Template: Comparison of Water Quality Standards in Proposed Implementation Plan vs. Coastal Commission's Model LCP Water Quality Guidance

[Name of Local Government]
[Name & Date of Proposed IP Draft]
[Sections Reviewed]
[Reviewed by CCC Staff: Name & Date]

Green shows points of agreement. Yellow shows points to discuss/improve

- **"Key Point:"** in Notes column indicates key point that needs improvement

ROW Model IP	***SUMMARIZED* CCC MODEL LCP WATER QUALITY GUIDANCE'S IMPLEMENTATION PLAN STANDARDS (April 2016)**	**RELEVANT PROPOSED IMPLEMENTATION PLAN STANDARDS (section # & text excerpt)**	**NOTES [By Review's Name]**
7	**B. Information about existing project site conditions:**		
8-14	**1. & 2. Location Map & Site Information.** Topography, drainage, nearby coastal waters & ESHA, structures & pavement, discharges to impaired waters, potential contamination.		
15	**C. *Construction Pollution Prevention Plan (CPPP).*** The CPPP shall describe the temporary BMPs the development will implement to minimize erosion and sedimentation during construction, and to minimize pollution of runoff by construction chemicals and materials. The level of detail provided to address the plan's requirements shall be commensurate with the type and scale of the development, and the potential for adverse water quality and hydrologic impacts to coastal waters.		
16	**1. Applicability of *Construction Pollution Prevention Plan*.** A CPPP shall be required for development that requires a Coastal Development Permit (CDP) and entails construction that has the potential for adverse water quality or hydrologic impacts to coastal waters. For the purposes of this chapter, construction includes clearing, grading, or other activities that involve ground disturbance; building, reconstructing, or demolishing a structure; and creation or replacement of impervious surfaces.		

16	To comply with the California State Water Resources Control Board (SWRCB) stormwater permit requirements, an applicant proposing a certain size or type of development may be required to develop a *Stormwater Pollution Prevention Plan* (SWPPP) that addresses construction activities. Applicants submitting a SWPPP to meet SWRCB requirements shall also submit a CPPP to meet the City's/County's LCP requirements for review of a CDP application.		
17	**2. Submittal of *Construction Pollution Prevention Plan*.** An applicant shall submit a preliminary CPPP (based on site conditions and project features known at the time of application) with the CDP application, and shall submit a final CPPP for approval prior to construction. The information provided to address the plan's requirements may be submitted as a stand-alone document, or incorporated into the CDP application materials.		
18	**3. Requirements of *Construction Pollution Prevention Plan*.**		
19	**a. Minimize runoff and pollutant discharge.** Development shall minimize site runoff and erosion through the use of temporary BMPs, and shall minimize the discharge of sediment and other potential pollutants resulting from construction activities (e.g., chemicals, vehicle fluids, petroleum products, cement, debris, and trash). Implement the following types of construction-phase BMPs, as applicable:		
20	**(1) Erosion and sediment control BMPs.**		
21	i. Erosion control BMPs.		
22	ii. Sediment control BMPs.		
23	iii. Tracking control BMPs.		
24	**(2) BMPs to minimize discharge of other pollutants from construction activities.**		
25	i. Chemical and material storage BMPs.		
26	ii. Site management BMPs.		
27	**(3) BMPs to infiltrate or treat runoff, if needed.**		
28	**b. Stabilize soil as soon as feasible.**		
29	**c. Minimize land disturbance and soil compaction.**		
30	**d. Minimize damage or removal of non-invasive vegetation.**		
31	**e. Avoid plastic netting in temporary erosion and sediment control products.** Avoid the use of temporary erosion and sediment control products (such as fiber rolls, erosion control blankets, mulch control netting, and silt fences) that incorporate plastic netting, to minimize wildlife		

