V. ENVIRONMENTAL IMPACT ANALYSIS
F. HYDROLOGY/WATER QUALITY

ENVIRONMENTAL SETTING

Regional Hydrology

The Project Site is situated within the Malibu Creek Watershed (a sub-watershed of the larger Malibu Hydrologic Unit), which encompasses approximately 110 square miles. The tributary area to Malibu Creek is approximately 75,000 acres (115 square miles) and drains portions of the Simi Hills and Santa Monica Mountains. Malibu Creek discharges runoff directly into the Pacific Ocean.

Historically, Malibu Creek has been subject to flooding. During a storm event in March 1983, Malibu Creek experienced a peak flow rate of 24,200 cubic feet per second (cfs). Based on Federal Emergency Management Agency (FEMA) calculations, the theoretical 100-year peak flow rate for Malibu Creek is 44,900 cfs. There are areas with potential flooding of up to one foot, and areas with potential flooding of up to two feet on the Project Site.

Local Hydrology

Drainage-Flooding

Drainage on the Project Site occurs through topographically controlled sheetflow runoff from the north towards the south-southeast portions of the site. The topography of the site varies from gentle southerly slopes to flat terrain, with a steep hillside to the north. No indications of concentrated flows, such as gullies or excessive erosion, were observed on or adjacent to the property during site investigations conducted by Gold Coast Geoservices Inc. (See Section V.E, Geology/Soils).

As depicted in Figure V.F-1 on page V.F-2, the southerly two-thirds of the Project Site is located within the Federal Emergency Management Agency’s (FEMA) flood designation Zone AO (Depth 2 ft.); the northerly one-third is located in Zone B; and a small portion of the most northerly area of the Project Site encroaches into Zone C. The FEMA definitions for Zones AO, B, and C are as follows:

**Zone AO:** Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.

**Zone B:** Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium Shading).

**Zone C:** Areas of minimal flooding (No shading).
Figure V.F-1
FEMA Flood Plain Designation Map

Hydrology calculations were performed by Crosby Mead Benton and Associates and additional analysis performed by Jensen Design & Survey (February 2006) to determine the volume of water flow and debris from a 50-year storm. The analysis also evaluated the Proposed Project’s capability of managing flooding, drainage, debris, and runoff during a worst-case scenario 50-year storm. The analysis sectioned the Project Site into ten on-site drainage areas, and one off-site drainage area. The off-site area is the watershed upslope from which water will drain to the Project Site. Each drainage area was evaluated separately, as each have different water flow rates and drain to different places.

**Groundwater**

Groundwater encountered as “perched water” was encountered at relatively shallow depths varying from 8 to 29 feet across the property (See Figure IV.E-6 on page IV.E-12). The top of the groundwater surface slopes northward across the property, ranging from eight feet mean sea level (msl) in the southern limits of the project site to approximately 34 feet msl in the northernmost areas of the project site. The groundwater level beneath Parcel A ranges from about eight feet above msl at the southern most portion of the site (at Civic Center Way) to about 16 feet deep in the northern limits of the proposed boundary for this Parcel. The groundwater level underlying Parcel C is approximately 15 feet above msl in the general location of the proposed City Hall. The groundwater level under Parcel B ranges from approximately 13 feet msl at the southern limits of this proposed parcel boundary to approximately 34 feet in the northern limits. Groundwater elevations beneath the Project Site are identified and delineated in Figure V.E-6.

**Water Quality**

Malibu Creek has a history of water quality problems. The Regional Water Quality Control Board’s (RWQCB) Los Angeles Region Basin Plan identifies Malibu Creek as a threatened water body and Malibu Lagoon as an impaired water body. Malibu Beach and Surfrider Beach also appear on the United States Environmental Protection Agency (U.S. EPA) list of impaired water bodies for 1998. Water quality in the Malibu Creek and Lagoon is potentially impacted by increased surface water runoff, effluent infiltration from private treatment systems, and wastewater treatment plant effluent.

Under the existing conditions, water quality from the Project Site is not a major contributor to the water quality problems of Malibu Creek. Since the Project Site generally consists of an undeveloped vacant lot covered with weeds and grasses, its most probable pollutants would be trash, debris and sedimentation that might be washed off the site during storms.

