

R8-2009-0030: New Development/Significant Redevelopment Regulations



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Stormwater BMP Workshop
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Introduction

1. Fourth Term MS4 Permit – Santa Ana Region
2. New Development/Significant Redevelopment Requirements
 - a) Priority Projects
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Fourth Term MS4 Permit – Timeline

May 22, 2009

R8-2009-0030

Adopted

May 22, 2010

Submit Model WQMP, Guidance Document, LID Feasibility Criteria & Hydromodification Maps to Regional Board

May 22, 2011

Submit Model Watershed Master Plan; Review & revise as needed planning procedures & CEQA document preparation processes

November 22, 2009

Form a Planning Advisory Committee

November 22, 2010

Feasibility Criteria to be approved by the Executive Officer

90 days after approval of the revised model WQMP

priority development projects shall implement LID principles

New Development/Significant Development General Requirements

Each Permittee shall minimize the short and long-term impacts on receiving water quality from new developments and significant re-developments by requiring the submittal of a WQMP, **emphasizing implementation of LID principles and addressing hydrologic conditions of concern**, prior to issuance of any grading or building permits and/or prior to recordation of any subdivision maps.

New Development/Significant Development General Requirements

The Permittees shall ensure that the following potential impacts are considered during CEQA reviews:

- Potential impact of project construction on storm water runoff.
- Potential impact of project's post-construction activity on storm water runoff.
- Potential for discharge of storm water pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas.
- Potential for discharge of storm water to affect the beneficial uses of the receiving waters.

New Development/Significant Development General Requirements

CEQA Considerations (cont.)

- Potential for significant changes in the flow velocity or volume of storm water runoff to cause environmental harm.
- Potential for significant increases in erosion of the project site or surrounding areas.
- Potential decreases in quality and quantity of recharge to groundwater.
- Potential impact of pollutants in storm water runoff from the project site on any 303(d) listed waterbodies.

How do I know if I need a WQMP?

Priority Projects

Priority Project Categories

1. All significant redevelopment projects that include the addition of 5,000 square feet or more of impervious surface on a developed site. Redevelopment less than 50% of impervious surface WQMP must be prepared only for area of addition/replacement. Redevelopment greater than 50% of impervious surface WQMP applies to entire project.
2. New Development greater than 10,000 square feet or more of impervious surface including commercial, industrial, residential housing subdivisions, mixed use & public projects.
3. Automotive repair shops (SIC Codes 5013, 5014, 5541, 7532-7534, 7536-7539).
4. Restaurants where land area development is 5,000 square feet or more.
5. All hillside developments on 5,000 square feet or more, located on areas with known soil erosive conditions or where natural slope is 25% or more.

Priority Projects

Priority Project Categories (cont.)

6. Developments with 2,500 square feet or greater of impervious surface, adjacent to (within 200") or discharging directly into environmentally sensitive area, such as ASBS or 303 (d) listed waterbodies.
7. Parking lots of 5,000 square feet or more of impervious surface exposed to stormwater. Parking lot is defined as land area or facility for temporary storage of motor vehicles.
8. Streets, roads, highways and freeways of 5,000 square feet or more of paved surface shall incorporate US EPA guidance consistent with maximum extent practicable.
9. Retail Gasoline outlets of 5,000 or more square feet with a projected average daily traffic of 100 or more vehicles per day.
10. Emergency and public safety projects in any of the above categories may be excluded if the delay caused due the requirement of WQMP compromises public safety, public health and/or environmental protection.

What goes into the WQMP?

WQMP Requirements

WQMPs shall include BMPs for source control, pollution prevention, site design, LID implementation and structural treatment control BMPs.

Source Control BMPs

The permittees shall require the following source control BMPs for each priority development project:

- Minimize contaminated runoff, including irrigation runoff, from entering the MS4s.
- Provide appropriate secondary containment and/or proper covers or lids for materials storage, trash bins, and outdoor processing and work areas.
- Minimize storm water contact with pollutant sources;
- Provide community car wash and equipment wash areas that discharge to sanitary sewers.
- Minimize trash and debris in storm water runoff through regular street sweeping and through litter control ordinances.
- The pollutants in post-development runoff shall be reduced using controls that utilize best management practices.

