

Ch 3: Preparing Permit Applications

3.1 The Development Review Process

To comply with Federal and State NPDES stormwater regulatory requirements, the County has integrated post-construction stormwater management into the development review process. This chapter outlines the County’s development review process and gives step-by-step instructions for how to prepare permit applications for new development and redevelopment projects. **Figure 3-1** illustrates the process for addressing stormwater-related requirements in permit applications.

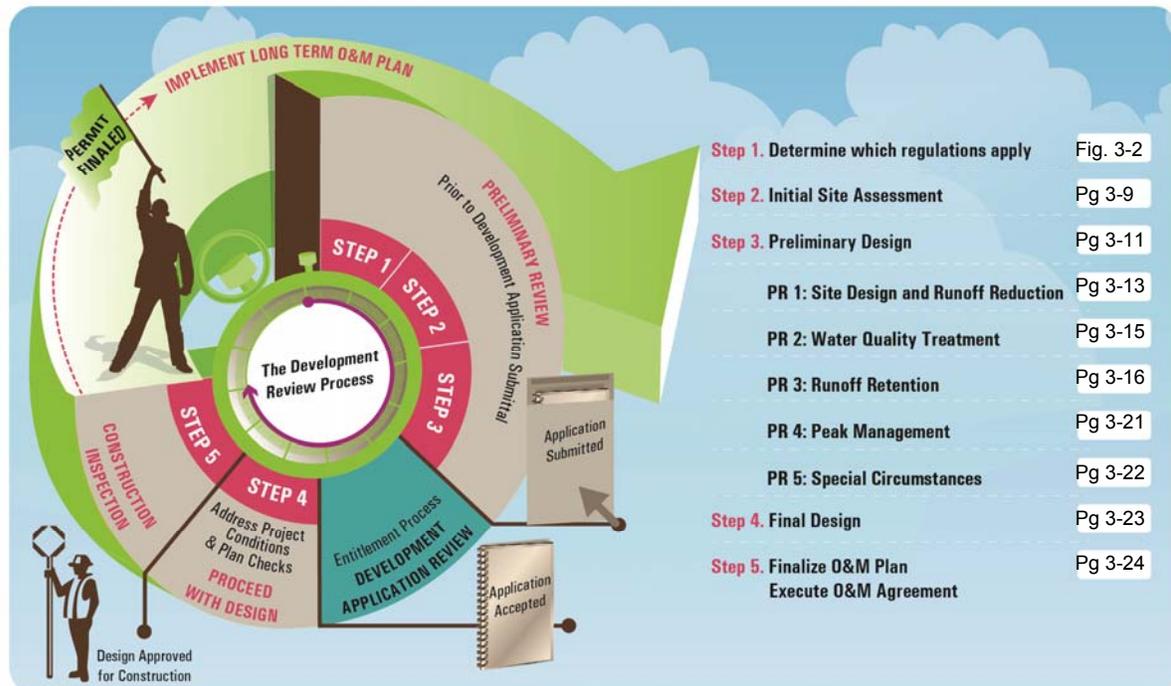


Figure 3-1 Addressing Stormwater Requirements during the Development Review Process

Stormwater management strategies should be considered early in site planning. Including stormwater management in the preliminary site plan can reduce overall project costs by minimizing rework and reducing infrastructure costs. Early planning enables more stormwater management flexibility.

The County’s application process is designed to assure that post-construction stormwater controls are in place throughout the life of the project. The County requires additional documentation for erosion and sediment controls during construction.

3.2 Five Steps in the Project Application Process

The five steps outlined below must be followed to complete a successful Stormwater Control Plan (SWCP) Application (Appendix B). A SWCP application is required when applying for a development permit. Subsequent chapters in this handbook provide more detailed instructions on how to accomplish each step.

Step 1: Determine which regulations apply

As you complete your SWCP application use the flow chart on the next page (**Figure 3-2**) or as discussed in the following Decision Point A. Determine if the project is EXEMPT, or if the project is subject to one or more Performance Requirements (i.e. regulated). Information specific to meeting each of the Performance Requirements is provided in Step 3.

Figure 3-2. Which Performance Requirements Apply?

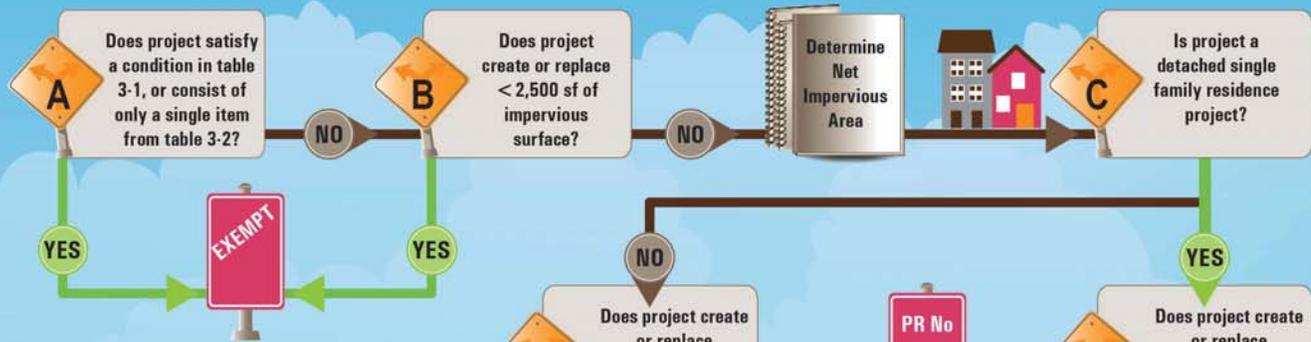
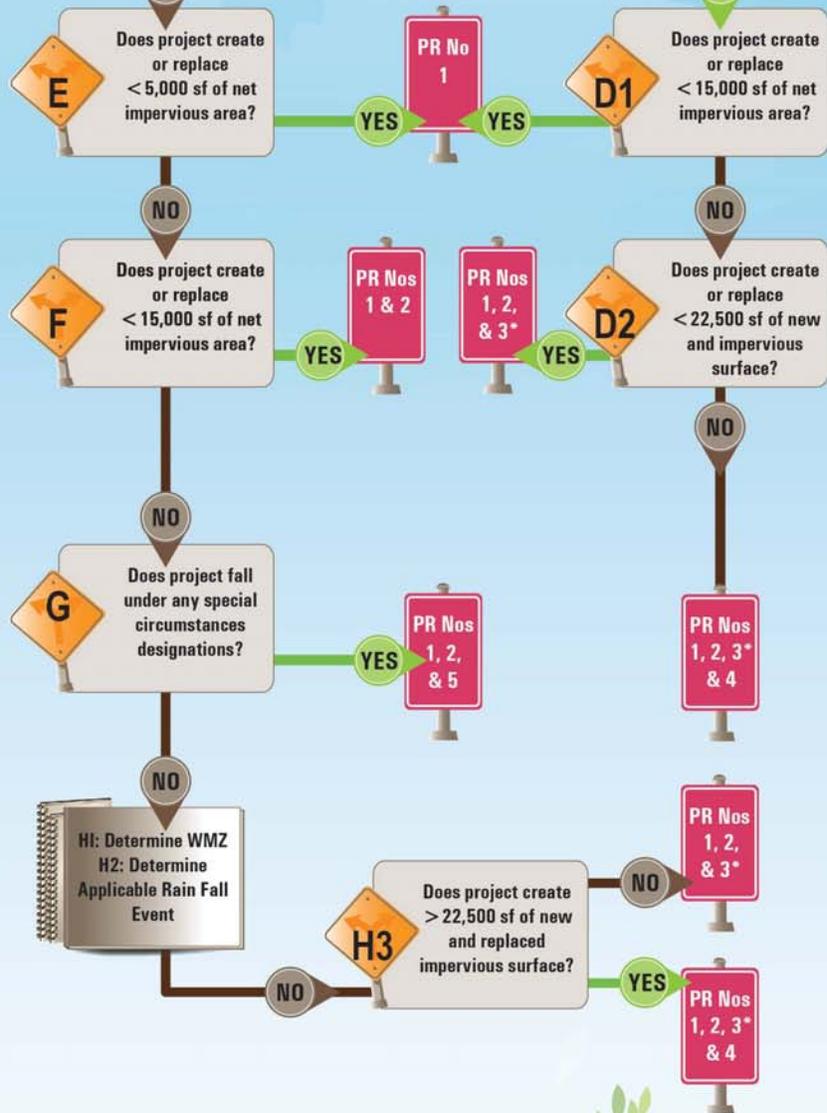