**Clean Water Act**

The 1972 amendments to the Federal Water Pollution Control Act, later referred to as the Clean Water Act (CWA), prohibit the discharge of any pollutant to navigable waters of the United States from a point source unless the discharge is authorized by a National Pollution Discharge Elimination System
(NPDES) permit. In 1990, the EPA promulgated final regulations that established Phase I requirements for the NPDES program to address, among other discharges, nonpoint source discharges from large construction activities of five acres or more of land. Under Phase I of the NPDES storm water program, storm water discharges have been primarily regulated for (1) specific industrial categories, (2) construction sites greater than five acres, and (3) municipal separate storm sewer systems (MS4s) serving populations greater than 100,000. NPDES Phase II regulations expand the existing NPDES storm water program (Phase I) to address storm water discharges from small MS4s (those serving less than 100,000 persons) and construction sites that disturb one to five acres.

Under the Clean Water Act (CWA), the State of California is required to issue a list of all impaired water bodies in the State. An impaired water body, by definition provided in CWA Section 303(d) is a body that does not meet water quality regulations and therefore have imposed Total Maximum Daily Loads (TMDLs). A TMDL is the maximum amount of wastewater allowed to be discharged into a given water body each day. The State Water Resources Control Board, Division of Water Quality issues the listings of impaired water bodies, and the 1998 list listed Malibu Creek, Malibu Lagoon, Malibu Beach, and Surfrider Beach as impaired water bodies with imposed TMDLs.

**Porter Cologne Water Quality Control Act**

In California, the NPDES program is administered by the State Water Resources Control Board (SWRCB) through the nine RWQCBs. The SWRCB and the RWQCBs were established in 1969 by the Porter-Cologne Water Quality Control Act, the principal law governing California water quality regulation. General Construction Activity Storm Water Permits (GCASP) for Los Angeles County are administered through Region 4 - Los Angeles RWQCB. Under new regulations adopted by the LARWQCB, project applicants are required to implement their own Standard Urban Storm Water Mitigation Plan (SUSMP), consistent with the requirements and provisions of the Los Angeles County SUSMP, to ensure that storm water pollution during the operational life of the project is addressed by incorporating “Best Management Practices” (BMPs) in the design phase of development. All projects that fall into one of seven categories are identified in the Los Angeles County MS4 Permit as requiring SUSMPs. The Proposed Project falls into the category designated as 100,000 square foot commercial developments.

BMPs are generally common sense methods for controlling, preventing, reducing or removing pollutants in urban runoff (street sweeping programs, for example). There are source-control BMPs

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1. The Los Angeles County SUSMP was adopted by the LARWQCB on March 8, 2000 under Board Resolution No. R-00-02, and was amended by the State Water Resources Control Board on October 5, 2000 under State Water Board Order WQ 2000-11. The new Municipal Stormwater Permit (NPDES Permit No. CAS004001, Order No. 01-182) made additional changes to the SUSMP.
designed to reduce or eliminate the introduction of pollutants into runoff (e.g., dry cleanup of gas fueling areas) and there are treatment BMPs designed to remove pollutants from urban runoff (e.g., straw bales to trap sediments at construction sites). Among other BMPs listed in the SUSMP, structural or treatment control BMPs selected for use at any project covered by the SUSMP are required to meet the following design standards:

A. Mitigate (infiltrate or treat) storm water runoff from either:

1. The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998), or

2. The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/Commercial, (1993), or

3. The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or

4. The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment” (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event, and

B. Control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.

The City of Malibu’s LCP development standards require a Water Quality Management Plan (WQMP), which is essentially a local version of the Countywide SUSMP. Pursuant to Section 17.4.3 of the LCP, all projects that require a Coastal Development Permit are required to provide post construction plans detailing how stormwater and polluted runoff will be managed or mitigated.

Coastal Zone Act Reauthorization Amendments

The 1990 Coastal Zone Act Reauthorization Amendments (CZARA) identified polluted runoff as a significant factor in coastal water degradation for shore-side municipalities. To better address polluted water in the coastal zone, Congress added CZARA Section 6217, which required, among other things, the preparation of a State coastal non-point source pollution control program. The purpose of the program is to implement polluted runoff management measures and enforceable policies to restore and protect coastal waters. California’s specific response to Section 6217 (the State’s Coastal Non-point
Pollution Control Program or “CNPCP”) continues to be developed by the SWRCB and the Coastal Commission in consultation with the National Oceanographic and Atmospheric Administration (NOAA) and the EPA. It is clear that it increasingly will be incumbent upon local governments in coastal zone areas to implement more stringent water quality protection measures to address polluted runoff. The primary objectives of the CZARA program are reflected in the revised NPDES permitting requirements discussed above.

