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## 4.8 - Hydrology and Water Quality

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### 4.8.1 - Introduction

This section describes the existing setting regarding hydrology and water quality potential effects from project implementation at the sites and their surrounding areas. It also considers impacts likely to be incurred in the future if additional sites are proposed or if existing sites are modified.

### 4.8.2 - Existing Conditions

The project sites are currently vacant and contain no structures within the typical 65-foot-by-65-foot (4,225-square-foot) footprint proposed for development. The only exceptions to this condition are the Big Maria, Box Springs, Elsinore Peak, Red Mountain, Santa Rosa Peak, and Whitewater sites, which currently house existing County communication facilities. With the exception of those sites proposed in urban areas, ground cover could be considered “natural”, meaning that there are no impermeable surfaces (buildings, parking lots, etc.) on the ground surface. The two urban sites (Arlington and Corona) are composed of a grassy lawn area and a driveway (Arlington), and a maintenance yard facility that is mainly used for the storage of equipment (Corona). See the individual site descriptions provided in Appendix A for an overview and photographs of each site.

Except for Arlington and Corona, there are no developed storm water facilities at any site. Any precipitation that falls on the sites either is absorbed into the ground or flows off the site via natural drainages. At the two urban sites (Arlington and Corona), precipitation falling on the site that isn't absorbed directly into the ground flows off of the sites and eventually finds its way to adjacent curbs and gutters and thus to the urban stormwater system.

No water-quality data were acquired as part of this DEIR and, therefore, no site-specific data are available to characterize existing surface water-quality conditions for the project areas. Those sites not in urban areas are natural in composition and are presumably lacking in contaminants or other characteristics that could be problematic. The urban sites could be presumed to be typical of such areas insofar as they could be subject to or contribute to urban runoff.

### Regulatory Framework

#### ***Federal Clean Water Act***

The Clean Water Act (CWA), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Important applicable sections of the Act are as follows:

- Section 301 prohibits the discharge of any pollutant by any person, except as in compliance with Sections 302, 306, 307, 318, 402, and 404 of the CWA. Sections 303 and 304 provide for water-quality standards, criteria, and guidelines.

- Section 401 requires an applicant for any federal permit that proposes an activity which may result in a discharge to “waters of the United States” to obtain certification from the State that the discharge will comply with other provisions of the Act. Certification is provided by the RWQCB.
- Section 402 establishes the National Pollution Discharge Elimination System (NPDES) a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCB, and discussed in detail below.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

Potential impacts on jurisdictional waters and wetlands are evaluated in Section 4.3, *Biological Resources*.

#### **National Flood Insurance Program**

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities complying with FEMA regulations that limit development in floodplains. FEMA issues flood insurance rate maps for communities participating in the NFIP. These maps delineate flood hazard zones for each project site. Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It requires:

- Avoidance of incompatible floodplain development;
- Consistency with the standards and criteria of the NFIP; and
- Restoration and preservation of the natural and beneficial floodplain values.

#### **California Porter-Cologne Water Quality Control Act**

The State of California’s Porter-Cologne Water Quality Control Act (California Water Code Section 13000, et seq.) provides the basis for water quality regulation within California. The Act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the State. Waste discharge requirements (WDRs) resulting from the Report are issued by the RWQCB, as discussed further below. In practice, these requirements are typically integrated with the NPDES permitting process.

The State Water Resources Control Board (SWRCB) and the various RWQCBs throughout the State carry out their water quality protection authority through the adoption of specific Water Quality Control Plans (Basin Plans). These plans establish water quality standards for particular bodies of water. California water quality standards are composed of three parts: the designation of beneficial

uses of water, water quality objectives to protect those uses, and implementation programs designed to achieve and maintain compliance with the water quality objectives.

The RWQCB implements management plans to modify and adopt standards under provisions set forth in section 303(c) of the Federal CWA and California Water Code (Division 7, Section 13240). Under Section 303(d) of the 1972 CWA, the State is required to develop a list of waters with segments that do not meet water quality standards.

#### **Total Maximum Daily Loads**

A total maximum daily load (TMDL) refers to the amount of a specific pollutant a river, stream, or lake can assimilate and still meet federal water quality standards as provided in the CWA. A TMDL accounts for all sources of pollution, including point sources, non-point sources, and natural background sources. Section 303(d) requires that regulatory agencies determine TMDLs for all water bodies that do not meet water quality standards, and the Section 303(d) list of impaired water bodies described earlier provides a prioritization and schedule for development of TMDLs for the State.

The SWQCB, in compliance with the Section 303(d) of the Clean Water Act [33 USC Section 1313(d)] prepared, and the EPA approved, a 2006 list of impaired water bodies in the State of California. The list includes a priority schedule for the development of TMDLs for each contaminant or “stressor” impacting the water body. The major source of pathogens is typically septic wastewater treatment systems; runoff from new urban development is a concern if it adds additional pollutants to the receiving sub-unit.

#### **Regional Water Quality Control Board Regulated Activities**

Under Section 401 of the CWA, the RWQCB regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Water Quality Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) that shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns

across the project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

If a single project traverses more than one RWQCB jurisdiction, a complete Notice of Intent package (Notice of Intent, site map, and fee) and Notice of Termination (upon completion of each section), must be filed with each RWQCB.