Table 3-1

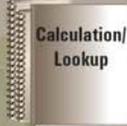
1	Completely drains to an on site undrained depression
2	Project is located outside of County MS4 Permit Area (see App A)

Table 3-2

i	Road and parking lot maintenance
ii	Sidewalk and bicycle lane projects (where no other impervious surfaces are created or replaced), and built to direct stormwater to adjacent vegetated areas
iii	Trails and pathways (where no other impervious surfaces are created or replaced), and built to direct stormwater runoff to adjacent vegetated areas
iv	Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics
v	Curb and gutter improvement or replacement projects that are not part of the any additional creation or replacement of impervious surface area (e.g. sidewalks, roadway)
vi	Second story additions that do not increase the building footprint
vii	Raised (not built directly on the ground) decks, stairs, or walkways designed with spaces to allow for water drainage
viii	Photovoltaic systems installed on/over existing roof or other impervious surfaces, and panels located over pervious surfaces with well-maintained grass or vegetated cover, or panel arrays with a buffer strip at the most down gradient row of panels
ix	Temporary structures (in place for less than six months)
x	Electrical and utility valves, sewer and water lift stations, backflows and other utility devices
xi	Above-ground fuel storage tanks and fuel farms with containment systems



LEGEND



- PR #1 Pg 3-13
- PR #2 Pg 3-15
- PR #3 Pg 3-17
- PR #4 Pg 3-22
- PR #5 Pg 3-23

* See Appendix D if site unable to retain required PR3 Volumes

Considering Figure 3-2, follow the decision point questions below to determine the project requirements (or if it is exempt):



Decision Point A. Does the project satisfy a condition in table 3-1, or consists of only a single item from table 3-2?

The situations in **Table 3-1** are considered exempt from the requirements of this handbook.

Table 3-1: Potential Exempting Conditions

No.	CONDITION	NOTE
1	Project completely drains to an undrained depression.	Consult with Planning and Building Department if the undrained depression is located on your parcel. Consult with the Public Works Department if the undrained depression is not located on your parcel. The applicant will be required to provide supporting documentation regarding site drainage, and holding capacity of the undrained depression during back to back events.
2	Project is located outside of County MS4 Permit Area.	See Appendix A for Permit Coverage Area Maps. Projects that are outside of the permit coverage area are exempt from Post-Construction requirements outlined in Resolution R3-2013-0032 (but are subject to the Post-Construction requirements of the Construction General Permit if the project disturbance area is greater than 1 acre).

Maintenance and utility projects are also typically considered “exempt” from meeting the post-construction requirements specified in this handbook. Examples of exempt maintenance projects include routine overlays and slurry seals. Examples of exempt utility projects include the installation of an ADA ramps, or solar panels on rooftops, or repair of roads or aerial utilities. The complete list of projects typically considered exempt is provided below:

Table 3-2: Other Exempting Conditions

No.	EXEMPTING CONDITION
i	<p>Road and Parking Lot maintenance</p> <ol style="list-style-type: none"> 1) Road surface repair including slurry sealing, fog sealing, and pothole and square cut patching 2) Overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage 3) Shoulder grading 4) Cleaning, repairing, maintaining, reshaping, or re-grading drainage systems 5) Crack sealing 6) Resurfacing with in-kind material without expanding the road or parking lot 7) Practices to maintain original line and grade, hydraulic capacity, and overall footprint of the road or parking lot 8) Repair or reconstruction of the road because of slope failures, natural disasters, acts of God or other man-made disaster

No.	EXEMPTING CONDITION
ii	Sidewalk and bicycle path lane projects, where no other impervious surfaces are created or replaced, built to direct stormwater runoff to adjacent vegetated areas
iii	Trails and pathways, where no other impervious surfaces are replaced or created, and built to direct stormwater runoff to adjacent vegetated areas
iv	Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics
v	Curb and gutter improvement or replacement projects that are not part of any additional creation or replacement of impervious surface area (e.g., sidewalks, roadway)
vi	Second-story additions that do not increase the building footprint
vii	Raised (not built directly on the ground) decks, stairs, or walkways designed with spaces to allow for water drainage
viii	Photovoltaic systems installed on/over existing roof or other impervious surfaces, and panels located over pervious surfaces with well-maintained grass or vegetated groundcover, or panel arrays with a buffer strip at the most down gradient row of panels
ix	Temporary structures (in place for less than six months)
x	Electrical and utility vaults, sewer and water lift stations, backflows and other utility devices
xi	Above-ground fuel storage tanks and fuel farms with spill containment system

EXEMPT projects are not required to meet the stormwater performance requirements specified in this handbook. Non-exempt projects will require a Stormwater Control Plan (Appendix G) in addition to a completed SWCP Application.

Verify “Exempt” project status with Planning and Building Department officials.

Exempt projects are not required to follow the process outlined in Steps 2 through 5, however following these steps is recommended.

If the project is not on the exempt list, continue to decision point B.



Decision Point B. Does project create or replace less than 2,500 square foot of impervious surface?

The area of impervious surface created or replaced by the project includes all hardscapes (roofs, sidewalks, driveways, pools/spas). Permeable pavements may be excluded from the impervious surface area calculation if they are capable of infiltrating 5 inches in a 24 hour period.

