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POST- CONSTRUCTION STANDARDS PLAN

SMALL PROJECT

A GUIDANCE DOCUMENT ON STORM WATER
POST-CONSTRUCTION DESIGN MEASURES FOR
DEVELOPERS AND PLAN CHECKERS

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INTRODUCTION AND REGULATORY REQUIREMENTS

1 Introduction and Regulatory Requirements

This Post-Construction Standards Plan was prepared for the City of West Sacramento to guide project proponents and municipal plan checkers through the various site design requirements of the Phase II Municipal Separate Storm Water Sewer System (MS4) Permit. This opening section describes the purpose of the plan; a background summary of the Federal and State regulations; the regional collaborative approach taken by many Central Valley municipalities; an overview of the post-construction site design requirements; and, finally, the roles and responsibilities of the plan checker and project proponent.

1.1 PURPOSE OF THE PLAN

According to the California State Water Resource Control Board (Water Board), urban storm water runoff is listed as the primary source of impairment for ten percent of all rivers, lakes and reservoirs, and seventeen percent of all estuaries in California.¹ While these numbers may not seem significantly large, considering that urban areas cover only six percent of the land mass of California², the impact that runoff from urban areas have on California's surface waters is disproportionately large. When the Water Board uses the term "urbanization", it is referring to the development of land through which the imperviousness percentage increases; meaning that buildings and hardscapes prevent water from infiltrating into the ground, thereby, causing it to flow off of the property. Increased urbanization through new development and redevelopment has been shown to cause more frequent storm water discharge events, higher peak flow velocities, and larger volumes of storm water runoff. These conditions, if not properly managed, can affect water quality by



Figure 1 - Channels, streams, and drainage ways are over taxed by increases in runoff caused by increased development and impervious surfaces.

mobilizing greater and more frequent loads of pollutants such as sediment, organic material, trash, nutrients, pathogens, heavy metals, and other toxic substances. These conditions also over tax existing natural and man-made drainage systems, causing accelerated erosion of channels and deposition of sediment and pollutants in estuaries, deltas, and basins. Conditions such as these could cause flooding and deterioration of waterways that, at one time, may have been adequate to handle expected runoff. This has a direct impact on municipalities by causing them to perform more maintenance on existing systems and to develop new drainage systems with higher capacities. Urbanization

¹ Fact Sheet of the Phase II MS4 Permit, Order No. 2013-0001-DWQ, p. 33 - 34

² U.S. Department of Agriculture, 2009

INTRODUCTION AND REGULATORY REQUIREMENTS

and the resulting runoff can also impact the State's ability to realize the full potential of the beneficial uses of its surface waters.

Low Impact Development – A sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, Low Impact Development (LID) takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management.

Source: Phase II MS4 Permit Glossary

The purpose of this document is to provide developers and municipal plan checkers with information on how to meet the State Water Board's requirements for mitigating the negative impact of increases in storm water runoff caused by new development and redevelopment. This document accomplishes this goal through the incorporation of Low Impact Development standards and hydromodification management techniques. Low Impact Development (LID) mitigates excessive runoff by the use of control measures that utilize evapo-transpiration, infiltration, capture / reuse, and biotreatment to mimic the runoff of a natural environment. Hydromodification techniques are used to design development sites so that post-construction runoff flow rates do not exceed those of the pre-construction conditions.

Using this document, developers will be equipped to provide a submittal package to the municipality as a part of its permitting or plan check process to adequately demonstrate how the project will meet the LID and hydromodification requirements.

Plan checkers will be able to use this document to objectively and sufficiently condition discretionary projects with the required post-construction storm water design requirements.

1.2 FEDERAL AND STATE REGULATORY REQUIREMENTS

The Federal Clean Water Act is the impetus behind all of these regulations to manage storm water discharges from new development and redevelopment projects. The Clean Water Act delegates authority to the States to issue National Pollutant Discharge Elimination System (NPDES) permits for discharges of storm water from construction, industrial, and municipal entities to Waters of the United States. Large and medium size municipalities were issued individual municipal NPDES permits in the first phase (Phase I) of the process. Subsequently, small municipalities identified by the State of California were required to obtain permit coverage under the Phase II General NPDES Permit for Municipal Separate Storm Water Sewer Systems (MS4). These Phase II MS4s (municipalities) are required to implement various storm water management programs, one of which is to require certain new development and applicable redevelopment projects to incorporate post-construction storm water control measures into their design that include LID and hydromodification techniques. The City of West Sacramento is one of the municipalities specified in the current Phase II MS4 Permit that must comply with these post-construction requirements, which are

INTRODUCTION AND REGULATORY REQUIREMENTS

contained in Section E. 12 of Order No. 2013-0001-DWQ. (Refer to [Appendix 3](#) for copy of Section E.12 of the Phase II MS4 Permit.)

