

FOR CITY OFFICE USE ONLY



City of Hollister

Development Services

Engineering Department

339 Fifth Street

Hollister, CA 95023

Ph: (831) 636-4340 Fax: (831) 636-4349

STORMWATER MANAGEMENT POST CONSTRUCTION REQUIREMENTS

Application Submittal

- Where directions state **"Done"** that means no additional information or forms below that point needs to be filled out or furnished.
- See **Exhibits** for Watershed Management Zones & Urban Sustainability Areas
- Use **"n/a"** where information requested is not applicable. If you are unsure regarding how to fill out any of the information, please come in and request assistance from a staff person.

Project Information

Step 1

Applicant Name:			
Application No:			
Project Name:			
Location Address:			
Location APN:			
Site Zoning:			
Project Type: ✓		Commercial	
		Industrial	
		Mixed Use	
Detached Single Family Residential			
Multi-unit Residential			
Public			
Project Phase:			
Project Description:			
Total Project Site Area =			

Your project is NOT subject to Post Construction Requirements if...

Step 2

☐ Area (c) of project is < 2,500 square feet – Done
OR
☐ Area (c) of project is $\geq$ 2,500 square feet, and is a project type listed below (✓ type) – Done
☐ Road & parking surface repair – slurry & fog & crack seal, pothole & spot patching, overlay & resurfacing & other damage repair with no expansion
☐ Road & parking shoulder grading
☐ Road & parking cleaning, repairing, maintaining, reshaping, regarding drainage systems
☐ Sidewalk & bike path / lane project – no other impervious service created and runoff is directed to vegetated area
☐ Curb & gutter improvement or replacement – no other impervious created
☐ Underground utility project – surface replaced in kind
☐ Utility vaults – Ex: lift stations, backflows
☐ Fuel storage – above ground with spill containment
☐ Photovoltaic systems – on existing impervious surface, over pervious surface with vegetated cover, buffer strip at the most down gradient row of panels
☐ Second story – no increase in building footprint
☐ Decks & stairs & walkways – raised with space below for drainage
☐ Temporary structures – in place less than 6 months

Project Site Details

Step 3

Watershed Management Zone:		
Areas		
(a)	Total New Impervious Surface Area =	
(b)	Total Replaced Impervious Surface Area =	
(c)	Total Existing Impervious Area =	
(d)	Total Impervious Area of Completed Project =	
(e)	Net Impervious Area: (a+b) – (c-d) = OR where (c-d) is a negative number: (a+b) =	

- See Area calculations in Step 3 to compare to thresholds in each Step below
- Where directions state “**Go To**”, fill out and attach the referenced Form and any supporting documents

Step 4

Project is $\geq 2,500$ square feet
☐ Yes - Go To Requirement 1 – Site Design & Runoff Reduction - Form 1 AND THEN Go To Step 5

Step 5

Detached single family residential project where Area (e) is $\geq 15,000$ square feet OR Project where Area (e) $\geq 5,000$ square feet
☐ Yes - Go To Requirement 2 – Water Quality Treatment - Form 2 AND THEN Go To Step 6
☐ No - Done

Step 6

Detached single family residential project where Area (e) $\geq 15,000$ square feet OR Project where Area (a+b) $\geq 15,000$ square feet
☐ Yes - Go To Requirement 3 – Runoff Retention - Form 3 AND THEN Go To Step 7
☐ No - Done

Step 7

Project where Area (a+b) $\geq 22,000$ square feet
☐ Yes - Go To Requirement 4 – Peak Management - Form 4
☐ No - Done

Exhibits

1. [Watershed Management Zones](#)
2. [Watershed Management Zone Revision Request](#)
3. [Stormwater Control Measure Flow Chart](#)
4. [Definitions Related to Post Construction Requirements](#)
5. [Covenant and Agreement Regarding Storm Water Control Measures for O&M](#)
6. [Stormwater Control Measure \(SCM\) Validation Form](#)

Requirement 1 – Site Design and Runoff Reduction:

Identify the strategies used to reduce runoff through site design. Strategies 1-5 required.

