Appendix A

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4.21-3 Peninsular Bighorn Sheep Habitat/Impacts
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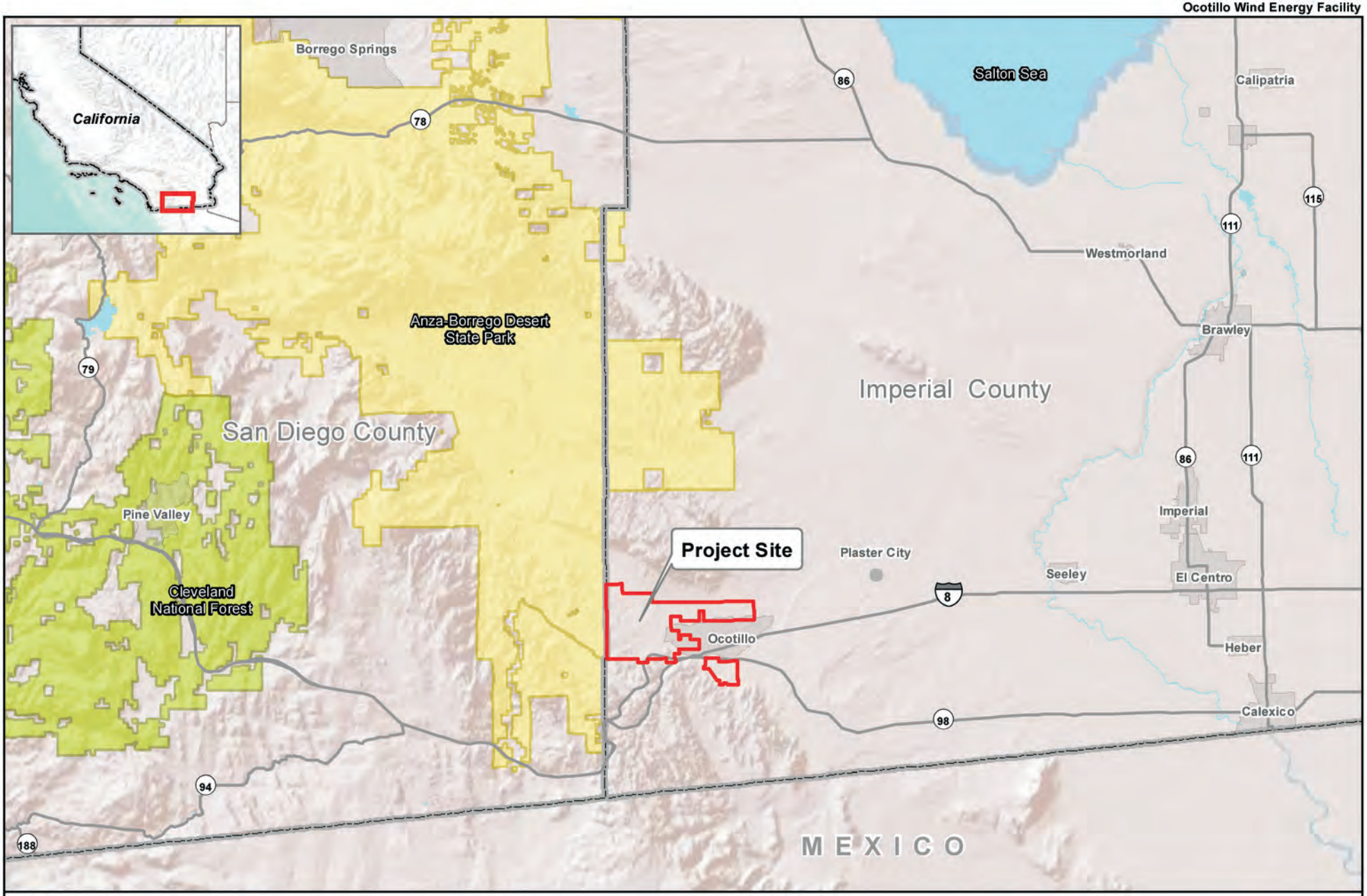
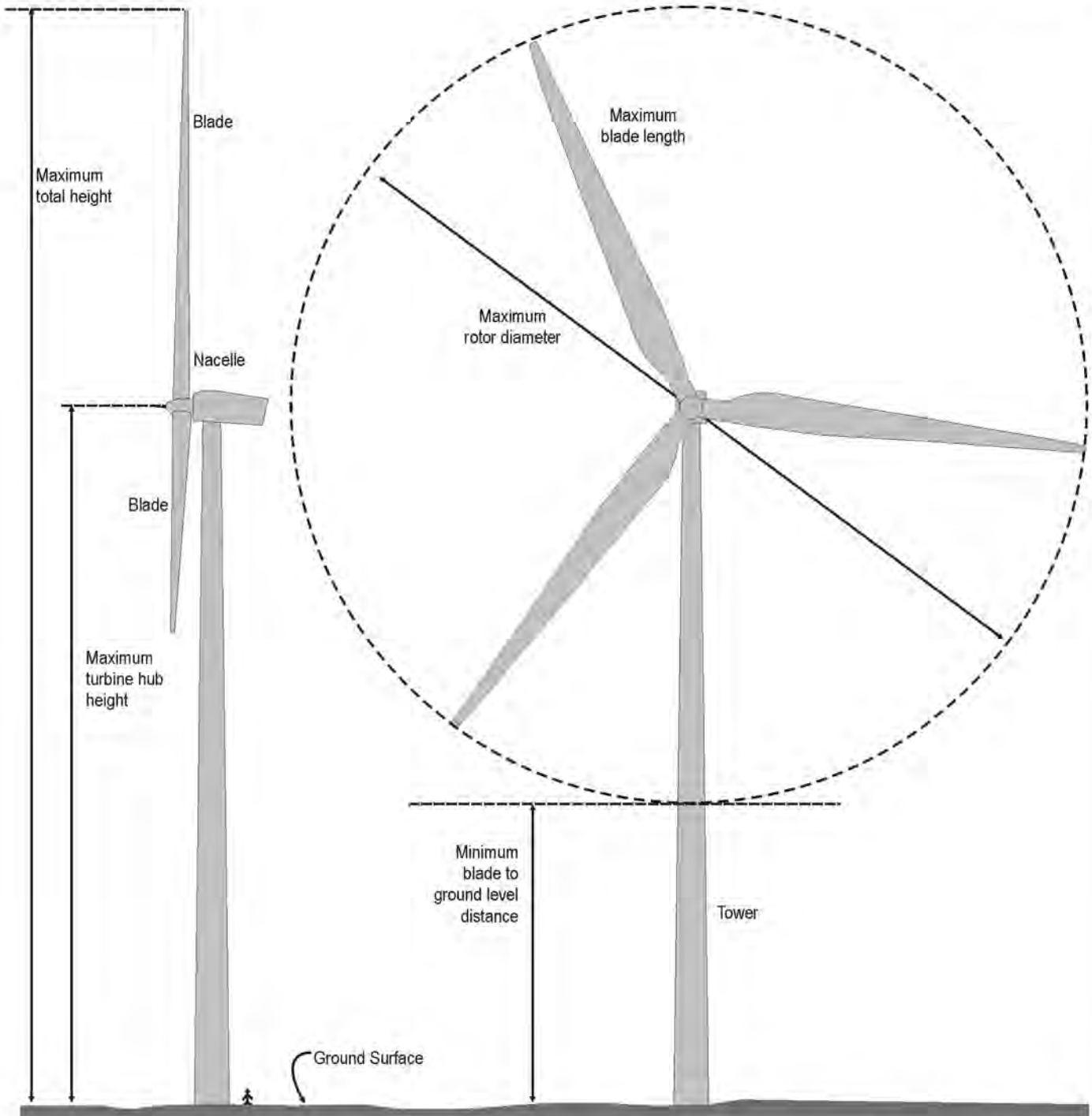


0 2.5 5 10 Miles

Figure 1-1

Project Location Map



Turbine Model Options

	GE - 1.6/2.75 MW Turbine	Siemens - 2.3/3.0 MW Turbine
Maximum Total Height	438 feet	448 feet
Maximum Turbine Hub Height	262.5 feet	262.5 feet
Minimum Blade to Ground Level Distance	87 feet	77 feet
Maximum Rotor Diameter	351 feet	371 feet
Maximum Blade Length	~175.5 feet	~185.5 feet

Figure 2.1-1

Schematic Illustration of Proposed Turbine Model

Source: Specifications provided by Ocotillo Express LLC, 2010.

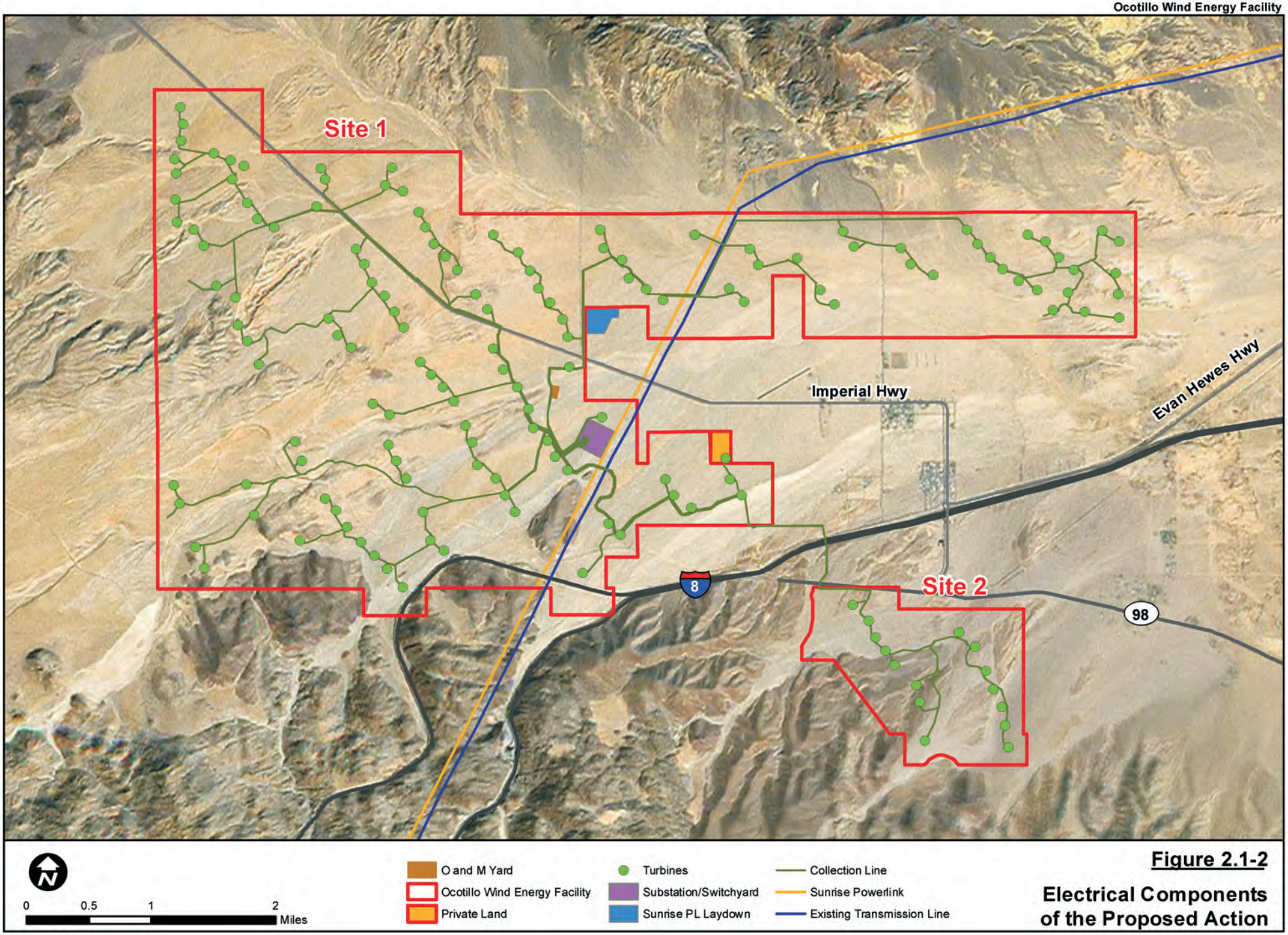


Figure 2.1-2

Electrical Components of the Proposed Action

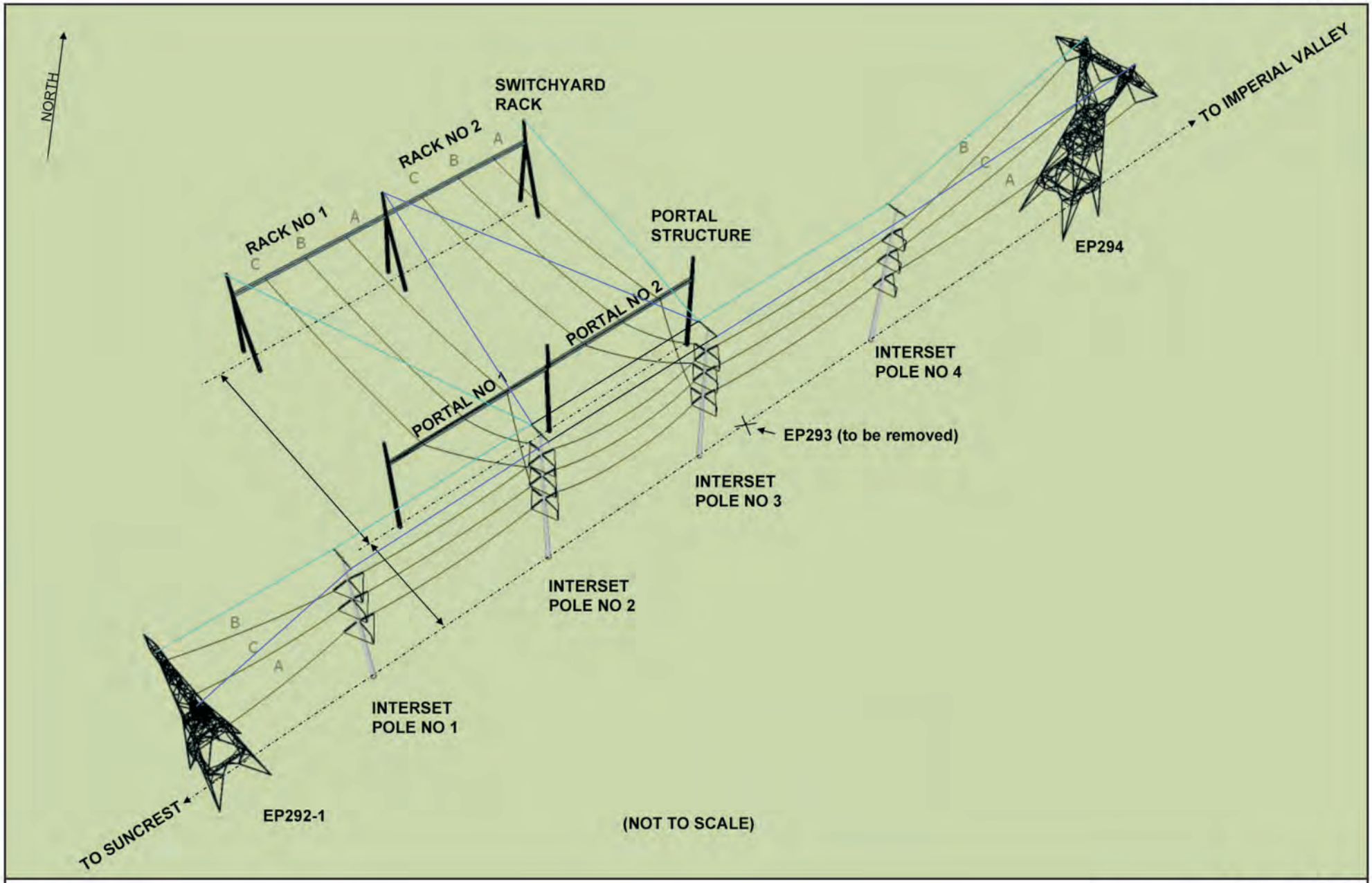
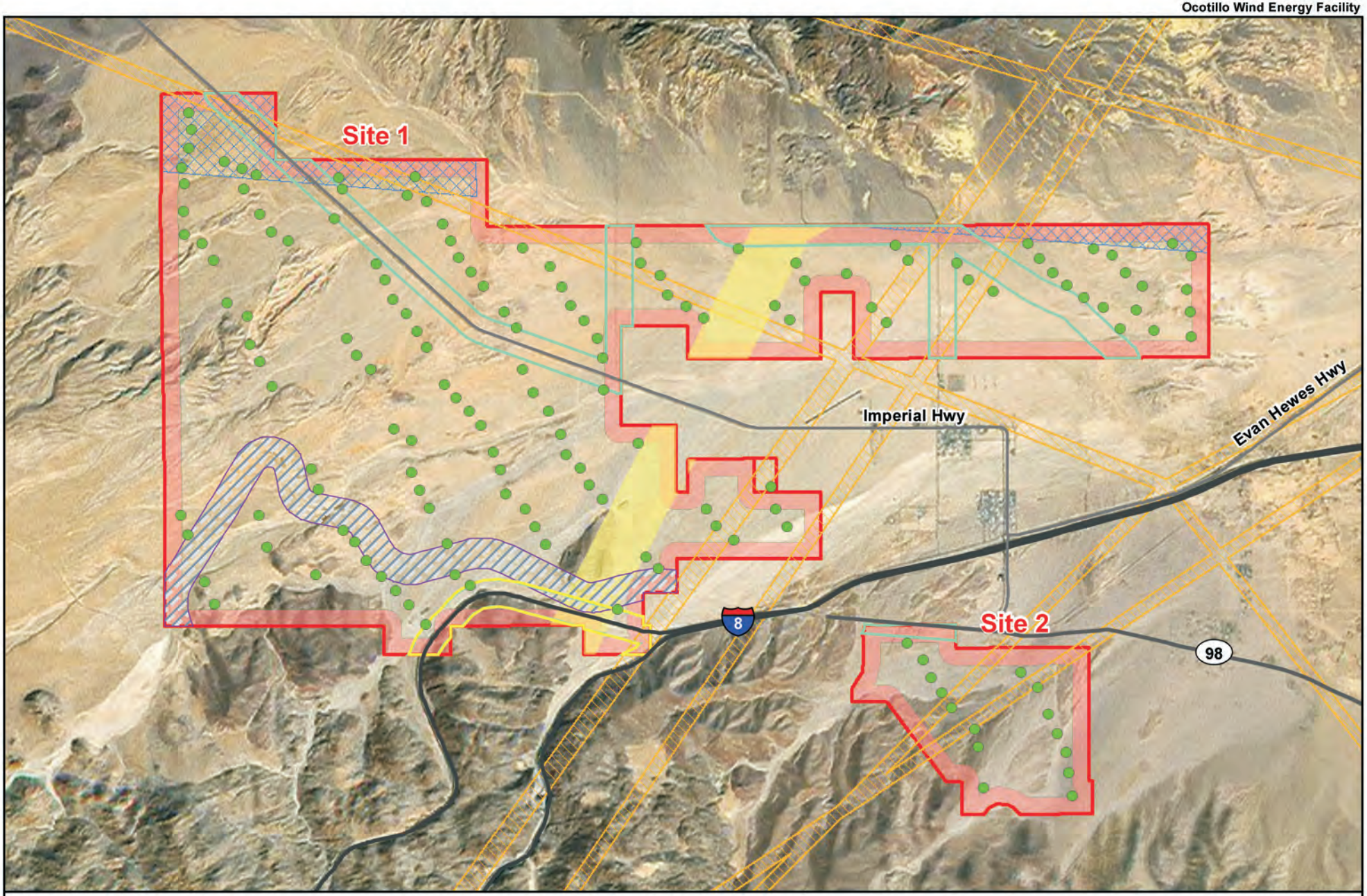


Figure 2.1-3
Proposed 500kV Loop-in



0 0.5 1 Miles

Turbines
Ocotillo Wind Energy Facility
I8 Buffer
Major Roads Buffer
Railroad Buffer
VR288 400ft Turbine Height Limit
Microwave Path Buffer
Transmission Line Buffers
BLM ROW Buffer

