

4.7 - Hazards and Hazardous Materials

4.7.1 - Introduction

This section describes the existing setting regarding hazards and hazardous materials and potential effects from project implementation on the sites and their surrounding areas. Descriptions and analysis in this section on Radio Frequency Radiation (RFR) are based on information contained in the *Radio Frequency Radiation Analysis* prepared March 10, 2008 by Health and Medical Consulting, included in this DEIR as Appendix E. Analysis of known hazardous materials conditions is based on information derived from environmental database searches prepared by Environmental First Search, and included in this DEIR as Appendix H.

4.7.2 - Existing Conditions

Hazardous Materials

The project sites are currently vacant land, with no structures present. Except for incidental passersby, there are currently no uses occurring on most of the project sites. 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.

As part of its due-diligence investigation for each of the sites, the County initiated database searches to determine if any conditions of potential contamination had been reported either upon the sites or in their immediate vicinities. These searches queried numerous databases and identified any reported conditions within a 0.25-mile radius of each site. Table 4.7-1, below, summarizes the results. For those site searches that reported a positive finding within the search radius, the specific database reports for those sites are included in this DEIR as Appendix H.

Table 4.7-1: Environmental Database Search Summary

Site Name	Assessors Parcel Number (APN) ¹	Environmental Database Listings ²		
		Site	1/8 Mile	1/4 Mile
Arlington	145-120-002	0	0	4-RCR 4-UST
Avocado Flats	101-280-20-00 (SDC)	0	0	0
Big Maria	815-090-021	0	0	0
Black Eagle	701-370-008	0	0	0
Black Jack	809-190-002	0	0	0
Blue Mountain	1178-251-08 (SBC)	0	0	0
Box Springs	256-030-006	0	0	0
Brookside	407-170-010	0	0	0
Cajalco	278-150-005	0	0	0

Table 4.7-1 (Cont.): Environmental Database Search Summary

Site Name	Assessors Parcel Number (APN) ¹	Environmental Database Listings ²		
		Site	1/8 Mile	1/4 Mile
Corn Springs	810-181-001	0	0	0
Corona	118-270-016	0	0	10-RCRA 6-LUST 11-UST
El Cariso	125-120-12 (OC)	0	0	0
Elsinore Peak	382-090-004	0	0	0
Estelle Mountain A	391-040-005	0	0	0
Estelle Mountain B	391-040-005	0	0	0
Glen Avon	173-030-009	0	0	0
Green River	101-040-009	0	1-ERNS	0
Homeland	457-340-027	0	1-UST	0
Iron Mountain	0643-221-07 (SBC)	0	0	0
Joshua Tree	0589-091-11 (SBC)	0	0	0
Lake Elsinore	373-121-002 to 007	0	0	0
Lake Mathews	285-120-030	0	0	0
Lake Riverside	580-140-014	0	0	0
Leona	321-190-005	0	0	0
Line	733-270-015	0	0	0
Margarita (MWD)	922-210-011	0	0	2-UST
Margarita (SDSU)	922-220-013	0	0	0
Marshell	289-230-023	0	0	0
Mead Valley	318-180-060	0	0	1-CERCLIS
Mecca Landfill	727-242-012	0	1-SWL	0
Menifee	360-290-016	0	0	0
Morongo	523-140-003	0	0	0
Paradise	123-080-052	0	0	0
Quail Valley	351-111-002,003	0	0	0
Rancho Carrillo	901-030-007	0	0	0
Ranger Peak	545-130-015	0	0	0
Red Mountain	569-050-013	0	0	0
Redondo Mesa	932-060-052	0	0	0
Rice	801 080 003	0	0	0

Table 4.7-1 (Cont.): Environmental Database Search Summary

Site Name	Assessors Parcel Number (APN) ¹	Environmental Database Listings ²		
		Site	1/8 Mile	1/4 Mile
Road 177	800-101-036	0	0	0
Santa Rosa Peak	636-210-010	0	0	0
Santiago Peak	290-170-012	0	0	0
Spring Hill	860-040-015	0	0	0
Sunnyslope	183-240-027	0	0	0
Temescal	283-150-017	0	0	2-RCRA 1-LUST 2-UST
Timoteo	473-110-019	0	0	0
Vaquero	939-110-002	0	0	0
Vidal Junction	0647-321-19 & 20 (SBC)	0	0	0
Whitewater	516-130-011	0	0	0
Wileys Well	818-112-004	0	1-RCRA 1-ERNS 2-UST	0
Winchester	465-050-019	0	0	0
Notes: 1 – Unless noted otherwise, all Assessor Parcel Numbers (APNs) are located within Riverside County (OC = Orange County; SBC = San Bernardino County; SDC = San Diego County)		2 – Abbreviations: CERCLIS = Comprehensive Environmental Response Compensation and Liability Information System ERNS = Emergency Response Notification System LUST = Leaking Underground Storage Tank RCRA GEN = Resource Conservation and Recovery Information System Generators RCRA NLR = Resource Conservation and Recovery Information System Generators No Longer Regulated SWL = Solid Waste Landfill UST = Underground Storage Tank		