If yes, the project meets the criteria to be considered “Exempt.” Exempt project applicants are encouraged to implement practices that will reduce stormwater impacts associated with development. A list of suggested practices appropriate for homeowners is included on the “Measures Homeowners Can Take to Reduce Stormwater Impacts” checklist found in [Appendix B-6](#).

If no, the project is considered to be a regulated project. **Regulated projects** will be required to meet Performance Requirement 1 (PR 1). Many regulated projects are required to meet additional performance requirements. To determine if the project must meet additional requirements, you must determine the Net Impervious Area.

The **Net Impervious Area** is the total (including new and replaced) post-construction impervious areas, minus any reduction in total imperviousness from the pre-project to post-project conditions. Remember, permeable pavements may only be excluded from the impervious surface area calculation if they are designed to infiltrate.

Net impervious area	=	New and replaced impervious area	-	Pre-project to post-project reduction in impervious area, if any
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An applicant will be required to provide supporting documentation regarding permeable paver (or alternate surface) areas excluded from impervious area calculations.

Continue to decision point C to determine if additional performance requirements are necessary.



Decision Point C. Is the project a detached single family residence?

Detached single family residences should continue to decision point D1.

If the project consists of a detached single family residence on a small lot with steep slopes, it is strongly recommended to participate in a pre-application meeting with the County.

If yes, continue to decision point D1

If no, continue to decision point E



Decision Point D1. Does the project create or replace less than 15,000 sf of Net Impervious Area?

If yes, the project is only subject to Performance Requirement 1 “Site Design and Runoff Reduction”. See Step 3 (Pg 3-13) for information regarding criteria necessary to satisfy Performance requirement 1.

If no, continue to decision point D2.



Decision Point D2. Does the project create or replace less than 22,500 sf of new and impervious surface?

Projects that must answer decision point D2 are subject to:
 Performance Requirement 1 “Site Design and Runoff Reduction”
 Performance Requirement 2 “Water Quality Treatment”
 Performance Requirement 3 “Runoff Retention”

If you answered no to the above question, the project is also subject to:
 Performance Requirement 4 “Peak Management”

See Step 3 (Pg 3-13) for information regarding criteria necessary to satisfy each of the Performance Requirements.



Decision Point E. Does project create or replace less than 5,000 sf Net Impervious Area?

If yes, you will be required to meet Performance Requirement 1 “Site Design and Runoff Reduction”. If no, continue to decision point F.



Decision Point F. Does the project create or replace less than 15,000 sf of new and impervious surface?

Projects that answer yes to this question are subject to:

Performance Requirement Number 1 “Site Design and Runoff Reduction”

Performance Requirement Number 2 “Water Quality Treatment”

If no, proceed to decision point G.



Decision Point G. Does the project fall under any Special Circumstances designation?

If no, continue to H₁, H₂, and H₃.

If yes, the County may modify requirements for projects that are greater than 15,000 sf from runoff retention and/or peak management requirements if those requirements would be ineffective to maintain or restore the beneficial uses of receiving waters. Examples of special circumstances that will be considered by the County on a case-by-case basis include:

1. Highly Altered Channels special circumstances designation may be applicable to projects that drain into either a stream channels that are concrete-lined or otherwise continuously armored from the discharge point to the channel’s confluence with a lake, or large¹ river or a subsurface, continuous storm drain system that discharges directly to a lake, or large river.
2. Intermediate Flow Control Facilities special circumstances designation may apply to projects that discharge to an existing² flow control facility that regulates flow volumes and durations to levels that have been demonstrated to be protective of the beneficial uses downstream of the facility. Applicants seeking this designation must demonstrate via their Stormwater Control Plan that:
 - The flow control facility has the capacity to accept the project’s runoff;
 - The receiving facility has the capacity to accept runoff and to regulate flow volumes and durations; and,
 - No adverse impacts will be realized to downstream receiving waters.
3. Historic Lake and Wetlands special circumstances designation may apply to projects that are located where there was once a historic lake or wetland in which pre-development hydrologic processes included filtration and storage but no significant infiltration to support receiving waters. See [Appendix A](#) for a delineation of area that may qualify for this special circumstances designation. If the project is not located in one of the already identified historic lake and wetlands on [Appendix A](#), the request must be submitted to the Executive Officer of the Central Coast Water Board for approval.

¹ >200 square mile drainage area

² Existing basins are those that existed as of September 6, 2012.

H₁. Determine Watershed Management Zones

Projects creating or replacing 15,000 square feet or more of impervious surfaces, that are not a detached single family residence, and do not qualify for a special circumstance designation, will need to know their Watershed Management Zone (WMZ).

Watershed management zones (WMZs) are based on common key watershed processes and receiving water type. They are the basis for determining if the project is subject to Runoff Retention Performance Standards, or Runoff Retention and Peak management Requirements Performance Standards.

Watershed Management Zones (WMZs) are the basis for determining if the project is subject to Runoff Retention Performance Standards, or Runoff Retention and Peak management Requirements Performance Standards.

There are ten Watershed Management Zones located throughout the County in urbanized areas. If the project is located on one or more WMZs, you will need to satisfy the requirements of each zone proportionately. **Appendix A** provides exhibits of the distribution of Watershed Management Zones throughout the county. This information will eventually be available on the County’s web portal to their GIS system, for searching by address or APN number. The County’s Planning and Building Department can assist you if the maps in **Appendix A** do not clearly identify the Watershed Management Zone that the project is located in.

Exemptions: Projects in WMZs 3, 4, 7, and 10 that do not overlie groundwater basins are exempt from PR3. WMZs 4, 5, 7, 8, and 10 are exempt from PR4. See **Table 3-3**.

H₂. Determine Applicable Rainfall Event

The performance criteria for post-construction retention standards is the percentile storm that best represents the volume that is fully infiltrated in a natural condition, and thus should be managed onsite to maintain the pre-development hydrology for duration, rate and volume of stormwater flows.

The percentile rain event will either be the 85th or 95th percentile rain event depending on the project’s watershed management zone (WMZ) designation. As shown in **Table 3-3** below, the applicable rain event for the project may also be influenced by the presence or absence of a designated groundwater basin underlying the project site.

Table 3-3: Applicable Rainfall Event

WATERSHED MANAGEMENT ZONE (WMZ) (SEE APPENDIX A)	APPLICABLE RAINFALL EVENT (PERCENTILE)	COMPLIANCE, IF APPLICABLE, MUST BE ACHIEVED BY: (SEE TABLE 3-6):
1	95th	Infiltration
2	95th	Rainwater harvesting, infiltration, and/or evaporation
3		Not applicable*
4		If not above designated groundwater basin: Not applicable*

WATERSHED MANAGEMENT ZONE (WMZ) (SEE APPENDIX A)	APPLICABLE RAINFALL EVENT (PERCENTILE)	COMPLIANCE, IF APPLICABLE, MUST BE ACHIEVED BY: (SEE TABLE 3-6):
	95th	If above designated groundwater basin: Infiltration
5	85th	Infiltration
6	85th	Rainwater harvesting, infiltration, and/or evaporation
7		If not above designated groundwater basin: Not applicable*
	95th	If above designated groundwater basin: Infiltration
8	85th	Infiltration
9	85th	Rainwater harvesting, infiltration, and/or evaporation
10		If not above designated groundwater basin: Not applicable*
	95th	If above designated groundwater basin: Infiltration

*If “not applicable” for compliance, the project is exempt from PR3.