Figure 2.1-4

Environmental Constraints for the Proposed Action

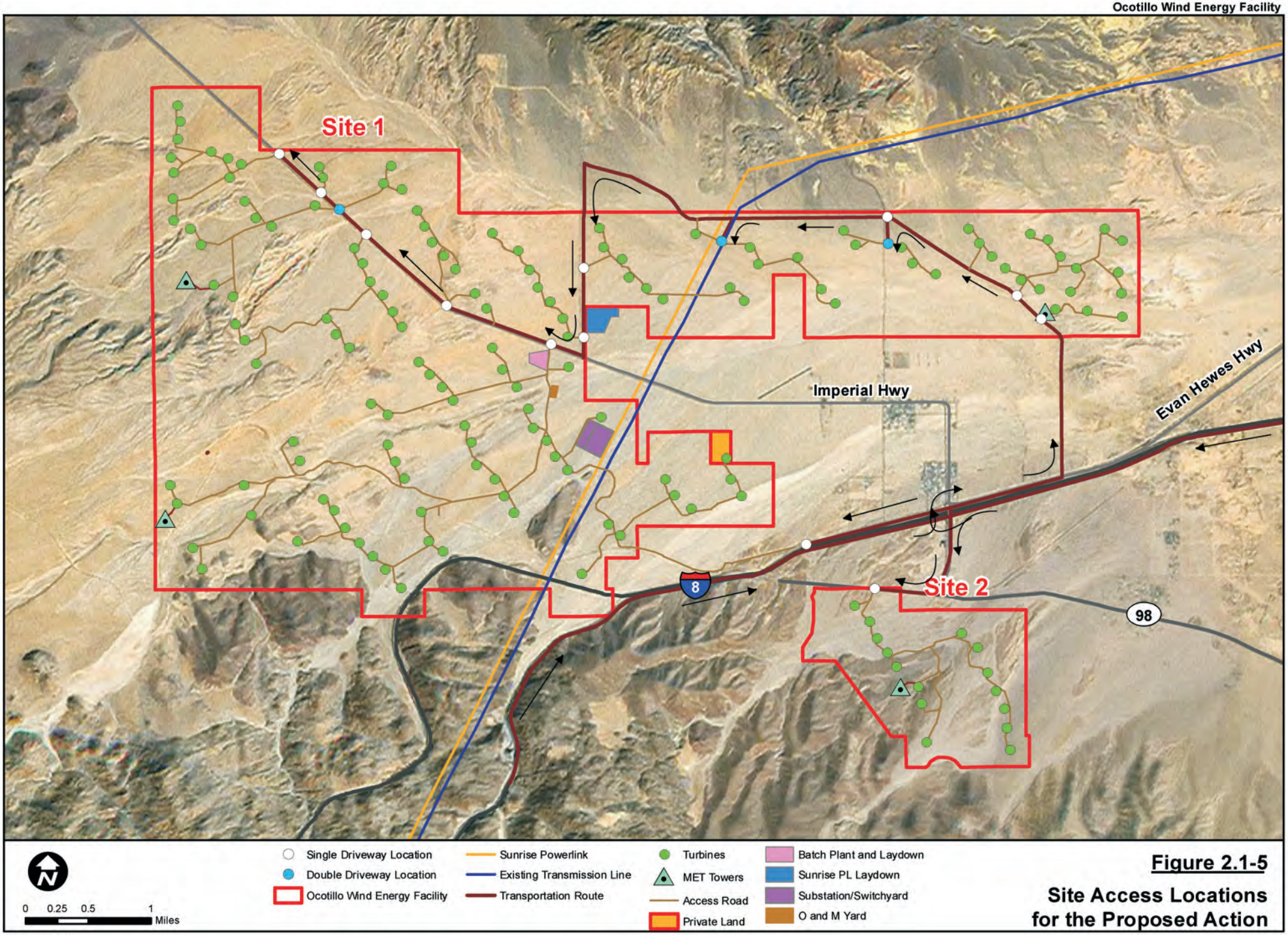


Figure 2.1-5

Site Access Locations for the Proposed Action

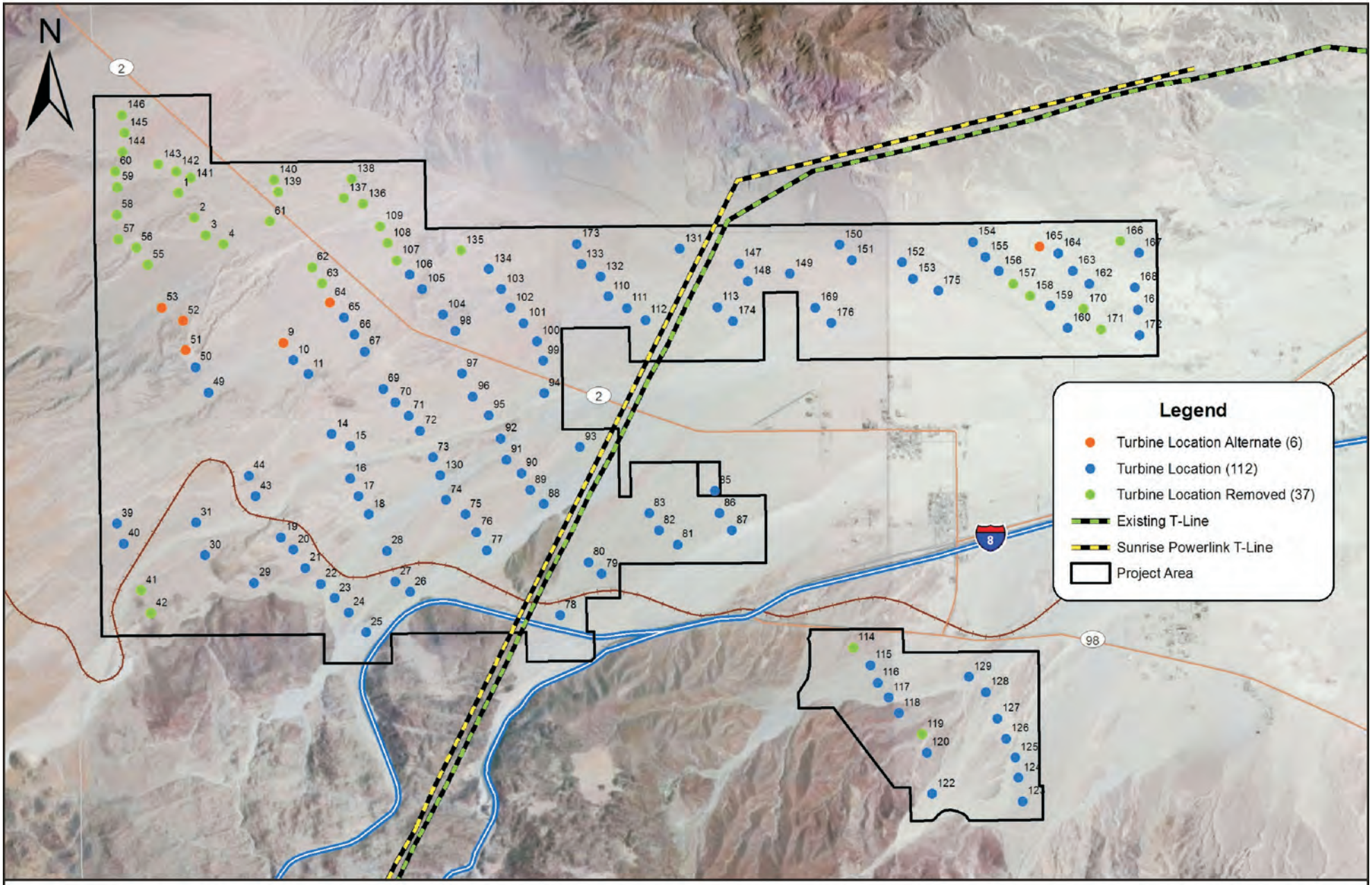


Figure 2.1-6

Refined Project

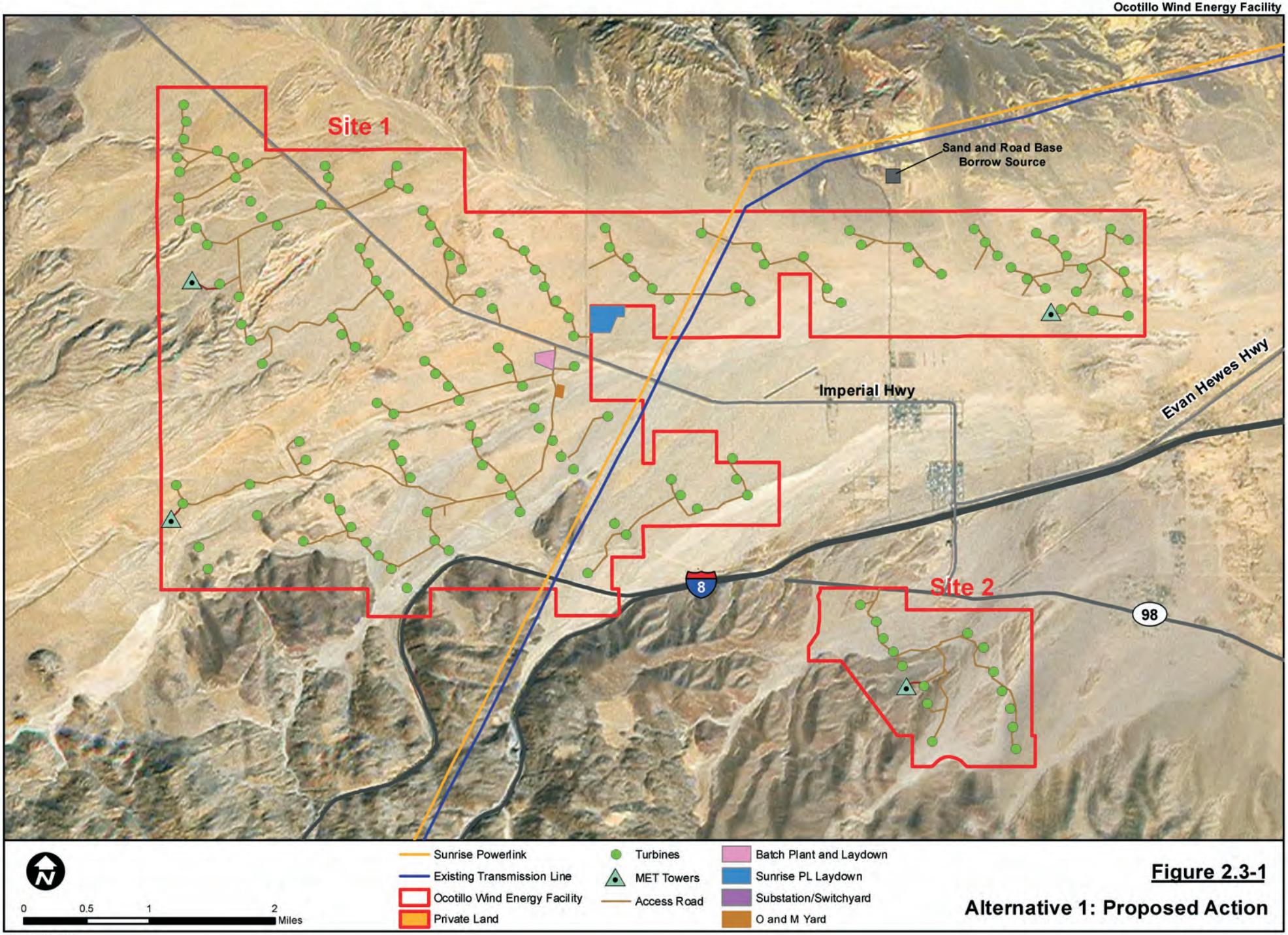


Figure 2.3-1

Alternative 1: Proposed Action

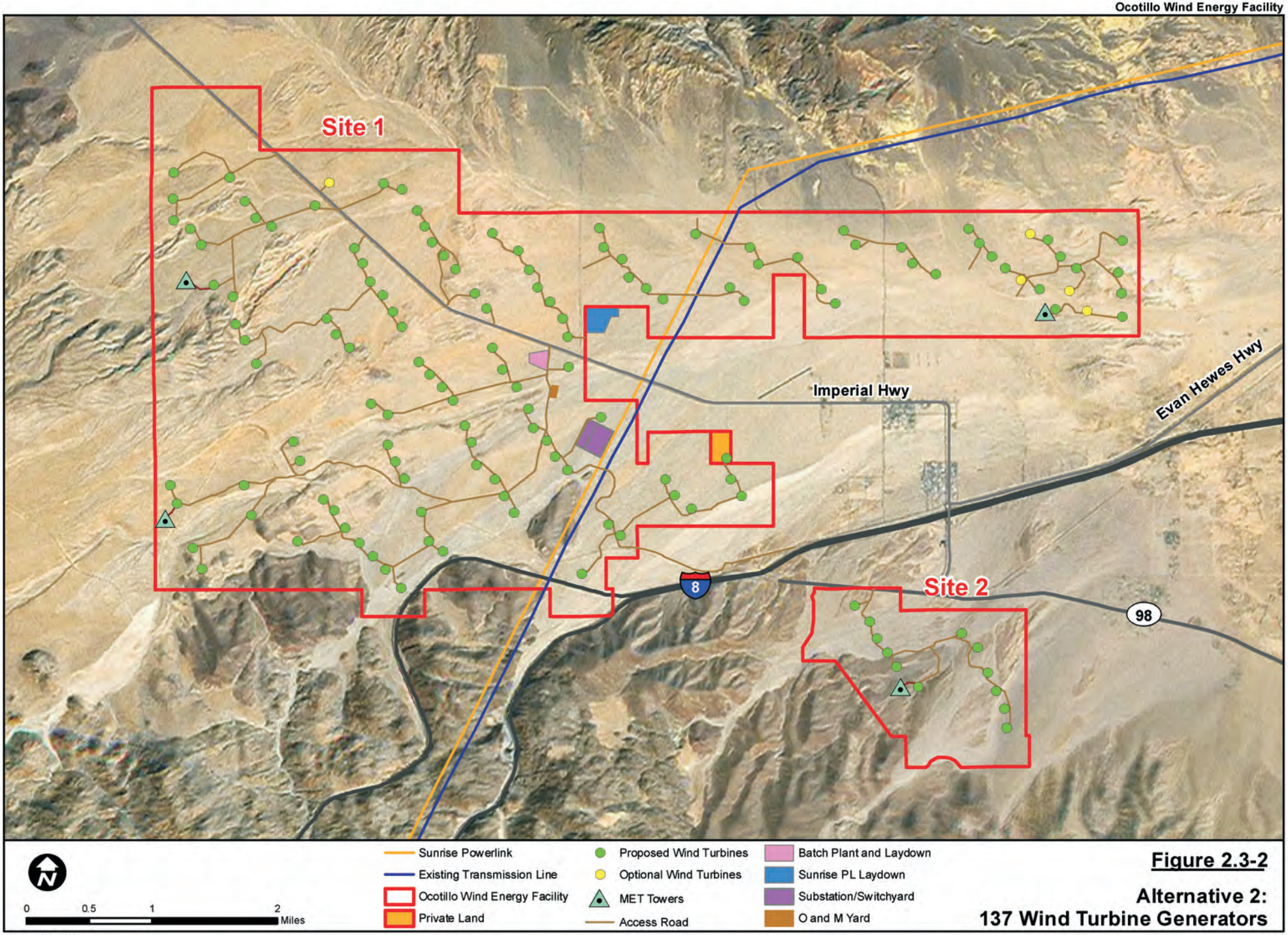


Figure 2.3-2

Alternative 2:
137 Wind Turbine Generators

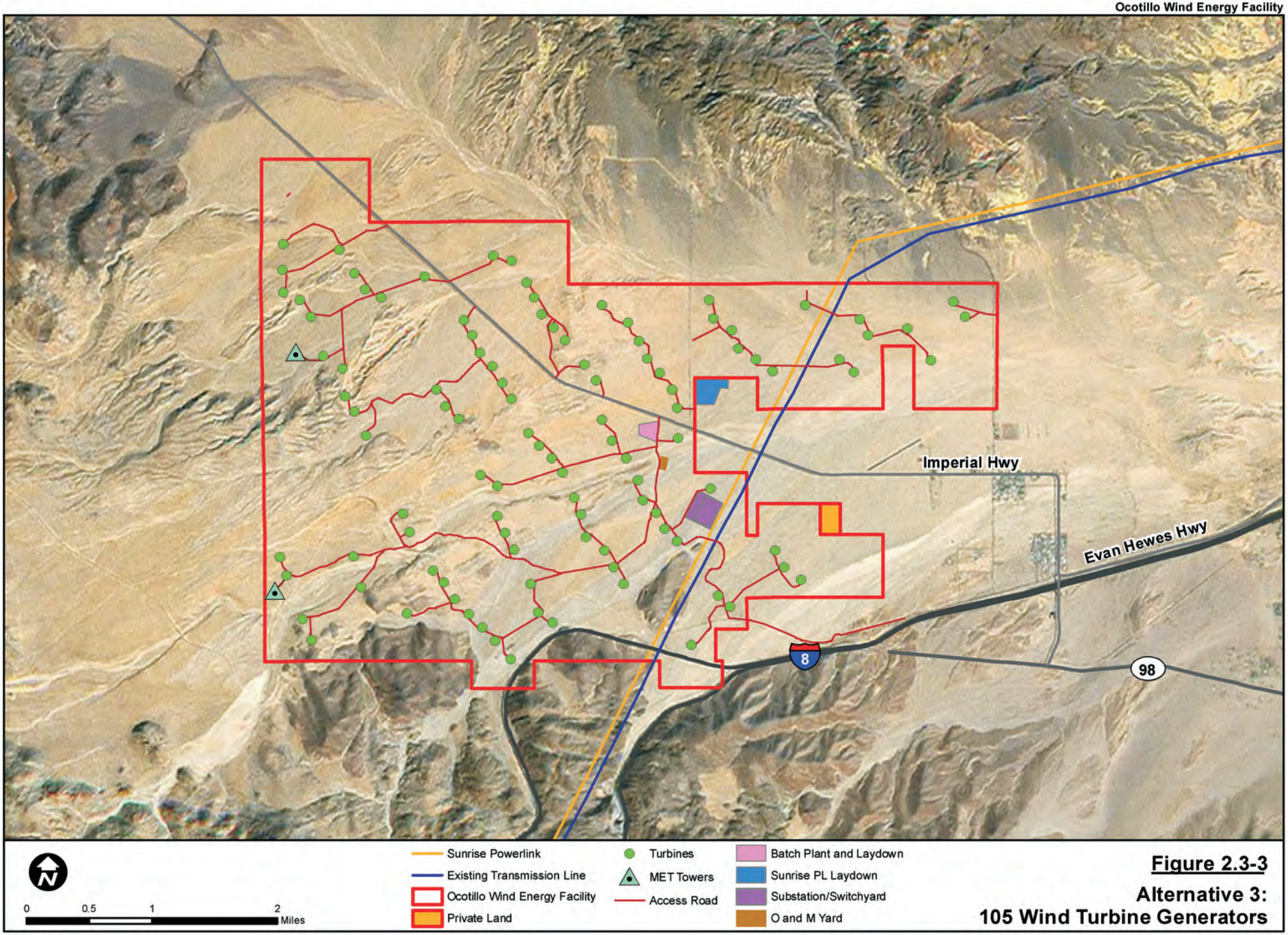


Figure 2.3-3

Alternative 3:
105 Wind Turbine Generators

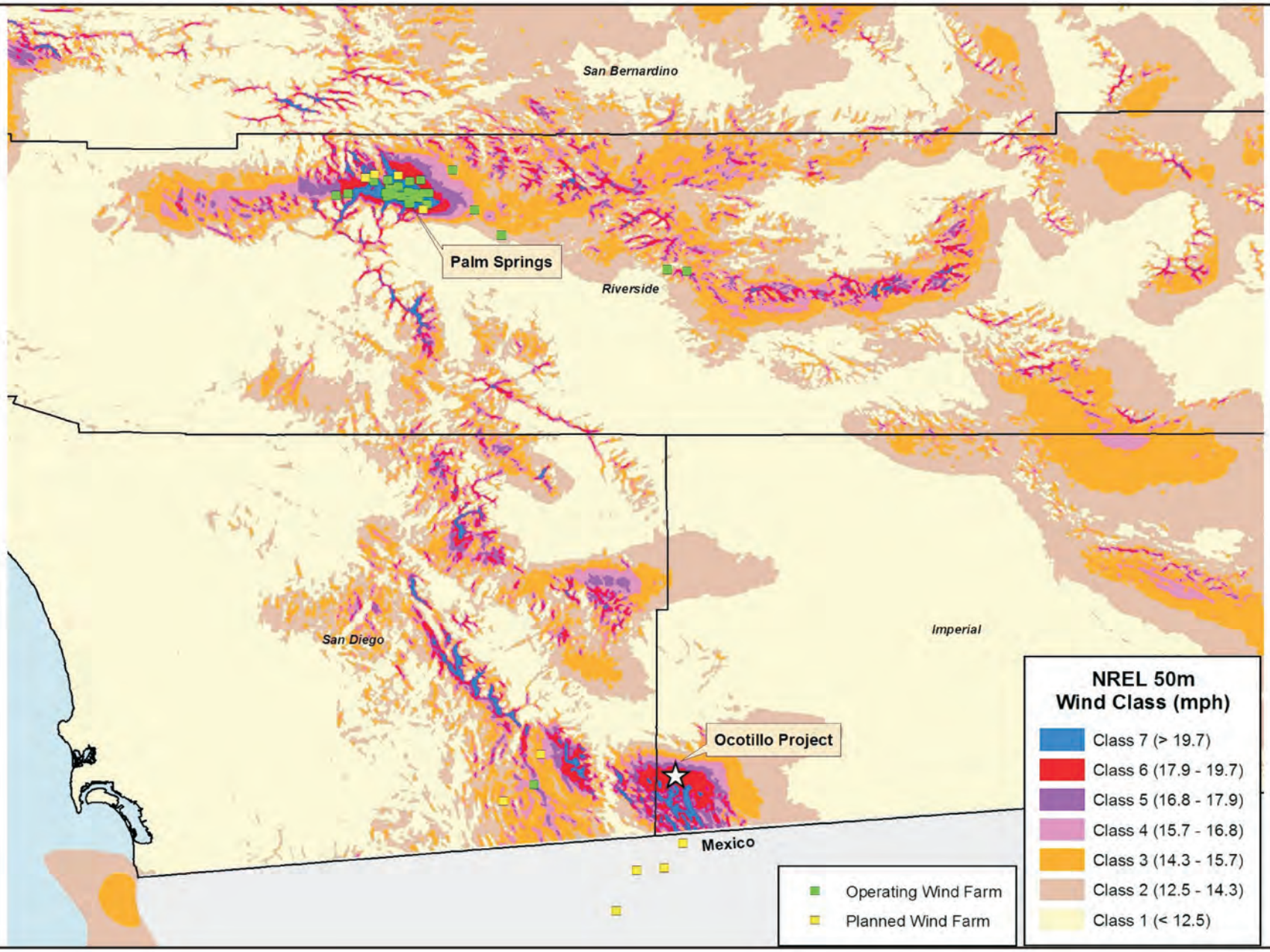


Figure 2.7-1
Wind Resources

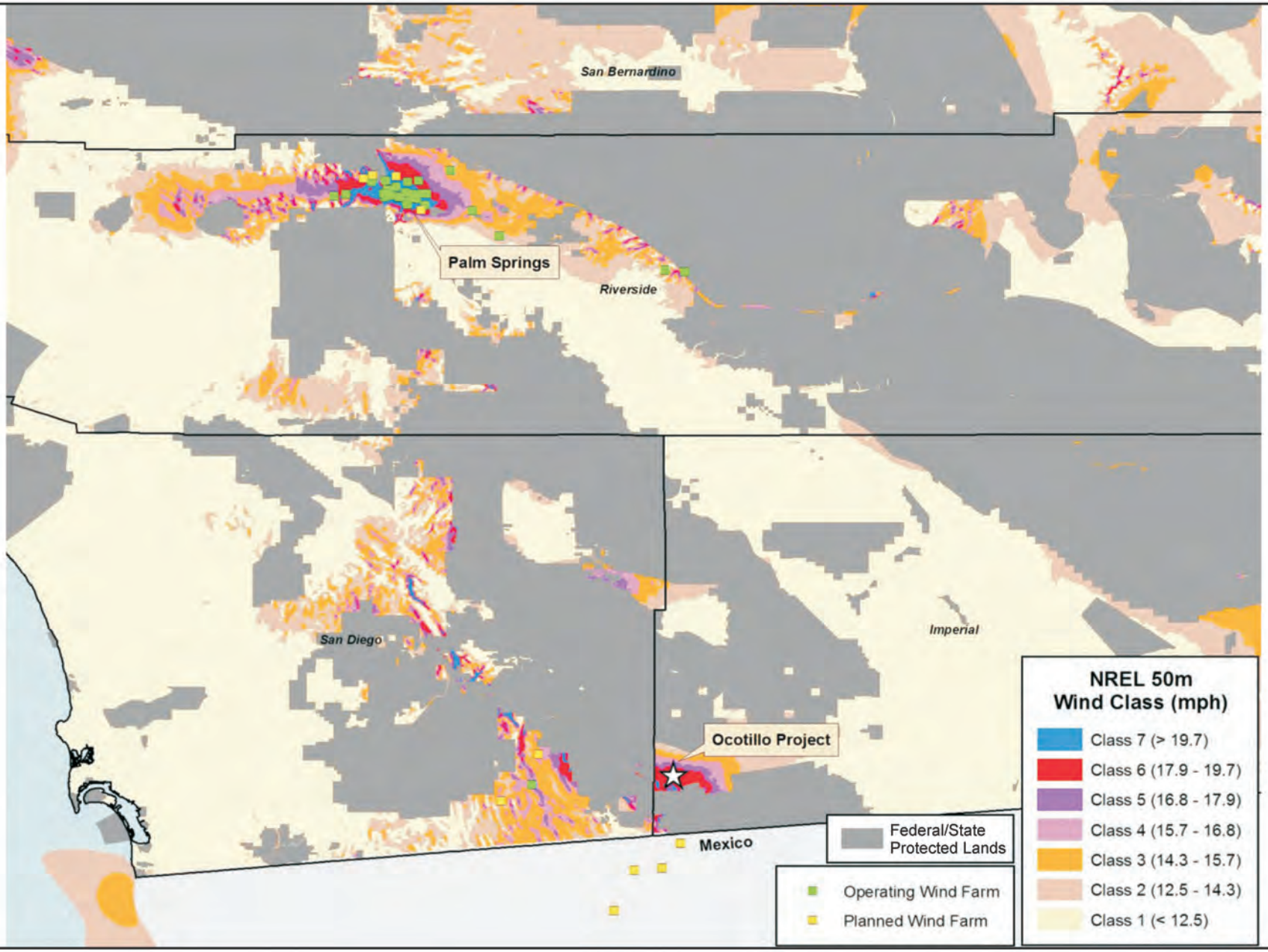


Figure 2.7-2

Wind Resources and Federal/State Protected Lands

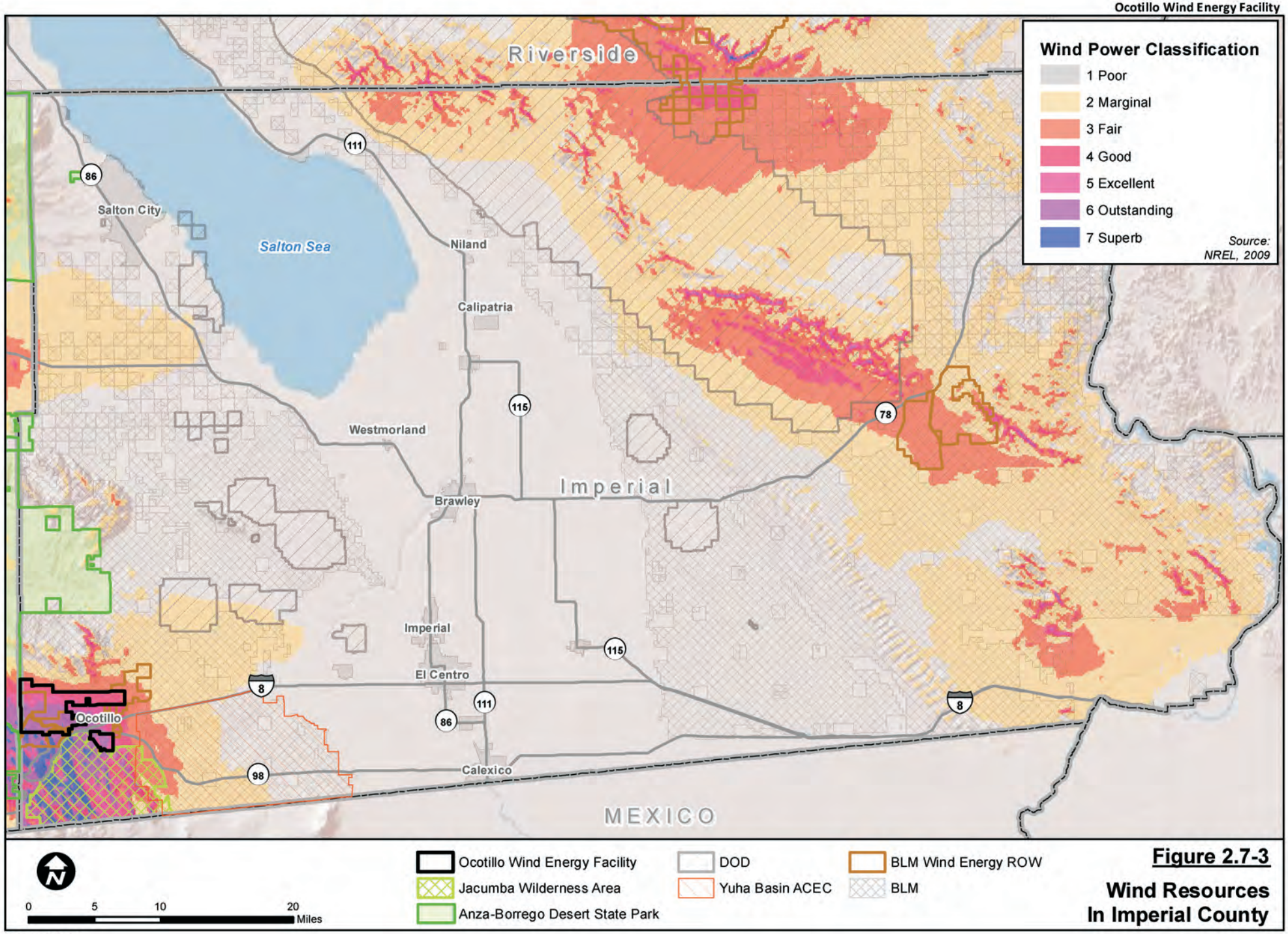


