving water body supporting beneficial uses, including, but not limited to, wetlands originally constructed as mitigation for habitat loss and receiving waters that contain structural BMPs. A BMP may not be constructed in these areas unless the use is approved by the Regional Water Quality Control Board;
  - (b) Multiple post-construction structural treatment control BMPs for a single priority project shall collectively be designed to comply with the numeric sizing treatment standards;
  - (c) Shared BMPs shall be operational prior to the use of any dependent development or phase of development. The shared BMPs shall only be required to treat the dependent developments or phases of development that are in use;
  - (d) Interim storm water BMPs that provide equivalent or greater treatment than is required may be implemented by a dependent development until each shared BMP is operational. If interim BMPs are selected, the BMPs shall remain in use until permanent BMPs are operational.
  - e) If mechanical facilities are proposed for structural treatment of the storm water, the applicant shall provide facilities that are easy to maintain and are capable of removing all pollutants of concerns generated by the proposed priority project. At least 50% of the required structural treatment capacity shall be provided using natural treatment media such as a grassy swale or vegetated detention pond.

Table 3. Numeric Sizing Treatment Standards.

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Table 3. Numeric Sizing Treatment Standards.

<u>Volume</u>	
1.	Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) :  the volume of runoff produced from a 24-hour 85 <sup>th</sup> percentile storm event. The required detention volume shall be calculated based on the following formula. The detention volume shall be designed to discharge the detained storm water in 24 to 48 hours.  Detention Volume, $V = A a C P$ $A$ = Area, $C$ = Co-efficient of Runoff, $P$ = 0.6 inch 85 <sup>th</sup> percentile precipitation event i. Regression constant, $a = 1.299$ [WEF, Tbl 5.4, p.177]
<u>OR</u>	
<u>Flow</u>	
2.	Natural filtration system shall be designed to effectively treat storm water and prevent erosion. WEF Manual of Practice No. 23 / ASCE Manual and Report on Engineering Practice No. 87 should be used for sizing of natural filtration system. City Engineer may approve other flow based design approach at his/her own discretion.
i.	Natural filtration systems such as grassy swales, desilting ponds, wet ponds, and other bio-filtration systems should be used for storm water treatment. Natural storm water treatment systems are normally capable of removing a wider range of pollutants than mechanical systems. Natural systems are also less prone to failure and require less maintenance. If mechanical filtration is proposed, the filtration system must be capable of removing all pollutants generated by the proposed project and at least 50 percent of the required treatment capacity shall be provided using a natural filtration system. The City Engineer may waive the minimum 50 percent natural filtration requirement for redevelopment projects and road construction projects.

III.2.D.i. *Structural Treatment BMP Selection Procedure*

Priority projects shall select a single or combination of treatment BMPs from the categories in Table 4 that maximize pollutant removal for the particular pollutant(s) of concern. Any pollutants the project is expected to generate should be given top priority in selecting treatment BMPs.

To select a structural treatment BMP using the Structural Treatment Control BMP Selection Matrix (Table 4), each priority project shall implement a single or combination of structural treatment BMPs from Table 4 that are effective for pollutant removal of the identified pollutants of concern determined to be most significant for the project. Selected BMPs must be effective for the widest range of pollutants of concern anticipated to be generated by a priority project (as identified in Table 1).

Alternative storm water BMPs not identified in Table 4 may be approved at the discretion of the City Engineer, provided the alternative BMP is as effective in removal of pollutants of concern as other feasible BMPs listed in Table 4.

**Table 4. Structural Treatment Control BMP Selection Matrix.**

Pollutant of Concern	Treatment Control BMP Categories						
	Biofilters	Detention Basins	Infiltration Basins <sup>(1)</sup>	Wet Ponds or Wetlands	Drainage Inserts	Filtration	Hydrodynamic Separator Systems <sup>(2)</sup>
Sediment	M	H	H	H	L	H	M
Nutrients	L	M	M	M	L	M	L
Heavy Metals	M	M	M	H	L	H	L
Organic Compounds	U	U	U	U	L	M	L
Trash & Debris	L	H	U	U	M	H	M
Oxygen Demanding Substances	L	M	M	M	L	M	L
Bacteria	U	U	H	U	L	M	L
Oil & Grease	M	M	U	U	L	H	L
Pesticides	U	U	U	U	L	U	L

(1) Including trenches and porous pavement.  
 (2) Also known as hydrodynamic devices and baffle boxes.  
 L: Low removal efficiency  
 M: Medium removal efficiency  
 H: High removal efficiency  
 U: Unknown removal efficiency  
 Sources: *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* (1993), *National Stormwater Best Management Practices Database* (2001), and *Guide for BMP Selection in Urban Developed Areas* (2001).

### III.2.D.ii. Restrictions on the Use of Infiltration Treatment BMPs

32. Treatment control BMPs that are designed to primarily function as infiltration devices shall meet the following conditions (these conditions do not apply to treatment BMPs which allow incidental infiltration and are not designed to primarily function as infiltration devices, such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.): (1) urban runoff from commercial developments shall undergo pretreatment to remove both physical and chemical contaminants such as sedimentation or filtration prior to infiltration; (2) all dry weather flows shall be diverted from infiltration devices except for those non-storm water discharges authorized pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1): diverted stream flows, rising ground waters, uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to storm water conveyance systems, uncontaminated pumped ground water, foundation drains, springs, water from crawl space pumps, footing drains, air conditioning condensation, flow from riparian habitats and wetlands, water line flushing, landscape irrigation, discharges from potable water sources other than water main breaks, irrigation water, individual residential car washing, and de-chlorinated swimming pool discharges; (3) pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration structural treatment BMPs are to be used; (4) the vertical distance from the base of any infiltration structural treatment BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater does not support beneficial uses,

this vertical distance criterion may be reduced, provided groundwater quality is maintained; (5) the soil through which infiltration is to occur shall have physical and chemical characteristics that are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses; (6) the horizontal distance between the base of any infiltration structural BMP and any water supply wells shall be 100 feet or as determined appropriate by the City Engineer.

*III.2.D.iii. Restrictions on the Use of Mechanical Treatment BMPs*

33. Biofilters, desilting ponds, wet ponds, and other natural storm water treatment and filtration systems should be used for storm water pollution control. Natural storm water treatment systems are normally capable of removing a wider range of pollutants than to mechanical systems. Natural filtration facilities are also less prone to failure and require less maintenance than mechanical systems. If mechanical treatment is proposed the system must be capable of removing all pollutants generated by the proposed project and at least 50 percent of the required treatment capacity shall be provided using a natural treatment system. City Engineer may waive the minimum 50 percent natural treatment requirement at his/her own discretion if the project proponent demonstrate proven adequacy of the proposed mechanical treatment system. Engineer may require a testing, monitoring and reporting program for mechanical treatment systems secured with adequate material and performance bond, in order to assure proper performance and eliminate the potential for downstream impact.

Structural Treatment Limited Exclusions

- (a.) Proposed restaurants where the land area for development or redevelopment is less than 5,000 square feet are excluded from the numerical sizing criteria requirements listed in Table 3.
- (b.) Where significant redevelopment results in an increase of less than 50 percent of the impervious surfaces of a previously existing development, and the existing development was not subject to priority project requirements, the numeric sizing criteria apply only to the addition, not to the entire development.