Structural Treatment Control BMPs

- At a minimum, structural BMPs shall be designed and built in accordance with the approved model WQMP and must be sized to comply with volume or flow-based numeric sizing criteria.
- Structural infiltration BMPs shall be protective of groundwater.

What is Low Impact Development?

Low Impact Development (LID)

The low-impact development “functional landscape” emulates the predevelopment temporary storage (detention) and infiltration (retention) functions of the site. This functional landscape is designed to mimic the predevelopment hydrologic conditions through runoff volume control, peak runoff rate control, flow frequency/duration control, and water quality control.

**Low Impact Development Hydrologic Analysis,
The Prince George’s County DER, 1999. p.11**

Low Impact Development (LID)

Infiltration	Rainwater Harvesting	Evapotranspiration	Biotreatment
<p>Bioretention without Underdrains</p> <p>Retention Swales</p> <p>Retention Grading</p> <p>Infiltration Trenches</p> <p>Infiltration Basins</p> <p>Drywells</p> <p>Subsurface Infiltration Galleries</p> <p>French Drains</p> <p>Permeable Asphalt</p> <p>Permeable Concrete</p> <p>Permeable Concrete Pavers</p>	<p><i>Storage options:</i></p> <p>Above-ground Rain Barrels</p> <p>Above-ground Cisterns</p> <p>Underground Tanks</p> <p><i>Potential demand:</i></p> <p>Irrigation</p> <p>Toilet flushing</p> <p>Vehicle washing</p> <p>Evaporative cooling</p> <p>Industrial processes</p> <p>Dilution water for recycled water systems</p> <p>Other non-potable uses</p>	<p><i>BMPs providing primary benefit through ET:</i></p> <p>Green roofs</p> <p>Brown roofs</p> <p>Blue roofs</p> <p>Downspout dispersion in tight soils</p> <p>Amended soils over tight underlying soils</p> <p>Street trees, canopy interception</p>	<p>Bioretention with underdrains</p> <p>Planter Boxes with underdrains</p> <p>Constructed Wetlands</p> <p>Vegetated Swales</p> <p>Vegetated Filter Strips</p> <p>Proprietary (ready-to-install) Vegetated Biotreatment Systems</p>

Low Impact Development (LID)