	entanglement and plastic debris pollution.		
32	**f. Use additional BMPs for construction near coastal waters.** Implement additional BMPs for construction taking place over, in, or adjacent to coastal waters, if there is a potential for construction chemicals or materials to enter coastal waters. BMPs shall include, where applicable:		
33	**(1) Tarps to capture debris and spills.**		
34	**(2) BMPs for preservative-treated wood.** Use BMPs that meet industry standards for treatment, storage, and construction practices for use of preservative-treated wood.		
35	**(3) Non-petroleum hydraulic fluids.** Use non-petroleum hydraulic fluids in principal heavy equipment operated for one week or longer over or in coastal waters or intertidal areas, if leaks or spills of hydraulic fluid cannot be contained and could potentially enter coastal waters.		
36	**(4) Designated fueling and maintenance area.** Conduct fueling and maintenance of construction equipment and vehicles off site if feasible. Any fueling and maintenance of mobile equipment conducted on site shall take place at a designated area located at least 50 feet from coastal waters, drainage courses, and storm drain inlets, if feasible (unless these inlets are blocked to protect against fuel spills). The fueling and maintenance area shall be designed to fully contain any spills of fuel, oil, or other contaminants.		
37	**g. Avoid grading during the rainy season.** Development shall avoid grading during the rainy season (from *date* to *date*), unless either of the following exemptions apply:		
38	**(1) Extension.** If the City/County grants an extension for a specific length of time, based on an inspection of the site, and a determination that conditions at the project site are suitable for continued work with appropriate erosion and sedimentation control measures maintained during the activity; or		
39	**(2) Emergency.** If the City/County allows grading under emergency conditions, and BMPs to protect coastal resources are implemented where feasible.		

40	**h. Manage construction-phase BMPs**, including installation, ongoing operation, inspection, maintenance, and training.		
41	**i. Use an appropriate BMP guidance manual**, such as the CASQA Construction BMP Handbook.		
42	**4. Content of *Construction Pollution Prevention Plan*.** Include the following required components, if applicable to the development:		
43	**a. Construction site plan map.** Delineate the construction site and phasing boundaries, and location of construction-phase BMPs.		
44	**b. Description of BMPs to be implemented to meet all CPPP requirements.** Describe BMPs to be implemented to meet all the CPPP requirements listed in section C.3, above, and how these BMPs will minimize construction-phase stormwater pollution resulting from the development. Include calculations that demonstrate proper sizing of the BMPs.		
45	**c. Schedule of BMP installation and construction phasing.** Provide BMP installation & removal schedule, and a description and timeline of significant land disturbance activities, if applicable.		
46	**d. Description of BMP management.** A description and schedule for the inspection, training, operation, and maintenance of construction-phase BMPs.		
47	**D. *Post-Development Runoff Plan (PDRP)*.** The PDRP shall describe the runoff management Site Design strategies, pollutant Source Control BMPs, and other measures the development will implement to minimize stormwater pollution and changes in runoff flows from the site after development is completed, in order to protect and, where feasible, restore the quality of coastal waters. The level of detail provided to address the plan's requirements shall be commensurate with the type and scale of the project, and the potential for adverse water quality and hydrologic impacts to coastal waters.		
48	**1. Applicability of *Post-Development Runoff Plan*.** Development that requires a CDP and has the potential for adverse water quality or hydrologic impacts to coastal waters shall (1) require a PDRP if the development entails construction (as defined in C.1, above); or (2) require a preliminary PDRP if the development entails activities or changes in land use other than construction, including subdivision or re-division of land (e.g., allowing motorized vehicle use of a trail previously restricted to pedestrians).		