Refer to the maps in **Appendix A** to determine what rainfall depth is associated with the designated design storm for the project. **Appendix A** also provides an exhibit delineating where designated groundwater basins occur throughout the County. **H₃: Does the project create or replace 22,500 sf or more of new and replaced impervious surface?**

All projects that are required to answer decision H are subject to Performance Requirement Number 3 “Runoff Retention”. If the answer to decision H is yes, the project must also comply with Performance Requirement Number 4 “Peak Management”.

Table 3-4 provides the section of this handbook to find information regarding techniques applicable to reduce runoff (volume) and peak runoff rates.

Table 3-4: Runoff Retention / Peak Management Techniques

TECHNIQUE	SECTION REFERENCE	V = VOLUME CONTROL P = PEAK MANAGEMENT		
		RAINWATER HARVESTING	INFILTRATION	EVAPORATION
Cisterns / Rain Barrels	5.2.1	V, P		
Roof runoff directed into vegetated areas	5.2.2		V, P	V, P
Runoff from sidewalks, walkways and/or patios directed into vegetated areas	5.2.3		V, P	V, P

TECHNIQUE	SECTION REFERENCE	V = VOLUME CONTROL P = PEAK MANAGEMENT		
		RAINWATER HARVESTING	INFILTRATION	EVAPORATION
Runoff from driveways and/or covered parking lots onto vegetated surfaces	5.2.4		V, P	V, P
Permeable pavements with infiltration bed	5.2.5		V, P	V, P
Runoff from driveways, uncovered parking lots, sidewalks, walkways, and patios constructed with permeable surfaces	5.2.5		V, P	

Applicants of projects subject to Performance Requirement 3 are encouraged to participate in a pre-application meeting.

Step 2: Initial Site Assessment

This step involves identifying the site characteristics that are best suited for the development of the project while minimizing the interruption of natural hydrologic functions. The initial site assessment begins with the collection and evaluation of project and site information listed in **Table 3-5**. The table provides a list of the most commonly needed information, its purpose, and its source. This list is preliminary and more specific information may be required prior to final design.

Table 3-5: Initial Site Assessment - Commonly Needed Site Information

CATEGORY	DESCRIPTION	PURPOSE	SOURCE
Site Topography	Steep slopes, outcrops, or other significant geologic features, native vegetative areas and tree locations, existing site structures and utilities.	The project needs to comply with any local restrictions on development of steep slopes, and should seek to preserve existing native vegetation.	Field survey.
Soil Types	Hydrologic soil groups, soil properties and depth to groundwater	Determining the feasibility of onsite infiltration of stormwater.	Site Geotechnical Report. See Appendix D for guidance on assessing soil infiltration rates. Natural Resources Conservation Service (NRCS) Soils Survey maps http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

CATEGORY	DESCRIPTION	PURPOSE	SOURCE
Hydrologic features	Creeks, wetlands, watercourses, seeps, springs, ponds, lakes, areas of 100-year floodplain, any contiguous natural areas. Include locations of run-on, depth to seasonal high groundwater.	Development location should balance site constraints and opportunities (on the least sensitive portion of a site and conserving the naturally vegetated areas to minimize environmental impacts in general and stormwater runoff impacts in particular).	Site inspections, topographic survey and existing maps such as US Geologic Survey (USGS) quadrangle maps, Federal Emergency Management Agency (FEMA) floodplain maps, and US Fish and Wildlife Service (USFWS) wetland inventory maps.
Receiving Water Limitations	Discharge locations, including existing drainage, developed drainage and storm drain connections, where applicable.	The stormwater control plan should be designed considering the receiving water limitations based on the Clean Water Act 303 (d) list of impaired water bodies.	Receiving water quality Clean Water Act 303(d) list for the Central Coast Region http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r3_06_303d_reqtmlds.pdf US Geologic Survey (USGS) quadrangle maps
Hazardous areas	Areas where contamination of soils and/or groundwater is known	Determine suitable BMPs to address these areas. Determine areas where it is not appropriate to infiltrate stormwater.	Evaluate previous uses of site to determine if there is a likelihood of contamination (soils and/or groundwater). Conduct Phase 1 Assessment if appropriate.
Pollutants of Concern (POCs) in Site Runoff	Existing POCs at site and possible POCs after project completion.	Knowing the target POCs at a site is necessary to designs appropriate post-construction BMPs.	Project Site History (see above) Project Pollutant Generating Activities
Effective Impervious Area (EIA)	Existing and proposed impervious surfaces, e.g., roof, sidewalk, street, parking lots	To measure the relationship that exists between watershed health and the percentage of impervious surface area within a watershed.	Site inspections, a topographic survey of the site.
Setbacks	Building, septic, wells, open space, creek & riparian habitat setbacks.	Development should be set back from creeks and riparian habitat as required by the local jurisdiction and the Central Coast Regional Water Quality Control Board.	County Dept. of Planning and Building County Code and Environmental requirements. www.sloplanning.org Water Quality Control Plan, Central Coast Region (Basin Plan) http://www.waterboards.ca.gov/centralcoast/BasinPlan/Index.htm

CATEGORY	DESCRIPTION	PURPOSE	SOURCE
Known or suspected Environmentally Sensitive Areas	Biological and culturally sensitive areas	Mature trees and native vegetation offer stormwater control benefits. Their preservation, along with other sensitive areas, is recommended.	County Dept. of Planning and Building County Code and Environmental requirements. www.sloplanning.org
Zoning, land use, covenants, easements, open space requirements, etc.	Site design constraints	Identify additional requirements.	County Dept. of Planning and Building County Code and Environmental requirements. www.sloplanning.org Title report

Review the project and site information listed above to define the optimal development envelope by identifying site constraints and opportunities to incorporate Low Impact Development (LID) design features into the site and landscape design. Constraints might include impermeable soils, high groundwater, steep slopes, and geotechnical instability. Opportunities might include existing natural areas, localized depressions, and unbuildable portions of irregularly shaped parcels.

Step 3: Preliminary Design

By this step, applicants should have a clear understanding of the Performance Requirements they are expected to satisfy (see flow chart in Step 1) and a sense of constraints and opportunities available on site to manage stormwater (site assessment discussed in Step 2).