1.3 REGIONAL APPROACH AND MUNICIPAL COLLABORATION

The post-construction requirements are not new with this version of the Phase II MS4 Permit. The previous version of the permit also contained LID and post-construction requirements. For many years now, Phase I MS4s have been requiring development and redevelopment projects to include post-construction design measures into site designs. Even projects outside of an MS4 now have to incorporate post-construction and LID measures into their designs as required by the State's Construction General Permit. However, as this area of storm water management has grown to maturity, post-construction requirements and programs have changed significantly over the years to where there can be dramatic differences between the control measures required in two neighboring municipalities. This, obviously, can cause confusion for developers. With the roll out of the current Phase II MS4 Permit and the requirement for municipalities to, for the most part, completely overhaul their post-construction requirements to meet the Section E.12 requirements, an opportunity arose for many Phase II MS4s to work together and develop a consistent Post-Construction Storm Water Standards Plan. Collaboration on this task not only shares the cost of development with other MS4s, but also provides a standardized plan that developers will encounter in 17 different Central Valley municipalities. Another benefit is that it allows for regional training of plan checkers on this common plan, saving more cost and time for each municipality. Refer to [Appendix 10](#) for a list of the collaborating Central Valley municipalities.

INTRODUCTION AND REGULATORY REQUIREMENTS

1.4 OVERVIEW OF THE POST-CONSTRUCTION REQUIREMENTS

The Phase II MS4 Permit requires the City of West Sacramento to condition certain small projects with implementing one or more **Site Design Measures** that “treat” storm water runoff using methods to evaporate, transpire, infiltrate, harvest and reuse, or biotreat. After proponents of small projects select the Site Design Measure(s), they are required to quantify the runoff reduction achieved through the implementation of those measures. This is done using the State Water Board’s Post-Construction Calculator (which can be downloaded following the information provided in [Appendix 5](#)).

Proponents of larger projects are required to implement into their design and on-going activities specific **Source Control Measures** to minimize the impact of pollutant-generating activities. For example, if the project includes a permanent trash enclosure in its design, it will be required to be designed following the City of West Sacramento “*Enclosure and Facility Design Guidelines for Refuse and Recycling Containers*”; meaning, that among other requirements, the trash enclosure will need to have a wall around it and a rain proof covering or container lids. This larger project will also need to incorporate into its design specific **Low Impact Development (LID) Standards** such as concentrating development on portions of the site with less permeable soils and preserving areas that can promote infiltration. As with the smaller project, the larger project will need to implement one or more **Site Design Measures** to “treat” storm water, such as with permeable pavement or a green roof. But in the case of a larger project, the Site Design Measure(s) will have to be sized following one of two specified hydraulic sizing criteria. In addition, the project will be required to be designed to incorporate into it **Hydromodification Management Measures** that slow and minimize the amount of runoff so that, ideally, and where possible, there is no net-increase of the post-construction runoff flow rate compared to the pre-construction value for a 2-year, 24-hour storm event. The project proponent or subsequent property owner is required to maintain these storm water control measures in an effective condition for perpetuity.

Hydromodification - Modification of hydrologic pathways (precipitation, surface runoff, infiltration, groundwater flow, return flow, surface-water storage, groundwater storage, evaporation and transpiration) that results in negative impacts to watershed health and functions.

Source Control - Land use or site planning practices, or structural or nonstructural measures, that aim to prevent runoff pollution by reducing the potential for contact with rainfall runoff at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

Source: Phase II MS4 Permit Glossary

1.5 ROLE OF THE MUNICIPAL PLAN CHECKER

The Phase II MS4 Permit states that the municipality “shall require these post-construction standards to be applied on applicable new and redevelopment regulated projects, both private development requiring municipal permits and public projects, to the extent allowable by applicable law.” Therefore, the role of the municipal plan checker is to verify that applicable projects have been properly conditioned with the post-construction standards. The plan checker will be responsible for performing the following tasks:

APPLICABILITY

2 Applicability

In regards to the Post-Construction Standards Plan, all projects fall into one of three possible categories: small, regulated, or not applicable. If a project does not qualify under either of the two following sections, the Post Construction Standards Plan does not apply to it.