Describe or attach simple plan details for 1 – 5

1. Limit disturbance of creeks and natural drainage features and setback development from these features.
2. Minimize compaction of highly permeable soils
3. Minimize clearing of native vegetation and grading, conserving natural areas and maximizing undisturbed areas, and developing along natural landforms.
4. Minimize impervious surfaces including roadways and parking lots
5. Other (Optional): Identify strategy(s) and describe or show how it will be done in the project.
6. Do **one** of the following: ✓
 - ☐ Direct roof run off into cistern, rain barrel, or vegetated area
 - ☐ Direct driveway and/or parking area into vegetated area
 - ☐ Construct surfaces (bike lanes, walks, driveways, parking areas) with permeable surfaces

Post-Construction Owner Identification

At the time of completion of the construction work, and the shift to post-construction stormwater controls, the responsible owner for Operations and Maintenance of the Runoff Reduction control measures will be listed in the attached *Covenant and Agreement Regarding Storm Water Control Measures for Operations and Maintenance*.

(If responsibilities are divided, list all responsible owners and associated measures.)

Certification

An Engineer of Record must sign and seal that the systems selected, sized, and designed as demonstrated in the attached calculations, meet the Runoff Reduction requirements for this project per the Post Construction Requirements adopted by the Central Coast Regional Water Quality Control Board. This will be included via the form *Storm Water Control Measure Validation*.

Requirement 2 – Water Quality Treatment:

(Reference Post Construction Stormwater Management Requirements for Development Projects in the Central Coast Region – Adopted July 12, 2013 California Regional Water Quality Control Board Central Coast Region – for details regarding requirements – Section B.3 and Section C. Alternative Compliance.)

Treatment

Location ✓

- ☐ On Site
- ☐ Off Site - Alternative Compliance

Measure Used ✓

- ☐ 1. Harvesting, infiltration, evapotranspiration
- ☐ 2. Bio-filtration Treatment *(Document inability to use 1.)*
- ☐ 3. Non-Retention Based Treatment *(Document inability to use 1. or 2.)*

Description of structural controls:

Alternative compliance measures:

Attachments

- *Attach treatment/sizing calculations, including any volume treated with off-site compliance.*
- *Attach construction and planting details and specifications for bio-filtration options*
- *Attach documentation regarding Treatment Measure selection*
- *Attach infeasibility analysis where alternative compliance is proposed.*

Post-Construction Owner Identification

At the time of completion of the construction work, and the shift to post-construction stormwater controls, the responsible owner for Operations and Maintenance of the Water Quality Treatment control measures will be listed in the attached *Covenant and Agreement Regarding Storm Water Control Measures for Operations and Maintenance*.

(If responsibilities are divided, list all responsible owners and associated measures.)

Certification

An Engineer of Record must sign and seal that the systems selected, sized, and designed as demonstrated in the attached calculations, meet the Runoff Reduction requirements for this project per the Post Construction Requirements adopted by the Central Coast Regional Water Quality Control Board. This will be included via the form *Storm Water Control Measure Validation*.

Requirement 3 – Runoff Retention:

(Reference Post Construction Stormwater Management Requirements for Development Projects in the Central Coast Region – Adopted July 12, 2013 California Regional Water Quality Control Board Central Coast Region – for details regarding requirements – Section B.4 and Section C. Alternative Compliance.)