Applicable performance requirements that the project may be subject to include:

- Performance Requirement 1: Site Design and Runoff Reduction
- Performance Requirement 2: Water Quality Treatment
- Performance Requirement 3: Runoff Retention
- Performance Requirement 4: Peak Management
- Performance Requirement 5: Special Circumstances
 - Highly Altered Channel
 - Intermediate Flow Control Facility
 - Historic Lake or Wetland
- Technical Infeasibility: _____

This step includes an overview of each performance requirement. Greater detail regarding each of the above performance requirements is provided in subsequent chapters of this handbook.

The project is expected to meet all applicable stormwater Performance Requirements and design requirements of the County.

The applicant must demonstrate that measures to reduce stormwater quality impacts have been incorporated into the project design. This information is conveyed to the County and certified by an appropriately licensed individual through a Stormwater Control Plan (SWCP) and application.

The SWCP describes how existing runoff characteristics will be affected by development and contains measures for mitigating any adverse impacts to water quality. The SWCP shall identify constraints, expected pollutants of concern, and site design measures that minimize impervious surfaces and redirect runoff from impervious surfaces to pervious surfaces, as well as source and treatment control BMP locations. The SWCP must be consistent with other application material (plans and reports). **Appendix B-7** provides a checklist of information required to be included in the SWCP.

Supporting documentation must include sufficient information to evaluate the environmental characteristics of affected areas, the potential impacts of the proposed development on water resources, and the effectiveness and acceptability of measures proposed for managing stormwater runoff.

A Stormwater Control Plan Application (Appendix B-1 to B-5) shall be submitted with the permit applications (e.g. land use permit, subdivision, grading permit, etc.) for the proposed project. It is recommended that a meeting with applicants and County staff take place at this early stage in order to come to concurrence on the requirements, especially if there are special circumstances involved. If the Application is approved by Planning, the applicant can proceed in completing the SWCP.

Within 30 days of receipt of project application and SWCP, the application will be evaluated for completeness and, if necessary, additional information will be requested.

Once found to be complete, an environmental determination will be made on the application to determine if significant environmental impacts could potentially result from the proposed project. Mitigation measures may be required to reduce impacts to a level of insignificance, or an Environmental Impact Report may be required.

PERFORMANCE REQUIREMENT 1: SITE DESIGN AND RUNOFF REDUCTION

The intent of Performance Requirement 1 (PR1) is for projects to be designed to mimic predevelopment hydrology to the extent feasible using Low Impact Design principals.

The best way to reduce stormwater quality issues over the life of a project is to employ good site planning techniques that:

- Conserve natural areas (existing trees, native vegetation, and soils)
- Limit the overall impervious footprint of the project
- Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary (without compromising public safety or mobility)
- Set back development from creeks, wetlands, and riparian habitats
- Conform the site layout along natural conforms
- Avoid excessive grading and disturbance of vegetation and soils.

Table 3-6 is an excerpt from the Stormwater Control Plan **Checklist** (see **Appendix B-7** for full checklist). All regulated projects must utilize the checklist below to demonstrate that the project design implements strategies to minimize impacts and reduce runoff. The relevant handbook section listed adjacent to each design strategy provides additional detail regarding compliance with the design strategy.

Table 3-6: PR1 Mandatory Design Strategy Table

PERFORMANCE REQUIREMENT 1: SITE DESIGN AND RUNOFF REDUCTION			
MANDATORY DESIGN STRATEGY		MEANS OF DEMONSTRATING COMPLIANCE	RELEVANT HANDBOOK SECTION
1.	Limit disturbance of creeks and natural drainage features.	Pre and post drainage feature map	4.2.1
2.	Minimize compaction of highly permeable soils.	Exhibit of soil types, overlain with development footprint	4.2.2
3.	Limit clearing and grading of native vegetation at the site to the minimum area needed to build the project, allow access, and provide fire protection.	Exhibit with native vegetation, overlain with development footprint	4.2.3
4.	Minimize impervious surfaces by concentrating improvements on the least-sensitive portions of the site, while leaving the remaining land in a natural undisturbed state.	Exhibit with delineated sensitive areas overlain with development footprint.	4.2.4

Minimize stormwater runoff by implementing one or more of the design measures listed in **Table 3-7**. The relevant handbook section listed adjacent to each design measure provides additional detail regarding compliance with the design measure.

Table 3-7: PR1 Mandatory Site Design Measures

MANDATORY SITE DESIGN MEASURES (SELECT AT LEAST ONE)		SELECTED	REASON, IF NOT SELECTING	RELEVANT HANDBOOK SECTION
a.	Roof runoff directed into cisterns or rain barrels for reuse?			5.2.1
b.	Roof runoff directed into vegetated areas (safely away from building foundations and footings)?			5.2.2
c.	Runoff from sidewalks, walkaways, and/or patios directed onto vegetated areas (safely away from the building foundations and footings)?			5.2.3
d.	Runoff from driveways and/or uncovered parking lots onto vegetated areas (safely away from the building foundations and footings)?			5.2.4
e.	Construct bike lanes, driveways, uncovered parking lots, sidewalks, walkways, and patios with permeable surfaces?			5.2.5

See Chapters 5 and 6 for additional information regarding potentially suitable site design and runoff reduction measures.

A pre-application meeting at this step is beneficial and is recommended, and highly recommended for the following projects:

Detached single family residences being built on small lots with steep slopes

Or

Projects subject to Performance Requirement 3.

PERFORMANCE REQUIREMENT 2: WATER QUALITY TREATMENT

The purpose of this performance requirement is to reduce pollutant loads and concentrations in site generated stormwater runoff using physical, biological, and chemical removal processes. Regulated projects subject to Performance Requirement 2 have three options (or a combination thereof) to treat runoff using on site measures. They are listed below in order of preference (highest to lowest):

The use of **runoff reduction measures** can reduce the amount of treatment control measures required for a site.

1. Low Impact Development (LID) Treatment Systems involve harvesting and use, infiltration, and/or evapotranspiration Stormwater Control Measures to collectively retain stormwater runoff equal to the volume of runoff generated by the 85th percentile 24-hour storm event for the project area. See [Appendix A](#) for Stormwater depths.
2. Biofiltration Treatment Systems remove pollutants through the use of natural systems, such as swales and filter strips. Project proponents must demonstrate that the biofiltration system proposed is capable of effectively treating site runoff given a 0.2-inches per hour rainfall intensity loading rate; or the loading rate associated with two times the 85th percentile hourly rainfall intensity for the project area without causing scour, erosion or channeling within the treatment system. Surface loading rates cannot exceed 5 inches per hour. Refer to typical biofiltration treatment systems & specifications in [Appendix E](#).

