

# CHAPTER 3.6

## HYDROLOGY AND WATER QUALITY

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This section presents an assessment of potential hydrologic impacts of the Proposed Project and alternatives. *Section 3.6.1* provides a discussion of the affected environment for hydrology of the project area. The impact assessment methodology is discussed, and potential impacts of the Proposed Project and alternatives are identified in *Section 3.6.3*. This section is based upon a Drainage Study, prepared by Stantec in November 2006, and is included in *Appendix E*.

### 3.6.1 Affected Environment

The Mountain View IV project site is located at the north end of Palm Springs, just west of North Indian Canyon Drive, and approximately a mile south of Interstate-10. Groundwater recharge ponds are located immediately west of the proposed project. The site is designated within flood Zone A, on the applicable Federal Emergency Management Agency (FEMA) Preliminary Flood Insurance Rate Map (Panel 060245 0900 D). Zone A is categorized as areas of 100-year flood; base flood elevations and flood hazard factors not determined. The site lies within the floodplain of the Whitewater River, but is outside the main flow path. Given the project's location in a floodplain, a drainage study was prepared in order to estimate 100-year water surface elevation and to determine the depth of scour erosion at the foundations of the structures at the project site.

### 3.6.2 Regulatory Setting

#### Federal Guidelines

The principal federal law regulating surface water quality is the 1972 Clean Water Act. The Clean Water Act provides a system of water quality standards, discharge limitations, and permits. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (ACOE) regulates discharges of dredged or fill material into waters of the U.S. Activities that may result in the dredge or fill of waters of the U.S. require issuance of a Section 404 permit from the ACOE. Under Section 401 of the Clean Water Act, a state water quality certification must be obtained whenever an application for a federal permit for discharge of pollutants into waters of the U.S., such as a Section 404 permit, is submitted. The Section 401 certification requires any activity affecting waters of the U.S. be in compliance with all applicable water quality standards, limitations and restrictions.

#### State Guidelines

Division 7 of the California Water Code, commonly referred to as the state Porter-Cologne Water Quality Act, is the principal state law enacted to establish requirements for adequate planning, implementation, management, and enforcement for the control of water quality. This act established a regulatory program to protect water quality and beneficial uses of all state waters. The Act also

established the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) as state agencies responsible for water quality control.

Other applicable regulations include Section 1602 of the California Fish and Game Code. The California Department of Fish and Game (CDFG) regulates wetland areas as defined by the Fish and Game Code. A Section 1602 Streambed Alteration Agreement is required from CDFG whenever CDFG jurisdictional wetlands are altered or fish or wildlife resources are adversely affected.

#### Local Guidelines

The City's General Plan Water Resources Element provides guidelines for water resource conservation for preservation of wildlife in watercourse areas, production (groundwater recharge) and public health and safety regarding flooding and water quality.

### **3.6.3 Environmental Consequences**

#### **Methodology and Significance Criteria**

This section provides a discussion of the methodology and criteria used to assess impacts to hydrology and water quality that could occur as a result of construction and operation of the Proposed Project and alternatives.

#### CEQA Significance Criteria

Appendix G of the State CEQA Guidelines (Cal. Code Regs. Title 14 §15000 et seq., 1998) states that the project would have a significant effect on hydrology and water quality if it would:

- Substantially alter existing drainage patterns in the project area.
- Create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems.
- Substantially degrade water quality.
- Place housing within a 100-year flood hazard.
- Expose people or structures to a significant risk of loss, injury or death involving flooding.

#### **Project Impacts**

The project will result in minor increases of impervious surfaces due to construction of wind turbine and transformer foundations. These foundations will be dispersed throughout the project area and would not result in a significant change to the runoff rate in the area.

During construction grading, there is the potential for some short-term erosion to occur and discharge of pollutants, especially during times of inclement weather. These short-term indirect impacts are considered to be potentially significant and mitigation, in the form of site-specific best management practices (BMPs), are recommended. Coordination with the Regional Water Quality Control Board and preparation of a Storm Water Pollution Prevention Plan (SWPPP) would be required. The SWPPP would specify the appropriate BMPs to be employed. Pursuant to General Plan policies, the construction and operational activities associated with the proposed project must meet the requirements and procedures of the National Pollution Discharge Elimination System (NPDES) General Permit.