- *If a revision to the site's Watershed Management Zone is being requested, attach Watershed Management Revision Request Form (Exhibit) and supporting documentation.*
- *Rainfall maps are available from the Regional Water Quality Control Board*

Site Assessment Measures Summary

☐ Attach documentation of the following information:

- Site topography
- Development envelope
- Hydrologic features including natural areas, wetlands, watercourses, seeps, springs, and required setbacks
- Vegetative cover including trees
- Open space requirements
- Location of groundwater wells used for drinking water
- Depth to seasonal high groundwater
- Soil types and hydrologic soil groups
- Depth to impervious layer such as bedrock
- Presence of unique geology (e.g. karst)
- Geotechnical hazards
- Existing structures, utilities, and drainage infrastructure including municipal storm drain system components
- Existing easements and covenants
- Documented soil or groundwater contamination
- Source and estimated stormwater run-on from offsite, coming to project area
- Drainage Management Areas (B.4.d.iii)
- Drainage management strategies by Drainage Management Area
- Runoff reduction measures and any structural control measures by Drainage Management Area (or full site as appropriate)

☐ Technical infeasibility limits on-site compliance

☐ 10% of equivalent impervious surface area is dedicated to retention based stormwater control measures – No alternative compliance for retention
Runoff volume - compliance not achieved on-site:

☐ Alternative compliance for retention proposed
Runoff volume – compliance not achieved onsite:
Runoff volume – alternative compliance used:

Analysis and Sizing

☐ Attach calculated Tributary Areas and Design Volumes per the Post Construction Stormwater Management

Requirements - Attachment D

- ☐ Adjustment made for redevelopment
- ☐ Adjustment made for being in, and meeting requirements of, an Urban Sustainability Area

Control Mechanism

- ☐ 95th percentile event retained via infiltration
- ☐ Finding of technical infeasibility – Structural Stormwater Measure proposed

Attachments

- *Attach Attachment D calculations for hydrologic analysis and stormwater control measure sizing*
- *Attach discussion of technical infeasibility for structural stormwater measure, where proposed in lieu of preferred storage, harvesting, infiltration, and/or evapotranspiration, include justification for any non-retention based controls*
- *Attach documentation of technical infeasibility for on-site compliance, including a site specific hydrologic and/or design analysis supporting findings*
- *Attach description of alternative compliance project including a summary description of pollutant and flow reduction comparing the expected aggregate results of the alternate project to the results that would otherwise have been achieved by meeting the numeric performance requirements onsite.*
- *Attach Attachment E calculations for retention requirement adjustment for technical infeasibility*
- *Attach Attachment F calculations for off-site retention requirements*
- *Attach agreement for alternative compliance site use, for purposes of achieving compliance*
- *Attach Operations and Maintenance Plan for all stormwater control measures (include any Peak Management facilities)*

Post-Construction Owner Identification

At the time of completion of the construction work, and the shift to post-construction stormwater controls, the responsible owner for Operations and Maintenance of the Runoff Retention control measures will be listed in the attached *Covenant and Agreement Regarding Storm Water Control Measures for Operations and Maintenance*.

(If responsibilities are divided, list all responsible owners and associated measures.)

Certification

An Engineer of Record must sign and seal that the systems selected, sized, and designed as demonstrated in the attached calculations, meet the Runoff Reduction requirements for this project per the Post Construction Requirements adopted by the Central Coast Regional Water Quality Control Board. This will be included via the form *Storm Water Control Measure Validation*.

Requirement 4 – Peak Management

(Reference Post Construction Stormwater Management Requirements for Development Projects in the Central Coast Region – Adopted July 12, 2013 California Regional Water Quality Control Board Central Coast Region – for details regarding requirements – Section B.5)

*Show any stormwater control measures used to meet the requirements of this section, **in the documentation and attachments required for Retention** (Form 3), including in all mapping and Operations and Maintenance materials.*

Peak Management Compliance

- ☐ Post-development peak flows, discharged from the site, do not exceed pre-project peak flows for the 2 through 10 years storm events.
- ☐ Technical infeasibility limits on-site compliance
 - ☐ Alternative compliance for retention proposed
Runoff volume – compliance not achieved onsite:
Runoff volume – alternative compliance used:

Attachments

- *Attach calculations showing pre-project discharge and post-project discharge for the 2 through 10 year storm events*
- *Attach documentation of technical infeasibility for on-site compliance, including a site specific hydrologic and/or design analysis supporting findings*
- *Attach description of alternative compliance project including a summary description of pollutant and flow reduction comparing the expected aggregate results of the alternate project to the results that would otherwise have been achieved by meeting the numeric performance requirements onsite.*
- *Attach agreement for alternative compliance site use, for purposes of achieving compliance*