2.1 SMALL PROJECTS 2,500 TO 5,000 FT²

Small projects are defined as those that create and/or replace between 2,500 ft² and 5,000 ft² of impervious surface. This includes projects that have no net increase in the impervious footprint. Single family homes that create and / or replace 2,500 ft² or more of impervious surface and are not part of a larger plan of development are considered to be applicable small projects. Small projects would include, but not limited to, the following:

- New construction that creates between 2,500 ft² and 5,000 ft² of impervious surface;
- A demolition of a small project site and the redevelopment of that site if more than 2,500 ft² of impervious surface is replaced or created;
- The replacement of 2,500 ft² or more of a parking lot;
- The construction of a new parking lot that is less than 5,000 ft²; and
- A roadway or sidewalk project that is creating or replacing between 2,500 ft² and 5,000 ft² of impervious surface.

Linear utility projects (LUPs) are not subject to the small project Site Design Measure requirements.

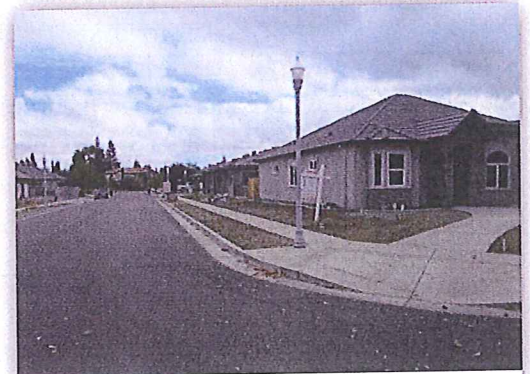
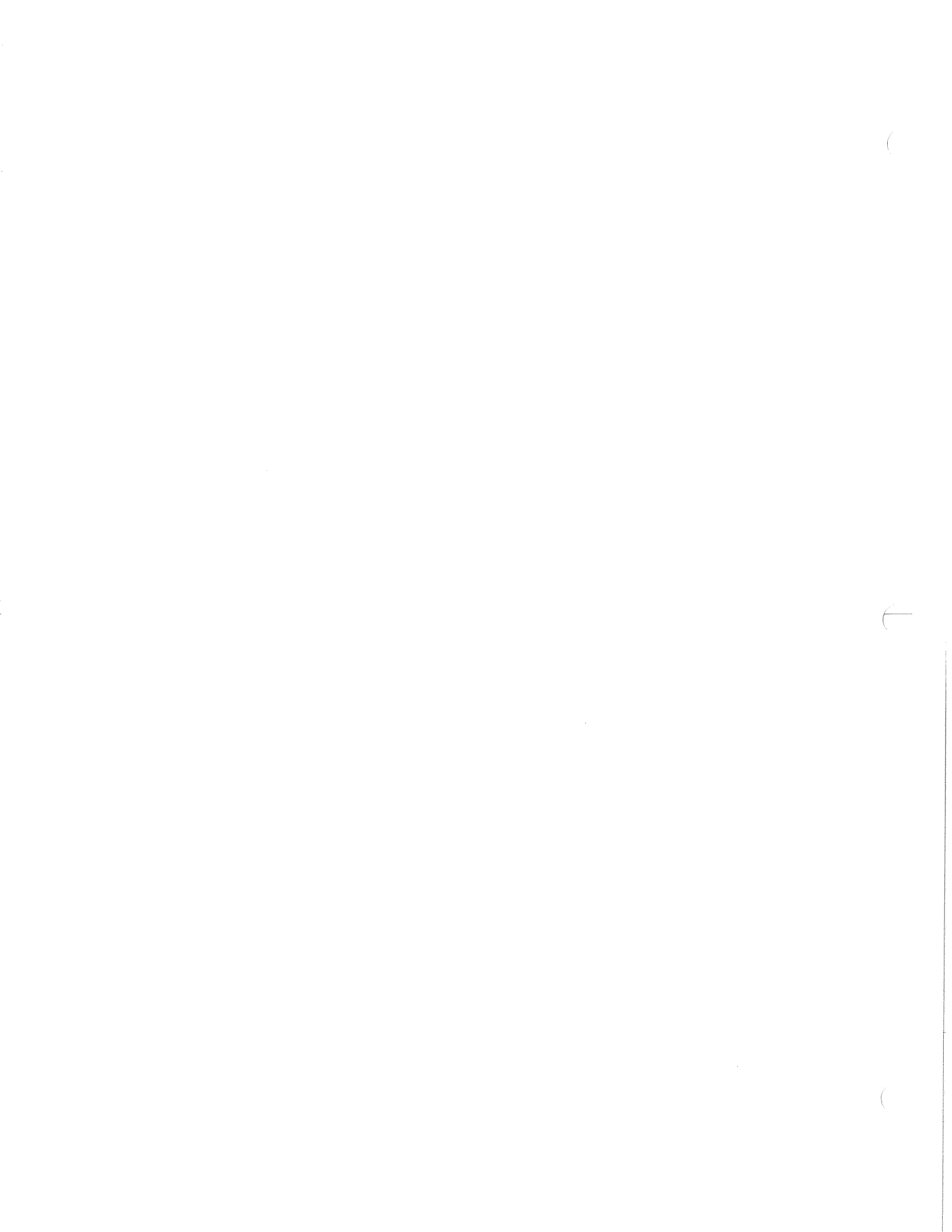


