

6.15 VISUAL RESOURCES

This section addresses the potential impacts to visual resources of the VV2 Project. Visual resources are the elements of the landscape that contribute to the aesthetic character and quality of the environment. These elements are either natural or human-made. Impacts to visual resources are rated by the extent to which changes would contrast with the existing visual character and quality of the environment. This section documents the potential for the construction, operation, maintenance, and long-term presence of the VV2 Project to result in significant impacts on visual resources or sensitive receptors.

6.15.1 LORS Compliance

The proposed VV2 Project will comply with the applicable LORS pertaining to visual resources. Table 6.15-1 and the following text summarize applicable Federal, State, and local LORS.

**Table 6.15-1
Summary of Applicable Visual Resources LORS**

Authority	Requirement	Where Addressed in AFC
Federal:		
National Route 66 Preservation Bill (113 Stat. 224, Public Law 106-45-A, August 10, 1999)	Preservation of character of Route 66 (National Trails Highway)	Section 6.15.3
State:		
California Environmental Quality Act (CEQA); California Public Resources Code, Section 2100 et seq.	CEQA Guidelines require (and provide criteria for) assessment of visual resources impacts	Section 6.15.3
Local:		
City of Victorville General Plan, Land Use Element	Includes goal of Victorville as “an aesthetically pleasing community”	Sections 6.15.1

**Table 6.15-1
Summary of Applicable Visual Resources LORS**

Authority	Requirement	Where Addressed in AFC
City of Victorville Municipal Code Chapter 18.60.140, City Ordinance 1224, and City Water Conservation Guidelines	Chapter 18.60.140 lists standards for landscape development; City Ordinance 1224 lays out a process for protecting Joshua trees; City Water Conservation Guidelines promote landscaping standards harmonious with desert environment.	Section 6.15.3
Southern California Logistics Airport Specific Plan	SCLA Specific Plan says landscape development standards should encourage an attractive, visually coherent development compatible with local climatic conditions	Section 6.15.3
County of San Bernardino, Desert Region Circulation and Infrastructure Plan	Lists the Route 66 National Historic Trail as a County of San Bernardino Scenic Route.	Section 6.15.3

Federal LORS

There are no Federal aesthetic/scenic/visual resources LORS that apply directly to the VV2 Project. However, the Project site is across the Mojave River from Route 66 and in 1999, the National Route 66 Preservation Bill (113 Stat. 224, Public Law 106-45-A, August 10, 1999) was enacted. The Act provides \$10 million for the time period between 2000 and 2009 to provide preservation assistance in a manner that is compatible with the idiosyncratic nature of the Route 66 corridor. There is a California Route 66 Museum in Victorville. The National Historic Route 66 Federation is a nonprofit organization dedicated to preserving Route 66 across the country. The California Route 66 Preservation Foundation's mission is to develop resources for the preservation and benefit of the Route 66 corridor in California. Future views from Route 66 (referred to as the National Trails Highway) would include the VV2 Project.

6.15.1.1 State LORS

State LORS that apply to the VV2 Project include:

California Environmental Quality Act (CEQA); California Public Resources Code, Section 2100 et seq. Appendix G of the CEQA guidelines lists several criteria for determining

whether a project may have a significant effect on the environment because of aesthetic impacts. These include a substantial adverse effect on a scenic vista, substantially damaging scenic resources, or substantially degrading the existing visual character or quality of the site and its surroundings. As the CEC licensing process is a CEQA-equivalent process, the CEC is the administering agency.

6.15.1.2 Local LORS

Local LORS applicable to the VV2 Project include:

City of Victorville General Plan. The City's Land Use Element includes as Goal 4 "Victorville as an aesthetically pleasing community with development standards which reflect community needs". In accordance with State law, Section 65302 (a), the Land Use Element is required to "designate the proposed general distribution and general location and extent of the uses of the land for [among other things] enjoyment of scenic beauty." As stated in the Element "Land use policy is easily discernible by the utilization of a land use map. The Land Use Map identifies the location and extent of future land uses in the city and in incorporated areas within Victorville's sphere of influence. The proposed future general distribution, location, and extent of land uses identified on the Land Use Map represents the intended uses of land...Uses that are at odds with General Plan are considering non-conforming and are subject to abatement." (City of Victorville General Plan as amended in August 2005) In other words, if a project is consistent with City land use policy as shown on the Land Use Map, it also is consistent with the goal of designating land uses for the enjoyment of scenic beauty. As the VV2 Project is consistent with City zoning and land use policy (see Section 6.8, Land Use), the Project is consistent with the City's visual resources requirements as well.

The City's Resource Element addresses open space planning issues, but merely states that the "purpose of the [City] Recreation and Park District is to provide an adequate number of safe, aesthetically pleasing park facilities to serve the recreational needs of the City's residents." (City of Victorville General Plan as amended in August 2005). The VV2 Project would not affect the aesthetic qualities of City park facilities as there are no parks in the immediate vicinity of the Project site or new transmission line route.

The SCLA Community Plan Element of the City General Plan includes the goals of developing SCLA as a commercial air facility with compatible, integrated, supportive associated uses, with the needed infrastructure to meet its operational and developmental objectives, posing minimal risk to public health and safety, and serving as a key element for job creation in the City (City of Victorville General Plan as amended in August 2005).

None of the goals and related policies in the Community Plan Element are related to visual resources and the VV2 Project is consistent with the goal of “compatible associated uses”.

Victorville Municipal Code. Aspects of the City of Victorville Municipal Code apply to aesthetics, particularly in the realm of landscaping. Victorville Municipal Code Chapter 18.60.140 lists standards for landscape development. Also, the City of Victorville’s Water Conservation Guidelines promote landscaping standards harmonious to the desert environment. City Ordinance 1224 lays out a process for protecting Joshua trees on undeveloped land, requiring inspection and approved plans for disposition (i.e., relocation onsite, to another property, or putting trees up for adoption) prior to issuance of a City grading permit. The VV2 Project intends to utilize desert-type landscaping for the site, and intends to transplant onsite Joshua trees to the site perimeter as part of this landscaping plan, to the extent feasible.

Southern California Logistics Airport Specific Plan. The SCLA Specific Plan (City of Victorville 2004) refers to aesthetics in the context of protecting from degradation existing buildings and pedestrian areas. The Development Standards section states that landscape development standards are “intended to encourage an attractive, visually coherent development – compatible with Climate Zone 11 as identified in the Sunset Western Garden Book” (City of Victorville, 2004).

County of San Bernardino, Desert Region Circulation and Infrastructure Plan. The National Historic Trail is listed and mapped as a San Bernardino County Scenic Highway.

6.15.1.3 Agencies and Agency Contacts

The local agency involved in visual resources issues is the City of Victorville Development Department. Contact information is provided in Table 6.15-2.

**Table 6.15-2
Agencies and Agency Contacts**

Agency	Contact	Permit/Issue
City of Victorville Planning Department 14343 Civic Drive Victorville, CA 92392	Chris Borchert Deputy Planning Director (760) 955-5102	Conformance to General Plan and SCLA Specific Plan elements

Required Permits and Permit Schedule

No permits are required that are specific to visual resources.

6.15.2 Affected Environment

The following subsections discuss the visual environment in the vicinity of the plant site and along the linear facilities routes.

6.15.2.1 Regional Setting

The VV2 Project is situated in the western Mojave Desert, approximately 0.5 mile west of the Mojave River, and approximately six miles northwest of downtown Victorville, California. The Mojave Desert is a subsection of the Basin and Range Physiographic Province, which is characterized by long, north-south-trending mountain ranges separated by broad valleys.

6.15.2.2 Plant Site

The VV2 Project site (Figure 6.15-1) is largely undeveloped and vacant at present. The plant site does not contain significant scenic resources and its overall level of scenic quality is considered moderate to low. The site is situated on the bluff adjacent to the Mojave River at an elevation of approximately 2,800 feet. As discussed in Section 6.4, Biological Resources, the Project area is populated by Joshua trees (*Yucca brevifolia*), low, widely-spaced shrubs, including the creosote bush (*Larrea tridentata*) and Mojave sage (*Salvia mohavensis*), and a number of cacti.

The VV2 Project plant site has distant views to and from the San Gabriel Mountains (approximately 27 miles to the southwest), Quartzite Mountain (approximately five miles to the east), and the San Bernardino Mountains (approximately 24 miles to the south). Overall visibility of the proposed plant site and its surrounding area are shown in Figure 6.15-2. The greatest potential for public views of the VV2 Project is from three roadways in the vicinity of the site: National Historic Trail Route 66 (approximately 1.5 miles to the east), Colusa Road, and Helendale Road (the Project site is immediately north and east of the intersection of Colusa and Helendale, both of which are unpaved dirt roads at present). Local visibility of the plant site, at a scale of 1:24,000, is shown in Figure 6.15-3. Other viewing opportunities are from residences and roads in the Mojave River valley and higher elevations to the east, south, and west of the site and at significant distances (5-27 miles from the Project site).

The nearest residence with views to the Project site is located on Colusa Road approximately one mile to the west. Several residences on the east side of the Mojave River near National Historic Trail Route 66 would have views at a distance of 1.5 miles or more from the Project's power block (where the facility's largest structures and equipment would be located) and approximately 0.8 mile from the eastern edge of the solar array field.

6.15.2.3 Linear Facilities Routes

The location and visibility (out to one-half mile) of the proposed transmission line route and the various natural gas supply, reclaimed water supply, and sanitary wastewater disposal pipeline routes and their surroundings (although Project pipelines will be buried and thus not visible), are shown in Figure 6.15-4 at a scale of 1:24,000. This figure utilizes a numerical scale to indicate how much of the transmission line would be visible from different nearby locations; locations with higher values would have views of more of the transmission line than locations with lower values. The greatest potential for public views of the transmission line is from National Historic Trail Route 66. Other viewing opportunities are from residences and roads in the Mojave River valley and at higher elevations to the east, south, and west. The linear features routes do not contain significant scenic resources and overall levels of scenic quality are considered moderate to low.

The three segments of the VV2 Project transmission line route parallel and/or cross, generally from north to south, the following major Victorville vicinity roads: Phantom East; Shay Road; Air Expressway; Palmdale Road/SR 18; Luna Road; La Mesa Road; Low Chaparral Drive; I-15; Mariposa Road; Bear Valley Road; Main Street; and Rancho Street.