**City of Malibu Ordinance 194 – Uniform Plumbing Code**

The City of Malibu has adopted the Uniform Plumbing Code, 1997 Edition, as amended, Ordinance 194 of the Malibu Municipal Code, which constitutes the City of Malibu Uniform Plumbing Code (UPC). UPC Appendix K, Section K1(j) States, “Commercial building and multiple family dwellings to be constructed, or remodeled, after the effective date of this section shall have a private sewage disposal system which provides secondary sewage effluent treatment, as defined by the Administrative Authority, prior to final sewage effluent disposal, unless otherwise approved by the Administrative Authority.” Pursuant to this section, the Proposed Project will be required to install a new secondary treatment and sewage effluent disposal system. The LARWQCB retains jurisdiction over private sewage disposal systems serving, or proposed to serve, commercial buildings and multiple family dwellings. The applicant will be required to submit to the LARWQCB and obtain a Waste Discharge Permit.

Development standards for On-Site Wastewater Treatment Systems (OWTS) are contained in Chapter 18 of the City of Malibu LCP.

**State of California Department of Public Health**

The California Code of Regulations, Title 22, regulates the reuse of treated wastewater including such uses within buildings for toilet flushing, and for landscape irrigation purposes. Water Recycling Criteria are contained in Sections 60301 through 60355, inclusive, of the California Code of Regulations, Title 22. These Criteria prescribe: (1) Recycled water quality and wastewater treatment requirements for the various types of allowed uses; (2) Use area requirements pertaining to the actual location of use of the recycled water (including dual plumbed facilities); and (3) Reliability features required in the treatment facilities to ensure safe performance. The current State of California Water Recycling Criteria (adopted in December 2000) require the submission of an engineering report to the California Regional Water Quality Control Board (RWQCB) and the Department of Health Services.
(DHS) before recycled water projects are implemented in order to describe the manner by which a project will comply with the Water Recycling Criteria.²

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The City of Malibu General Plan EIR considers the impacts created by the Proposed Project significant if implementation would result in:

- Significant adverse changes to the quantity and/or quality of water in local streams, creeks and/or rivers due to any of the following:
  - Changes in currents, or the course or direction of water movements, in either marine or fresh waters resulting from:
    1. Additional coverage by impervious surfaces;
    2. Altered drainage ways; and
    3. Increase in total annual, monthly and peak surface runoff.
  - Alteration in the direction or rate of flow of ground waters;

- Increased runoff volumes that exceed the capacity of storm drain facilities, cause downstream or off-site drainage problems, or alter inflows to an adjacent wetland to the extent that there is a net degradation of functions and values of aquatic habitat;

- Stormwater discharges that exceed established water quality standards, increase erosion and sedimentation, or endanger aquatic habitats;

- The change in water quality in an area of special biological significance (such as an SEA, ESHA, SERA) and other resources identified in the Malibu General Plan.

Additionally, the CEQA Guidelines identifies the following criteria for determining whether a project’s impacts are considered to have a significant effect on the environment. A project is considered to have significant impacts if implementation of the project would:

**Drainage**

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site.

- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems to provide substantial additional sources of polluted runoff.

**Flooding**

- 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.

- Place within a 100-year flood hazard area structures that would impede or redirect flood flow.

- Expose people or structures to a significant risk, loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

- Result in inundation by seiche, tsunami or mudflow.

**Groundwater Recharge**

- Substantially deplete groundwater supplies, or interfere substantially with groundwater recharge such that there would be net deficit in aquifer volume or a lowering of the local groundwater table.

**Water Quality**

- Violate any water quality standards or waste discharge requirements.

- Otherwise substantially degrade water quality.

**Project Impacts**

**Hydrology/Flooding**

The Project Site is in an area mapped by FEMA as being prone to flooding. Flood Zone A0 implies that the area is prone to flooding up to two feet above existing ground. As such, the finished floors of the proposed buildings 1 through 9 have been elevated to a minimum of 3 feet above existing ground elevation in order to ensure that they are set a minimum of 12 inches above the potential flood surface elevation. As illustrated in Figure V.F-2 on page V.F-10, the proposed structures on Parcel A will be built on compacted fill with finished floor pad elevations ranging from 19.5 feet above mean sea level.
(msl) to 22.7 feet above msl. Figure V.F-3 on page V.F-11 illustrates the proposed structures on Parcels B and C, which will be constructed upon finished floor pad elevations ranging from 23 feet to 47.9 feet above mean sea level (msl).