Additionally, biofiltration treatment systems must include:

- Minimum surface reservoir equal to the biofiltration treatment system surface area times a depth of 6 inches;
- Minimum planting medium depth of 24 inches. The planting medium must sustain a minimum infiltration rate of 5 inches per hour throughout the life of the project and must maximize runoff retention and pollutant removal. A mixture of sand (60%-70%) meeting the specifications of American Society for Testing and Materials (ASTM) C33 and compost (30%-40%) may be used. A Regulated Project may utilize an alternative planting medium if it demonstrates its planting medium is equal to or more effective at attenuating pollutants than the specified planting medium mixture.
- Proper plant selection;
- Subsurface drainage/storage (gravel) layer with an area equal to the biofiltration treatment system surface area and having a minimum depth of 12 inches;
- Underdrain with discharge elevation at top of gravel layer;
- No compaction of soils beneath the biofiltration facility (ripping/loosening of soils required if compacted);
- No liners or other barriers interfering with infiltration, except for situations where lateral infiltration is not technically feasible.

3. Non-Retention Based Treatment Systems are limited to locations that cannot implement LID or biofiltration treatment systems. Non-retention systems are considered “end of pipe” treatment approaches. They are the least favorable option because they are costly, maintenance intensive and tend not to provide additional benefits (such as treatment and runoff and/or peak management). Non-retention based treatment systems are designed either based on volume or flow hydraulic design criteria. **Table 3-8** outlines the design requirements.

Table 3-8: Non-Retention Based Treatment Control Sizing Criteria

PRIMARY MODE OF ACTION	DESIGN REQUIREMENTS*: TREAT STORMWATER RUNOFF EQUAL TO:
Volume Hydraulic Design Basis	The volume of runoff generated by the 85th percentile 24-hour storm event, based on local rainfall data.
Flow Hydraulic Design Basis	(i) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or (ii) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.

*Per CCRWQCB Res. No. R3-2013-0032 item 3.b.iii (a) and (b)

Non-retention Based Treatment System designs shall follow manufacturer’s recommendations for level of treatment which, at a minimum, shall achieve 80% reduction in Total Suspended Solids (TSS). In parking areas, systems shall include the capacity for oil and grease removal. Design details (such as Product Name, Manufacturer/Model Number, Product Life, and Maintenance requirements) of these systems considered Structural Control Measures (SCMs) will be required in the design documents as well as in the Operations and Maintenance forms located in **Appendix B-16**.

LID and Biofiltration Systems are retention based systems and are preferred over non-retention based systems. Project proponents will be required to demonstrate the basis for determining that none of the preferred systems could be implemented in their Stormwater Control Plan.

See **Appendix C** for information regarding Hydrologic Analysis and Stormwater Control Measure (SMC) Sizing Guidance for retention based systems.

Design alternatives will only be considered if the applicant can demonstrate that ALL of the following measures of equivalent effectiveness are demonstrated:

1. Equal or greater amount of runoff infiltrated or evapotranspired;
2. Equal or lower pollutant concentrations in runoff that is discharged after biofiltration;
3. Equal or greater protection against shock loadings and spills; and
4. Equal or greater accessibility and ease of inspection and maintenance.

Technical guidance for designing bioretention facilities can be found in **Appendix E and Appendix H**. Additional guidance and specifications are available from the Central Coast LID Initiative. The LIDI Specifications are found in **Appendix E** and on their web site:

http://www.centralcoastlidi.org/Central_Coast_LIDI/LID_Structural_BMPs.html

The guidance includes design specifications and standard plans. Plant lists appropriate for installation of LID and Biofiltration Systems in the County of San Luis Obispo can be found in **Appendix F: Plant List & Guidelines for Landscape-Based Stormwater Measures**.

PERFORMANCE REQUIREMENT 3: RUNOFF RETENTION

The purpose of this performance requirement is to retain, and if necessary, restore the beneficial uses of a project's receiving waters. A flow chart is provided on the next page (**Figure 3-3**) to assist the designer in meeting the runoff retention performance requirement using an iterative approach.

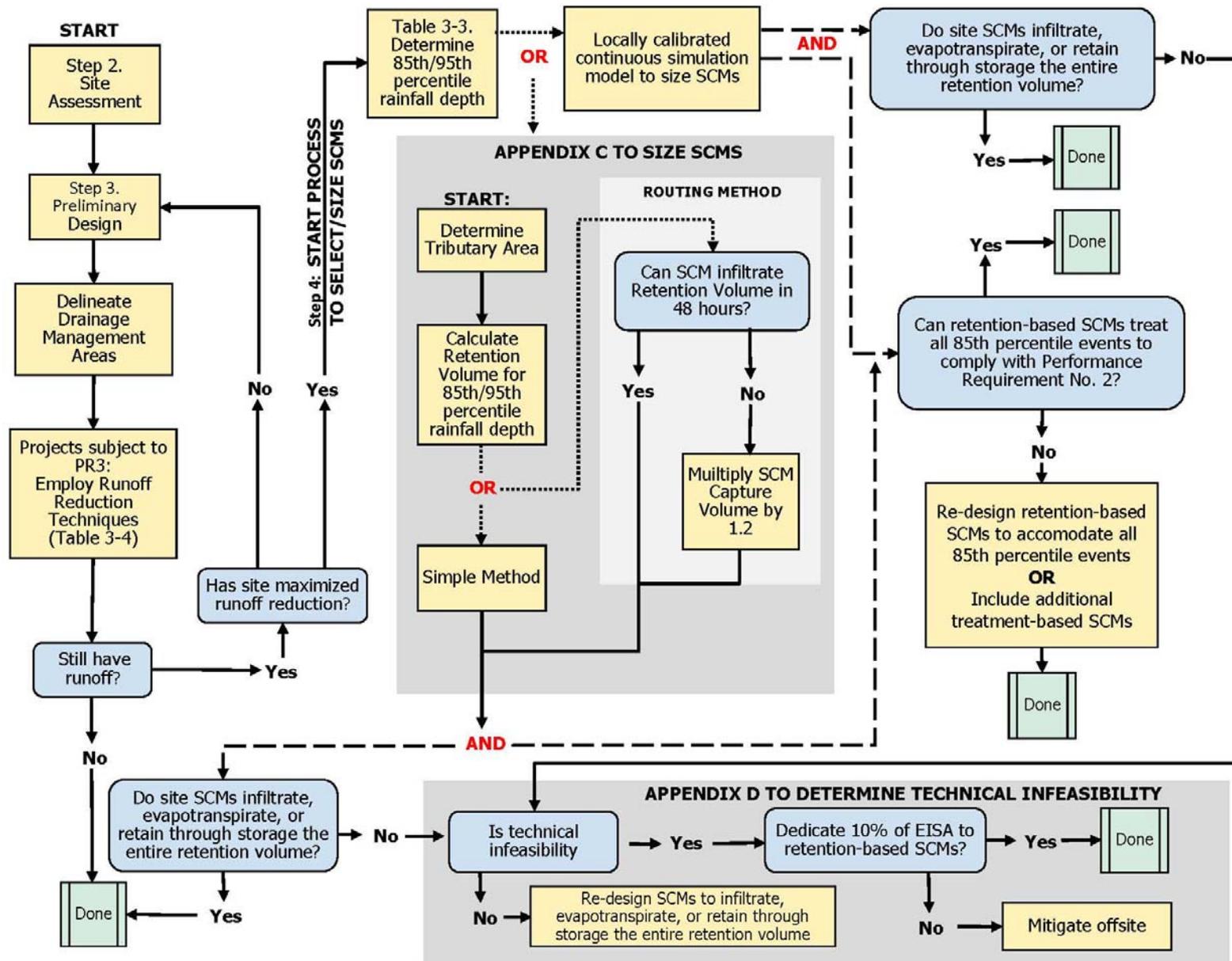


Figure 3.3 Runoff Retention Flow Chart

Drainage Management & Retention Tributary Areas

The designer must analyze the site by discrete drainage management areas, as well as the aggregate of these drainage management areas. Applicants will be expected to provide an exhibit delineating the boundary of each **Drainage Management Area (DMA)** in the Stormwater Control Plan (SWCP).