#### **IV. CONSTRUCTION STORM WATER BMP PERFORMANCE STANDARDS**

Those projects that have been determined to require construction BMPs in Steps 1 and 2 of Section II, must identify the construction BMPs to be implemented in accordance with the performance standards in this section. The construction BMPs must be identified in a Storm Water Pollution Prevention Plan or Local SWPPP for projects disturbing more than or less than 5 acres, respectively (to be reduced to 1 acre on March 10, 2003). These plans must be prepared in accordance with the guidelines in Appendix D.

It is the responsibility of the property owner and/or contractor to select, install, and maintain appropriate BMPs. A list of construction BMPs is provided for reference in Appendix E. BMPs must be installed in accordance with an industry recommended standard or in accordance with the requirements of the State General Construction Permit. More information about BMPs is provided in the Model Construction Program for San Diego Copermittees, the City of Los Angeles "Reference Guide for Storm water Best Management Practices", State Storm Water BMP Manuals, and Caltrans Standard BMP handbook.

This section of the BMP Manual establishes the minimum BMPs for construction sites in the City of Encinitas. These minimum BMPs are established as directed in the City's Storm Water Municipal NPDES Permit, issued by the Regional Water Quality Control Board (Order No. 2001-01). In response to the Municipal NPDES Permit, the City has revised the Storm Water Ordinance (Storm Water Management Ordinance, EMC Chapter 64.08) and the Grading Ordinance (Grading, Erosion, and Sediment Control Ordinance, EMC Chapter 23.24). All sites must, at all times, comply with the requirements of both of these ordinances.

Best management practices are to be shown on building plans, grading plans, and improvement plans. They are generally presented in the form of erosion and sediment control plans. The following section presents the minimum BMPs that must be included in these plans. In addition, the City requires that either a certification of compliance with the California General Permit for construction Activities (NOI) or a Storm Water Management Plan Checklist be submitted for all projects. This requirement is presented in Section 3 below. Plans will be reviewed by Engineering staff during plan check and construction sites will be inspected in order to verify compliance with the minimum BMPs outlined herein, in the Grading Ordinance, and in the Storm Water Management Ordinance. Failure to comply with these regulations can result in Notice of Violations, Stop Work Orders, Citations, and fines.

BMP requirements differ between the wet season (Oct. 1 – Apr. 30) and the dry season (May 1 – Sept. 30), the type of the project and topography of the site, as described below.

##### **IV.1. Site Management Requirements**

Construction is a dynamic operation where changes are expected. Storm water BMPs for construction sites are usually temporary measures that require frequent maintenance to maintain effectiveness and may require relocation, revision, and re-installation, particularly as project grading progresses. Therefore, owner/contractor self-inspections are required. They shall be performed by the owner's/contractor's Qualified Contact Person specifically

trained in storm water pollution prevention site management and storm water BMPs, including the installation and maintenance of sediment and erosion control measures. Additional qualified persons may assist with the inspection activities under the direction of the Qualified Contact Person. A Qualified Contact Person is required for all sites during both wet and dry weather conditions.

There are four primary purposes of the self-inspections conducted by owners and contractors:

- To ensure that the owners/contractors take full responsibility for managing storm water pollution caused by their activities.
- To ensure that storm water BMPs are properly documented and implemented and are functioning effectively.
- To identify maintenance (e.g., sediment removal) and repair needs.
- To ensure that the project proponents implement their storm water management plans.

A self-inspection checklist, noting date, time, conditions, and inspection date, must be kept on-site and made available for inspection, if requested. Self-inspections must be performed by a Qualified Contact Person according to the following schedule:

- Daily forecasting at all times
- At 24-hour intervals during extended rainfall events
- Daily evaluations as earth moving/grading is being conducted during the wet season
- Weekly (every 7 days) in the dry season as earth moving/grading is progressing

Storm water pollution prevention site management requirements include:

- A. A qualified person who is trained and competent in the use of BMPs shall be on site daily, although not necessarily full time, to evaluate the conditions of the site with respect to storm water pollution prevention. This qualified contact person shall represent the contractor/ owner on storm water issues.
- B. The qualified person shall implement the conditions of the Storm Water Pollution Prevention Plan, contract documents and/or local ordinances with respect to erosion and sediment control and other waste management regulations. They shall be kept on site and available to the City inspector at all times.
- C. The qualified person is responsible for monitoring the weather and implementation of any emergency plans as needed. The weather shall be monitored on a 5-day forecast plan and a full BMP protection plan shall be activated when there is a 40% chance of rain.
- D. The qualified person is responsible for overseeing any site grading and operations and evaluating the effectiveness of the BMPs. This person shall modify the BMPs as necessary to keep the dynamics of the site in compliance. This person or other qualified persons are responsible for checking the BMPs routinely for maintenance and documenting the BMPs being implemented.

#### **IV.2. Performance Standards**

The City Engineer will evaluate the adequacy of the owner's/contractor's site management for storm water pollution prevention, inclusive of BMP implementation, on construction sites based on performance standards for storm water BMPs. Poor BMP practices shall be challenged. Performance standards shall include:

- A. No measurable increase of pollution (including sediment) in runoff from the site.
- B. No slope erosion.
- C. Water velocity moving offsite must not be greater than pre-construction levels and shall be discharged in a fashion that will not increase erosion potential downstream.

A site will be considered inactive if construction activities have ceased for a period of 7 or more consecutive calendar days. At any time of year, an inactive site must be fully protected from erosion and discharges of sediment. It is also the owner's/contractor's responsibility at both active and inactive sites to implement a plan to address all potential non-storm water discharges.

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

#### **IV.3. Minimum Best Management Practices**

Construction sites are placed in a category of high, medium and low depending on their threat to water quality to local receiving water bodies. These categories are established based primarily on soil erosion potential, site slope, site size and type, the sensitivity of receiving waters and proximity to environmentally sensitive areas. Each site's category is established by City staff based on a review of the plans, the site, or site location.

Required minimum BMPs have been established for each construction site category. If particular minimum BMPs are infeasible at any specific site, the City will require the implementation of other equivalent BMPs. The City may also require additional site specific BMPs as necessary to comply with the Municipal Permit, Storm Water Management Ordinance, and the Grading Ordinance.

##### **IV.3.A. Dry Season Requirements (May 1 through September 30):**

###### **Medium and Low Priority Sites:**

- A. Perimeter protection BMPs must be installed and maintained to comply with performance standards (above).
- B. Sediment control BMPs must be installed and maintained to comply with performance standards (above).
- C. BMPs to control sediment tracking must be installed and maintained at entrances/exits to comply with performance standards (above).
- D. Material needed to install standby BMPs necessary to completely protect the exposed portions of the site from erosion and to prevent sediment discharges, must be stored on site. Areas that have already been protected from erosion using physical stabilization or established vegetation stabilization BMPs as described below are not considered to be "exposed" for purposes of this

- requirement.
- E. The owner/contractor must have an approved "weather triggered" action plan and have the ability to deploy standby BMPs as needed to completely protect the exposed portions of the site within 24 hours of prediction of a storm event (a predicted storm event is defined as a forecasted, 40% chance of rain). On request, the owner/contractor must provide proof of this capability that is acceptable to the City Engineer.
  - F. Deployment of physical or vegetation erosion control BMPs must commence as soon as grading and/or excavation is completed for any portion of the site. The project proponent may not continue to rely on the ability to deploy standby BMP materials to prevent erosion of graded areas that have been completed. The area that can be cleared or graded and left exposed at one time is limited to the amount of acreage that the owner/contractor can adequately protect prior to a predicted rainstorm. Requirement "G" will require grading to be phased at larger sites. For example, it may be necessary to deploy erosion and sediment control BMPs in areas that are not completed but are not actively being worked before additional grading is done.