As stated in Section V.E., Geology, the parking garage walls will be provided with sub-drain pipes consisting of 6-inch diameter PVC pipe embedded in ¾-inch rock at the base of the walls, to collect possible groundwater buildup at the back of the walls. The sub-drainage pipes shall be connected to a sump system in the parking structure flooring from where water can be collected and pumped to the storm drain. The sump system may also be used to collect and pump water from the floor of the structure, in the unlikely emergency event of flooding of the parking structures. As stated in Section V.E., Geology, the parking garage walls will be provided with sub-drain pipes consisting of 6-inch diameter PVC pipe embedded in ¾-inch rock at the base of the walls, to collect possible groundwater buildup at the back of the walls. The sub-drainage pipes shall be connected to a sump system in the parking structure flooring from where water can be collected and pumped to the storm drain. The sump system may also be used to collect and pump water from the floor of the structure, in the unlikely emergency event of flooding of the parking structures.3 Therefore, the proposed buildings are elevated enough to protect structures from a 100-year flood event and potential flooding impacts will be less than significant.

**On-Site Drainage**

The on-site drainage system designed for the Project Site includes a 36-48-inch reinforced concrete pipe (RCP) along the east side of the Project Site and an 18-24-inch RCP along the west side of the Project Site. These RCPs would carry runoff from box culverts and grate-covered drop inlets throughout the Project Site to the man-made wetlands and consequently the drainage basin at the south end of the Project. One main box culvert runs through the center of the Project Site. It is located underground through most of the site, with the exception of inlets and one above-ground section of the culvert which runs through the landscaped areas in the center of Parcel A.

One 11.5- by 5.5-foot concrete box culvert located at the south end of the Project Site below Civic Center Way serves the Project Site. The storm drain system and the debris basin have been designed to accommodate water flow and debris from the watershed area north of the Project Site during a 50-year storm.

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CONSTRUCTION NOTES:

1. INSTALL DRAINAGE DITCH
2. INSTALL DRAINAGE DITCH
3. INSTALL DRAINAGE DITCH
4. INSTALL DRAINAGE DITCH
5. INSTALL DRAINAGE DITCH
6. INSTALL DRAINAGE DITCH
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11. INSTALL DRAINAGE DITCH
12. INSTALL DRAINAGE DITCH
13. INSTALL DRAINAGE DITCH
14. INSTALL DRAINAGE DITCH
15. INSTALL DRAINAGE DITCH
16. INSTALL DRAINAGE DITCH
17. INSTALL DRAINAGE DITCH
18. INSTALL DRAINAGE DITCH

NOTE:

STORM DRAIN ALUMINUM SLOTS AND LENGTHS ARE PRELIMINARY.
STORM DRAIN SIZES ARE DETERMINED DURING BID DESIGN.
The Parcel A includes two drainage basins, as described above, as well as several man-made wetland areas throughout the Project Site. Together, these detention basins will serve to control runoff from developed and paved surfaces. The proposed west retention basin is approximately 4,702 sf in area and is designed to hold approximately 1,375 cubic yards (cy) of water volume. The proposed east retention basin is approximately 3,941 sf in area and is designed to hold approximately 1,164 cy of water volume. Based on flow rates from a 50-year storm event as well as the proposed drainage areas, preliminary pipe and inlet sizing calculations were performed. In order to mitigate the pre-development and post-development flow rates for a 100-year storm event, the project is designed with manholes with baffle weir at the bottom which will divert flows that are at or below the flow rates that currently exist on site. Meanwhile flows that exceed those that are currently experienced will be conveyed to the detention ponds where they will be released through orifices according to the City of Malibu criteria. Therefore, impacts from drainage and flooding will be reduced to less than significant levels.

Water Quality

Construction Impacts

During grading and construction activities, there will a potential for surface water runoff to carry sediment and small quantities of pollutants into the storm water system. The following items may be present in storm water runoff in very small quantities:

- Vehicle fluids, including oil, grease, petroleum, and coolants.
- Asphalt materials from paving operations.
- Cement materials from concrete operations.
- Paints, solvents, and thinners from painting operations.
- Wood or metal products from building materials.

The National Pollutant Discharge Elimination System (NPDES) requires that a Notice of Intent (NOI) be filed with the State Water Resources Control Board (SWRCB) for construction activities greater than 1 acre (effective March 1, 2003). By filing an NOI, the developer agrees to conditions outlined in the “General Permit”. The “General Permit” requires all owners of land where construction activity occurs to:

- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation,
- Develop and implement a storm water pollution prevention plan (SWPPP), and
- Perform inspections of storm water pollution prevention measures (control practices).
Recent modifications to the General Permit (Resolution No. 2001-046, October 2001) require permittees to implement specific sampling and analytical procedures to determine whether Best Management Practices (BMPs) implemented on a construction site are:

- Preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired for sediment, silt or turbidity; and
- Preventing other pollutants that are known or should be known by permittees to occur on construction sites and that can not be visually observed or detected in storm water discharges, from causing or contributing to exceedances of water quality objectives.

