Section 3.7
Hydrology and Water Quality

This section presents a discussion of existing hydrology and water quality conditions at the Project site, potential hydrologic and water quality impacts, and proposed mitigation where applicable. A summary of the potential impacts is presented in **Table 3.7-1**. The study area for the hydrology and water quality analysis includes the potentially affected drainage (Sawmill Gulch), its associated watershed, and the Pacific Ocean at Spanish Bay Beach.

Table 3.7-1. Summary of Project Impacts on Hydrology and Water Quality

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
A. Groundwater			
HYD-A1. The Project would not substantially deplete groundwater supplies or interfere with groundwater recharge.	Less than Significant	None required	--
B. Alteration of Drainage Patterns			
HYD-B1. The Project would result in the alteration of surface drainage patterns, but would not alter the course of a stream or river in a manner that would result in substantial erosion or siltation on or off the site.	Less than Significant	None required	--
C. Stormwater Runoff and Drainage Infrastructure			
HYD-C1. The Project would result in increased stormwater runoff due to an increase in impervious surfaces and topographic alterations.	Less than Significant	None required	--
D. Water Quality			
HYD-D1. The Project would degrade surface water quality due to an increase in sediment and pollutant loading in stormwater drainage during construction and from operation.	Less than Significant	None required	--
E. Flood Hazards			
HYD-E1. The Project would not place housing or structures within a 100-year flood hazard area and would not expose people or structures to a significant risk of loss, injury, or death involving flooding.	No Impact	None required	--

-- = Not Applicable

Regulatory Setting

This section describes the federal, state, and local plans, policies, and laws that are relevant to hydrology and water quality resources for the Project.

Federal

Clean Water Act

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It operates on the principle that all discharges into the nation's waters, unless exempt, are unlawful unless specifically authorized by a permit. Permit review is the CWA's primary regulatory tool. The following sections provide additional details on specific sections of the CWA.

Federal regulatory requirements are implemented by the State Water Resources Control Board (State Water Board), which also has jurisdiction throughout California (refer to the *Porter-Cologne Water Quality Control Act* section). The State Water Board exercises its CWA authority through nine regional water boards established throughout the state. The Central Coast Regional Water Quality Control Board (Central Coast Water Board) is responsible for implementing these requirements in Monterey County.

Section 303—Impaired Water Bodies and Total Maximum Daily Loads

The State of California adopts water quality standards to protect beneficial uses of state waters as required by the CWA 303 Total Maximum Daily Load Program and the state's Porter-Cologne Water Quality Control Act of 1969. CWA Section 303(d) established the total maximum daily load (TMDL) process to guide the application of state water quality standards. To identify candidate water bodies for TMDL analysis, a list of "water quality limited" streams is generated. These streams are impaired by the presence of pollutants, including sediments, and have no additional assimilative capacity for these pollutants.

The Project site does not include and is not upstream of any creeks or tributaries that are listed as impaired in State Water Board's Section 303(d) list for the Central Coast Water Board (State Water Resources Control Board 2011).

Section 402—Stormwater Discharge (NPDES Program)

The 1972 amendments to the federal Water Pollution Control Act established the National Pollutant Discharge Elimination System (NPDES) permit program to control discharges of pollutants from point sources (CWA Section 402). The NPDES permit program is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States. The 1987 amendments to CWA created a new CWA section devoted to stormwater permitting (Section 402[p]). The U.S. Environmental Protection Agency has granted the State of California primacy in administering and enforcing the provisions of CWA and the NPDES permit program.

The State Water Board issues both general and individual permits for certain activities. Although implemented at the state and local level, relevant general and individual NPDES permits are discussed below.

Construction General Permit

Construction activities are regulated under the NPDES General Permit for Construction Activities (Construction General Permit) provided that the total amount of ground disturbance during construction exceeds 1 acre. The appropriate regional water control board enforces the Construction General Permit. Coverage under a Construction General Permit requires submittal of a notice of intent (NOI) and associated Permit Registration Documents, including a Storm Water Pollution Prevention Plan (SWPPP). The NOI includes site-specific information and the certification of compliance with the terms of the Construction General Permit. The SWPPP needs to be prepared by a Qualified SWPPP Developer (QSD) and contain 1) a site description addressing the elements and characteristics specific to the site; 2) descriptions of best management practices (BMPs) for erosion and sediment control; 3) BMPs for construction waste handling and disposal; 4) methods for implementing approved local plans; 5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements; and 6) non-stormwater management measures. The Construction General Permit authorizes the discharge of uncontaminated groundwater from dewatering as long as the action does not cause or contribute to a violation of any water quality standards and meets other criteria specified as permit conditions in the permit.

The Project would involve more than 1 acre of land disturbance, and, therefore, PBC would be required to obtain coverage under a Construction General Permit and to submit a NOI and SWPPP.

