

CDM

Stormwater Quality Urban Impact Mitigation Plans (SQUIMP)

Introduction and Overview

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Introduction and Overview

- ◆ SQUIMP Background
- ◆ Projects Requiring a SQUIMP
- ◆ Current SQUIMP Requirements
- ◆ SQUIMP Preparation and Submittal
- ◆ SQUIMP Review and Approval Process

Introduction

- ◆ SQUIMP is the acronym for Ventura County's Stormwater Quality Urban Impact Mitigation Plan
- ◆ Several major regulatory actions led to the SQUIMP's requirement and formation

Background

- ◆ Clean Water Act Section 402(p)
 - ◆ NPDES Permit for MS4s in metropolitan areas with greater than 100,000 residents
- ◆ Ventura Countywide Stormwater Quality Management Program (VCSQMP)
 - ◆ Co-Permittees include VCWPD, the County of Ventura, and the Cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventura, Santa Paula, Simi Valley, and Thousand Oaks

Background

- ◆ LA Regional Board issued NPDES Permit to the VCSQMP
 - ◆ Requires development of a stormwater quality management plan
- ◆ Current NPDES Permit issued in 2000
- ◆ VCSQMP developed the SQUIMP for new development and re-development projects

Projects Requiring a SQUIMP

- ◆ Single-Family Hillside Residences
- ◆ 100,000 Square Foot Commercial Developments
- ◆ Automotive Repair Shops
- ◆ Retail Gasoline Outlets

Projects Requiring a SQUIMP

- ◆ Restaurants
- ◆ Home Subdivisions with 10 or more housing units
- ◆ Location within or directly adjacent to or discharging directly to an environmentally sensitive area
- ◆ Parking lots with 5,000 square feet or more impervious parking or access surfaces or with 25 or more parking spaces and potentially exposed to storm water runoff

Projects Requiring a SQUIMP

- ◆ Redevelopment projects require a SQUIMP if they fall within one of the previous categories and any of the following result in the creation or addition of 5000 sq. ft. impervious surface:
 - ◆ Expansion of footprint or replacement of structure
 - ◆ Structural development with increase in floor area and/or exterior construction
 - ◆ Non-maintenance replacement of impervious surface
 - ◆ Addition of structural or impervious surfaces
- ◆ If adding 50% or more impervious surface, then must consider entire site including existing portion

Current SQUIMP Requirements

- ◆ Control the post-development peak storm water runoff discharge rates to natural streams
 - ◆ To maintain or reduce pre-development erosion of channels and to protect stream habitat
- ◆ Why?
 - ◆ To maintain or reduce pre-development downstream erosion
 - ◆ To protect stream habitat
 - ◆ Regional Board Hydromodification Policy

Current SQUIMP Requirements

- ◆ Conserve natural areas
 - ◆ Preserve riparian and wetland areas, maximize natural vegetation
 - ◆ Minimize clearing by clustering development,
 - ◆ Promote natural areas by using parking lot islands and other landscaped areas
- ◆ Why?
 - ◆ To minimize development impact and make use of natural perviousness
 - ◆ Natural areas have protective and regenerative capacity

Current SQUIMP Requirements

- ◆ **Minimize storm water pollutants of concern using BMPs**
 - ◆ **Pollutants related to the protection of existing beneficial uses**
 - ◆ **Pollutants that have the potential to bioaccumulate in organisms**
 - ◆ **Pollutants listed as impairing local waterbodies**
 - Total and fecal coliform, mercury, PAHs, DDT and byproducts, diazinon, sediment/TSS, chlorpyrifos, copper, lead, thallium, bis(2-ethylhexyl)phthalate, and phosphorous
 - ◆ **Why?**
 - Minimize pollutants at their source

Current SQUIMP Requirements

- ◆ **Protect Slopes and Channels**
 - ◆ **Convey runoff safely from tops of slopes**
 - ◆ **Vegetate exposed slopes, favoring native species**
 - ◆ **Stabilize channel crossings**
 - ◆ **Use energy dissipaters such as riprap at storm drain outlets**
- ◆ **Why?**
 - ◆ **Reduce erosion**
 - ◆ **Reduce sediment**

Current SQUIMP Requirements

- ◆ Provide Storm Drain System Stenciling and Signage
 - ◆ At all drain inlets and catch basins
 - ◆ At designated access points along channels and creeks in project area
- ◆ Why?
 - ◆ To educate and deter dumping / discharging of pollutants into storm drains

Current SQUIMP Requirements

- ◆ Properly Design Outdoor Material Storage Areas
 - ◆ Materials with potential to contaminate shall be:
 - Placed within an enclosure, roofed
 - Protected by secondary containment
 - ◆ Storage area shall be paved to contain leaks and spills
- ◆ Why?
 - ◆ To prevent material contact with stormwater
 - ◆ To prevent spills from reaching storm drains

Current SQUIMP Requirements

- ◆ Properly Design Trash Storage Areas
 - ◆ Container areas shall have drainage diverted away from the area
 - ◆ Container areas shall be screened or walled to prevent off site trash transport
- ◆ Why?
 - ◆ To contain trash to prevent blowing and discharge to storm drains

Current SQUIMP Requirements

- ◆ Provide Proof of Ongoing BMP Maintenance
 - ◆ Must provide proof of ongoing post-construction maintenance of permanent treatment BMPs
 - ◆ Developer maintains BMPs until the time the development property is legally transferred to owner, POA, or public agency
- ◆ Why?
 - ◆ To ensure proper operation and maintenance both during development, and after transfer of ownership