Airports and Private Airstrips

Five of the proposed sites are located within two miles of either airports or private airstrips. Table 4.7-2, below, identifies these facilities. A review of Airport Compatibility Maps for the County of Riverside found that none of the proposed sites are located within an Airport Influence Area.

Table 4.7-2: Sites Located Within Two Miles of an Airport Facility

Site Name	Proposed Tower Height (feet)	Airport or Airstrip	Distance (miles)	Within Airport Influence Area?
Arlington	80	Riverside Municipal Airport	2.3	No
Corona	80	Corona Municipal Airport	1.6	No
Green River	160	Corona Municipal Airport	2.3	No
Sunnyslope	100	Flabob Airport (RIR)	2	No
Winchester	140	Hemet-Ryan Airport	2	No

Wildland Fire

A number of the tower sites are proposed in areas that are potentially subject to occasional impacts by wildland fire. This condition is not unusual in southern California, and contributing factors to this condition include the region's climate, topography, and vegetative composition. A great deal of the region contains vegetation communities that are adapted to fire, and relatively frequent fires are not uncommon and have been occurring since well before human settlements became established in the area. The frequency of fires has increased since humans have encroached into previously unoccupied areas, and the placement of structures in fire-prone areas requires special consideration.

4.7.3 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G, Environmental Checklist, to determine whether hazards and hazardous materials are significant environmental effects, the questions below are analyzed and evaluated. Since specific comments were received during the NOP period that related to the potential hazards of RFR, a threshold has been added to this list (Threshold I) and will be assessed as part of this analysis.

- a.) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b.) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- c.) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- d.) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- e.) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working the project area?

- f.) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- g.) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- h.) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
- i.) Create a risk of exposure to RFR that is in excess of thresholds as established by applicable authorities?

4.7.4 - Project Impacts and Mitigation Measures

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

Routine Use and Accident Conditions

Impact HHM-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

[CEQA Hazards / Hazardous Materials Threshold 7(a),(b)]

Impact Analysis

Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction. However, transportation, storage, use, and disposal of hazardous materials used during construction activities are required to comply with applicable federal, State, and local regulations. Compliance with these standard regulations will ensure that human health and the environment are not exposed to hazardous materials. Impacts in this regard will therefore be less than significant.

During operation of the tower sites, propane will be used to run the onsite generators. Propane is a regulated material, and is subject to standard rules and regulations regarding its transport, storage, and use. Compliance with these standard regulations will ensure that potential impacts in this regard will be less than significant.

Each site will also utilize 48-volt microwave batteries as part of its operation. The batteries contain an electrolyte consisting mostly of hydrochloric acid that is similar in composition to the acid contained in automotive batteries. The amount of acid is relatively small and the batteries are sealed to prevent leaks. As part of standard maintenance, 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. Therefore, impacts resulting from the use of batteries at each site will be less than significant.

One site (Santa Rosa Peak) will use existing diesel fuel tanks that are already in use at the site. The diesel fuel will continue to be used to run the primary source generator at the site. The tanks are located above ground in concrete fuel bunkers. A concrete spill containment apron sufficient to contain any spills from the tanks surrounds the tanks. The concrete bunker construction of the tanks protects them from any fires that could occur in this forested area. Given these existing design elements, the site's potential to create a hazard in regards to the transport, storage, and use of hazardous materials are 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.

Schools

Impact HMM-3	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? [CEQA Hazards / Hazardous Materials Threshold 7(c)]
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Impact Analysis

Acutely hazardous materials such as those described in this threshold will not be used at any of the project sites. During operation of the tower sites, propane will be used to run the onsite generators. Propane is not classified as an acutely hazardous material. Nevertheless, it is a regulated material, and is subject to standard rules and regulations regarding its transport, storage, and use. Compliance with these standard regulations will ensure that potential impacts in this regard will be less than significant.

Each site will also utilize 48-volt microwave batteries as part of its operation. The batteries contain an electrolyte consisting mostly of hydrochloric acid that is similar in composition to the acid contained in automotive batteries. The amount of acid is relatively small and the batteries are sealed to prevent leaks. As part of standard maintenance, 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. Therefore, impacts resulting from the use of batteries at each site 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.