Drainage management areas typically follow grade breaks and roof ridge lines and account for each surface type (e.g. landscaping, pervious paving, or roofs).

Applicants must provide an exhibit delineating the boundary of each **Drainage Management Area (DMA)** within their site. Supporting calculations must also be provided for each DMA, as well as the site as a whole in the SWCP.

The volumes subject to PR3 are based on a determination of the Retention Tributary Area within each DMA. The retention tributary area is

$$\text{Retention Tributary area} = \text{Entire DMA} - \text{Undisturbed or Natural Landscaped areas} - \text{Impervious Surface Areas that discharge to infiltrating Areas}$$

Where:

Undisturbed or natural landscaped areas are defined as undisturbed area or areas planted with native, drought-tolerant, or LID appropriate vegetation that do not receive runoff from other areas (self-treating areas)

and

Impervious Surface Areas that discharge to infiltrating Areas are areas where the applicant can demonstrate that this runoff will be infiltrated and will not produce runoff to the storm drain system, or a surface receiving waterbody, or create nuisance ponding that may affect vegetation health or contribute to vector problems for the storm defined in **Section H₂** of this chapter.

The runoff off volume is based on the applicable rainfall event defined in **Table 3-3** based on the project's Watershed Management Zone. Where infiltration is listed as the means of compliance in **Table 3-3**, the applicant must use Structural Control Measures (SCMs) that retain the entire Retention Volume determined for the DMA.

Retention facilities must be sized using the Simple Method, a Routing Method or a calibrated continuous simulation model, without overflowing the design rainfall event (the 85th or 95th percentile storm, as applicable).

Simple Method. is a direct calculation of facility size based on the runoff volume generated by a single design rainfall event, applicable to the project.

Routing Method. utilizes hydrograph analysis to determine the volume needed to retain the design rainfall event, applicable to the project.

Calibrated continuous simulation models, must be approved by the Water Board prior to their use.

Design guidance for fully infiltrative SCMs include:

- The Contra Costa C.3 Manual
- The City of Santa Barbara LID BMP Manual
- The City of San Diego LID Design Manual, July 2011
- Central Coast LID Initiative Bioretention Design Guidance

There are numerous design strategies than reduce the volume of runoff. Applicants must apply all of the applicable design strategies listed in **Table 3-9** to minimize site runoff and demonstrate compliance with Performance Requirement 3.

Table 3-9: PR3 Mandatory Design Strategies

MANDATORY DESIGN STRATEGY		MEANS OF DEMONSTRATING COMPLIANCE	RELEVANT HANDBOOK SECTION
1.	Define the development envelope and protected areas, identifying areas that are most suitable for development and areas to be left undisturbed.	Site Constraints exhibit overlain with development footprint.	4.3.1
2.	Conserve natural areas, including existing trees, other vegetation, and soils	Exhibit with existing vegetation, overlain with development footprint	4.3.2
3.	Limit the overall impervious footprint of the project	Narrative in the Stormwater Control Plan to minimally discuss the concepts listed in Chapter 4, and how they were incorporated into the design, or the basis for rejection, if not adopted	4.3.3
4.	Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety or mobility uses are not compromised	Discussion on minimum allowable widths, and rationale for using larger values (if applicable) or confirmation that minimum values were used (where applicable)	4.3.4
5	Set back development from creeks, wetlands, and riparian habitats	Discussion on set-back dimension chosen. Exhibit with resource and setback line.	4.3.5
6	Conform the site layout along natural landforms	Topo with existing and planned contours cut and fill lines. Discussion of grading approach.	4.3.6
7	Avoid excessive grading and disturbance of vegetation and soils	Exhibit with vegetation, overlain with planned disturbed area limits.	4.3.7

Only after the site design has been maximized to reduce runoff, shall projects utilize non-infiltration based Structural Stormwater Control Measures (SCMs).



Is Project unable to meet Performance Requirements?

Technical Infeasibility and Alternative Compliance

This section introduces the process for establishing technical infeasibility as the basis for not fully satisfying all applicable Performance Requirements. Alternative Compliance refers to the need for off-site mitigation of retention requirements in the circumstances listed below. Project applicants that are pursuing either or both of these options should consult with the County Planning and Building Department for assistance.

Technical Infeasibility

Appendix D provides information regarding appropriate methods to demonstrate technical infeasibility on the project site. Potential site conditions that prevent full compliance with applicable Performance Requirements may include:

1. Depth to seasonable high groundwater limits infiltration and/or prevents construction of subgrade stormwater control measures.
2. Depth to an impervious layer such as bedrock limits infiltration.
3. Sites where soil types significantly limit infiltration.
4. Sites where pollutant mobilization in the soil or groundwater is a documented concern.
5. Space constraints (e.g., infill projects, some redevelopment projects, high density development).
6. Geotechnical hazards.
7. Stormwater Control Measures located within 100 feet of a groundwater well used for drinking water.
8. Incompatibility with surrounding drainage system (e.g., project drains to an existing stormwater collection system whose elevation or location precludes connection to a properly functioning treatment or flow control facility).

Note: Projects that are able to demonstrate technical infeasibility for runoff retention requirements are still required to meet PR2 (Water Quality Treatment) criteria on-site.
Alternative Compliance

Appendix B-14 provides a checklist for demonstrating the need for Alternative Compliance. The County will *only* consider alternative compliance/off-site mitigation for projects that:

- cannot retain the full runoff retention volume required, can demonstrate technical infeasibility for full retention AND are unable to dedicate 10% of the project's equivalent impervious surface area for retention purposes (see **Appendix D**).

- are within a Urban Sustainability Area (USA) (not applicable for San Luis Obispo County)
- are subject to a RWCQB approved Regional Stormwater Plan (not applicable for San Luis Obispo County)

Projects approved for alternative compliance must identify and secure rights to use an alternative site within the same watershed as the project and provide supporting calculations to demonstrate that the off-site mitigation project is able to satisfy required Performance Requirements.