49	**2. Submittal of *Post-Development Runoff Plan*.** An applicant shall submit a preliminary PDRP (based on site conditions and project features known at the time of application) with the CDP application, and if the development entails construction, shall also submit a final PDRP prior to issuance of the CDP.		
50	**3. Requirements of *Post-Development Runoff Plan*.**		
51	**a. Address runoff management early in site design.** All development shall address runoff management early in site design planning and alternatives analysis, and shall implement appropriate and feasible Site Design strategies. **Site Design strategies** are project design and site layout techniques that integrate existing site characteristics that affect runoff (such as topography, drainage patterns, vegetation, soil conditions, natural hydrologic features, and infiltration conditions) in the design of strategies to minimize post-development changes in the runoff flow regime, control pollutant sources, and, where necessary, remove pollutants.		
52	**b. Give precedence to a Low Impact Development approach to stormwater management.** All development shall give precedence to the use of a Low Impact Development (LID) approach to stormwater management to preserve the natural hydrologic functions of the site and to minimize post-development changes in the runoff flow regime resulting from the development. **LID** integrates preventive Site Design strategies with small-scale, distributed BMPs that replicate the site's pre-development hydrologic balance through infiltration, evapotranspiration, harvesting, detention, or retention of stormwater close to the source. By reducing runoff, LID also reduces the transport of pollutants from the site. **LID Site Design strategies** are project design and site layout techniques that preserve or enhance the natural hydrologic functions of the site. In implementing an LID approach, priority shall be given to the use of LID Site Design strategies to minimize changes in the site's stormwater flow regime, supplemented by the use of structural LID BMPs if needed to mitigate any unavoidable changes in runoff flows. LID Site Design strategies & BMPs include, for example:		

53	**(1) Protect and, where feasible, restore natural hydrologic features** that provide stormwater infiltration, treatment, storage, or conveyance. Examples include:		
54	i. Preserve natural drainage patterns, drainage swales, groundwater recharge areas, floodplains, and topographical depressions.		
55	ii. Preserve stream corridors, rivers, and wetlands, and establish appropriate buffers.		
56	**(2) Preserve or enhance non-invasive vegetation.**		
57	i. Minimize removal of natural vegetation.		
58	ii. Plant additional trees and other non-invasive, preferentially native, vegetation.		
59	**(3) Maintain or enhance on-site infiltration of runoff**, where appropriate and feasible. Examples include:		
60	i. Avoid building impervious surfaces on highly permeable areas of the site.		
61	ii. Minimize unnecessary soil compaction. Amend soil to enhance infiltration capacity.		
62	iii. Install an infiltration/ evapo-transpiration BMP such as a bioretention system, vegetated swale, or rain garden.		
63	**(4) Minimize impervious surface area.** Minimize the installation of impervious surfaces. Where feasible, increase the area of pervious surfaces in re-development. Examples include:		
64	i. Downsize impervious coverage by minimizing the footprint of buildings and pavement (such as a shorter driveway, narrower road, or smaller parking lot).		
65	ii. Where pavement is required, install a permeable pavement system (e.g., interlocking concrete pavers, porous asphalt, permeable concrete, or reinforced grass or gravel), where appropriate and		

	feasible. Design permeable pavements to infiltrate runoff into a subsurface recharge bed and the underlying soil, if feasible.		
66	**(5) Disconnect impervious surface areas from the storm drain system.** Minimize directly-connected impervious areas, which are areas covered by impervious surfaces (e.g., a building or impermeable pavement) that drain directly into the storm drain system without first flowing across permeable areas (such as vegetative landscaping or permeable pavement). Examples include:		
67	i. Direct roof-top runoff into permeable landscaped areas.		
68	ii. Direct runoff from impervious pavement into distributed permeable areas such as turf, recreational areas, medians, parking islands, and planter boxes.		
69	iii. Design curbs and berms to allow runoff to flow from impervious pavement to vegetative landscaping and other permeable areas for infiltration.		
70	iv. Install an infiltration BMP such as a vegetated swale or filter strip to intercept runoff sheet flow from impervious surfaces.		
71	v. Install a rainwater harvesting BMP, such as a rain barrel or cistern, to store roof-top runoff for later on-site irrigation.		
72	**c. Use alternative BMPs where on-site infiltration is not appropriate.** If on-site infiltration of runoff may potentially result in adverse impacts (including, but not limited to, geologic instability, flooding, or pollution of coastal waters), the development shall substitute alternative BMPs that do not involve on-site infiltration, to minimize changes in the runoff flow regime to the extent appropriate and feasible. Alternative BMPs shall also be used where infiltration BMPs are not adequate to treat a specific pollutant of concern attributed to the development, or where infiltration practices would conflict with regulations protecting groundwater. Examples of BMPs include:		