Although the Project Site will ultimately discharge to an impaired water body, sampling would not be required since runoff from the construction site would flow to a local storm drain system prior to reaching the ocean. Sampling and analysis for non-visible pollutants is required only when construction materials that could pollute runoff are exposed to rain and runoff. Dischargers can limit the amount of sampling and analysis they perform by limiting the exposure of construction materials to rain and storm water runoff. In cases where construction materials are exposed to rain water but the rain water that contacts them is contained, then sampling only needs to occur when inspections show the containment has failed.

Pursuant to Section 17.4.1 of the LCP, the applicant will be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) that identifies BMPs during the construction phases of development to minimize or prevent construction-related polluted runoff. BMPs include practices such as installing sandbag barriers, temporary desilting basins near inlets, gravel driveways, dust controls, employee training, and other general good housekeeping practices that help prevent water quality contamination. With the implementation of the BMPs, short-term water quality impacts should be reduced to less than significant levels.

**Operational Impacts**

**Surface Water Runoff**

Post-development storm water runoff has the potential to contribute pollutants to the storm water conveyance system and ultimately to the ocean. The quality of storm water is generally affected by the length of time since the last rainfall, the rainfall intensity, the urban uses of the area, and the quantity of transported sediment. The EPA considers street and parking lot surfaces to be the primary source of storm water pollution in urban areas. Post-construction phase water quality requirements are required as stated in Section 17.4.2 of the LCP. Section 17.4.2 of the LCP requires post construction plans detailing how stormwater and polluted runoff will be managed or mitigated during the life of the project. A **Water Quality Management Plan (WQMP)** is required for all development that requires a Coastal Development Permit and shall require the implementation of appropriate site design and source control BMPs from Section 17.6 of the LIP and Appendix A to minimize or prevent post-construction...
polluted runoff. With the preparation, approval and successful implementation of a WQMP, impacts to water quality would be mitigated less than significant levels.

Compliance with the requirements of the City of Malibu WQMP will be provided through two structural BMPs, vegetated swales and retention basins. The Proposed Project is required to treat the first ¾-inch of rainfall which affects the subject property. Based on calculations provided by Jensen Design & Survey, Inc., (February 2002 Revised February 2006), the required treatment volume for the Project Site is 1,530 cubic yards (cy). Based on the size of the proposed vegetated swales as well as the volumes of the proposed retention basins, the Proposed Project will be capable of treating this volume and flow rates without any issues.

The proposed man-made wetlands, which are proposed to control runoff from developed and paved surfaces, would also serve to minimize the introduction of pollutants of concern to off-site water bodies. When designed properly, constructed wetlands have the potential to duplicate the processes of natural filtration. Wetlands host a number of biological processes that serve to clean pollutants from water. Wetland plants trap sediment in their roots and branches, where microbes digest nutrients, breaking them down into harmless compounds. The process removes suspended solids, pathogens, organic matter, and sediment-attached nutrients and metals. Wetlands also provide a natural setting for disinfection; the sun’s rays destroy the cellular walls of some viral and microbial pollutants in a process known as photolysis. Long-term, regular maintenance of treatment wetlands is critical to sustain treatment capacity and optimize the habitat value provided (Kadlec and Knight 1996) and should be required indefinitely. Maintenance can include cleaning of pretreatment areas (dredging of sediment forebays, trash removal, backwashing of sand filters, etc.), harvesting of plant biomass, removal of exotic species and replanting of desired species. All maintenance work must be scheduled to avoid critical breeding and nesting periods for wetlands species. With proper design and on-going maintenance during the life of the project the proposed water features would provide a net beneficial impact to water quality.

Groundwater

Wastewater from the Proposed Project is proposed to be collected, treated and disposed of through a private on-site wastewater treatment system (OWTS) as described in the WMSMP identified in Section III.C Project Description, Project Characteristics. The proposed OWTS design is intended to effectively collect, treat and dispose/re-use wastewater generated by the Proposed Project while minimizing impacts to the greatest degree feasible. The OWTS would include a network of underground septic tanks proposed to effectively remove solids and floatable oil and grease, and other water quality related constituents containing materials from the waste stream—prior to reusing the treated wastewater for toilet flushing within buildings and discharging effluent on site as
landscaping irrigation water at depths shallower than 12 inches below ground surface. The treated wastewater would be required to meet the Title 22 standards for disinfected tertiary treatment. The wastewater would be commercial strength wastewater with the assumed influent characteristics and effluent limitations identified below in Tables V.F-1 and V.F-2, respectively. Waste discharged into the wastewater treatment plant would be limited to discharges from commercial and retail business, and City Hall. No water softener regeneration brines, industrial wastewaters, or volatile organic compounds would be allowed to be discharged into the system.