**High Priority Sites (in addition to A. through G.):**

- G. Site specific BMPs that:
  - 1. remove pollutants from the construction site discharge,
  - 2. maintain or reduce the peak flow from the site during a rain event, and
  - 3. comply with BMPs outlined in the project SWPPP, if applicable.

**IV.3.B Rainy Season Requirements (October 1 through April 30):**

**Medium and Low Priority Sites:**

- A. Perimeter protection BMPs must be installed and maintained to comply with performance standards (above).
- B. Sediment control BMPs must be installed and maintained to comply with performance standards (above).
- C. BMPs to control sediment tracking must be installed and maintained at site entrances/exits to comply with performance standards (above).
- D. Material needed to install standby BMPs necessary to completely protect the exposed portions of the site from erosion, and to prevent sediment discharges, must be stored on site. Areas that have already been protected from erosion using physical stabilization or established vegetation stabilization BMPs as described below are not considered to be "exposed" for purposes of this requirement.
- E. The owner/contractor must have an approved "weather triggered" action plan and have the ability to deploy standby BMPs as needed to completely protect the exposed portions of the site within 24 hours of prediction of a storm event (a predicted storm event is defined as a forecasted, 40% chance of rain). On request, the owner/contractor must provide proof of this capability that is acceptable to the City Engineer.
- F. Deployment of physical or vegetation erosion control BMPs must commence as soon as grading and/or excavation is completed for any portion of the site. The



owner/contractor may not continue to rely on the ability to deploy standby BMP materials to prevent erosion of graded areas that have been completed.

- G. The area that can be cleared or graded and left exposed at one time is limited to the amount of acreage that the owner/contractor can adequately protect prior to a predicted rainstorm.
- H. Erosion control BMPs must be upgraded if necessary to provide sufficient protection for storms likely to occur during the rainy season.
- I. Perimeter protection and sediment control BMPs must be upgraded if necessary to provide sufficient protection for storms likely to occur during the rainy season.
- J. Adequate physical or vegetation erosion control BMPs must be installed and established for all graded areas prior to the start of the rainy season. These BMPs must be maintained throughout the rainy season. If a selected BMP fails, it must be repaired and improved, or replaced with an acceptable alternate as soon as it is safe to do so. The failure of a BMP shows that the BMP, as installed, was not adequate for the circumstances in which it was used and shall be corrected or modified as necessary. Repairs or replacements must therefore put a more effective BMP in place.
- K. All vegetation erosion control must be established prior to the rainy season to be considered as a BMP.
- L. The amount of exposed soil allowed at one time shall not exceed that which can be adequately protected by deploying standby erosion control and sediment control BMPs prior to a predicted rainstorm.
- M. A disturbed area that is not completed but that is not being actively graded must be fully protected from erosion if left for 7 or more calendar days. The ability to deploy standby BMP materials is not sufficient for these areas. BMPs must actually be deployed.

**High Priority Sites (in addition to A. through M.):**

- N. Site specific BMPs that:
  - 1. remove pollutants from the site discharge for priority project
  - 2. maintain or reduce the peak flow from the construction site during a rain event for priority projects, and
  - 3. comply with BMPs outlined in the project SWPPP, if applicable.



## V. IMPLEMENTATION & MAINTENANCE OF REQUIREMENTS

After all project BMPs have been approved by the City Engineer, applicants must ensure implementation and maintenance of the BMPs according to the processes outlined in the applicable sections for projects requesting any development permits. In addition, any project that will require a "General NPDES Permit for Storm Water Discharges Associated with Industrial Activities" shall include the following note on the plans and condition in the permit/approval:

### Industrial NPDES Permit Requirement

"The Permittee or designee (or contractor for public projects) shall provide evidence of coverage under the General Industrial National Pollutant Discharge Elimination System Permit, in the form of a Notice of Intent (NOI) filed with the State Water Resources Control Board, prior to the issuance of any construction permits."

### V.1. Post Construction BMPs, SUSMP

V.1.i. *Permanent BMP Requirements.* Applicants proposing projects that include permanent BMPs must prepare a maintenance agreement, satisfactory to the City Engineer and in conformance with the program outlined in the "Permanent Storm Water BMP Maintenance Agreement Requirements". Storm Water BMP Maintenance Agreement shall be approved prior to the issuance of any permits. The permanent BMPs shall be graphically shown on the plans where possible, and made a condition of the project's permit/approval. The permanent BMPs operation and maintenance requirements (O & M plan discussed below) shall also be noted on the plans and made a condition of the project's permit/approval.

### V.2. Construction Permits

V.2.i. *Construction Permits for Projects Under 5 Acres (to be reduced to 1 acre on March 10, 2003).* Projects proposing to disturb less than 5 acres (1 acre on March 10, 2003) during construction shall include construction requirements, where possible, on the plans. Any remaining construction BMPs that cannot be shown graphically on the plans shall be either noted on, or stapled to, the plans (Local SWPPP) and made a condition of the permit. The project's construction priority ranking (see Appendix D) must also be noted on the construction plans. The applicant and contractor are responsible to maintain the construction BMPs throughout the construction and any construction stoppage period. Construction BMPs maintenance as well as implementation of the SWPPP and Local SWPPP shall continue until construction is completed and post construction BMPs are well established.

V.2.ii. *Construction Permits for Projects Over 1 Acre.* Projects proposing to disturb more than 1 acre during construction shall include all construction BMPs in a Storm Water Pollution Prevention Plan, prepared in accordance with Appendix D, "Storm Water Pollution Prevention Plan Guidelines." The construction BMPs shall also be shown on the plans, where possible. Any remaining construction BMPs that cannot

be shown graphically on the plans shall be either noted or stapled to the plans and made a condition of the permit. The project's construction priority ranking (see Appendix D) must also be noted on the construction plans. The applicant and contractor are responsible to maintain the construction BMPs throughout the construction and any construction stoppage period. Construction BMPs maintenance as well as implementation of the SWPPP and Local SWPPP shall continue until construction is completed and post construction BMPs are well established.

### **V.3. Permanent BMP Maintenance Agreement Requirements**

Applicants shall propose a maintenance agreement assuring all permanent BMPs will be maintained throughout the "use" of a project site, satisfactory to the City Engineer (see Appendix G for a list of potential mechanisms). For discretionary projects, the City-approved method of permanent BMP maintenance shall be incorporated into the project's permit and shall be consistent with permits issued by resource agencies before decision-maker approval of discretionary actions. For projects requiring only ministerial permits, the City-approved method of permanent BMP maintenance shall be incorporated into the permit conditions before the issuance of any construction permits. In all instances, the applicant shall provide proof of execution of a City-approved method of maintenance repair and replacement before the issuance of construction approvals.

For all properties, the verification mechanism will include the project proponent's signed statement, as part of the project application, accepting responsibility for all permanent BMP maintenance, repair and replacement.