73	**(1) Install a vegetated "green roof" or flow-through planter** that does not infiltrate into the ground, and uses evapotranspiration to reduce runoff.		
74	**(2) Direct runoff to an off-site infiltration facility.**		
75	**(3) Install a rainwater capture system** to harvest runoff for subsequent non-potable water use that drains to the sewer system or storm drain system.		
76	**(4) Direct runoff to the storm drain system.** If appropriate and feasible BMPs have been implemented to reduce runoff volume, velocity, and flow rate, direct runoff to the storm drain system.		
77	**d. Use Source Control BMPs in all development.** All development shall implement appropriate and feasible long-term, post-development Source Control BMPs to minimize the transport of pollutants in runoff from the development. **Source Control BMPs** are structural features or operational practices that control pollutant sources and keep pollutants segregated from runoff. Examples include covering outdoor storage areas, using efficient irrigation, proper application and clean-up of potentially harmful chemicals and fertilizers, and proper disposal of waste.		
78	**e. Address runoff from impervious and semi-pervious surfaces.** Runoff from all new and/or replaced impervious and semi-pervious surfaces shall be addressed in the PDRP. For sites where the area of new and/or replaced impervious and semi-pervious surfaces is greater than or equal to 50% of the pre-existing impervious and semi-pervious surfaces, runoff from the entire developed area, including the pre-existing surfaces, shall be addressed in the PDRP.		
79	**f. Prevent adverse impacts to Environmentally Sensitive Habitat Areas from runoff.** In areas adjacent to an ESHA, protect the ESHA from any significant disruption of habitat values resulting from the discharge of stormwater or dry weather runoff.		
80	**g. Minimize discharges of dry weather runoff to coastal waters**, to the maximum extent feasible.		

83	**h. Avoid adverse impacts of discharges from stormwater outfalls.** Avoid the adverse impacts of discharging concentrated flows of stormwater or dry weather runoff through stormwater outfalls to coastal waters, intertidal areas, beaches, bluffs, or stream banks. Development shall:		
84	**(1) Avoid construction of new stormwater outfalls, where feasible.**		
85	**(2) Minimize adverse impacts to coastal resources from stormwater outfalls:**		
86	i. Consolidate existing and new stormwater outfalls, if appropriate.		
87	ii. Implement design and management features to minimize discharges of dry weather runoff through stormwater outfalls.		
88	iii. Implement design and management features to minimize adverse impacts to coastal resources resulting from discharges of stormwater or dry weather runoff through stormwater outfalls.		
89	**i. Prevent erosion at stormwater outlets.** Protective measures shall be used to prevent erosion at stormwater outlets (including outlets of pipes, drains, culverts, ditches, swales, or channels), if the discharge velocity will be sufficient to potentially cause erosion from concentrated runoff flows. The type of measures selected for outlet erosion prevention shall be prioritized in the following order, depending on the characteristics of the site and the discharge velocity:		
90	**(1) Use vegetative bioengineered measures.** Vegetative bioengineered measures (such as plant wattles) for outlet protection shall be given preference, rather than hardened structures, where site conditions are favorable.		
91	**(2) Use a hardened structure consisting of loose material.** Where a vegetative bioengineered measure is not feasible or effective, a hardened structure consisting of loose material (such as a rip-rap apron or rock slope protection) shall be considered for outlet erosion prevention.		