Examples of LID BMPs



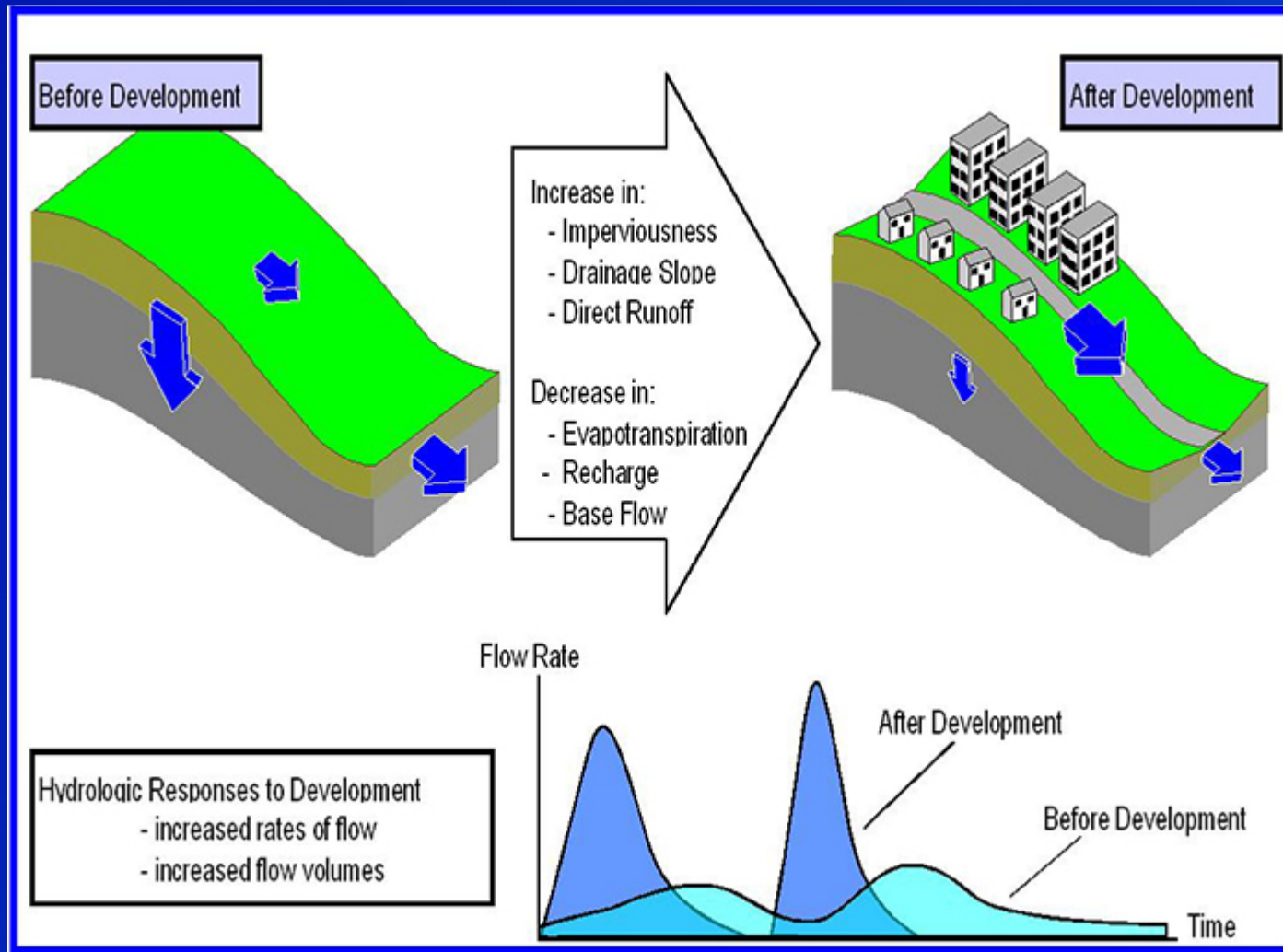
Pedal Brewery (San Antonio, TX)
Photo by Huddle Studio



What is Hydromodification?