The site is within the 100-year flood plain of the Whitewater River. However, there are no frequent flows on the site. With the exception of local drainages which only contain surface flow during moderate to strong rainstorms, no stream occurs within the sites. Road crossings of local drainages are proposed to be at-grade, and no culverts, drainage structures or local stream diversions are required. Also, the project would not interfere with groundwater recharge in the ponds to the west of the site.

The drainage study projects the maximum flow depth in the portion of the Whitewater River containing the project site to be approximately 1 foot during a 100-year storm flow. In order for proposed structures to be safe from the 100-year flow, the elevations of proposed electrical components that are not designed to be below water must be 2 feet (including 1 foot of freeboard) above the existing ground.

The drainage study also evaluates scour erosion at the site and projects the depth of scour which would affect turbine and transformer foundations. The projected scour depth for the wind turbines and transformers will be 11.3 ft and 10.7 ft, respectively for 100-year flood flow scenario. The same scour for a 25-year flow is 7.1 ft and 6.8 ft. for the wind turbines and transformers, respectively. Since the structure expected life is 20-years, the appropriate design frequency for scour is 25-years or less. Therefore the design foundation depth (30 ft. for turbines and 10 ft. for transformers) is larger than the scour depth for 25-year flood (7.1 ft. for turbines and 6.8 ft. for transformers). Thus the foundation design depth is adequate for 25-year flood protection against scour.

A number of State and/or federal permits may be required in regard to streambed alteration as defined in California Fish and Game Code Sections 1600–1607, and under the federal Clean Water Act (CWA) Section 404. The use of a 404 permit in California is regulated by the State Water Resources Board (Board) under Section 401 of the Clean Water Act. The Board has authority to issue a 401 permit that allows the use of a 404 permit in the state, with the authority in the state being vested in regional offices referred to as Regional Water Quality Control Boards. It is anticipated that no Corps permit will be required, no 401 permit is required from the State Water Quality Control Board's regional office for the Colorado River region. However, the smaller

drainages may meet the jurisdictional requirements under CDFG and should be reviewed by that agency to determine whether streambed alteration agreements are required. These potential permit requirements are discussed in more detail in Section 3.2, Biological Resources.

### **3.6.4 Mitigation Measures**

- 3.6-1. Prior to issuance of grading permits, the project applicant would demonstrate compliance with all applicable regulations established by the United States Environmental Protection Agency (EPA) as set forth in the NPDES permit requirements for urban runoff and storm water discharge and any regulations adopted by the City of Palm Springs pursuant to the NPDES regulations or requirements. Further, the applicant shall file an NOI with the RWQCB to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity and shall implement a Storm Water Pollution Prevention Plan (SWPPP) concurrent with the commencement of grading and construction activities. The SWPPP shall include both construction and post-construction pollution prevention and pollution control measures and shall identify funding mechanisms for post-construction control measures.
- 3.6-2. Padmount transformers and wind turbine electronic and control systems that are not designed to operate under water must be at least two feet above the existing ground level in order to be safe from 100-year flood flows.

### **3.6.5 Reduced Development Alternative**

Under the reduced development alternative, wind turbines and associated structures would still be built within the Whitewater floodplain. The mitigation measures which are necessary for the proposed project (preferred alternative) would still be required for the reduced development alternative. Therefore, this alternative is not environmentally superior to the proposed project.

### **3.6.6 No Action Alternative**

The no action alternative would have impacts to hydrology and water quality that are less than significant. With no project proposed on the site, there would still be potential for flooding and possibility for water contamination and erosion. However, there would be no structures placed within the flood channel; therefore, there would be no risk of damage to structures from flooding or erosion. The no action alternative would be environmentally superior to the proposed project and the reduced development alternative.