92	**(3) Use a fixed energy dissipation structure.** Where none of the above measures would be feasible or effective, a fixed energy dissipation structure (such as a concrete apron, grouted rip-rap, or baffles) shall be used for outlet erosion prevention. It is anticipated that larger outlets will require a fixed energy dissipation structure.		
93	**j. Manage BMPs for the life of the development**, including ongoing operation, maintenance, inspection, and training.		
94	**k. Use an appropriate BMP guidance manual**, such as the CASQA BMP Handbooks, or a current BMP manual designed to address local or regional runoff conditions.		
95	**4. Content of *Post-Development Runoff Plan*.** Include the following required components, if applicable to the development:		
96	**a. PDRP site plan.** Show structural BMPs, stormwater conveyances and discharges, structures, pavements, and utilities, with contour intervals appropriate to identify post-development topography, finished grades, & drainage patterns.		
97	**b. Identification of pollutants potentially generated.**		
98	**c. Estimate of proposed changes in impervious and semi-pervious surface areas**. Include changes in directly-connected impervious areas.		
99	**d. Description of BMPs to be implemented to meet all PDRP requirements** listed in D.3, above, and how these BMPs will minimize stormwater pollution and changes in runoff flows from the development.		
100	**e. Description of the Low Impact Development approach to be implemented.** Include a justification if LID is not selected.		
101	**f. BMP installation or implementation schedule.**		
102	**g. Description of BMP management for the life of the development**, including operation, maintenance, inspection, and training, if required for proper functioning.		

103	**E. *Water Quality and Hydrology Plan (WQHP).*** A WQHP shall be required for *Developments of Water Quality Concern* (see E.1, below), which are specified categories of development that have a greater potential for adverse water quality and hydrologic impacts due to the development size, type of land use, or proximity to coastal waters. The WQHP shall be prepared by a qualified licensed professional, and shall include a polluted runoff and hydrologic site characterization, a sizing standard for BMPs, use of an LID approach to retain runoff on-site, and documentation of the expected effectiveness of the proposed BMPs. Additional plan components that may be required include an alternatives analysis, and a description of the Treatment Control and/or Runoff Control BMPs the development will implement to minimize potential post-development water quality and hydrologic impacts.		
104	**1. Applicability of *Water Quality and Hydrology Plan*.** A WQHP shall be required for a *Development of Water Quality Concern* that requires a CDP and has the potential for adverse water quality or hydrologic impacts to coastal waters, including development that (1) entails construction (as defined in C.1, above), or (2) entails activities or changes in land use other than construction. *Developments of Water Quality Concern* shall include the following:		
105	**a. Residential.** Residential development that creates and/or replaces five or more dwelling units.		
106	**b. Hillside.** Hillside development on a slope greater than 15 percent, on a site with erodible soil.		
107	**c. 75% or more of site will be impervious surface area.** Development where 75% or more of the site's surface area will be impervious surfaces.		
108	**d. Create and/or replace 10,000 square feet or more impervious surface area.** Development that creates and/or replaces a cumulative site total of 10,000 square feet or more of impervious surface area.		
109	**e. Parking lot.** Development of a parking lot that creates and/or replaces a cumulative site total of 5,000 square feet or more of impervious surface area that may potentially contribute to stormwater runoff.		
110	**f. Vehicle service facility.** Development of a vehicle service facility, including a retail gasoline outlet, commercial car wash, or vehicle repair facility.		
111	**g. Street, road, or highway facility.** Development of a		

