

**LOW IMPACT DEVELOPMENT
AND
POST-CONSTRUCTION
STORMWATER MANAGEMENT REQUIREMENTS
APPLICANT PACKET
FOR PROJECTS IN SOUTH SANTA CLARA COUNTY**



COUNTY OF SANTA CLARA



PROJECT INFORMATION

Project Name: _____ APN#: _____

Project Address: _____

Cross Streets: _____

Applicant/Developer Name: _____

Project Phase(s): _____ of _____ Engineer: _____

Project Type (Check all that apply): New Development Redevelopment
 Residential Commercial Industrial Mixed Use Public Institutional
 Restaurant Uncovered Parking Retail Gas Outlet Auto Service (SIC code) _____
 Other _____

Project Description: _____

Project Watershed/Receiving Water (creek, river): _____

1. Total Project Area	27,878,400	ft ²
2. Pre-Project		
(a) Impervious Area	235	ft ²
(b) Pervious Area	27,878,165	ft ²
3. Post-Project		
(a) Replaced Impervious Area	0	ft ²
(b) New Impervious Area	11,070	ft ²
(c) Total Post-Project Impervious Area (<i>sum of Line 3a and Line 3b</i>)	11,070	ft ²
(d) Post-Project Pervious Area	27,867,330	ft ²
Net Impervious Area		
4. Reduced Impervious Area Credit (<i>Line 2a minus Line 3c</i>)	0	ft ²
5. Net Impervious Area (<i>Line 3c minus Line 4</i>)	11,070	ft ²

Post Construction Stormwater Management Requirements
Project Requirements Determination



6. Is Line 3c greater than or equal to 2,500 sq. ft?
- No, the project does not need to meet Post-Construction Stormwater Management Requirements - **STOP HERE.**
 - Yes, the project is subject to Performance Requirement No. 1: Site Design and Runoff Reduction. Complete the **Site Design and Runoff Reduction Checklist** on **Page 4.** Continue to #7.
7. Is the Project a detached single-family home?
- No, go to #8.
 - Yes, continue to #7.a. below.
- 7a. Is Line #5, Net Impervious Area greater than or equal to 15,000 sq ft?
- No, the project does not have any additional requirements – **STOP HERE.**
 - Yes, this project is subject to Performance Requirement No. 2: Water Quality Treatment. Complete the **Water Quality Treatment Checklist** on **Page 6.** Continue to #7.b.
 - Yes, this project is subject to Performance Requirement No. 3: Runoff Retention. Complete the **Runoff Retention Checklists** on **Pages 8-11.** Continue to #7.b.
- 7b. Is Line #3.c, amount of impervious surface created and/or replaced, greater than or equal to 22,500 sq ft?
- No, go to #12.
 - Yes, this project is subject to Performance Requirement No. 4: Peak Management (refer to the Stormwater Management Guidance Manual for instructions). Go to #12.
8. For projects that are not detached single family homes, is Line #5, Net Impervious Area, greater than or equal to 5,000 sq ft?
- No, the project does not have any additional requirements – **STOP HERE.**
 - Yes, this project is subject to Performance Requirement No. 2 Water Quality Treatment. Complete the **Water Quality Treatment Checklist** on **Page 6.** Continue to #9.

Post Construction Stormwater Management Requirements
Project Requirements Determination



9. Is Line #3.c, amount of impervious surface created and/or replaced, greater than or equal to 15,000 sq ft?
- No, go to #11.
- Yes, this project is subject to Performance Requirement No. 3 Runoff Retention. Complete all **Runoff Retention Checklists** on **Pages 8-11**, as applicable. Continue to #10.
10. Is Line #3.c, amount of impervious surface created and/or replaced, greater than or equal to 22,500 sq ft?
- No. Continue to #11.
- Yes, this project is subject to Performance Requirement No. 4: Peak Management (refer to the Stormwater Management Guidance Manual for instructions). Continue to #11.
11. Is there a pollutant generating activity or source included in the project (e.g., restaurants, grocery stores, food service operations, outdoor storage, vehicle service facilities, retail gas outlets, outdoor parking lots, loading docks, pools, spas, or fountains)?
- No, go to #12.
- Yes, your Project is required to implement structural or operational source control measures. Complete the **Source Control Checklist** on **page 5**. Continue to #12.
12. **Operation and Maintenance Information**
- a) Property Owner's Name _____
- b) Responsible Party for Stormwater Treatment/Hydromodification Control O&M:
- i. Name: _____
- ii. Address: _____
- iii. Phone/E-mail: _____
13. Submit a Stormwater Control Plan with the required information, and complete the **Stormwater Control Plan Checklist** on **page 12**.
- Yes
- No