Figure 2 - A single family home that creates and / or replaces 2,500 ft² or more is a small project.



THE SUBMITTAL AND REVIEW PROCESS

3 The Submittal and Review Process

Projects applicable to this Post-Construction Standards Plan may originate from different sources. They may be private non-discretionary or discretionary projects, or they may be municipal-owned projects. The following sections describe how applicable projects are detected by the municipality and appropriately conditioned with post-construction design requirements. This section also summarizes the submittal requirements for each type of project.

3.1 MINISTERIAL (NON-DISCRETIONARY BUILDING PERMIT) PROJECTS

Projects that are ministerial or non-discretionary projects are those that are not required to pass through the plan check process and can be issued a building permit over the counter. Typically, these projects will either not be applicable to this Post-Construction Standards Plan or be considered “small” projects as defined in [Section 2.1](#). Specific submittal requirements for small projects are identified in [Section 4](#) of this plan. In general, proponents of non-discretionary small projects, will need to submit, at the permit counter, information about the project, the selected design measures, and a printout copy of the State Water Board’s Post-Construction Calculator.

If a ministerial project is found to be a “Regulated Project” as defined in [Section 2.2](#), the requirement for the project to include site design measures, source control measures, LID design standards, and hydromodification management techniques will necessitate that it pass through the plan check process and, thus, will make it become a discretionary project, with respect to this Post-Construction Standards Plan.

3.2 DISCRETIONARY (PLAN CHECK) PROJECTS

Discretionary projects are those that are required to pass through the plan check process and be conditioned with site-specific requirements. Discretionary projects have the potential to be classified as “small”, “regulated”, or not applicable to this Post-Construction Standards Plan. In general, proponents of discretionary projects must submit to the plan checker information about the project, which may include: the project’s applicability status to the Post-Construction Standards Plan, site design plans and specifications, a completed Post-Construction Project Worksheet form, and an O&M Plan and signed Certificate of Responsibility. The plan checker will review the post-construction submittal package for completeness and will direct it to the engineering reviewers. Once comments are received from the engineering reviewers, the project proponent will be notified by the plan checker of any required modifications or of the approval of the proposed post-construction design measures. Regulated Projects will be entered into a database or spreadsheet to be tracked by the municipality for annual verification that the storm water treatment measures and hydromodification measures are being maintained in an effective condition.

THE SUBMITTAL AND REVIEW PROCESS

3.3 CAPITAL IMPROVEMENT / MUNICIPAL-OWNED PROJECTS

Public projects, capital improvement projects (CIPs), or other municipal-owned projects typically do not pass through the plan check process, but must also be reviewed for applicability of the post-construction requirements. The following process will be implemented by the City of West Sacramento in conditioning and reviewing projects for the post-construction requirements of the municipality's Phase II MS4 Permit.