Hazardous Materials Site Listing

Impact HHM-4	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? [CEQA Hazards / Hazardous Materials Threshold 7(d)]
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Impact Analysis

Site-specific Phase 1 Environmental Site Assessments have not been undertaken on any of the project sites. A portion of the analysis in this section is based on direct observations by County employees and their consultants at each of the sites. During site reconnaissance, each project site was surveyed for evidence of potential contamination (oil stains, suspicious containers, etc.). Besides the incidental dumping of household trash and landscaping debris at several of the sites, no conditions were observed that would indicate a hazardous condition or contamination.

As part of its due-diligence investigation for each of the sites, the County also initiated database searches to determine if any conditions of potential contamination had been reported either upon the sites or in their immediate vicinities. These searches queried numerous databases and identified any reported conditions within a 0.25-mile radius of each site. Table 4.7-1 in Section 4.7-2 summarized the results of the database search. None of the database searches found hazardous materials conditions on the sites themselves. A total of nine sites returned positive results for known hazardous materials conditions within 0.25 mile of the site. The specific database reports for these sites are included in this DEIR in Appendix H. Based on the results of the onsite reconnaissance and the database searches, it can be reasonably assumed that no hazardous materials conditions are present on any of the project sites.

Even if there were existing hazardous materials on any of the sites, the type of uses planned for the sites (operation of communication towers) would not subject people to hazardous materials. No residential structures, schools, places of business, or other facilities that would house people will be present on any of the sites. In the unlikely event that hazardous materials were found at a site during construction, standard regulations are already in place that require reporting and cleanup of any contamination that is found. Given these considerations, impacts in this regard are 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.

Airports and Private Airstrips

Impact HHM-5	<p>For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working the project area? For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</p> <p>[CEQA Hazards / Hazardous Materials Threshold 7(e) and (f)]</p>
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Impact Analysis

As noted in Section 4.7.2, four of the proposed sites are located within two miles of either airports or private airstrips. The FAA and the California Department of Transportation’s Division of Aeronautics provided comments to the NOP regarding the placement of towers near airports. The comments stated that federal and State regulations require that towers near airports be given special consideration. In accordance with Federal Aviation Regulations, Part 77 “Objects Affecting Navigable Airspace” a Notice of Proposed Construction or Alteration (Form 7460-1) is required by the FAA for towers in the vicinity of a public-use airport. Any facilities with the potential to create a hazard to aviation are required to undergo review by the FAA.

If it determines it necessary, the FAA may condition certain requirements for these sites, including enhanced-visibility paint schemes or special lighting. Sites are also required to comply with applicable airport land use plans, which govern the heights of structures within defined areas around airports. The purpose of this review is to ensure that the construction of new facilities will not create hazards to aviation. All towers that meet the criteria will be required to undergo this process prior to construction as part of standard regulatory compliance.

The City of Corona also requested that the County assess the proposed Corona tower site and whether or not the proposed site would be located within Zone D of the Corona Municipal Airport’s compatibility map. Zone D designates a Primary Traffic Pattern and Runway Buffer area for the airport. Structures in this area are not allowed to exceed 70 feet in height. A review of the airport’s compatibility map found that the proposed Corona tower site is not located within Zone D. Rather it is located approximately 800 feet south of Zone D, and therefore is not within the airport’s influence area. Therefore, the project’s impact in this regard is less than significant.

A review of Airport Compatibility Maps for the Corona Municipal Airport, Flabob Airport, Hemet-Ryan Airport, and Riverside Municipal Airport found that none of the sites are located within any airport’s influence area or within any zone where height restrictions would be required. Therefore, the project’s impact in this regard is 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.

Emergency Plans

Impact HHM-7	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? [CEQA Hazards / Hazardous Materials Threshold 7(g)]
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Impact Analysis

The proposed project does not contain any characteristics (e.g., permanent road closures) that would impair or otherwise interfere with emergency response, evacuation, or policies. Development of the tower sites and associated infrastructure will in fact aid in the provision of emergency services. Enhanced communication capabilities made possible by the new sites will be used to dispatch emergency services personnel and to provide for their support in the field. County emergency services personnel and their cooperators are, in fact, the primary beneficiaries of the improved and expanded network. Accordingly, it can be concluded that the project will have a less than significant impact in this regard.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Less than significant impact.

Wildland Fires

Impact HHM-8	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? [CEQA Hazards /Hazardous Materials Threshold 7(h)]
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Impact Analysis

A number of the tower sites are proposed in areas that are potentially subject to occasional impacts by wildland fire. These conditions require that these facilities be given special consideration in their design and maintenance. Continued operation of these facilities during a wildfire event is critical to the provision of emergency communications during these situations.