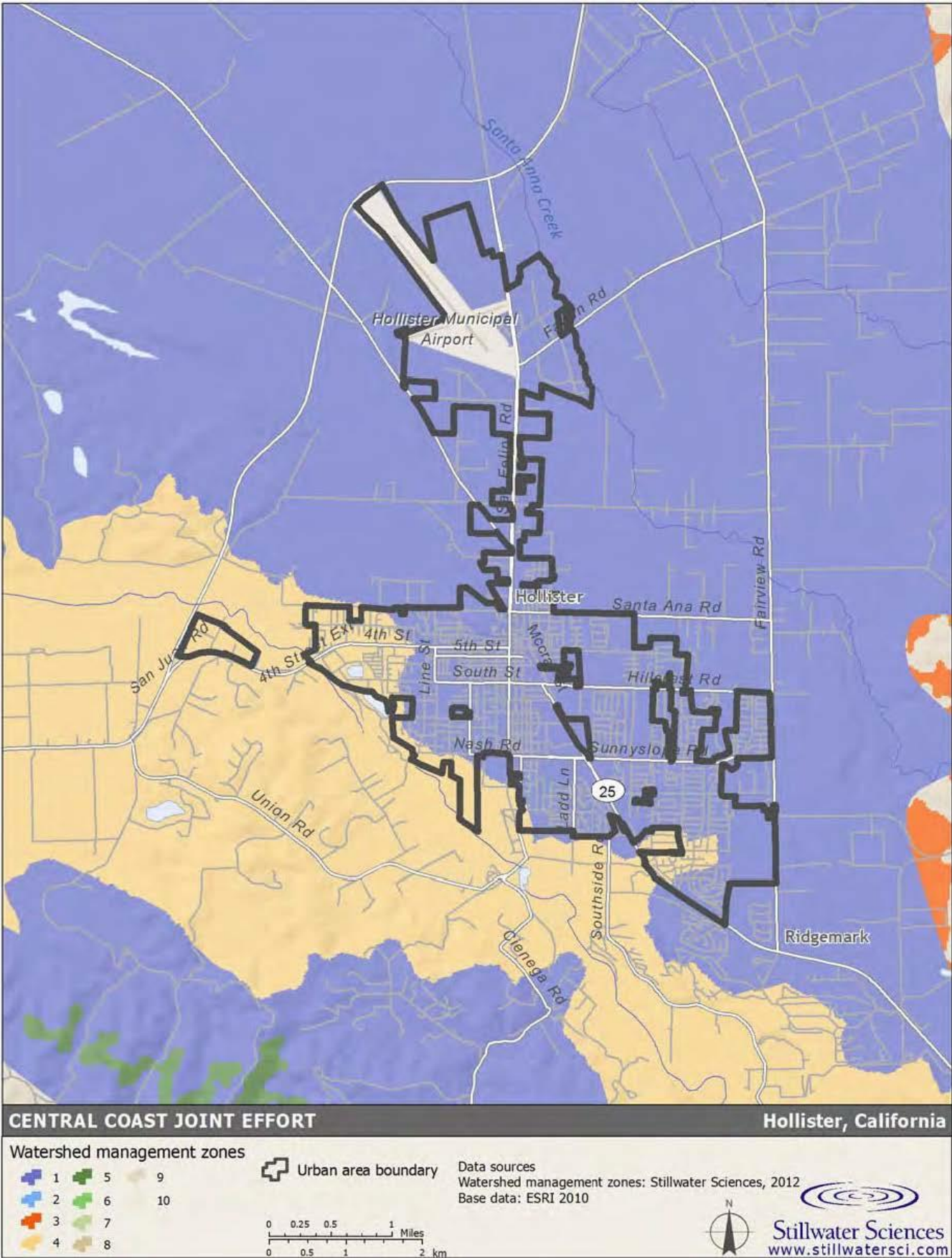
Post-Construction Owner Identification

At the time of completion of the construction work, and the shift to post-construction stormwater controls, the responsible owner for Operations and Maintenance of the Peak Management control measures will be listed in the attached *Covenant and Agreement Regarding Storm Water Control Measures for Operations and Maintenance*.