	street, road, or highway facility that creates and/or replaces a cumulative site total of 5,000 square feet or more of impervious surface area.		
112	**h. Restaurant.** Development of a restaurant that creates and/or replaces a cumulative site total of 5,000 square feet or more of impervious surface area.		
113	**i. Outdoor storage area.** Development of a commercial or industrial outdoor storage area that creates and/or replaces a cumulative site total of 5,000 square feet or more of impervious surface area, or as determined by the City/County based on the use of the storage area, where used for storage of materials that may potentially contribute pollutants to coastal waters or the storm drain system.		
114	**j. Commercial or industrial development generating high pollutant load.** Commercial or industrial development with a potential for generating a high pollutant load that may potentially enter coastal waters or the storm drain system.		
115	**k. Contaminated soil.** Any project developed on land where the soil has been contaminated by a previous land use, and where the contaminated soil has the potential to be eroded or to release the contaminants into runoff.		
116	**l. Near or discharges directly to coastal waters.** Developments that create and/or replace a cumulative site total of 2,500 square feet or more of impervious surface area, if the development is located within 100 feet of coastal waters (including the ocean, estuaries, wetlands, rivers, streams, and lakes) or discharges directly to coastal waters (i.e., does not discharge to a public storm drain system).		
117	**m. Other.** Any other development determined by the City/County to be a *Development of Water Quality Concern*.		
118	**2. Submittal of *Water Quality and Hydrology Plan*.** An applicant shall submit a preliminary WQHP (based on site conditions and project features known at the time of application) with the CDP application, and shall also submit a final WQHP prior to issuance of the CDP.		
119	**3. Requirements of *Water Quality and Hydrology Plan*.**		
120	**a. Prepare plan by a qualified licensed professional.** A California-licensed professional (e.g., Registered Professional Civil Engineer, Geotechnical Engineer,		

	Geologist, Engineering Geologist, Hydrogeologist, or Landscape Architect) qualified to complete this work shall be in responsible charge of preparing the WQHP.		
121	**b. Conduct a polluted runoff and hydrologic site characterization of the existing site** (e.g., potential pollutants in runoff, soil properties, infiltration rates, depth to groundwater, and the location and extent of hardpan and confining layers), as necessary to design proposed BMPs.		
122	**c. Address runoff from impervious and semi-pervious surfaces.** Runoff from all new and/or replaced impervious and semi-pervious surfaces shall be addressed in the plan. For sites where the area of new and/or replaced impervious and semi-pervious surfaces is greater than or equal to 50% of the pre-existing impervious and semi-pervious surfaces, runoff from the entire developed area, including the pre-existing surfaces, shall be addressed in the plan.		
123	**d. Size BMPs using, at a minimum, the 85th percentile design storm standard.** Any LID, Runoff Control, and Treatment Control BMPs implemented to comply with WQHP requirements shall be sized, designed, and managed to infiltrate, retain, or treat, at a minimum, the runoff produced by the 85th percentile 24-hour storm event for volume-based BMPs, or two times the 85th percentile 1-hour storm event for flow-based BMPs.		
124	**e. Use an LID approach to retain design storm runoff on-site.** The development shall implement an LID approach to stormwater management that will retain on-site (by means of infiltration, evapotranspiration, or harvesting for later on-site use), at a minimum, the runoff produced by the 85th percentile 24-hour design storm (see E.3.d, above), to the extent appropriate and feasible. In implementing an LID approach, priority shall be given to the use of preventive LID Site Design strategies to minimize post-development changes in the site's stormwater flow regime, supplemented by use of structural LID BMPs if needed to mitigate any unavoidable changes in stormwater flows (see D.3.b. for examples of LID Site Design strategies and BMPs).		
125	**f. Conduct an alternatives analysis if the design storm runoff will not be retained on-site using LID.** If the proposed development will not retain on-site the runoff produced by the 85th percentile 24-hour design storm (see E.3.d, above) using an LID approach, an alternatives		