1. The municipal department sponsoring the project will review and evaluate the project's applicability to the post-construction requirements and make a determination as to whether the proposed project is a "small" project as defined in [Section 2.1](#), a "regulated" project as defined in [Section 2.2](#), or is exempt from the post-construction requirements.
2. The sponsoring department will submit to the Department of Public Works Engineering a partially completed Post-Construction Project Worksheet (included in [Appendix 8](#)) which will identify information about the project and the selection of the required post-construction design measures. The Department of Public Works Engineering, or an engineering contractor, will provide the sizing and design criteria for the selected site design measures, source control measures, LID design standards, and hydromodification management techniques.
3. The Department of Public Works Engineering will develop an operation and maintenance plan for the post-construction treatment and hydromodification measures.
4. The municipality will maintain records of all project-related post-construction design information and plans for a minimum of 5 years.
5. Regulated Projects will be entered into a database or spreadsheet to be tracked by the municipality for annual verification that the storm water treatment measures and hydromodification measures are being maintained in an effective condition.

REQUIREMENTS FOR SMALL PROJECTS (2,500 TO 5,000 FT²)

4 Requirements for Small Projects (2,500 to 5,000 ft²)

The following is a 3-step process required by the City of West Sacramento for small projects as defined in Section 2.1.

4.1 SELECT SITE DESIGN MEASURES

The first step is for the project proponent to select and implement into the project's design one or more of the following **Site Design Measures**:



Stream Setbacks and Buffers – are vegetated areas (including trees, shrubs, riparian habitat, or herbaceous vegetation) that exist or are established to protect a stream system, lake, reservoir, or estuary. These areas provide a buffer between the development and the water body to filter out pollutants carried by storm water, provide stabilization of erodible banks and opportunities to infiltrate water prior to discharging, and help slow peak flows. The *California Storm Water Quality Association's (CASQA) Best Management Handbook (BMP) for New Development and Redevelopment* has a specification sheet (TC-31) for Vegetated Buffer Strips that contains useful information applicable to stream setbacks and buffers. It can be downloaded at:

www.casqa.org/sites/default/files/BMPHandbooks/tc-31_from_newdevelopmentredevelopment_handbook.pdf

Contra Costa County has compiled a list of Northern California and other U.S. counties who have stream buffer requirements. This list can be accessed at the following website and utilized as guidance for sizing buffer widths:

www.acgov.org/pwa/documents/Contra%20Costa%20County%20HCP%20Table%206-4%20Setbacks.pdf



Soil Quality Improvement and Maintenance – is accomplished through the addition of soil amendments and the creation of a healthy microbial community. Soils with higher organic content are less likely to erode and also provide nutrients needed to maintain healthy plants. This, in turn, means that landscaping will require less fertilizers and pesticides. Soils with more organic content or covered with a compost layer will retain moisture, requiring them to be irrigated less often. Engineered soils allow water to infiltrate and be stored below grade providing LID and hydromodification benefits. The United States Department of Agriculture's Natural

REQUIREMENTS FOR SMALL PROJECTS (2,500 TO 5,000 FT²)

Resources Conservation Service (NRCS) has a publication called the *Urban Soil Primer* which is an excellent resource in helping developers understand how healthy soils improve water quality. This resource can be downloaded at:

www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052835.pdf



Tree Planting and Preservation – includes the preservation of existing trees and the establishment of new ones. Both evergreens and deciduous trees can be utilized. Trees are beneficial to water quality in that they help stabilize erodible soil, dissipate energy of falling rain, and help slow peak flow rates.



Rooftop and Impervious Area Disconnection – is where roof drains and hardscapes do not discharge directly to a storm drain inlet but are directed to permeable areas or rain water collection and harvesting mechanisms. Water, in excess of the permeable area's infiltration capacity or the capacity of the collection / harvesting system, can be directed to a drainage system. CASQA has a BMP specification sheet (SD-11) that provides information about designing roof runoff controls. It can be downloaded at:

www.casqa.org/sites/default/files/BMPHandbooks/sd-11.pdf



Porous Pavement – is pavement that allows runoff to pass through it and infiltrate into the underlying soils. Porous pavement systems are typically designed with a subsurface drainage and storage system that consists of a bed of rock and piped collection system below the porous pavement. Where soils have high infiltration rates, water is allowed to dissipate directly into the soil. Where infiltration rates are less than desirable, a sub-grade gravity collection system conveys excess water to a storm water outfall or storm water sewer system. Porous pavement includes porous asphalt and concrete, porous pavers and bricks, cobbles, reinforced grass pavement, and gravel covered surfaces.