(If responsibilities are divided, list all responsible owners and associated measures.)

Certification

An Engineer of Record must sign and seal that the systems selected, sized, and designed as demonstrated in the attached calculations, meet the Runoff Reduction requirements for this project per the Post Construction Requirements adopted by the Central Coast Regional Water Quality Control Board. This will be included via the form *Storm Water Control Measure Validation*.



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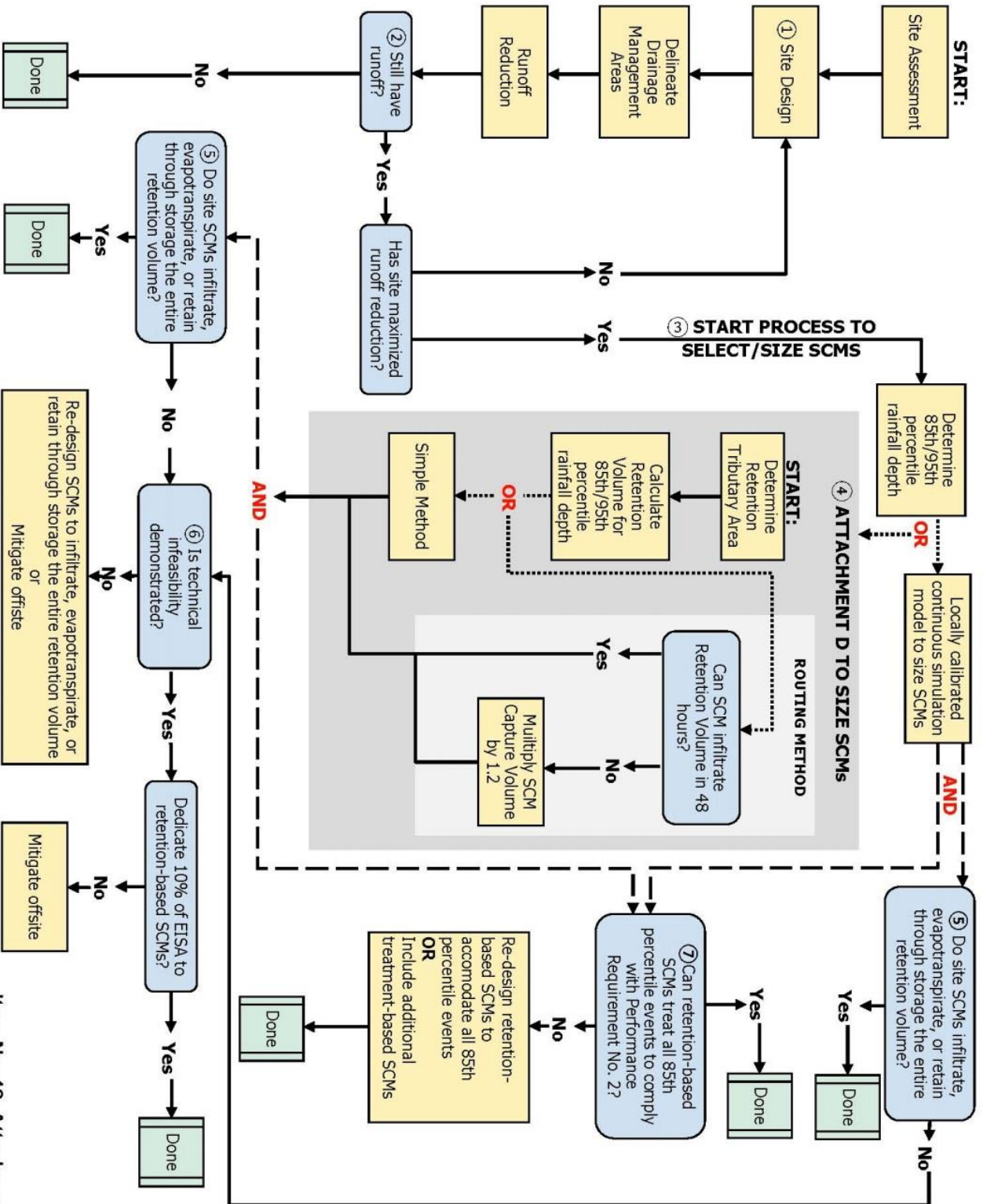
Watershed Management Zone	1	2	3	4	5	6	7	8	9	10	(P)	Pg
Slope:												
Steep												
Moderate												
Low												
Watershed Process:												
Infiltration dominant												
Infiltration less dominant												
Chemical & biological remediation												
Overland flow minimal												