6.15.2.4 Visual Resources Evaluation Factors and Methodology

Evaluations of visual resources in connection with the VV2 Project were based on field observations, area maps, 2D and 3D engineering drawings, photographs of the Project area, and computer-aided photographic simulations. These simulations present views from three locations near the site that were selected as Key Observation Points (KOPs) for purposes of the visual resources evaluation of the VV2 Project. KOPs and the plant site area are shown in Figure 6.15-1.

Scenic quality judgments are made based on professional qualifications and experience applying criteria that include the following elements:

- Landscape features, including topography, water, and vegetation;
- Cultural alterations and built structures, including roads, residences and outbuildings; and

- Visual composition, including an assessment of the vividness, intactness, and unity of patterns in the landscape¹

Landscape Scenic Quality Scale. Overall landscape scenic quality is evaluated as High, Moderate, or Low, based on Buhyoff et al., 1994; U.S. DOT Federal Highway Administration, 1988; and U.S. Forest Service. 1995. The elements of the rating scale are defined below:

- High Visual Quality - These landscapes contain natural and/or cultural elements of high quality scenic value. Levels of vividness, unity, and intactness are above average.
- Moderate Visual Quality - These landscapes contain natural and/or cultural elements of moderate scenic value. Levels of vividness, unity, and intactness are average.
- Low Visual Quality - These landscapes contain natural and/or cultural elements of low scenic value. Levels of vividness, unity, and intactness are below average.

Field investigation resulted in documentation of the visual issues of the Project area, identification of KOPs, and photography of existing visual conditions. Photography was conducted using a Nikon D70 digital sensor with a standard 50-mm camera lens. Selected photographs (see Figures 6.15-5a and 6.15-5b, through 6.15-7a and 6.15-7b) represent the existing visual condition and a visual simulation from each of the three KOPs. These simulations portray the appearance of the Project facilities in the subject landscape.

The computer-aided photographic simulations were developed as described below. Computer modeling and rendering techniques were used to produce the simulated images of the views of the VV2 Project site as they would appear from each KOP after the completion of Project construction. Existing topographic and engineering (ArcGIS and Microstation CAD) data were utilized to construct 3-dimensional (eye level height 5.5 feet) digital and photographic images of the proposed generation facility and transmission system. These images were combined with the digital photography from each KOP to produce a complete computer-aided image of the power generating facility and portions of the transmission system (see also AFC Section 2.0 for photographs of existing pre-Project conditions at the plant site and at representative locations along the transmission line route

¹ Vividness is the degree of memorability and/or distinctiveness of landscape elements in the visual pattern. Intactness is the degree of integrity of visual order and/or absence of visual encroachment from discordant elements. Unity is the degree of coherent, harmonious visual pattern among the dominant elements of the landscape. (USDOT FHWA 1988)

and simulations with Project facilities added at these same locations). Digital visual simulation images of computer renderings were combined with the digital KOP and “pre-Project” photographs. The final “hardcopy” simulation images that appear in this AFC document were produced from the digital image files using a color printer.

6.15.2.5 Key Observation Points

As noted above, the approach to evaluating the visual impacts of the VV2 Project is based on KOPs. KOPs are those view receptors that are sensitive and/or considered representative. Views from these locations are the framework for analyzing existing visual conditions. In addition, KOPs serve as locations for photographic simulations of the proposed Project.

Three KOPs were selected to evaluate the Project’s potential visual impacts: 1) National Historic Trail Route 66 at a point just south of Desert Flower Road; 2) National Historic Trail Route 66 at a location 1.5 miles north of Oro Grande; and 3) the nearest residence to the Project site, a horse ranch located on the north side of Colusa Road approximately one mile west of the Project site. Existing visual conditions of the view from each KOP were evaluated and documented during field work conducted in June 2006.

KOP-1 National Historic Trail Route 66 – Southbound. KOP-1 is located on Route 66, approximately 500 feet south of Desert Flower Road and approximately 1.75 miles northeast of the VV2 Project site (see Figure 6.15-1 and Figure 6.15-5a).

The foreground and middleground views from KOP-1 are typical of the visual character of the Mojave River valley landscape and of residences and other cultural elements along the highway, including the railroad embankment. The background view is comprised of the San Gabriel Mountain Range. The scattered structures currently on the Project site near the ridgeline above the Mojave River would be removed as part of Project construction. The visual quality of this view is moderate to low; there are no striking or distinctive visual patterns in the view, the visual resources do not form a strong, coherent pattern, and the visual integrity in the natural and human-built landscape is minimal.

Although topography and fencing/landscaping of the Project site would partially screen lower portions of the facilities, the Project facilities would be visible by residents and visitors represented by this receptor. Because this view would be seen by residents and travelers along National Historic Trail Route 66, the level of visual sensitivity is high.

KOP-2 National Historic Trail Route 66 – Northbound. KOP-2 is located on Route 66, approximately 1.5 miles north of Oro Grande and approximately two miles southeast of the VV2 Project site, including the switchyard in the southeast of the site where the Project

transmission line will exit the plant site (see Figure 6.15-1 and Figure 6.15-6a). The transmission line, at its nearest point, will be located approximately 1.2 miles from this receptor.

The existing foreground and middleground views from KOP-2 contain the Mojave River valley landscape, the VVWRA treatment plant, and a single residence on the Project site (that will be removed through transfer of property ownership to the City of Victorville as part of the Project development process). The background view is obscured by the ridgeline of the Project area. The visual quality of this view is moderate to low; there are no striking or distinctive visual patterns in the view, the visual resources do not form a strong, coherent pattern, and the visual integrity in the natural and human-built landscape is minimal.

Although topography would partially screen lower portions of the facilities, the Project would be visible by residents and visitors represented by this receptor. Because this view would be seen by travelers and residents along National Historic Trail Route 66, the level of visual sensitivity is high.

KOP-3 Horse Ranch/Residence on Colusa Road. KOP-3 is a viewpoint located approximately 50 feet north of Colusa Road, in front of the residence of the horse ranch (see Figure 6.15-1 and photograph Figure 6.15-7a). This viewpoint is located approximately one mile west of the VV2 plant site. The sensitivity of this view is high due to the remoteness and relatively natural existing character of views toward the east from the ranch house.

The foreground and middleground views from KOP-3 contain the Mojave Desert landscape and Colusa Road. The background view is dominated by Quartzite Mountain. The visual quality of this view is moderate; there are striking or distinctive visual patterns in the view, the visual resources form a moderately coherent pattern, and integrity of order in the natural and human-built landscape is moderate.

Although topography and vegetation (including screening landscaping around the site perimeter) would partially screen lower portions of Project facilities, the VV2 Project would be visible by residents at this receptor. Since this residential living space is accustomed to the view of Quartzite Mountain, the level of visual sensitivity is high.

6.15.3 Environmental Impacts

The following subsections present the evaluation of the impacts on visual resources of the VV2 Project.

6.15.3.1 Impact Evaluation Criteria

The assessment of the VV2 Project's impacts is based on an evaluation of the changes to the existing visual environment that would result from Project construction and operation. For assessing impacts during Project operation, the computer-aided photographic simulations were analyzed for their contrast with the existing visual environment. Because of the temporary nature of Project construction activities, simulations were not used in the impact evaluation for that phase of the Project. In determining the extent and implications of the visual changes, a number of factors were considered:

- The specific changes in the affected environment's composition, character, and any outstanding valued qualities;
- The affected visual environment's context;
- The extent to which the affected environment contains places or features that have been designated in plans and policies for protection or special consideration; and
- The numbers of viewers, their activities, and the extent to which these activities are related to the visual qualities affected by proposed changes.

Significance criteria for impacts to visual resources were developed from Appendix G of the State CEQA guidelines and include the following criteria:

- Would the project have a substantial adverse effect on a scenic vista?
- Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
- Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Project Appearance

The VV2 Project facilities are described in detail in AFC Section 2.0, Project Description, which includes simulated views of the Project' power generating facilities and transmission line. Chain link fencing will be installed around the site perimeter for security. Decorative desert-type landscaping also is planned around the perimeter, including Joshua trees transplanted from the site interior.

VV2 Project operations will require onsite nighttime lighting for safety and security. To reduce offsite lighting impacts, lighting at the facility will be restricted to areas required for safety, security, and operation. Exterior lights will be hooded, and lights will be directed onsite so that light or glare will be minimized. Low-pressure sodium lamps and fixtures of a non-glare type will be specified. For areas where lighting is not required for normal operation, safety, or security, switched lighting circuits will be provided, thus allowing these areas to remain un-illuminated (dark) at most times and minimizing the amount of lighting potentially visible offsite.

Project construction activities are planned to occur during normal Monday through Friday working hours, although nighttime activities may occur at certain times during construction depending on the Project schedule. During periods when nighttime construction activities take place, illumination that meets State and Federal worker safety regulations will be required. To the extent possible, the nighttime construction lighting will be erected pointing toward the center of the site where activities are occurring, and will be shielded. Task-specific lighting will be used to the extent practical while complying with worker safety regulations.

Project transmission line construction will involve steel poles throughout Segment 1 and for a 115-kV line that needs to be relocated in a portion of Segment 3. Existing transmission towers will be used in Segment 2 with new “under-crossing” transmission towers required at three locations where other power lines cross the ROW that will be utilized by the VV2 Project. New lattice towers will be used for the Project’s 230-kV line in Segment 3. All power poles and transmission towers installed for the VV2 Project will be neutral in color, the insulators will be made of a non-reflective and non-refractive material, and the conductors will be non-specular (i.e., their surfaces will have a dulled finish so that they do not reflect sunlight).

Project pipelines (natural gas supply, recycled water supply, sanitary wastewater disposal) will be buried and thus will not be visible. During construction of the pipelines, the ground surface of the area along the alignment will be temporarily disrupted by the presence of construction equipment; excavated piles of dirt, concrete, and pavement; and construction personnel and vehicles. These effects will be minor and temporary. After construction, the ground surfaces will be restored and the pipelines will not create a long-term change to the visual environment.