Municipal Stormwater Permit

Section 402(p) of the CWA requires that stormwater management programs be developed and implemented to meet the requirements for stormwater discharges from municipal separate storm sewer systems (MS4).

MS4 Permits require that controls, including management practices, control techniques, system design and engineering methods, and other measures, are implemented to reduce pollutants in stormwater discharges to the maximum extent possible. As part of permit compliance, permit holders create stormwater management plans for their locations. These plans outline the requirements for municipal operations, industrial and commercial businesses, construction sites, and planning and land development. These requirements may include multiple measures to control pollutants in stormwater discharge. During implementation of specific projects under the program, project applicants are required to follow the guidance contained in the stormwater management plans as defined by the permit holder in that location.

MS4 permits are issued by State Water Boards and Regional Water Quality Control Boards (Regional Water Boards) in two phases. Phase I MS4 regulations cover municipalities with populations greater than 100,000, certain industrial processes, or construction activities disturbing at least 5 acres. The Phase II MS4 General Permit (SWRCB Water Quality Order No. 2003-0005-DWQ, NPDES No. CAS000004) was adopted by the State Water Board to provide NPDES permit coverage to municipalities not covered under the NPDES Phase I Rule (i.e., small MS4s generally for fewer than 100,000 people) (State Water Resources Control Board 2013).

Pebble Beach, including the Project site, is not part of the Phase II Monterey County Municipal Storm Sewer System (MS4) program, and, therefore, is not subject to MS4 requirements. However, because the Project would be covered under a Construction General Permit (described above) and would implement post-construction best management practices (BMPs) contained therein, it would be

required to meet all necessary stormwater requirements typical of MS4 programs (WWD Corporation 2011; Lorentz pers. comm. [A]).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) established the State Water Board and divided the state into nine regions, each overseen by a Regional Water Board. The State Water Board is the primary state agency responsible for protecting the quality of the state's surface water and groundwater supplies, while the Regional Water Boards are responsible for implementing CWA Sections 402 and 303(d). In general, the State Water Board manages both water rights and statewide regulation of water quality, while the Regional Water Boards focus exclusively on water quality within their regions. Central Coast Water Board has jurisdiction over the Project site.

The Porter-Cologne Act authorizes the State Water Board to enact state policies regarding water quality in accordance with CWA Section 303. The Porter-Cologne Act requires that the State Water Board or the Regional Water Board adopt water quality control plans (basin plans) for the protection of water quality. A basin plan must perform the following functions.

- Identify beneficial uses of water to be protected.
- Establish water quality objectives for the reasonable protection of the beneficial uses.
- Establish a program of implementation for achieving the water quality objectives.

Basin plans also provide the technical basis for determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. Basin plans are updated and reviewed every 3 years in accordance with Article 3 of Porter-Cologne Water Quality Control Act and CWA Section 303(c).

California Regional Water Quality Control Board, Central Coast Region—Basin Plan

The Central Coast Water Board is responsible for implementing the *Water Quality Control Plan for the Central Coast Region* (Central Coast Basin Plan), which applies to Monterey County (Central Coast Regional Water Quality Control Board 2011). The Central Coast Basin Plan designates beneficial uses and water quality objectives for waters of the state, including surface waters and groundwaters. The Central Coast Basin Plan contains both narrative and quantitative water quality objectives that can differ depending on the specific beneficial uses being protected. Narrative objectives are established for parameters such as color, suspended and settleable material, oil and grease, biostimulatory substances, and toxicity. Numeric objectives include such parameters as dissolved oxygen, temperature, turbidity, pH, and specific chemical constituents such as trace metals and synthetic organic compounds.

The Central Coast Water Board implements the Central Coast Basin Plan through the issuance and enforcement of Waste Discharge Requirements (WDRs) and waivers of WDRs. The Central Coast Water Board may issue WDRs to any entity that discharges waste that may affect the quality of any Central Coast surface water or groundwater. For discharges to waters protected under CWA, WDRs also could serve as a federally required NPDES permit (under CWA) to regulate waste discharges and to incorporate the requirements of other applicable regulations.

Local

Monterey County Regional Stormwater Management Program

Monterey County implements the Monterey Regional Stormwater Management Program in compliance with the NPDES General Permit Waste Discharge Requirements for Storm Water Discharges from Small MS4s for the Central Coast Water Board (Phase II MS4 Permit). The Phase II MS4 Permit applies to the permittees in the Monterey Regional Stormwater Group, which consists of the Cities of Pacific Grove, Monterey, Seaside, Del Rey Oaks, Sand City, Marina, Carmel-by-the-Sea, and the urbanized, unincorporated areas of Monterey County.