Figure 2.7-3

Wind Resources In Imperial County

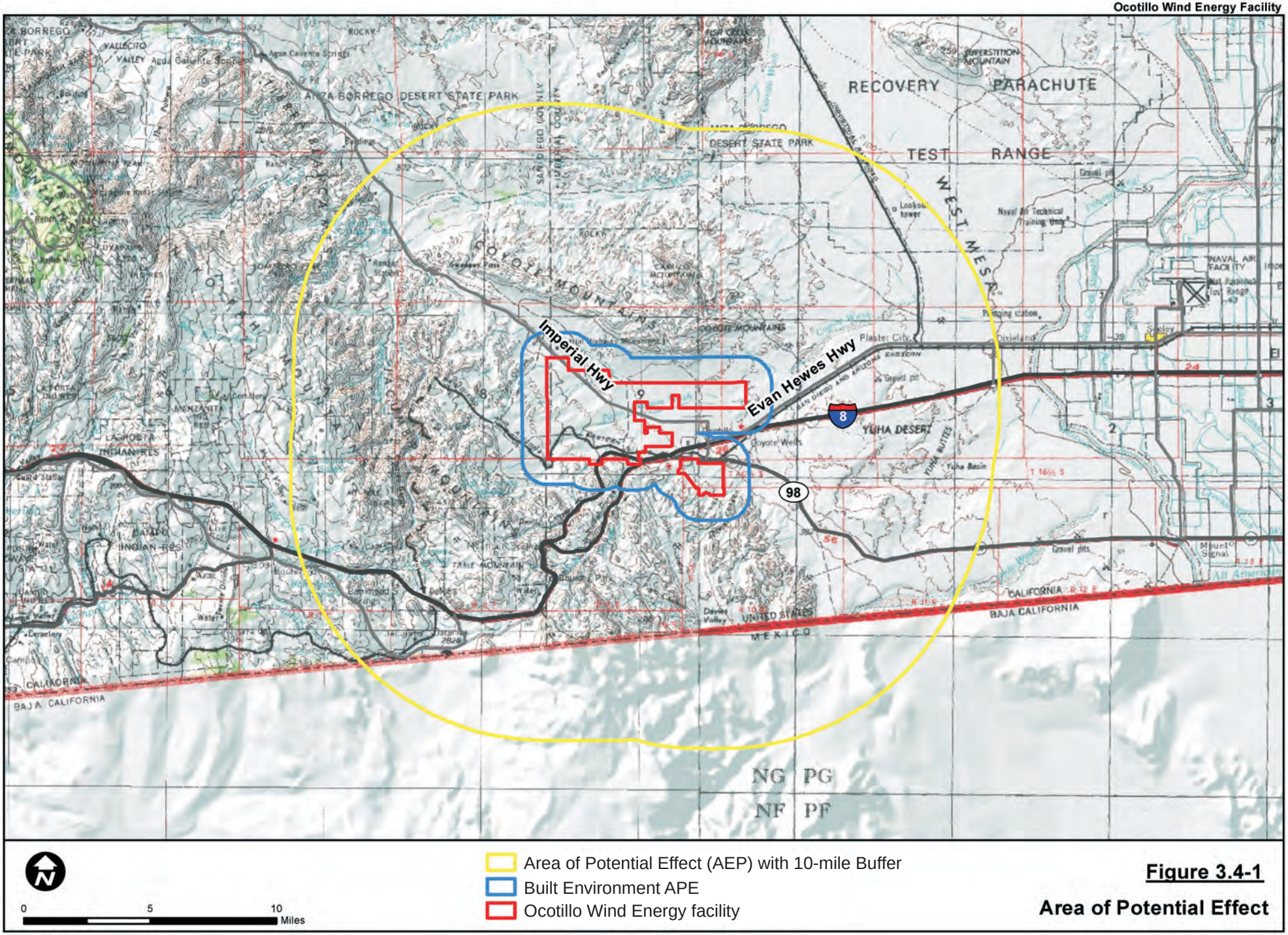


Figure 3.4-1

Area of Potential Effect

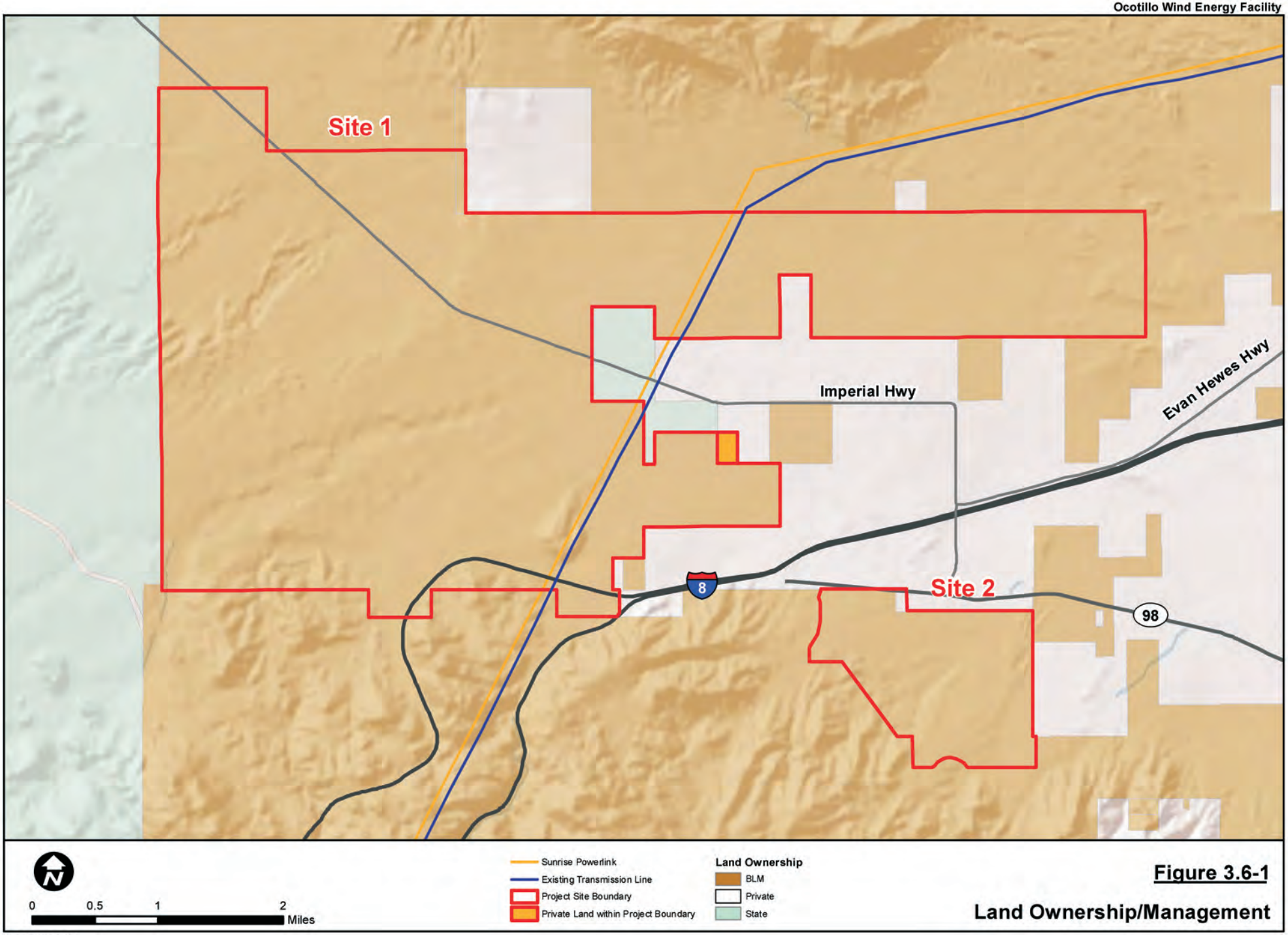


Figure 3.6-1

Land Ownership/Management

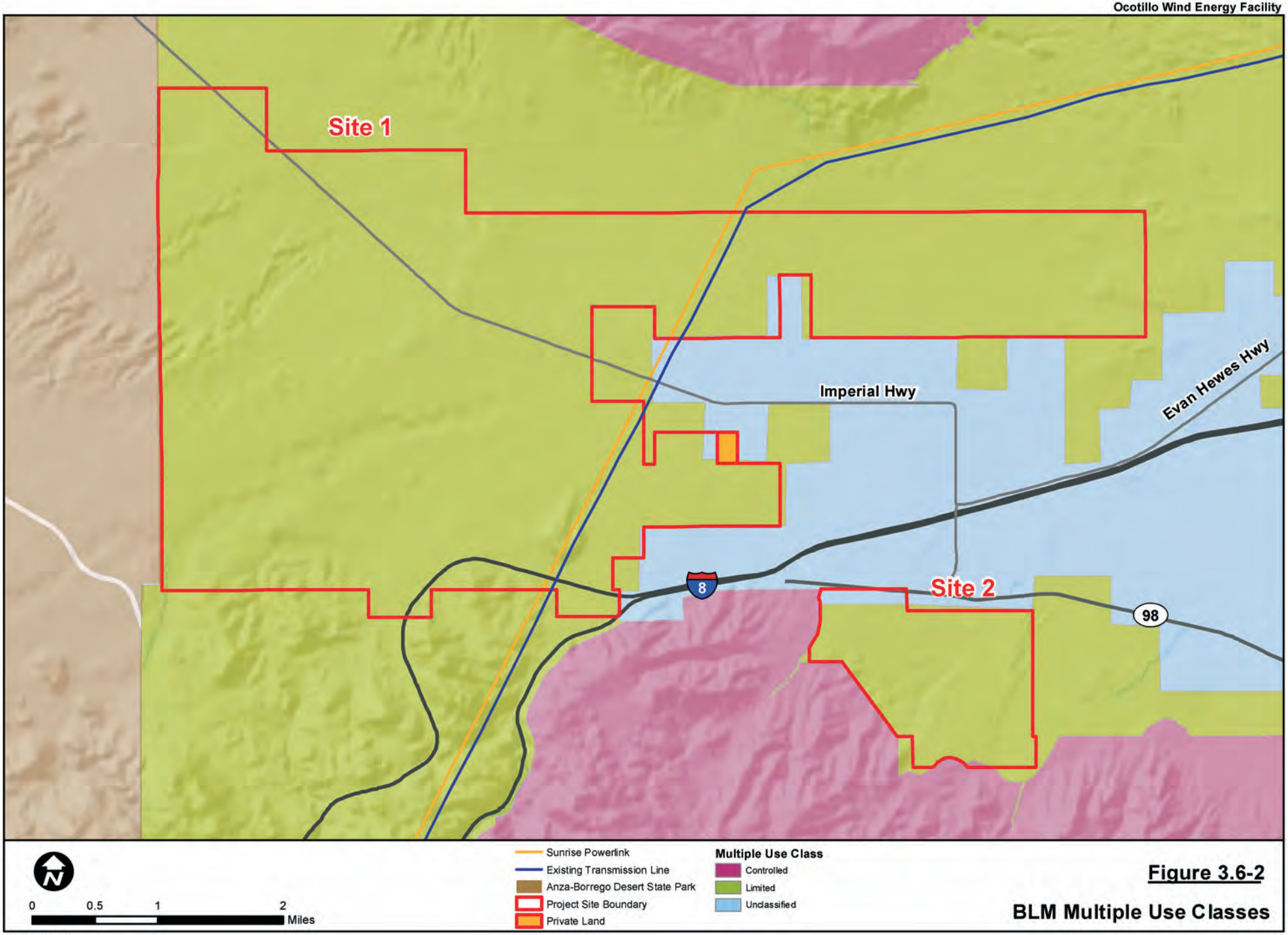


Figure 3.6-2

BLM Multiple Use Classes

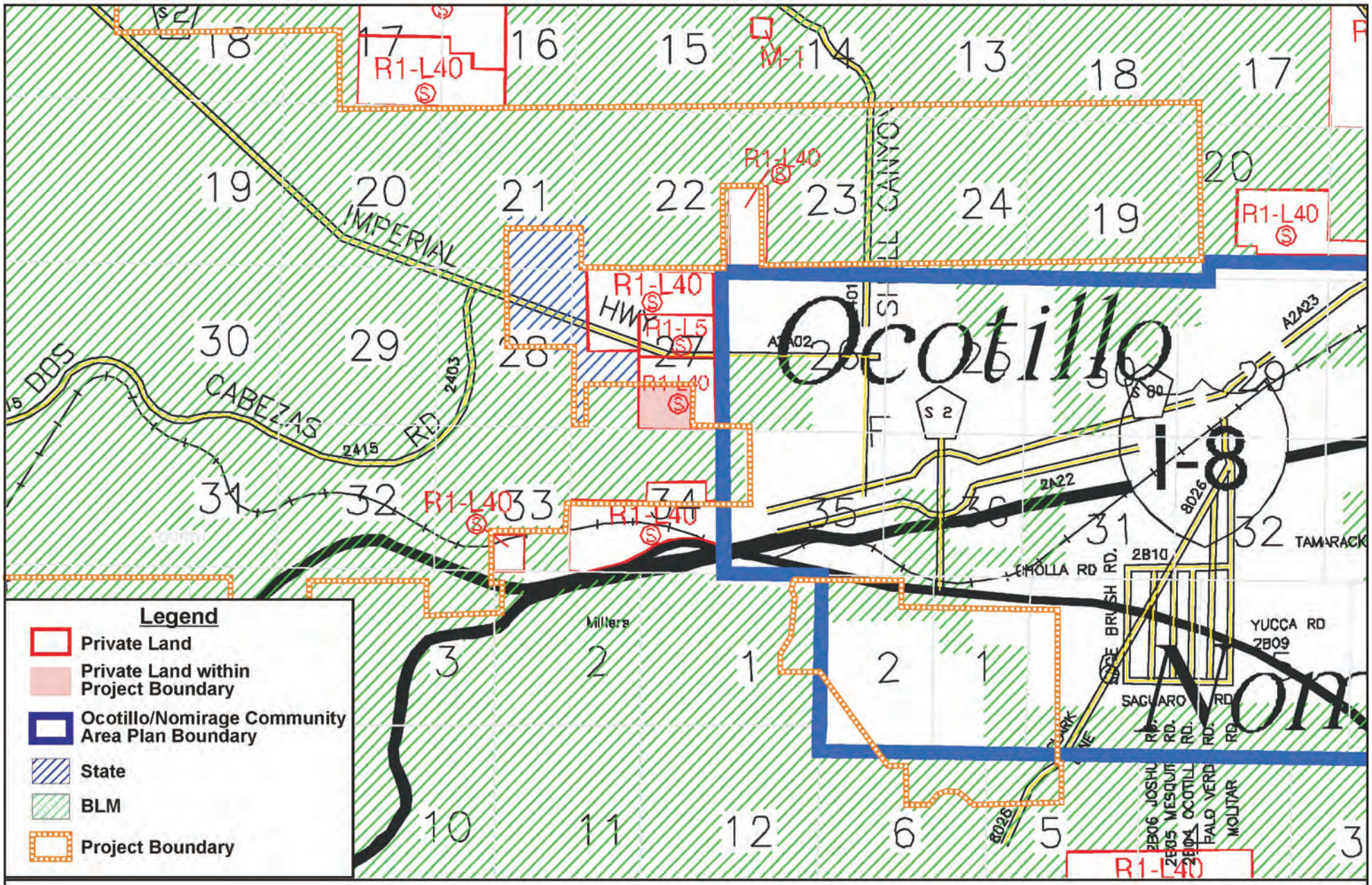
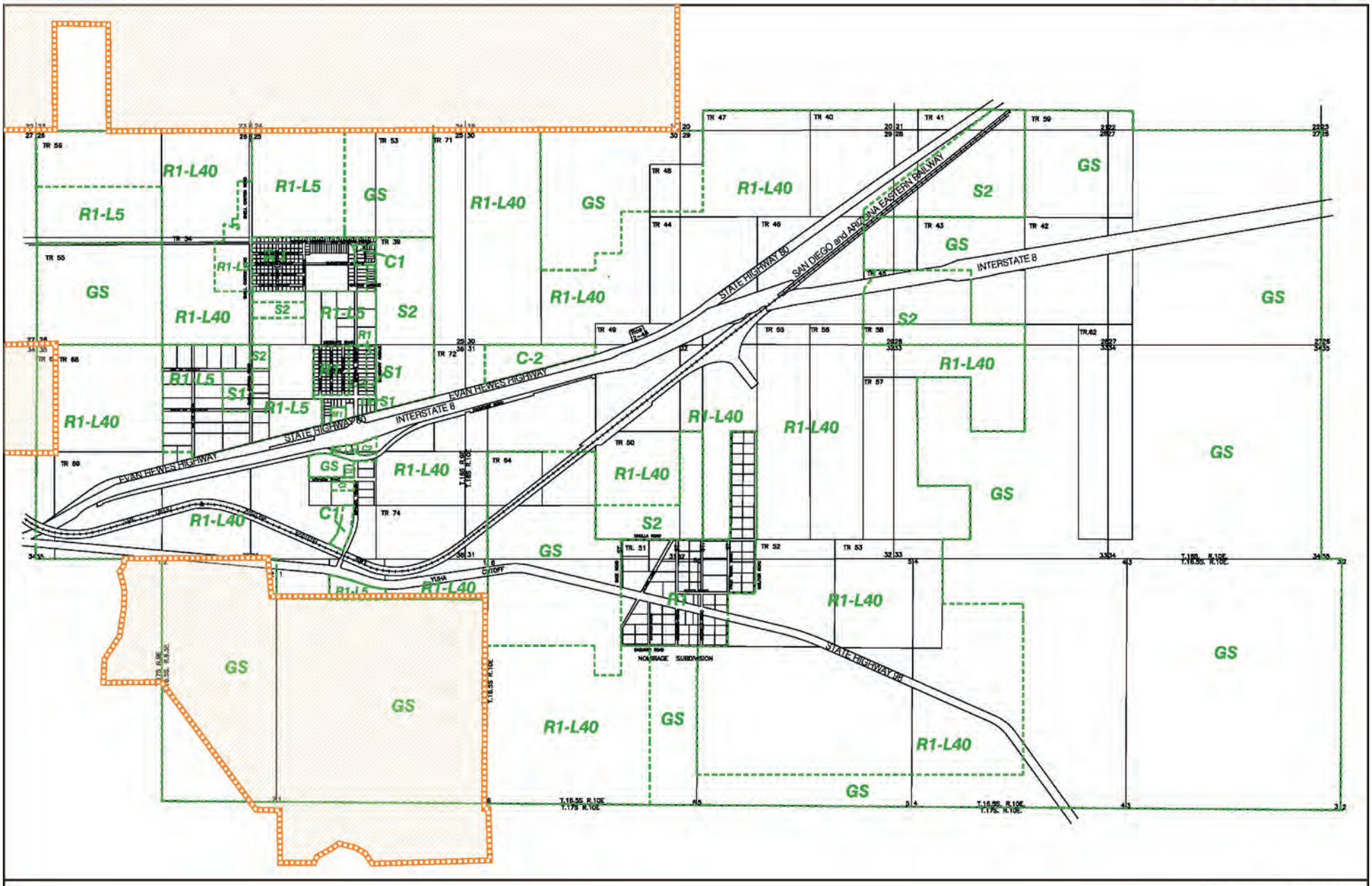


Figure 3.6-3a

Imperial County Zoning

Source: Imperial County, 2008a.



Project Boundary

Source: Imperial County, 2008a.

Figure 3.6-3b

Imperial County Zoning-Ocotillo Area

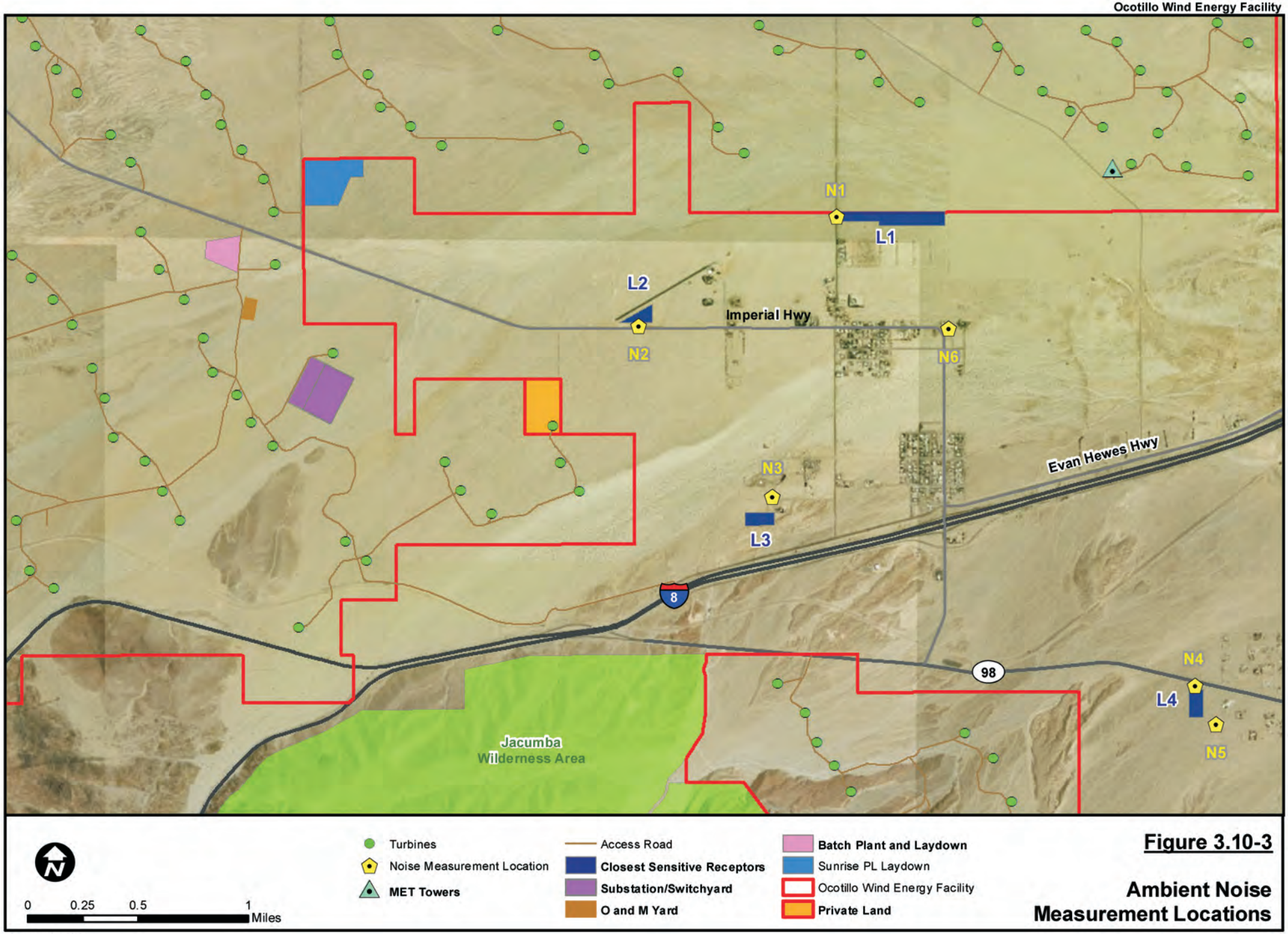
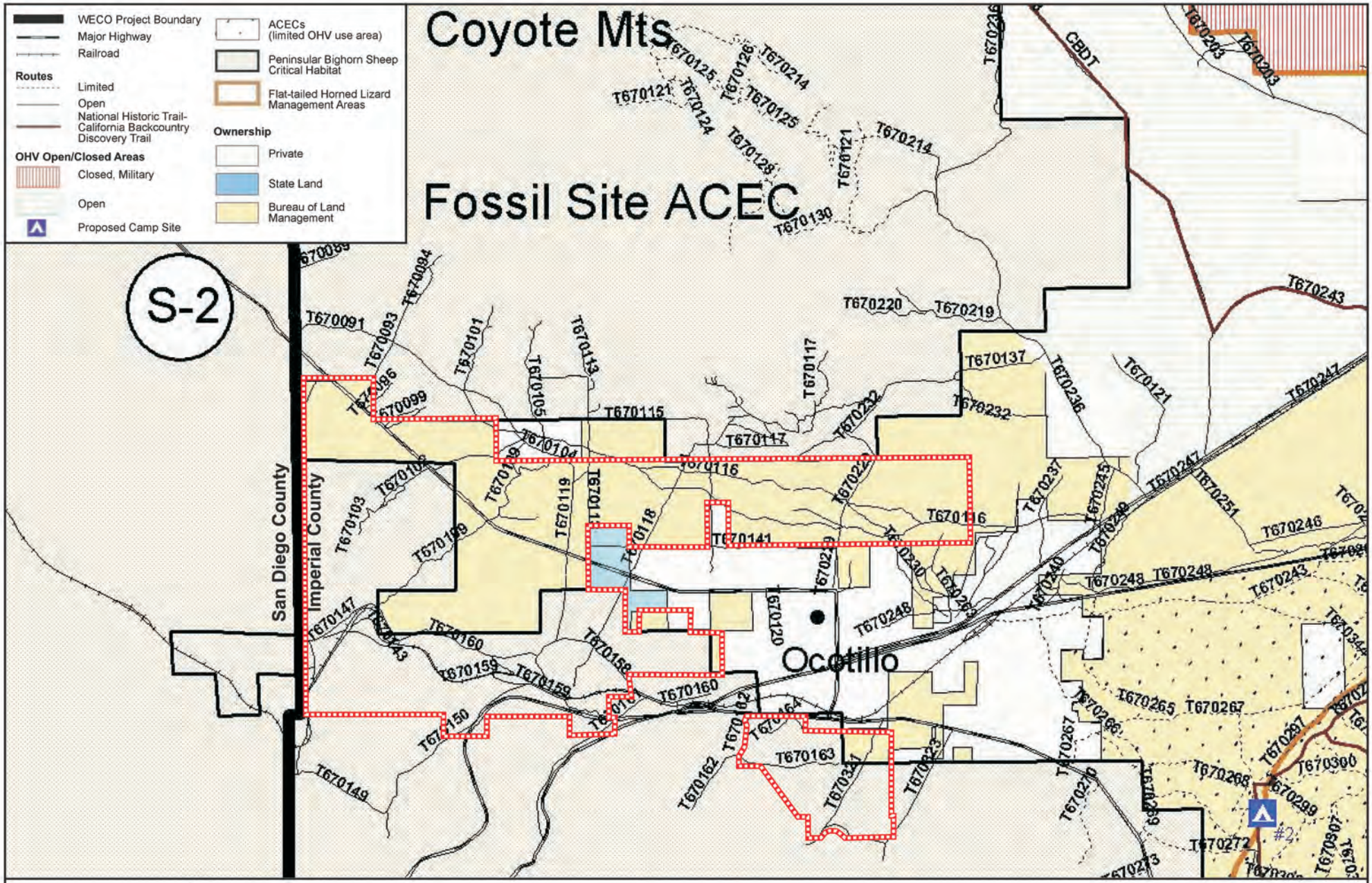


Figure 3.10-3

Ambient Noise Measurement Locations



N

0 1¼ 2½ 5

Scale in Miles

Project Boundary

Source: BLM, 2002.