The VV2 Project’s effects on visual conditions during hours of darkness will be moderate. As indicated earlier, some nighttime lighting will be required for operational safety and security. There will be additional visible lighting associated with the Project stacks and open site areas. High illumination areas not occupied on a regular basis will be provided

with switches or motion detectors to light these areas only when occupied. At times when lights are turned on, the lighting will not be highly visible offsite and will not produce offsite glare effects. The offsite visibility and potential glare of the lighting will be minimized by specification of non-glare fixtures and placement of lights to direct illumination into only those areas where it is needed. When viewed from nearby offsite locations, the overall change in ambient lighting conditions at the Project site will be less than significant as a result of VV2 Project development.

To the extent feasible and consistent with worker safety codes, lighting that may be required to facilitate nighttime construction activities will be directed toward the center of the construction site and shielded to prevent light from straying offsite. Task-specific construction lighting will be used to the extent practical while complying with worker safety regulations. In spite of these measures, there may be times, when and if there is nighttime construction, when the Project site may temporarily appear as a brightly lit area as viewed from nearby locations.

6.15.3.2 Construction Phase Impacts

During the Project construction period, construction activities and construction materials, equipment, trucks, and parked vehicles, all potentially may be visible on the Project site, laydown areas, and along linear facility routes. Construction activities will be conducted in a manner that minimizes (visible) dust emissions. The construction activities at the Project site, the activities in the laydown areas, and the activities along the linear routes near the plant site (pipelines, and Segment 1 of the transmission line) will not contrast significantly with the existing industrial character of the area. Construction activities within the existing ROWs of Segments 2 and 3 of the transmission line will also not contrast significantly with maintenance and other operational activities that occur periodically in these ROWs. However, transmission line construction activities will introduce additional vehicles, materials, and equipment into the view from nearby areas for a short duration. In summary, visual changes associated with construction period activities at both the plant site and along linear routes will be minor and temporary, and thus impacts are considered less than significant.

6.15.3.3 Operations Phase Impacts

The following subsection discusses visual resources impacts during Project operations. Potential impacts from the three designated KOPs are presented first, followed by a discussion of impact significance in terms of specific significance criteria.

KOP-1 National Historic Trail Route 66 – Southbound. A simulation of the view of the VV2 plant site from KOP-1 is shown in Figure 6.15-5b (the existing view is shown in Figure 6.15-5a). In this view, the most prominent visible features of the Project would be the VV2 plant structures, including the exhaust stacks. These features would be visible in the far middleground and would be moderately dominant elements in the view.

The existing topography (as well as possible grading for the solar arrays in the eastern portions of the site that may raise the topography between this KOP and the Project site) will partially screen the site from this receptor location. The neutral color and non-reflective surface of the structures, stacks and transmission line structures will reduce their visual contrast with their surroundings, and help them to be absorbed into the overall view. Therefore, the effect of the VV2 Project on the overall character of the view is expected to be moderate. The general level of visual quality of the view from KOP-1 will not change significantly. The presence of the Project features would not affect the vividness of the view, would have limited effect on the overall intactness of the view, and would have low to moderate effect on the visual unity of the composition of the landscape.

Sensitive receptors in the vicinity of KOP-1 are accustomed to seeing visible plumes periodically from the existing HDPP facility and from flight activities at SCLA. Because of the relatively low frequency that daytime plumes would be generated by the VV2 Project (see Section 6.15.5.5 below) and because of the presence in the vicinity of existing facilities that generate visible plumes, the presence of water vapor plumes generated by the VV2 Project are expected to result in less-than-significant impacts to visual resources.

KOP-2 National Historic Trail Route 66 – Northbound. A simulation of the view of the VV2 site from KOP-2 is shown in Figure 6.15-6b (the existing view is shown in Figure 6.15-6a). Visual resources impacts from this KOP would be less than those described above for KOP-1. In the view from KOP-2, the visible features of the project would be the exhaust stacks and transmission line, which would be visible in the far middleground and middleground and would be present a low level of dominance in the view.

As discussed for KOP-1, existing topography (as well as possible grading for the solar arrays in the eastern portions of the site that may raise the topography between this KOP and the Project site), would partially screen the site from this receptor. The neutral color and non-reflective surface of the Project stacks and transmission line structures will reduce their visual contrast with their surroundings, and help them to be absorbed into the overall view. Therefore, the Project's impact on the overall character of the view is expected to be moderately low. The general level of visual quality of the view from KOP-2 will not change significantly. The presence of the Project features would not affect the vividness of

the view, would have limited effect on the overall intactness of the view, and would have low to moderate effect on the visual unity of the composition of the landscape.

Sensitive receptors in the vicinity of KOP-2 are accustomed to seeing plumes from the existing HDPP facility and from flight activities at SCLA. Because of the relatively low frequency that daytime plumes would be generated and the presence of existing facilities that generate plumes in the vicinity, periodic water vapor plumes generated by the VV2 Project are expected to result in a less-than-significant impact to visual resources.

KOP-3 Horse Ranch/Residence on Colusa Road. A simulation of the view of the VV2 Project site from KOP-3 is shown in Figure 6.15-7b (the existing view is shown in Figure 6.15-7a). In this view, the most prominent visible features of the Project would be the Project structures, including the exhaust stacks. These features would be visible in the middleground and would present a moderate level of dominance in the view.

Existing vegetation and landscaping vegetation around the Project site perimeter will partially screen the site from this receptor location. The neutral color and non-reflective surface of the Project stacks will reduce their visual contrast with their surroundings and help them to be absorbed into the overall view. Due to their location on the opposite side of the plant site, project transmission facilities would be minimally visible from this KOP. Therefore, the effect of the VV2 on the overall character of the view is expected to be moderate. The general level of visual quality of the view from KOP-3 would not change significantly. The presence of the Project features would not affect the vividness of the view, would have moderate effect on the overall intactness of the view, and would have low to moderate effect on the visual unity of the composition of the landscape.

As discussed for KOPs 1 and 2, sensitive receptors in the vicinity of KOP-3 are accustomed to seeing plumes from the existing HDPP and from SCLA flight activities. Because of the relatively low frequency of Project daytime plumes and the presence in the vicinity of existing facilities that generate vapor plumes, the expected periodic VV2 Project water vapor plumes would result in a less-than-significant impact to visual resources. The following subsection presents a quantitative analysis of the vapor plumes emitted from Project facilities.

6.15.3.4 Vapor Plume Analysis

Visible plumes that occur during daylight hours have the potential for producing an impact on visual resources. As the Project's HRSG exhaust stacks and its cooling tower are potential sources of visible water vapor plumes, analyses were performed to estimate the potential size and frequency of visible plume formation during daylight hours. For the

HRSG stacks, an analysis of the water vapor emissions was performed to determine the frequency and dimensions of potential daylight visible plumes. For the cooling tower, the Seasonal and Annual Cooling Tower Impacts (SACTI, Version 9/30/90) model was applied to assess the expected size and frequency of occurrence of elevated visible cooling tower plumes. Details of the modeling performed are presented in Section 6.13, Traffic and Transportation in the discussion of the potential effects of vapor plumes on aircraft operations at SCLA.

The modeling results for the vapor plume modeling were presented previously in Section 6.13.4.3 and are repeated here in Table 6.15-3. The maximum predicted plume length of for the combustion turbine stacks for daylight hours is 120 meters (approximately 390 feet) and the expected frequency of occurrence is less than one hour per year. A more representative worst-case is the 90th percentile plume length (only 10 percent of the plumes would be of greater length). The 90th percentile predicted plume length is 60 meters (approximately 200 feet) with an expected frequency of occurrence of approximately 4 hours per year. The analysis demonstrates that HRSG stack visible vapor plume formation would be infrequent and relatively small and thus would not be expected to cause a significant visual impact.

**Table 6.15-3
HRSG and Cooling Tower Daytime Vapor Plume Analysis Results**

Plume Length Case	Length (m/ft)		Daytime Frequency (hrs/yr) ¹	
	HRSG Stack	Cooling Tower	HRSG Stack ²	Cooling Tower ³
Maximum	460 / 1,500	344 / 1,130	<1	16
90 Percentile	60 / 200	115 / 380	4	150
50 Percentile	20 / 65	23 / 75	13	720

¹ Yearly average based on 3 years of data.

² HRSG results are for daylight hours only.

³ The SACTI model does not provide cooling tower visible plume results subdivided by day and night due to limitations of the model formulation. However, HRSG daytime visible plumes are only 17% of total visible plumes. Therefore, the modeled cooling tower visible plume frequencies presented have been scaled by a factor of 0.17 to approximate a daylight hour frequency.

The maximum predicted cooling tower plume length of is 344 meters (approximately 1,130 feet). A plume of this length is expected approximately 16 hours per year. A more representative worst-case is the 90th percentile plume length of 115 meters (approximately

380 feet) which is estimated to occur less than 2 percent of the time (approximately 150 hours per year).

The two meteorological factors that are most significant in determining the potential for vapor plume formation are the ambient temperature and the relative humidity. Both of these quantities tend to be most favorable to vapor plume formation during nighttime winter hours in the Victorville area. Given the dry, desert location, relative humidity tends to be low and ambient temperature warm during the daytime hours. Consequently, any vapor plumes that form will tend to form at night or other periods with lower temperatures and high humidity such as during periods of winter precipitation. Thus, it is expected that the visual impacts of vapor plumes from the Project will be limited and concentrated during the nighttime hours where the plumes will not be visible.

It should be noted that the maximum cooling tower plume lengths presented in Table 6.15-3 are most likely associated with nighttime hours. However, the SACTI model used for evaluating cooling tower visible plume impacts does not differentiate between daytime and nighttime periods. To approximate the daytime frequency of visible cooling tower plumes, the total frequency of cooling tower visible plumes was scaled using the fraction of HRSG plumes occurring during daylight hours (17 percent) to estimate the daylight frequency. This is a reasonable scaling factor since the physical and thermodynamic processes at work to create a visible HRSG plume are identical to those that will create a visible cooling tower plume in the same environment.

The cooling tower plume lengths in Table 6.15-3 are likely representative of nighttime hours. For example, the maximum modeled HRSG plume length of 460 meters (approximately 1,500 feet) occurred at night (4 a.m.) while the maximum daytime HRSG plume length is only 120 meters (approximately 390 feet) and occurred at 8 a.m. Thus, the SACTI cooling tower modeling results presented in Table 6.15-3 likely overestimate the size of expected daylight cooling tower plumes.