REQUIREMENTS FOR SMALL PROJECTS (2,500 TO 5,000 FT²)



Green Roofs – is an engineered vegetative layer grown on a roof that allows a certain amount of runoff reduction by infiltration, storage, and evapo-transpiration. In 2010, the United States Environmental Protection Agency (USEPA) published a document titled: *Design Guidelines and Maintenance Manual for Green Roofs in the Semi-Arid and Arid West*. This guidance document can be downloaded at:

<http://www2.epa.gov/sites/production/files/documents/GreenRoofsSemiAridAridWest.pdf>



Vegetated Swales – are a vegetated, open-channel management practice designed specifically to treat and attenuate storm water runoff through infiltration, biotreatment, and evapo-transpiration. If they are designed with engineered soils, storage and greater infiltration can be achieved. CASQA has a BMP specification sheet (TC-30) that provides information about designing vegetated swales. It can be downloaded at:

www.casqa.org/sites/default/files/BMPHandbooks/TC-30.pdf



Rain Barrels and Cisterns – is a system that collects and stores storm water runoff from a roof or other impervious surfaces. Collected water is saved and reused for irrigation or other purposes. In 2008, the USEPA published a document titled: *Managing Wet Weather with Green Infrastructure Municipal Handbook: Rainwater Harvesting Policies*. This guidance document can be downloaded at:

http://water.epa.gov/infrastructure/greeninfrastructure/upload/gi_munichandbook_harvesting.pdf

The City of San Diego published a Rain Water Harvesting Guide, which can be downloaded at:

<http://www.sandiego.gov/water/pdf/conservation/rainwaterguide.pdf>

REQUIREMENTS FOR SMALL PROJECTS (2,500 TO 5,000 FT²)

4.2 QUANTIFY THE RUNOFF REDUCTION

The second step for small projects is for the project proponent to quantify the runoff reduction resulting from the implementation of the selected Site Design Measure(s). The Phase II MS4 Permit does not set any goals or minimum amounts of runoff reduction. Therefore, this step is only informational. To accomplish this quantification of runoff reduction, the project proponent is required to utilize the State Water Board's Post-Construction Calculator which is available on the Water Board's SMARTS website or can be accomplished through the State's Microsoft Excel™ version of the calculator. The Water Board has created an instructional video on how to populate and use the Post-Construction Calculator. Information about how to access the calculator is included in [Appendix 5](#) of this document.

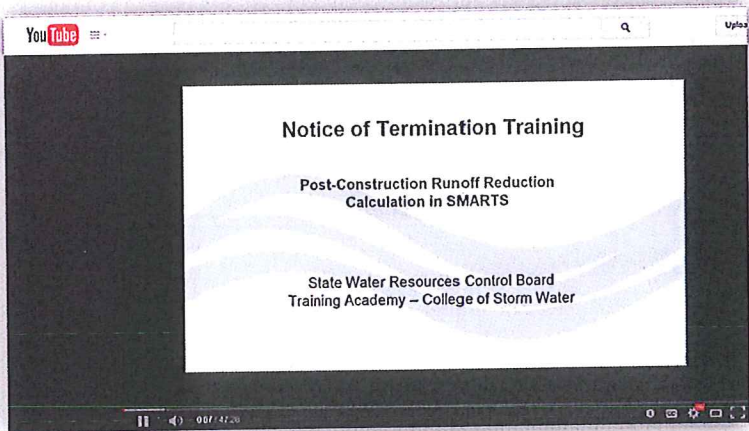
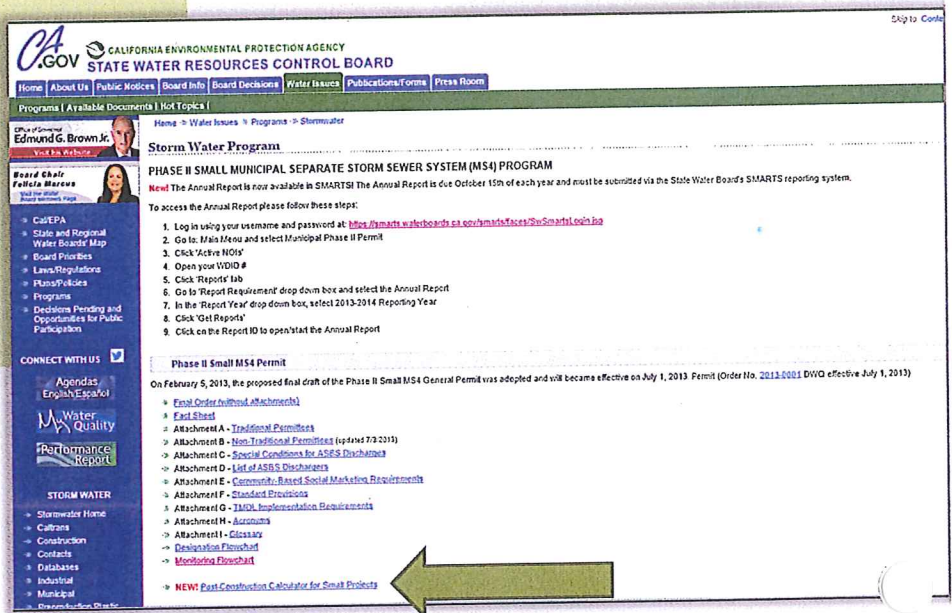