Watershed Management Zone Revision Supporting Summary

Provide written summary of geotechnical/geological information supporting revised Watershed Management Zone designation.

Attachment

- *Attach geotechnical or geological information which supports revision (include page references in table above)*



Bioretention – A Stormwater Control Measure designed to retain stormwater runoff using vegetated depressions and soils engineered to collect, store, treat, and infiltrate runoff. Bioretention designs do not include underdrains.

Biotreatment or Biofiltration Treatment –A Stormwater Control Measure designed to detain stormwater runoff, filter stormwater through soil media and plant roots, and release the treated stormwater runoff to the storm drain system. Biotreatment systems include an underdrain.

Discretionary Approval – A project approval which requires the exercise of judgment or deliberation when the MS4 decides to approve or disapprove a particular activity, as distinguished from situations where the MS4 merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.

Dispersion – The practice of routing stormwater runoff from impervious areas, such as rooftops, walkways, and patios, onto the surface of adjacent pervious areas. Stormwater runoff is dispersed via splash block, dispersion trench, or sheet flow and soaks into the ground as it moves slowly across the surface of the pervious area.

Drainage Management Area (DMAs) – Following the low impact development principle of managing stormwater through small-scale, decentralized measures, DMAs are designated individual drainage areas within a Regulated Project that typically follow grade breaks and roof ridge lines and account for each surface type (e.g., landscaping, pervious paving, or roofs). Stormwater Control Measures for runoff reduction and structural facilities are designed for each DMA.

Equivalent Impervious Surface Area – is equal to Impervious Tributary Surface Area (ft²) + Pervious Tributary Surface Area (ft²), where Impervious Tributary Surface Area is defined as the sum of all of the site's conventional impervious surfaces, and Pervious Tributary Surface Area is defined as the sum of all of the site's pervious surfaces, corrected by a factor equal to the surface's runoff coefficient (see Attachment E for how to calculate).

Evapotranspiration (ET) – The loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues).

Flow-Through Water Quality Treatment Systems – Stormwater Control Measures that are designed to treat stormwater through filtration and/or settling. Flow-through systems do not provide significant retention or detention benefits for stormwater volume control.

Groundwater Basins – Groundwater basin areas defined by the California Department of Water Resources (DWR) and used in the Central Coast Water Board Joint Effort for Hydromodification Control to identify groundwater receiving-water issues and areas where recharge is a key watershed process. DWR based identification of the groundwater basins on the presence and areal extent of unconsolidated alluvial soils identified on a 1:250,000 scale from geologic maps provided by the California Department of Conservation, Division of Mines and Geology. DWR then further evaluated identified groundwater basin areas through review of relevant geologic and hydrogeologic reports, well completion reports, court-determined adjudicated basin boundaries, and contact with local agencies to refine the basin boundaries.

Impervious Surface – A hard, non-vegetated surface area that prevents or significantly limits the entry of water into the soil mantle, as would occur under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for purposes of determining whether the thresholds for application of Performance Requirements are exceeded. However, for modeling purposes, open, uncovered facilities that retain/detain water (e.g., retention ponds, pools) shall be considered impervious surfaces.