The maintenance agreement shall include the following:

1. *Operation & Maintenance (O&M) Plan:* The applicant shall include an Operation & Maintenance (O&M) plan, prepared satisfactory to the City Engineer, with the approved maintenance agreement, which describes the designated responsible party to manage the storm water BMP(s), employee's training program and duties, operating schedule, maintenance frequency, routine service schedule, specific maintenance activities (including maintenance of storm water conveyance system stamps), copies of resource agency permits, and any other necessary activities. At a minimum, maintenance agreements shall require the applicant to provide inspection and servicing of all permanent treatment BMPs on an annual basis. The project proponent or City-approved maintenance entity shall complete and maintain O&M forms to document all maintenance requirements. Parties responsible for the O&M plan shall retain records for at least 5 years. These documents shall be made available to the City Engineer for inspection upon request at any time.
2. *Access Easement/Agreement:* As part of the maintenance mechanism selected below, the applicant shall execute an access easement that shall be binding on the land throughout the life of the project, until such time that the permanent treatment BMP requiring access is replaced, satisfactory to the City Engineer.

## VI. RESOURCES & REFERENCES

### APPENDIX A

#### STORM WATER REQUIREMENTS APPLICABILITY CHECKLIST

Complete Sections 1 and 2 of the following checklist to determine your project's permanent and construction storm water best management practices requirements. This form must be completed and submitted with your permit application.

##### Section 1. Permanent Storm Water BMP Requirements:

If any answers to Part A are answered "Yes," your project is subject to the "Priority Project Permanent Storm Water BMP Requirements," and "Standard Permanent Storm Water BMP Requirements" in Section III, "Permanent Storm Water BMP Selection Procedure" in the *Best Management Practice Manual Part II*. If all answers to Part A are "No," and any answers to Part B are "Yes," your project is only subject only to the Standard Permanent Storm Water BMP Requirements. If every question in Part A and B is answered "No," your project is exempt from permanent storm water requirements.

##### Part A: Determine Priority Project Permanent Storm Water BMP Requirements.

Does the project meet the definition of one or more of the priority project categories?*	Yes	No
1. Detached residential development of 10 or more units		
2. Attached residential development of 10 or more units		
3. Commercial development greater than 100,000 square feet		
4. Automotive repair shop		
5. Restaurant		
6. Steep hillside development greater than 5,000 square feet		
7. Project discharging to receiving waters within Environmentally Sensitive Areas		
8. Parking lots greater than or equal to 5,000 ft <sup>2</sup> or with at least 15 parking spaces, and potentially exposed to urban runoff		
9. Streets, roads, driveways, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater		
* Refer to the definitions section in the <i>Storm Water Standards</i> for expanded definitions of the priority project categories.		
<i>Limited Exclusion:</i> Trenching and resurfacing work associated with utility projects are not considered priority projects. Parking lots, buildings and other structures associated with utility projects are priority projects if one or more of the criteria in Part A is met. If all answers to Part A are "No", continue to Part B.		

##### Part B: Determine Standard Permanent Storm Water Requirements.

Does the project propose:	Yes	No
1. New impervious areas, such as rooftops, roads, parking lots, driveways, paths and sidewalks.		
2. Reconstruction of the existing impervious areas, such as rooftops, roads, parking lots, driveways, paths and sidewalks in excess of 1000 square feet.		
3. Permanent structures within 100 feet of any natural water body?		
4. Trash storage areas?		
5. Liquid or solid material loading and unloading areas?		
6. Vehicle or equipment fueling, washing, or maintenance areas?		

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Does the project propose:	Yes	No
7. Require a General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except construction)?*		
8. Commercial or industrial waste handling or storage, excluding typical office or household waste?		
9. Any grading or ground disturbance during construction?		
10. Any new storm drains, or alteration to existing storm drains that reduces natural storm water treatment?		

\*To find out if your project is required to obtain an individual General NPDES Permit for Storm Water Discharges Associated with Industrial Activities, visit the State Water Resources Control Board web site at, [www.swrcb.ca.gov/stormwtr/industrial.html](http://www.swrcb.ca.gov/stormwtr/industrial.html)

## Section 2. Construction Storm Water BMP Requirements:

If the answer to question 1 of Part C is answered "Yes," your project is subject to Section IV, "Construction Storm Water BMP Performance Standards," and must prepare a Storm Water Pollution Prevention Plan (SWPPP). If the answer to question 1 is "No," but the answer to any of the remaining questions is "Yes," your project is subject to Section IV, "Construction Storm Water BMP Performance Standards," and must prepare a Local SWPPP. If every question in Part C is answered "No," your project is exempt from any construction storm water BMP requirements. If any of the answers to the questions in Part C are "Yes," complete the construction site prioritization in Part D, below.

### Part C: Determine Construction Phase Storm Water Requirements.

Would the project meet any of these criteria during construction?	Yes	No
1. Is the project subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities?		
2. Does the project propose grading or soil disturbance?		
3. Would storm water or urban runoff have the potential to contact any portion of the construction area, including washing and staging areas?		
4. Would the project use any construction materials that could negatively affect water quality if discharged from the site (such as, paints, solvents, concrete, and stucco)?		

### Part D: Determine Construction Site Priority

In accordance with the Municipal Permit, each construction site with construction storm water BMP requirements must be designated with a priority: high, medium or low. This prioritization must be completed with this form, noted on the plans, and included in the SWPPP or Local SWPPP. Indicate the project's priority in one of the check boxes using the criteria below, and existing and surrounding conditions of the project, the type of activities necessary to complete the construction and any other extenuating circumstances that may pose a threat to water quality. The City reserves the right to adjust the priority of the projects both before and during construction. [Note: The construction priority does NOT change construction BMP requirements that apply to projects; all construction BMP requirements must be identified on a case-by-case basis. The construction priority does affect the frequency of inspections that will be conducted by City staff. See Section IV.1 for more details on construction BMP requirements.]

☐ A) High Priority

- 1) Projects where the site is 50 acres or more and grading will occur during the wet season
  - 2) Projects 5 acres or more and tributary to an impaired water body for sediment (e.g., San Elijo Lagoon )
  - 3) Projects 5 acres or more within or directly adjacent to or discharging directly to a coastal lagoon or other receiving water within an environmentally sensitive area
  - 4) Projects, active or inactive, adjacent or tributary to sensitive water bodies
- ☐ B) *Medium Priority*
- 1) Capital Improvement Projects where grading occurs, however a Storm Water Pollution Prevention Plan (SWPPP) is not required under the State General Construction Permit (i.e., water and sewer replacement projects, intersection and street re-alignments, widening, comfort stations, etc.)
  - 2) Permit projects in the public right-of-way where grading occurs, however SWPPPs are not required, such as installation of sidewalk, substantial retaining walls, curb and gutter for an entire street frontage, etc.
  - 3) Permit projects on private property where grading permits are required (i.e., cuts over 5 feet, fills over 3 feet), however, Notice Of Intent (NOIs) and SWPPPs are not required.
- ☐ C) *Low Priority*
- 1) Capital Projects where minimal to no grading occurs, such as signal light and loop installations, street light installations, etc.
  - 2) Permit projects in the public right-of-way where minimal to no grading occurs, such as pedestrian ramps, driveway additions, small retaining walls, etc.
  - 3) Permit projects on private property where grading permits are not required, such as small retaining walls, single-family homes, small tenant improvements, etc.

## APPENDIX B

### EXAMPLE PERMANENT STORM WATER BEST MANAGEMENT PRACTICES

The following are a list of BMPs may be used to minimize the introduction of pollutants of concern that may result in significant impacts to receiving waters. Other BMPs approved by the City Engineer as being equal or more effective in pollutant reduction than comparable BMPs identified below are acceptable. All BMPs must comply with local zoning and building codes and other applicable regulations.