#### **4.8.3 - Thresholds of Significance**

According to the CEQA Guidelines' Appendix G, Environmental Checklist, to determine whether hazards and hazardous materials are significant environmental effects, the following questions are analyzed and evaluated:

- a.) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b.) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be 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 which would not support existing land uses or planned uses for which permits have been granted?
- c.) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site? 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, which would result in flooding on- or off-site?
- d.) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- e.) Otherwise substantially degrade water quality?
- f.) 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, which would impede or redirect flood flows? 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? Expose people or structures to inundation by seiche, tsunami, or mudflow?

#### 4.8.4 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

##### Water Quality Standards and Requirements

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Impact HWQ-1	Violate any water quality standards or waste discharge requirements? [CEQA Hydrology / Water Quality Threshold 8(a)]
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##### **Impact Analysis**

Development of the proposed project would require construction and grading of most project sites. Construction of the proposed project would require the use of gasoline and diesel-powered heavy equipment, such as bulldozers, backhoes, water pumps, and air compressors. Chemicals such as gasoline, diesel fuel, lubricating oil, hydraulic oil, lubricating grease, automatic transmission fluid, paints, solvents, glues, and other substances could be utilized during construction. An accidental release of any of these substances could degrade the water quality of the surface water runoff and add pollution into local waterways. Considering the small size of each of the project sites and the small quantities of potential pollutants, the threat of these materials will be minimal. However, the County should prepare a standard Emergency Response Plan (ERP) to provide for any contingencies that could arise in the future. The ERP could be applied to all sites, and should provide direction regarding specific actions to be taken in the unlikely event of spillage, leakage, or upset at any of the sites. Mitigation is provided below to assure compliance with this requirement.

The most likely runoff from the sites would be from sediment created by soil disturbance during or immediately after construction. The NPDES stormwater permitting programs regulate stormwater quality from construction sites. The Construction General Permit requires the development and implementation of a SWPPP. The SWPPP should contain a site map(s) that shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list BMPs the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

BMPs typically include silt fencing, hay bails, or other devices designed to impede flows within and from the site. These temporary features serve to trap and absorb pollutants and sediments before they can leave the area. Given the small size of each site, implementation of standard BMPs will be more than adequate to protect against both typical and accidental discharges. Therefore, with the implementation of standard BMPs during construction, impacts to water quality standards from the

proposed project will be less than significant. Mitigation is provided below to assure compliance with these requirements.

During the operational phase of the project, the pollutants associated with each site will be negligible. The only post construction petroleum products would be associated with the propane-powered electrical generators installed at each site. Generators will be housed within the equipment shelters, and these shelters are designed to contain any fuel or oil leaks that could be produced by the generators. Propane tanks will be located outside of the equipment shelters. In the unlikely event of a leak in a propane tank, there would be no discharge to waterways since propane is a gas and would thus discharge into the atmosphere rather than to the ground. The 48-volt microwave batteries that will be in use at each site contain an electrolyte consisting mostly of hydrochloric acid. These amounts are relatively small and the batteries are sealed to prevent leaks. Batteries will receive regular inspection and maintenance to prevent accidental leaks of the electrolyte. Battery cells will be replaced if they show any signs of a potential leak. Old or defective cells will be disposed of in accordance with applicable law. No other hazardous materials that could serve as a source of pollution will be housed on any site. However, the County should prepare a standard ERP to provide for any contingencies that could arise in the future. The ERP could be applied to all sites, and should provide direction regarding specific actions to be taken in the unlikely event of spillage, leakage, or upset at any of the sites. Mitigation is provided below to assure compliance with this requirement.

Once constructed, approximately 25 percent of the area of each site will be covered with impermeable surfaces (buildings, concrete tower footings, etc.). The rest of the area will be open ground. Most of the runoff from impermeable surfaces will be accommodated by and absorbed into the surrounding open ground. The amount that is not will be directed appropriately using swales or other features that are standard in engineering designs to reduce erosion. These features will direct flows in an appropriate manner towards surrounding drainageways, developed storm drain facilities, etc. Given the small size of each site and thus the small amount of water flow likely to be derived from each site, these standard engineering practices will be adequate to meet the drainage needs of each site. Therefore, impacts in this regard will be less than significant.

***Level of Significance Before Mitigation***

Potentially significant

***Mitigation Measures***

**MM HY-1a** Prior to the commencement of construction at any site, coverage must be obtained under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit 99-08-DWQ) from the appropriate RWQCB with jurisdiction over the site. As part of the permit process, a SWPPP must be developed that meets the requirements of the applicable RWQCB and lists BMPs that will be implemented to protect and control storm water runoff from the site.

**MM HY-1b** Prior to commencing construction at any site, the County shall develop an ERP to provide for any contingencies that could arise during construction. The ERP may be applied to all sites, and should provide direction regarding specific actions to be taken in the event of spillage, leakage, or upset at any of the sites.