Land recycling – The reuse of abandoned, vacant, or underused properties for redevelopment or repurposing

Landscaped Areas – Areas of soil and vegetation not including any impervious surfaces of ancillary features such as impervious patios, BBQ areas, and pools.

Large River – A river draining 200 square miles or more.

Low Impact Development (LID) – A stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

Ministerial Approval – A project approval which involves little or no personal judgment by the MS4 as to the wisdom or manner of carrying out the project and only involves the use of fixed standards or objective measurements.

Native Vegetation – Vegetation comprised of plant species indigenous to the Central Coast Region and which reasonably could have been expected to naturally occur on the site.

Net Impervious Area – The sum of new and replaced post-project impervious areas, minus any reduction in total imperviousness from the pre-project to post-project condition: $\text{Net Impervious Area} = (\text{New and Replaced Impervious Area}) - (\text{Reduced Impervious Area Credit})$, where Reduced Impervious Area Credit is the total pre-project to post-project reduction in impervious area, if any.

New Development – Land disturbing activities that include the construction or installation of buildings, roads, driveways and other impervious surfaces. Development projects with pre-existing impervious surfaces are not considered New Development.

Percentile Rainfall Event (e.g., 85th and 95th) – A percentile rainfall event represents a rainfall amount which a certain percent of all rainfall events for the period of record do not exceed. For example, the 95th percentile rainfall event is defined as the measured rainfall depth accumulated over a 24-hour period, for the period of record, which ranks as the 95th percentile rainfall depth based on the range of all daily event occurrences during this period.

Permeable or Pervious Surface – A surface that allows varying amounts of stormwater to infiltrate into the ground. Examples include pasture, native vegetation areas, landscape areas, and permeable pavements designed to infiltrate.

Pre-Project – Stormwater runoff conditions that exist onsite immediately before development activities occur. This definition is not intended to be interpreted as that period before any human-induced land activities occurred. This definition pertains to redevelopment as well as initial development.

Project Site – The area defined by the legal boundaries of a parcel or parcels of land within which the new development or redevelopment takes place and is subject to these Post-Construction Stormwater Management Requirements.

Rainwater Harvest – Capture and storage of rainwater or stormwater runoff for later use, such as irrigation (without runoff), domestic use (e.g. toilets), or storage for fire suppression.

Receiving Waters – Bodies of water, surface water systems or groundwater that receive surface water runoff through a point source, sheet flow or infiltration.

Redevelopment – On a site that has already been developed, construction or installation of a building or other structure subject to the Permittee's planning and building authority including: 1) the creation or addition of impervious surfaces; 2) the expansion of a building footprint or addition or replacement of a structure; or 3) structural development including construction, installation or expansion of a building or other structure. It does not include routine road maintenance, nor does it include emergency construction activities required to immediately protect public health and safety.

Replaced Impervious Surface – The removal of existing impervious surfaces down to bare soil or base course, and replacement with new impervious surface. Replacement of impervious surfaces that are part of routine road maintenance activities are not considered replaced impervious surfaces.

Retention Tributary Area – The entire project area except for undisturbed areas, planted areas with native, drought-tolerant, or LID appropriate vegetation that do not receive runoff from other areas, and impervious surface areas that discharge to infiltrating areas that will not produce runoff or create nuisance ponding. The Drainage Management Areas are smaller Retention Tributary Areas that cumulatively make up the Retention Tributary Area for the entire site.

Routine Road Maintenance – includes pothole and square cut patching; overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage; shoulder grading; reshaping/regrading drainage systems; crack sealing; resurfacing with in-kind material without expanding the road prism or altering the original line and grade and/or hydraulic capacity of the road.

Self-Retaining Areas – (also called “zero discharge” areas), are designed to retain some amount of rainfall (by ponding and infiltration and/or evapotranspiration) without producing stormwater runoff. Self-Retaining Areas may include graded depressions with landscaping or pervious pavement.