Figure 3.13-1

Western Colorado Route of Travel Open OHV Routes (WECO)

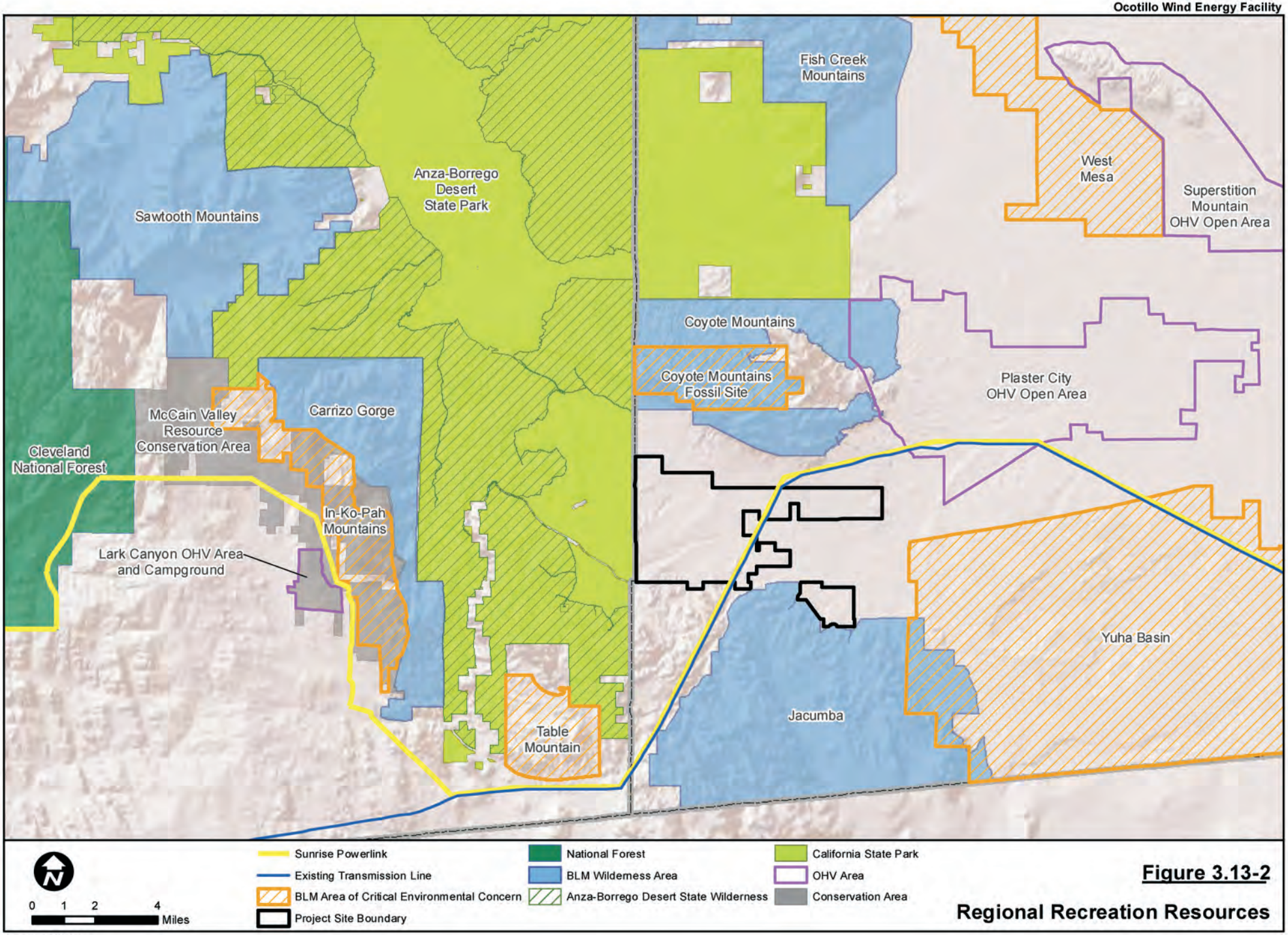


Figure 3.13-2

Regional Recreation Resources

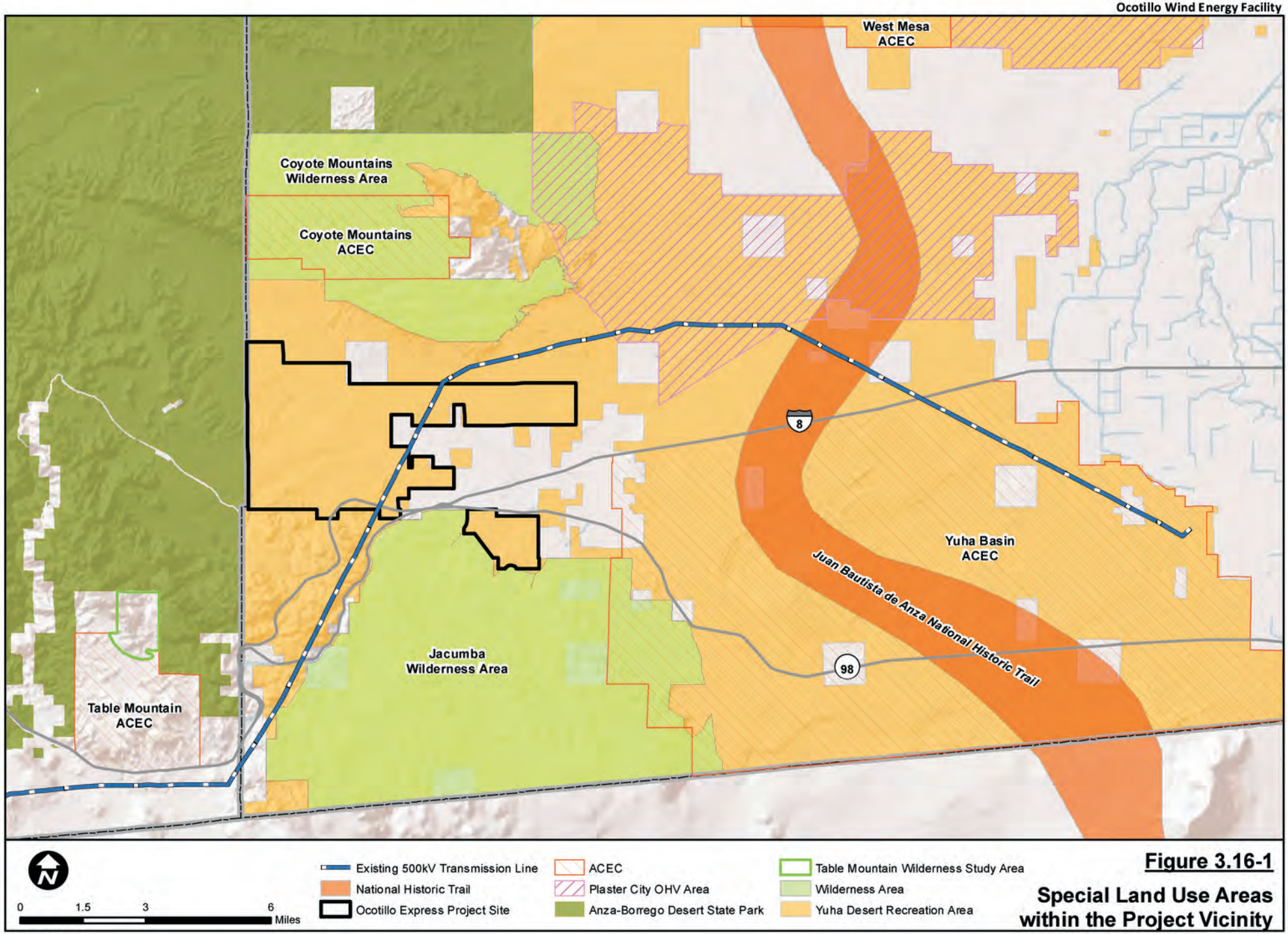


Figure 3.16-1

Special Land Use Areas within the Project Vicinity

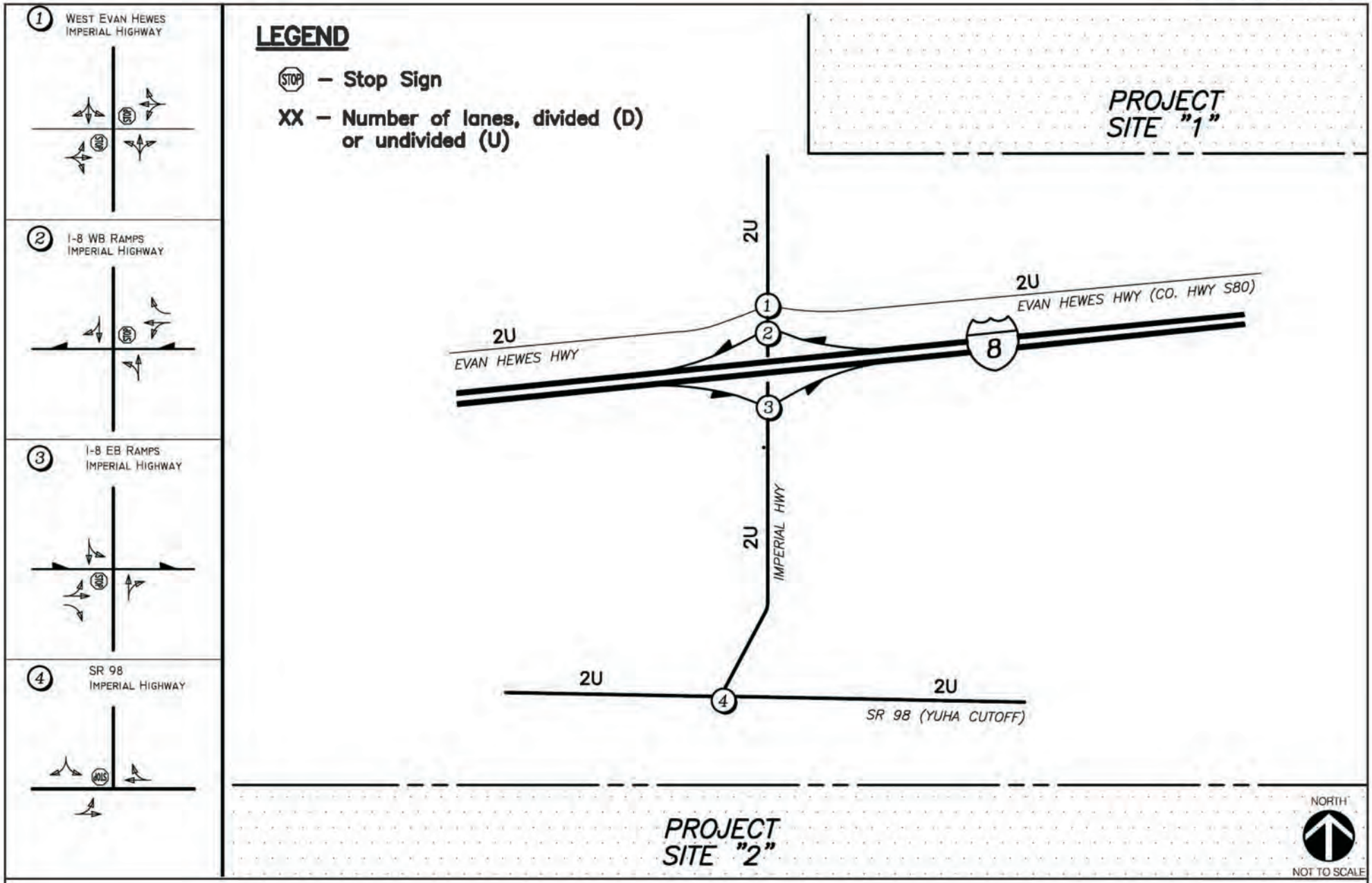
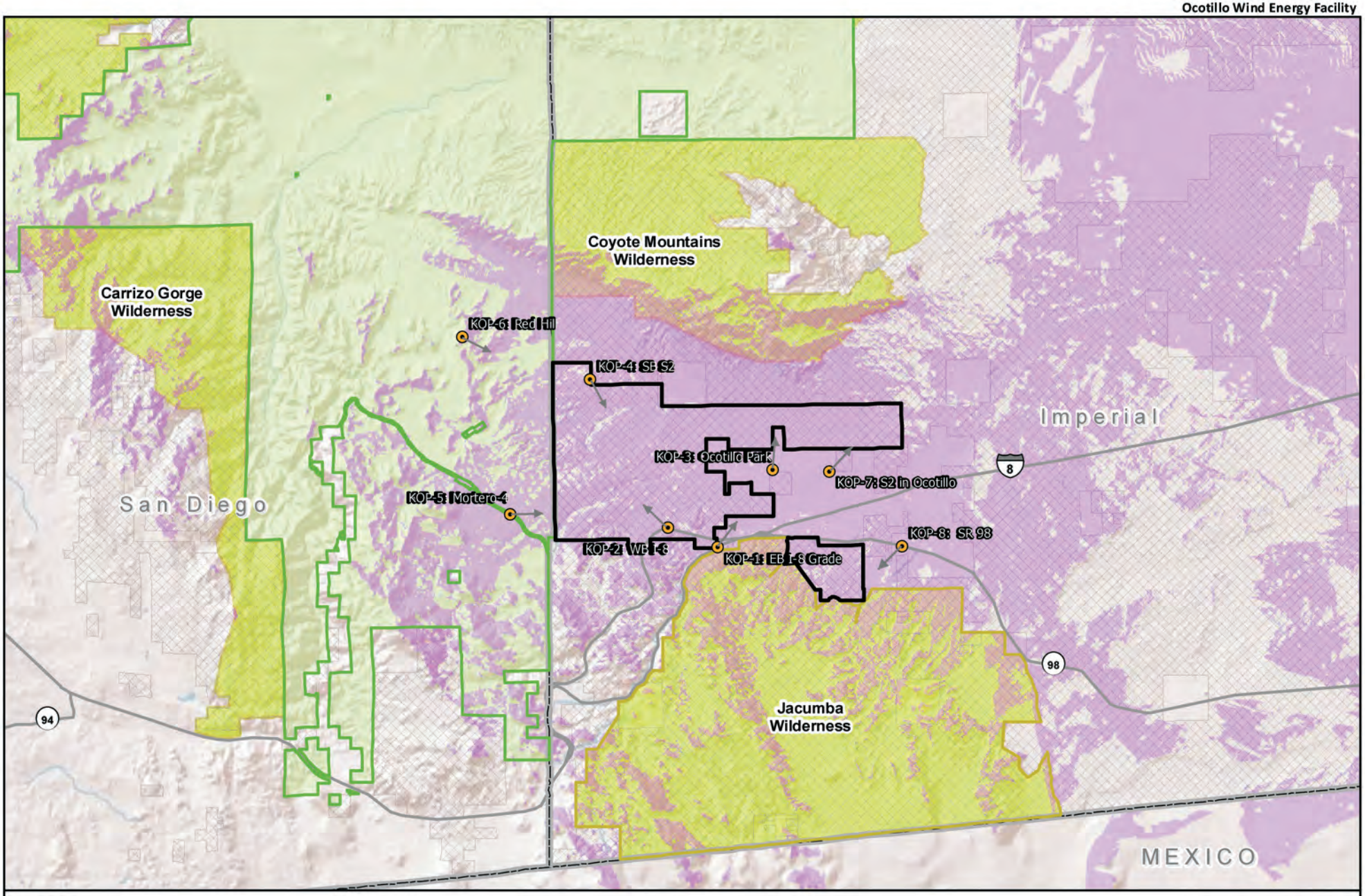


Figure 3.17-1
Existing Conditions Diagram

Source: Linscott Law & Greenspan Engineers, March 17, 2011.



0 1.5 3 6 Miles

BLM
Wilderness Area
Anza-Borrego Desert State Park
Viewpoint
Visible
Ocotillo Wind Energy Facility

Figure 3.19-1

Project Viewshed Map

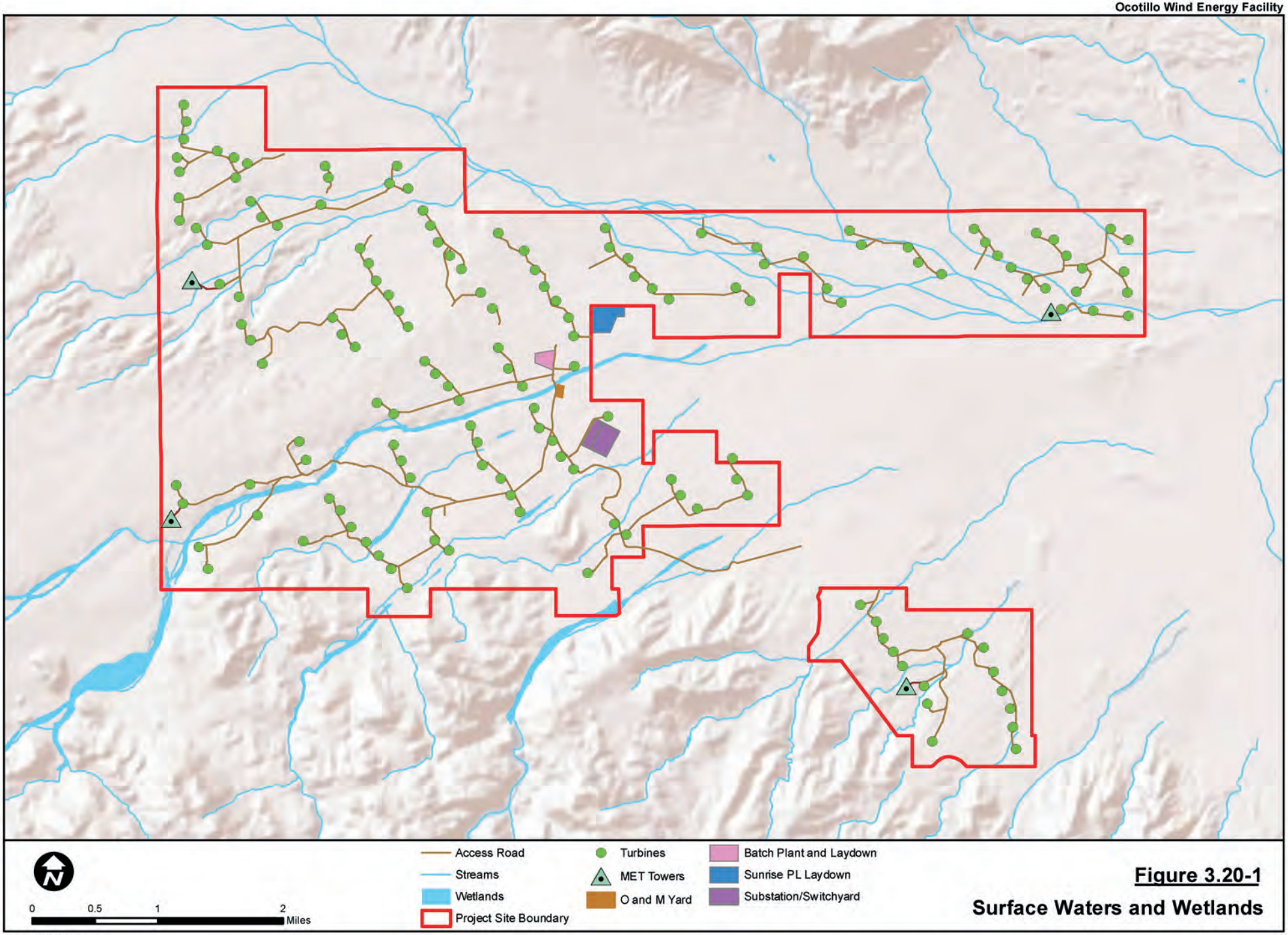


Figure 3.20-1

Surface Waters and Wetlands

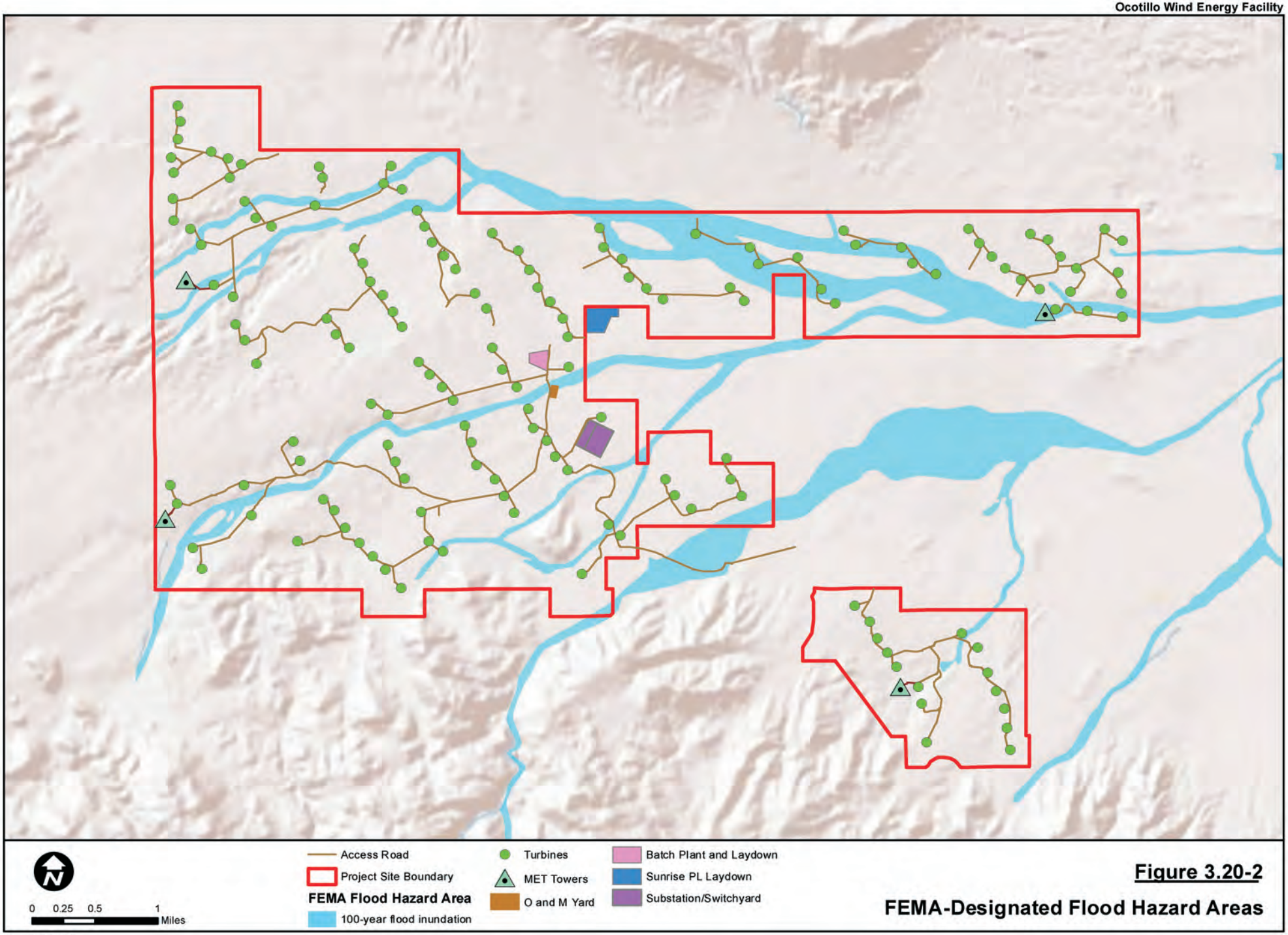


Figure 3.20-2

FEMA-Designated Flood Hazard Areas

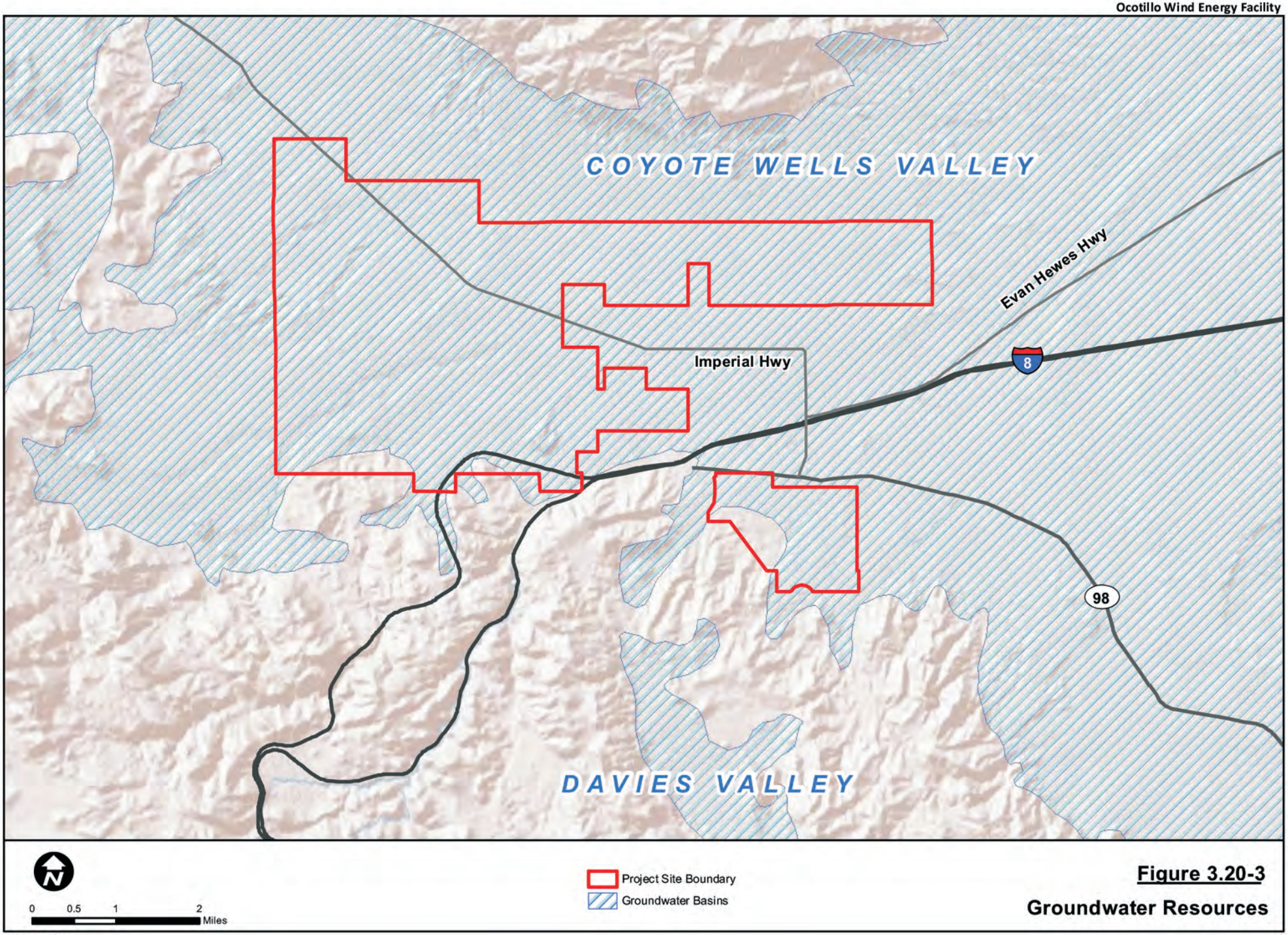


Figure 3.20-3

Groundwater Resources

Notes and Explanation:

The Ocotillo-Coyote Wells Sole Source Aquifer was designated under the authority of Section 1424(e) of the Safe Drinking Water Act, Federal Register Citation- 61 FR 47752, Publication Date- 09/10/96. Please contact US EPA Region IX (Hillary Hecht, 415.972.3530) for assistance in determining place locations with respect to the project review area.