Summary of Performance Requirement 3 submittals

Projects subject to PR 3 Runoff-retention requirements must submit the following details within their Stormwater Control Plan:

- Opportunities and constraints to implementing LID on the site
- Techniques used to optimize LID site design measures in areas where LID is feasible and appropriate to the site
- Design details to each discrete drainage management area (DMA), covering the entire site
- Site Design and Runoff Reduction measures implemented to satisfy Performance Requirement 1
- Strategies for minimizing stormwater pollutants from the site.
- Justification and design details for any Structural Stormwater Control Measures (SCMs) specified on site (please verify with the County Planning and Building Department prior to relying on structural stormwater control measures)
- Other unique aspects to the project, such as the basis for any technical infeasibility assertions claimed, use of off-site mitigations to satisfy project requirements, etc. (verify with the County Planning and Building Department prior to asserting technical infeasibility or pursuing off site mitigation projects). Pre-application meetings are strongly recommended. A complete checklist of the components necessary to develop the Stormwater Control Plan is provided in [Appendix B-7](#).

PERFORMANCE REQUIREMENT 4: PEAK MANAGEMENT

The purpose of this performance requirement is to retain, and if necessary, restore the beneficial uses of a project's receiving waters. The requirement is to manage peak flow stormwater runoff. The project designer will need to demonstrate that post-development peak flows discharged from the site do not exceed pre-project peak flows for the 2- through 10- year storm events in the Stormwater Control Plan (SWCP).

PERFORMANCE REQUIREMENT 5: SPECIAL CIRCUMSTANCES

The purpose of this performance requirement is to allow discretion in the permitting of projects that have site and/or receiving water conditions that prevent the project from being designed in a way that fully satisfies Performance Requirements 3 and 4, if those requirements are applicable.

Special circumstances that will be considered by the County on a case-by-case basis include:

1. Highly Altered Channels
2. Intermediate Flow Control Facilities
3. Historic Lake and Wetlands

Projects in which the County (and potentially the Regional Board may weigh in) deem eligible for a Special Designation must satisfy Performance Requirements 1 and 2, as well as the performance requirements provided in the table below.

Table 3-13: PR5 Special Circumstances Requirements

SPECIAL CIRCUMSTANCE	REQUIREMENT	APPLICABLE WATERSHEDS
Highly Altered Channels	Projects that create or replace $\geq 22,500$ sf of impervious surface must meet PR 3	1, 2, 5, 8 or 4, 7, 10 with underlying designated groundwater basin
Intermediate Flow Control	Projects that create or replace $\geq 22,500$ sf of impervious surface must meet PR 3	1, 2, 5, 8 or 4, 7, 10 with underlying designated groundwater basin
Historic Lake or Wetland	Projects that create and/or replace $> 15,000$ and $< 22,500$ sf of impervious surface must detain the 95 th percentile 24-hour rainfall event	All
	Projects that create or replace $\geq 22,500$ sf of impervious surface must manage peak flow by detaining runoff such that the post-project rate for the 95 th percentile 24 hour event and the 2-through 10-year storm events does not exceed pre-project rates.	All

Although the County will not waive the Water Quality Treatment Performance Requirements, applicants providing supporting documentation demonstrating that applicable Performance Requirements would be ineffective in maintaining or restoring the beneficial uses of receiving waters will be considered. Applicants, who cannot satisfy required Performance Requirements for reasons other than those provided below, are directed to [Appendix D](#).

Step 4: Finalize Design

With a clear understanding of project Performance Requirements, the iterative process of design can begin, and continue until all stormwater goals have been met. An overview of design considerations is provided in this handbook (**Chapters 3, 4, and 5**). Specific design resources for designing bioretention facilities is available from the Central Coast LID Initiative web site:

http://www.centralcoastlidi.org/Central_Coast_LIDI/LID_Structural_BMPs.html

The CSUS Office of Water Programs in partnership with Central Coast LID Initiative and Watearth, Inc. have begun a project to create a web-based 'LID Sizing Tool for the Phase II Small MS4 General Permit'. Although not completed and active at the time of this handbook, it is recommended to check online for this helpful tool.

Acceptable design Guidance for fully infiltrative SCMs includes:

- The Contra Costa C.3 Manual
- The City of Santa Barbara LID BMP Manual
- The City of San Diego LID Design Manual, July 2011
- Central Coast LID Initiative Bioretention Design Guidance

Manufacture performance criteria will be the basis for design when proprietary systems are specified. Applicants will be required to justify the use of proprietary systems by demonstrating that retention based systems were not feasible.

Alternative designs will be considered if documentation is provided that includes supporting calculations and testing results that demonstrate equal water resource protection.

Projects will be required to implement all stormwater-related conditions of approval and mitigation measures associated with the approved project. The Stormwater Control Plan (SWCP) is the vehicle to be used to document the design process, findings, supporting calculations, and exhibits. See **Appendix B-7** for required content of the SWCP.

Once the project design complies will all stormwater goals, the final Stormwater Control Plan must be submitted for review.

A draft Operation and Maintenance Plan (O&M) is required for all projects that utilize Structural Control Measures (SCMs) to satisfy Performance Requirements 2, 3 and/or 4. A maintenance program is essential to ensure that the stormwater facilities continue to function as designed to maintain water quality and prevent possible flooding and property damage.

A proper maintenance plan must include:

- Site map of all SCMs requiring O&M practices to function as designed
- Procedures are provided for each structural control measure including, but not limited to, LID facilities, retention/detention basins, and proprietorship devices
- Short and long term maintenance requirements
- Estimated cost for maintenance

Appendix B-16 has templates to aid in the development of the O&M Plan.

The SWCP and O&M plan shall be prepared under the direction of a professional civil engineer registered in the State of California. The plans shall be stamped, signed and include a certifying statement indicating that all stormwater BMPs have been designed to meet the County's stormwater quality requirements. If the plans include additional plants not listed in the County's approved plant list, landscape plans shall be prepared under the direction of a professional landscape architect registered in the State of California.

For discretionary projects, the Department will prepare a staff report to the Review Authority (e.g., the County Planning Commission, Subdivision Review Board) for the project's consideration. The Review Authority, based on County ordinances and policies, project facts, the environmental determination, and recommendations from other agencies, may approve, conditionally approve or deny the application. Pursuant to Sections 22.10.155.J (Land Use Ordinance) and 23.04.450.j (Coastal Zone Land Use Ordinance), the Review Authority may consider a waiver or modifications of requirements under this Handbook. If the project is approved, proceed to Step 5.

Step 5: Finalize Permit

Prior to issuing final approval or occupancy to a project utilizing stormwater management BMPs, the property owner(s) must enter into a formal written operation and maintenance agreement with the County³. **Appendix B-16 and B-26** includes a template and instructions for recording the Construction Notification necessary to formalize the agreement. The permit cannot be finalized until the agreement is fully executed.

Once the installation of the stormwater system, including post-construction features (and all other elements of the project) have been satisfied, the O&M agreement can be executed, and occupancy permit can be provided to the owner, providing there are no other issues pending.

³ Reference LUO Section 22.10.155G.7 and CZLUO Section 23.04.450.g(7)