As described in the *Municipal Stormwater Permit* section, Pebble Beach is not part of the Phase II MS4 program and, thus, is required to comply with the State Construction General Permit and post-construction BMPs contained therein (WWD Corporation 2011). Therefore, the local requirements associated with the MS4 program are not discussed further.

Monterey County Water Resources Agency

The Monterey County Water Resources Agency (MCWRA) is the primary regulatory authority for review and approval of flood control and drainage measures. For flood design criteria, peak runoff rates must not exceed predevelopment flows under comparable storm events, and runoff must not cause erosion. For drainage design criteria, stormwater detention facilities must be sized to limit the 100-year post-development runoff rate to the 10-year pre-development rate.

Monterey County Ordinances

Grading Ordinance

The Grading Ordinance (Chapter 16.08) was adopted to safeguard health, safety, and the public welfare, to minimize erosion, protect fish and wildlife, and to otherwise protect the natural environment of Monterey County. The Grading Ordinance sets forth rules and regulations to control all grading, including excavations, earthwork, road construction, fills and embankments, and establishes the administration procedure for issuance of permits. The Grading Ordinance also guides approval of plans and inspections of grading construction.

Erosion Control Ordinance

The Erosion Control Ordinance (Chapter 16.12) was adopted to eliminate and prevent conditions of accelerated erosion that have led to, or could lead to, degradation of water quality, loss of fish habitat, damage to property, loss of topsoil or vegetation cover, disruption of water supply, or increased danger from flooding. The Erosion Control Ordinance requires control of all existing and potential conditions of accelerated (human-induced) erosion; sets forth required provisions for project planning, preparation of erosion control plans, runoff control, land clearing, and winter operations; and establishes procedures for administering those provisions.

Urban Stormwater Quality Management and Discharge Control Ordinance

Monterey County Code Chapter 16.14, Urban Stormwater Quality Management and Discharge Control Ordinance was adopted to enhance watercourses within the unincorporated urbanized areas by, amongst other things, controlling the entry of urban pollutants into stormwater runoff that

may enter the County storm drain system. This ordinance is applicable to all dischargers located within the unincorporated urbanized areas that discharge directly or indirectly into the County storm drain system. It is not applicable to Pebble Beach, including the Project site, because it is not part of the County storm drain system.

Floodplain Ordinance

Regulations for floodplains in Monterey County are contained in Chapter 16.16 of Monterey County Code. The purpose of this ordinance is to promote the public health, safety, and general welfare, and to minimize public and private losses resulting from flood conditions in specific areas. This ordinance applies to all Special Flood Hazards Areas (100-year floodplain) within the jurisdiction of Monterey County, as identified on Flood Insurance Rate Maps, and areas within 200-feet of a river of within 50 feet of a watercourse.

2010 Monterey County General Plan

Goals and policies defined in the 2010 Monterey County General Plan and relevant to the Project are listed below.

Safety Element

Goal S-3: Ensure effective storm drainage and flood control to protect life, property, and the environment.

Policy S-3.1: Post-development, off-site peak flow drainage from the area being developed shall not be greater than pre-development peak flow drainage. On-site improvements or other methods for storm water detention shall be required to maintain post-development, off-site, peak flows at no greater than predevelopment levels, where appropriate, as determined by the Monterey County Water Resources Agency.

Policy S-3.2: Best Management Practices to protect groundwater and surface water quality shall be incorporated into all development.

Policy S-3.3: Drainage facilities to mitigate the post-development peak flow impact of new development shall be installed concurrent with new development.

Policy S-3.9: In order to minimize urban runoff affecting water quality, the County shall require all future development within urban and suburban areas to implement Best Management Practices (BMPs) as approved in the Monterey Regional Storm Water Management Program which are designed to incorporate Low Impact Development techniques. BMPs may include, but are not limited to, grassy swales, rain gardens, bioretention cells, and tree box filters. BMPs should preserve as much native vegetation as feasible possible on the project site.

Monterey County Conditions of Approval

The Project would be required to comply with Monterey County's Conditions of Approval which include, but may not be limited to, the following applicable conditions (Monterey County 2014). Refer to Chapter 2, *Project Description*, for the full text of the conditions of approval.

WR8: Stormwater Detention

WR49: Water Availability Certification

WR10: Completion Certification

Environmental Setting

Hydrology

Surface Water

The primary surface water feature in the Project vicinity is the Pacific Ocean. The Project site is located within the Sawmill Gulch watershed, which flows to the Pacific Ocean (**Figure 3.7-1**). Sawmill Gulch flows through the southwest portion of the Project site and ultimately flows into Spanish Bay in the Pacific Ocean.

Sawmill Gulch provides stormwater conveyance, floodwater retention, and pollutant assimilation. The unnamed drainage ravine that flows through the Project site is deeply incised, with a deep low flow channel and steep sidehill slopes that can accommodate stormwater flow.