Map Status and Disclaimer:

Please note that this working map is a computer representation compiled by the Environmental Protection Agency (EPA) from sources which have supplied data or information that may have not been verified by the EPA. This data is offered here as a general representation only, and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information. The EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.

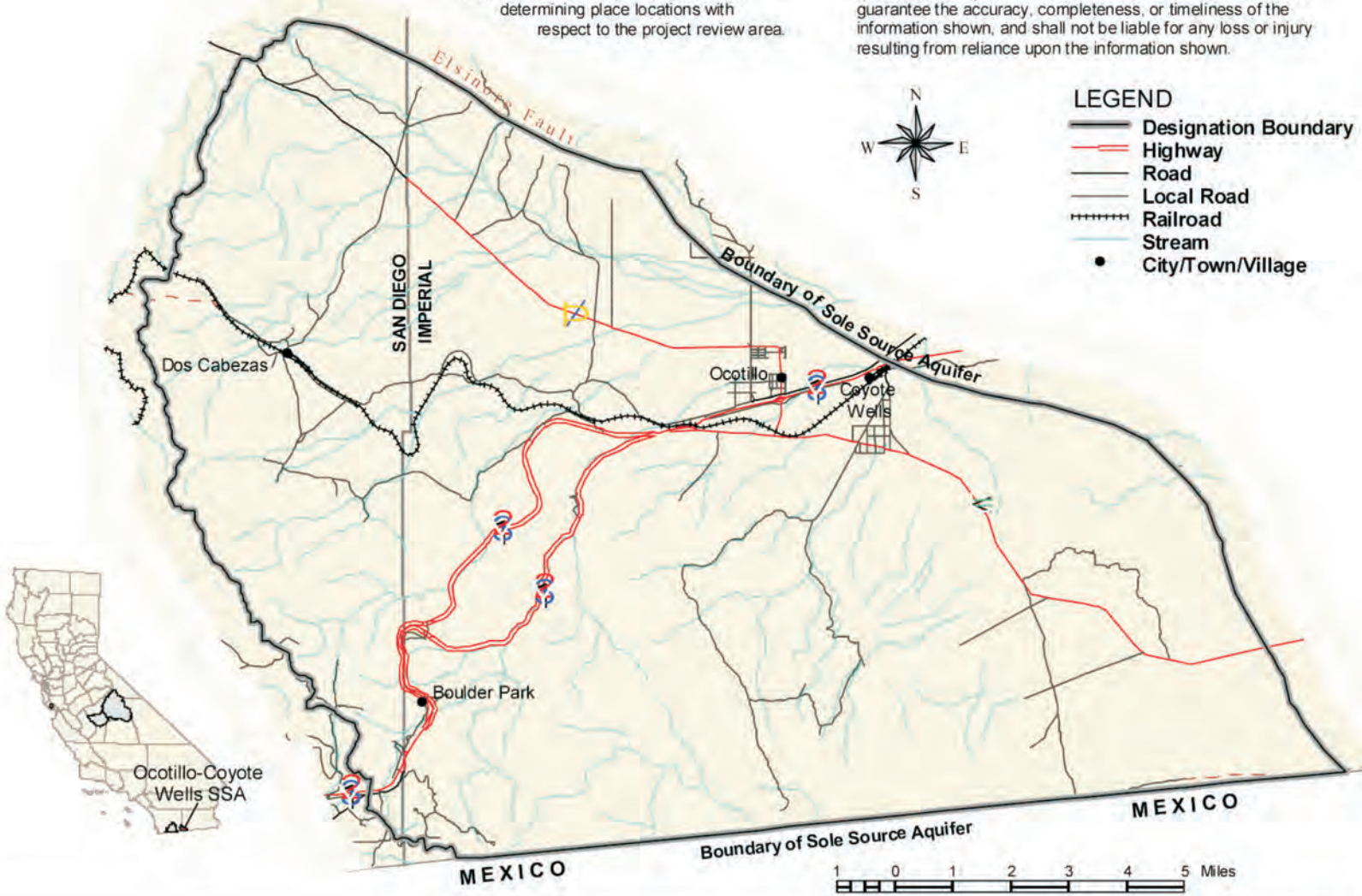


Figure 3.20-4

Ocotillo-Coyote Wells SSA Surface Recharge Area

Source: EPA, 2001.

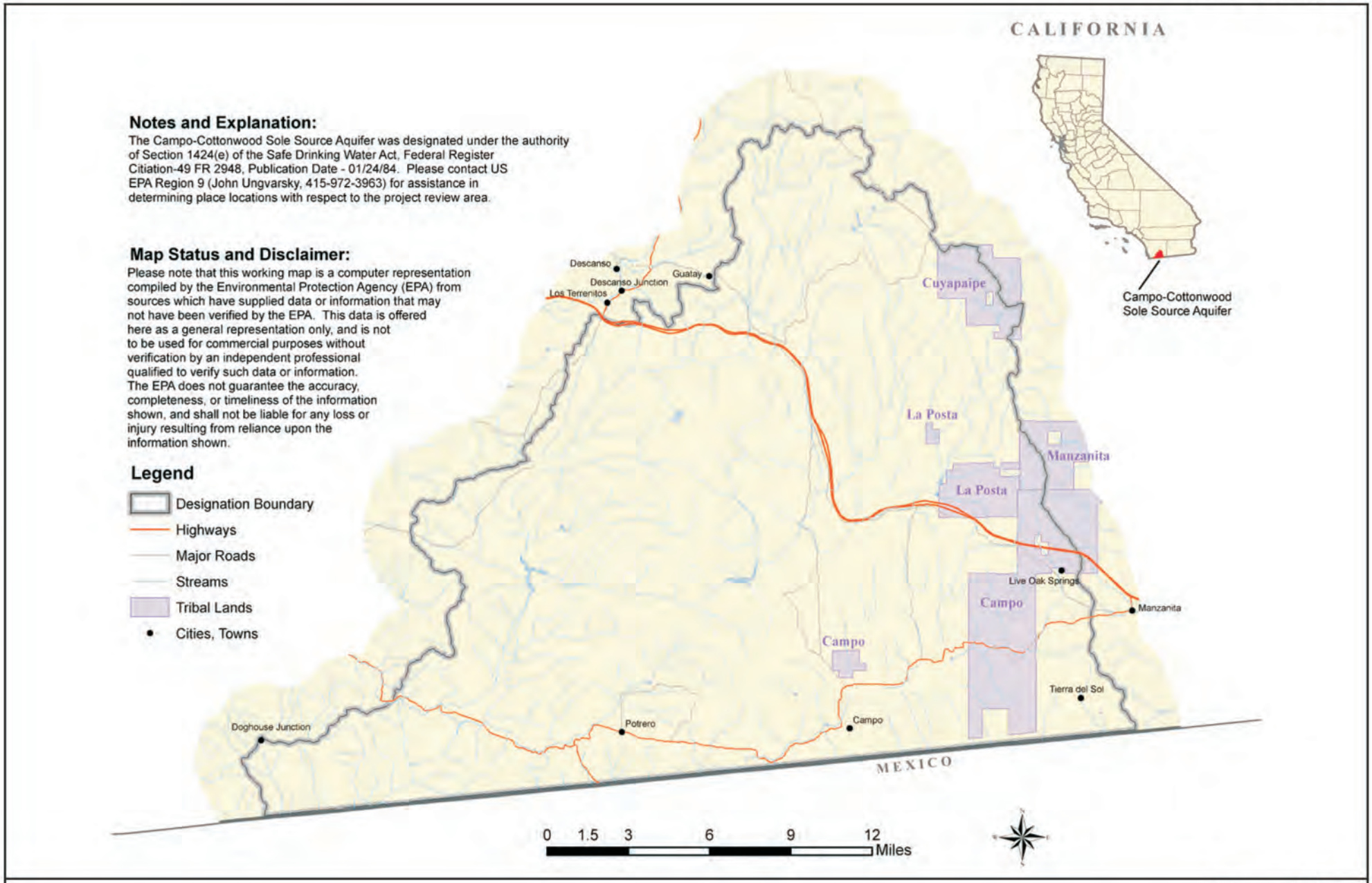
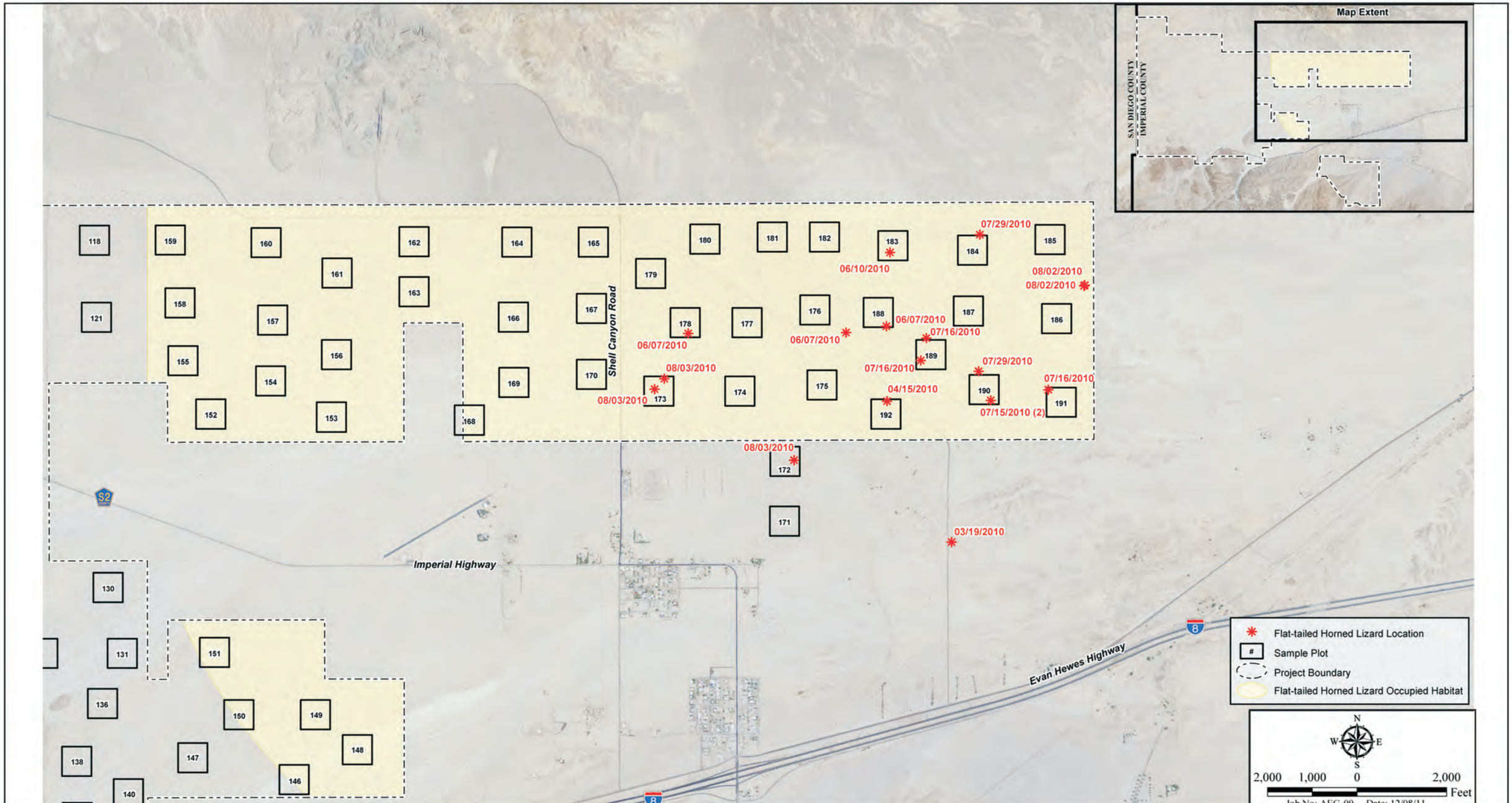


Figure 3.20-5

Campo-Cottonwood SSA Surface Recharge Area

Source: EPA, 2001.



Source: Helix, 2011.

Figure 3.23-1

Flat-tailed Horned Lizard Locations and Occupied Habitat

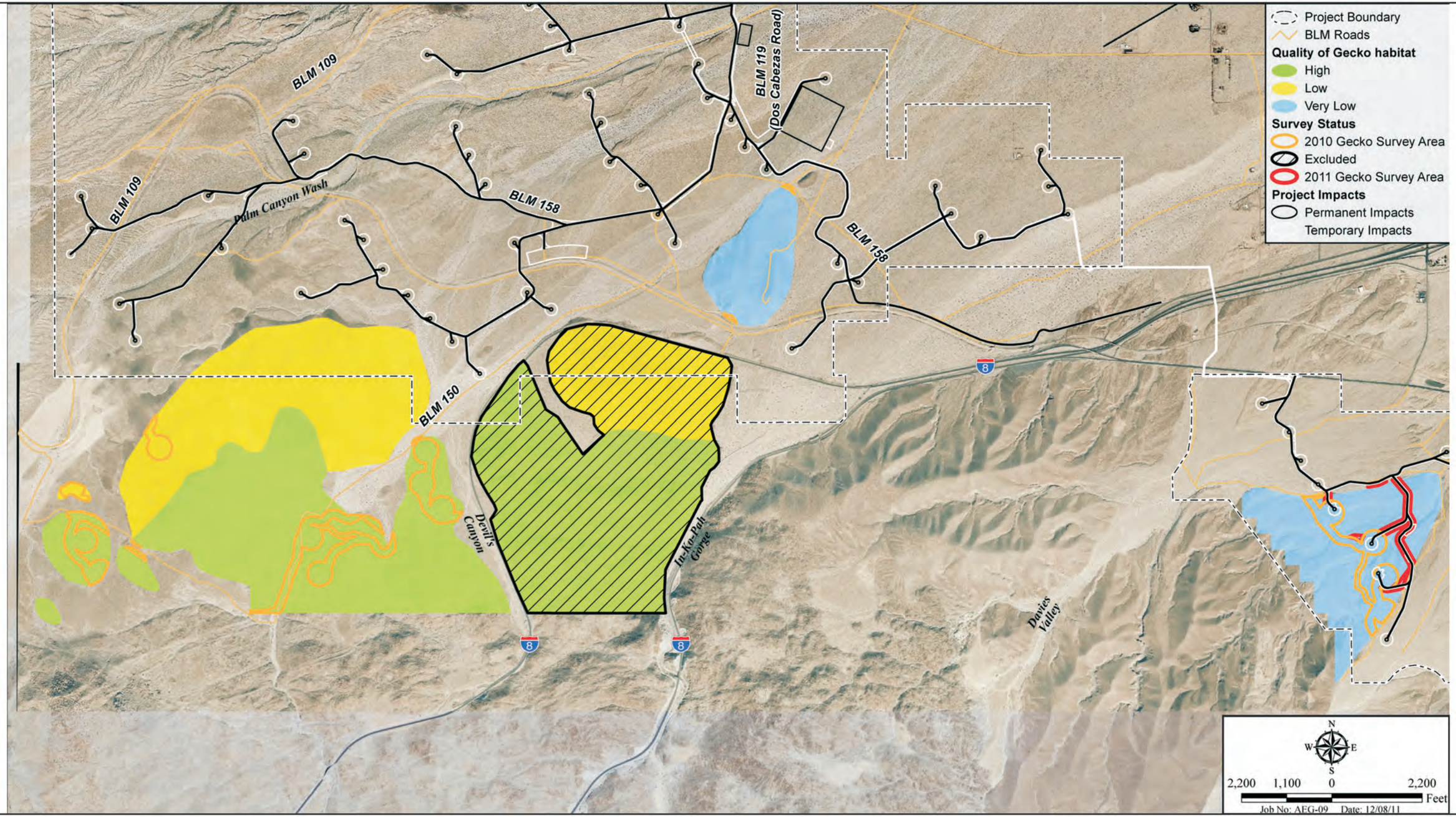


Figure 3.23-2
Barefoot Banded Gecko Survey Areas

Source: Helix, 2011.

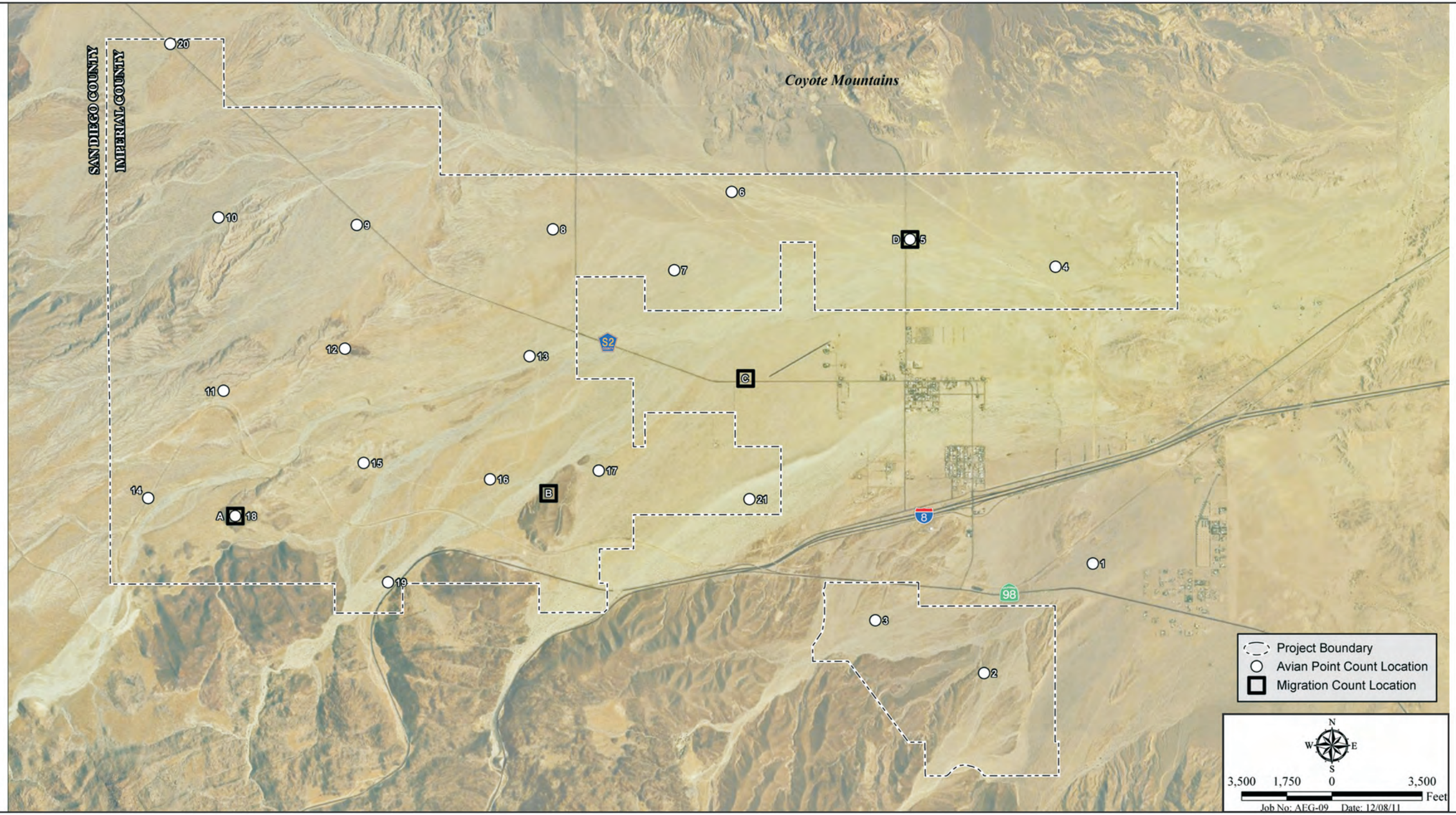


Figure 3.23-3
Migration Count and Avian Locations

Source: Helix, 2011.

Source: Helix, 2011.