#### Site Design BMPs

##### Minimizing Impervious Areas

- Reduce sidewalk widths
- Incorporate landscaped buffer areas between sidewalks and streets.
- Design residential streets for the minimum required pavement widths

- Minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.
- Use open space development that incorporates smaller lot sizes
- Increase building density while decreasing the building footprint
- Reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together
- Reduce overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas

#### Increase Rainfall Infiltration

- Use permeable materials for private sidewalks, driveways, parking lots, and interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.)
- Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the urban runoff conveyance system

#### Maximize Rainfall Interception

- Maximizing canopy interception and water conservation by preserving existing native trees and shrubs, and planting Additional native or drought tolerant trees and large shrubs.

#### Minimize Directly Connected Impervious Areas (DCIAs)

- Draining rooftops into adjacent landscaping prior to discharging to the storm water conveyance system
- Draining parking lots into landscape areas co-designed as biofiltration areas
- Draining roads, sidewalks, and impervious trails into adjacent landscaping

#### Slope and Channel Protection

##### Use of natural drainage systems to the maximum extent practicable

- Stabilized permanent channel crossings
- Planting native or drought tolerant vegetation on slopes
- Energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined Channels

#### Maximize Rainfall Interception

- Cisterns
- Foundation planting

#### Increase Rainfall Infiltration

- Dry wells

#### **Source Control BMPs**

- Storm water conveyance system stenciling and signage
- Outdoor material and trash storage area designed to reduce or control rainfall runoff
- Efficient irrigation system

#### **Treatment Control BMPs**

##### Biofilters

- Grass swale
- Grass strip
- Wetland vegetation swale
- Bioretention

##### Detention Basins

- Extended/dry detention basin with grass lining
- Extended/dry detention basin with impervious lining

##### Infiltration

- Infiltration basin
- Infiltration trench

##### Pervious Paving

- Porous asphalt
- Porous concrete
- Porous modular concrete block

##### Wet Ponds and Wetlands

- Wet pond (permanent pool)
- Constructed wetland

##### Drainage Inserts

- Catch basin/storm drain inserts
- Catch basin screens

##### Filtration Systems

- Media filtration
- Sand filtration

Hydrodynamic Separation Systems

- Swirl concentrator
- Cyclone separator
- Baffle boxes



## APPENDIX C

### WATER QUALITY TECHNICAL REPORT GUIDELINES

#### Purpose

To describe the permanent storm water Best Management Practices (BMPs) that will be incorporated in the project to mitigate the impacts of urban runoff due to the development.

#### Minimum Requirements

- ☐ Prepared by Registered Civil Engineer

#### Organization & Content

Table of Contents

Vicinity Map

Project Description

- ☐ Narrative of project activities

#### Site Map

- ☐ Entire property included on one map (use key map if multi-sheets)
- ☐ Drainage areas and direction of flow
- ☐ Private storm drain system(s)
- ☐ Nearby water bodies and municipal storm drain inlets
- ☐ Location of storm water conveyance systems (ditches, inlets, storm drains, etc.)
- ☐ Location of existing and proposed storm water controls
- ☐ Location of "impervious" areas- paved areas, buildings, covered areas
- ☐ Locations where materials would be directly exposed to storm water
- ☐ Location of building and activity areas (e.g. fueling islands, garages, waste container area, wash racks, hazardous material storage areas, etc.)
- ☐ Areas of potential soil erosion (including areas downstream of project)

#### Pollutants and Conditions of Concern

- ☐ Project located in which Watershed
- ☐ Impaired water bodies downstream of the project and impairment
- ☐ Impacts to hydrologic regime
- ☐ Pollutants based upon land use

#### Types of BMPs:

##### *Site Design BMPs*

- ☐ Reduce impervious surfaces
- ☐ Conserve natural Areas
- ☐ Minimize directly connected areas
- ☐ Protect slopes and channels

##### *Source Control BMPs*

- ☐ Inlet stenciling and signage
- ☐ Materials Storage
- ☐ Trash storage
- ☐ Efficient irrigation
- ☐ Other controls (as applicable)

*Structural Treatment BMPs*

- ☐ Basis for selection (include targeted pollutants, justification, and alternative analysis)
- ☐ Design criteria (include calculations)
- ☐ Pollutant removal information (other than vendor specifications)
- ☐ Literature References

Maintenance (i.e. identify the responsible parties who will implement the Best Management Practices)

- ☐ Maintenance schedule
- ☐ Maintenance Costs
- ☐ Qualifications of maintenance personnel

Drainage Study

## APPENDIX D

### STORM WATER POLLUTION PREVENTION PLAN/LOCAL SWPPP GUIDELINES

At a minimum, the Storm Water Pollution Prevention Plan (SWPPP) or Local SWPPP, whichever is required, must cover the areas listed below. These requirements do not relieve the owner of the state SWPPP requirement; owners should also follow all applicable state SWPPP guidelines. The SWPPP must be kept on site and made available upon request of a representative of the City of Encinitas. Projects that are also required to obtain a general construction National Pollutant Discharge Elimination System (NPDES) Permit are encouraged to visit the State Water Resource Control Board's website for permit application instructions, NOI and NOT forms and guidance in preparing a Storm Water Pollution Prevention Plan (go to: [www.swrcb.ca.gov/stormwtr/docs/constpermit](http://www.swrcb.ca.gov/stormwtr/docs/constpermit)).

#### Planning and Organization

- Identify the pollution prevention team members who will maintain and implement the SWPPP or Local SWPPP.
- If applicable, incorporate or reference the appropriate elements of other regulatory requirements.

#### Site Map

Features displayed on the map must include:

- An outline of the entire property
- Drainage areas on the property and direction of flow
- Areas of soil erosion
- Nearby water bodies and municipal storm drain inlets
- Location of storm water conveyance systems (ditches, inlets, storm drains, etc.)
- Location of existing storm water controls (oil/ water separators, sumps, etc.)
- Location of "impervious" areas- paved areas, buildings, covered areas
- Locations where materials are directly exposed to storm water
- Locations where toxic or hazardous materials have spilled in the past
- Location of building and activity areas (e.g. fueling islands, garages, waste container area, wash racks, hazardous material storage areas, etc.)

#### List of Significant Materials

List materials stored and handled at the site. Include the location and typical quantities.

#### Description of Potential Pollutant Sources

- Provide a narrative description of the site's activities and list the potential pollutant sources and the potential pollutants that could be discharged in storm water discharges from each activity.
- List non-storm water discharges including the source, quantity, frequency, and characteristics of the discharges and drainage area.

Assessment of Potential Sources

Describe which activities are likely to be sources of pollution in storm water and which pollutants are likely to be present in storm water discharges.

Best Management Practices

Describe the BMPs that will be implemented at the site for each potential pollutant and its source.

## APPENDIX E

### EXAMPLE CONSTRUCTION BEST MANAGEMENT PRACTICES

An effective storm water management plan is one in which all potential pollutants are recognized and a plan to control/prevent them is designed. The plan must include a combination of BMPs to target each potential pollutant. This should include the following control measures.

- a) Planning and scheduling
- b) Erosion Control
- c) Flow Control
- d) Sediment Control
- e) Waste Management

#### A) Planning and Scheduling

Grading and clearing should be phased to reduce the amount and the duration of sediment exposure. If possible schedule grading during the dry season (Mid-April through October) particularly avoiding December through February.