Hydromodification

Causes of Hydromodification



Source: SCCWRP

Hydromodification

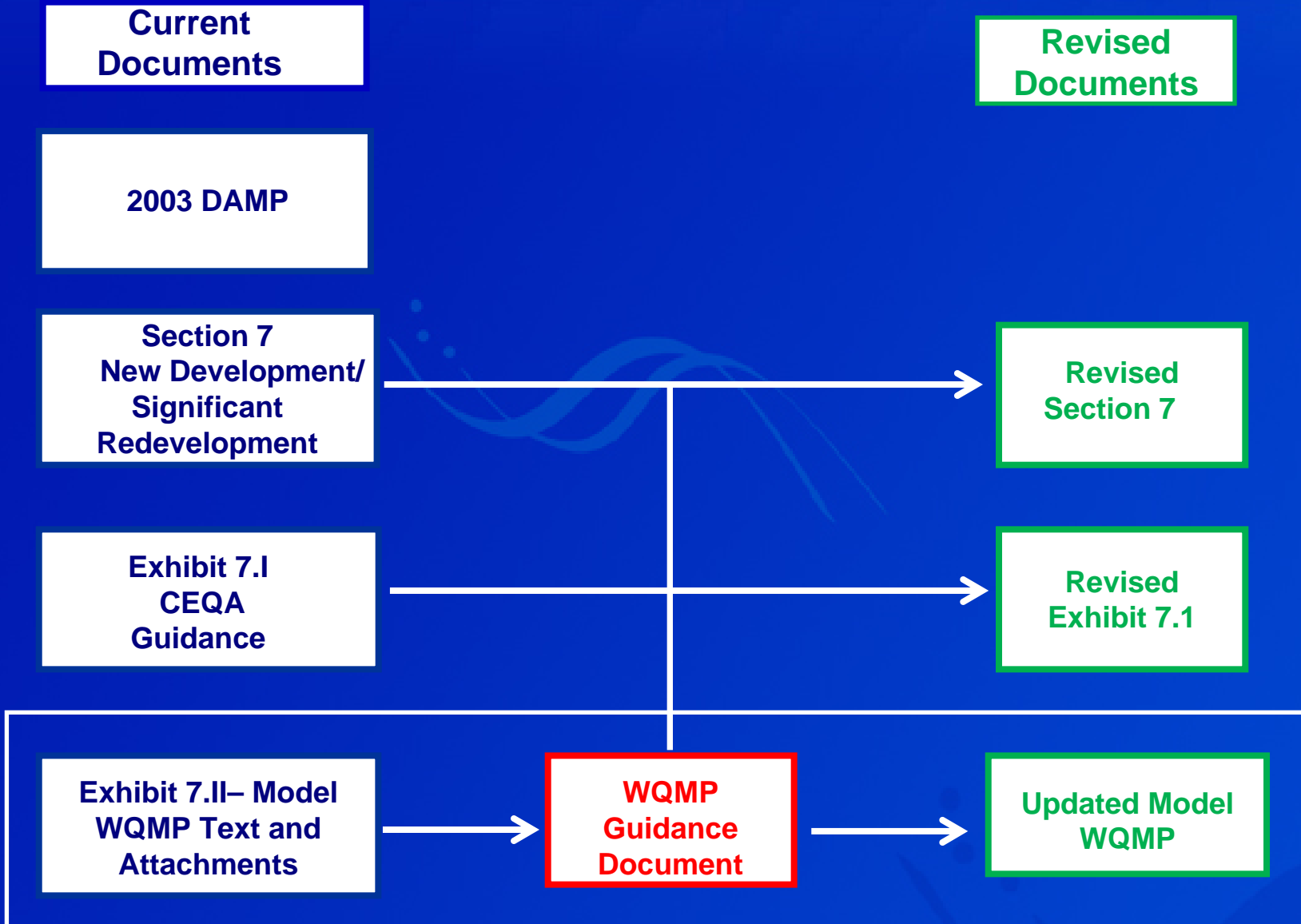
Examples of Hydromodification



"Grandfathered Projects"

- The permit provisions for LID and hydrologic conditions of concern are not applicable to projects that have an approved Water Quality Management Plan.
- The permit provisions shall be implemented in a manner consistent with the maximum extent practicable standard for all other projects 90 days from the date of approval of the revised model WQMP. The Regional Board recognizes that full implementation may not be feasible for certain projects which have received tentative tract or parcel map or other discretionary approvals.

Model Water Quality Management Plan Update



Model WQMP Revision

Two Committees

- Permittee (Internal) Advisory Group
- Technical (External) Advisory Group

Chairs

Travis Hopkins, City of Huntington Beach

Charles View, City of Brea

What does it all Mean?

- Post Development = Pre Development
- LID, LID, LID
- Hydromodification
- Increased compliance measures
- BMP Inspections

Requirements-Awareness

- ◆ Owners
- ◆ Developers
- ◆ Engineers/Planners
- ◆ Management/Leasing Companies
- ◆ Residential

References

USEPA Managing Wet Weather with Green Infrastructure:
Green Streets

http://cfpub.epa.gov/npdes/home.cfm?program_id=298

CASQA BMP Handbooks

www.casqa.org

Caltrans Stormwater Quality Handbook

<http://www.dot.ca.gov/hq/oppd/stormwtr/>

Stormwater Monitoring Coalition (SMC)

<http://www.socalsmc.org/>

Low Impact Development Center

<http://www.lowimpactdevelopment.org/>

Questions (?)

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