6.15.3.5 Significance of Operation Phase Impacts

VV2 Project impacts are evaluated in terms of four questions, each of which is presented below along with a response:

1. Would the project have a substantial adverse effect on a scenic vista?

No. The National Historic Trail (Route 66) is designated as a Scenic Highway by the County of San Bernardino, but impacts on the character of the views from this route are expected to be moderate. VV2 Project structures would be visible in the far middleground but existing topography will provide partial screening of the site, and the neutral color and

non-reflective surfaces of Project structures will help them to be absorbed into the overall view. As the analysis of the views from the KOPs has established (Section 6.15.3.4), the Project will not affect landscapes of more than moderate visual quality, and effects to the existing visual quality of landscapes in the area are expected not be substantial.

2. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No. VV2 Project facilities do not fall within the boundaries or otherwise adversely affect a designated state scenic highway. As indicated above, impacts on the quality of views from the National Historic Trail (a County-designated scenic highway) are expected not to be substantial.

3. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No. The VV2 site is not in a designated scenic corridor, area of natural beauty, or scenic recreational area. Visual resources of the Project site and vicinity are heavily influenced by industrial facilities, including the VVWRA treatment facility, SCLA facilities, and the HDPP. The presence of the VV2 Project facilities will not create a substantial change in the visual quality of the site.

The transmission line route segments traverse three distinct areas with regard to the presence of existing electrical structures. Segment 1 has no existing electrical structures and the Project would appear near or at the bluff line above the Mojave River valley. Due to the existing industrial development in the majority of views, the design of transmission structures and conductors, and route/pole location (route selection and placement of individual Project transmission structures are explicitly intended to be below ridge lines as much as possible in order to minimize visual intrusiveness), the Project transmission lines in Segment 1 are not expected to substantially degrade existing visual quality.

Segment 2 and Segment 3 of the VV2 Project transmission lines traverse areas that are already heavily dominated by existing transmission line structures and have a low level of visual sensitivity. In Segment 2 the only change would be additional conductors on existing structures except at three locations where other power lines cross the ROW and where new “under-crossing” transmission structures are required for the VV2 Project. In Segment 3, the 230-kV structure types would be essentially the same as existing adjacent 230-kV structures in the same SCE ROW. In these areas, the VV2 Project lines would have relatively little effect on the existing character and quality of the views. In the segments of the Project transmission line routes that pass through or near residential areas,

the visual alterations will be an incremental change that does not substantially alter the existing visual character or quality of the area along the alignment. Therefore, the level of visual change brought about by the Project transmission lines in Segments 2 and 3 are expected to be low and impacts on the character and quality of the view are considered to be less than significant.

Visible vapor plumes from the Project will occur mainly at night or during periods of precipitation. For visible plumes that occur during the day, they will tend to be relatively small in dimensions and will tend to occur in the early morning or late afternoon when temperatures are lower and humidity is higher. Consequently, visible plumes are not expected to substantially degrade the existing visual character or quality of the site and its surroundings.

4. Would the project create a new source of substantial light and glare that would adversely affect day or nighttime views in the area?

No. As discussed earlier, Project light fixtures will be restricted to areas required for safety, security, and operations. Lighting will be directed onsite; it would be shielded from public view, and non-glare fixtures and use of switches, sensors, and timers to minimize the time that lights not needed for safety and security are on would be specified. These measures should substantially reduce the offsite visibility of VV2 Project lighting. To the extent feasible and consistent with worker safety codes, lighting that might be installed to facilitate possible nighttime construction activities will be directed toward the center of the construction site and shielded to prevent light from straying offsite. Task-specific construction lighting will be used to the extent practical while complying with worker safety regulations. With these measures, lighting associated with VV2 Project construction and operation would not pose a hazard or substantially affect day or nighttime views toward the site.

6.15.3.6 Cumulative Impacts

The VV2 Project conforms to the area's major goals and objectives for industrial development. The Project will be sited in an area reserved for industrial uses (SCLA) and will conform to policies and standards related to the appearance of new industrial development. The Project transmission line route is located within the industrial area (Segment 1) or in corridors where transmission lines already exist (Segments 2 and 3), and the level of change due to the Project will be minor, which minimizes the potential for cumulative effects.

Development of the cumulative projects (including overall SCLA expansion and the Intermodal project) will increase the industrial character of the area with a corresponding urbanization of the area's visual environment. The VV2 Project will fit within the planned urbanization of the area as contemplated in the SCLA Specific Plan. Because the VV2 Project would not itself create or contribute substantially to significant impacts on visual resources, the VV2 Project would not result in significant cumulative impacts on visual resources.

6.15.4 Mitigation Measures

No significant visual impacts would result from construction and operation of the proposed VV2 Project. Therefore, no mitigation measures are proposed. Compliance with the applicable LORS, including applicable provisions of the City of Victorville General Plan and Zoning Ordinance, (e.g., provisions related to screening and project appearance, as well as land use compatibility considerations), will help ensure that Project visual resources impacts are less than significant.

6.15.5 References

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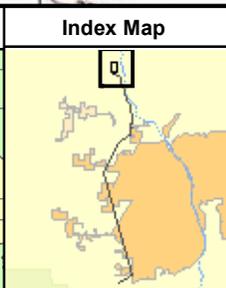
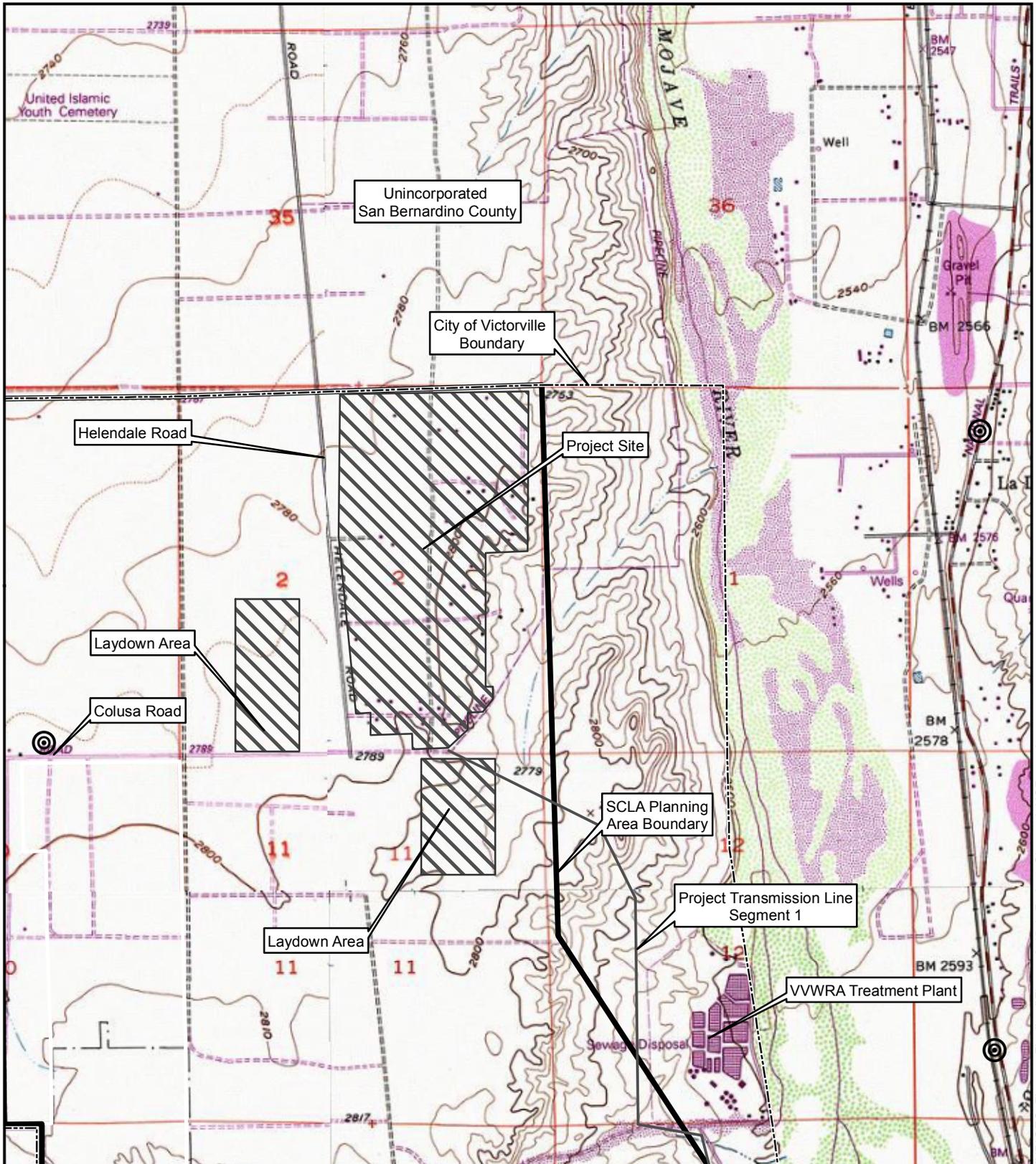
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**Project Site and Key Observation Points
Victorville 2 Hybrid Power Project**