Existing regulations require the maintenance of fuel modification zones and defensible space around any structure that is located in a fire-prone area. Typically, this requires the trimming or removal of fuels (i.e., combustible vegetation) from a specified area around a structure. These fuel modification

zones are designed to provide for defensible space around structures and to allow for their protection in the event that an advancing wildfire should attempt to encroach upon them. Adequate defensible space denies fuel to the fire in the area surrounding a structure, and also provides fire protection personnel with a buffer in which to work and defend the structure. All County communication sites will be required to abide by these regulations.

The regulations also specify that buildings and other structures be constructed of materials that are, to the extent feasible, fire resistant. Equipment shelters at the sites will be of either concrete block construction built onsite or of prefabricated concrete. Roofing materials will be made from non-combustible materials such as steel or tin. County Code requires that propane tanks be positioned at least 25 feet from any potential sources of ignition. In addition, all architectural drawings for each site will be reviewed by fire authorities before site approval and construction. At a minimum, all sites will be held to the standards of the California Fire Code. Additional conditions may be placed on specific sites if the reviewing fire authority determines that site-specific requirements deem additional protections are necessary.

In the event of a wildland fire, the protection of critical facilities that are vital to public safety are given first priority. Emergency communication structures are in this category of critical facilities. If such a site is determined to be in danger, firefighting resources are immediately dispatched and every effort is made to save the structure. Roadways to these sites are maintained with the need for rapid access by on-ground firefighting personnel. Fire retardant-dropping aircraft are also deployed to add to the defensive perimeter around a site.

Development of the tower sites and associated infrastructure will aid in the provision of fire services. Enhanced communication capabilities made possible by the new sites will be used to dispatch fire protection personnel and to provide for their support in the field. County fire personnel and their cooperators are the primary beneficiaries of the improved and expanded network. The project will, in fact, provide a substantial benefit in the provision of these services. Accordingly, it can be concluded that the project will have a less than significant impact in this regard.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Less than significant impact.

Radio Frequency Radiation (RFR)

Impact HHM-9 **Create a risk of exposure to Radio Frequency Radiation (RFR) that is in excess of thresholds as established by Federal Communications Commission (FCC).**
[CEQA Hazards /Hazardous Materials Threshold 7(i)]

Impact Analysis

Comments received during the NOP comment period raised concerns regarding the potential health risks associated with RFR in the vicinity of the proposed sites. The concern was expressed that persons living in areas near the tower sites could be exposed to excessive amounts of RFR and thus incur additional health risks.

The FCC regulates both public and occupational exposure levels, and has established thresholds for allowable RFR exposure levels. The FCC has issued various guidelines and bulletins with specific recommendations for analyzing exposure. To assess the project's potential impact in this regard, the County commissioned an independent consultant to undertake a study of a typical tower site to determine the levels of potential exposure. This study was carried out by a qualified professional using the methodology prescribed in the FCC's Technology Bulletin 65 (Edition 97-01) entitled "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." The study results are included in this DEIR as Appendix E.

The study assessed the proposed El Cariso site. This site was chosen because it will be located in relatively close proximity (less than 250 feet) to residential structures. The study utilized several assumptions with the intent of providing the most conservative or "worst case" scenario of possible RFR exposure at the site. Calculations were made assuming that all channels would be operating simultaneously at maximum power. Weakening of the signal that would result from surrounding vegetation or buildings was ignored, since buildings can reduce signal strengths by a factor of 10 or more, depending on the type of construction material. The ground and other surfaces were assumed to be perfect reflectors (they are not), and the RF energy was assumed to overlap and interact constructively at all locations (which they would not) thereby resulting in the calculation of the maximum potential exposure. In reality, the accumulations of these assumptions served to significantly overestimate the actual exposures likely to be measured at the site. These worst-case assumptions were incorporated, however, as a prudent approach to err on the side of safety.

Using this worst-case methodology, it was determined that the maximum public RFR exposure at the site is only 14.13 percent of the public safety standard. This maximum exposure is seven times lower than the FCC public exposure standards for these frequencies. The FCC standards, it should be noted, are themselves set at a level that is 50 times below a level that the majority of the scientific community believes may pose a health risk to human populations. Thus, the previously mentioned maximum public exposure from the site represents a "safety margin" from this threshold of potentially adverse health effects of more than 350 times.

Given the low levels of RFR fields that would be generated from the El Cariso facility, there is no scientific basis to conclude that harmful effects will result from the operation of any of the proposed facilities. Therefore, the evidence supports a finding of less than significant for this potential impact.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Less than significant impact.