### Table V.F-1

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Units</th>
<th>Restaurants</th>
<th>Office/Retail</th>
<th>Total Table K-3 Flow or Quality Weighted Average</th>
<th>Total Design Flow or Quality Weighted Average</th>
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<tbody>
<tr>
<td>Flow</td>
<td>gpd</td>
<td>17,500</td>
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<td>28,000</td>
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<td>mg/l</td>
<td>80</td>
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<td>91</td>
<td>90</td>
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*Source: Malibu La Paz Development Wastewater Management System Master Plan (WMSMP), Table 2.11, Lombardo Associates, Inc., dated July 7, 2008.*

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Table V.F-2
Effluent Standards

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<thead>
<tr>
<th>Monthly Constituent</th>
<th>Unit</th>
<th>Average</th>
<th>Maximum</th>
</tr>
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<tbody>
<tr>
<td>pH</td>
<td>SU</td>
<td>NA</td>
<td>6.5 - 8.5</td>
</tr>
<tr>
<td>Biological Oxygen Demand (BOD₅)</td>
<td>mg/L</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>Suspended solids</td>
<td>mg/L</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>Turbidity</td>
<td>NTU</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Oil and Grease</td>
<td>mg/L</td>
<td>-</td>
<td>15</td>
</tr>
<tr>
<td>Total Dissolved Solids (TDS)</td>
<td>mg/L</td>
<td>-</td>
<td>2,000</td>
</tr>
<tr>
<td>Sulfate</td>
<td>mg/L</td>
<td>-</td>
<td>500</td>
</tr>
<tr>
<td>Chloride</td>
<td>mg/L</td>
<td>-</td>
<td>500</td>
</tr>
<tr>
<td>Total Nitrogen</td>
<td>mg/L</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Total Coliform</td>
<td>MPN/100 mL</td>
<td>2.2</td>
<td>23</td>
</tr>
<tr>
<td>Fecal Coliform¹</td>
<td>MPN/100 mL</td>
<td>-</td>
<td>200</td>
</tr>
<tr>
<td>Enterococcus²</td>
<td>MPN/100 mL</td>
<td>24</td>
<td>104</td>
</tr>
</tbody>
</table>

¹The limits for coliform shall apply, prior to discharge of the effluent into the reuse/irrigation system.
²The Enterococcus limit is based on geometric mean of at least 5 equally spaced samples in any 30-day period.

Source: Malibu La Paz Development Wastewater Management System Master Plan (WMSMP), Table 2.13, Lombardo Associates, Inc., dated July 7, 2008.

A Report of Waste Discharge (ROWD) has been submitted to the California Regional Water Quality Control Board on December 22, 2006 and is under review.⁶ Prior to the issuance of a certificate of occupancy, the Applicant will be required to obtain a Waste Discharge Requirement (WDR) and a Water Reclamation Requirements (WRR) from the Los Angeles Regional Water Quality Control Board. Prior to reuse or discharge, the effluent would be processed to meet the minimum requirements of the City of Malibu Uniform Plumbing Code and the TMDL Waste Discharge Requirements WDR/WRR of the RWQCB.

⁶ Tracy J. Egoscue, Executive Officer, California Regional Water Quality Control Board, Los Angeles Region, Letter Re: Status of Report of Waste Discharge Malibu La Paz, 3700 La Paz Lane, Malibu, California (File No. 08-0101), June 11, 2008 (See Appendix M).
While the wastewater management system is designed to provide no net discharge to groundwater, should the system operate outside of its specifications, “off-spec” treated wastewater would be discharged through a subsurface drip irrigation system for up to 20 days, consistent with Title 22 of the California Code of Regulations. The likely causes for any off-spec treated wastewater would be non-compliance with turbidity or total coliform standards. The California Department of Public Health has reviewed the WMSMP and has identified that the treatment system proposed in the Plan is appropriate, and that the proposed reuse is appropriate for the level of treatment provided by the treatment system. However, the Applicant will be required to provide a Title 22 Engineering Report consistent with the State of California Department of Public Health Guidelines and obtain approval from the California Department of Health for the proposed WMSMP which demonstrates that the degree and reliability of wastewater treatment is commensurate with the requirements for the proposed use, and that the distribution and use of the recycled water will not create a health hazard or nuisance. Therefore, with compliance with all applicable regulations, the discharge of “off-spec” wastewater would result in less-than significant impacts with regard to groundwater quality.