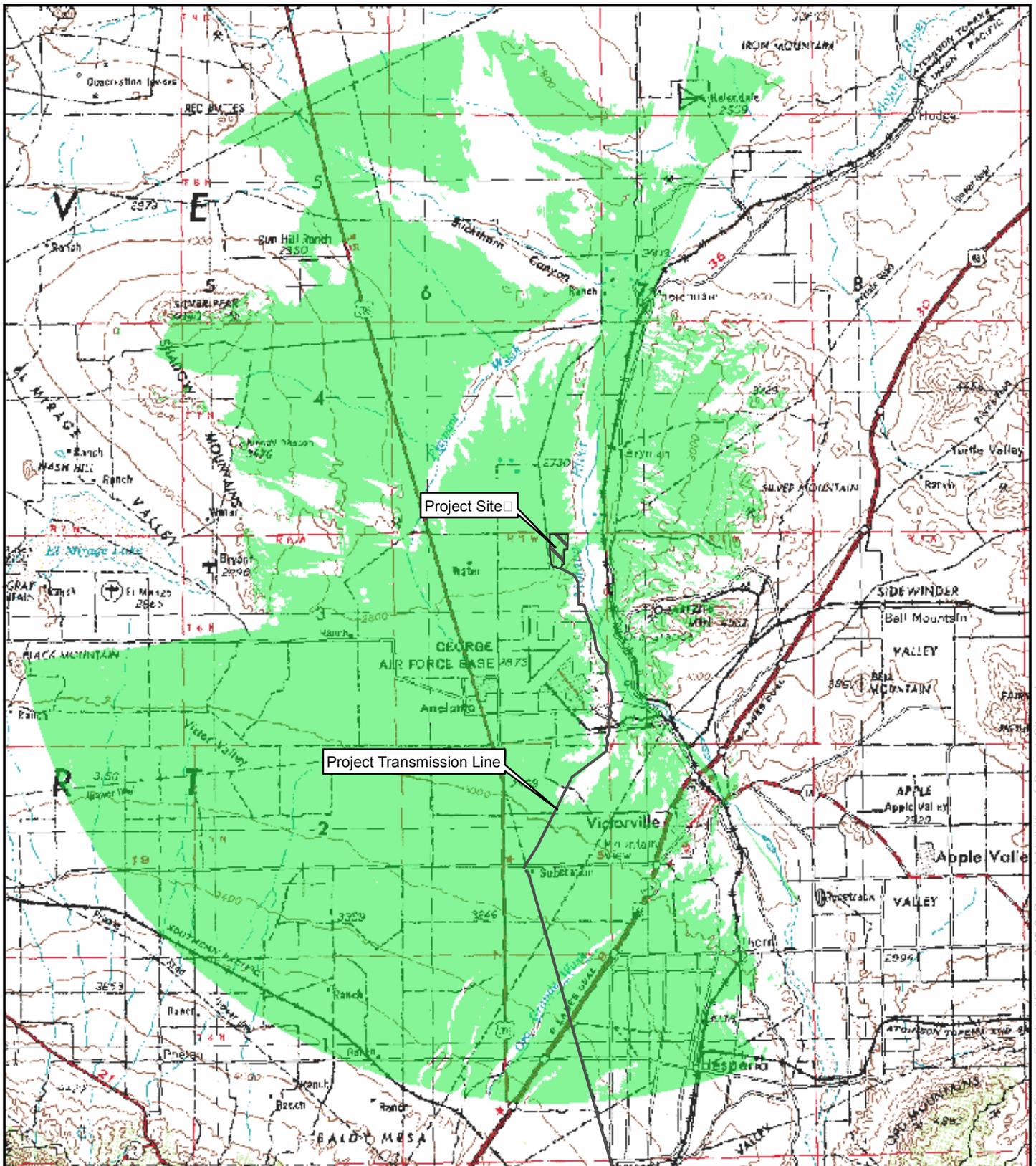
Key Observation Points

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Scale: 1:24,000

Figure: 6.15-1
Date: February 2007

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**Regional Visibility of the Project Site
Victorville 2 Hybrid Power Project**

Legend

- Areas of Visibility (15 Miles)

Basemap: USGS 1:250,000 Topographic Quadrangles

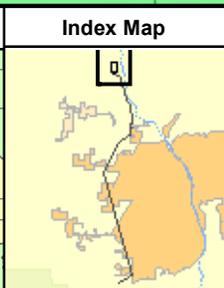
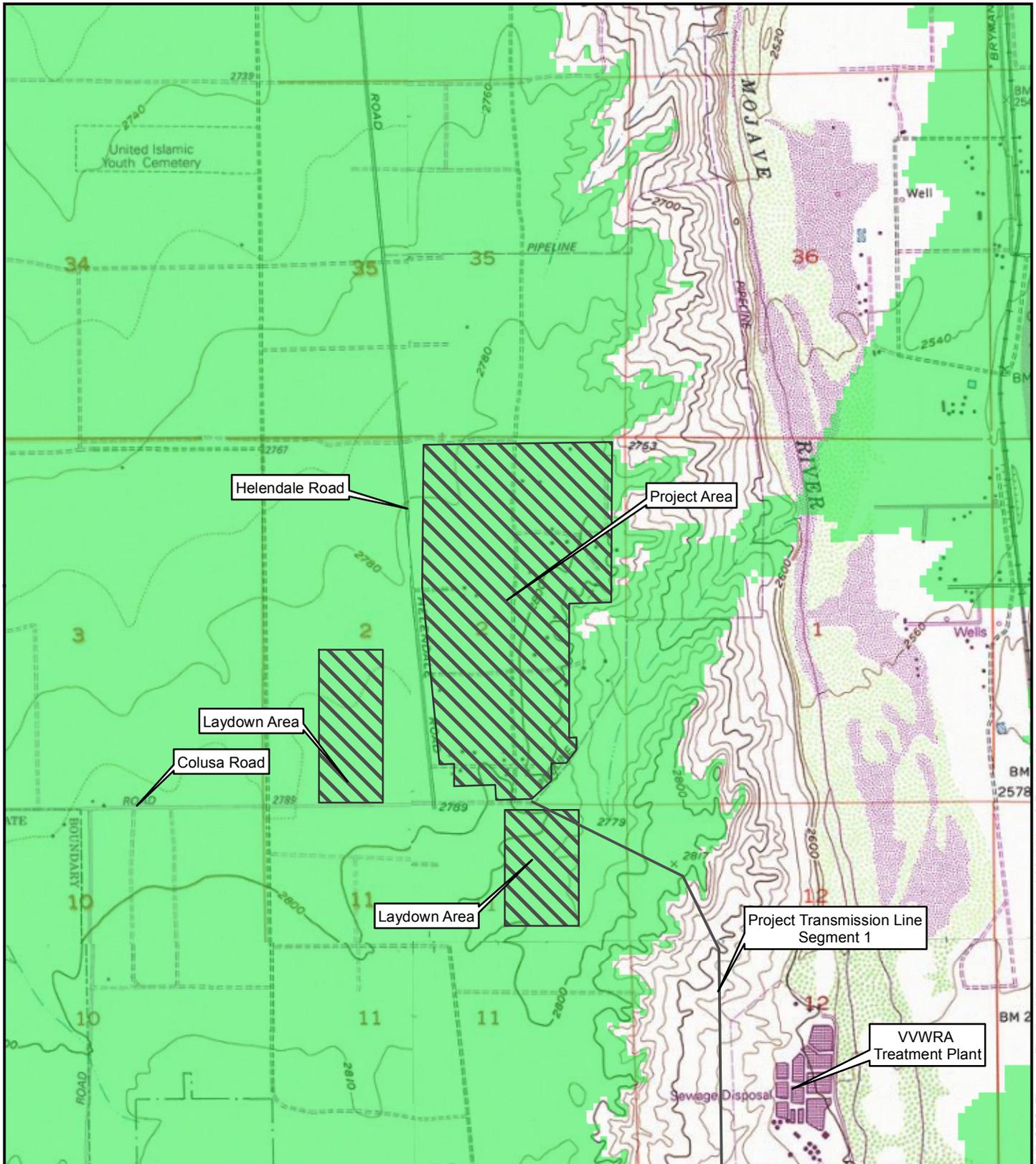
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Figure: 6.15-2
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Local Visibility of the Project Site
Victorville 2 Hybrid Power Project

Legend

- Areas of Visibility

Basemap: USGS 1:24,000 Topographic Quadrangles

Scale: 1:24,000

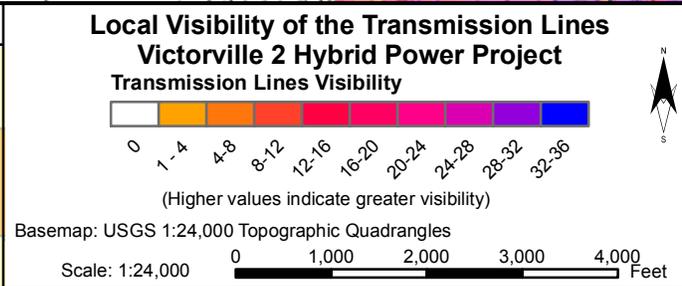
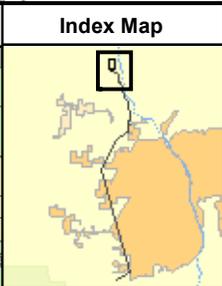
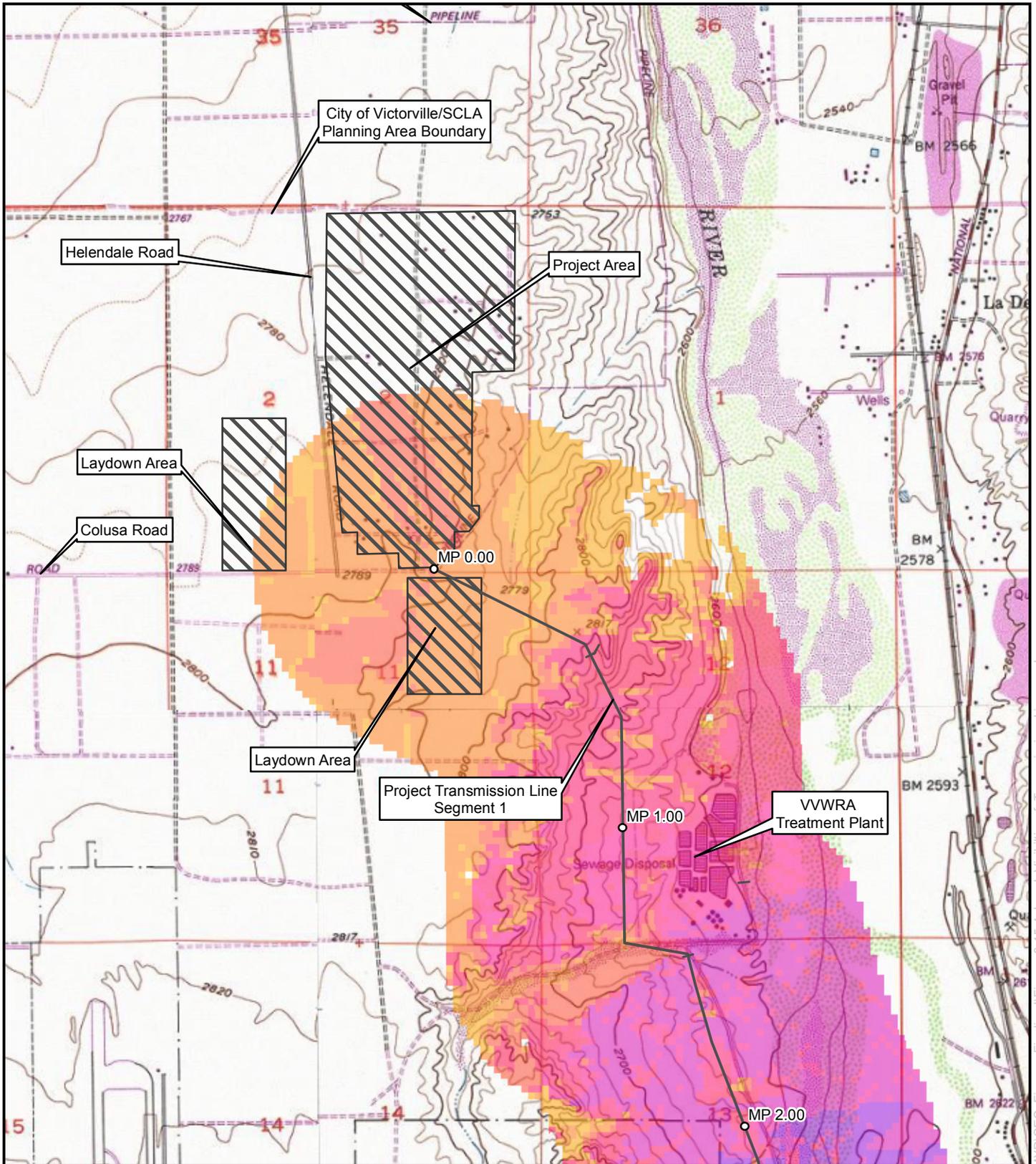