Stormwater Drainage

The Project site is currently undeveloped and completely pervious. The Project site gently slopes downward from east to west, and Sawmill Gulch acts as natural drainage extending through the southwest portion of the Project site. There is an existing storm drain line in the western portion of the Project site (on the west side of SFB Morse Drive) that crosses SFB Morse Drive approximately 100 feet north of the Project's proposed southern driveway.

An existing 20-foot storm drain easement granted to Monterey County is located on the Project site, to the south of the proposed development site. A storm drain exists at the end of Schaeffer Street in Pacific Grove that likely drains runoff through an underground pipe that runs through the site.

Groundwater

The Project site is not located within a groundwater basin. The Project site is underlain by massive bedrock, and groundwater is not a significant component of streamflow in the Project vicinity. Groundwater is not used as a water source in the Project vicinity.

Although the Project site is not located within a designated[1] groundwater basin, shallow groundwater was found during the geotechnical investigation prepared for the Project. Test bore holes encountered perched groundwater at depths 5 to 13 feet below the ground surface (Haro, Kasunich and Associates 2013). The groundwater was perched upon the immediate underlying granitic bedrock foundation. Groundwater was also observed seeping out of the cut bank along the road shoulder of SFB Morse Drive on the northwest side of the Project site. It should be noted that groundwater levels likely fluctuate because of variations in rainfall and other factors not present during the geotechnical investigation.

Flooding

The Project site does not lie within a 100-year floodplain designated by the Federal Emergency Management Agency (2009).

[1] Designated Groundwater Basins are identified in the California Department of Water Resources Groundwater Basins Map.

Water Quality

Surface water quality depends primarily on the mineral composition of the soils and associated parent materials within a watershed, hydrologic conditions, and sources and timing of contaminant transport within the watershed.

During the summer low-flow conditions, natural water courses may consist entirely of incidental urban runoff from landscape irrigation and other residential uses. During peak winter streamflow periods, water quality is largely a function of stormwater contaminant transport. Winter stormwater is also responsible for a majority of soil erosion that occurs during the year, particularly from areas that have been previously disturbed by construction activities, agriculture, or natural geologic processes. Winter stormwater runoff often is relatively clean, and low in dissolved solids due to the large proportion of rainwater. However, dissolved solids loading is likely higher in the wet season.

Sawmill Gulch does not have any specified designated beneficial uses in the Central Coast Basin Plan (discussed in the *Regulatory Setting* section), and is not listed as water quality-impaired pursuant to CWA Section 303(d) listing requirements.

Impacts Analysis

Methodology

Approach

Construction and operation of the Project could affect the hydrology and water quality resources on the Project site and in the vicinity by increasing impervious surface and stormwater runoff, changing drainage patterns, exceeding the capacity of drainage infrastructure, degrading water quality from construction activities and increased pollutants in stormwater runoff, depleting or interfering with groundwater hydrology, causing flooding, or exposing people and structures to flood hazards. In addition to a site visit, regional and site-specific documents and maps were reviewed to identify hydrology and water quality resources in and near the Project site that, because of their proximity, could be directly or indirectly affected by construction or operation activities.

Criteria for Determining Significance

In accordance with CEQA, State CEQA Guidelines, Monterey County plans and policies, and agency and professional standards, a project impact would be considered significant under the following conditions.