	analysis shall be conducted. Demonstrate that:		
126	**(1) There are no appropriate and feasible alternative project designs** (such as a reduced project footprint) that would retain on-site the runoff produced by the 85th percentile 24-hour design storm, giving precedence to an LID approach.		
127	**(2) On-site runoff retention is maximized to the extent appropriate and feasible**, giving precedence to an LID approach.		
128	**(3) The feasibility of off-site runoff retention is considered.** If E.3.f.(1) and (2), above, are demonstrated, some or all of the runoff produced by the 85th percentile 24-hour design storm may be retained off-site, if it is demonstrated that off-site options will feasibly contribute to meeting the site's runoff retention and treatment requirements.		
129	**g. Use Treatment Control BMPs to remove pollutants if necessary.** **Treatment Control BMPs** are structural systems designed to remove pollutants from runoff by processes such as gravity settling of particulate pollutants, filtration, biological uptake, media adsorption, or other physical, biological, or chemical process. Examples include vegetated swales, detention basins, and storm drain inlet filters. The following applicability and performance standards shall be required for Treatment Control BMPs:		
130	**(1) Use Treatment Control BMPs to remove pollutants from any design storm runoff not retained on-site.** The development shall implement a Treatment Control BMP (or suite of BMPs) to remove pollutants of concern from any portion of the runoff produced by the 85th percentile 24-hour design storm (see E.3.d, above) that will not be retained on-site.		
131	**(2) Use Treatment Control BMPs prior to infiltration where necessary and effective.** Where infiltration BMPs are not adequate to		

	remove a specific pollutant of concern attributed to the development, an effective Treatment Control BMP shall be required prior to infiltration of runoff, or else an alternative BMP that does not involve infiltration shall be substituted for the infiltration BMP.		
132	**(3) Select Treatment Control BMPs effective for pollutants of concern.** Where a Treatment Control BMP is required, a BMP (or suite of BMPs) shall be selected that has been shown to be effective in reducing the pollutants of concern generated by the proposed land use.		
133	**h. Use a Runoff Control BMP if development will add more than 15,000 square feet of impervious surface area.** A proposed development that will add a net total of more than 15,000 square feet of impervious surface area shall implement a Runoff Control BMP, sized for the appropriate design storm (as specified in E.3.h (1) and (2), below), to capture and retain a portion of the anticipated increase in runoff volume after a site is developed. **Runoff Control BMPs** are structural systems designed to minimize post-development changes in runoff flow characteristics by processes such as infiltration, evapotrans-piration, harvesting for later on-site use, detention, or retention. Examples include retention structures such as basins, ponds, topographic depressions, and stormwater vaults. The following applicability and performance standards for Runoff Control BMPs shall be required, as determined by the net increase in impervious surface area:		
134	**(1) Runoff Control BMPs using Flow Retention techniques.** If a proposed development will add a net total of more than 15,000 square feet of impervious surface area, the development shall implement a Runoff Control BMP that uses Flow Retention techniques to capture and retain any portion of the runoff volume produced by the 85th percentile 24-hour design storm (see E.3.d, above) that will not be retained on-site using an LID approach. Flow Retention techniques shall optimize infiltration, and shall use stormwater		

	storage, harvesting for later on-site use, and/or evapotranspiration to address any of the required runoff flow retention volume that cannot be infiltrated.		
135	**(2) Runoff Control BMPs using Peak Management techniques.** In addition to using Flow Retention techniques, a proposed development that will add a net total of more than 22,500 square feet of impervious surface area shall also implement a Runoff Control BMP that uses Peak Management techniques to prevent post-development runoff peak flows discharged from the site from exceeding pre-project peak flows for the 2-year through 10-year storm events.		
136	**i. Use appropriate BMPs for high-pollutant land uses.** Commercial and industrial developments with a potential for a high concentration of pollutants (including, but not limited to, outdoor work and storage areas, restaurants, roads and highways, parking lots, and vehicle service facilities) shall implement appropriate Site Design and Source Control BMPs to keep pollutants out of stormwater, and shall either use Treatment Control BMPs to remove pollutants of concern before discharging runoff to coastal waters or the storm drain system, or shall connect the pollutant-generating area to the sanitary sewer.		
137	**j. Design and manage parking lots to minimize polluted runoff.** A parking lot over 5,000 square feet in area shall be designed to minimize impervious surfaces, and to treat and/or infiltrate runoff before it reaches coastal waters or the storm drain system.		
138	**(1) Parking lot landscaping.** The design of landscaped areas for parking lots shall consider, and may, where appropriate, be required to include provisions for on-site detention, retention, and/or infiltration of stormwater runoff. Such designs shall include recessed landscaped catchments (below the elevation of the pavement). Curb cuts shall be placed in curbs bordering landscaped areas, or else curbs shall not be installed, to allow runoff to flow from the parking lot into landscaped areas. All surface parking areas shall be provided a permeable buffer between the parking area and		