**MM HY-1c** Prior to commencing operations at any site, the County shall develop an ERP to provide for any contingencies that could arise during operation. The ERP may be applied to all sites, and should provide direction regarding specific actions to be taken in the event of spillage, leakage, or upset at any of the sites.

**Level of Significance After Mitigation**

Less than significant impact.

**Groundwater Supplies and Recharge**

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**Impact HWQ-2** Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be 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 which would not support existing land uses or planned uses for which permits have been granted?  
[CEQA Hydrology / Water Quality Threshold 8(b)]

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**Impact Analysis**

The provision of potable water wells or any “wet” utilities is not a component of any of the sites. Once operational, the sites will not consume any water. During construction, some water will be required for the mixing of concrete, soil compaction, dust control, etc. Water for this purpose will be brought in from offsite, usually by water truck. This use will be temporary and negligible. Therefore, there would be no impact to groundwater supplies or recharge.

**Level of Significance Before Mitigation**

No impact.

**Mitigation Measures**

No mitigation is required.

**Level of Significance After Mitigation**

No impact.

**Drainage Pattern: Erosion or Siltation**

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**Impact HWQ-3** Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? 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, which would result in flooding on- or off-site?  
[CEQA Hydrology / Water Quality Threshold 8(c) and 8(d)]

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**Impact Analysis**

Nearly all of the tower sites will be located on topographic highpoints and will thus be located away from drainages. Development of the sites would require construction and grading of most project sites. During construction, soil erosion could occur along project boundaries or in areas where temporary soil storage is required. These small quantities of erosion or siltation could have the potential to enter nearby drainages, thereby potentially increasing erosion or siltation on and offsite. However, and as stated previously, the proposed project will implement standard BMPs to ensure the reduction of erosion or siltation on or offsite (see Mitigation Measure MM HY-1a). Additionally, the individual footprint of the project site would be flat and of such a small size (approximately 65 feet by 65 feet square), that substantial alteration of existing drainage patterns and any increased possibility of flooding would remain very unlikely. Therefore, impacts in this regard will be less than significant.

**Level of Significance Before Mitigation**

Less than significant impact.

**Mitigation Measures**

No mitigation is required.

**Level of Significance After Mitigation**

Less than significant impact.

**Runoff Water, Drainage Systems, and Water Quality**


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<b>Impact HWQ-5</b>	<b>Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? Otherwise substantially degrade water quality?</b>
	<b>[CEQA Hydrology / Water Quality Threshold 8(e) and 8(f)]</b>

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**Impact Analysis**

Once constructed, approximately 25 percent of the area of each site will be covered with impermeable surfaces (buildings, concrete tower footings, etc.). The rest of the area will be open ground. Most of the runoff from impermeable surfaces will be accommodated by and absorbed into the surrounding open ground. The amount that is not will be directed appropriately using swales or other features that are standard in engineering designs to reduce erosion. These features will direct flows in an appropriate manner towards surrounding drainageways, developed storm drain facilities, etc. Given the small size of each site and thus the small amount of water flow likely to be derived from each site, these standard engineering practices will be adequate to meet the drainage needs of each site. Therefore, impacts in this regard will be less than significant.

During the operational phase of the project, the pollutants associated with each site will be negligible. The only petroleum products would be associated with the propane-powered electrical generators installed at each site. Generators will be housed within the equipment shelters, and these shelters are designed to contain any fuel or oil leaks that could be produced by the generators. Propane tanks will



be located outside of the equipment shelters. In the unlikely event of a leak in a propane tank, there would be no discharge to waterways since propane is a gas and would thus discharge into the atmosphere rather than to the ground. No other hazardous materials that could serve as a source of pollution will be housed on any site. However, Mitigation Measures MM HY-1b and HY-1c require the County to develop a standard ERP to provide against contingencies in the event of spillage, leakage, or upset at any of the sites. With implementation of these measures, impacts in this regard will be less than significant.

**Level of Significance Before Mitigation**

Less than significant impact.

**Mitigation Measures**

No mitigation is required.

**Level of Significance After Mitigation**

Less than significant impact.

**Housing Placement: Flood Hazard Area**

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<b>Impact HWQ-7</b>	<b>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, which would impede or redirect flood flows? 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? Inundation by seiche, tsunami, or mudflow?</b>  <b>[CEQA Hydrology / Water Quality Threshold 8(g), 8(h), 8(i), and 8(j)]</b>
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**Impact Analysis**

The project does not propose the placement of habitable structures on any of the project sites. Therefore, the project would have no impact in regards to placing housing within a flood zone.

The majority of the towers are located on mountaintops, ridgelines, or in urban areas. None of the sites will be placed in flood zones. Even if a site were placed within a flood zone, the individual footprint of the project site and the structures contained thereon would be of such a small size that impeding or redirecting flood flows would remain very unlikely. Similarly, the locations of the sites make the possibility of project related impacts from dam failure, seiche, tsunami, or mudflow very unlikely. Therefore, there will be no impact in this regard.

**Level of Significance Before Mitigation**

No impact.

**Mitigation Measures**

No mitigation is required.

**Level of Significance After Mitigation**

No impact.

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