A. Groundwater

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

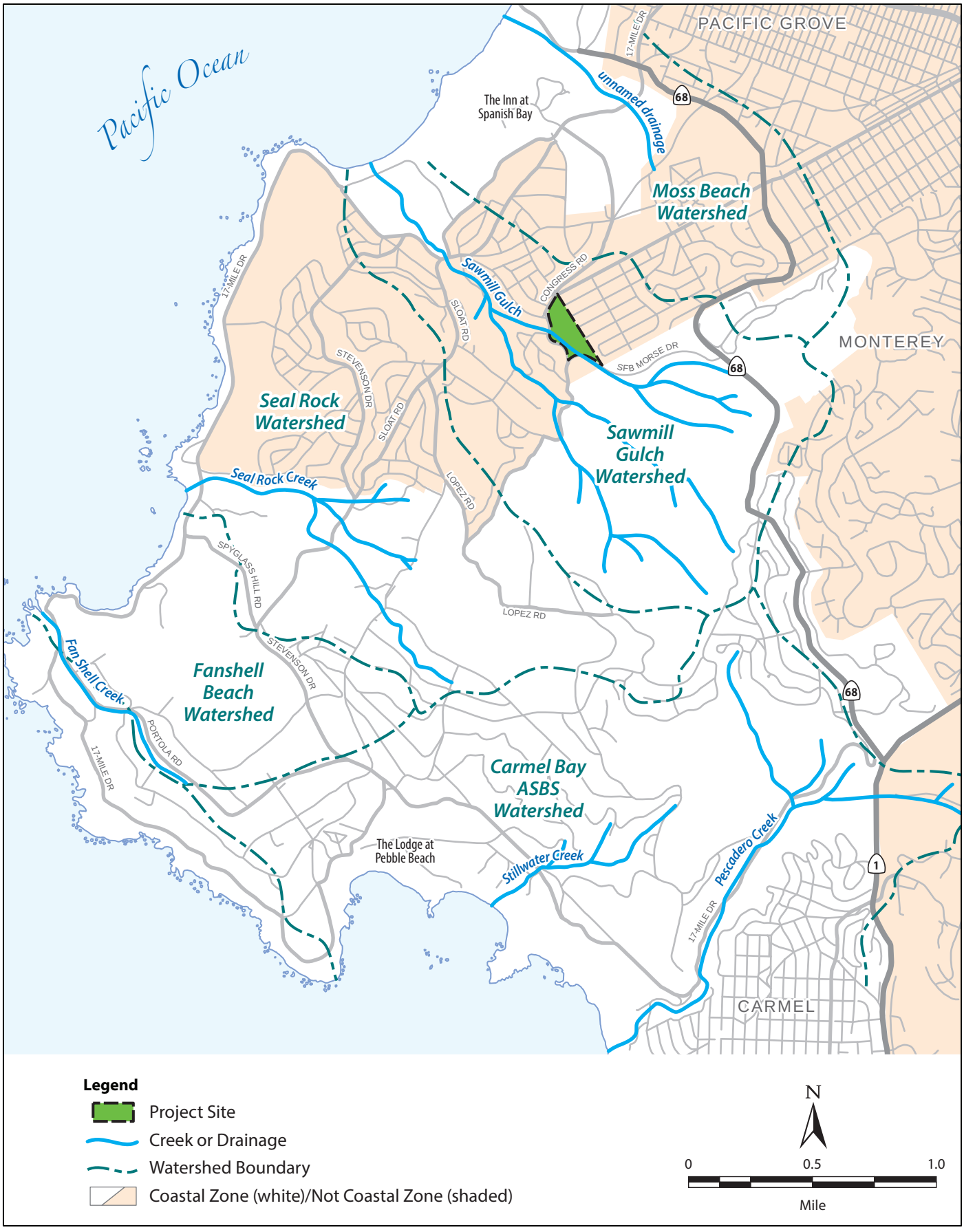

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Figure 3.7-1
Creeks and Drainages in the Project Vicinity

B. Alteration of Drainage Patterns

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in flooding or substantial erosion or siltation on or off the site.

C. Stormwater Runoff and Drainage Infrastructure

- Substantially increase the rate or amount of surface runoff, which would exceed capacity of existing or planned storm drain facilities, cause downstream or offsite drainage problems, or increase the risk or severity of flooding in downstream areas.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

D. Water Quality

- Violate any water quality standards or otherwise substantially degrade surface water quality or contribute substantial non-point sources of pollution to receiving waters, including the Carmel Bay Area of Special Biological Significance (ASBS).

E. Flood Hazards

- Place structures or housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Contribute to inundation by seiche, tsunami, or mudflow.

Project Impacts and Mitigation Measures

A. Groundwater

Impact HYD-A1. The Project would not substantially deplete groundwater supplies or interfere with groundwater recharge. (Less than significant)

As described in the *Environmental Setting* section above, the Project site is not located within a designated groundwater basin. Although utility improvements during Project construction would excavate areas with shallow groundwater, potential dewatering activities would be temporary and minor, and would not affect existing water supplies because the groundwater is not used as a water source. Therefore, the Project would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge, nor would it include any use of groundwater. The impact would be less than significant.

B. Alteration of Drainage Patterns

Impact HYD-B1. The Project would result in the alteration of surface drainage patterns, but would not alter the course of a stream or river in a manner that would result in substantial erosion or siltation on or off the site. (Less than significant)

The 13.2-acre Project site, including the 2.7-acre development area, is currently undeveloped, pervious, and gently slopes (3-6%) from east to west. Stormwater currently infiltrates the ground and runs off the surface in a westward direction towards the Sawmill Gulch drainage, extending through the southwestern portion of the site (**Figures 2-2** and **2-3**). In Section 3.3, *Biological Resources*, the drainage is characterized as a marginally perennial stream. There are no other streams or rivers on or adjacent to the Project site.

Construction

During construction, clearing vegetation and grading on the 2.7-acre development site would alter the surface drainage patterns and could result in increased erosion or siltation on the Project site. As described in the *Regulatory Setting* section, the Project would be required to obtain coverage under a Construction General Permit and implement BMPs identified in the SWPPP. BMPs would include measures to ensure that drainage patterns are not significantly altered, and that sheet-flow on the construction site would be captured and infiltrated into the ground so as not to substantially alter the existing drainage pattern or cause substantial erosion or siltation. Refer to the discussion for Impact HYD-D1 for examples of BMPs. Thus, the construction-related impact would be less than significant.