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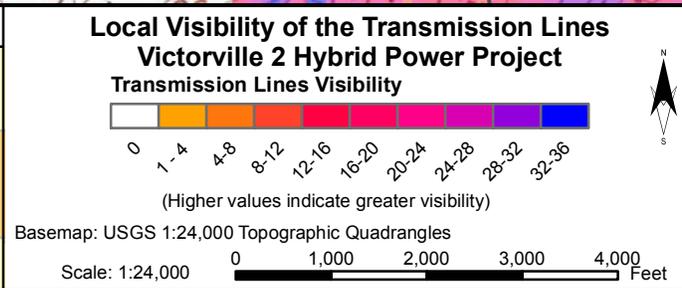
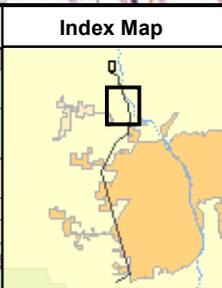
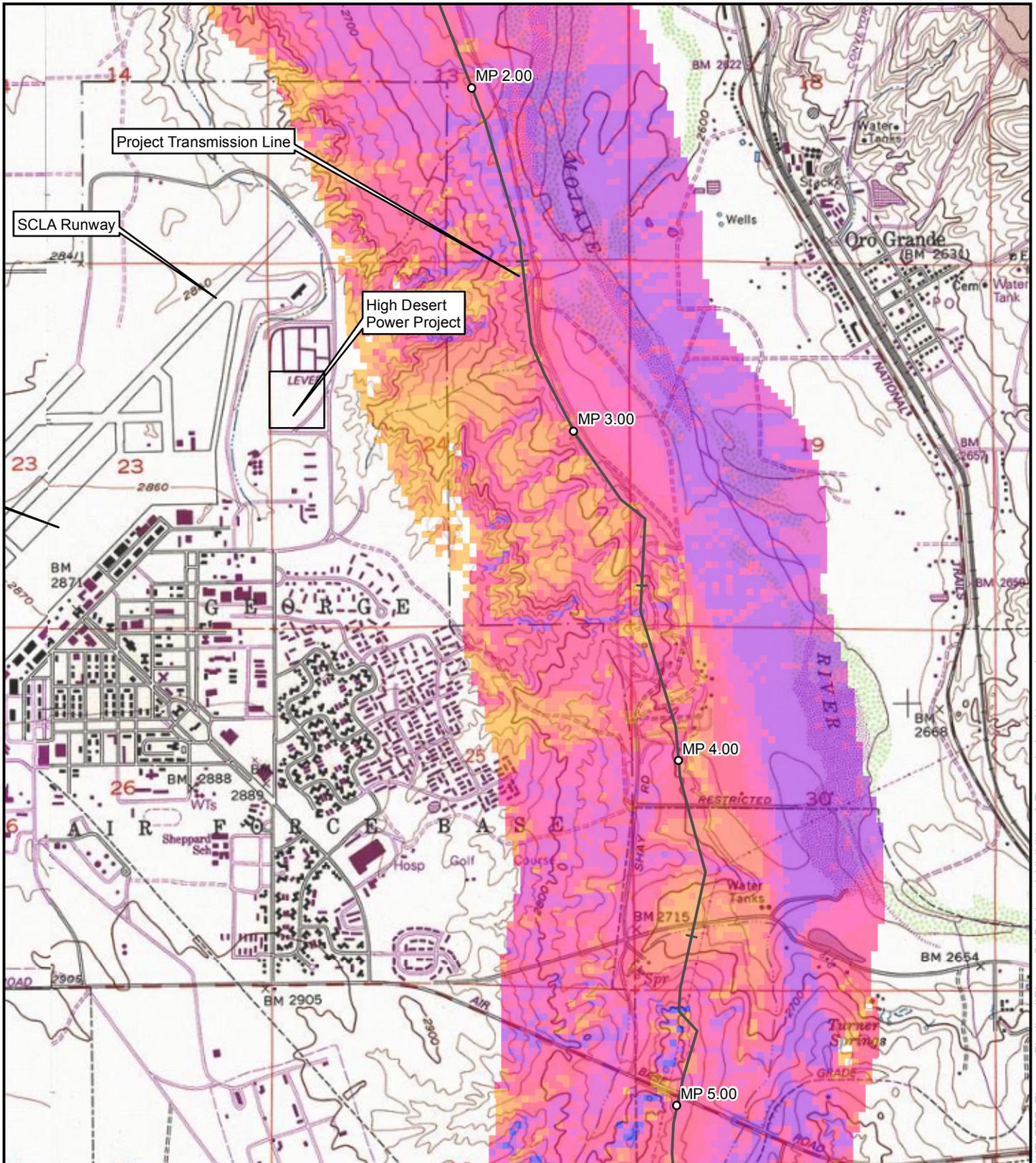
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Figure: 6.15-4