Figure 3.23-4
Burrowing Owl Survey Areas and Locations

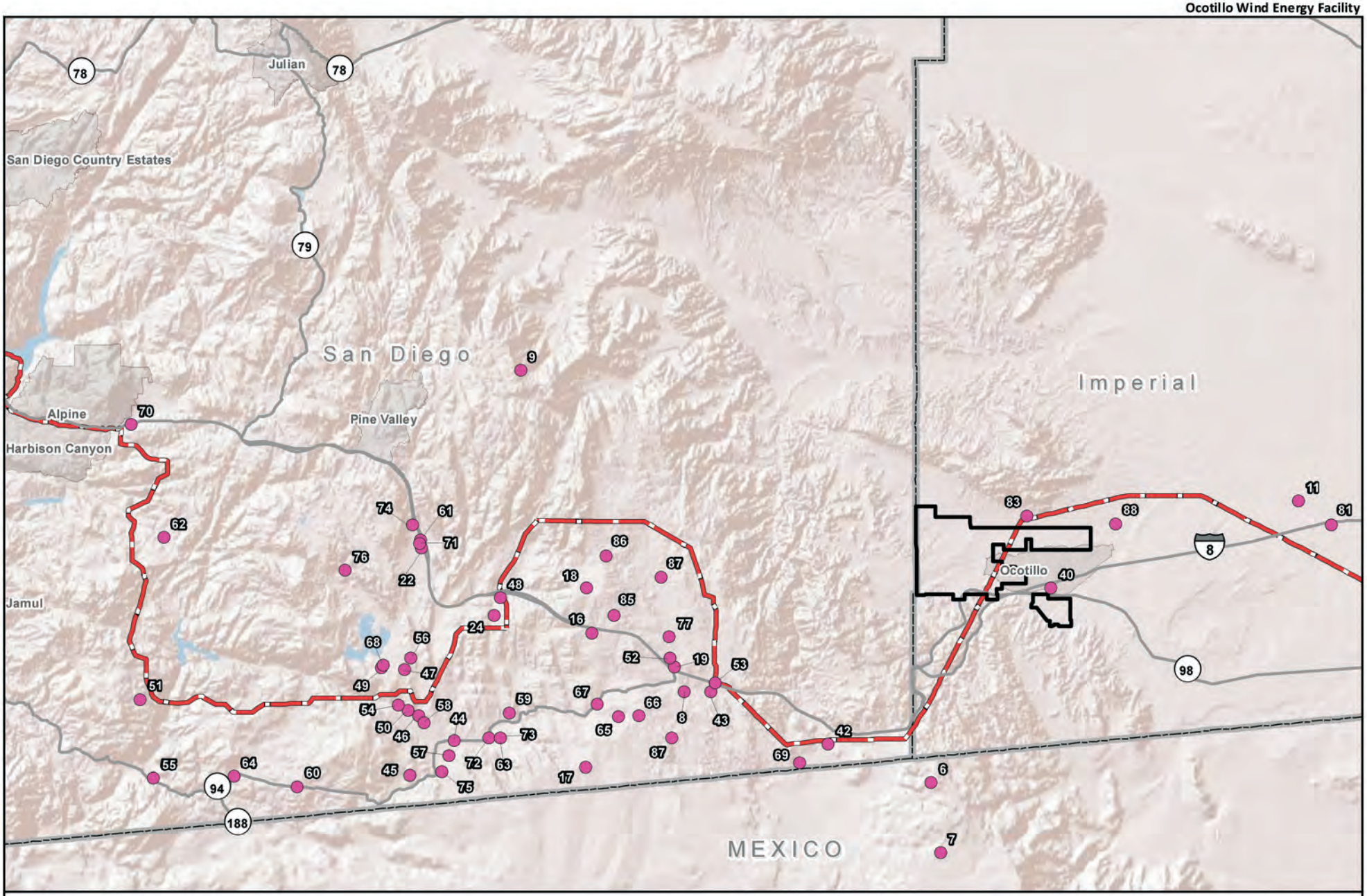
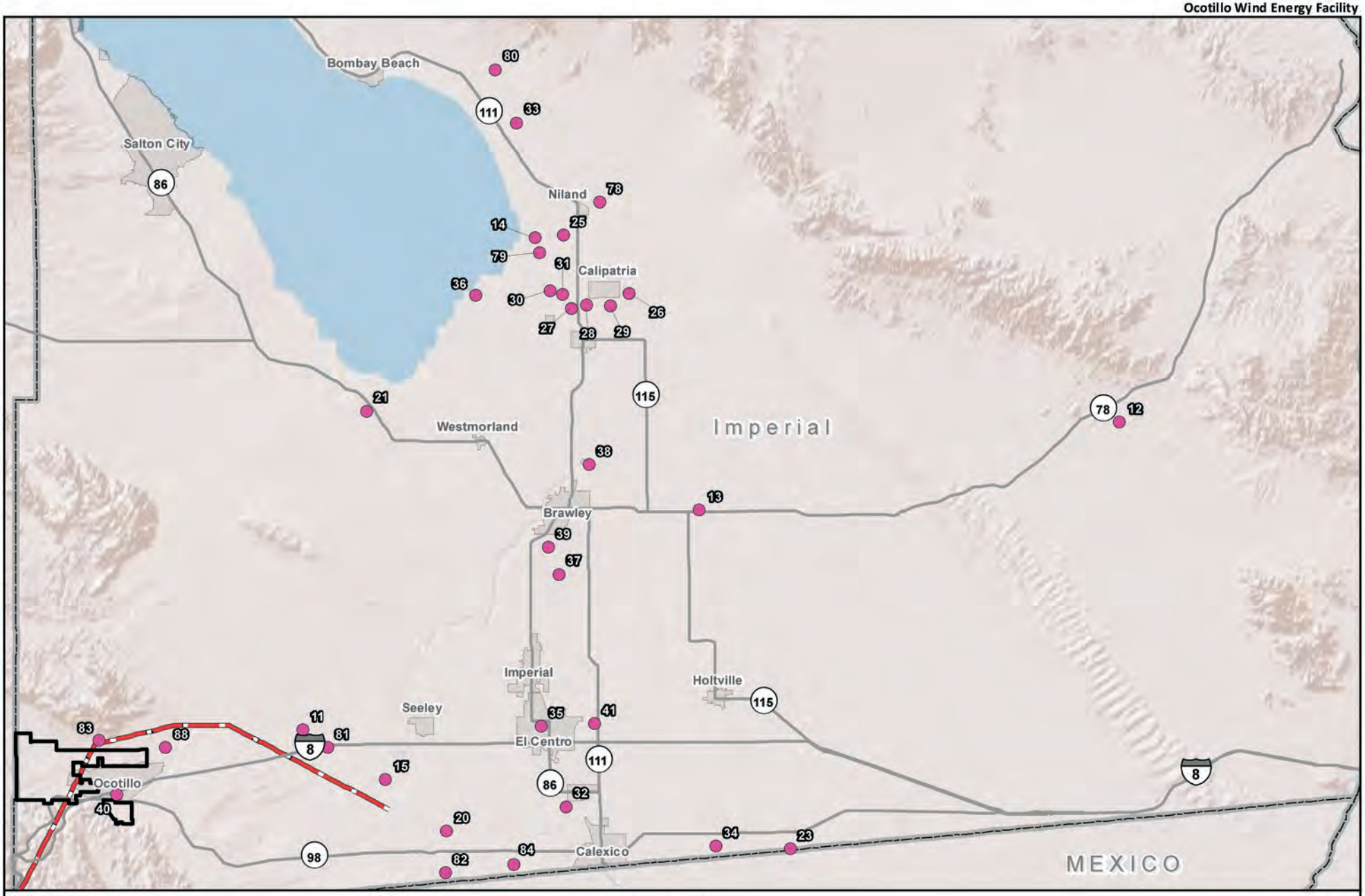


Figure 4.1-1a

Cumulative Projects



Cumulative Projects
Sunrise Powerlink
Ocotillo Wind Energy Facility

Figure 4.1-1b

Cumulative Projects

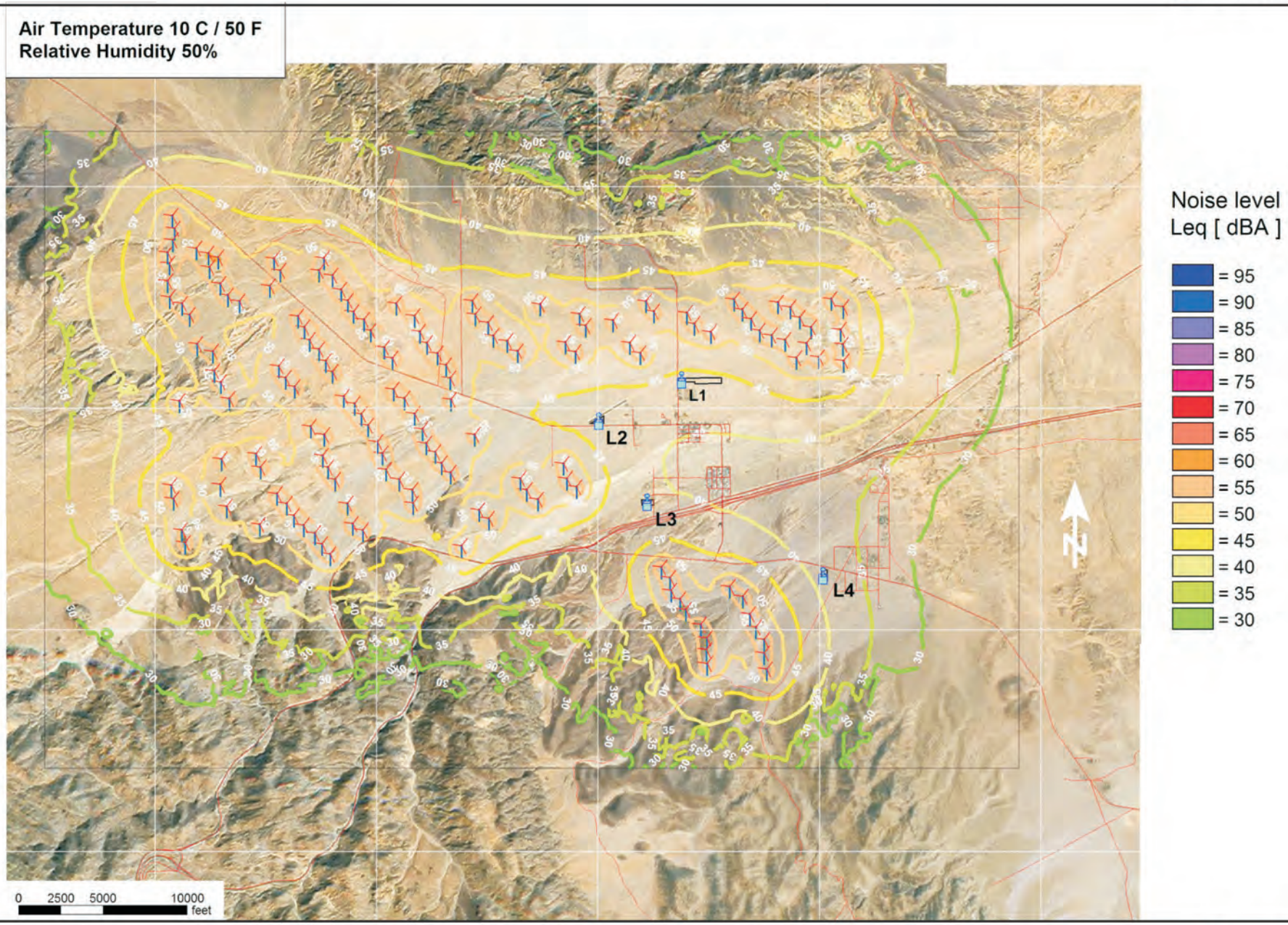


Figure 4.9-1

Alternative 1
Noise Contour Map Scenario 1

Source: Navcon, 2011.

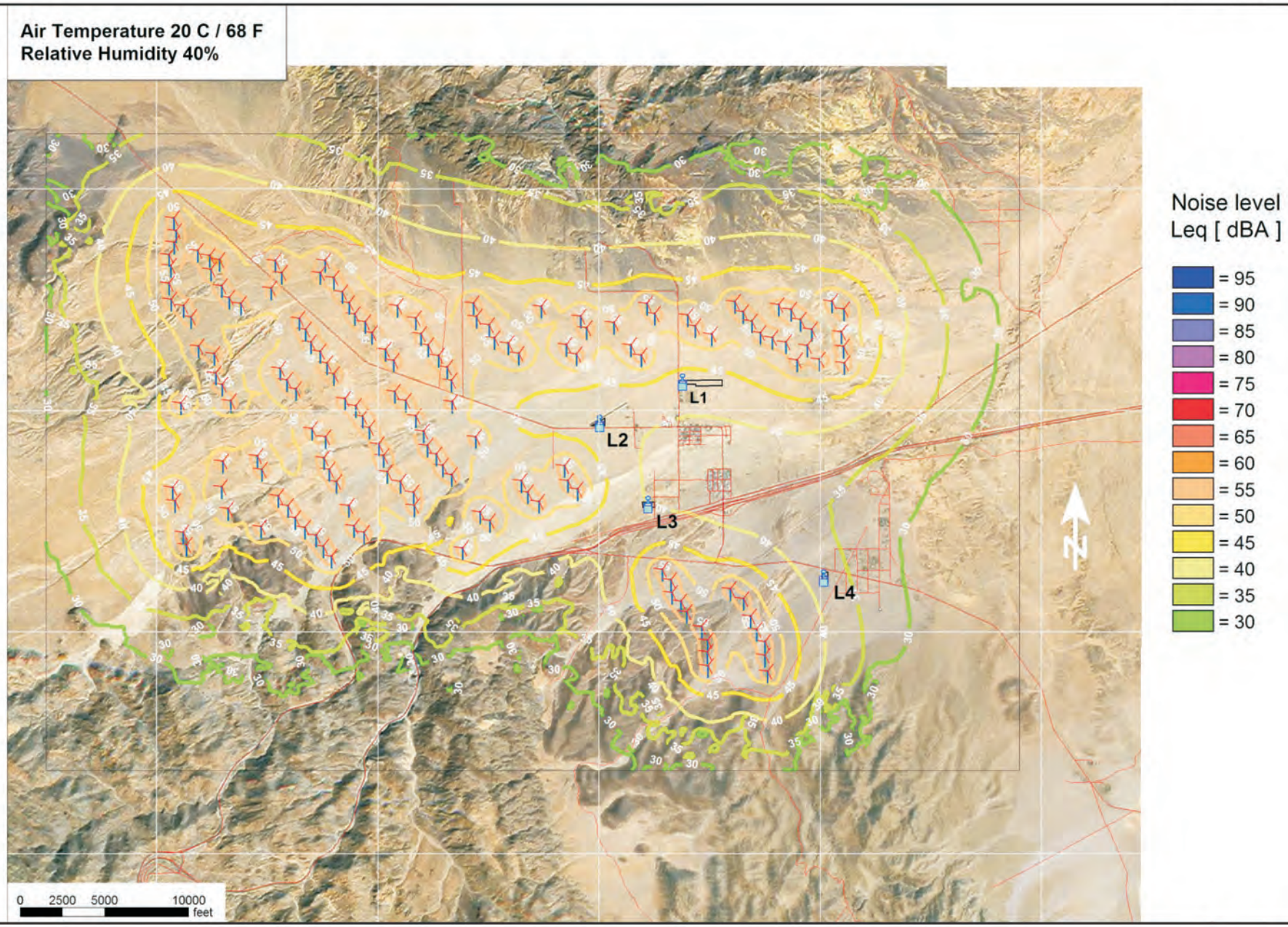


Figure 4.9-2

Alternative 1
Noise Contour Map Scenario 2

Source: Navcon, 2011.

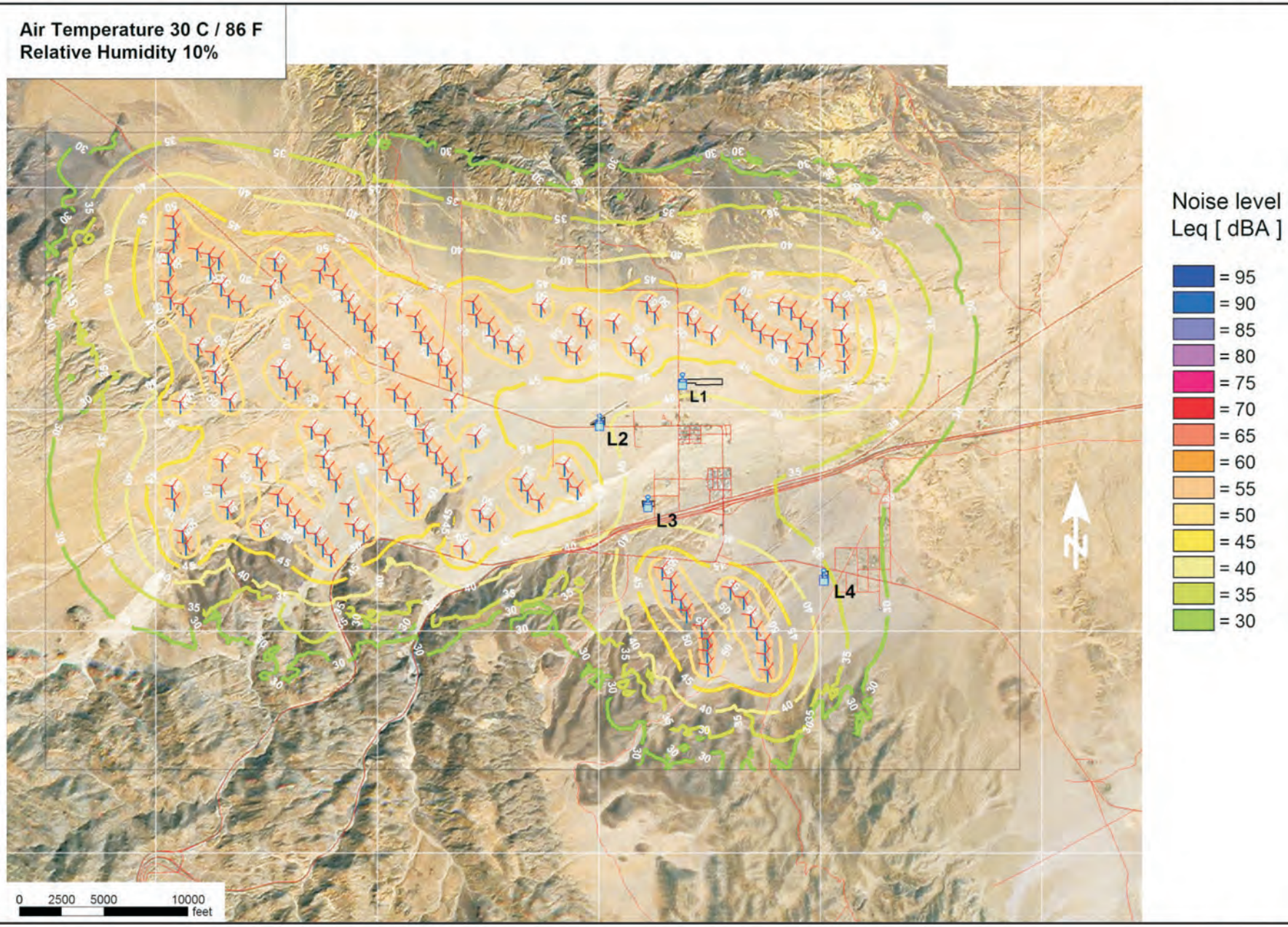


Figure 4.9-3

Alternative 1
Noise Contour Map Scenario 3

Source: Navcon, 2011.

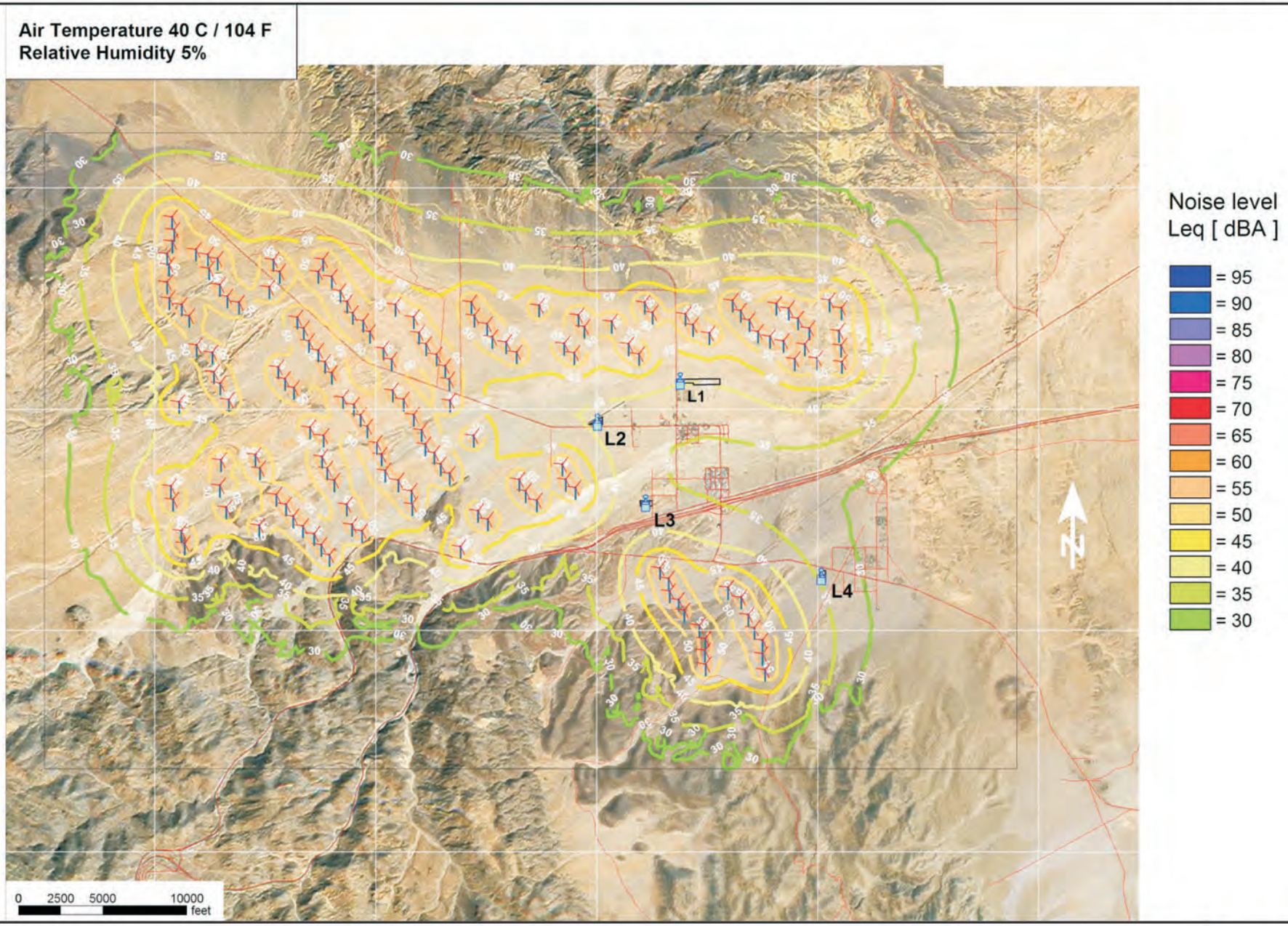


Figure 4.9-4

Alternative 1
Noise Contour Map Scenario 4

Source: Navcon, 2011.

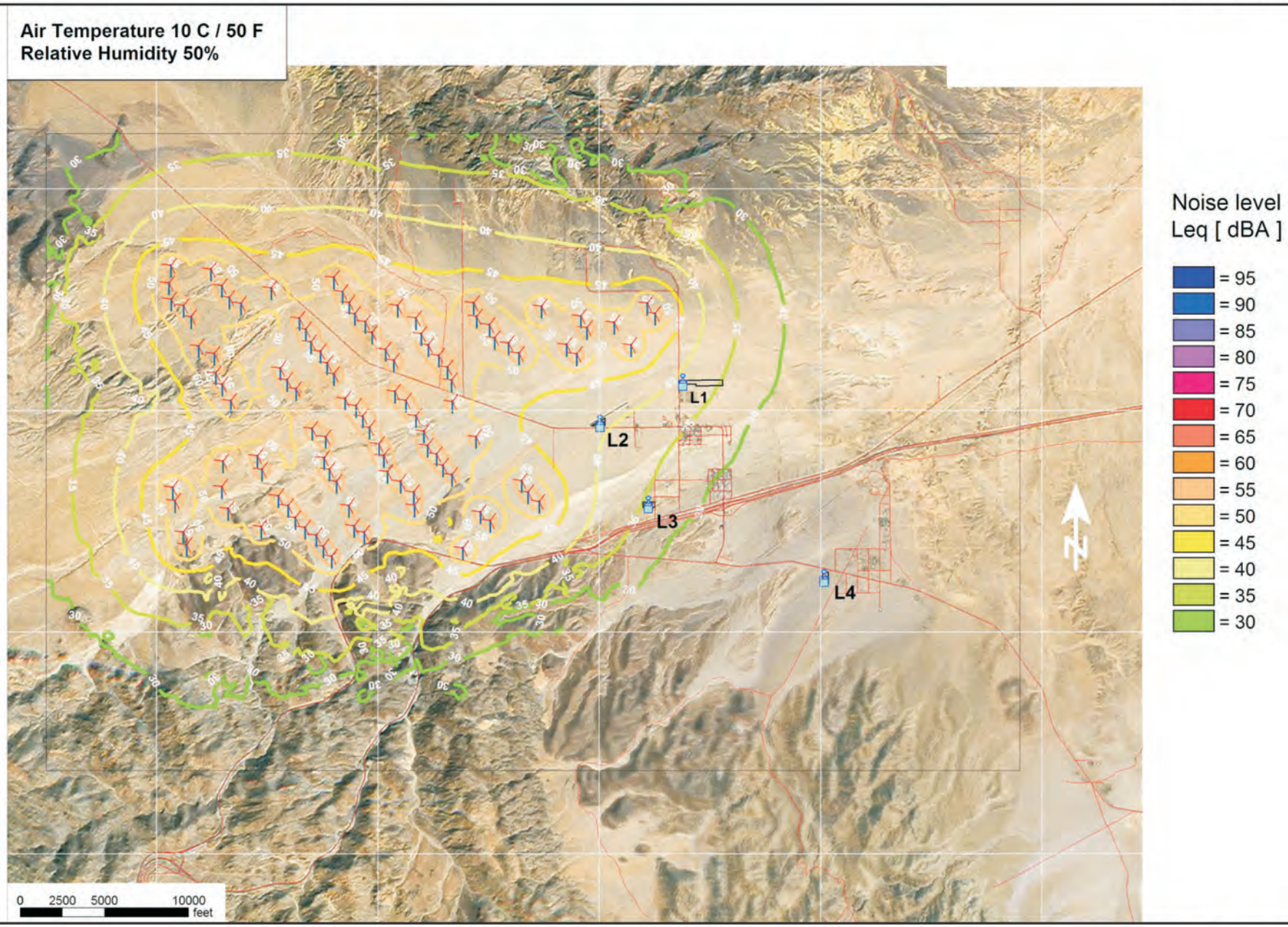
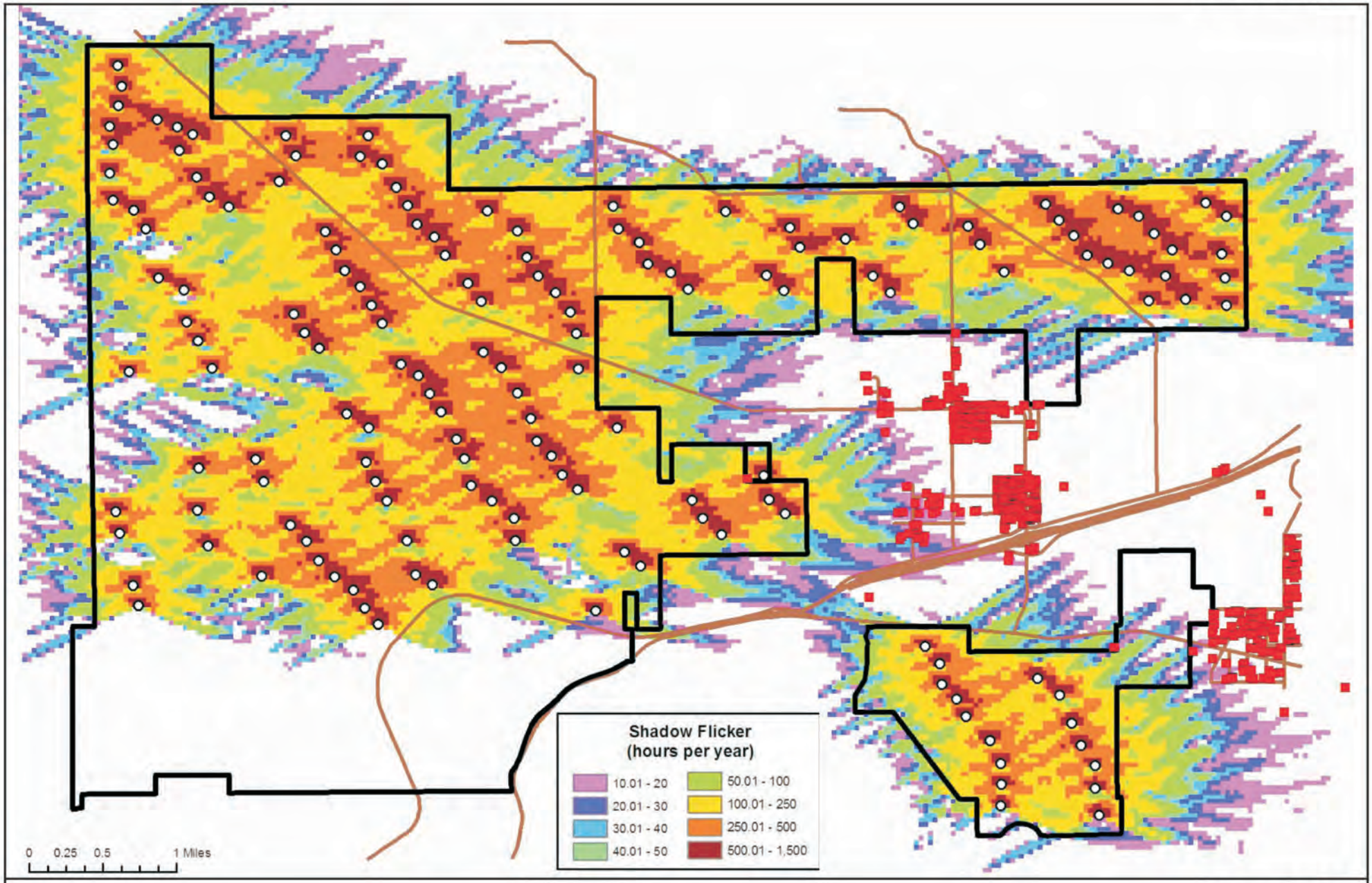


Figure 4.9-5

Alternative 3
Noise Contour Map Scenario 1

Source: Navcon, 2011.