Consult with the National Weather Service at (619) 289-1212 to determine the forecast during the wet season. Plan to have erosion control methods in place 24 hours prior to a rain event.

#### B) Erosion Control

##### 1) Physical Stabilization

- a) **Geotextiles/Mats** – Used for temporary or permanent soil stabilization, and are especially effective on steep slopes and channels. Geotextiles and mats are used to reduce erosion from rainfall impact, hold soil in place, and absorb and hold moisture near the soil surface.
- b) **Hydraulic Mulch** – Hydraulic mulching is an erosion control measure that consists of applying a mixture of shredded wood fiber and tackifier with hydromulching equipment. Mulches protect the soil from rainfall impact or wind.
- c) **Soil Binders** – Soil binding consists of applying and maintaining polymeric or lignin sultanate soil stabilizers. Soil binders typically are applied to disturbed areas requiring temporary protection from erosion.
- d) **Hydroseeding** – Hydroseeding consists of applying a mixture of wood fiber, seed, fertilizer and stabilizing emulsion with hydromulch equipment. It is typically applied to disturbed areas requiring temporary protection against erosion.

##### 2) Vegetation Stabilization

- a) Preservation of existing vegetation
- b) Seeding and planting
- c) Establish permanent landscaping

#### C) Flow Controls

Earth Dikes— These are structures that intercept, divert, and convey surface runoff, generally sheet flow, to a sediment-trapping device or stabilized outlet.

Drainage Swales & Lined Ditches — Divert off-site runoff around the construction site, divert runoff from stabilized areas around disturbed areas, and direct runoff into sediment basins or traps.

Outlet Protection/Velocity Dissipation Devices — Physical devices composed of rock, grouted riprap, or concrete rubble placed at pipe outlets to prevent scour and reduce the velocity and/or energy of exiting storm water flows. Outlet protection is needed where discharge velocities and energies at the outlets of culverts, conduits or channels are sufficient to erode the immediate downstream reach

Slope Drains — A slope drain is a temporary pipe or lined channel to drain the top of a slope to a stable discharge point at the bottom. Slope drains are usually lined ditches used to intercept and direct surface flow away from slope areas to protect cut or fill slopes. The slope drain is applicable for any construction site where concentrated surface runoff can accumulate and must be conveyed down the slope in order to prevent erosion.

#### **D) Sediment Control**

Storm Drain Inlet Protection — Devices used at storm drain inlets to detain and/or filter sediment-laden runoff to allow sediment to settle and/or to filter sediment.

Silt Fence — A silt fence is a temporary barrier of permeable fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from exposed, erodible soil. Silt fences may be used for perimeter control, placed upstream of the point(s) of discharge of sheet flow from a site. They may also be used as interior controls below disturbed areas where runoff may occur in the form of sheet or rill erosion, and perpendicular to minor swales or ditch lines.

Sandbag Barrier — A sandbag barrier is a temporary sediment barrier consisting of stacked sandbags designed to intercept and slow the flow of sediment-laden sheet flow runoff. Sandbag barriers allow sediment to settle from runoff before water leaves the construction site.

Fiber Rolls — A fiber roll consists of materials rolled or bound into a roll and placed on a slope to intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide some removal of sediment from the runoff.

Gravel Bag Berm — A gravel bag consists of gravel bags that are installed end-to-end to form a barrier across a slope to intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide some removal of sediment from the runoff.

Check Dam — A check dam is a small device constructed of rock or sandbags placed across a natural or man-made channel or drainage ditch. Restricting the velocity of flow in the ditch reduces erosion of the drainage ditch.

Desilting Basin — Sediment-laden runoff is directed to a designed temporary basin that allows sediment to settle out before the runoff is discharged. A desilting basin is generally less extensive than a Sediment Basin.

**Sediment Trap** – A sediment trap is a small temporary ponding area with a controlled release structure formed by excavating or constructing an earthen embankment across a waterway or low drainage area. Its purpose is to collect and store sediment from sites cleared and/or graded during construction for a *short* period of time (6 months).

**Sediment Basin** – A sediment basin is designed with controlled release structures and is constructed by excavating or constructing an earthen embankment across a ditch or low drainage area. Its purpose is to collect and store sediment from sites cleared and graded during construction for *extended* periods of time before reestablishment of permanent vegetation and/or construction of permanent drainage structures. They should be located at the storm water outlet for the site, but not in any natural or undisturbed stream.

#### **Off-Site Sediment Tracking**

- a) Stabilized construction entrances/exits – Stabilized entrance to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- b) Construction road stabilization – A temporary access road connecting existing public roads to a remote construction area. It is designed for the control of dust and erosion created by vehicular tracking.

#### **E) Waste Management**

Below are some methods to manage construction wastes to prevent runoff into the drainage system.

- a) Spill Prevention and Control
- b) Solid Waste Management
- c) Hazardous Waste Management
- d) Concrete Waste Management
- e) Liquid Waste Management

#### **Spill Prevention and Control**

Each contractor must have a spill prevention and control plan in place prior to grading operations. The plan will include:

- Contact phone numbers, emergency and after-hours of responsible parties.
- Coordination with the City of Encinitas Public Works, Fire and Storm Water Department. Ability to control runoff through berms, gravel bags, sandbags or storm drain covers.
- Maintain absorbent material on site.

#### **Basic Guidelines:**

- Spills shall not be buried or washed with water.
- Water used for cleaning and decontamination shall not be allowed to enter storm drains or watercourses.
- Water overflow or minor water spillage shall be contained and shall not be allowed to discharge into drainage facilities.
- Proper storage, clean up and spill reporting instructions for hazardous materials stored or used on the project site shall be posted at all times.

### Minor Spills

- Use absorbent materials and do not hose down or bury the material.
- Remove the absorbent material and dispose of properly.

### Semi-Significant Spills

- Contain the spill.
- Notify the Inspector.
- Clean up with dry methods.
- If the spill occurs in dirt areas, contain the spill with an earthen dike.
- Dig up and properly dispose of the material.
- If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

### Significant Spills

- Notify the Inspector immediately and follow up with a report
- Notify 911
- Notifications to external agencies will require a phone call and a written report.
- Obtain the services of a Haz-Mat team immediately. Construction personnel shall not attempt to clean up the job site.

### **Solid Waste Management**

This is the practice to minimize or eliminate the discharge of pollutants resulting from the creation of stockpiling, and removal of construction waste.

- Place trash cans on construction sites
- Prevent storm water run-on and run-off through the use of berms, dikes and temporary diversion structures.
- Solid waste storage areas shall be located at least 15 m from drainage facilities and watercourses and shall not be located in areas prone to flooding or ponding.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Have hazardous waste hauled to an appropriate disposal and/or recycling facility.

### **Hazardous Waste Management**

This is the practice to minimize or eliminate the discharge of pollutants from construction site hazardous waste to the storm drain system or to watercourses.

Hazardous waste on construction projects is generated from the use of:

Petroleum products  
Concrete curing compounds  
Palliatives

Asphalt products  
Pesticides  
Acids



Septic Waste  
Stains  
Wood Preservatives

Paints  
Solvents  
Roofing Tar

Or any material deemed a hazardous waste in California, Title 22.

Major components of the hazardous waste management are education, proper storage and disposal procedures, maintenance and inspection.