Figure 4 - The Water Board created this 47-minute video that describes how to use the Post-Construction Calculator on SMARTS. It will also help with the Excel version. Although the video was created for the Construction General Permit, it also applies to the Post-Construction Standards Plan. It can be accessed at:

<https://www.youtube.com/watch?v=W3nj4pj8WIIY&feature=youtu.be>

Post-Construction Calculator for Small Projects

The Water Board has created a Microsoft Excel version of the calculator that can now be downloaded from the State Water Board's website at the following link:
http://www.swrcb.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml



REQUIREMENTS FOR SMALL PROJECTS (2,500 TO 5,000 FT²)

4.3 PREPARE THE SUBMITTAL

The third and final step for the “small” project proponent is to compile the information required to be submitted to the plan checker. This includes the following items:

- A completed Post-Construction Worksheet (obtained from [Appendix 8](#)).
- Site plans showing the selected Site Design Measure(s) (identified in [Section 4.1](#)). The plans must be stamped by a California Civil Professional Engineer if any of the following Site Design Measures were selected: rooftop and impervious area disconnection, porous pavement, or rain cisterns. The plans must be stamped by a California Structural Professional Engineer if a green roof was selected or if there is a significant structural aspect to the rain cisterns and collection system. The plans must be stamped by a California Licensed Landscape Architect if any of the following Site Design Measures were selected: stream setbacks and buffers, soil quality improvement, or vegetated swales. The Site Design Measure(s) must be clearly called out on the submitted plans.
- A printout of the results page from the Water Board’s SMARTS or Microsoft Excel™ Post-Construction Calculator.

INPUT FOR WATERSHED: Enter watershed details and click on the Compute & Save button.

I.a. Name:
 I.b. County:
 I.c. Closest Location:
 I.d. Size(acres):

Pre-Construction INPUT

I.e. Dominant Soil Type:
 I.f. Existing Dominant Non-built Land Use Type:
 I.g. Existing rooftop impervious area(acres):
 I.h. Existing non-rooftop impervious area(acres):

Post-Construction INPUT

I.i. Proposed Dominant Non-built Land Use Type:
 I.j. Proposed rooftop impervious area(acres):
 I.k. Proposed non-rooftop impervious area(acres):

OUTPUT:

O.a. Existing Runoff Curve Number:	<input type="text" value="63"/>	O.d. Proposed Runoff Curve Number:	<input type="text" value="89.494"/>
O.b. Design Storm(inches):	<input type="text" value="0.49"/>	O.e. Net Credit of Volume Credits(Cubic Feet):	<input type="text" value="3130.471"/>
O.c. Pre-project Runoff Volume(Cubic Feet):	<input type="text" value="497.85"/>	O.f. Post-project Runoff Volume(Cubic Feet):	<input type="text" value="569.14"/>
O.g. Post-project Runoff Volume minus Volume Credits(Cubic Feet):	<input type="text" value="-2,561.34"/>		

Post-project Runoff Volume minus Volume Credits <- Pre-project Runoff Volume. No further calculation is necessary!