PERFORMANCE REQUIREMENT NO. 1: SITE DESIGN AND RUNOFF REDUCTION

Certification

DESIGN STRATEGY	INCORPORATED INTO PROJECT?
1. Limit disturbance of creeks and natural drainage features.	<input type="checkbox"/>
2. Minimize compaction of highly permeable soils.	<input type="checkbox"/>
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.	<input type="checkbox"/>
4. Minimize impervious surfaces by concentrating improvements on the least sensitive areas of the site, while leaving the remaining land in a natural undisturbed state.	<input type="checkbox"/>
5. Minimize stormwater runoff by implementing one or more of the following design measures:	<input type="checkbox"/>
a) Direct roof runoff into cisterns or rain barrels for reuse.	<input type="checkbox"/>
b) Direct roof runoff onto vegetated areas safely away from building foundations and footings.	<input type="checkbox"/>
c) Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas safely away from building foundations and footings.	<input type="checkbox"/>
d) Direct runoff from driveways and/or uncovered parking lots onto vegetated areas safely away from building foundations and footings.	<input type="checkbox"/>
e) Construct bike lanes, driveways, uncovered parking lots, sidewalks, walkways, and patios with permeable surfaces.	<input type="checkbox"/>

I, _____, acting as the Project Engineer for _____ project, located at _____, hereby state that the Site Design and Runoff Reduction design strategies indicated above have been incorporated into the design of the project.

Signature

Date

SOURCE CONTROL CHECKLIST

On-site Source Control Measures	Incorporated Into Project?
Wash area/racks, drain to sanitary sewer or septic system ¹	<input type="checkbox"/>
Covered dumpster area, drain to sanitary sewer/septic system ¹ or landscaped area	<input type="checkbox"/>
Accessible cleanout for draining swimming pool/spa/fountain	<input type="checkbox"/>
Parking garage floor drains plumbed to sanitary sewer ¹	<input type="checkbox"/>
Fire sprinkler test water/condensate drain lines drain to sanitary sewer/septic system ¹ or landscaped area	<input type="checkbox"/>
Interior floor drains/boiler drain lines plumbed to sanitary sewer	<input type="checkbox"/>
Beneficial landscaping/IPM (minimize irrigation, runoff, pesticides and fertilizers; promotes treatment)	<input type="checkbox"/>
Outdoor material storage protection	<input type="checkbox"/>
Covers, drains for loading docks, maintenance bays, fueling areas	<input type="checkbox"/>
Maintenance (pavement sweeping, catch basin cleaning, good housekeeping)	<input type="checkbox"/>
Storm drain labeling	<input type="checkbox"/>
Other ² _____	<input type="checkbox"/>

Notes:

¹ Subject to sanitary sewer authority and/or Department of Environmental Health requirements.

² See CASQA Stormwater BMP Handbook for New Development and Redevelopment for additional BMPs for vehicle service repair facilities, fuel dispensing areas, industrial processes, rooftop equipment and other pollutant generating activities and sources.