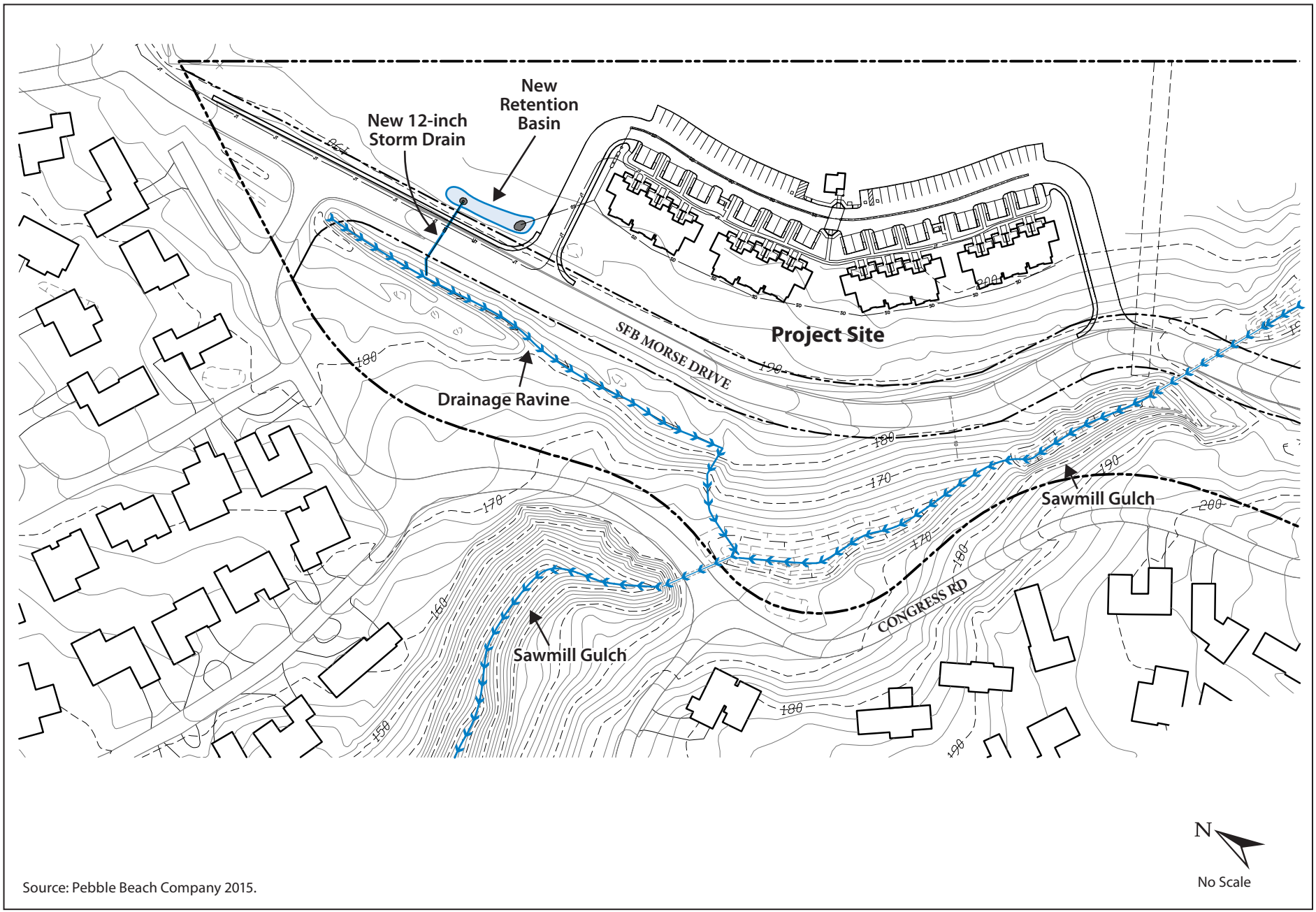
Operation

Project development would result in 65,080 sf (1.5 acres) of new impervious surface within the 2.7-acre development site (**Table 2-2**). This would alter the existing surface drainage pattern on the site and result in less stormwater infiltration and more surface runoff, which could result in localized flooding and increased erosion and siltation.

As described in Chapter 2, *Project Description,* under *Utilities and Stormwater Management*, the Project's stormwater drainage system would consist of a new storm drain line in Morse Court and along the west side of the residential buildings, three catch basin inlets, an oil/water separator below the parking lot, and a retention basin to collect stormwater runoff from the new impervious surfaces, as shown in **Figure 2-7**. The retention basin would be designed to capture stormwater flows from the Project site and would have a catch basin for overflow. The catch basin would connect to a new underground 12-inch storm drain pipe that would cross SFB Morse Drive and discharge through an energy dissipater to the drainage ravine leading to Sawmill Gulch, which ultimately flows into the Spanish Bay (**Figures 3.7-1** and **3.7-2**).