	adjoining streets and properties.		
139	**(2) Parking lot vacuuming.** Accumulations of particulates that may potentially be contaminated by oil, grease, or other pollutants shall be removed from heavily used parking lots (e.g., fast food outlets, lots with 25 or more parking spaces, sports event parking lots, shopping malls, grocery stores, and discount warehouse stores) by dry vacuuming or equivalent techniques.		
140	**(3) Filter maintenance.** Filter treatment systems, particularly for hydrocarbon removal BMPs, shall be adequately maintained.		
141	**k. Manage BMPs for the life of the development**, including ongoing operation, maintenance, inspection, and training.		
142	**4. Content of *Water Quality and Hydrology Plan*.** Include the following required components, if applicable to the development:		
143	**a. *Post-Development Runoff Plan* information.** All of the information required for the *Post-Development Runoff Plan* (see section D, above), including Site Design strategies and pollutant Source Control BMPs.		
144	**b. Polluted runoff and hydrologic characterization of the existing site**, including potential pollutants in runoff, soil properties, infiltration rates, depth to groundwater, and the location and extent of hardpan and confining layers.		
145	**c. Description of BMPs to be implemented to meet all WQHP requirements**, listed in section E.3, above, and how these BMPs will minimize stormwater pollution and changes in runoff flows from the development. Include documentation of the expected effectiveness of the BMPs, and characterization of post-development pollutant loads.		
146	**d. Calculations for sizing BMPs using 85th percentile design storm standard.** Calculations that demonstrate that the proposed BMP (or suite of BMPs) implemented to comply with WQHP requirements (see E.3, above) has been sized and designed to infiltrate, retain, or treat, at a minimum, the runoff produced by the 85th percentile 24-hour storm event for volume-based BMPs, or two times the 85th percentile 1-hour storm event for flow-based BMPs.		
147	**e. Documentation that runoff from impervious and semi-pervious surfaces is addressed as required.** A table quantifying the site's proposed new, replaced, and pre-		

	existing impervious and semi-pervious surface areas. Documentation that runoff from all new and/or replaced impervious and semi-pervious surfaces is addressed. For sites where the area of added and/or replaced impervious and semi-pervious surfaces is greater than or equal to 50% of the pre-existing impervious and semi-pervious surfaces, documentation that runoff from the entire developed area, including pre-existing surfaces, is addressed (pursuant to E.3.c., above).		
148	**f. Description of the LID approach used to retain the design storm runoff volume on-site.** Document that LID Site Design strategies have been given priority, and describe the LID BMPs that will be used to retain on-site (by means of infiltration, evapotranspiration, or harvesting) the runoff produced by the 85th percentile 24-hour design storm (see E.3.d, above), to the extent appropriate and feasible.		
149	**g. Alternatives analysis documenting site-specific constraints.** Where an alternatives analysis is required (pursuant to E.3.f, above), document the site-specific engineering constraints and/or physical conditions to justify the determination that there are no appropriate and feasible alternative project designs that would retain on-site the runoff produced by the 85th percentile 24-hour design storm, giving precedence to an LID approach. Also demonstrate that on-site runoff retention is maximized to the extent appropriate and feasible, and that the feasibility of off-site runoff retention is considered.		
150	**g. Description of BMP management**, including operation, maintenance, inspection, and training to be performed for the life of the development, if required for proper functioning.		