### **Concrete Waste Management**

This is the practice to minimize or eliminate the discharge of pollutants of concrete waste materials to the storm drain system. The discharge of pollutants to storm water from concrete waste can be prevented. Some ways to reduce concrete wastes in storm water are:

- Store dry and wet materials under cover
- Avoid mixing excess amounts of fresh concrete on-site
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams
- Perform the washout of concrete trucks off-site or in designated areas
- Do not allow excess concrete to be dumped on-site, except in designated areas
- On-site washout areas should be located at least 50 ft. from storm drains, creeks, ditches.
- Do not wash out slurries generated from saw-cutting, coring, grinding, grooving, and hydro-concrete demolition into the storm drain or drainage course.
- Educate employees, subcontractors and suppliers on concrete waste management
- Once concrete wastes are washed into the designated areas and allowed to harden, the concrete shall be broken up, removed, and disposed of.
- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be back-filled and repaired.
- Inspect weekly.

### **Liquid Waste Management**

This is the practice to prevent discharge of pollutants to the storm drain system as a result of the creation, collection, and disposal of non-hazardous liquid waste.

Some ways to reduce liquid waste in storm water are:

- Employee, subcontractor and suppliers training
- Contain liquid waste in a controlled area, such as a holding pit, sediment basin or portable tank.
- Capture all liquid waste running off a surface, which has the potential to affect the storm drain system.
- Do not allow liquid wastes to flow or discharge uncontrolled.
- Inspect employees and subcontractors to ensure appropriate practices.
- Inspect containment areas.

## APPENDIX F

### SUGGESTED RESOURCES

SUGGESTED RESOURCES	HOW TO GET A COPY
<p><i>Better Site Design: A Handbook for Changing Development Rules in Your Community</i> (1998)</p> <p>Presents guidance for different model development alternatives.</p>	<p>Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323 <a href="http://www.cwp.org">www.cwp.org</a></p>
<p><i>California Urban runoff Best Management Practices Handbooks</i> (1993) for Construction Activity, Municipal, and Industrial/Commercial</p> <p>Presents a description of a large variety of Structural BMPs, Treatment Control, BMPs and Source Control BMPs</p>	<p>Los Angeles County Department of Public Works Cashiers Office 900 S. Fremont Avenue Alhambra, CA 91803 626-458-6959</p>
<p><i>Caltrans Urban runoff Quality Handbook: Planning and Design Staff Guide (Best Management Practices Handbooks)</i> (1998)</p> <p>Presents guidance for design of urban runoff BMPs</p>	<p>California Department of Transportation P.O. Box 942874 Sacramento, CA 94274-0001 916-653-2975</p>
<p><i>Design Manual for Use of Bioretention in Stormwater Management</i> (1993)</p> <p>Presents guidance for designing bioretention facilities.</p>	<p>Prince George's County Watershed Protection Branch 9400 Peppercorn Place, Suite 600 Landover, MD 20785</p>
<p><i>Design of Stormwater Filtering Systems</i> (1996) by Richard A. Claytor and Thomas R. Schuler</p> <p>Presents detailed engineering guidance on ten different urban runoff-filtering systems.</p>	<p>Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323</p>
<p><i>Development Planning for Stormwater Management, A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP),</i> (May 2000)</p>	<p>Los Angeles County Department of Public Works <a href="http://dpw.co.la.ca.us/epd/">http://dpw.co.la.ca.us/epd/</a> or <a href="http://www.888cleanLA.com">http://www.888cleanLA.com</a></p>
<p><i>Florida Development Manual: A Guide to Sound Land and Water Management</i> (1988)</p> <p>Presents detailed guidance for designing BMPs</p>	<p>Florida Department of the Environment 2600 Blairstone Road, Mail Station 3570 Tallahassee, FL 32399 850-921-9472</p>
<p><i>Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters</i> (1993) Report No. EPA-840-B-92-002.</p> <p>Provides an overview of, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.</p>	<p>National Technical Information Service U.S. Department of Commerce Springfield, VA 22161 800-553-6847</p>
<p><i>Guide for BMP Selection in Urban Developed Areas</i> (2001)</p>	<p>ASCE Envir. and Water Res. Inst. 1801 Alexander Bell Dr. Reston, VA 20191-4400 (800) 548-2723</p>

City of Encinitas  
Storm Water Best Management Practices Manual, Part II

SUGGESTED RESOURCES	HOW TO GET A COPY
<i>Low-Impact Development Design Strategies - An Integrated Design Approach</i> (June 1999)	Prince George's County, Maryland Department of Environmental Resource Programs and Planning Division 9400 Peppercorn Place Largo, Maryland 20774  <a href="http://www.co.pg.md.us/Government/DER/PPD/pgcounty/lidmain.htm">http://www.co.pg.md.us/Government/DER/PPD/pgcounty/lidmain.htm</a>
<i>Maryland Stormwater Design Manual</i> (1999)  Presents guidance for designing urban runoff BMPs	Maryland Department of the Environment 2500 Broening Highway Baltimore, MD 21224 410-631-3000
<i>National Stormwater Best Management Practices (BMP) Database, Version 1.0.</i>  Provides data on performance and evaluation of urban runoff BMPs	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 703-296-6000
<i>National Stormwater Best Management Practices Database</i> (2001)	Urban Water Resources Research Council of ASCE Wright Water Engineers, Inc. (303) 480-1700
<i>Operation, Maintenance and Management of Stormwater Management</i> (1997)  Provides a thorough look at storm water practices including, planning and design considerations, programmatic and regulatory aspects, maintenance considerations, and costs.	Watershed Management Institute, Inc. 410 White Oak Drive Crawfordville, FL 32327 850-926-5310
<i>Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration</i>	Report No. EPA/600/R-94/051, USEPA (1994).
<i>Preliminary Data Summary of Urban runoff Best Management Practices</i> (August 1999)  EPA-821-R-99-012	<a href="http://www.epa.gov/ost/stormwater/">http://www.epa.gov/ost/stormwater/</a>
<i>Reference Guide for Stormwater Best Management Practices</i> (July 2000)	City of Los Angeles Urban runoff Management Division 650 South Spring Street, 7 <sup>th</sup> Floor Los Angeles, California 90014 <a href="http://www.lacity.org/san/swmd/">http://www.lacity.org/san/swmd/</a>
<i>Second Nature: Adapting LA's Landscape for Sustainable Living</i> (1999) by Tree People  Detailed discussion of BMP designs presented to conserve water, improve water quality, and achieve flood protection.	Tree People 12601 Mullholland Drive Beverly Hills, CA 90210 (818) 623-4848 Fax (818) 753-4625
<i>Start at the Source</i> (1999)  Detailed discussion of permeable pavements and alternative driveway designs presented.	Bay Area Stormwater Management Agencies Association 2101 Webster Street Suite 500 Oakland, CA 510-286-1255

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Storm Water Best Management Practices Manual, Part II

