

# **APPENDIX G**

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## **HYDROLOGY AND WATER QUALITY BACKGROUND INFORMATION**

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### ENVIRONMENTAL SETTING

#### REGIONAL SETTING

Ballona Creek is a concrete-lined channel that conveys urban runoff and storm water runoff from a 78,000-acre watershed consisting of heavily urbanized Los Angeles, Culver City and Beverly Hills, the north slope of the Baldwin Hills, and portions of the Santa Monica Mountains to the north. The eastern extent of the watershed reaches I-110 near downtown. Much of the storm water falling on the city is collected in street drain inlets and conveyed in large underground sewers westward to the concrete-lined Ballona Channel. The channel empties into the Santa Monica Bay near the Marina del Rey marina and the Ballona Wetlands. As the channel nears the ocean, it becomes a tidally influenced estuary. Along the coast, storm water and urban runoff is conveyed directly to the beach through local sewers and drainage canals. The City and County of Los Angeles Department of Public Works are responsible for maintaining storm drains to minimize flooding within their jurisdiction. Flooding has been minimized through the construction of storm drains, flood control channels, detention basins, and pumping plants.

#### LOCAL SETTING

##### ***STORM DRAINAGE***

The PDR lots sites are located on the Westchester Bluffs that drain northward on Falmouth Street to the Ballona Wetlands on the southern edge of the channelized Ballona Creek. No underground storm sewers exist in the streets within the project area. For both the PDR and MDR sites, storm water runoff is collected in gutters and transported off-site. The PDR lots drain to Manchester Avenue and then ultimately to the Ballona Wetlands along Falmouth Street. The MDR lots drain directly westward onto Venice Beach.

According to the City of Los Angeles Safety Element, the two lots located in MDR are within a 100-Year flood zone, directly on the beach at an elevation of less than 15 feet above mean sea level (amsl). The PDR properties are approximately 150 feet amsl and not within a flood zone.

##### ***GROUNDWATER***

Regional ground water levels are at or near sea level (Chambers, August 2000). Shallow ground water in the vicinity of Playa del Rey has been degraded in the past from seawater intrusion as a result of over-

pumping of the central basin. However, water levels have subsequently risen in recent decades as extractions have been limited and seawater intrusion barriers have been implemented. The tidally influenced groundwater elevations within Playa del Rey vary from about two feet above to ten feet below mean sea level with flow to the northeast.

### ***TSUNAMI***

Tsunamis are extremely long-period waves often associated with underwater earthquakes. Other mechanisms such as volcanic activity or submarine landslides can also generate tsunamis. Due to its proximity to the Pacific Ocean and its low-lying elevations, the Marina del Rey area is subject to potential tsunami hazards. The maximum expected run-up of a tsunami wave in Venice Beach is approximately 9.6 feet in a 100-year time frame from a distant earthquake. Tsunamis generated from local earthquakes may be larger, but are less likely to occur. The two lots located in MDR would be subject to potential tsunami hazards.

## **REGULATORY SETTING**

### **FEDERAL**

The Clean Water Act (CWA) is administered by the United States Environmental Protection Agency (USEPA) to protect water quality. Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) to regulate discharges into waters of the US. The USEPA has delegated authority for implementing the NPDES program in the State of California to the State Water Resources Control Board (SWRCB), which in turn authorizes the Regional Water Quality Control Boards (RWQCB) to issue permits.

### **STATE STANDARDS**

The RWQCBs have prepared Basin Plans, which identify beneficial uses and water quality objectives for each water resource in the state. The SWRCB requires that all discharges to waters of the US first obtain NPDES discharge permits. The NPDES permits include waste discharge requirements that establish water quality thresholds to maintain designated water quality objectives and beneficial uses. The NPDES permitting program includes storm water discharges for municipal storm sewer systems, industrial activities, and construction activities. To obtain coverage under the statewide general construction storm water discharge NPDES permit for a construction site greater than one acre, a project proponent must prepare a Storm Water Pollution Prevention Plan (SWPPP) outlining best management practices to be employed to avoid water quality impacts to local receiving waters.

In addition, pursuant to Section 303(d) of the CWA, the SWRCB has compiled a list of impaired water bodies in the state. The list includes Ballona Creek, Ballona Estuary, and the Ballona Creek Wetlands.