Self-Treating Areas – are a portion of a Regulated Project in which infiltration, evapotranspiration and other natural processes remove pollutants from stormwater. The self-treating areas may include conserved natural open areas and areas planted with native, drought-tolerant, or LID appropriate vegetation. The self-treating area only treats the rain falling on itself and does not receive stormwater runoff from other areas.

Single-Family Residence – The building of one single new house or the addition and/or replacement of impervious surface associated with one single existing house, which is not part of a larger plan of development.

Stormwater Control Measures – Stormwater management measures integrated into project designs that emphasize protection of watershed processes through replication of pre- development runoff patterns (rate, volume, duration). Physical control measures include, but are not limited to, bioretention/rain gardens, permeable pavements, roof downspout controls, dispersion, soil quality and depth, minimal excavation foundations, vegetated roofs, and water use. Design control measures include but are not limited to conserving and protecting the function of existing natural areas, maintaining or creating riparian buffers, using onsite natural drainage features, directing runoff from impervious surfaces toward pervious areas, and distributing physical control measures to maximize infiltration, filtration, storage, evaporation, and transpiration of stormwater before it becomes runoff.

Stormwater Control Plan – A plan, developed by the Regulated Project applicant, detailing how the project will achieve the applicable Post-Construction Stormwater Management Requirements (for both onsite and offsite systems).

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City of Hollister

Development Services

Engineering Department

420 Hill St

Hollister, CA 95023

Ph: (831) 636-4365 Fax: (831) 636-4366

STORM WATER MANAGEMENT

Covenant and Agreement Regarding Storm Water Control Measures for Operations and Maintenance

The undersigned hereby certify that we are the owners of hereinafter legally described real property located in the City of Hollister, County of San Benito, State of California.

Legal Description:

_____, as recorded in Book _____, Page _____, Records of San Benito County, which property is located and known as (Address):_____.

Allowing the City of Hollister (City) on said property, we do hereby covenant and agree to and with said City to maintain according to the Operations and Maintenance Plan (Attachment A), all structural storm water control measures.

This Covenant and Agreement shall run all of the above described land and shall be binding upon ourselves, and future owners, encumbrances, their successors, heirs, or assignees and shall continue in effect until released by the authority of the City upon submittal of request, applicable fees, and evidence that this Covenant and Agreement is no longer required by law.

NOTARIES ON FOLLOWING PAGE

EXHIBIT A

Operations and Maintenance Plan with Map/Illustration

FOR CITY OFFICE USE ONLY



City of Hollister

Development Services

Engineering Department

420 Hill St

Hollister, CA 95023

Ph: (831) 636-4365 Fax: (831) 636-4366

STORM WATER MANAGEMENT

Storm Water Control Measure (SCM) Validation Form

The legally described real property located in the City of Hollister, County of San Benito, State of California,

Legal Description:

_____, as recorded in Book _____, Page _____, Records of San Benito County, which property is located and known as (Address): _____.

is a regulated project subject to Post-Construction Stormwater Management Requirements (PCRs) adopted by the California Central Coast Regional Water Quality Control Board July 12, 2013 (Resolution No. R3-2013-0032). The City of Hollister has implemented these PCRs for all development projects in its jurisdiction through Municipal Code §17.16.140C.

The City of Hollister requires all SCMs to be verified by an Engineer of Record that their installation was completed satisfactorily according to their approved design in: Site Design, Water Quality Treatment, Runoff Retention, and/or Peak Management Controls.

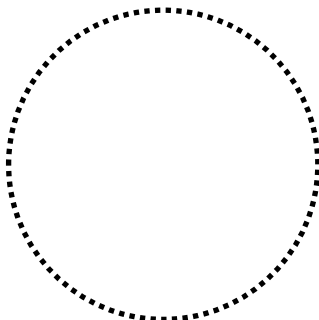
I certify under penalty of law that all **Storm Water Control Measures**, provided in Attachment A, of which have been approved by the City Engineer, at the property described herein were installed satisfactorily. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

ENGINEER OF RECORD

Signature

Date

Reg No.



SEAL