SUGGESTED RESOURCES	HOW TO GET A COPY
<p><i>Stormwater Management in Washington State</i> (1999) Vols. 1-5</p> <p>Presents detailed guidance on BMP design for new development and construction.</p>	<p>Department of Printing State of Washington Department of Ecology P.O. Box 798 Olympia, WA 98507-0798 360-407-7529</p>
<p><i>Stormwater, Grading and Drainage Control Code, Seattle Municipal Code Section 22.800-22.808, and Director's Rules, Volumes 1-4. (Ordinance 119965, effective July 5, 2000)</i></p>	<p>City of Seattle Department of Design, Construction &amp; Land Use 700 5<sup>th</sup> Avenue, Suite 1900 Seattle, WA 98104-5070 (206) 684-8880 <a href="http://www.ci.seattle.wa.us/dclu/Codes/sqdcrcode.htm">http://www.ci.seattle.wa.us/dclu/Codes/sqdcrcode.htm</a></p>
<p><i>Texas Nonpoint Source Book – Online Module</i> (1998) <a href="http://www.txnpsbook.org">www.txnpsbook.org</a></p> <p>Presents BMP design and guidance information on-line</p>	<p>Texas Statewide Urban Runoff Quality Task Force North Central Texas Council of Governments 616 Six Flags Drive Arlington, TX 76005 817-695-9150</p>
<p><i>The Practice of Watershed Protection</i> by Thomas R. Shchuler and Heather K. Holland</p>	<p>Center for Watershed Protection 8391 Main Street Ellicott City, MD 21043 410-461-8323 <a href="http://www.cwp.org">www.cwp.org</a></p>
<p><i>Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices</i> (1999)</p> <p>Presents guidance for designing BMPs</p>	<p>Urban Drainage and Flood Control District 2480 West 26th Avenue, Suite 156-B Denver, CO 80211 303-455-6277</p>

## APPENDIX G

### POTENTIAL PERMANENT TREATMENT BMP MAINTENANCE MECHANISMS

1. Project proponent agreement to maintain storm water BMPs: The City may enter into a contract with the project proponent obliging the project proponent to maintain, repair and replace the storm water BMP as necessary into perpetuity. Security may be required.
2. Assessment districts: The City may approve an Assessment District or other funding mechanism created by the project proponent to provide funds for storm water BMP maintenance, repair and replacement on an ongoing basis. Any agreement with such a District shall be subject to the Public Entity Maintenance Provisions above.
3. Lease provisions: In those cases where the City holds title to the land in question, and the land is being leased to another party for private or public use, the City may assure storm water BMP maintenance, repair and replacement through conditions in the lease.
4. Public entity maintenance: The City may approve a public or acceptable quasi-public entity (e.g., the County Flood Control District, or annex to an existing assessment district, an existing utility district, a state or federal resource agency, or a conservation conservancy) to assume responsibility for maintenance, repair and replacement of the permanent treatment BMP. Unless acceptable to the City, public entity maintenance agreements shall ensure estimated costs are front-funded or reliably guaranteed, (e.g., through a trust fund, assessment district fees, bond, letter of credit or similar means). In addition, the City may seek protection from liability by appropriate releases and indemnities. The City shall have the authority to approve storm water BMPs proposed for transfer to any other public entity within its jurisdiction before installation. The City shall be involved in the negotiation of maintenance requirements with any other public entities accepting maintenance responsibilities within their respective jurisdictions; and in negotiations with the resource agencies responsible for issuing permits for the construction and/or maintenance of the facilities. The City must be identified as a third party beneficiary empowered to enforce any such maintenance agreement within their respective jurisdictions.

The City may accept alternative maintenance mechanisms if such mechanisms are as protective as those listed above.

## APPENDIX H

### DEFINITIONS

"Attached Residential Development" means any development that provides 10 or more residential units that share an interior/exterior wall. This category includes, but is not limited to: dormitories, condominiums and apartments.

"Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

"Best Management Practices" see: Municipal Code Section 20.08.030 Definitions

"Commercial Development" means any development on private land that is not exclusively heavy industrial or residential uses. The category includes, but is not limited to: mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses, hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, and other light industrial complexes.

"Commercial Development greater than 100,000 square feet" means any commercial development that with a project footprint of at least 100,000 square feet.

"Detached Residential Development" means any development that provides 10 or more freestanding residential units. This category includes, but is not limited to: detached homes, such as single-family homes and detached condominiums.

"Directly Connected Impervious Area (DCIA)" means the area covered by a building, impermeable pavement, and/ or other impervious surfaces, which drains directly into the storm water conveyance system without first flowing across permeable vegetated land area (e.g., lawns).

"Environmentally Sensitive Areas" see: Municipal Code Section 20.08.030 Definitions.

"Hillside" means lands that have a natural gradient of 25 percent (4 feet of horizontal distance for every 1 foot of vertical distance) or greater and a minimum elevation differential of 50 feet, or a natural gradient of 200 percent (1 foot of horizontal distance for every 2 feet of vertical distance) or greater and a minimum elevation differential of 10 feet.

"Hillside development greater than 5,000 square feet" means any development that would create more than 5,000 square feet of impervious surfaces in hillsides with known erosive soil conditions.

"Infiltration" means the downward entry of water into the surface of the soil.

"Maximum Extent Practicable (MEP)" see: Municipal Code Section 20.08.030 Definitions.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces; and land subdivision.

"Parking Lot" means land area or facility for the temporary parking or storage of motor vehicles used personally, or for business or commerce.

"Projects Discharging to Receiving Waters within Environmentally Sensitive Areas" means all development and significant redevelopment that would create 2,500 square feet of impervious surfaces or increase the area of imperviousness of a project site to 10% or more of its naturally occurring condition, and either discharge urban runoff to a receiving water within an environmentally sensitive area (where any portion of the project footprint is located within 200 feet of the environmentally sensitive area), or discharge to a receiving water within an environmentally sensitive area without mixing with flows from adjacent lands (where the project footprint is located more than 200 feet from the environmentally sensitive area).

"Project Footprint" means the limits of all grading and ground disturbance, including landscaping, associated with a project.

"Receiving Waters" see Municipal Code Section 20.08.030 Definitions. The definition of receiving waters shall not be construed to prohibit the use or maintenance of ~~constructed wetlands (in contrast to naturally occurring wetlands)~~ wetlands which were originally constructed as a Best Management Practice.

"Residential Development" see: Municipal Code Section 20.08.030 Definitions means any development on private land that provides living accommodations for one or more persons. This category includes, but is not limited to: single-family homes, multi-family homes, condominiums, and apartments.

"Restaurant" means a stand-alone facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).

"Significant Redevelopment" see: Municipal Code Section 20.08.030 Definitions means development that would create or add at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to: the expansion of a building footprint; addition to or replacement of a structure; replacement of an impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Significant redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and replacement of damaged pavement.

"Site Design BMP" means any project design feature that reduces the creation or severity of potential pollutant sources or reduces the alteration of the project site's natural flow regime. Redevelopment projects that are undertaken to remove pollutant sources (such as existing surface parking lots and other impervious surfaces) or to reduce the need for new roads and other impervious surfaces (as compared to conventional or low-density new development) by incorporating higher densities and/or mixed land uses into the project

design, are also considered site design BMPs.

"Source Control BMP (both structural and non-structural)" means land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff. Examples include roof structures over trash or material storage areas, and berms around fuel dispensing areas.

"Storm Water Best Management Practice (BMP)" see: Municipal Code Section 20.08.030 Definitions.

"Storm Water Conveyance System" see: Municipal Code Section 20.08.030. Definitions.

"Streets, Roads, Highways, and Freeways" means any project that is not part of a routine maintenance activity, and would create a new paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles and other vehicles. For the purposes of SUSMP requirements, Streets, Roads, Highways and Freeways do not include trenching and resurfacing associated with utility work; applying asphalt overlay to existing pavement; new sidewalk, pedestrian ramps, or bikelane construction on existing roads; and replacement of damaged pavement.

"Treatment Control (Structural) BMP" means any engineered system designed and constructed to remove pollutants from urban runoff. Pollutant removal is achieved by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.