<https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>

PERFORMANCE REQUIREMENT NO. 2: WATER QUALITY TREATMENT

Certification

ON-SITE WATER QUALITY TREATMENT MEASURES	INCORPORATED?
1. Low Impact Development (LID) Treatment Systems designed to retain stormwater runoff generated by the 85 th percentile 24-hour storm. Stormwater Control Measures Implement (check all that apply, design documentation is required)	
a) Harvesting and Use,	<input type="checkbox"/>
b) Infiltration,	<input type="checkbox"/>
c) Evapotranspiration	<input type="checkbox"/>
2. Biofiltration Treatment Systems ¹ – with the following design parameters:	
a) Maximum surface loading rate appropriate to prevent erosion, scour and channeling within the biofiltration treatment system itself and equal to 5 inches per hour, based on the flow of runoff produced from a rain event equal to or at least: (a) 0.2 inches per hour intensity; or (b) Two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depth	<input type="checkbox"/>
b) Minimum surface reservoir volume equal to the biofiltration treatment system surface area times a depth of 6 inches	<input type="checkbox"/>
c) 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 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.	<input type="checkbox"/>
d) Proper plant selection ²	<input type="checkbox"/>
e) Subsurface drainage/storage (gravel) layer with an area equal to the biofiltration treatment system surface area and having a minimum depth of 12 inches	<input type="checkbox"/>
f) Underdrain with discharge elevation at top of gravel layer	<input type="checkbox"/>
g) No compaction of soils beneath the biofiltration facility (ripping/loosening of soils required if compacted)	<input type="checkbox"/>

Post Construction Stormwater Management Requirements

Source Control Checklist

File No.: _____

- h) No liners or other barriers interfering with infiltration, except for situations where lateral infiltration is not technically feasible

3. Non-Retention Based Treatment Systems – designed to meet at least one of the following hydraulic sizing criteria:

- (a) Volume Hydraulic Design Basis – Treatment systems whose primary mode of action depends on volume capacity shall be designed to treat stormwater runoff equal to the volume of runoff generated by the 85th percentile 24-hour storm event, based on local rainfall data.
- (b) Flow Hydraulic Design Basis – Treatment systems whose primary mode of action depends on flow capacity shall be sized to treat:
 - (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.

I, _____, acting as the Project Engineer for _____ project, located at _____, hereby state that the Water Quality Treatment Measures indicated above have been incorporated into the design of the project.

Signature

Date

¹ Facilities or a combination of facilities, of a different design than in Item #2 may be permitted if 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 loading and spills; and 4) equal or greater accessibility and ease of inspection and maintenance.

² Technical guidance for designing bioretention facilities is available from the Central Coast LID Initiative. The guidance includes design specifications and plant lists appropriate for the Central Coast climate. (http://www.centralcoastlidi.org/Central_Coast_LIDI/LID_Structural_BMPs.html)

PERFORMANCE REQUIREMENT NO. 3 – RUNOFF RETENTION

Design Rainfall Events & Treatment Requirements for Watershed Management Zones (WMZs)¹

WMZ ²	Treatment Options & Design Rainfall	Check Applicable WMZs
WMZ 1	Via optimized infiltration ³ , prevent offsite discharge from events up to the 95 th percentile 24-hour rainfall event as determined from local rainfall data.	<input type="checkbox"/>
WMZ 2	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 95 th percentile 24-hour rainfall event as determined from local rainfall data.	<input type="checkbox"/>
WM 4 *	Via optimized infiltration ² , prevent offsite discharge from events up to the 95 th percentile 24-hour rainfall event as determined from local rainfall data.	<input type="checkbox"/>
WMZ 5	Via optimized infiltration ² prevent offsite discharge from events up to the 85 th percentile 24-hour rainfall event as determined from local rainfall data.	<input type="checkbox"/>
WMZ 6	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 85 th percentile 24-hour rainfall event as determined from local rainfall data.	<input type="checkbox"/>
WMZ 9	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 85 th percentile 24-hour rainfall event as determined from local rainfall data.	<input type="checkbox"/>
WMZ 10 *	Via optimized infiltration ² , prevent offsite discharge from events up to the 95 th percentile 24-hour rainfall event as determined from local rainfall data	<input type="checkbox"/>

1. Includes only those WMZs located in Santa Clara County.
 2. Use the Santa Clara County Department of Planning and Development Online Property Profile database to determine the WMZ in which your project is located: <http://www.sccplanning.org/gisprofile/>
 Search for your project site by APN or Address to retrieve the Property Profile. At the bottom of the property profile page, under Special Resources/Hazards/Constraints Areas, look for the “Central Coast Watershed Management Zone Value”.
 3. Storage, rainwater harvesting, and/or evapotranspiration may be used when infiltration is optimized.
- * Applicable only to those areas that overlay designated Groundwater Basins.