Volume Credit Calculator Worksheets:

Formula	Credit(Cubic Feet)
A. Porous Pavement	<input type="text" value="0"/>
B. Tree Planting	<input type="text" value="223.772"/>
C. Downspout Disconnection	<input type="text"/>
D. Impervious Area Disconnection	<input type="text"/>
E. Green Roof	<input type="text"/>
F. Stream Buffer	<input type="text"/>
G. Vegetative Swale	<input type="text"/>
H. Rain Barrels/Cisterns	<input type="text"/>
I. Soil Quality	<input type="text" value="2906.699"/>

This is the runoff reduction quantity in ft³

Disregard this message

Select Site Design Measures here.

Figure 5 - The results summary from the Post-Construction Calculator is required to be provided with the submittal to the municipal plan checker. It is important to note that there is no requirement to meet any specific volume reduction, but only to quantify the reduction of the selected Site Design Measure(s). The calculator may state that the runoff volume credit has not been met; but, disregard any such message.

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**POST-CONSTRUCTION WORKSHEET FOR THE CITY OF WEST SACRAMENTO
PROJECT SUMMARY SHEET**

Project Owner Information:

Project Owner Name:					
Name of Contact Person:					
Mailing Street Address:					
City:		State:		Zip:	
Telephone:			Email:		

Project Information:

Project Name:					
Name of Contact Person:					
Project Address:					
City:		State:		Zip:	
Anticipated construction start date:			Ending date:		
Project size (ft ²):			Subject to the Construction General Permit? (Yes / No)		

Information of the Post-Construction Standards Plan Preparer:

Name of Organization:					
Name of Contact Person:					
Mailing Street Address:					
City:		State:		Zip:	
Telephone:			Email:		

Project Applicability:

Type of Project: (Check one)	Small Project (2,500 to 5,000 ft ² or detached single family home)	
	Regulated Project (5,000 ft ²)	
	Not applicable to the Post-Construction Standards Plan <i>(provide reason in the space below)</i>	
Is this a redevelopment project? (Yes / No)		Will the project result in an increase of more than 50% of the impervious surface? (Yes / No)
Has the project or the vesting map received approval from the municipality? (Yes, No, or N/A)		Date of project or vesting map approval:
Describe the nature and scope of the construction project:		
Number of Drainage Management Areas (DMAs):		

POST-CONSTRUCTION WORKSHEET FOR THE CITY OF WEST SACRAMENTO
SMALL PROJECT SUBMITTAL SHEET

Project Information:

Project Name:	
Project Owner Name:	
Project Address:	

Selection of Site Design Measures:

Select one or more of the following Site Design Measures (as identified in Section 4.1 of the Post-Construction Standards Plan) which will be incorporated into the project's design.

<i>Site Design Measures</i>	<i>Selected? (Yes / No)</i>
Stream Setbacks and Buffers	
Soil Quality Improvement and Maintenance	
Tree Planting and Preservation	
Rooftop and Impervious Area Disconnection	
Porous Pavement	
Green Roofs	
Vegetated Swales	
Rain Barrels and Cisterns	

Post-Construction Calculator Information:

Enter the following data from the State's Post-Construction Calculator:

Pre-project Runoff Volume (ft³)	
Post-project Runoff Volume (ft³)	
Net Credit of Volume Credits (ft³)	

Small Project Submittal Requirements:

The following must be submitted for Small Projects to the plan checker:

- Completed pages 1 and 2 of this Post-Construction Worksheet.
- Site plans showing the selected Site Design Measure(s) (identified in Section 4.1). The plans must be stamped by a California Civil Professional Engineer if any of the following Site Design Measures were selected: rooftop and impervious area disconnection, porous pavement, or rain cisterns. The plans must be stamped by a California Structural Professional Engineer if a green roof was selected or if there is a significant structural aspect to the rain cisterns and collection system. The plans must be stamped by a California Licensed Landscape Architect if any of the following Site Design Measures were selected: stream setbacks and buffers, soil quality improvement, or vegetated swales. The Site Design Measure(s) must be clearly called out on the submitted plans.
- A printout of the results page from the Water Board's SMARTS or Microsoft Excel™ Post-Construction Calculator.

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