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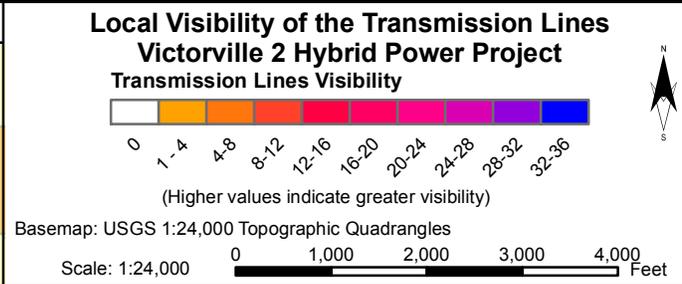
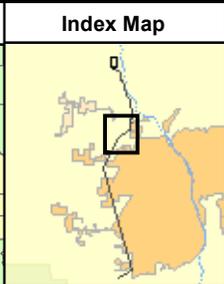
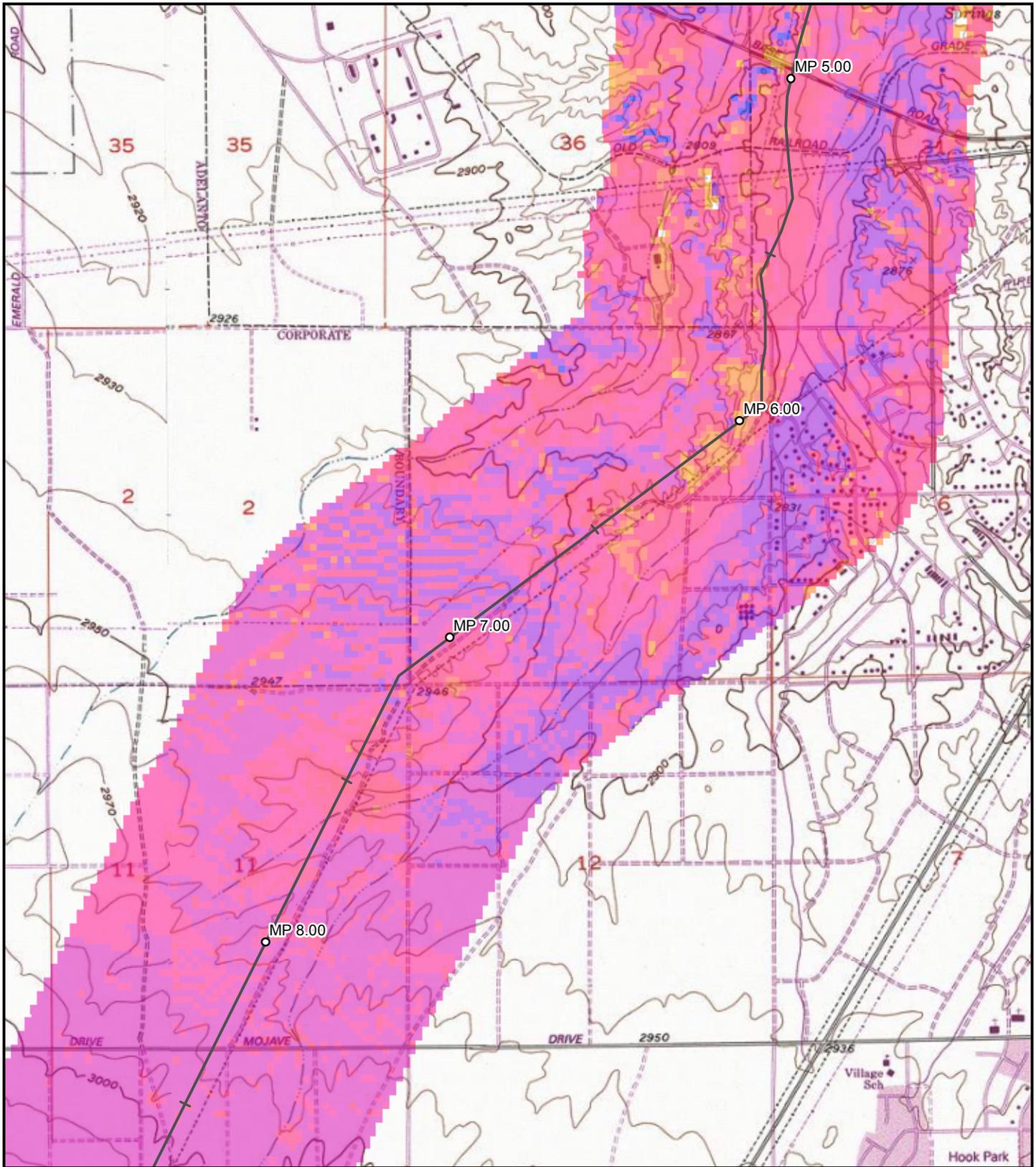
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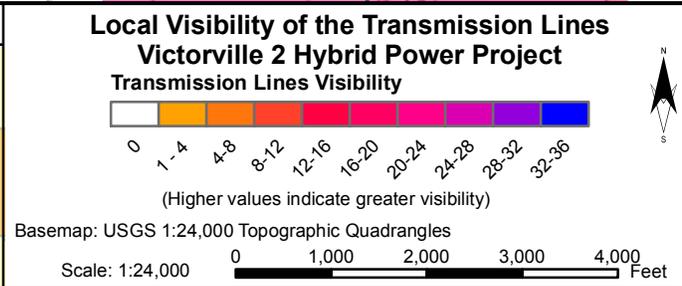
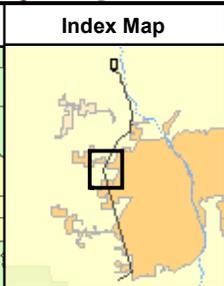
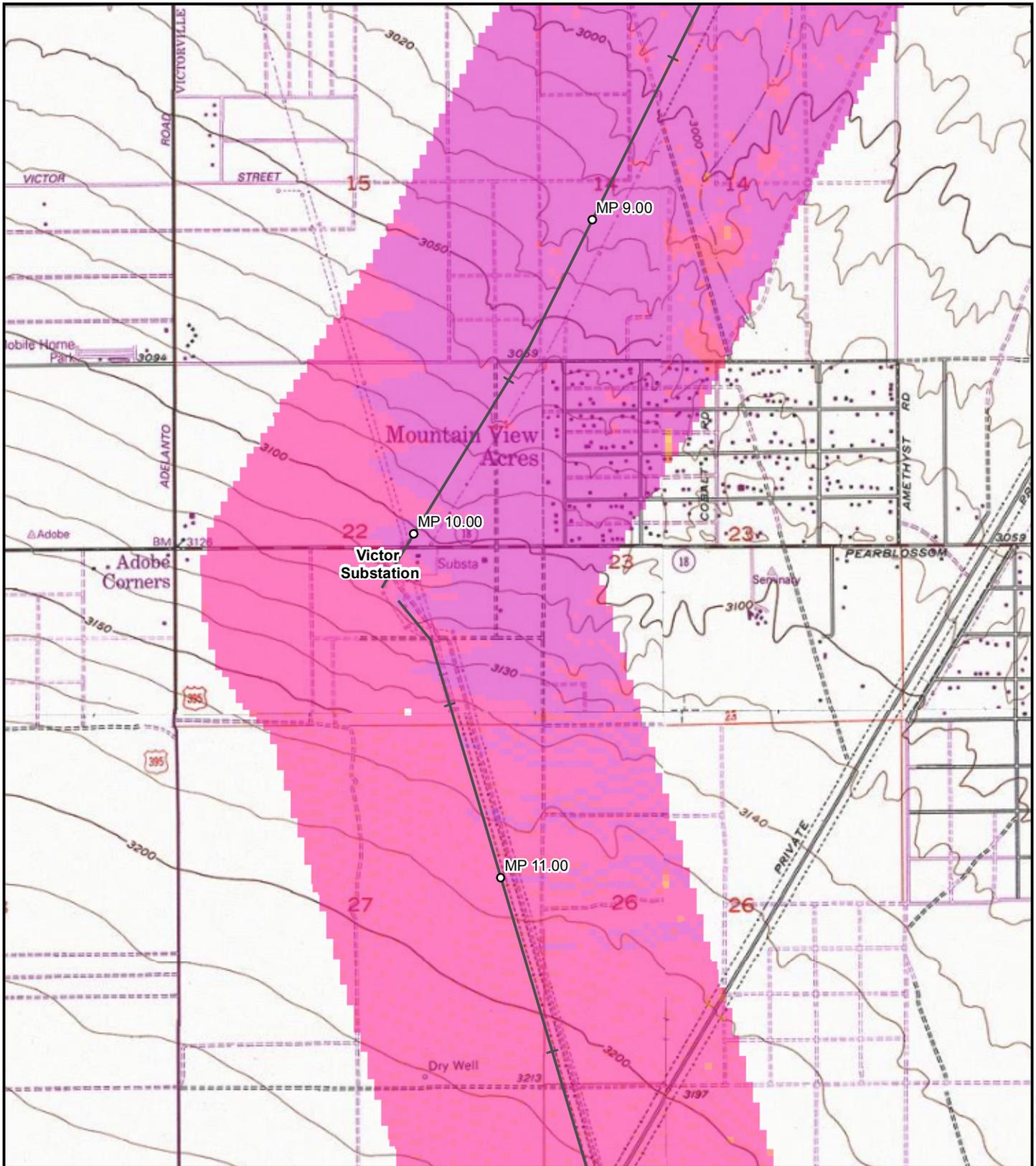