PERFORMANCE REQUIREMENT NO. 3 – RUNOFF RETENTION

LID Site Assessment Checklist

ITEMS TO DOCUMENT:	INCLUDED IN PROJECT DOCUMENTS?
1. Site topography	<input type="checkbox"/>
2. Hydrologic features including contiguous natural areas, wetlands, watercourses, seeps, or springs	<input type="checkbox"/>
3. Depth to seasonal high groundwater	<input type="checkbox"/>
4. Locations of groundwater wells used for drinking water	<input type="checkbox"/>
5. Depth to an impervious layer such as bedrock	<input type="checkbox"/>
6. Presence of unique geology (e.g., karst)	<input type="checkbox"/>
7. Geotechnical hazards	<input type="checkbox"/>
8. Documented soil and/or groundwater contamination	<input type="checkbox"/>
9. Soil types and hydrologic soil groups	<input type="checkbox"/>
10. Vegetative cover/trees	<input type="checkbox"/>
11. Run-on characteristics (source and estimated runoff from offsite which discharges to the project area)	<input type="checkbox"/>
12. Existing drainage infrastructure for the site and nearby areas including the location of municipal storm drains	<input type="checkbox"/>
13. Structures including retaining walls	<input type="checkbox"/>
14. Utilities	<input type="checkbox"/>
15. Easements	<input type="checkbox"/>
16. Covenants	<input type="checkbox"/>
17. Zoning/Land Use	<input type="checkbox"/>
18. Setbacks	<input type="checkbox"/>
19. Open space requirements	<input type="checkbox"/>
20. Other pertinent overlay(s)	<input type="checkbox"/>

PERFORMANCE REQUIREMENT NO. 3 – RUNOFF RETENTION
LID Site Design Measures

The Project Engineer shall certify the Project design optimizes the use of the following design measures to augment the design strategies required by Performance Requirement No. 1. Initial each runoff retention measure that has been incorporated and optimized into the design or mark NA if not applicable.

PERFORMANCE REQUIREMENT NO. 3 CERTIFICATION OF LID SITE DESIGN MEASURES

DESIGN MEASURE	INCORPORATED/ OPTIMIZED
1. Defining the development envelope, identifying the protected areas, and identifying areas that are most suitable for development and areas to be left undisturbed	_____
2. Identifying conserved natural areas, including existing trees, other vegetation, and soils (shown on the plans)	_____
3. Limit the overall impervious footprint of the project	_____
4. Design of streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety or mobility uses are not compromised	_____
5. Set back development from creeks, wetlands, and riparian habitats	_____
6. Design conforms the site layout along natural landforms	_____
7. Design avoids excessive grading and disturbance of vegetation and soils	_____

I, _____, acting as the Project Engineer for _____ project, located at _____, hereby state that LID Site Design Measures initialed have been incorporated into the design of the project.

Signature

Date

PERFORMANCE REQUIREMENT NO. 3 – RUNOFF RETENTION

TECHNICAL INFEASIBILITY CHECKLIST

Site Conditions	Check Applicable
1. Depth to seasonal high groundwater limits infiltration and/or prevents construction of subgrade stormwater control measures ³	<input type="checkbox"/>
2. Depth to an impervious layer such as bedrock limits infiltration	<input type="checkbox"/>
3. Sites where soil types significantly limit infiltration	<input type="checkbox"/>
4. Sites where pollutant mobilization in the soil or groundwater is a documented concern	<input type="checkbox"/>
5. Space constraints (e.g., infill projects, some redevelopment projects, high density development)	<input type="checkbox"/>
6. Geotechnical hazards	<input type="checkbox"/>
7. Stormwater Control Measures located within 100 feet of a groundwater well used for drinking water	<input type="checkbox"/>
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)	<input type="checkbox"/>