Legend

- Wind Turbine
- Residence
- Local Road
- Project Area

Source: Draft Plan of Development prepared by Pattern Energy, March 2011.

Figure 4.11-1

Shadow Flicker Analysis for the Ocotillo Wind Energy Facility

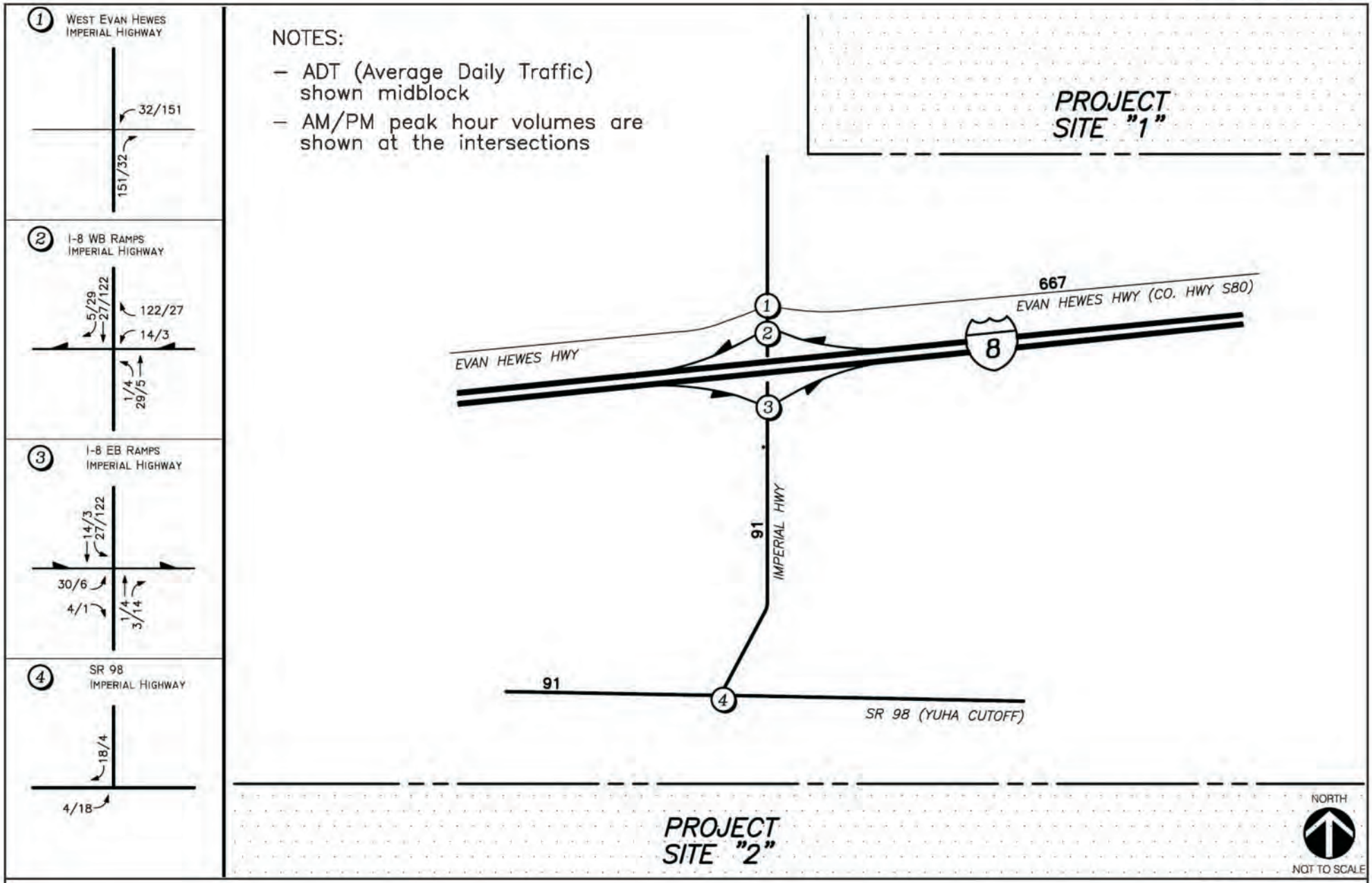
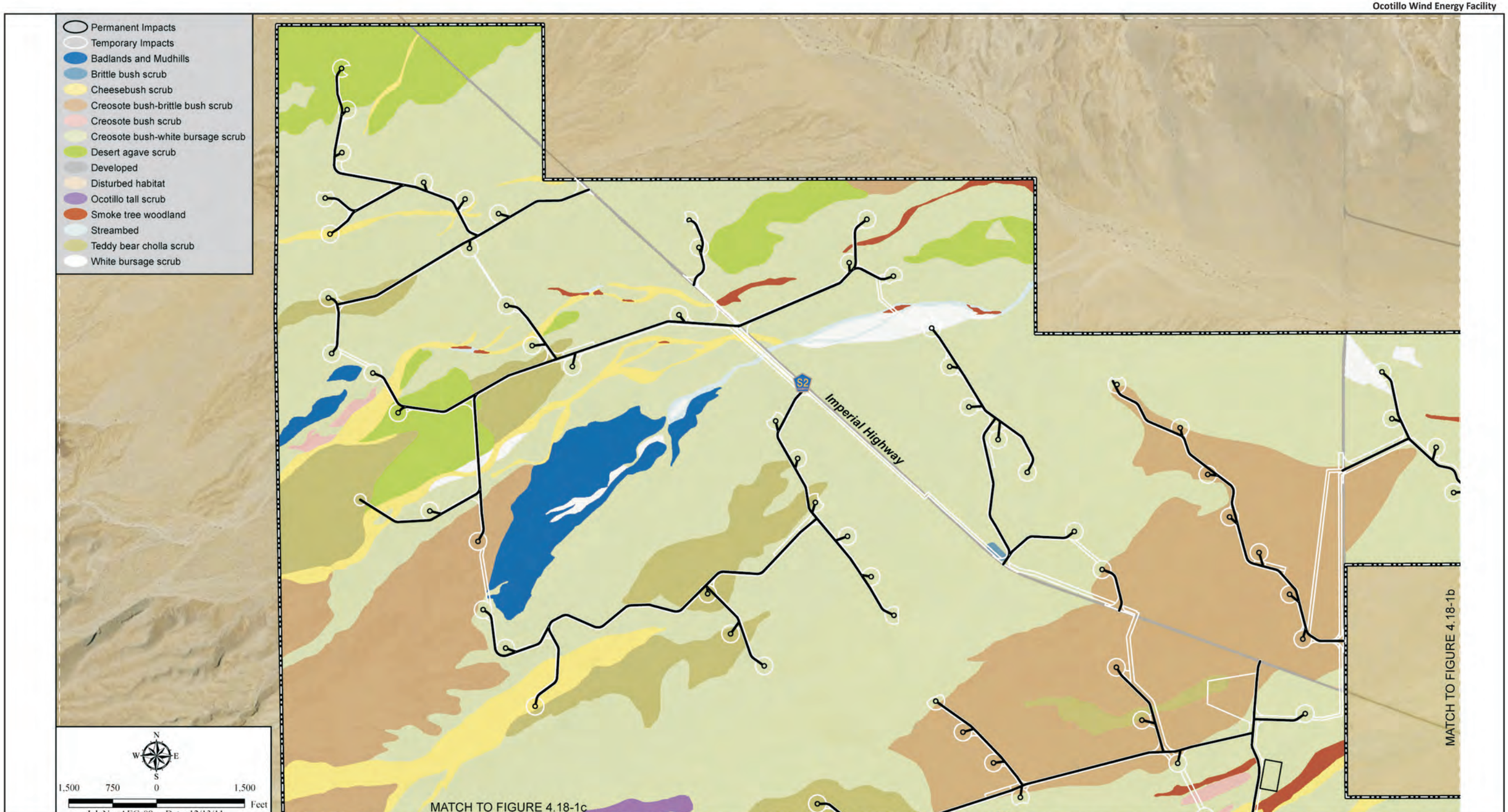


Figure 4.16-1

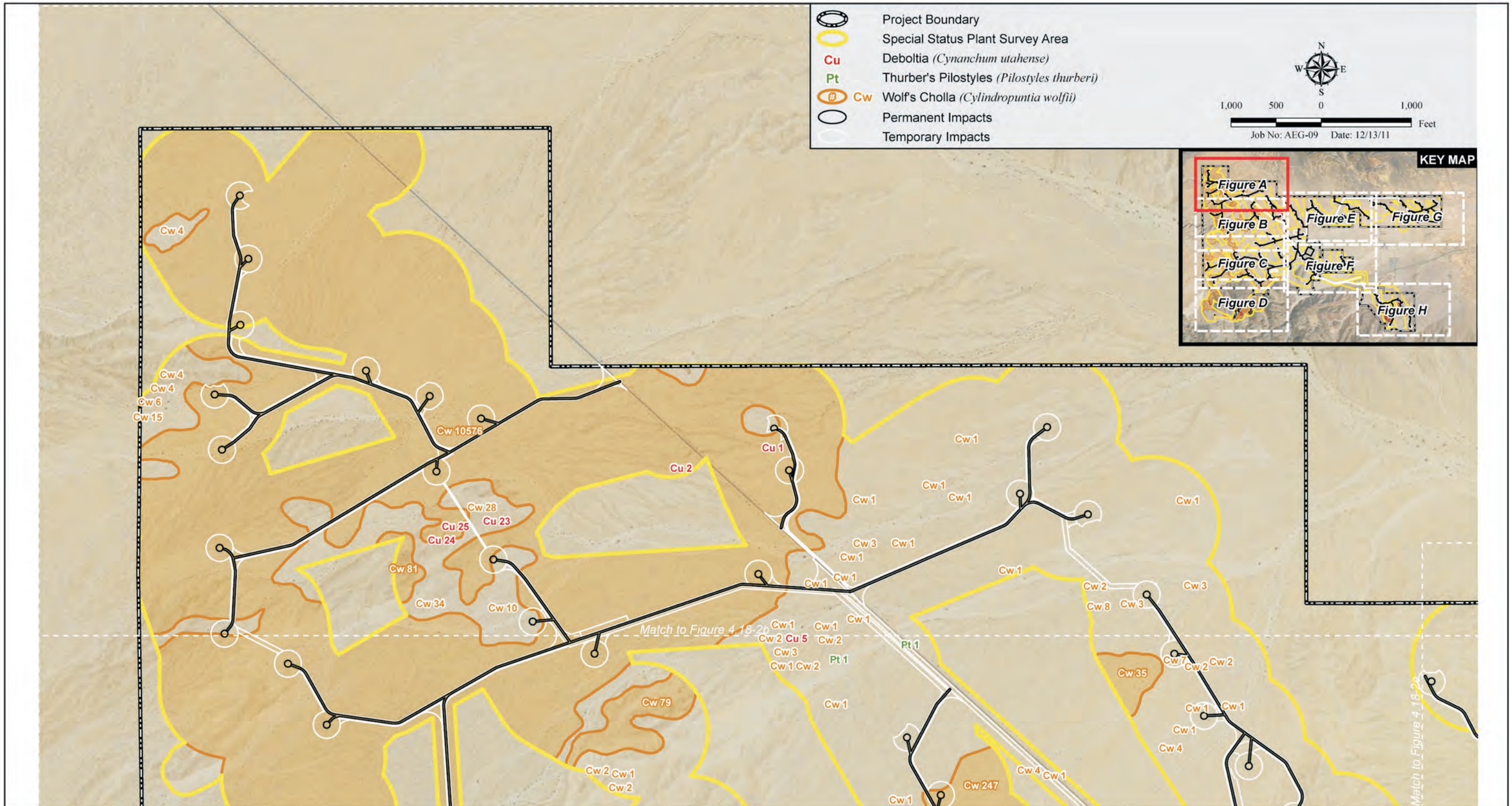
Total Construction Traffic Volumes AM/PM Peak Hours & ADT

Source: Linscott Law & Greenspan Engineers, March 17, 2011.



Source: Helix, 2011.

Figure 4.17-1
Vegetation Communities/Impacts-(Representative Figure)



Source: Helix, 2011.

Figure 4.17-2

Special Status Plant Species/Impacts (Representative Figure)

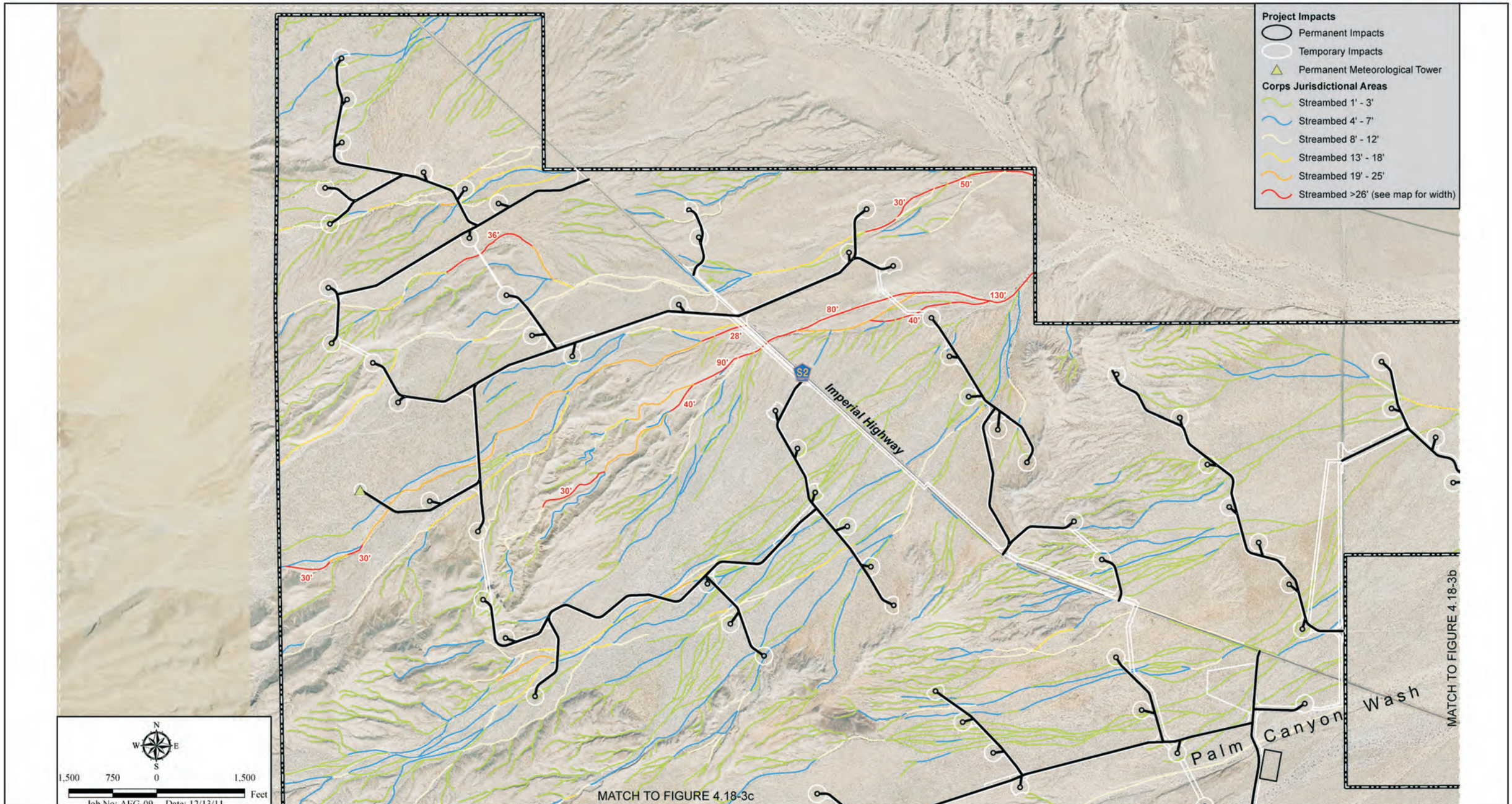


Figure 4.17-3
Corps Jurisdictional Delineation/Impacts (Representative Figure)

Source: Helix, 2011.

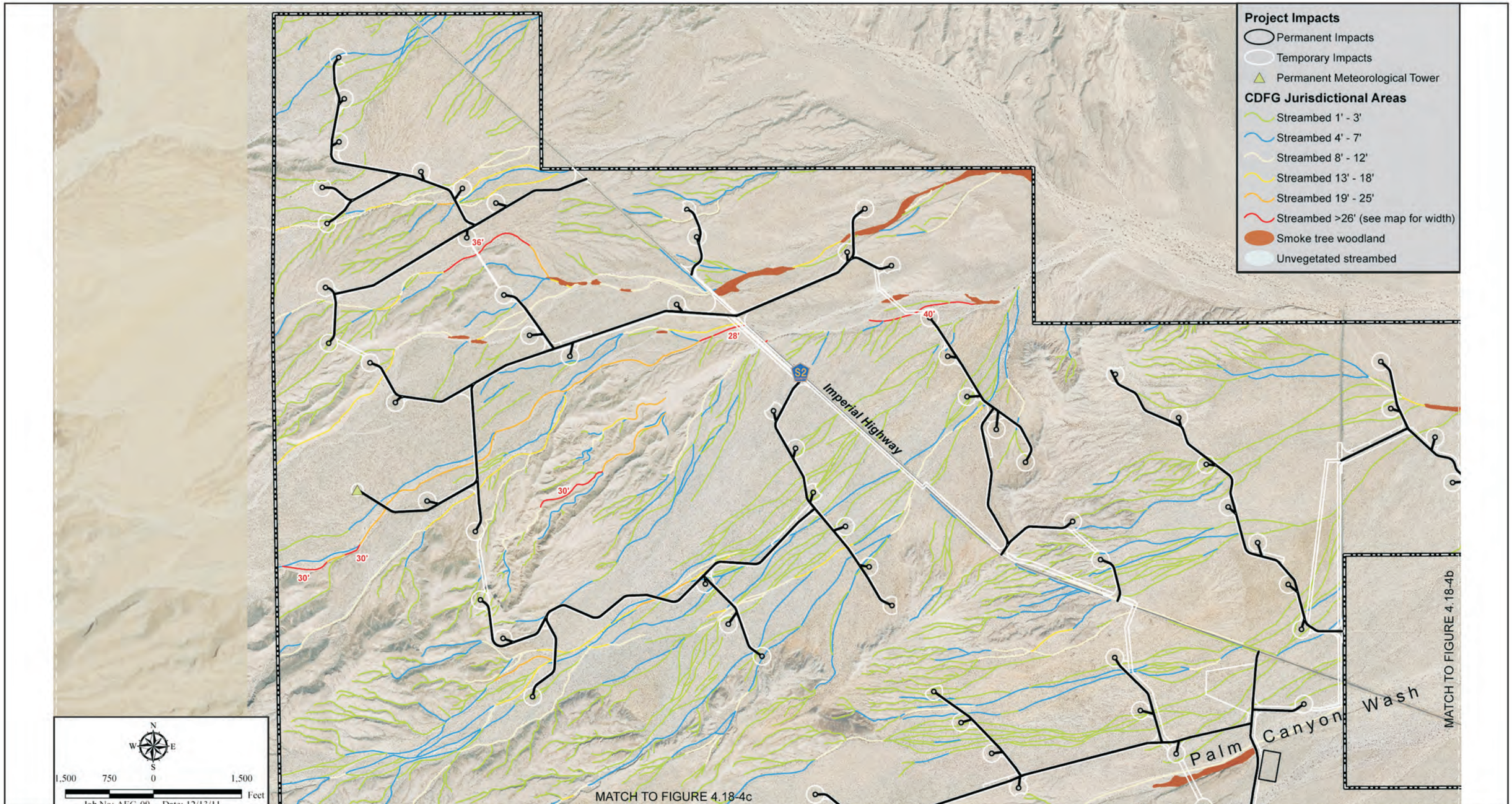
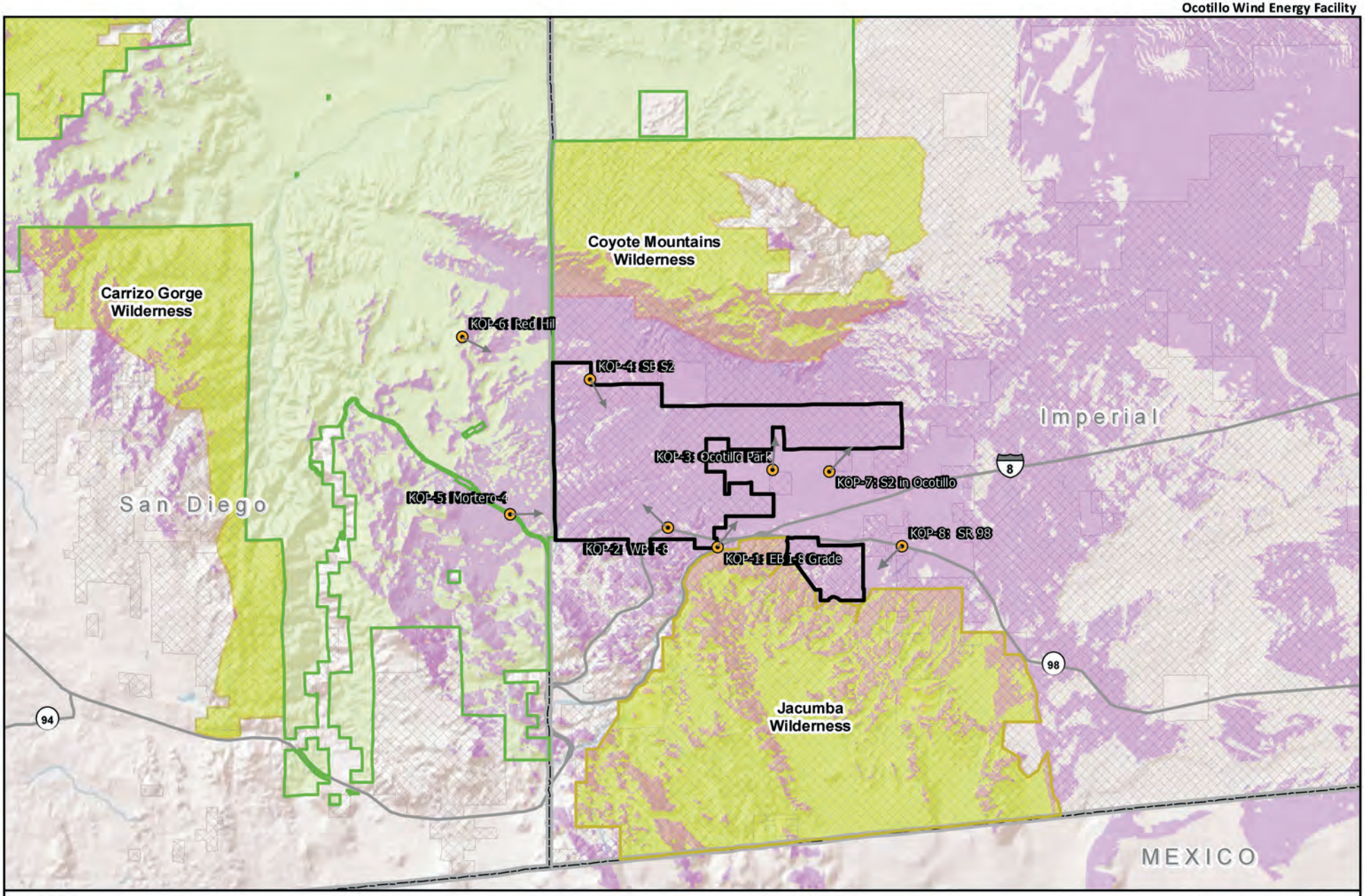


Figure 4.17-4

California Department of Fish and Game Jurisdictional Delineation/Impacts (Representative Figure)

Source: Helix, 2011.