Current SQUIMP Requirements

- ◆ Design Standards for Structural or Treatment Control BMPs
 - ◆ Volume based criteria
 - ◆ Flow based criteria
- ◆ Why?
 - ◆ To ensure that BMP are designed for performance and reliability

Provisions Applicable to Individual Priority Project Categories

- ◆ Commercial Developments > 100,000 ft²
 - ◆ Properly design loading docks, maintenance bays, and vehicle / equipment wash areas
- ◆ Restaurants
 - ◆ Properly design accessory / equipment wash areas
- ◆ Retail Gasoline Outlets
 - ◆ Properly design fueling areas

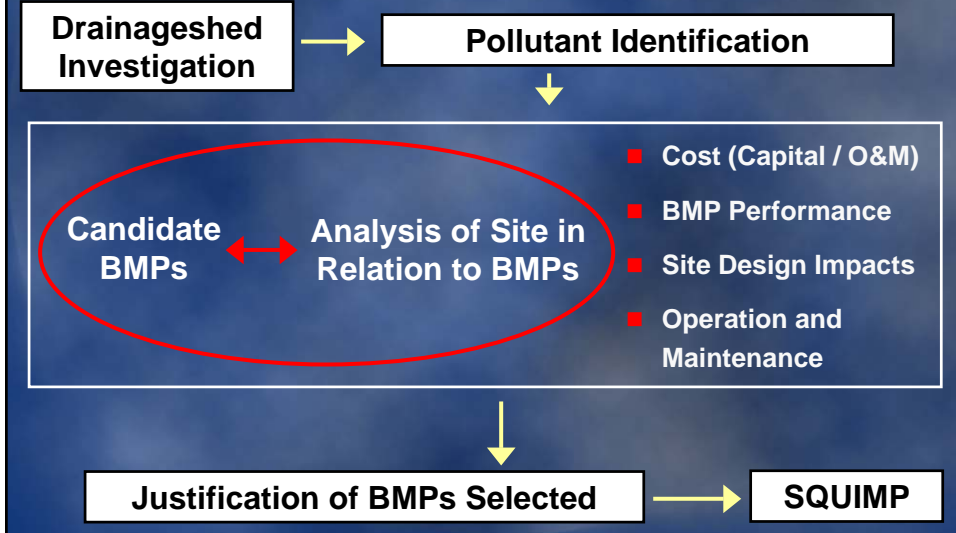
Additional Project Specific SQUIMP Requirements

- ◆ **Automotive Repair Shops**
 - ◆ Properly design loading docks, fueling areas, maintenance bays, and vehicle / equipment wash areas
- ◆ **Parking Lots**
 - ◆ Properly design parking areas to minimize off site transport of pollutants. Include treatment of oil and petroleum hydrocarbons in heavily used lots

SQUIMP Preparation and Submittal

- ◆ **Selection of best suite of Best Management Practices (BMP)**
 - ◆ **Site Design BMPs**
 - ◆ **Source Control BMPs**
 - Management techniques
 - Maintenance practices
 - Structural measures
 - ◆ **Treatment Control BMPs**

BMP Selection



Pollutants of Concern

- ◆ Stormwater runoff naturally contains numerous constituents
- ◆ New development and redevelopment introduces additional constituents that can adversely impact water quality
 - ◆ Sediment
 - ◆ Nutrients
 - ◆ Bacteria and viruses
 - ◆ Oil and grease
 - ◆ Metals
 - ◆ Organics
 - ◆ Pesticides
 - ◆ Trash



Review and Approval Process

- ◆ SQUIMP submittal to local agency
 - ◆ Engineering and planning department review
 - ◆ Approval before local permitting
- ◆ Ministerial vs. discretionary review projects
 - ◆ Parking lot or redevelopment may be ministerial
- ◆ Public agency (capital) projects similar to SQUIMP categories must develop a SQUIMP
 - ◆ Redevelopment
 - ◆ Public facility expansions

Conflicts with Local Practices

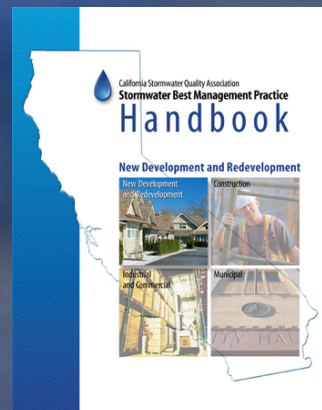
- ◆ Conflicts can occur between SQUIMP requirements and local codes
 - ◆ SQUIMP may be modified to be consistent with codes
 - ◆ If the SQUIMP requirements are more stringent, the SQUIMP requirement must be applied
- ◆ Treatment control waiver is possible
 - ◆ Impracticability based upon considering all possible BMPs
 - ◆ May require Regional Board consideration

Limitation on Use of Infiltration BMPs

- ◆ Factors to consider
 - ◆ Pollutant mobility
 - ◆ Pollutant abundance
 - ◆ Soluble fraction
 - ◆ Distance to groundwater
- ◆ Not recommended for industrial applications and areas of high vehicular traffic

BMP References

- ◆ SQUIMP Table 1 – List of BMP References
 - ◆ County's Land Development Guidelines
 - ◆ CASQA BMP Handbook New Development and Redevelopment
 - ◆ Many others
- ◆ SQUIMP Table 2 – List of BMPs
 - ◆ Any BMPs approvable



Up Next:

- ◆ The “how to”