The MCWRA evaluated the proposed drainage system and made the following determination (MCWRA 2015).

- A preliminary drainage plan with supporting calculations has been completed for the project and provides the onsite detention for stormwater resulting from a 100-year storm event.
- Project implementation would not alter the course of Sawmill Gulch. In addition, most of the 13.2-acre project site would not be altered. Within the 2.7-acre development area, a portion of



Source: Pebble Beach Company 2015.

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Figure 3.7-2
Flow from Project Site to Sawmill Gulch

the natural course of existing overland sheet flow and concentrated shallow flow would be intercepted by the proposed drainage system.

- Runoff originating from the new impervious surfaces (1.5 acres) would be stored in the onsite detention basin (2,367 cubic feet). Discharge of runoff would be released at a 10-year pre-development runoff rate (1.1 cubic feet per second)[2].

Additionally, the Project would be required to comply with Monterey County's Conditions of Approval WR8: Stormwater Detention and WR10: Completion Certification requiring the Project be constructed in accordance with the drainage plans approved by MCWRA. Refer to Chapter 2, *Project Description*, for the full text of the conditions of approval.

With implementation of the proposed drainage system approved by MCWRA and the required Conditions of Approval, the Project would not substantially alter the existing drainage pattern of the site in a manner which would result in flooding or substantial erosion or siltation on or off the site. Further, the MCWRA determined that the proposed drainage system would need minimal if any annual maintenance and is designed to function through conditions of 30% siltation and inclement weather (100-year storm event). Therefore, this impact would be less than significant.

C. Stormwater Runoff and Drainage Infrastructure

Impact HYD-C1. The Project would result in increased stormwater runoff due to an increase in impervious surfaces and topographic alterations. (Less than significant)

As described under Impact HYD-B1, the 13.2-acre Project site, including the 2.7-acre development area, is currently undeveloped, pervious, and gently slopes (3-6%) from east to west. Stormwater currently infiltrates the ground and runs off the surface in a westward direction towards Sawmill Gulch, extending through the southwestern portion of the site (**Figures 2-2** and **2-3**). Project development would result in 65,080 square feet (1.5 acres) of new impervious surface within the 2.7-acre development footprint (**Table 2-2**), reducing the total pervious area to 11.7 acres. Although Project construction would result in minor grading to level the development site, it would not result in major topographic alterations.

The introduction of new impervious surfaces would reduce the ground surface available for infiltration of rainfall and increase surface stormwater runoff. Increased runoff could contribute to localized flooding of natural drainages (feeding into and including Sawmill Gulch), increase the risk of downstream flooding, accelerate processes of soil erosion and stream channel scour, and increase the transport of pollutants to waterways.

As described in the discussion for Impact HYD-B1, most of the 13.2-acre Project site would not be altered, including the course of Sawmill Gulch. Within the 2.7-acre development area, a portion of the natural course of existing overland sheet flow and concentrated shallow flow would be intercepted by the proposed drainage system. Runoff originating from the new impervious surfaces (1.5 acres) would be stored in the onsite detention basin, and discharge of runoff would be released at a 10-year pre-development runoff rate.

With implementation of the proposed drainage system and the retention basin to slow the flow of stormwater runoff, the Project would not substantially increase the rate or amount of surface runoff

[2] The goal is to ensure that post-development peak flows do not exceed pre-development peak flows, thus maintaining system-wide capacity and providing for flood control.

to the point that it would exceed capacity of existing or planned storm drain facilities, cause downstream or offsite drainage problems, or increase the risk or severity of flooding in downstream areas. Additionally, the retention basin's biofiltration function and the oil/water separator below the parking lot would reduce pollutants in the runoff.

Therefore, this impact would be less than significant.

D. Water Quality

Impact HYD-D1. The Project would degrade surface water quality due to an increase in sediment and pollutant loading in stormwater drainage during construction and from operation. (Less than significant)

Construction

Construction, such as vegetation clearing and grading, construction of building foundations and structures, paving the driveway and parking lot surfaces, and installation the sidewalks and landscape features, could result in soil erosion and subsequent sediment transport to adjacent roadways and drainages, including the Sawmill Gulch drainage extending through the Project site. Sediment transport to local drainage facilities could result in reduced storm flow capacity, resulting in localized ponding or flooding during storm events.

The extent of potential environmental effects depends on the erodibility of soil types encountered, the type of construction practices employed, the extent of disturbed area, the duration of construction activities, the timing of precipitation, the proximity to receiving water bodies, and the sensitivity of those water bodies to contaminants of concern. Section 3.6, *Geology, Seismicity, and Soils*, describes potential impacts associated with construction-related discharges of soil resulting from erosion and slope instability.