Consistent with the City of Malibu regulations for on-site wastewater systems, the Applicant/Operator will be required to prepare an operations and maintenance manual prior to final plan check approval and a maintenance contract will be executed between the property owner and an entity qualified in the opinion of the City of Malibu to maintain the proposed alternative onsite wastewater disposal system OWTS. Therefore, with adherence to all applicable operating requirements, potential adverse impacts to groundwater quality would be less than significant.

Soil leaching with treated wastewater or potable water would occur to flush out the accumulated salts resulting from evapotranspiration of the irrigation water, consistent with Section 2.12 (Salt Leaching and Nutrient Management) of the WMSMP. Discharge of treated wastewater within the landscape areas has the potential to result in a buildup of salts within the soil root zone, and potentially affect groundwater quality. However, consistent with the California State Water Resources Control Board Draft Recycled Water Policy, the Proposed Project would be required to apply recycled water in an amount that does not exceed the amount needed for vegetation or crops, taking into account evapotranspirative demand, the distribution and uniformity of the irrigation system, and leaching needed to prevent buildup of salts in soils. Further, a soil salt leaching management plan would be

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7 Ibid.
8 Stefan Cajina, P.E., District Engineer, Central District, California Department of Public Health, Letter dated May 30, 2008 (See Appendix M).
9 Ibid.
10 City of Malibu Hydrogeology Review Sheet (Comment #6), June 26, 2008 (See Appendix M).
developed as a part of the final design of the WMSMP to address salt leaching and nutrient management of accumulated salts resulting from evapotranspiration of landscape irrigation water, and consistent with the relevant and applicable water quality standards specified in the California State Water Resources Control Board Draft Recycled Water Policy and the Los Angeles Regional Water Quality Control Board Order No. 93-010 *General Waste Discharges to Groundwater in the Santa Clara River and Los Angeles River Basins. Therefore, with adherence to all applicable policies, plans, and board orders, potential impacts to groundwater quality would be less-than-significant.

CUMULATIVE IMPACTS

Development of the Proposed Project in conjunction with the related projects identified in Section IV.C would result in the further infilling of uses in an area that contains a mix of developed and undeveloped land. With the exception of the Malibu Sycamore Grove Office Park and Civic Center Way Retail Park Projects Shultz Site to the east, none of the related projects are immediately adjacent to the Project Site, and they would not be utilizing the same storm drain inlets as the Proposed Project. Development of the Malibu Sycamore Grove Office Park Shultz site and Civic Center Way Retail Park Projects Yamaguchi site would result in additional surface water runoff with urban water pollutants (i.e., oil, grease and sedimentation). However, similar to the Proposed Project, in accordance with the City’s Local Coastal Plan - Local Implementation Plan (LCP-LIP), all related projects would be required to develop a water quality mitigation plan (WQMP) to reduce impacts upon water quality.

In addition, the properties within the Civic Center area are served by private on-site wastewater treatment systems, effluent from area OWTS’s would contribute to adverse cumulative water quality impacts within the Malibu Lagoon watershed. The RWQCB is charged with implementing the Total Maximum Daily Load (TMDL) program, through the issuance of Waste Discharge Requirements (WDRs), to address chronic water quality problems in the Malibu Lagoon, which is a federally designated Impaired Water Body (Section 303d) impacted by bacteria and nutrients. The Civic Center Risk Assessment Study, performed by Questa Engineering Corp. for the City of Malibu, has shown that portions of the subject property contribute to the regional groundwater discharge into Malibu Lagoon. Because the subsurface discharge of OWTS effluent from the proposed project could contribute a significant cumulative impact on water quality in the Malibu Lagoon (e.g., in the event of off-spec discharges of treated wastewater to the drip irrigation system), the City of Malibu Environmental Health Specialist RWQCB will review the OWTS final design and the Title 22 Engineering Report (to be reviewed during the issuance of WDR/WRR final building plan check) to ensure compliance with the TDML/Clean Water Act Section 303d requirements and other applicable regulations. In addition, the wastewater discharge generated by the related projects, as well as the Proposed Project would therefore be required to meet the TMDL standards set forth in the WDR, which is considered a vehicle for moving towards attainment of federal and state water quality standards in the Civic Center Area. Because the TMDL program requires the RWQCB to set water quality limits in the WDR based on an analysis of cumulative impacts, the City of Malibu Environmental Health Specialist will consider the
project to be in conformance with the LCP Chapter 18 requirements for a Cumulative Impact Analysis, provided that this condition is met. The City Environmental Health Administrator has found that the proposed system is feasible and meets the requirements of the City of Malibu. Based on the foregoing, the Proposed Project’s contribution to cumulative wastewater impacts would be less than significant.