0 1.5 3 6 Miles

BLM
Wilderness Area
Anza-Borrego Desert State Park
Viewpoint
Visible
Ocotillo Wind Energy Facility

Figure 4.18-1

Project Viewshed Map

This image presents an **Existing View** of the **Proposed Project**, as viewed from Key Observation Point 1 on eastbound Interstate 8, at the I-8 split at the base of Mountain Springs Grade. This view to the north-northeast across the western portion of the Yuha Desert, captures the eastern portion of Site 1, backdropped by the Coyote Mountains.	**Key Observation Point 1** **Eastbound I-8** **Viewing North-northeast**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-2A**

This image presents a **Visual Simulation** of the **Proposed Project**, as viewed from Key Observation Point 1 on eastbound Interstate 8, at the I-8 split at the base of Mountain Springs Grade. This view to the north-northeast, encompasses 29 Phase 1 turbines and 4 Phase 2 turbines (not all visible) in the eastern portion of Site 1. The viewing distances to the turbines range from 1.0 mile to 5.0 miles. The turbines would be prominent features that would substantially obscure eastbound I-8 views of the Coyote Mountains and the Yuha Desert.

Key Observation Point 1

Eastbound I-8

Viewing North-northeast

OCOTILLO WIND ENERGY FACILITY EIS/EIR
Visual Resources Analysis
Figure 4.18-2B

This image presents an **Existing View** of the **Proposed Project**, as viewed from Key Observation Point 2 on westbound Interstate 8, west of the I-8 split at the base of Mountain Springs Grade. This view to the northwest across the western portion of the Yuha Desert, captures the western portion of Site 1, backdropped by the Jacumba Mountains and Volcanic Hills in Anza-Borrego Desert State Park.	**Key Observation Point 2** **Westbound I-8** **Viewing Northwest**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-3A**

This image presents a **Visual Simulation** of the **Proposed Project**, as viewed from Key Observation Point 2 on westbound Interstate 8, west of the I-8 split at the base of Mountain Springs Grade. This view to the northwest across Site 1 encompasses 28 Phase 1 turbines and 8 Phase 2 turbines (not all visible). The viewing distances to the turbines ranges from approximately 0.4 mile to 4.4 miles. The turbines would be prominent features and would obscure portions of the Jacumba Mountains, Volcanic Hills and Coyote Mountains.	**Key Observation Point 2** **Westbound I-8** **Viewing Northwest**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-3B**

This image presents an **Existing View** of the **Proposed Project** area, as viewed from Key Observation Point 3 in Ocotillo Community Park. This view to the north captures the northeastern portion of Site 1, north of the community of Ocotillo, with the Coyote Mountains in the background.	**Key Observation Point 3** **Ocotillo Community Park** **Viewing North**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-4A**

Latitude: 32° 44' 52.80" N Longitude: 116° 1' 6.20" W

This image presents a **Visual Simulation** of the **Proposed Project**, as viewed from Key Observation Point 3 in Ocotillo Community Park. This view to the north encompasses five Phase 1 structures in the northeastern portion of Site 1. Viewing distances range from approximately 0.9 mile to the closest Phase 1 structure (far right) to approximately 1.4 miles to the most distant Phase 1 structure. The Proposed Project structures would be prominent features that would partially obscure the background mountains.

Key Observation Point 3

Ocotillo Community Park
Viewing North

OCOTILLO WIND ENERGY FACILITY EIS/EIR
Visual Resources Analysis
Figure 4.18-4B

Latitude: 32° 46' 41.4" N Longitude: 116° 5' 19.9" W

This image presents an **Existing View** of the **Proposed Project** area, as viewed from Key Observation Point 4 on southbound County Road S2. This view to the south-southeast captures the western portion of Site 1, west of the community of Ocotillo and east of the San Diego/Imperial County line. The southeastern extent of the Jacumba Mountains and Jacumba Wilderness provide a backdrop of rugged, rocky mountain ridges that add visual interest to the foreground, flat basin of the western Yuha Desert.	**Key Observation Point 4** **Southbound S2** **Viewing South-Southeast**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-5A**

This image presents a **Visual Simulation** of the **Proposed Project**, as viewed from Key Observation Point 4 on southbound County Road S2. This view to the south-southeast encompasses 43 Phase 1 turbines in Site 1 though some are screened by terrain and other turbines. The viewing distances to the turbines ranges from approximately 0.64 mile to approximately 4.34 miles. The turbines would be prominent structural features that would obscure much of the western Yuha Desert basin and the Jacumba Mountains to the south.	**Key Observation Point 4** **Southbound S2** **Viewing South-Southeast**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-5B**

This image presents an **Existing View** of the **Proposed Project** area, as viewed from Key Observation Point 5 on the access road to Mortero Palms in the southern end of Anza-Borrego Desert State Park. This view to the east captures the majority of Site 1 in the western Yuha Desert, west and north of the community of Ocotillo and east of Anza-Borrego Desert State Park.	**Key Observation Point 5** **Anza-Borrego Low Elev.** **Viewing East**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-6A**

This image presents an **Existing View** of the **Proposed Project** area, as viewed from Key Observation Point 6 on top of Red Hill in Anza-Borrego Desert State Park. This view to the east-southeast captures the majority of Sites 1 and 2 in the western Yuha Desert in the vicinity of the community of Ocotillo, which is faintly visible in the center of the image. The southeastern extent of the Jacumba Mountains are visible to the south (right). The northern extent of the Sierra Cucapa Range in Mexico is visible in the distant background.

Key Observation Point 6

Anza-Borrego-Red Hill

Viewing East-Southeast

OCOTILLO WIND ENERGY FACILITY EIS/EIR
Visual Resources Analysis
Figure 4.18-7A

This image presents a **Visual Simulation** of the **Proposed Project**, as viewed from Key Observation Point 6 on top of Red Hill in Anza-Borrego Desert State Park. This elevated view to the east-southeast encompasses Phases 1 and 2 of the majority of Sites 1 and 2 (120 Phase 1 turbines and 20 Phase 2 turbines). The viewing distances range from approximately 2.3 miles to approximately 10.6 miles. The turbines would be prominent features, obscuring much of the western Yuha Desert basin floor and Jacumba Mountains.	**Key Observation Point 6** **Anza-Borrego-Red Hill** **Viewing East-Southeast**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-7B**

This image presents a **Visual Simulation** of **Alternative 2**, as viewed from Key Observation Point 6 on top of Red Hill in Anza-Borrego Desert State Park. This alternative would reduce the number of turbines to 137, and differs from the Proposed Project (Figure 4.18-7B) in that the Phase 2 turbines in the northwest and northeast corners of Site 1 have been removed, as have four turbines in Site 2, south of I-8. As shown in the simulation, the difference between Alternative 2 and the Proposed Project (Alternative 1) is not substantial.

Key Observation Point 6

Anza-Borrego-Red Hill

Viewing East-Southeast

OCOTILLO WIND ENERGY FACILITY EIS/EIR
Visual Resources Analysis
Figure 4.18-7C

This image presents an **Existing View** of the northeast portion of Site 1, as viewed from Key Observation Point 7 on S2, in the community of Ocotillo. This view to the northeast captures a portion of the existing Southwest Powerlink transmission line north of the community of Ocotillo, and the southeastern extent of the Coyote Mountains. This view also illustrates the result that would occur with implementation of **Alternative 3**, which would eliminate the turbines that are proposed for this portion of Site 1 (see Figure 4.18-8B).

Key Observation Point 7

S2 in Ocotillo

Viewing Northeast

OCOTILLO WIND ENERGY FACILITY EIS/EIR
Visual Resources Analysis
Figure 4.18-8A

Latitude: 32° 44' 50.04" N Longitude: 115° 59' 46.65" W

This image presents a **Visual Simulation** of the **Proposed Project** (Alternative 1), as viewed from Key Observation Point 7 on S2 in the community of Ocotillo. This view to the northeast encompasses 10 Phase 1 turbines and five Phase 2 turbines in the northeast corner of Site 1. This view is available to travelers on S2 and residents along S2 in the community of Ocotillo. These turbines would be eliminated with implementation of **Alternative 3**, thus, retaining the existing setting previously shown in Figure 4.18-8A.	**Key Observation Point 7** **S2 in Ocotillo** **Viewing Northeast**	**OCOTILLO WIND ENERGY FACILITY EIS/EIR** **Visual Resources Analysis** **Figure 4.18-8B**

This image presents an **Existing View** of the **Proposed Project** Site 2 development area, as viewed from Key Observation Point 8, on SR 98 at Mesquite Road, southeast of the community of Ocotillo. This view to the southwest toward the Jacumba Mountains captures the majority of Site 2 that would be visible to travelers on SR 98 and the rural residences in the vicinity of Coyote Wells. This view also illustrates the result that would occur with implementation of **Alternative 3**, which would eliminate the Site 2 turbines.

Key Observation Point 8

SR 98 Southeast of Ocotillo
Viewing Southwest

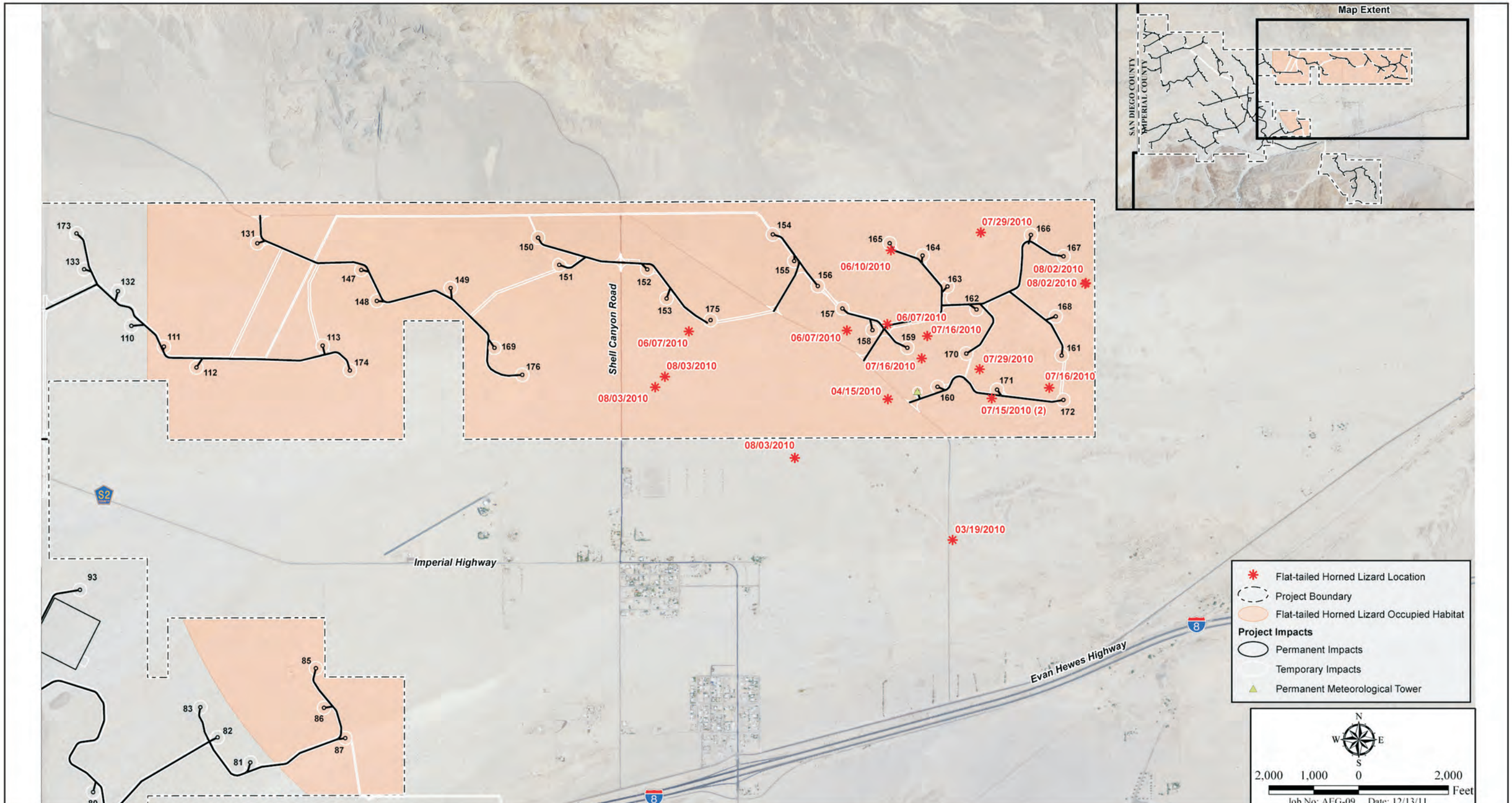
OCOTILLO WIND ENERGY FACILITY EIS/EIR
Visual Resources Analysis
Figure 4.18-9A

This image presents a **Visual Simulation** of the **Proposed Project** (Alternative 1), as viewed from Key Observation Point 8 on SR 98, southeast of Ocotillo. This view to the southwest encompasses 10 Phase 1 turbines and three Phase 2 turbines in Site 2. This view is available to travelers on SR 98 and residents in the Coyote Wells area. These turbines would be eliminated from the development plan with implemenation of **Alternative 3**, thus, retaining the existing setting previously shown in Figure 4.18-9A.

Key Observation Point 8

SR 98 Southeast of Ocotillo
Viewing Southwest

OCOTILLO WIND ENERGY FACILITY EIS/EIR
Visual Resources Analysis
Figure 4.18-9B



Source: Helix, 2011.

Figure 4.21-1

Flat-tailed Horned Lizard Locations and Occupied Habitat

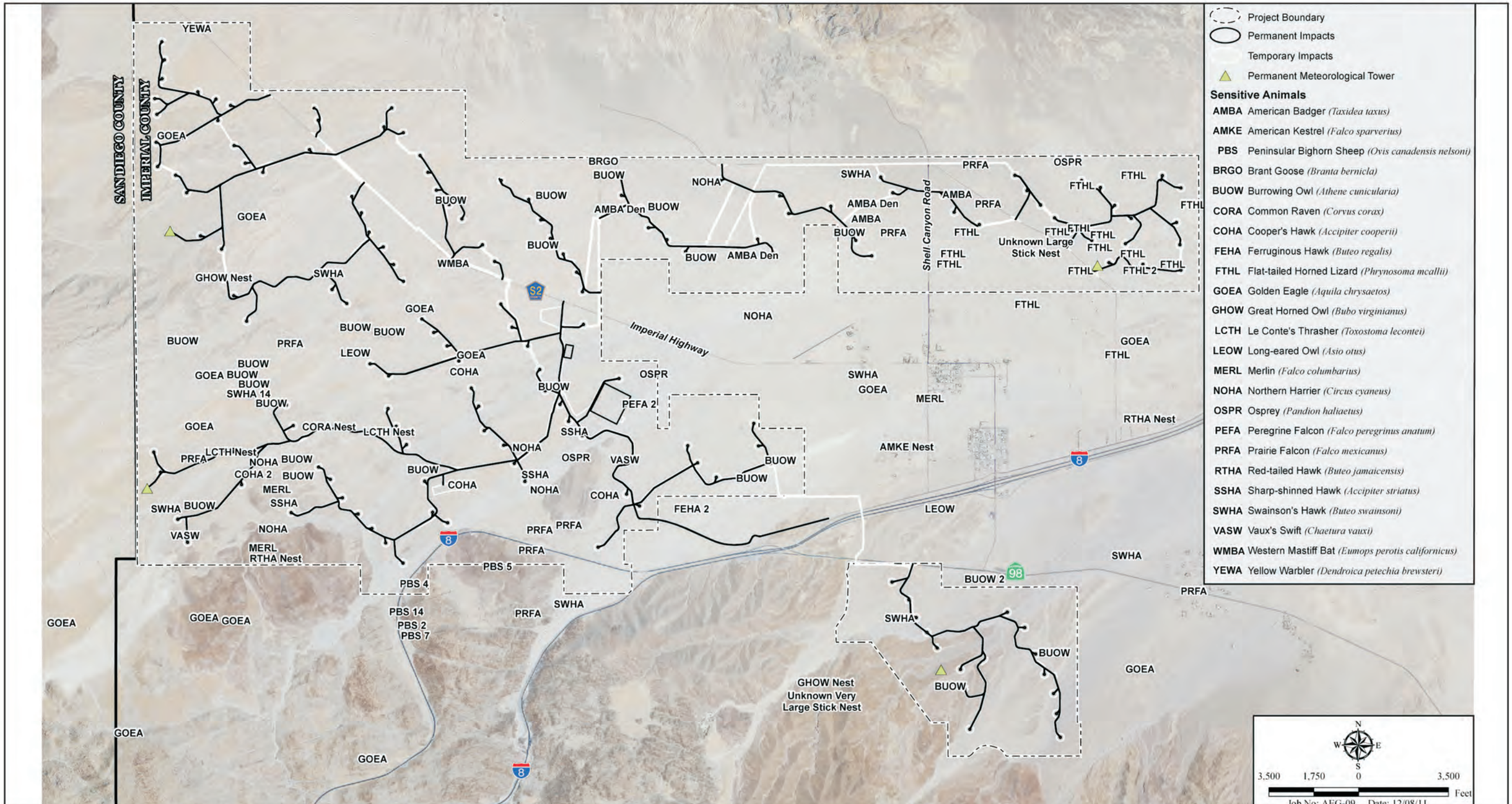


Figure 4.21-2

Special Status Animals

Source: Helix, 2011.

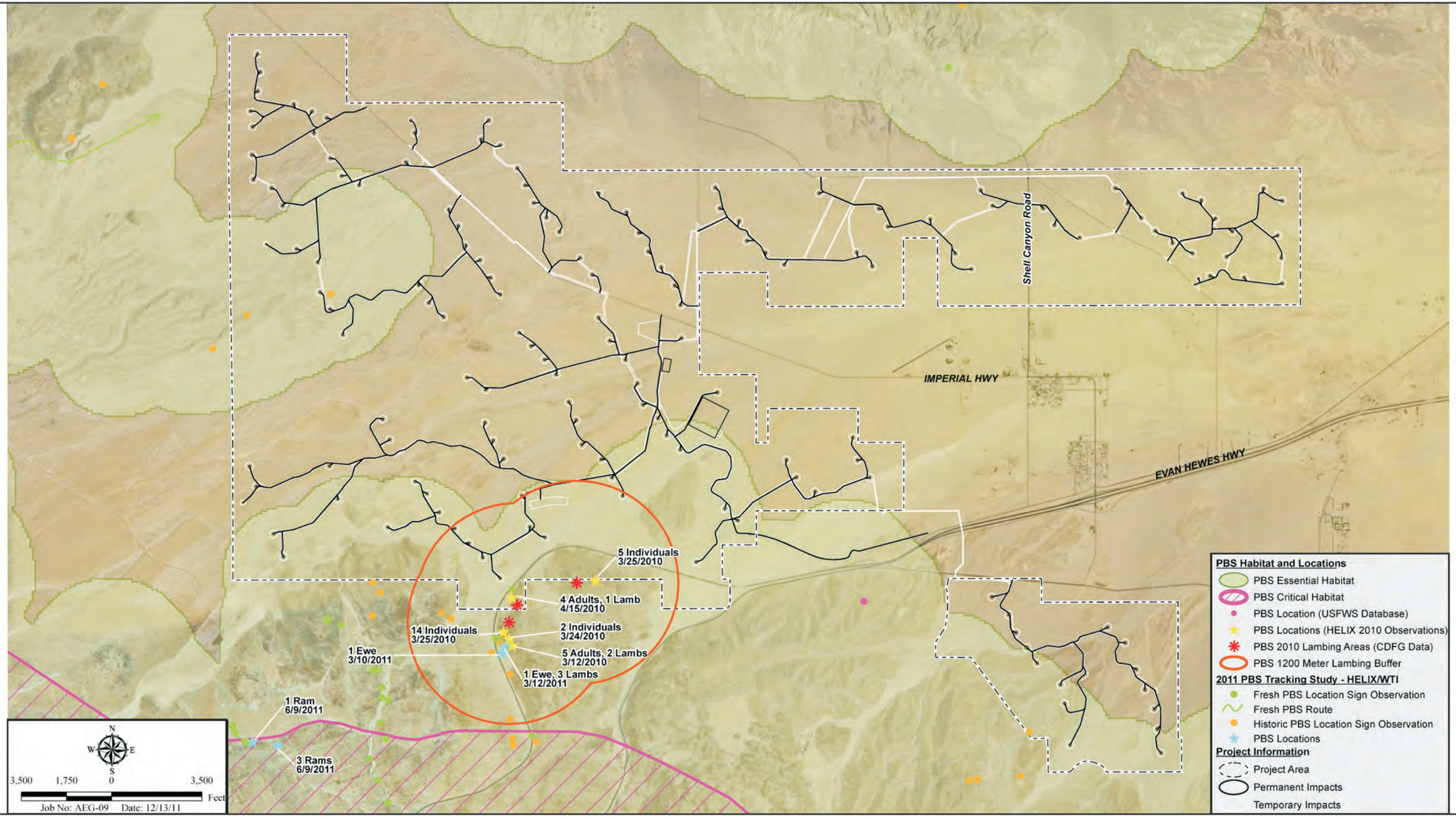
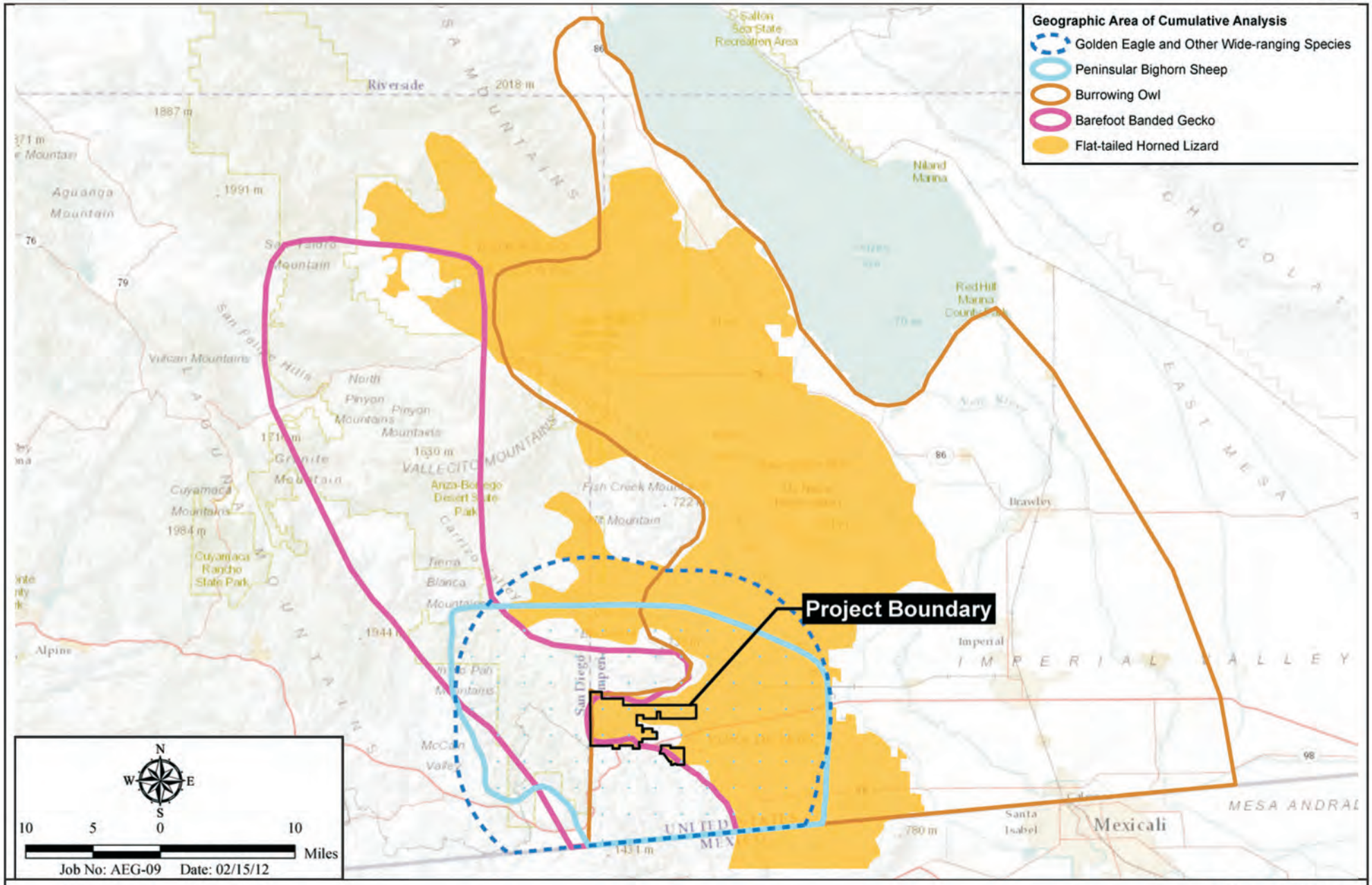


Figure 4.21-3

Peninsular Bighorn Sheep Habitat/Impacts

Source: Helix, 2011.



Source: Helix, 2011.

Figure 4.21-4

Geographic Area of Analysis for Cumulative Impacts