Construction activities would involve use of construction vehicles and equipment that could leak oil and other pollutants that could contaminate stormwater drainage. Excavating 5 to 6 feet below the ground surface to install utilities could require dewatering at certain locations because groundwater was encountered at depths of 5 to 13 feet below ground surface. However, this is unlikely because of the small footprint of the utility trenches and the distance to the groundwater (Lorentz pers. comm. [B]).

All construction activities would comply with the Construction General Permit, which contains standards to ensure that water quality is not degraded, including dewatering requirements. As part of this permit, standard erosion control measures and BMPs would be identified in a SWPPP and would be implemented during construction to reduce sedimentation of waterways and loss of topsoil. As a performance standard, BMPs to be selected would represent the best available technology that is economically achievable and best conventional pollutant control technology to reduce pollutants. All elements of the SWPPP would be reviewed by Monterey County staff to ensure that measures are included to conform to the erosion control ordinance. Under the direction of Monterey County staff, the general contractor(s) and all subcontractor(s) conducting the work would be responsible for constructing or implementing, regularly inspecting, and maintaining the BMPs in good working order.

BMPs include a wide variety of measures to reduce pollutants in stormwater and other nonpoint-source runoff, ranging from source control to treatment of polluted runoff. Typical BMPs include:

watering active construction areas to control dust generation during earth moving activities; using water sweepers to sweep streets and haul routes; and installing erosion control measures (e.g., silt fences, sandbags, straw bales/wattles, and fiber roll barrier) to prevent silt runoff to public roadways, storm drains, or waterways. If appropriate for the development site, disturbed soil would be revegetated as soon as possible with the appropriate selection and schedule of plants. The project would also need to comply with Standard Condition of Approval PD007 (Grading – Winter Restriction), which prohibits land clearing or grubbing between October 15 and April 15. The SWPPP would also require erosion control measures to be in place for any disturbed surfaces left disturbed between October 15 and April 15.

Because the Project would be required to comply with the NPDES Construction General Permit, potential impacts on water quality from construction activities would be less than significant.

Operation

The Project would result in 65,080 square feet (1.5 acres) of new impervious surface within the 2.7-acre development site. Refer to **Table 2-2** in Chapter 2, *Project Description*. The new impervious surface (1.5 acres) represents 11.3% of the total Project site, and the remaining 88.7% of the total Project site would remain pervious (1.2 acres within in the development site and 10.5 acres of undeveloped, forested open space).

As described in the discussion for Impact HYD-B1, most of the 13.2-acre Project site would not be altered, including the course of Sawmill Gulch . Within the 2.7-acre development area, a portion of the natural course of existing overland sheet flow and concentrated shallow flow would be intercepted by the proposed drainage system. Runoff originating from the new impervious surfaces (1.5 acres) would be stored in the onsite detention basin, and discharge of runoff would be released at a 10-year pre-development runoff rate. There would be no standing water in the retention basin, except during rain events.

As described under Impact HYD-C1, the increase in impervious surface over existing conditions would result in increased rates and quantities of stormwater runoff. Runoff from the new impervious surfaces (i.e., Morse Court driveway, parking, structures) could contain non-point pollution sources typical of urban settings and associated with automobiles. The type of pollutants in the runoff could be rubber residue from tires, oil, grease, heavy metals, other automotive fuels, herbicides, pesticides, and fertilizers.

The Project's stormwater drainage system, which includes an oil/water separator and retention basin, would treat surface runoff prior to discharge via a new pipeline to the drainage ravine leading to Sawmill Gulch. The retention basin is unpaved and vegetated, thus it provides biofiltration. Impacts on water quality as it relates to stormwater runoff would be less than significant.

E. Flood Hazards

Impact HYD-E1. The Project would not place housing or structures within a 100-year flood hazard area and would not expose people or structures to a significant risk of loss, injury, or death involving flooding. (No impact)

The Project site does not lie within a 100-year floodplain designated by the Federal Emergency Management Agency (2009). Therefore, the Project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other

flood hazard delineation map, nor place development within a flood hazard zone, as shown on panel 306 of the Federal Emergency Management Agency Flood Insurance Rate Map for Monterey County dated April 2, 2009.

The Project site is located on relatively flat topography (3–6% slope), and there is little likelihood of a mudflow resulting from Project construction and operation. In addition, the tsunami inundation map shows that the tsunami run-up from the Pacific Ocean would not reach the Project site (California Emergency Management Agency et al. 2009). Accordingly, it is unlikely a seiche would extend farther than a tsunami. Therefore, potential impacts related to seiche, tsunami, or mudflow are not analyzed further.