MITIGATION MEASURES

The following mitigation measures are required to mitigate any significant hydrology or water quality impacts:

1. The project shall comply with all requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit.

2. The contractor shall contact the local California State Water Resources Board with any questions concerning Resolution No 2001-046 and to determine if the Project Site will require storm water sampling during construction activities.

3. The Proposed Project shall conform to the requirements established in the City of Malibu’s Ordinance 157. Additionally, an approved Water Quality Mitigation Plan (WQMP) is required prior to the issuance of any building permits. The Proposed Project shall conform to its WQMP as approved by the City of Malibu in concept and comply with the BMPs in the Jensen Design and Survey and the October 2006 approval of the City’s Environmental Health Coordinator.

4. The Proposed Project shall meet the requirements of the City of Malibu’s Flood Plain Management Ordinance, Ordinance No. 110. These requirements include building the proposed development at raised levels.

5. A Water Quality Mitigation Plan (WQMP) is required to reduce pollutants from the sites. The WQMP shall be a site-specific plan that outlines the potential pollutants and cost effective ways to reduce the discharge of these pollutants. Best Management Practices (BMPs) that may be required and may include, but are not limited to, the following. Additionally BMPs can be found in the California Storm Water Best Management Practice Handbooks for Municipal and Commercial Activities, dated March 1993.

   a. Public education
   b. Good housekeeping practices
   c. Storm drain stenciling and signs
   d. Catch basin/storm drain cleaning
e. Sweep/vacuum parking and drive areas

f. Material storage control.

The drainage plan in the WQMP shall substantially conform to the concept grading and drainage plan in Figures V.F-2 and V.F-3. The WQMP shall be implemented through a maintenance covenant and submitted to the City for review on an annual basis for the life of the project.

6. A detention basin shall be provided that is properly designed and maintained to meet both County SUSMP requirements and City Ordinance 157 to retain or filter initial rainfall.

7. Ongoing BMPs outlined in the approved WQMP shall be implemented by owners and tenants.

8. Long-term, regular maintenance of treatment wetlands shall be required indefinitely. Maintenance should include cleaning of pretreatment areas (dredging of sediment forebays, trash removal, backwashing of sand filters, etc.), harvesting of plant biomass, removal of exotic species and replanting of desired species. All maintenance work shall be scheduled to avoid critical breeding and nesting periods for wetlands species.

9. The Applicant has obtained final feasibility approval (CDP) for the proposed onsite wastewater treatment systems (OWTS) for Parcel A, Parcel B, and the City Hall Projects from the City Environmental Health Specialist Administrator. In accordance with Chapter 18.4(D) of the City’s Local Coastal Plan- Local Implementation Plan (LCP-LIP) the proposed OWTS shall be engineered to meet the effluent limits specified in the WDR/WRRs, taking into account the Malibu Lagoon bacteria and total maximum daily load requirements (TMDLs) of the RQWCB and the USEPA, evaluated for cumulative impacts upon groundwater levels. A cumulative impact analysis shall be submitted and approved by City Geotechnical staff and the City Environmental Health Specialist. Copies of the proposed OWTS, as well as copies of the approved plans and designs of the systems from Ensitu Engineering shall be provided to the City Geologist.

10. The Applicant shall apply recycled wastewater for irrigation purposes within landscape areas consistent with the State Water Resources Control Board Draft Recycled Water Policy.

11. A salt management plan shall be prepared and approved as a part of the final wastewater system design consistent with the applicable requirements, guidelines and policies identified in Section 2.12 of the Wastewater Management System Master Plan prepared by Lombardo Associates, Inc., dated July 7, 2008.
12. The Applicant shall obtain a Waste Discharge Requirement (WDR) and a Water Reclamation Requirements (WRR) from the Los Angeles Regional Water Quality Control Board. Prior to reuse or discharge, the effluent shall be processed to meet the requirements of the City of Malibu Plumbing Code, and the WDR/WRR of the RWQCB.

13. Approval(s) to operate the proposed wastewater reuse system shall be obtained from the California Department of Public Health and the Los Angeles Regional Water Quality Control Board pursuant to the provisions of Title 22 of the California Code of Regulations. The required Engineering Report shall be prepared and submitted to the satisfaction of the California Department of Public Health, and the Los Angeles Regional Water Quality Control Board. Waste discharged into the wastewater treatment plant shall be limited to discharges from commercial and retail business, and City Hall. No water softener regeneration brines, industrial wastewaters, or volatile organic compounds shall be allowed to be discharged into the system.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the mitigation measures listed above, impacts to hydrology and water quality would be less than significant.