³ According to the CASQA Frequently Asked Questions about LID, “some MS4 permits and BMP guidance manuals require anywhere from 3-10 feet of separation from the groundwater level for infiltration practices. This distance depends on the soil type, pollutants of concern, and groundwater use. In some cases, however, where there may be groundwater or soil contamination, LID infiltrative practices may be restricted completely. (p. 7 in https://www.casqa.org/Portals/0/LID/CA_LID_FAQ_06-28-2011.pdf)

STORMWATER CONTROL PLAN CHECKLIST

Stormwater Control Plan Required Contents	PR Level	Done?
1. Project Information	All	
• Project name		
• Application number		
• Address and assessor's parcel number		
• Name of Applicant		
• Project Phase number (if project is being constructed in phases)		
• Project Type (e.g., commercial, industrial, multi-unit residential, mixed-use, public), and description		
2. Project Areas	All	
• Total project site area		
• Total new impervious surface area		
• Total replaced impervious surface area		
• Total new pervious area		
• Calculation of Net Impervious Area		
3. Statement of Performance Requirements that apply to the project:	All	
• Performance Requirement No.1 – Site Design and Runoff Reduction		
• Performance Requirement No.2 – Water Quality Treatment		
• Performance Requirement No. 3 – Runoff Retention		
• Performance Requirement No. 4 – Peak Management		
4. Delineation of Drainage Management Areas (DMAs)	All	
5. Summary of Site Design and Runoff Reduction Performance Requirement measures selected for the project (see PR-1 checklist)	PR-1	
6. Description of Runoff Reduction Measures and Structural Stormwater Control Measures, by Drainage Management Area and for entire site	PR-2, 3, and 4	
7. Water quality treatment calculations used to comply with the Water Quality Treatment Performance Requirement and any analysis to support infeasibility determination	PR-2	
8. Documentation certifying that the selection, sizing, and design of the Stormwater Control Measures meet the full or partial Water Quality Treatment Performance Requirements (see PR-2 checklist)	PR-2	

Stormwater Control Plan Required Contents	PR Level	Done?
9. Statement that Water Quality Treatment Performance Requirement has been met on-site, or, if not achievable: <ul style="list-style-type: none"> • Documentation of the volume of runoff for which compliance cannot be achieved on-site and the associated off-site compliance requirements • Statement of intent to comply with Water Quality Treatment Performance Requirement through Alternative Compliance 	PR-2	
10. LID Site Assessment Summary (see PR-3 checklist)	PR-3	
11. LID Site Design Measures Used (see PR-3 checklist)	PR-3	
12. Supporting calculations used to comply with the applicable Runoff Retention Performance Requirements	PR-3	
13. Documentation demonstrating infeasibility where Site Design and Runoff Reduction measures and retention-based Stormwater Control Measures cannot retain required runoff volume	PR-3	
14. Documentation demonstrating percentage of the project's Equivalent Impervious Surface Area dedicated to retention-based Stormwater Control Measures	PR-3	
15. Statement that Runoff Reduction Performance Requirement has been met on-site, or, if not achievable: <ul style="list-style-type: none"> • Documentation of the volume of runoff for which compliance cannot be achieved on-site and the associated off-site compliance requirements • Statement of intent to comply with Runoff Retention Performance Requirements through an Alternative Compliance agreement 	PR-3	
16. Supporting calculations used to comply with the applicable Peak Management Performance Requirements	PR-4	
17. Documentation demonstrating infeasibility where on-site compliance with Peak Management Performance Requirements cannot be achieved	PR-4	
18. Statement that Peak Management Performance Requirement has been met on-site, or, if not achievable: <ul style="list-style-type: none"> • Documentation of the volume of runoff for which compliance cannot be achieved on-site and the associated off-site compliance requirements • Statement of intent to comply with Peak Management Requirements through an Alternative Compliance agreement 		
19. O&M Plan for all structural SCMs to ensure long-term performance	PR-2, 3, and 4	
20. Owner of facilities and responsible party for conducting O&M	PR-2, 3, and 4	