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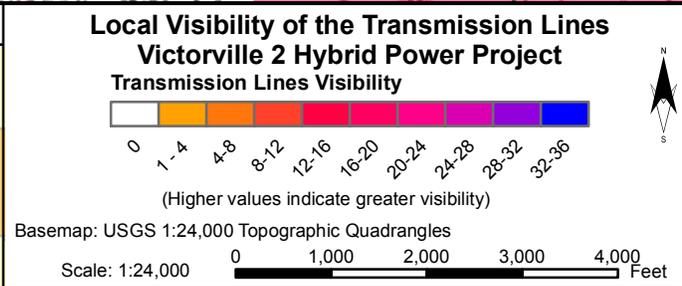
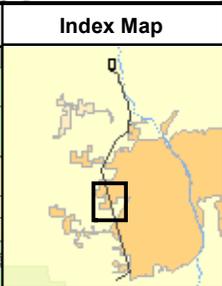
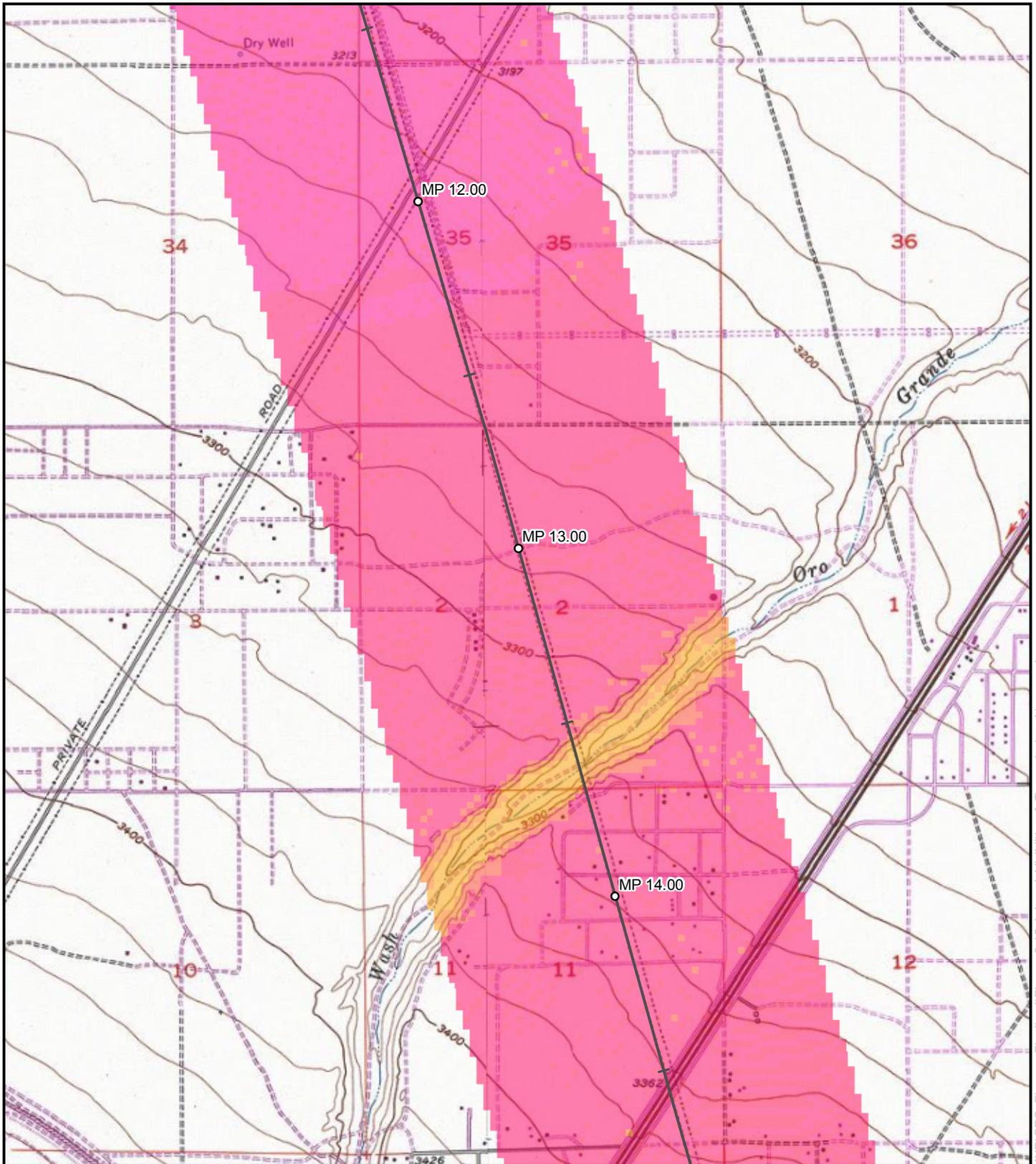
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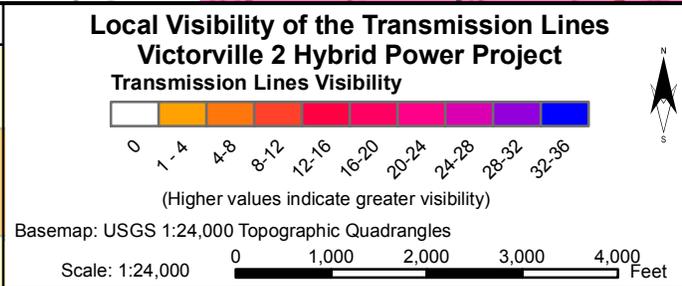
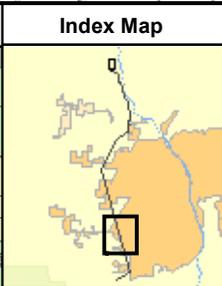
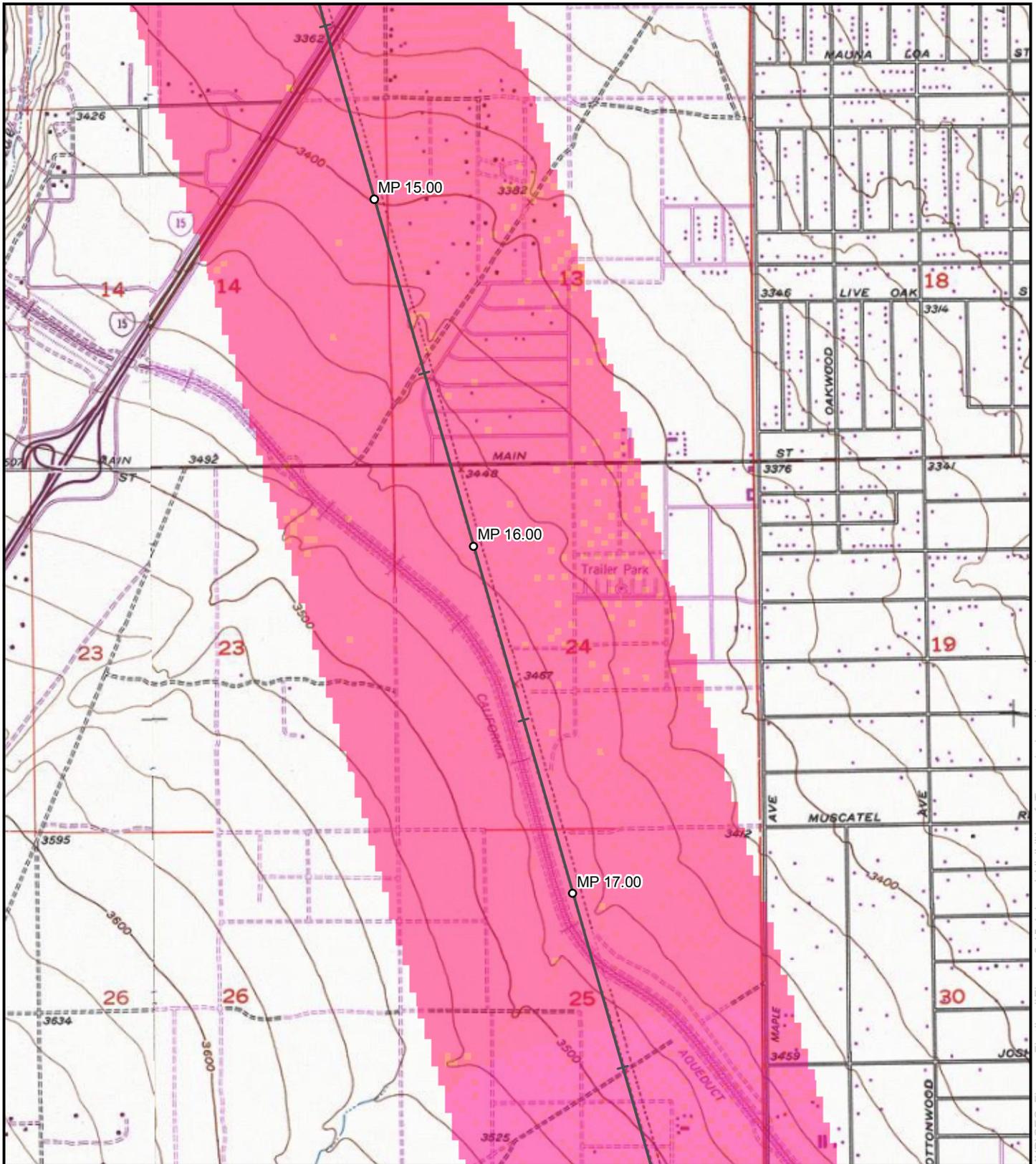


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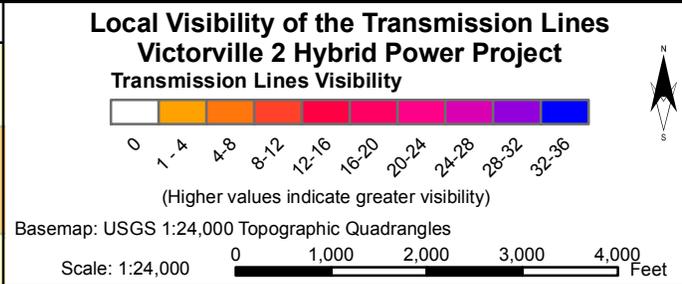
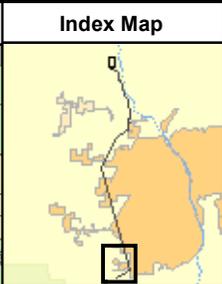
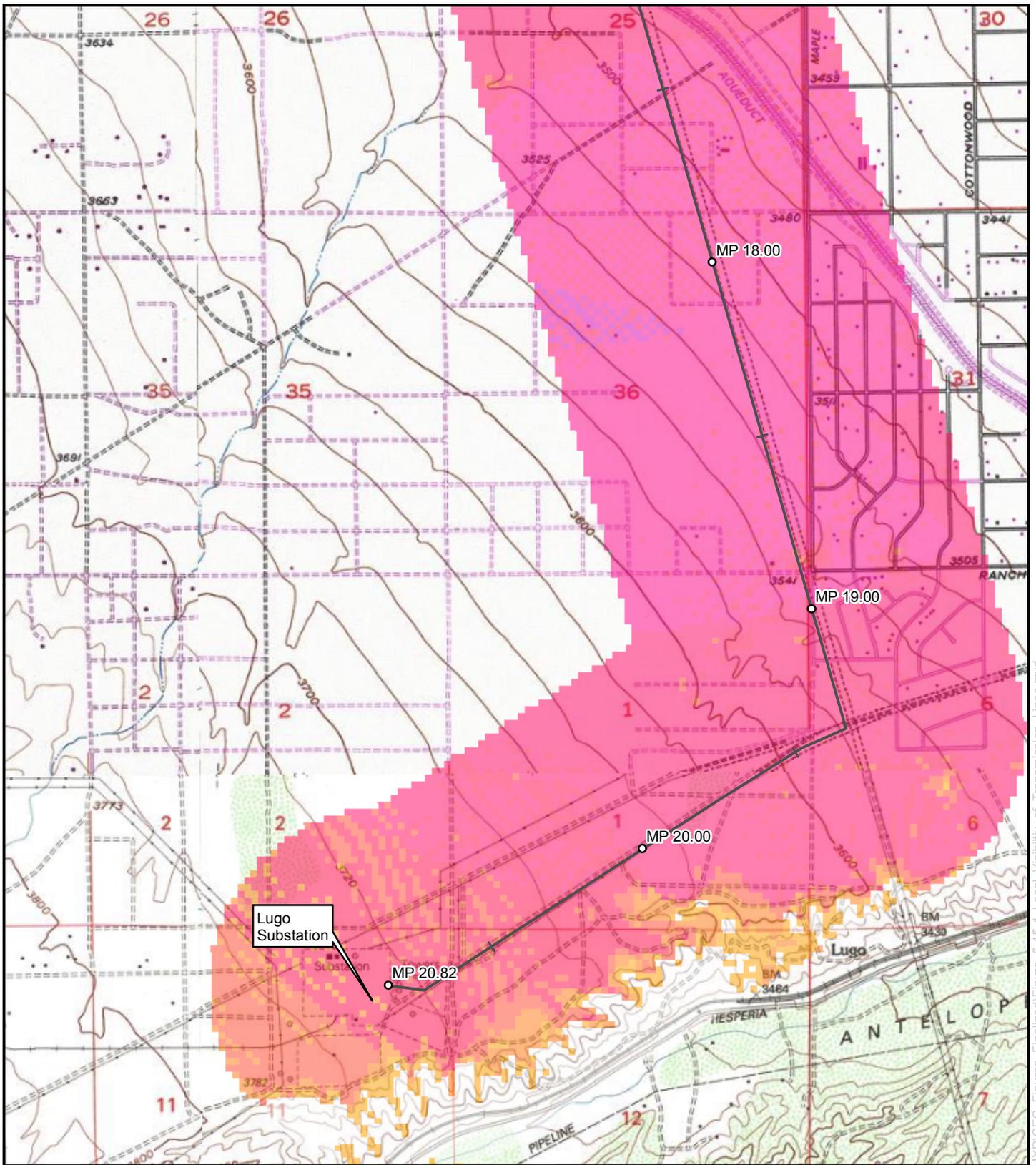
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Figure 6.15-5a

View from Key Observation Point 1 Looking
Southwest Toward VV2 Site – Existing Condition



Figure 6.15-5b

View from Key Observation Point 1 Looking
Southwest Toward VV2 Site – Simulated Condition



Figure 6.15-6a

View from Key Observation Point 2 Looking Northwest Toward VV2 Site and Segment 1 ROW – Existing Condition



Figure 6.15-6b

View from Key Observation Point 2 Looking Northwest Toward VV2 Site and Segment 1 ROW- Simulated Condition



Figure 6.15-7a

View from Key Observation Point 3 Looking East
Toward VV2 Site – Existing Condition



Figure 6.15-7b

View from Key Observation Point 3 Looking East
Toward VV2 Site – Simulated Condition